

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

In the Matter of:	)	
	)	
SIERRA CLUB, ENVIRONMENTAL	)	
LAW AND POLICY CENTER,	)	
PRAIRIE RIVERS NETWORK, and	)	
CITIZENS AGAINST RUINING THE	)	
ENVIRONMENT	)	
	)	PCB No-2013-015
Complainants,	)	(Enforcement – Water)
	)	
v.	)	
	)	
MIDWEST GENERATION, LLC,	)	
	)	
Respondents	)	

**NOTICE OF FILING**

PLEASE TAKE NOTICE that I have filed today with the Illinois Pollution Control Board the attached **COMPLAINANTS’ OPPOSITION TO RESPONDENT’S MOTION FOR EXTENSION OF TIME TO FILE MOTION FOR RECONSIDERATION AND/OR CLARIFICATION OF THE INTERIM ORDER AND OPINION AND REQUEST FOR EXPEDITED DECISION**, copies of which are attached hereto and herewith served upon you.

Respectfully submitted,



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*Attorney for ELPC, Sierra Club and  
Prairie Rivers Network*

Dated: July 19, 2019

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

In the Matter of:	)	
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SIERRA CLUB, ENVIRONMENTAL	)	
LAW AND POLICY CENTER,	)	
PRAIRIE RIVERS NETWORK, and	)	
CITIZENS AGAINST RUINING THE	)	
ENVIRONMENT	)	
	)	
Complainants,	)	
	)	
v.	)	PCB No-2013-015
	)	(Enforcement – Water)
MIDWEST GENERATION, LLC,	)	
	)	
Respondent.	)	

**COMPLAINANTS' OPPOSITION TO RESPONDENT'S  
MOTION FOR EXTENSION OF TIME TO FILE MOTION FOR RECONSIDERATION  
AND/OR CLARIFICATION OF THE INTERIM ORDER AND OPINION AND  
REQUEST FOR EXPEDITED DECISION**

Complainants Sierra Club, Environmental Law & Policy Center (“ELPC”), Prairie Rivers Network, and Citizens Against Ruining the Environment (“CARE”), by their undersigned counsel, hereby submit this Opposition to the Motion for Extension of Time to File Motion for Reconsideration and/or Clarification of the Interim Order and Opinion and Request for Expedited Decision (“Motion”) submitted by Respondent Midwest Generation, LLC (“MWG”).

In support of their opposition to the Motion, Complainants state as follows:

1. The complaint alleging water pollution in this case was filed in 2012, and this proceeding has already taken nearly seven years and is only now reaching the question of remedy. The Board has denied a motion for an extension in an enforcement proceeding that had lasted four years. *People v. Community Landfill Company*, PCB 03-191, 2007 WL 1532649, at \*2 (May 17, 2007). “This enforcement proceeding has been pending for more than 4 years and the Board

will not grant any further extensions of time on this issue.” *Id.* Likewise, this case, which has gone on even longer than the one at issue in *Community Landfill Company*, should not be delayed any further.

2. Per the Illinois Pollution Control Board’s (“Board”) Interim Order of June 21, 2019, there is ongoing groundwater contamination taking place at all four power plants. In previous enforcement cases, the Board has emphasized the importance of “conducting . . . site remediation in a timely manner” in denying a motion for an extension. *See, e.g., Krautsack v. Patel*, PCB No. 95-143, 1998 WL 401782, at \*2 (July 8, 1998). MWG’s Motion should be denied because delaying the remedy phase for another 45 days would fail to ensure that site remediation is conducted in a timely matter.

3. Not only does the Board’s June 2019 order find that the MWG caused water pollution and that water pollution was ongoing up until the most recent time period for which groundwater monitoring was available (May and June 2017), more recent publicly-available information shows that contamination has continued unabated at MWG’s Waukegan, Will County, and Powerton facilities. MWG is required by the federal Coal Combustion Residuals rule (“CCR”), 40 CFR § 257.50, *et seq.*, to post online annual groundwater monitoring reports.<sup>1</sup> MWG’s most recent CCR reports show continued contamination after May/June 2017 consistent with the that

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<sup>1</sup> Respondent’s most recent annual groundwater monitoring reports can be found here:

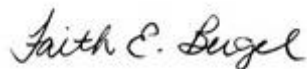
- Waukegan: [http://3659839d00eefa48ab17-3929cea8f28e01ec3cb6bbf40cac69f0.r20.cf1.rackcdn.com/WAU\\_APE\\_GMI19.pdf](http://3659839d00eefa48ab17-3929cea8f28e01ec3cb6bbf40cac69f0.r20.cf1.rackcdn.com/WAU_APE_GMI19.pdf) (also attached as Exhibit B)
- Will County: [http://3659839d00eefa48ab17-3929cea8f28e01ec3cb6bbf40cac69f0.r20.cf1.rackcdn.com/WIL\\_SAP2\\_GMI19.pdf](http://3659839d00eefa48ab17-3929cea8f28e01ec3cb6bbf40cac69f0.r20.cf1.rackcdn.com/WIL_SAP2_GMI19.pdf) (also attached as Exhibit C)
- Powerton: [http://3659839d00eefa48ab17-3929cea8f28e01ec3cb6bbf40cac69f0.r20.cf1.rackcdn.com/POW\\_ASB\\_GMI19.pdf](http://3659839d00eefa48ab17-3929cea8f28e01ec3cb6bbf40cac69f0.r20.cf1.rackcdn.com/POW_ASB_GMI19.pdf) (also attached as Exhibit D)
- Joliet 29: [http://3659839d00eefa48ab17-3929cea8f28e01ec3cb6bbf40cac69f0.r20.cf1.rackcdn.com/JOT\\_AP2\\_GMI19.pdf](http://3659839d00eefa48ab17-3929cea8f28e01ec3cb6bbf40cac69f0.r20.cf1.rackcdn.com/JOT_AP2_GMI19.pdf)

found in the Board's June 2019 order.

4. Exhibit A is a compilation of exceedances of groundwater quality standards based on the data contained in MWG's most recent annual CCR groundwater quality monitoring reports for Waukegan, Will County, and Powerton.<sup>2</sup> Also attached as exhibits are original copies of MWG's most recent annual groundwater monitoring reports for these stations. *See* Exhibit B (Waukegan), Exhibit C (Will County), and Exhibit D (Powerton). Due to this continuing contamination, further delay would create concern. MWG's request for an extension of time to file a motion for reconsideration should be denied.
5. Likewise, MWG's counsels' August vacation plans do not provide any grounds for an extension to the July 26th deadline for a motion for reconsideration or modification considering that any August vacations fall *after* the July 26 deadline.
6. For the foregoing reasons, Complainants respectfully request that the Hearing Officer deny MWG's motion for a 45-day extension.

Dated: July 19, 2019

Respectfully submitted,



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<sup>2</sup> The Board's June 2019 order found violations at Joliet 29 at well MW-09, but MWG's most recent annual CCR groundwater monitoring report does not contain sample data on MW-09.

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**CERTIFICATE OF SERVICE**

I hereby certify that the foregoing **NOTICE OF FILING, COMPLAINANTS' OPPOSITION TO RESPONDENT'S MOTION FOR EXTENSION OF TIME TO FILE MOTION FOR RECONSIDERATION AND/OR CLARIFICATION OF THE INTERIM ORDER AND OPINION AND REQUEST FOR EXPEDITED DECISION** were served electronically to all parties of record listed below, on July 19, 2019.

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# Exhibit A

Year	Site	Well	Contaminant	Date	Standard (mg/L)	Concentration (mg/L)
2017	Powerton	MW-19	Boron	6/21/2017	2	2.3
2017	Powerton	MW-09	Boron	6/21/2017	2	3.3
2017	Powerton	MW-19	Boron	6/21/2017	2	2.3
2017	Powerton	MW-15	Sulfate	6/21/2017	400	530
2017	Powerton	MW-15	TDS	6/21/2017	1200	1600
2017	Powerton	MW-08	TDS	6/21/2017	1200	1700
2017	Powerton	MW-17	Arsenic	6/22/2017	0.01	0.41
2017	Powerton	MW-17	Sulfate	6/22/2017	400	580
2017	Powerton	MW-17	TDS	6/22/2017	1200	1600
2017	Powerton	MW-11	Arsenic	6/22/2017	0.01	0.07
2017	Powerton	MW-12	Arsenic	6/22/2017	0.01	0.025
2017	Powerton	MW-17	Arsenic	6/22/2017	0.01	0.41
2017	Powerton	MW-12	Sulfate	6/22/2017	400	580
2017	Powerton	MW-17	Sulfate	6/22/2017	400	580
2017	Powerton	MW-12	TDS	6/22/2017	1200	1400
2017	Powerton	MW-17	TDS	6/22/2017	1200	1600
2017	Will	MW-05	Boron	6/27/2017	2	3.8
2017	Will	MW-06	Boron	6/27/2017	2	3.1
2017	Will	MW-10	Boron	6/27/2017	2	2.8
2017	Will	MW-05	Sulfate	6/27/2017	400	500
2017	Waukegan	MW-01	Boron	7/5/2017	2	2.3
2017	Waukegan	MW-02	Boron	7/5/2017	2	4.2
2017	Waukegan	MW-03	Boron	7/5/2017	2	3
2017	Waukegan	MW-04	Boron	7/5/2017	2	3.6
2017	Waukegan	MW-09	Sulfate	7/6/2017	400	610
2017	Waukegan	MW-09	TDS	7/6/2017	1200	1800
2017	Powerton	MW-09	Boron	8/25/2017	2	3.8
2017	Powerton	MW-19	Boron	8/28/2017	2	3.5
2017	Powerton	MW-11	Arsenic	8/29/2017	0.01	0.017
2017	Powerton	MW-12	Arsenic	8/29/2017	0.01	0.02
2017	Powerton	MW-17	Arsenic	8/29/2017	0.01	0.24
2017	Powerton	MW-11	Boron	8/29/2017	2	2.2
2017	Powerton	MW-12	Sulfate	8/29/2017	400	520
2017	Powerton	MW-15	Sulfate	8/29/2017	400	540
2017	Powerton	MW-17	Sulfate	8/29/2017	400	640
2017	Powerton	MW-12	TDS	8/29/2017	1200	1400
2017	Powerton	MW-15	TDS	8/29/2017	1200	1800
2017	Powerton	MW-17	TDS	8/29/2017	1200	1900
2017	Powerton	MW-08	TDS	8/29/2017	1200	1500
2017	Will	MW-06	Boron	9/7/2017	2	3.5
2017	Will	MW-10	Boron	9/7/2017	2	2.8
2017	Will	MW-05	Boron	9/8/2017	2	4.8
2017	Will	MW-05	Sulfate	9/8/2017	400	490
2017	Waukegan	MW-05	Boron	9/11/2017	2	44
2017	Waukegan	MW-05	Sulfate	9/11/2017	400	750



2017 Waukegan	MW-05	TDS	9/11/2017	1200	2000
2017 Waukegan	MW-09	Sulfate	9/13/2017	400	520
2017 Waukegan	MW-09	TDS	9/13/2017	1200	1800
2017 Waukegan	MW-01	Boron	9/14/2017	2	2.4
2017 Waukegan	MW-02	Boron	9/14/2017	2	2.5
2017 Waukegan	MW-03	Boron	9/14/2017	2	2.1
2017 Waukegan	MW-04	Boron	9/14/2017	2	2.5
2017 Powerton	MW-17	Arsenic	11/6/2017	0.01	0.17
2017 Powerton	MW-19	Boron	11/6/2017	2	4.5
2017 Powerton	MW-17	Sulfate	11/6/2017	400	840
2017 Powerton	MW-17	TDS	11/6/2017	1200	1800
2017 Powerton	MW-09	Boron	11/8/2017	2	4
2017 Powerton	MW-11	Arsenic	11/9/2017	0.01	0.092
2017 Powerton	MW-12	Arsenic	11/10/2017	0.01	0.5
2017 Powerton	MW-15	Sulfate	11/10/2017	400	530
2017 Powerton	MW-15	TDS	11/10/2017	1200	1500
2017 Will	MW-09	Boron	11/14/2017	2	2.6
2017 Will	MW-10	Boron	11/15/2017	2	4.1
2017 Will	MW-05	Boron	11/16/2017	2	4.8
2017 Will	MW-06	Boron	11/16/2017	2	3.9
2017 Will	MW-05	Sulfate	11/16/2017	400	650
2017 Will	MW-05	TDS	11/16/2017	1200	1500
2017 Waukegan	MW-01	Boron	11/27/2017	2	2.7
2017 Waukegan	MW-02	Boron	11/27/2017	2	3.4
2017 Waukegan	MW-03	Boron	11/27/2017	2	2.6
2017 Waukegan	MW-04	Boron	11/27/2017	2	2.3
2017 Waukegan	MW-09	TDS	11/29/2017	1200	1600
2017 Waukegan	MW-05	Boron	11/30/2017	2	47
2017 Waukegan	MW-05	Sulfate	11/30/2017	400	790
2017 Waukegan	MW-05	TDS	11/30/2017	1200	1900
2018 Will	MW-10	Boron	5/1/2018	2	3.2
2018 Will	MW-09	Sulfate	5/1/2018	400	430
2018 Will	MW-05	Boron	5/2/2018	2	3.6
2018 Will	MW-05	Sulfate	5/2/2018	400	510
2018 Will	MW-05	TDS	5/2/2018	1200	1300
2018 Will	MW-06	Boron	5/3/2018	2	3
2018 Will	MW-06	Sulfate	5/3/2018	400	530
2018 Powerton	MW-17	Arsenic	5/14/2018	0.01	0.42
2018 Powerton	MW-19	Boron	5/14/2018	2	4.1
2018 Powerton	MW-17	Sulfate	5/14/2018	400	800
2018 Powerton	MW-17	TDS	5/14/2018	1200	1700
2018 Powerton	MW-11	Arsenic	5/16/2018	0.01	0.089
2018 Powerton	MW-12	Arsenic	5/16/2018	0.01	0.09
2018 Powerton	MW-09	Boron	5/16/2018	2	4.1
2018 Powerton	MW-12	Sulfate	5/16/2018	400	720
2018 Powerton	MW-12	TDS	5/16/2018	1200	1500
2018 Powerton	MW-15	Sulfate	5/17/2018	400	680

2018 Powerton	MW-15	TDS	5/17/2018	1200	1800
2018 Waukegan	MW-01	Boron	5/29/2018	2	2.4
2018 Waukegan	MW-02	Boron	5/29/2018	2	4.5
2018 Waukegan	MW-03	Boron	5/29/2018	2	2.4
2018 Waukegan	MW-04	Boron	5/30/2018	2	3
2018 Powerton	MW-17	Arsenic	8/6/2018	0.01	0.087
2018 Powerton	MW-19	Boron	8/6/2018	2	3.8
2018 Powerton	MW-17	Sulfate	8/6/2018	400	620
2018 Powerton	MW-17	TDS	8/6/2018	1200	1600
2018 Powerton	MW-09	Boron	8/8/2018	2	4.3
2018 Powerton	MW-11	Arsenic	8/9/2018	0.01	0.68
2018 Powerton	MW-12	Arsenic	8/9/2018	0.01	0.12
2018 Powerton	MW-12	Sulfate	8/9/2018	400	480
2018 Powerton	MW-15	Sulfate	8/9/2018	400	520
2018 Powerton	MW-12	TDS	8/9/2018	1200	1300
2018 Powerton	MW-15	TDS	8/9/2018	1200	1700
2018 Will	MW-09	Boron	10/2/2018	2	2.1
2018 Will	MW-05	Boron	10/3/2018	2	4.9
2018 Will	MW-06	Boron	10/3/2018	2	3.5
2018 Will	MW-10	Boron	10/3/2018	2	2.5
2018 Will	MW-05	Sulfate	10/3/2018	400	430
2018 Waukegan	MW-02	Boron	11/5/2018	2	3.1
2018 Waukegan	MW-03	Boron	11/5/2018	2	2.4
2018 Waukegan	MW-04	Boron	11/6/2018	2	2.5

# Exhibit B



ENVIRONMENTAL CONSULTATION & REMEDIATION

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**KPRG and Associates, Inc.**

**CCR COMPLIANCE  
ANNUAL GROUNDWATER MONITORING and  
CORRECTIVE ACTION REPORT - 2018**

**Midwest Generation, LLC  
Waukegan Station  
401 E. Greenwood Avenue  
Waukegan, Illinois**

Prepared By: **KPRG and Associates, Inc.  
14665 West Lisbon Road, Suite 1A  
Brookfield, WI 53005**

January 31, 2019

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APPENDIX

- A – Analytical Data Packages from 2018 Detection Monitoring
- B – Alternate Source Demonstration April 12, 2018

## 1.0 INTRODUCTION

The Detection Monitoring requirements in accordance with the Federal Register, Environmental Protection Agency, 40 CFR Parts 257.94, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule dated April 17, 2015 (CCR Rule) have been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Waukegan Generating Station. The wells sampled were selected to meet the monitoring requirements of the CCR Rule for both the West and East Ash Ponds. The CCR monitoring well network around these ponds consists of eight monitoring wells (MW-01 through MW-04, MW-09, MW-11, MW-14 and MW-16). Wells MW-09, MW-11 and MW-14 are upgradient wells.

The 2017 CCR Compliance Annual Groundwater Monitoring and Corrective Action Report was submitted on January 24, 2018. This annual report covers the work performed relative to CCR groundwater monitoring from January 1, 2018 through the end of 2018. It does not duplicate information or activities previously reported for 2017. It is prepared in accordance with Section 257.90(e)(1-5) and summarizes the sampling procedures used, provides an evaluation of groundwater flow conditions, summarizes the analytical data generated, provides a discussion of the statistical evaluations completed and alternate source demonstration testing completed as a basis for determining the appropriate next phase of compliance activities.

## 2.0 FIELD PROCEDURES AND GROUNDWATER FLOW EVALUATION

### 2.1 Field Procedures

As previously noted, the CCR groundwater monitoring network around the ash ponds at this facility consists of eight wells (MW-01, MW-02, MW-03, MW-04, MW-09, MW-11, MW-14 and MW-16) as shown on Figure 1. As part of sampling procedures, the integrity of all monitoring wells was inspected and water levels obtained using an electronic water level meter (see summary of water level discussion below). All wells were found in good condition.

All groundwater samples were collected using the low-flow sampling technique from dedicated pumps. The samples were not filtered prior to analysis to provide for total metals concentrations as opposed to dissolved metals concentrations. One duplicate sample was collected from a randomly selected monitoring well per sampling event for quality assurance purposes.

### 2.2 Groundwater Flow Evaluation

Water level data measurements were obtained from monitoring wells during each round of groundwater sampling. A complete round of water levels was collected prior to initiating sampling, and the water level data are summarized in Table 1. It is noted that water levels were also concurrently measured at other monitoring well locations in the area that are not part of the CCR monitoring network. The full set of water levels were used to generate a groundwater flow map for each sampling event. These maps are provided as Figures 2 and 3. A review of the maps indicates a consistent southeasterly groundwater flow direction beneath the ash ponds. In accordance with general groundwater sampling requirements under Section 257.93(c), Table 2 provides a summary of the flow direction and an estimated rate of groundwater flow for each sampling event. The flow rate was calculated using the following equation:

$$V_s = \frac{Kdh}{n_e dl}, \text{ where}$$

$V_s$  is seepage velocity (distance/time)

$K$  is hydraulic conductivity (distance/time)

$dh/dl$  is hydraulic gradient (unitless)

$n_e$  is effective porosity (unitless)

The average hydraulic conductivity of  $4.04 \times 10^{-3}$  ft/sec used in Table 2 was obtained from the Hydrogeologic Assessment Report dated February 2011 and prepared by Patrick Engineering. The estimated effective porosity of the aquifer materials (0.35) was obtained from literature (Applied Hydrogeology, Fetter, 1980).

### 3.0 ANALYTICAL DATA AND STATUS OF EVALUATIONS

#### 3.1 Sampling Summary

The groundwater sampling summary from 2018 is provided in Table 3, in accordance with 257.90 (e)(3).

#### 3.2 Data Summary

The analytical data from the detection monitoring groundwater sampling for Appendix III parameters are provided in Table 4 which includes calculated Prediction Limits (PLs) established in the initial CCR Groundwater Monitoring Statistical Evaluation Summary dated January 2018 for data comparison purposes. The downgradient intrawell prediction limits were established for the parameters which were part of the Alternate Source Demonstration (ASD; see discussion in Section 4.2 below). For those parameters in downgradient wells, a concentration above both interwell and intrawell prediction limits would be considered a potential statistically significant increase (SSI).

Confirmatory resampling events were limited to any potential statistically significant increases (SSI) for specific parameters at specific wells for parameters that were either not covered in the ASD or sufficiently addressed in the ASD. The first 2018 semi-annual sampling data indicated calcium and total dissolved solids (TDS) above the calculated statistical Prediction Limits (PLs) at well MW-16 (see discussion on initial statistical evaluation summary in Section 4.1 below). Confirmatory resampling was completed for those parameters at well MW-16 and the results were below the PLs. The second semi-annual sampling data also indicated calcium and TDS above the calculated PLs for well MW-16, however, confirmatory resampling was completed and the results were still above the calculated PLs suggesting potential SSIs for these parameters at this location.

#### 3.3 Current Status

In accordance with section 257.94(e)(2) of the CCR Rule, an Alternate Source Demonstration (ASD) is in the process of being completed to determine whether the noted calcium and TDS concentrations at well MW-16 may be related to the regulated units or whether they may be associated with a source other than the regulated units. The results of that demonstration will determine the next course of action(s) required to maintain compliance with the CCR Rule.



#### 4.0 OTHER REQUIRED SUBMITTALS

##### 4.1 Initial Statistical Evaluation Summary

The initial data to establish statistical background was collected as part of detection monitoring requirements under 257.94(b). Eight rounds of groundwater data were generated for all upgradient and downgradient monitoring wells for Appendix III and Appendix IV parameters. In addition, a ninth round and resample event was collected for subsequent use in statistical comparisons. The Statistical Evaluation Summary dated January 12, 2018 was prepared by KPRG and Associates, Inc. The work was completed in accordance with the CCR Compliance Statistical Approach for Groundwater Data Evaluation for the Waukegan Station dated October 10, 2017 and established PLs for each Appendix III parameter.

The completed initial detection monitoring statistical evaluations determined that there were potential SSIs in various downgradient monitoring wells relative to established background for boron, pH and sulfate. It was recommended to complete an ASD in accordance with Section 257.94(e)(2) of the CCR Rule to determine whether these SSIs may be associated with an actual release from the regulated unit(s) or if another potential source in the vicinity of the ash ponds may be affecting the local groundwater quality. The results of the ASD are discussed below.

##### 4.2 Alternate Source Demonstration

The ASD was completed April 12, 2018 for boron, pH, and sulfate in accordance with Section 257.94(e)(2) of the CCR Rule for the Waukegan Generating Station West and East Ash Ponds and as required under Section 257.94(e)(2) a full copy of the ASD is provided in Appendix B. Ash and water samples were collected from each of the two ponds (East and West) and analyzed using the Leaching Environmental Assessment Framework (LEAF) method to determine whether the noted SSIs may be associated with an actual release from the regulated unit(s) or if another potential source in the vicinity of the ash ponds may be affecting the local groundwater quality.

It was concluded that the SSIs for boron, pH, and sulfate are not the result of a release of leachate from the regulated units (East and West Ash Ponds) but rather from other potential source(s). The recommendation was to continue with routine detection monitoring.

## 5.0 SUMMARY/CONCLUSIONS AND RECOMMENDATIONS

The detection monitoring requirements in accordance with the CCR Rule have been successfully met. Groundwater monitoring wells that had analytical results showing parameter concentrations above established PLs were resampled to minimize potential for a false positive. An initial ASD was completed which determined that potential SSIs for boron, pH and sulfate at various well locations are from other sources, and not leakage of leachate from the regulated units (East and West Ash Ponds). The most recent semi-annual detection monitoring results for well MW-16 indicate a possible SSIs for calcium and TDS. Midwest Generation is in the process of completing an ASD for these two parameters in accordance with section 257.94(e)(2) of the CCR Rule. The station will stay in routine detection monitoring while the ASD is completed. Once the ASD is completed, appropriate recommendations will be made regarding whether the site should continue with routine detection monitoring or transition to an assessment monitoring program.

## 6.0 REFERENCES

- Federal Register, Environmental Protection Agency, 40 CFR Parts 257 and 261, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule. Vol. 80, No. 74, Friday April 17, 2015.
- Patrick Engineering, Inc., Hydrogeologic Assessment Report – Waukegan Generating Station, Waukegan, IL. February 2011.
- KPRG and Associates, Inc., CCR Compliance Monitoring, Sampling and Analysis Plan, Midwest Generation, LLC Waukegan Generating Station. October 10, 2017.
- KPRG and Associates, Inc., CCR Compliance Statistical Approach for Groundwater Data Evaluation, Midwest Generation, LLC Waukegan Generating Station. October 10, 2017.
- KPRG and Associates, Inc., CCR Groundwater Monitoring Statistical Evaluation Summary - 2017, Midwest Generation, LLC Waukegan Generating Station. January 12, 2018.
- C.W. Fetter, Jr., Applied Hydrogeology. Charles E. Merrill Publishing Co., 1980.

**FIGURES**



NOTE:  
BACKGROUND MAP RETRIEVED FROM MAPQUEST 2012

LOCATION:  
SECTION 15, TOWNSHIP 45 N, RANGE 12 E

ENVIRONMENTAL CONSULTATION & REMEDIATION

**K P R G**

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**CCR MONITORING WELL SITE MAP**

**WAUKEGAN STATION  
WAUKEGAN, ILLINOIS**

**Scale: 1" = 550'    Date: January 2, 2018**

**KPRG Project No. 12313.2**

**FIGURE 1**

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- LEGEND:**
- MW-1 MONITORING WELL
  - MW-8 NON-CCR MONITORING WELL USED IN GROUND WATER CONTOUR DETERMINATION
  - 582 GROUNDWATER CONTOUR LINE
  - GROUNDWATER FLOW LINE
  - MW-13 ABANDONED WELL

0 500'  
 APPROXIMATE SCALE

ENVIRONMENTAL CONSULTATION & REMEDIATION



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GROUNDWATER CONTOUR MAP 05/2018

WAUKEGAN STATION  
 WAUKEGAN, ILLINOIS

Scale: 1" = 500' Date: June 15, 2018

KPRG Project No. 12313.2

FIGURE 2

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**LEGEND:**

- MW-1 MONITORING WELL
- MW-8 NON-CCR MONITORING WELL USED IN GROUND WATER CONTOUR DETERMINATION
- 582 GROUNDWATER CONTOUR LINE
- GROUNDWATER FLOW LINE
- MW-13 ABANDONED WELL

0 500'  
 APPROXIMATE SCALE

ENVIRONMENTAL CONSULTATION & REMEDIATION

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**GROUNDWATER CONTOUR MAP 11/2018**

WAUKEGAN STATION  
WAUKEGAN, ILLINOIS

Scale: 1" = 500' Date: November 29, 2018

KPRG Project No. 12313.2

FIGURE 3

**TABLES**



Table 1. Groundwater Elevations - Midwest Generation, LLC, Waukegan Station, Waukegan, IL

Well ID	Date	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
MW-01	11/2/2015	603.12	20.75	582.37
	2/29/2016	603.12	20.71	582.41
	5/2/2016	603.12	20.89	582.23
	8/23/2016	603.12	22.01	581.11
	12/2/2016	603.62	22.27	581.35
	2/21/2017	603.62	22.42	581.20
	5/15/2017	603.62	20.52	583.10
	7/5/2017	603.62	21.81	581.81
	9/11/2017	603.62	21.47	582.15
	11/27/2017	603.62	21.82	581.80
	5/29/2018	603.62	19.43	584.19
11/5/2018	603.62	20.45	583.17	
MW-02	11/2/2015	603.04	20.71	582.33
	2/29/2016	603.04	20.59	582.45
	5/2/2016	603.04	20.82	582.22
	8/23/2016	603.04	22.04	581.00
	12/2/2016	603.39	22.13	581.26
	2/21/2017	603.39	22.24	581.15
	5/15/2017	603.39	20.25	583.14
	7/5/2017	603.39	21.59	581.80
	9/11/2017	603.39	21.21	582.18
	11/27/2017	603.39	21.63	581.76
	5/29/2018	603.39	19.12	584.27
11/5/2018	603.39	20.19	583.20	
MW-03	11/2/2015	602.91	20.37	582.54
	2/29/2016	602.91	20.43	582.48
	5/2/2016	602.91	20.66	582.25
	8/23/2016	602.91	22.12	580.79
	12/2/2016	603.70	22.52	581.18
	2/21/2017	603.70	22.64	581.06
	5/15/2017	603.70	20.55	583.15
	7/5/2017	603.70	21.92	581.78
	9/11/2017	603.70	21.55	582.15
	11/28/2017	603.70	21.96	581.74
	5/29/2018	603.70	19.40	584.30
11/5/2018	603.70	20.48	583.22	
MW-04	11/2/2015	603.19	20.83	582.36
	2/29/2016	603.19	20.70	582.49
	5/2/2016	603.19	20.94	582.25
	8/23/2016	603.19	22.69	580.50
	12/2/2016	603.17	22.18	580.99
	2/21/2017	603.17	22.36	580.81
	5/15/2017	603.17	20.04	583.13
	7/5/2017	603.17	21.46	581.71
	9/11/2017	603.17	21.05	582.12
	11/28/2017	603.17	21.54	581.63
	5/30/2018	603.17	18.88	584.29
11/6/2018	603.17	19.96	583.21	

Table 1. Groundwater Elevations - Midwest Generation, LLC, Waukegan Station, Waukegan, IL

Well ID	Date	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
MW-09	11/2/2015	594.00	9.78	584.22
	2/29/2016	594.00	9.89	584.11
	5/2/2016	594.00	9.59	584.41
	8/23/2016	594.00	10.58	583.42
	12/2/2016	594.00	10.27	583.73
	2/21/2017	594.00	10.21	583.79
	5/15/2017	594.00	9.57	584.43
	7/6/2017	594.00	9.81	584.19
	9/11/2017	594.00	10.25	583.75
	11/29/2017	594.00	9.98	584.02
	5/31/2018	594.00	9.38	584.62
11/6/2018	594.00	9.52	584.48	
MW-11	11/2/2015	590.35	5.27	585.08
	2/29/2016	590.35	5.54	584.81
	5/2/2016	590.35	5.17	585.18
	8/23/2016	590.35	6.04	584.31
	12/2/2016	590.35	5.86	584.49
	2/21/2017	590.35	5.87	584.48
	5/15/2017	590.35	5.33	585.02
	7/6/2017	590.35	5.62	584.73
	9/11/2017	590.35	5.61	584.74
	11/30/2017	590.35	5.68	584.67
	5/31/2018	590.35	5.41	584.94
11/6/2018	590.35	5.29	585.06	
MW-14	11/2/2015	590.24	5.17	585.07
	2/29/2016	590.24	5.01	585.23
	5/2/2016	590.24	4.49	585.75
	8/23/2016	590.24	6.07	584.17
	12/2/2016	590.24	5.49	584.75
	2/21/2017	590.24	5.33	584.91
	5/15/2017	590.24	4.67	585.57
	7/6/2017	590.24	5.27	584.97
	9/11/2017	590.24	5.78	584.46
	11/30/2017	590.24	5.19	585.05
	6/1/2018	590.24	4.45	585.79
11/6/2018	590.24	4.32	585.92	
MW-16	11/2/2015	607.41	25.13	582.28
	2/29/2016	607.41	24.91	582.50
	5/2/2016	607.41	25.23	582.18
	8/23/2016	607.41	28.33	579.08
	12/2/2016	607.41	28.22	579.19
	2/21/2017	607.41	27.71	579.70
	5/15/2017	607.41	23.99	583.42
	7/6/2017	607.41	27.03	580.38
	9/11/2017	607.41	26.74	580.67
	11/27/2017	607.41	27.49	579.92
	6/1/2018	607.41	23.22	584.19
11/6/2018	607.41	23.65	583.76	

MSL - Mean Sea Level  
TOC - Top of Casing

Table 2. Groundwater Flow Direction and Estimated Seepage Velocity/Flow Rate - Waukegan Generation Station.

DATE	Groundwater Flow Direction	K <sub>avg</sub> (ft/sec)*	Average Hydraulic Gradient (ft/ft)	Porosity (unitless)**	Estimated Seepage Velocity (ft/day)
11/2/2015	Southeast	4.040E-03	0.0018	0.35	1.75
2/29/2016	Southeast	4.040E-03	0.0013	0.35	1.30
5/2/2016	Southeast	4.040E-03	0.0015	0.35	1.45
8/23/2016	East-Southeast	4.040E-03	0.0017	0.35	1.65
12/2/2016	East-Southeast	4.040E-03	0.0021	0.35	2.09
2/21/2017	East-Southeast	4.040E-03	0.0022	0.35	2.14
5/15/2017	East-Southeast	4.040E-03	0.0008	0.35	0.80
7/5/2017	East-Southeast	4.040E-03	0.0049	0.35	4.84
9/11/2017	East-Southeast	4.040E-03	0.0018	0.35	1.75
11/27/2017	East-Southeast	4.040E-03	0.0024	0.35	2.39
5/29/2018	East-Southeast	4.040E-03	0.0008	0.35	0.80
11/5/2018	East-Southeast	4.040E-03	0.0014	0.35	1.40

\* K<sub>avg</sub> - Average hydraulic conductivity (feet/second) from Hydrogeologic Assessment Report, Patrick Engineering, February 2011.

\*\* - Porosity estimate from Applied Hydrogeology, Fetter, 1980.

Table 3. CCR Groundwater Sample Collection Summary for 2018 - Waukegan Generating Station

Well ID	Number of Groundwater Sampling Events	Dates of Groundwater Sampling Events	Detection Monitoring (D) versus Assessment Monitoring (A)
MW-09 (Background)	2	5/31/2018	D
		11/6/2018	D
MW-11 (Background)	2	5/31/2018	D
		11/6/2018	D
MW-14 (Background)	2	6/1/2018	D
		11/6/2018	D
MW-01 (Downgradient)	2	5/29/2018	D
		11/5/2018	D
MW-02 (Downgradient)	2	5/29/2018	D
		11/5/2018	D
MW-03 (Downgradient)	2	5/29/2018	D
		11/5/2018	D
MW-04 (Downgradient)	2	5/30/2018	D
		11/6/2018	D
MW-16 (Downgradient)	2	6/1/2018	D
		11/6/2018	D

Table 4. Detection Monitoring - Appendix III Groundwater Analytical Results through 2018 - Midwest Generation, LLC, Waukegan Station, Waukegan, IL.

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids	
MW-09 up-gradient	11/4/2015	13	210	450	0.14	6.60	370	1700	
	3/2/2016	35	380	720	0.11	7.02	970	2800	
	5/3/2016	16	310	620	0.12	7.02	740	2500	
	8/25/2016	4.5	130	270	0.21	7.13	190	1100	
	12/8/2016	15	200	330	0.18	7.01	270	1300	
	2/23/2017	14	190	290	0.12	7.68	320	1300	
	5/16/2017	27	160	67	0.29	8.15	420	970	
	7/6/2017	21	220	430	0.13	7.18	610	1800	
	<b>Pred. Limit*</b>	<b>43.9</b>	<b>449</b>	<b>963</b>	<b>0.33</b>	<b>8.53-5.92</b>	<b>1214</b>	<b>3499</b>	
	9/13/2017	21	250	420	0.14	7.17	520	1800	
	11/29/2017	26	200	390	0.13	7.05	390	1600	
	5/31/2018	32	200	29	0.1	6.85	490	1000	
	11/6/2018	30	170	23	0.11	7.33	290	930	
MW-11 up-gradient	11/5/2015	5.2	140	240	0.13	6.51	190	1100	
	3/2/2016	4.0	170	240	0.1	7.16	210	1200	
	5/5/2016	5.0	140	280	0.11	7.17	160	1000	
	8/26/2016	3.5	180	240	0.13	6.97	110	1100	
	12/7/2016	3.0	170	270	0.12	7.06	110	1200	
	2/24/2017	2.4	180	220	4.9	6.61	170	1200	
	5/18/2017	1.8	160	170	0.12	7.42	120	1000	
	7/6/2017	2.4	160	190	0.14	7.33	130	1100	
	<b>Pred. Limit*</b>	<b>6.83</b>	<b>206</b>	<b>333</b>	<b>4.9</b>	<b>7.91-6.14</b>	<b>255</b>	<b>1341</b>	
	9/13/2017	1.9	140	150	0.26	7.16	96	870	
	11/30/2017	2.2	170	200	0.14	6.99	93	1100	
	5/31/2018	1.5	210	160	0.1	6.74	130	1100	
	11/6/2018	2.3	170	150	0.12	7.21	78	990	
MW-14 up-gradient	11/5/2015	1.4	150	190	0.19	6.78	140	1000	
	3/2/2016	0.93	150	110	0.17	7.24	150	870	
	5/5/2016	1.2	170	120	0.18	7.17	190	980	
	8/26/2016	1.5	200	210	0.12	7.00	190	1300	
	12/7/2016	0.95	240	340	0.25	6.81	120	1100	
	2/23/2017	0.73	150	99	0.19	6.88	110	730	
	5/18/2017	0.81	120	130	0.3	7.62	70	590	
	7/6/2017	1.2	190	180	0.13	7.29	190	1300	
	<b>Pred. Limit*</b>	<b>1.85</b>	<b>274</b>	<b>389</b>	<b>0.35</b>	<b>7.89-6.31</b>	<b>266</b>	<b>1676</b>	
	9/13/2017	<b>2.3</b>	180	190	0.15	7.20	<b>270</b>	1200	
	11/30/2017	0.85	170	130	0.19	7.33	99	940	
	6/1/2018	0.54	100	57	0.28	6.89	42	410	
	11/6/2018	0.98	160	110	0.24	7.36	53	610	
MW-01 down-gradient	11/2/2015	1.8	64	71	0.46	10.93	310	560	
	3/1/2016	V	1.9	58	63	0.26	11.13	270	570
	5/4/2016	2.0	45	60	0.3	11.09	210	490	
	8/23/2016	2.0	42	60	0.26	10.49	240	550	
	12/5/2016	2.2	55	65	0.34	10.46	180	560	
	2/21/2017	2.2	50	61	0.29	11.30	250	540	
	5/15/2017	2.1	52	59	0.37	10.69	330	570	
	7/5/2017	2.3	44	51	0.34	10.83	320	570	
	<b>Pred. Limit</b>	<b>1.83</b>	<b>227**</b>	<b>345**</b>	<b>4.9**</b>	<b>7.70-6.43**</b>	<b>233**</b>	<b>1461**</b>	
	<b>Pred. Limit*</b>	<b>2.52</b>	<b>NC</b>	<b>NC</b>	<b>NC</b>	<b>11.7-10.03</b>	<b>411.6</b>	<b>NC</b>	
	9/14/2017	<b>2.4</b>	71	47	0.24	<b>10.45</b>	<b>430</b>	770	
	11/27/2017	<b>2.7</b>	84	43	0.11	<b>7.85</b>	<b>330</b>	840	
	5/29/2018	<b>2.4</b>	54	58	0.33	<b>8.44</b>	<b>350</b>	610	
11/5/2018	<b>2.0</b>	38	43	0.25	<b>8.70</b>	210	630		

Notes: All units are in mg/l except pH is in standard units.  
**Pred. Limit** - Prediction Limit  
*Italics Date* - Detection Monitoring and resample after statistical background establishment.  
 \* - Intrawell Prediction Limit. All others are interwell comparisons.  
 \*\* - Based on pooled background from MW-11/MW-14. All others based on MW-14 as background.  
 V- Serial dilution exceeds the control limits.  
 R- Resampling event  
 NA - Not analyzed. No confirmation resample required.

**BOLD** - Potential statistically significant increase relative to interwell Prediction Limit.  
**BOLD** - Potential statistically significant increase relative to intrawell Prediction Limit.  
**BOLD** - Above both interwell and intrawell Prediction Limits.  
 NC - Not Calculated.

Table 4. Detection Monitoring - Appendix III Groundwater Analytical Results through 2018 - Midwest Generation, LLC, Waukegan Station, Waukegan, IL.

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-02 down-gradient	11/2/2015	3.0	32	47	0.78	8.27	230	460
	3/1/2016	4.1	39	47	1.3	8.57	220	510
	5/4/2016	3.3	34	51	1.5	8.19	180	440
	8/23/2016	3.1	42	59	1.3	7.52	250	500
	12/5/2016	3.1	28	56	1.0	8.62	160	430
	2/21/2017	3.3	31	52	0.8	8.75	190	420
	5/15/2017	3.6	85	48	0.6	8.33	320	640
	7/5/2017	4.2	100	52	0.4	7.92	300	710
	<b>Pred. Limit</b>	<b>1.83</b>	<b>227**</b>	<b>345**</b>	<b>4.9**</b>	<b>7.70-6.43**</b>	<b>233**</b>	<b>1461**</b>
	<b>Pred. Limit*</b>	<b>4.73</b>	<b>NC</b>	<b>NC</b>	<b>NC</b>	<b>9.38-7.16</b>	<b>386.6</b>	<b>NC</b>
	9/14/2017	<b>2.5</b>	87	54	0.4	<b>8.19</b>	<b>340</b>	780
	11/27/2017	<b>3.4</b>	69	57	0.6	7.34	200	570
	5/29/2018	<b>4.5</b>	160	43	0.4	<b>6.85</b>	<b>420</b>	990
11/5/2018	<b>3.1</b>	77	59	0.61	<b>8.06</b>	180	610	
MW-03 down-gradient	11/2/2015	2.3	72	87	0.51	9.26	270	570
	3/1/2016	2.9	61	70	0.33	7.33	220	530
	5/4/2016	2.4	42	74	0.56	7.25	170	470
	8/24/2016	2.0	70	59	0.3	9.13	200	430
	12/5/2016	2.4	57	60	0.41	7.62	120	440
	2/21/2017	2.2	56	65	0.33	7.56	180	460
	5/16/2017	3.9	110	61	0.27	7.90	320	820
	7/5/2017	3.0	60	60	0.28	7.46	200	470
	<b>Pred. Limit</b>	<b>1.83</b>	<b>227**</b>	<b>345**</b>	<b>4.9**</b>	<b>7.70-6.43**</b>	<b>233**</b>	<b>1461**</b>
	<b>Pred. Limit*</b>	<b>4.31</b>	<b>NC</b>	<b>NC</b>	<b>NC</b>	<b>9.26-7.25</b>	<b>378.9</b>	<b>NC</b>
	9/14/2017	<b>2.1</b>	86	57	0.26	7.53	<b>260</b>	680
	11/28/2017	<b>2.6</b>	69	63	0.56	<b>6.96</b>	120	500
	5/29/2018	<b>2.4</b>	67	61	0.38	<b>6.84</b>	190	480
11/5/2018	<b>2.4</b>	54	54	0.50	<b>8.99</b>	150	500	
MW-04 down-gradient	11/3/2015	1.8	66	62	0.51	6.68	240	480
	3/1/2016	2.0	58	51	0.5	7.17	170	450
	5/4/2016	1.6	44	49	0.61	6.92	140	340
	8/24/2016	2.0	46	58	0.56	7.01	120	370
	12/5/2016	3.4	200	60	0.21	7.40	300	1000
	2/22/2017	2.4	150	41	0.17	7.44	290	850
	5/16/2017	2.5	170	29	0.32	7.94	400	970
	7/5/2017	3.6	200	51	0.29	7.09	520	1100
	<b>Pred. Limit</b>	<b>1.83</b>	<b>227**</b>	<b>345**</b>	<b>4.9**</b>	<b>7.70-6.43**</b>	<b>233**</b>	<b>1461**</b>
	<b>Pred. Limit*</b>	<b>4.42</b>	<b>NC</b>	<b>NC</b>	<b>NC</b>	<b>8.26-6.15</b>	<b>647.3</b>	<b>NC</b>
	9/14/2017	<b>2.5</b>	180	45	0.28	7.04	<b>480</b>	1100
	11/28/2017	<b>2.3</b>	110	32	0.28	7.04	130	560
	5/30/2018	<b>3.0</b>	150	21	0.38	6.57	200	700
11/6/2018	<b>2.5</b>	150	58	0.37	6.83	<b>240</b>	900	
MW-16 down-gradient	11/3/2015	4.1	230	87	0.43	6.24	610	1400
	3/2/2016	3.1	360	130	0.35	6.76	990	1700
	5/2/2016	4.9	250	150	0.49	6.99	620	1600
	8/24/2016	3.6	130	53	0.71	7.00	330	830
	12/5/2016	3.8	160	52	0.51	7.03	280	920
	2/24/2017	6.5	200	67	0.2	5.76	570	1100
	5/16/2017	2.6	340	130	0.15	7.57	760	1700
	7/6/2017	9.5	190	70	0.57	7.35	480	1100
	<b>Pred. Limit</b>	<b>1.83</b>	<b>227**</b>	<b>345**</b>	<b>4.9**</b>	<b>7.70-6.43**</b>	<b>233**</b>	<b>1461**</b>
	<b>Pred. Limit*</b>	<b>10.94</b>	<b>NC</b>	<b>NC</b>	<b>NC</b>	<b>8.45-5.23</b>	<b>1206</b>	<b>NC</b>
	9/13/2017	<b>2.8</b>	190	55	0.61	7.33	<b>460</b>	970
	11/27/2017	<b>4.2</b>	140	58	0.71	7.16	<b>270</b>	760
	6/1/2018	<b>3</b>	<b>380</b>	130	0.32	6.53	<b>890</b>	<b>1900</b>
8/22/2018 (R)	NA	190	NA	NA	NA	NA	1200	
11/6/2018	<b>3.9</b>	<b>380</b>	150	0.39	6.78	<b>550</b>	<b>1900</b>	
12/4/2018 (R)	NA	<b>320</b>	NA	NA	NA	NA	<b>1600</b>	

Notes: All units are in mg/l except pH is in standard units.  
 Pred. Limit - Prediction Limit  
*Italics Date* - Detection Monitoring and resample after statistical background establishment.  
 \* - Intrawell Prediction Limit. All others are interwell comparisons.  
 \*\* - Based on pooled background from MW-11/MW-14. All others based on MW-14 as background.  
 V - Serial dilution exceeds the control limits.  
 R - Resampling event  
 NA - Not analyzed. No confirmation resample required.

**BOLD** - Potential statistically significant increase relative to interwell Prediction Limit.  
**BOLD** - Potential statistically significant increase relative to intrawell Prediction Limit.  
**BOLD** Above both interwell and intrawell Prediction Limits.  
 NC - Not Calculated.

**Appendix A**  
**Analytical Data Packages from 2018 Detection Monitoring**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-146299-1

Client Project/Site: Waukegan CCR

For:

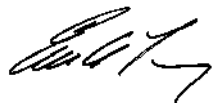
KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 2B

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

6/15/2018 2:03:33 PM

Eric Lang, Manager of Project Management

(708)534-5200

[eric.lang@testamericainc.com](mailto:eric.lang@testamericainc.com)



### LINKS

Review your project results through

**TotalAccess**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Job ID: 500-146299-1**

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative  
500-146299-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 6/1/2018 2:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 6 coolers at receipt time were 3.1° C, 3.4° C, 3.5° C, 3.7° C, 3.8° C and 4.1° C.

**Metals**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



Sample Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-146299-1	MW-01	Water	05/29/18 12:42	06/01/18 14:50
500-146299-2	MW-02	Water	05/29/18 13:54	06/01/18 14:50
500-146299-3	MW-03	Water	05/29/18 15:03	06/01/18 14:50
500-146299-4	MW-04	Water	05/30/18 09:12	06/01/18 14:50
500-146299-5	MW-09	Water	05/31/18 11:24	06/01/18 14:50
500-146299-6	MW-11	Water	05/31/18 14:44	06/01/18 14:50
500-146299-7	MW-14	Water	06/01/18 08:04	06/01/18 14:50
500-146299-8	MW-16	Water	06/01/18 10:23	06/01/18 14:50
500-146299-9	Duplicate	Water	05/29/18 00:00	06/01/18 14:50

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**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Client Sample ID: MW-01**  
**Date Collected: 05/29/18 12:42**  
**Date Received: 06/01/18 14:50**

**Lab Sample ID: 500-146299-1**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.4		0.50		mg/L		06/02/18 10:33	06/05/18 14:13	10
Calcium	54		0.20		mg/L		06/02/18 10:33	06/04/18 14:25	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	610		10		mg/L			06/04/18 03:29	1
Chloride	58		2.0		mg/L			06/11/18 12:12	1
Fluoride	0.33		0.10		mg/L			06/02/18 15:20	1
Sulfate	350		50		mg/L			06/12/18 07:23	10



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Client Sample ID: MW-02**  
**Date Collected: 05/29/18 13:54**  
**Date Received: 06/01/18 14:50**

**Lab Sample ID: 500-146299-2**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.5		1.0		mg/L		06/02/18 10:33	06/05/18 14:41	20
Calcium	160		0.20		mg/L		06/02/18 10:33	06/04/18 14:54	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	990		10		mg/L			06/04/18 03:32	1
Chloride	43		2.0		mg/L			06/11/18 12:13	1
Fluoride	0.40		0.10		mg/L			06/02/18 15:23	1
Sulfate	420		100		mg/L			06/12/18 07:26	20



**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Client Sample ID: MW-03**  
**Date Collected: 05/29/18 15:03**  
**Date Received: 06/01/18 14:50**

**Lab Sample ID: 500-146299-3**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.4		0.50		mg/L		06/02/18 10:33	06/05/18 14:45	10
Calcium	67		0.20		mg/L		06/02/18 10:33	06/04/18 14:58	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	480		10		mg/L			06/04/18 03:34	1
Chloride	61		2.0		mg/L			06/11/18 12:17	1
Fluoride	0.38		0.10		mg/L			06/02/18 15:26	1
Sulfate	190		50		mg/L			06/12/18 07:27	10



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Client Sample ID: MW-04**  
**Date Collected: 05/30/18 09:12**  
**Date Received: 06/01/18 14:50**

**Lab Sample ID: 500-146299-4**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.0		0.50		mg/L		06/02/18 10:33	06/05/18 14:50	10
Calcium	150		0.20		mg/L		06/02/18 10:33	06/04/18 15:02	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	700		10		mg/L			06/04/18 03:37	1
Chloride	21		2.0		mg/L			06/11/18 12:18	1
Fluoride	0.38		0.10		mg/L			06/02/18 15:29	1
Sulfate	200		50		mg/L			06/12/18 07:28	10





**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Client Sample ID: MW-09**

**Date Collected: 05/31/18 11:24**

**Date Received: 06/01/18 14:50**

**Lab Sample ID: 500-146299-5**

**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	32		5.0		mg/L		06/02/18 10:33	06/05/18 14:54	100
Calcium	200		0.20		mg/L		06/02/18 10:33	06/04/18 15:06	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		10		mg/L			06/04/18 03:40	1
Chloride	29		2.0		mg/L			06/11/18 12:48	1
Fluoride	0.10		0.10		mg/L			06/02/18 15:33	1
Sulfate	490		100		mg/L			06/12/18 07:29	20



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Client Sample ID: MW-11**  
**Date Collected: 05/31/18 14:44**  
**Date Received: 06/01/18 14:50**

**Lab Sample ID: 500-146299-6**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.5		0.25		mg/L		06/02/18 10:33	06/05/18 14:58	5
Calcium	210		0.20		mg/L		06/02/18 10:33	06/04/18 15:10	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1100		10		mg/L			06/04/18 03:42	1
Chloride	160		10		mg/L			06/11/18 12:20	5
Fluoride	0.10		0.10		mg/L			06/02/18 15:36	1
Sulfate	130		50		mg/L			06/12/18 07:30	10



**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Client Sample ID: MW-14**  
**Date Collected: 06/01/18 08:04**  
**Date Received: 06/01/18 14:50**

**Lab Sample ID: 500-146299-7**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.54		0.050		mg/L		06/02/18 10:33	06/05/18 15:02	1
Calcium	100		0.20		mg/L		06/02/18 10:33	06/04/18 15:14	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	410		10		mg/L			06/04/18 03:45	1
Chloride	57		2.0		mg/L			06/11/18 12:48	1
Fluoride	0.28		0.10		mg/L			06/02/18 15:40	1
Sulfate	42		10		mg/L			06/12/18 07:33	2



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Client Sample ID: MW-16**  
**Date Collected: 06/01/18 10:23**  
**Date Received: 06/01/18 14:50**

**Lab Sample ID: 500-146299-8**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.0		0.50		mg/L		06/02/18 10:33	06/05/18 15:06	10
Calcium	380		2.0		mg/L		06/02/18 10:33	06/05/18 15:06	10

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		10		mg/L			06/04/18 03:47	1
Chloride	130		10		mg/L			06/11/18 12:21	5
Fluoride	0.32		0.10		mg/L			06/02/18 15:53	1
Sulfate	890		250		mg/L			06/12/18 07:34	50



**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Client Sample ID: Duplicate**  
**Date Collected: 05/29/18 00:00**  
**Date Received: 06/01/18 14:50**

**Lab Sample ID: 500-146299-9**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.6		1.0		mg/L		06/02/18 10:33	06/05/18 15:10	20
Calcium	160		0.20		mg/L		06/02/18 10:33	06/04/18 15:27	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	960		10		mg/L			06/04/18 03:50	1
Chloride	43		2.0		mg/L			06/11/18 12:21	1
Fluoride	0.39		0.10		mg/L			06/02/18 15:56	1
Sulfate	390		100		mg/L			06/12/18 07:35	20



Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Qualifiers**

**Metals**

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

**Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Metals**

**Prep Batch: 435023**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-146299-1	MW-01	Total Recoverable	Water	3005A	
500-146299-2	MW-02	Total Recoverable	Water	3005A	
500-146299-3	MW-03	Total Recoverable	Water	3005A	
500-146299-4	MW-04	Total Recoverable	Water	3005A	
500-146299-5	MW-09	Total Recoverable	Water	3005A	
500-146299-6	MW-11	Total Recoverable	Water	3005A	
500-146299-7	MW-14	Total Recoverable	Water	3005A	
500-146299-8	MW-16	Total Recoverable	Water	3005A	
500-146299-9	Duplicate	Total Recoverable	Water	3005A	
MB 500-435023/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-435023/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-146299-1 MS	MW-01	Total Recoverable	Water	3005A	
500-146299-1 MSD	MW-01	Total Recoverable	Water	3005A	
500-146299-1 DU	MW-01	Total Recoverable	Water	3005A	

**Analysis Batch: 435356**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-146299-1	MW-01	Total Recoverable	Water	6020A	435023
500-146299-2	MW-02	Total Recoverable	Water	6020A	435023
500-146299-3	MW-03	Total Recoverable	Water	6020A	435023
500-146299-4	MW-04	Total Recoverable	Water	6020A	435023
500-146299-5	MW-09	Total Recoverable	Water	6020A	435023
500-146299-6	MW-11	Total Recoverable	Water	6020A	435023
500-146299-7	MW-14	Total Recoverable	Water	6020A	435023
500-146299-9	Duplicate	Total Recoverable	Water	6020A	435023
MB 500-435023/1-A	Method Blank	Total Recoverable	Water	6020A	435023
LCS 500-435023/2-A	Lab Control Sample	Total Recoverable	Water	6020A	435023
500-146299-1 MS	MW-01	Total Recoverable	Water	6020A	435023
500-146299-1 MSD	MW-01	Total Recoverable	Water	6020A	435023
500-146299-1 DU	MW-01	Total Recoverable	Water	6020A	435023

**Analysis Batch: 435611**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-146299-1	MW-01	Total Recoverable	Water	6020A	435023
500-146299-2	MW-02	Total Recoverable	Water	6020A	435023
500-146299-3	MW-03	Total Recoverable	Water	6020A	435023
500-146299-4	MW-04	Total Recoverable	Water	6020A	435023
500-146299-5	MW-09	Total Recoverable	Water	6020A	435023
500-146299-6	MW-11	Total Recoverable	Water	6020A	435023
500-146299-7	MW-14	Total Recoverable	Water	6020A	435023
500-146299-8	MW-16	Total Recoverable	Water	6020A	435023
500-146299-9	Duplicate	Total Recoverable	Water	6020A	435023
MB 500-435023/1-A	Method Blank	Total Recoverable	Water	6020A	435023
LCS 500-435023/2-A	Lab Control Sample	Total Recoverable	Water	6020A	435023
500-146299-1 MS	MW-01	Total Recoverable	Water	6020A	435023
500-146299-1 MSD	MW-01	Total Recoverable	Water	6020A	435023
500-146299-1 DU	MW-01	Total Recoverable	Water	6020A	435023



Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**General Chemistry**

**Analysis Batch: 435107**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-146299-1	MW-01	Total/NA	Water	SM 2540C	
500-146299-2	MW-02	Total/NA	Water	SM 2540C	
500-146299-3	MW-03	Total/NA	Water	SM 2540C	
500-146299-4	MW-04	Total/NA	Water	SM 2540C	
500-146299-5	MW-09	Total/NA	Water	SM 2540C	
500-146299-6	MW-11	Total/NA	Water	SM 2540C	
500-146299-7	MW-14	Total/NA	Water	SM 2540C	
500-146299-8	MW-16	Total/NA	Water	SM 2540C	
500-146299-9	Duplicate	Total/NA	Water	SM 2540C	
MB 500-435107/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-435107/2	Lab Control Sample	Total/NA	Water	SM 2540C	

**Analysis Batch: 435191**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-146299-1	MW-01	Total/NA	Water	SM 4500 F C	
500-146299-2	MW-02	Total/NA	Water	SM 4500 F C	
500-146299-3	MW-03	Total/NA	Water	SM 4500 F C	
500-146299-4	MW-04	Total/NA	Water	SM 4500 F C	
500-146299-5	MW-09	Total/NA	Water	SM 4500 F C	
500-146299-6	MW-11	Total/NA	Water	SM 4500 F C	
500-146299-7	MW-14	Total/NA	Water	SM 4500 F C	
500-146299-8	MW-16	Total/NA	Water	SM 4500 F C	
500-146299-9	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-435191/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-435191/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

**Analysis Batch: 436386**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-146299-1	MW-01	Total/NA	Water	SM 4500 CI- E	
500-146299-2	MW-02	Total/NA	Water	SM 4500 CI- E	
500-146299-3	MW-03	Total/NA	Water	SM 4500 CI- E	
500-146299-4	MW-04	Total/NA	Water	SM 4500 CI- E	
500-146299-5	MW-09	Total/NA	Water	SM 4500 CI- E	
500-146299-6	MW-11	Total/NA	Water	SM 4500 CI- E	
500-146299-7	MW-14	Total/NA	Water	SM 4500 CI- E	
500-146299-8	MW-16	Total/NA	Water	SM 4500 CI- E	
500-146299-9	Duplicate	Total/NA	Water	SM 4500 CI- E	
MB 500-436386/12	Method Blank	Total/NA	Water	SM 4500 CI- E	
LCS 500-436386/13	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	

**Analysis Batch: 436447**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-146299-1	MW-01	Total/NA	Water	SM 4500 SO4 E	
500-146299-2	MW-02	Total/NA	Water	SM 4500 SO4 E	
500-146299-3	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-146299-4	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-146299-5	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-146299-6	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-146299-7	MW-14	Total/NA	Water	SM 4500 SO4 E	
500-146299-8	MW-16	Total/NA	Water	SM 4500 SO4 E	
500-146299-9	Duplicate	Total/NA	Water	SM 4500 SO4 E	





Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**General Chemistry (Continued)**

**Analysis Batch: 436447 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-436447/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-436447/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-146299-1 MS	MW-01	Total/NA	Water	SM 4500 SO4 E	
500-146299-1 MSD	MW-01	Total/NA	Water	SM 4500 SO4 E	

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- 10
- 11
- 12

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

TestAmerica Job ID: 500-146299-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-435023/1-A  
Matrix: Water  
Analysis Batch: 435356

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 435023

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		06/02/18 10:33	06/04/18 14:17	1

Lab Sample ID: MB 500-435023/1-A  
Matrix: Water  
Analysis Batch: 435611

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 435023

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		06/02/18 10:33	06/05/18 14:05	1

Lab Sample ID: LCS 500-435023/2-A  
Matrix: Water  
Analysis Batch: 435356

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 435023

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.00		mg/L		90	80 - 120

Lab Sample ID: LCS 500-435023/2-A  
Matrix: Water  
Analysis Batch: 435611

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 435023

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.04		mg/L		104	80 - 120

Lab Sample ID: 500-146299-1 MS  
Matrix: Water  
Analysis Batch: 435356

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 435023

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	54		10.0	61.3	4	mg/L		70	75 - 125

Lab Sample ID: 500-146299-1 MS  
Matrix: Water  
Analysis Batch: 435611

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 435023

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	2.4		1.00	3.37		mg/L		98	75 - 125

Lab Sample ID: 500-146299-1 MSD  
Matrix: Water  
Analysis Batch: 435356

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 435023

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	54		10.0	61.9	4	mg/L		76	75 - 125	1	20

Lab Sample ID: 500-146299-1 MSD  
Matrix: Water  
Analysis Batch: 435611

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 435023

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	2.4		1.00	3.40		mg/L		100	75 - 125	1	20

TestAmerica Chicago

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

Lab Sample ID: 500-146299-1 DU  
Matrix: Water  
Analysis Batch: 435356

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 435023

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Calcium	54		53.7		mg/L		1	20

Lab Sample ID: 500-146299-1 DU  
Matrix: Water  
Analysis Batch: 435611

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 435023

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	2.4		2.26		mg/L		6	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-435107/1  
Matrix: Water  
Analysis Batch: 435107

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			06/04/18 02:51	1

Lab Sample ID: LCS 500-435107/2  
Matrix: Water  
Analysis Batch: 435107

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	250	280		mg/L		112	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-436386/12  
Matrix: Water  
Analysis Batch: 436386

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			06/11/18 12:07	1

Lab Sample ID: LCS 500-436386/13  
Matrix: Water  
Analysis Batch: 436386

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	50.9		mg/L		102	85 - 115

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-435191/3  
Matrix: Water  
Analysis Batch: 435191

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			06/02/18 14:25	1

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Method: SM 4500 F C - Fluoride (Continued)**

Lab Sample ID: LCS 500-435191/4  
Matrix: Water  
Analysis Batch: 435191

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.3		mg/L		103	80 - 120

**Method: SM 4500 SO4 E - Sulfate, Total**

Lab Sample ID: MB 500-436447/3  
Matrix: Water  
Analysis Batch: 436447

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			06/12/18 07:21	1

Lab Sample ID: LCS 500-436447/4  
Matrix: Water  
Analysis Batch: 436447

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.4		mg/L		102	80 - 120

Lab Sample ID: 500-146299-1 MS  
Matrix: Water  
Analysis Batch: 436447

Client Sample ID: MW-01  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	350		400	778		mg/L		106	75 - 125

Lab Sample ID: 500-146299-1 MSD  
Matrix: Water  
Analysis Batch: 436447

Client Sample ID: MW-01  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Sulfate	350		400	740		mg/L		96	75 - 125	5	20



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TestAmerica Chicago  
2417 Bond St.  
University Park, IL 60  
708-534-5200  
Fax: 708-534-5211 500-146299 COC



Report To:

Bill To:

Contact: Richard Gnat	Contact: Accounts Payable	Lab Lot # <b>500-146299</b>
Company: KPRG and Associates, Inc	Company: NRG Energy	
Address: 14665 W. Lisbon Rd., Suite 2B Brookfield, WI 53005	Address: 112 Telly St New Roads, LA 70760	Package Sealed Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Phone: 262-781-0475	Phone: 713 465-4113	Samples Sealed Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Email: richardg@kprginc.com	Email: invoices@nrg.com	Received on Ice Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	PO #: 4501576732	Samples Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
		Temperature °C of Cooler <b>3.1, 3.5, 3.4, 3.7, 4.1, 3.8</b>

Sampler Name: <b>Ian John Howieson</b>		Company: <b>KPRG &amp; Associates Inc.</b>		# / Cont. <b>Volume</b>																	
Project Name: <b>Quarterly Waukegan CCR</b>		TestAmerica Project Number: <b>50011597</b>		Preserv.																	
Project Location: <b>Waukegan, IL</b>		TAT <b>15 Days</b>		Matrix		# of Cont															
Lab PM: <b>Eric Lang</b>																					
Laboratory ID	MS-MSD	Client Sample ID	Sampling Time	Date																	Additional Analyses / Remarks
1		MW-01	5-29-18 12:42	W	2	X	X	X	X	X											
2		MW-02	5-29-18 13:54	W	2	X	X	X	X	X											
3		MW-03	5-29-18 15:03	W	2	X	X	X	X	X											
4		MW-04	5-30-18 09:12	W	2	X	X	X	X	X											
5		MW-09	5-31-18 11:24	W	2	X	X	X	X	X											
6		MW-11	5-31-18 14:44	W	2	X	X	X	X	X											
7		MW-14	6-1-18 08:04	W	2	X	X	X	X	X											
8		MW-16	6-1-18 10:23	W	2	X	X	X	X	X											
9		Duplicates	5-29-18	W	2	X	X	X	X	X											

RELINQUISHED BY: <b>ISH</b>	COMPANY: <b>KPRG</b>	DATE: <b>6-1-18</b>	TIME: <b>14:50</b>	RECEIVED BY: <b>Shirley Scott</b>	COMPANY: <b>TA-CORP</b>	DATE: <b>6/1/18</b>	TIME: <b>14:50</b>
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

**Matrix Key**  
 WW = Wastewater SE = Sediment  
 W = Water SO = Solid  
 S = Soil DL = Drum Liquid  
 SL = Sludge DS = Drum Solid  
 MS = Miscellaneous L = Leachate  
 OL = Oil W = Wipe  
 A = Air O =

**Container Key**  
 1. Plastic  
 2. VOA Vial  
 3. Sterile Plastic  
 4. Amber Glass  
 5. Widemouth Glass  
 6. Other

**Preservative Key**  
 1. HCl, Cool to 4°  
 2. H<sub>2</sub>SO<sub>4</sub>, Cool to 4°  
 3. HNO<sub>3</sub>, Cool to 4°  
 4. NaOH, Cool to 4°  
 5. NaOH/Zn, Cool to 4°  
 6. Cool to 4°  
 7. None

COMMENTS:

Date Received:   /  /    
 Courier:  
 Hand Delivered:   
 Bill of Lading:    of

**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-146299-1

**Login Number: 146299**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Scott, Sherri L**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1,3.5,3.4,3.7,4.1,3.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Laboratory: TestAmerica Chicago**

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-19

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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-150402-1

Client Project/Site: Waukegan CCR

For:

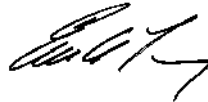
KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 1A

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

8/28/2018 10:02:40 AM

Eric Lang, Manager of Project Management

(708)534-5200

[eric.lang@testamericainc.com](mailto:eric.lang@testamericainc.com)



### LINKS

Review your project results through

**TotalAccess**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Job ID: 500-150402-1**

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative  
500-150402-1**

**Comments**

No additional comments.

**Receipt**

The sample was received on 8/23/2018 1:15 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

**Metals**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Method Summary

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



# Sample Summary

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

Page 49 of 193  
TestAmerica Job ID: 500-150402-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-150402-1	MW-16	Water	08/22/18 14:43	08/23/18 13:15

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**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Client Sample ID: MW-16**  
**Date Collected: 08/22/18 14:43**  
**Date Received: 08/23/18 13:15**

**Lab Sample ID: 500-150402-1**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	190		0.20		mg/L		08/24/18 08:20	08/24/18 17:49	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1200		10		mg/L			08/24/18 07:54	1

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- 10
- 11
- 12

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Qualifiers**

**Metals**

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

**Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Metals**

**Prep Batch: 446844**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-150402-1	MW-16	Total Recoverable	Water	3005A	
MB 500-446844/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-446844/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-150402-1 MS	MW-16	Total Recoverable	Water	3005A	
500-150402-1 MSD	MW-16	Total Recoverable	Water	3005A	
500-150402-1 DU	MW-16	Total Recoverable	Water	3005A	

**Analysis Batch: 447123**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-150402-1	MW-16	Total Recoverable	Water	6020A	446844
MB 500-446844/1-A	Method Blank	Total Recoverable	Water	6020A	446844
LCS 500-446844/2-A	Lab Control Sample	Total Recoverable	Water	6020A	446844
500-150402-1 MS	MW-16	Total Recoverable	Water	6020A	446844
500-150402-1 MSD	MW-16	Total Recoverable	Water	6020A	446844
500-150402-1 DU	MW-16	Total Recoverable	Water	6020A	446844

**General Chemistry**

**Analysis Batch: 446816**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-150402-1	MW-16	Total/NA	Water	SM 2540C	
MB 500-446816/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-446816/2	Lab Control Sample	Total/NA	Water	SM 2540C	



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

TestAmerica Job ID: 500-150402-1

**Method: 6020A - Metals (ICP/MS)**

Lab Sample ID: MB 500-446844/1-A  
Matrix: Water  
Analysis Batch: 447123

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 446844

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		08/24/18 08:20	08/24/18 16:22	1

Lab Sample ID: LCS 500-446844/2-A  
Matrix: Water  
Analysis Batch: 447123

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 446844

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	8.87		mg/L		89	80 - 120

Lab Sample ID: 500-150402-1 MS  
Matrix: Water  
Analysis Batch: 447123

Client Sample ID: MW-16  
Prep Type: Total Recoverable  
Prep Batch: 446844

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	190		10.0	194	4	mg/L		61	75 - 125

Lab Sample ID: 500-150402-1 MSD  
Matrix: Water  
Analysis Batch: 447123

Client Sample ID: MW-16  
Prep Type: Total Recoverable  
Prep Batch: 446844

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	190		10.0	191	4	mg/L		28	75 - 125	2	20

Lab Sample ID: 500-150402-1 DU  
Matrix: Water  
Analysis Batch: 447123

Client Sample ID: MW-16  
Prep Type: Total Recoverable  
Prep Batch: 446844

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	190		10.0	185		mg/L				2	20

**Method: SM 2540C - Solids, Total Dissolved (TDS)**

Lab Sample ID: MB 500-446816/1  
Matrix: Water  
Analysis Batch: 446816

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			08/24/18 06:55	1

Lab Sample ID: LCS 500-446816/2  
Matrix: Water  
Analysis Batch: 446816

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	292		mg/L		117	80 - 120



**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chic

2417 Bond St.

University Park, IL

708-534-5200

Fax: 708-534-5211 500-150402 COC



Report To:

Contact: Richard Gnat  
Company: KPRG and Associates, Inc  
Address: 14665 W. Lisbon Rd., Suite 2B  
Brookfield, WI 53005  
Phone: 262-781-0475  
Email: richardg@kprginc.com

Bill To:

Contact: Accounts Payable  
Company: NRG Energy  
Address: 112 Telly St  
New Roads, LA 70760  
Phone: 713 465-4113  
Email: invoices@nrg.com  
PO #: 4501576732

Lab Lot # 500-150402  
Package Sealed: Yes  No   
Samples Sealed: Yes  No   
Received on Ice: Yes  No   
Samples Intact: Yes  No  N/A   
Temperature °C of Cooler: 2.6

12 qt.

Sampler Name:		Company:		# / Cont.		Volume		Preserv.		Matrix		# of Cont		Within Field Time		Preserv. Indicated	
Ian John Howieson		KPRG & Associates Inc.												Yes No		Yes No N/A	
Project Name:		TestAmerica Project Number:		Matrix		# of Cont		pH Check OK		Res CL <sub>2</sub> Check OK		Sample Labels and COC Agree		COC not present			
Quarterly Waukegan CCR		50011597						Yes No		Yes No N/A		Yes No		COC not present			
Project Location:		TAT															
Waukegan, IL		15 Days															
Lab PM:		Eric Lang															
Laboratory ID	MS-MSD	Client Sample ID	Sampling Time	Date	W												Additional Analyses / Remarks
1		MW-16	8-22-18 14:43	W	2	XX											
				W													
				W													
				W													
				W													
				W													
				W													
				W													

RELINQUISHED BY: ISH COMPANY: KPRG DATE: 8-23-18 TIME: 13:15 RECEIVED BY: Amal Sastry COMPANY: TAHE DATE: 08/23/18 TIME: 1315

**Matrix Key**  
WW = Wastewater SE = Sediment  
W = Water SO = Solid  
S = Soil DL = Drum Liquid  
SL = Sludge DS = Drum Solid  
MS = Miscellaneous L = Leachate  
OL = Oil W = Wipe  
A = Air O = \_\_\_\_\_

**Container Key**  
1. Plastic  
2. VOA Vial  
3. Sterile Plastic  
4. Amber Glass  
5. Widemouth Glass  
6. Other

**Preservative Key**  
1. HCl, Cool to 4°  
2. H<sub>2</sub>SO<sub>4</sub>, Cool to 4°  
3. HNO<sub>3</sub>, Cool to 4°  
4. NaOH, Cool to 4°  
5. NaOH/Zn, Cool to 4°  
6. Cool to 4°  
7. None

COMMENTS:

Date Received: 08/23/18  
Courier:   
Hand Delivered:   
Bill of Lading: \_\_\_\_\_

1 of 1

STL-8208 (0600)

**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-150402-1

**Login Number: 150402**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Scott, Sherri L**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Laboratory: TestAmerica Chicago**

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-19

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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-154522-1

Client Project/Site: Waukegan CCR

For:

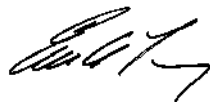
KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 1A

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

11/27/2018 5:20:35 PM

Eric Lang, Manager of Project Management

(708)534-5200

[eric.lang@testamericainc.com](mailto:eric.lang@testamericainc.com)



### LINKS

Review your project results through

TotalAccess

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Job ID: 500-154522-1**

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative  
500-154522-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 11/8/2018 3:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.4° C.

**Metals**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



Sample Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-154522-1	MW-01	Water	11/05/18 12:37	11/08/18 15:20
500-154522-2	MW-02	Water	11/05/18 13:44	11/08/18 15:20
500-154522-3	MW-03	Water	11/05/18 15:11	11/08/18 15:20
500-154522-4	MW-04	Water	11/06/18 10:15	11/08/18 15:20
500-154522-5	MW-09	Water	11/06/18 12:55	11/08/18 15:20
500-154522-6	MW-11	Water	11/06/18 14:08	11/08/18 15:20
500-154522-7	MW-14	Water	11/06/18 15:56	11/08/18 15:20
500-154522-8	MW-16	Water	11/06/18 12:10	11/08/18 15:20
500-154522-9	Duplicate	Water	11/05/18 00:00	11/08/18 15:20

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**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Client Sample ID: MW-01**  
**Date Collected: 11/05/18 12:37**  
**Date Received: 11/08/18 15:20**

**Lab Sample ID: 500-154522-1**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.0		0.25		mg/L		11/09/18 07:50	11/12/18 13:50	5
Calcium	38		0.20		mg/L		11/09/18 07:50	11/09/18 16:57	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	630		10		mg/L			11/09/18 07:38	1
Chloride	43		2.0		mg/L			11/24/18 15:26	1
Fluoride	0.25		0.10		mg/L			11/10/18 14:45	1
Sulfate	210		100		mg/L			11/18/18 23:16	20



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Client Sample ID: MW-02**  
**Date Collected: 11/05/18 13:44**  
**Date Received: 11/08/18 15:20**

**Lab Sample ID: 500-154522-2**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.1		0.25		mg/L		11/09/18 07:50	11/12/18 14:16	5
Calcium	77		0.20		mg/L		11/09/18 07:50	11/09/18 17:24	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	610		10		mg/L			11/09/18 07:43	1
Chloride	59		2.0		mg/L			11/24/18 15:27	1
Fluoride	0.61		0.10		mg/L			11/10/18 14:54	1
Sulfate	180		50		mg/L			11/18/18 23:17	10



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Client Sample ID: MW-03**  
**Date Collected: 11/05/18 15:11**  
**Date Received: 11/08/18 15:20**

**Lab Sample ID: 500-154522-3**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.4		0.25		mg/L		11/09/18 07:50	11/12/18 14:20	5
Calcium	54		0.20		mg/L		11/09/18 07:50	11/09/18 17:28	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	500		10		mg/L			11/09/18 07:45	1
Chloride	54		2.0		mg/L			11/24/18 16:49	1
Fluoride	0.50		0.10		mg/L			11/10/18 14:58	1
Sulfate	150		50		mg/L			11/18/18 23:20	10



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Client Sample ID: MW-04**  
**Date Collected: 11/06/18 10:15**  
**Date Received: 11/08/18 15:20**

**Lab Sample ID: 500-154522-4**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.5		0.25		mg/L		11/09/18 07:50	11/12/18 14:23	5
Calcium	150		0.20		mg/L		11/09/18 07:50	11/09/18 17:32	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	900		10		mg/L			11/09/18 07:48	1
Chloride	58		2.0		mg/L			11/24/18 16:50	1
Fluoride	0.37		0.10		mg/L			11/10/18 15:01	1
Sulfate	240		100		mg/L			11/18/18 23:21	20



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Client Sample ID: MW-09**  
**Date Collected: 11/06/18 12:55**  
**Date Received: 11/08/18 15:20**

**Lab Sample ID: 500-154522-5**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	30		5.0		mg/L		11/09/18 07:50	11/12/18 15:38	100
Calcium	170		0.20		mg/L		11/09/18 07:50	11/09/18 17:36	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	930		10		mg/L			11/09/18 07:51	1
Chloride	23		2.0		mg/L			11/24/18 16:50	1
Fluoride	0.11		0.10		mg/L			11/10/18 15:04	1
Sulfate	290		100		mg/L			11/18/18 23:22	20



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Client Sample ID: MW-11**  
**Date Collected: 11/06/18 14:08**  
**Date Received: 11/08/18 15:20**

**Lab Sample ID: 500-154522-6**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.3		0.35		mg/L		11/09/18 07:50	11/12/18 14:31	7
Calcium	170		0.20		mg/L		11/09/18 07:50	11/09/18 17:39	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	990		10		mg/L			11/09/18 07:53	1
Chloride	150		10		mg/L			11/24/18 16:51	5
Fluoride	0.12		0.10		mg/L			11/10/18 15:06	1
Sulfate	78		20		mg/L			11/18/18 23:23	4



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Client Sample ID: MW-14**  
**Date Collected: 11/06/18 15:56**  
**Date Received: 11/08/18 15:20**

**Lab Sample ID: 500-154522-7**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.98		0.50		mg/L		11/09/18 07:50	11/12/18 14:35	1
Calcium	160		2.0		mg/L		11/09/18 07:50	11/09/18 17:43	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	610		10		mg/L			11/09/18 07:56	1
Chloride	110		10		mg/L			11/24/18 16:51	5
Fluoride	0.24		0.10		mg/L			11/10/18 15:19	1
Sulfate	53		10		mg/L			11/18/18 23:26	2



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Client Sample ID: MW-16**  
**Date Collected: 11/06/18 12:10**  
**Date Received: 11/08/18 15:20**

**Lab Sample ID: 500-154522-8**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.9		0.50		mg/L		11/09/18 07:50	11/12/18 14:38	10
Calcium	380		2.0		mg/L		11/09/18 07:50	11/12/18 14:38	10

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		10		mg/L			11/09/18 07:58	1
Chloride	150		10		mg/L			11/26/18 14:11	5
Fluoride	0.39		0.10		mg/L			11/10/18 15:22	1
Sulfate	550		250		mg/L			11/18/18 23:27	50





**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

TestAmerica Job ID: 500-154522-1

**Client Sample ID: Duplicate**  
**Date Collected: 11/05/18 00:00**  
**Date Received: 11/08/18 15:20**

**Lab Sample ID: 500-154522-9**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.9		0.25		mg/L		11/09/18 07:50	11/12/18 14:42	5
Calcium	38		0.20		mg/L		11/09/18 07:50	11/09/18 17:51	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	580		10		mg/L			11/09/18 08:01	1
Chloride	42		2.0		mg/L			11/26/18 18:38	1
Fluoride	0.24		0.10		mg/L			11/10/18 15:26	1
Sulfate	240		50		mg/L			11/18/18 23:28	10



Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Metals**

**Prep Batch: 459291**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-154522-1	MW-01	Total Recoverable	Water	3005A	
500-154522-2	MW-02	Total Recoverable	Water	3005A	
500-154522-3	MW-03	Total Recoverable	Water	3005A	
500-154522-4	MW-04	Total Recoverable	Water	3005A	
500-154522-5	MW-09	Total Recoverable	Water	3005A	
500-154522-6	MW-11	Total Recoverable	Water	3005A	
500-154522-7	MW-14	Total Recoverable	Water	3005A	
500-154522-8	MW-16	Total Recoverable	Water	3005A	
500-154522-9	Duplicate	Total Recoverable	Water	3005A	
MB 500-459291/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-459291/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-154522-1 MS	MW-01	Total Recoverable	Water	3005A	
500-154522-1 MSD	MW-01	Total Recoverable	Water	3005A	
500-154522-1 DU	MW-01	Total Recoverable	Water	3005A	

**Analysis Batch: 459576**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-154522-1	MW-01	Total Recoverable	Water	6020A	459291
500-154522-2	MW-02	Total Recoverable	Water	6020A	459291
500-154522-3	MW-03	Total Recoverable	Water	6020A	459291
500-154522-4	MW-04	Total Recoverable	Water	6020A	459291
500-154522-5	MW-09	Total Recoverable	Water	6020A	459291
500-154522-6	MW-11	Total Recoverable	Water	6020A	459291
500-154522-7	MW-14	Total Recoverable	Water	6020A	459291
500-154522-9	Duplicate	Total Recoverable	Water	6020A	459291
MB 500-459291/1-A	Method Blank	Total Recoverable	Water	6020A	459291
LCS 500-459291/2-A	Lab Control Sample	Total Recoverable	Water	6020A	459291
500-154522-1 MS	MW-01	Total Recoverable	Water	6020A	459291
500-154522-1 MSD	MW-01	Total Recoverable	Water	6020A	459291
500-154522-1 DU	MW-01	Total Recoverable	Water	6020A	459291

**Analysis Batch: 459758**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-154522-1	MW-01	Total Recoverable	Water	6020A	459291
500-154522-2	MW-02	Total Recoverable	Water	6020A	459291
500-154522-3	MW-03	Total Recoverable	Water	6020A	459291
500-154522-4	MW-04	Total Recoverable	Water	6020A	459291
500-154522-6	MW-11	Total Recoverable	Water	6020A	459291
500-154522-7	MW-14	Total Recoverable	Water	6020A	459291
500-154522-8	MW-16	Total Recoverable	Water	6020A	459291
500-154522-9	Duplicate	Total Recoverable	Water	6020A	459291
MB 500-459291/1-A	Method Blank	Total Recoverable	Water	6020A	459291
LCS 500-459291/2-A	Lab Control Sample	Total Recoverable	Water	6020A	459291
500-154522-1 MS	MW-01	Total Recoverable	Water	6020A	459291
500-154522-1 MSD	MW-01	Total Recoverable	Water	6020A	459291
500-154522-1 DU	MW-01	Total Recoverable	Water	6020A	459291

**Analysis Batch: 459869**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-154522-5	MW-09	Total Recoverable	Water	6020A	459291



Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**General Chemistry**

**Analysis Batch: 459269**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-154522-1	MW-01	Total/NA	Water	SM 2540C	
500-154522-2	MW-02	Total/NA	Water	SM 2540C	
500-154522-3	MW-03	Total/NA	Water	SM 2540C	
500-154522-4	MW-04	Total/NA	Water	SM 2540C	
500-154522-5	MW-09	Total/NA	Water	SM 2540C	
500-154522-6	MW-11	Total/NA	Water	SM 2540C	
500-154522-7	MW-14	Total/NA	Water	SM 2540C	
500-154522-8	MW-16	Total/NA	Water	SM 2540C	
500-154522-9	Duplicate	Total/NA	Water	SM 2540C	
MB 500-459269/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-459269/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-154522-1 DU	MW-01	Total/NA	Water	SM 2540C	

**Analysis Batch: 459707**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-154522-1	MW-01	Total/NA	Water	SM 4500 F C	
500-154522-2	MW-02	Total/NA	Water	SM 4500 F C	
500-154522-3	MW-03	Total/NA	Water	SM 4500 F C	
500-154522-4	MW-04	Total/NA	Water	SM 4500 F C	
500-154522-5	MW-09	Total/NA	Water	SM 4500 F C	
500-154522-6	MW-11	Total/NA	Water	SM 4500 F C	
500-154522-7	MW-14	Total/NA	Water	SM 4500 F C	
500-154522-8	MW-16	Total/NA	Water	SM 4500 F C	
500-154522-9	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-459707/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-459707/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-154522-1 MS	MW-01	Total/NA	Water	SM 4500 F C	
500-154522-1 MSD	MW-01	Total/NA	Water	SM 4500 F C	

**Analysis Batch: 460758**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-154522-1	MW-01	Total/NA	Water	SM 4500 SO4 E	
500-154522-2	MW-02	Total/NA	Water	SM 4500 SO4 E	
500-154522-3	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-154522-4	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-154522-5	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-154522-6	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-154522-7	MW-14	Total/NA	Water	SM 4500 SO4 E	
500-154522-8	MW-16	Total/NA	Water	SM 4500 SO4 E	
500-154522-9	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-460758/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-460758/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-154522-2 MS	MW-02	Total/NA	Water	SM 4500 SO4 E	
500-154522-2 MSD	MW-02	Total/NA	Water	SM 4500 SO4 E	

**Analysis Batch: 461554**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-154522-1	MW-01	Total/NA	Water	SM 4500 CI- E	
500-154522-2	MW-02	Total/NA	Water	SM 4500 CI- E	
500-154522-3	MW-03	Total/NA	Water	SM 4500 CI- E	
500-154522-4	MW-04	Total/NA	Water	SM 4500 CI- E	



Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**General Chemistry (Continued)**

**Analysis Batch: 461554 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-154522-5	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-154522-6	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-154522-7	MW-14	Total/NA	Water	SM 4500 Cl- E	
MB 500-461554/35	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-461554/36	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

**Analysis Batch: 461722**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-154522-8	MW-16	Total/NA	Water	SM 4500 Cl- E	
MB 500-461722/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-461722/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-154522-8 MS	MW-16	Total/NA	Water	SM 4500 Cl- E	
500-154522-8 MSD	MW-16	Total/NA	Water	SM 4500 Cl- E	

**Analysis Batch: 461752**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-154522-9	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-461752/61	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-461752/62	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-154522-9 MS	Duplicate	Total/NA	Water	SM 4500 Cl- E	
500-154522-9 MSD	Duplicate	Total/NA	Water	SM 4500 Cl- E	

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QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

TestAmerica Job ID: 500-154522-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-459291/1-A  
Matrix: Water  
Analysis Batch: 459576

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 459291

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		11/09/18 07:50	11/09/18 16:49	1

Lab Sample ID: MB 500-459291/1-A  
Matrix: Water  
Analysis Batch: 459758

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 459291

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		11/09/18 07:50	11/12/18 13:42	1

Lab Sample ID: LCS 500-459291/2-A  
Matrix: Water  
Analysis Batch: 459576

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 459291

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	8.19		mg/L		82	80 - 120

Lab Sample ID: LCS 500-459291/2-A  
Matrix: Water  
Analysis Batch: 459758

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 459291

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.953		mg/L		95	80 - 120

Lab Sample ID: 500-154522-1 MS  
Matrix: Water  
Analysis Batch: 459576

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 459291

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	38		10.0	45.9		mg/L		84	75 - 125

Lab Sample ID: 500-154522-1 MS  
Matrix: Water  
Analysis Batch: 459758

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 459291

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	2.0		1.00	2.92		mg/L		90	75 - 125

Lab Sample ID: 500-154522-1 MSD  
Matrix: Water  
Analysis Batch: 459576

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 459291

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	38		10.0	47.1		mg/L		96	75 - 125	3	20

Lab Sample ID: 500-154522-1 MSD  
Matrix: Water  
Analysis Batch: 459758

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 459291

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	2.0		1.00	2.94		mg/L		92	75 - 125	1	20

TestAmerica Chicago

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

Lab Sample ID: 500-154522-1 DU  
Matrix: Water  
Analysis Batch: 459576

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 459291

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Calcium	38		37.8		mg/L		0.8	20

Lab Sample ID: 500-154522-1 DU  
Matrix: Water  
Analysis Batch: 459758

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 459291

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Boron	2.0		1.94		mg/L		4	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-459269/1  
Matrix: Water  
Analysis Batch: 459269

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/09/18 07:02	1

Lab Sample ID: LCS 500-459269/2  
Matrix: Water  
Analysis Batch: 459269

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	268		mg/L		107	80 - 120

Lab Sample ID: 500-154522-1 DU  
Matrix: Water  
Analysis Batch: 459269

Client Sample ID: MW-01  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	630		644		mg/L		2	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-461554/35  
Matrix: Water  
Analysis Batch: 461554

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/24/18 15:11	1

Lab Sample ID: LCS 500-461554/36  
Matrix: Water  
Analysis Batch: 461554

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.5		mg/L		103	85 - 115

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

TestAmerica Job ID: 500-154522-1

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: MB 500-461722/12  
Matrix: Water  
Analysis Batch: 461722

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/26/18 13:24	1

Lab Sample ID: LCS 500-461722/13  
Matrix: Water  
Analysis Batch: 461722

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.2		mg/L		104	85 - 115

Lab Sample ID: 500-154522-8 MS  
Matrix: Water  
Analysis Batch: 461722

Client Sample ID: MW-16  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	150		50.0	196		mg/L		99	75 - 125

Lab Sample ID: 500-154522-8 MSD  
Matrix: Water  
Analysis Batch: 461722

Client Sample ID: MW-16  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	150		50.0	196		mg/L		99	75 - 125	0	20

Lab Sample ID: MB 500-461752/61  
Matrix: Water  
Analysis Batch: 461752

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/26/18 18:35	1

Lab Sample ID: LCS 500-461752/62  
Matrix: Water  
Analysis Batch: 461752

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.2		mg/L		100	85 - 115

Lab Sample ID: 500-154522-9 MS  
Matrix: Water  
Analysis Batch: 461752

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	42		50.0	86.4		mg/L		90	75 - 125

Lab Sample ID: 500-154522-9 MSD  
Matrix: Water  
Analysis Batch: 461752

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	42		50.0	86.1		mg/L		89	75 - 125	0	20

TestAmerica Chicago



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

TestAmerica Job ID: 500-154522-1

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-459707/3  
Matrix: Water  
Analysis Batch: 459707

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/10/18 14:40	1

Lab Sample ID: LCS 500-459707/4  
Matrix: Water  
Analysis Batch: 459707

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.2		mg/L		102	80 - 120

Lab Sample ID: 500-154522-1 MS  
Matrix: Water  
Analysis Batch: 459707

Client Sample ID: MW-01  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.25		5.00	5.23		mg/L		100	75 - 125

Lab Sample ID: 500-154522-1 MSD  
Matrix: Water  
Analysis Batch: 459707

Client Sample ID: MW-01  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.25		5.00	5.26		mg/L		100	75 - 125	1	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-460758/3  
Matrix: Water  
Analysis Batch: 460758

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/18/18 23:14	1

Lab Sample ID: LCS 500-460758/4  
Matrix: Water  
Analysis Batch: 460758

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.7		mg/L		103	80 - 120

Lab Sample ID: 500-154522-2 MS  
Matrix: Water  
Analysis Batch: 460758

Client Sample ID: MW-02  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	180		400	583		mg/L		101	75 - 125

**QC Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Method: SM 4500 SO4 E - Sulfate, Total (Continued)**

Lab Sample ID: 500-154522-2 MSD  
 Matrix: Water  
 Analysis Batch: 460758

Client Sample ID: MW-02  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	180		400	595		mg/L		104	75 - 125	2	20

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THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Ch'  
2417 Bond St.  
University Park, IL  
708-534-5200  
Fax: 708-534-521 500-154522 COC



<b>Report To:</b>		<b>Bill To:</b>	
Contact: Richard Gnat	Company: KPRG and Associates, Inc	Contact: Accounts Payable	Company: NRG Energy
Address: 14665 W. Lisbon Rd., Suite 2B Brookfield, WI 53005	Phone: 262-781-0475	Address: 112 Telly St New Roads, LA 70760	Phone: 713 465-4113
Email: richardg@kprginc.com	PO #: 4501576732	Lab Lot # 500-154522	
Package Sealed Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Samples Sealed Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Received on Ice Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Samples Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Temperature °C of Cooler -1.1 → 0.4			

Sampler Name: Ian John Howieson		Company: KPRG & Associates Inc.		# / Cont.														Within Hold Time Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Preserv. Indicated Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Project Name: Quarterly Waukegan CCR		TestAmerica Project Number: 50011597		Preserv.														pH Check OK Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Res CL <sub>2</sub> Check OK Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	
Project Location: Waukegan, IL		TAT 15 Days		Matrix		# of Cont												Sample Labels and COC Agree Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		COC not present	
Lab PM: Eric Lang																					
Laboratory ID	MS-MSD	Client Sample ID	Sampling Time	Date															Additional Analyses / Remarks		
1		MW-01	11-5-18 12:37	W	2			X	X	X	X	X									
2		MW-02	11-5-18 13:44	W	2			X	X	X	X	X									
3		MW-03	11-5-18 15:11	W	2			X	X	X	X	X									
4		MW-04	11-6-18 10:15	W	2			X	X	X	X	X									
5		MW-09	11-6-18 12:55	W	2			X	X	X	X	X									
6		MW-11	11-6-18 14:08	W	2			X	X	X	X	X									
7		MW-14	11-6-18 15:56	W	2			X	X	X	X	X									
8		MW-16	11-6-18 12:10	W	2			X	X	X	X	X									
9		Duplicates	11-5-18	W	2			X	X	X	X	X									

RELINQUISHED BY: <i>ESH</i>	COMPANY: <i>KPRG</i>	DATE: 11-8-18	TIME: 15:20	RECEIVED BY: <i>[Signature]</i>	COMPANY: <i>TA</i>	DATE: 11/8/18	TIME: 1520
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

<b>Matrix Key</b> WW = Wastewater SE = Sediment W = Water SO = Solid S = Soil DL = Drum Liquid SL = Sludge DS = Drum Solid MS = Miscellaneous L = Leachate OL = Oil W = Wipe A = Air O = _____	<b>Container Key</b> 1. Plastic 2. VOA Vial 3. Sterile Plastic 4. Amber Glass 5. Widemouth Glass 6. Other	<b>Preservative Key</b> 1. HCl, Cool to 4° 2. H <sub>2</sub> SO <sub>4</sub> , Cool to 4° 3. HNO <sub>3</sub> , Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. Cool to 4° 7. None	<b>COMMENTS:</b>  Date Received: ____/____/____ Courier: _____ Hand Delivered: <input type="checkbox"/> Bill of Lading: ____ of ____
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STL-8208 (0600)

**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-154522-1

**Login Number: 154522**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Scott, Sherri L**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

TestAmerica Job ID: 500-154522-1

**Client Sample ID: MW-01**  
**Date Collected: 11/05/18 12:37**  
**Date Received: 11/08/18 15:20**

**Lab Sample ID: 500-154522-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	459576	11/09/18 16:57	FXG	TAL CHI
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	459758	11/12/18 13:50	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	459269	11/09/18 07:38	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		1	461554	11/24/18 15:26	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	459707	11/10/18 14:45	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	460758		CLB	TAL CHI
					(Start)	11/18/18 23:16		
					(End)	11/18/18 23:17		

**Client Sample ID: MW-02**  
**Date Collected: 11/05/18 13:44**  
**Date Received: 11/08/18 15:20**

**Lab Sample ID: 500-154522-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	459576	11/09/18 17:24	FXG	TAL CHI
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	459758	11/12/18 14:16	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	459269	11/09/18 07:43	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		1	461554	11/24/18 15:27	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	459707	11/10/18 14:54	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	460758		CLB	TAL CHI
					(Start)	11/18/18 23:17		
					(End)	11/18/18 23:18		

**Client Sample ID: MW-03**  
**Date Collected: 11/05/18 15:11**  
**Date Received: 11/08/18 15:20**

**Lab Sample ID: 500-154522-3**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	459576	11/09/18 17:28	FXG	TAL CHI
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	459758	11/12/18 14:20	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	459269	11/09/18 07:45	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		1	461554	11/24/18 16:49	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	459707	11/10/18 14:58	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	460758		CLB	TAL CHI
					(Start)	11/18/18 23:20		
					(End)	11/18/18 23:21		

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

TestAmerica Job ID: 500-154522-1

**Client Sample ID: MW-04**

**Lab Sample ID: 500-154522-4**

**Date Collected: 11/06/18 10:15**

**Matrix: Water**

**Date Received: 11/08/18 15:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	459576	11/09/18 17:32	FXG	TAL CHI
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	459758	11/12/18 14:23	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	459269	11/09/18 07:48	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		1	461554	11/24/18 16:50	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	459707	11/10/18 15:01	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	460758		CLB	TAL CHI
						(Start) 11/18/18 23:21		
						(End) 11/18/18 23:22		

**Client Sample ID: MW-09**

**Lab Sample ID: 500-154522-5**

**Date Collected: 11/06/18 12:55**

**Matrix: Water**

**Date Received: 11/08/18 15:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	459576	11/09/18 17:36	FXG	TAL CHI
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		100	459869	11/12/18 15:38	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	459269	11/09/18 07:51	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		1	461554	11/24/18 16:50	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	459707	11/10/18 15:04	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	460758		CLB	TAL CHI
						(Start) 11/18/18 23:22		
						(End) 11/18/18 23:23		

**Client Sample ID: MW-11**

**Lab Sample ID: 500-154522-6**

**Date Collected: 11/06/18 14:08**

**Matrix: Water**

**Date Received: 11/08/18 15:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	459576	11/09/18 17:39	FXG	TAL CHI
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		7	459758	11/12/18 14:31	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	459269	11/09/18 07:53	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	461554	11/24/18 16:51	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	459707	11/10/18 15:06	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	460758		CLB	TAL CHI
						(Start) 11/18/18 23:23		
						(End) 11/18/18 23:24		

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

TestAmerica Job ID: 500-154522-1

**Client Sample ID: MW-14**

**Lab Sample ID: 500-154522-7**

**Date Collected: 11/06/18 15:56**

**Matrix: Water**

**Date Received: 11/08/18 15:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	459576	11/09/18 17:43	FXG	TAL CHI
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	459758	11/12/18 14:35	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	459269	11/09/18 07:56	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	461554	11/24/18 16:51	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	459707	11/10/18 15:19	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		2	460758		CLB	TAL CHI
						(Start) 11/18/18 23:26		
						(End) 11/18/18 23:27		

**Client Sample ID: MW-16**

**Lab Sample ID: 500-154522-8**

**Date Collected: 11/06/18 12:10**

**Matrix: Water**

**Date Received: 11/08/18 15:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		10	459758	11/12/18 14:38	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	459269	11/09/18 07:58	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	461722	11/26/18 14:11	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	459707	11/10/18 15:22	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		50	460758		CLB	TAL CHI
						(Start) 11/18/18 23:27		
						(End) 11/18/18 23:28		

**Client Sample ID: Duplicate**

**Lab Sample ID: 500-154522-9**

**Date Collected: 11/05/18 00:00**

**Matrix: Water**

**Date Received: 11/08/18 15:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	459576	11/09/18 17:51	FXG	TAL CHI
Total Recoverable	Prep	3005A			459291	11/09/18 07:50	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	459758	11/12/18 14:42	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	459269	11/09/18 08:01	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		1	461752	11/26/18 18:38	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	459707	11/10/18 15:26	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	460758		CLB	TAL CHI
						(Start) 11/18/18 23:28		
						(End) 11/18/18 23:29		

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Laboratory: TestAmerica Chicago**

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-19

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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-155624-1

Client Project/Site: Waukegan CCR

For:

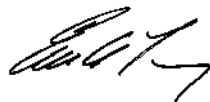
KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 1A

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

12/11/2018 3:29:39 PM

Eric Lang, Manager of Project Management

(708)534-5200

[eric.lang@testamericainc.com](mailto:eric.lang@testamericainc.com)



### LINKS

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[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Job ID: 500-155624-1**

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative  
500-155624-1**

**Comments**

No additional comments.

**Receipt**

The sample was received on 12/5/2018 10:30 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.4° C.

**Metals**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Method Summary

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



# Sample Summary

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-155624-1	MW-16	Water	12/04/18 10:25	12/05/18 10:30

- 1
- 2
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**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Client Sample ID: MW-16**  
**Date Collected: 12/04/18 10:25**  
**Date Received: 12/05/18 10:30**

**Lab Sample ID: 500-155624-1**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	320		1.0		mg/L		12/06/18 07:43	12/06/18 12:24	5

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1600		10		mg/L			12/06/18 06:44	1

- 1
- 2
- 3
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Definitions/Glossary

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Qualifiers**

**Metals**

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

**General Chemistry**

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

**Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Metals**

**Prep Batch: 463285**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-155624-1	MW-16	Total Recoverable	Water	3005A	
MB 500-463285/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-463285/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-155624-1 MS	MW-16	Total Recoverable	Water	3005A	
500-155624-1 MSD	MW-16	Total Recoverable	Water	3005A	
500-155624-1 DU	MW-16	Total Recoverable	Water	3005A	

**Analysis Batch: 463456**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-155624-1	MW-16	Total Recoverable	Water	6020A	463285
MB 500-463285/1-A	Method Blank	Total Recoverable	Water	6020A	463285
LCS 500-463285/2-A	Lab Control Sample	Total Recoverable	Water	6020A	463285
500-155624-1 MS	MW-16	Total Recoverable	Water	6020A	463285
500-155624-1 MSD	MW-16	Total Recoverable	Water	6020A	463285
500-155624-1 DU	MW-16	Total Recoverable	Water	6020A	463285

**General Chemistry**

**Analysis Batch: 463300**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-155624-1	MW-16	Total/NA	Water	SM 2540C	
MB 500-463300/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-463300/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-155624-1 MS	MW-16	Total/NA	Water	SM 2540C	
500-155624-1 DU	MW-16	Total/NA	Water	SM 2540C	





QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Method: 6020A - Metals (ICP/MS)**

Lab Sample ID: MB 500-463285/1-A  
Matrix: Water  
Analysis Batch: 463456

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 463285

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		12/06/18 07:43	12/06/18 11:23	1

Lab Sample ID: LCS 500-463285/2-A  
Matrix: Water  
Analysis Batch: 463456

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 463285

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.54		mg/L		95	80 - 120

Lab Sample ID: 500-155624-1 MS  
Matrix: Water  
Analysis Batch: 463456

Client Sample ID: MW-16  
Prep Type: Total Recoverable  
Prep Batch: 463285

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	320		10.0	321	4	mg/L		54	75 - 125

Lab Sample ID: 500-155624-1 MSD  
Matrix: Water  
Analysis Batch: 463456

Client Sample ID: MW-16  
Prep Type: Total Recoverable  
Prep Batch: 463285

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	320		10.0	318	4	mg/L		25	75 - 125	1	20

Lab Sample ID: 500-155624-1 DU  
Matrix: Water  
Analysis Batch: 463456

Client Sample ID: MW-16  
Prep Type: Total Recoverable  
Prep Batch: 463285

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Calcium	320			324		mg/L		3	20

**Method: SM 2540C - Solids, Total Dissolved (TDS)**

Lab Sample ID: MB 500-463300/1  
Matrix: Water  
Analysis Batch: 463300

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			12/06/18 06:39	1

Lab Sample ID: LCS 500-463300/2  
Matrix: Water  
Analysis Batch: 463300

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	252		mg/L		101	80 - 120

QC Sample Results

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)**

Lab Sample ID: 500-155624-1 MS  
 Matrix: Water  
 Analysis Batch: 463300

Client Sample ID: MW-16  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1600		250	1830	4	mg/L		89	75 - 125

Lab Sample ID: 500-155624-1 DU  
 Matrix: Water  
 Analysis Batch: 463300

Client Sample ID: MW-16  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1600		1600		mg/L		1	5



# TestAmerica

THE LEADER IN ENVIRONMENT

2417 Bond Street, University Park, IL  
Phone: 708.534.5200 Fax: 708.



500-155624 COC

Electronic Filing: Received, Clerk's Office 07/19/2019

Contact: Rich Gnat

Company: KPRG + Associates, Inc.

Address: 14665 W Lydon Rd,

Address: Suite 1A, Brookfield, WI 53005

Phone: 262-781-0475

Fax: \_\_\_\_\_

E-Mail: richgnat@kprginc.com

## PCB 2013-15 Chain of Custody Record

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Lab Job #: 500-155624

Chain of Custody Number: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

Temperature °C of Cooler: 4

Client		Client Project #		Preservative		Parameter		Matrix		Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other
Project Name		Project Location/State		Lab Project #		Lab PM		SAMPLING	COMMENTS	
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix	Matrix			
1		MW-16	12/4/18	1025	2	W	X	X		

Turnaround Time Required (Business Days)  
 \_\_\_ 1 Day \_\_\_ 2 Days  5 Days \_\_\_ 7 Days \_\_\_ 10 Days \_\_\_ 15 Days \_\_\_ Other

Requested Due Date: \_\_\_\_\_

Sample Disposal  
 Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>TA MPO</u> Company: <u>KPRG</u> Date: <u>12/4/18</u> Time: <u>1400</u>	Received By: <u>Rich Gnat</u> Company: <u>TA</u> Date: <u>12-4-18</u> Time: <u>1400</u>	Lab Courier: _____
Relinquished By: <u>Rich Gnat</u> Company: <u>TA</u> Date: <u>12-4-18</u> Time: <u>1700</u>	Received By: <u>Shirley</u> Company: <u>TA-CPL</u> Date: <u>12/5/18</u> Time: <u>1030</u>	Shipped: <u>Fed X</u>
Relinquished By: _____	Received By: _____	Hand Delivered: _____

- Matrix Key
- WW - Wastewater
  - W - Water
  - S - Soil
  - SL - Sludge
  - MS - Miscellaneous
  - OL - Oil
  - A - Air
  - SE - Sediment
  - SO - Soil
  - L - Leachate
  - WI - Wipe
  - DW - Drinking Water
  - O - Other

Client Comments: \_\_\_\_\_

Lab Comments: \_\_\_\_\_

**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-155624-1

**Login Number: 155624**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Scott, Sherri L**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Lab Chronicle

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Client Sample ID: MW-16**  
**Date Collected: 12/04/18 10:25**  
**Date Received: 12/05/18 10:30**

**Lab Sample ID: 500-155624-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			463285	12/06/18 07:43	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	463456	12/06/18 12:24	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	463300	12/06/18 06:44	CLB	TAL CHI

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

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Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Laboratory: TestAmerica Chicago**

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-19

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**Appendix B**  
**Alternate Source Demonstration April 12, 2018**



ENVIRONMENTAL CONSULTATION &amp; REMEDIATION

**KPRG and Associates, Inc.**

**ALTERNATE SOURCE DEMONSTRATION**  
**CCR GROUNDWATER MONITORING**  
**WAUKEGAN GENERATING STATION**

April 12, 2018

Ms. Sharene Shealey  
Midwest Generation, LLC  
529 E. Romeo Road  
Romeoville, IL 60446

VIA E-MAIL

Re: Alternate Source Demonstration  
Waukegan Generating Station – Ash Impoundments

Dear Ms. Shealey:

The initial Detection Monitoring requirements in accordance with the Federal Register, Environmental Protection Agency, 40 CFR Parts 257.94, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule dated April 17, 2015 (CCR Rule) have been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Waukegan Generating Station. The wells sampled were selected by Midwest Generation to meet the monitoring requirements of the CCR Rule for both the West and East Ash Ponds. The CCR monitoring well network around these ponds consists of eight monitoring wells (MW-01 through MW-04, MW-09, MW-11, MW-14 and MW-16). Wells MW-09, MW-11 and MW-14 are upgradient wells. The monitoring well network is shown on Figure 1 along with other monitoring wells in the area that are not part of the CCR monitoring network. A statistical evaluation of the initial detection monitoring data was completed and submitted to Midwest Generation. The statistical evaluations were completed in accordance with the CCR Compliance Statistical Approach for Groundwater Data Evaluation, Midwest Generation Waukegan Generating Station dated October 10, 2017. The evaluations included outlier testing, spatial/temporal variability testing, distributional testing, and the establishment of statistical Prediction Limits (PLs) for all Appendix III compounds to which the ninth round of groundwater detection monitoring data were compared to determine whether there may be a statistically significant increase (SSI) for a specific compound at each well location. The evaluations were performed with the assistance of the Sanitas<sup>TM</sup> statistical software package and provided in the Statistical



Evaluation Summary – 2017 CCR Groundwater Monitoring Waukegan Generating Station dated January 12, 2018. The following conclusions/recommendations were provided:

“The completed detection monitoring statistical evaluations have determined that there are SSIs in downgradient monitoring wells relative to established background for boron, pH and sulfate. At this time, KPRG recommends completing an alternate source demonstration to determine whether these exceedances may be associated with an actual release from the regulated unit(s) or if another potential historical source in the vicinity of the ash ponds may be affecting the local groundwater quality. If the alternate source demonstration is successful, then detection monitoring will resume. If the alternate source demonstration is not successful, then a transition to an assessment monitoring program complying with Section 257.95 will be required.”

This report summarizes the results of the Alternate Source Demonstration completed for the Waukegan Station West and East Ash Ponds in accordance with 40 CFR 257.94(e)(2). The report is structured to provide a documentation of field investigation activities, a summary of LEAF Test data observations, an alternate source evaluation of the SSI parameters, conclusions and recommendations. Each is discussed separately below. The statistical evaluation data tables from the January 12, 2018 submittal are provided in Attachment 1 for reference.

#### DOCUMENTATION OF FIELD ACTIVITIES

To assist in evaluating a potential alternate source, both pond water and ash samples were collected. A pond water sample was collected from the West Ash Pond directly into laboratory prepared containers, transported on ice under a completed chain-of-custody to the analytical laboratory and analyzed for CCR Appendix III detection monitoring parameters. No sample was collected for East Ash Pond water due to frozen conditions. The analytical data package is provided in Attachment 2.

One composite ash sample was collected for each of the two ponds (East Ash Pond and West Ash Pond). The composite samples consisted of a series of equivalent grab samples from across the length of the pond, from the inlet area to the outfall, to minimize potential skewing of the sample due to gradation changes (i.e., a larger coarse fraction near the inlet and larger fine fraction near outfall). The individual grab samples were thoroughly mixed to form a single composite sample for each pond. The composite sample was transferred directly into laboratory prepared containers, placed on ice and shipped to the analytical laboratory under a completed chain-of-custody. The ash sediment samples were analyzed using the Leaching Environmental Assessment Framework (LEAF) Test using Method 1313. Under this method, each ash sediment sample underwent leaching over a range of eight pH values plus under “Natural pH” conditions. The Natural pH condition is the actual pH of the ash itself measured in the laboratory prior to any pH modifications performed under the LEAF Test. The collected leachate from each pH value was analyzed for CCR Appendix III detection monitoring parameters. The analytical data package is provided in Attachment 2.

## LEAF TEST DATA OBSERVATIONS

The results of the pond water and the ash LEAF Test analyses are provided in Tables 1 and 2, respectively. A review of Tables 1 and 2 indicates that the Natural pH of the ash leachate is 9.7 which is higher by an order of magnitude than the noted pH of the pond water sample (8.8). This suggests that the pond water sample is not fully representative of equilibrium conditions of expected pore water within the ash sediment and, therefore, that the compound specific data from the pond water sample may also not be representative of leachate under equilibrium conditions. Based on this observation, the focus of this analysis will rely on the results of the LEAF Test data and in particular the data from the “Natural pH” test samples.

Focusing on the LEAF Test data, it is noted that chloride and fluoride appear to be fairly minor components of the ash leachate with most measurements at varying pH levels being below reporting limits. The remaining analytical constituent LEAF Test data are illustrated in graphical form on Figures 2 through 7 as a function of pH. On those figures are also plotted the results of the “Natural pH” test samples and the downgradient monitoring well data from the September 2017 sampling event (the initial detection monitoring event which was compared to established statistical background). In general, the following observations are made:

- Boron – The boron leachate concentration is a function of pH with concentrations decreasing from a pH of 2 to a pH of 9 and then slightly increasing again through pH of 13. The Natural pH sample data plots close to where it would be expected on the LEAF Test curve. The boron concentrations at all downgradient wells are higher than the boron concentration noted for the Natural pH test analyses for both ash samples.
- Sulfate – The sulfate leachate concentration is a function of pH with concentrations decreasing from a pH of 2 to a pH of 9 and then slightly increasing again through pH of 13. This mimics the boron LEAF Test data discussed above. The Natural pH sample data for the East Pond plots close to the LEAF Test curve, however, the West Pond Natural pH sample measurement appears somewhat low relative to the expected leachate curve trend. The sulfate concentrations in all downgradient monitoring wells are substantially higher than the sulfate concentrations for the Natural pH test analyses of both ash samples.
- Calcium – The calcium leachate concentration is a clear function of pH with decreasing concentrations with increasing pH. The Natural pH sample data for both the East and West Ponds plots close to where it would be expected on the LEAF Test curve. The calcium concentrations in all downgradient monitoring wells are higher than the calcium concentrations for Natural pH test analyses for both ash samples.

- ORP – The oxidation-reduction potential (ORP) is a function of pH with ORP generally decreasing with increasing pH. This is reflected in the LEAF Test curve. The Natural pH sample data for East Pond plot directly on the respective LEAF Test curve. The Natural pH data for the West Pond plots slightly lower than its respective LEAF Test curve. The ORP in all downgradient monitoring wells plot lower than the LEAF Test curve but in an expected trend line with a similar slope to the LEAF Test curve.
- Specific Conductance (SC) – The SC measurements have a clear correlation with pH with measurements decreasing from a pH of 2 to a pH of 9 and then again increasing sharply as a pH of 13 is approached. The SC values of the two Natural pH samples both plot slightly below the LEAF Test curve. The specific conductivity values in the downgradient monitoring wells also plot below the LEAF Test curves at concentrations similar to slightly below the Natural pH test analyses for both ash samples.
- Total Dissolved Solids (TDS) – The TDS LEAF Test curve somewhat mimics the SC curve with concentrations decreasing to a pH of 9 and then increasing as pH increases. The TDS values of the Natural pH samples both plot slightly below the LEAF Test curve. The TDS values in the downgradient monitoring wells also plot below the LEAF Test curves at concentrations similar to the Natural pH test analyses of both ash samples.

#### ALTERNATE SOURCE EVALUATION OF THE SSI PARAMETERS

In evaluating the groundwater data to determine whether noted specific parameter SSIs are associated with an actual release from the regulated unit(s), when appropriate, consideration is given not only to individual compounds at specific well points in which the SSI was detected, but also to a potential suite of parameters that combined can provide a “signature” of the specific ash leachate. For the purposes of this evaluation, boron and sulfate will be used. Both compounds are accepted indicators of coal ash leachate, both are conservative compounds and both have similar LEAF Test curves (see Figures 2 and 3). The calculated ratio of boron to sulfate based on the LEAF Test curves ranges between 0.027 and 0.035 and for the Natural pH tests for the East and West Ponds from 0.015 to 0.05. Therefore, if the boron to sulfate ratio within a specific downgradient well falls within this range, the noted impact may be related to ash leachate from within the ponds. If it is not within this range, then one or both of those constituents may have another source not related to the ash within the regulated units.

As previously noted, the three parameters that were determined to have SSIs in downgradient monitoring wells relative to established background were boron, sulfate and pH. The boron and sulfate exceedances will be addressed together and the pH exceedances will be discussed separately below.

Boron and Sulfate

All five downgradient monitoring wells (MW-01 through MW-04 and MW-16) have noted SSIs for boron and sulfate. A mixture of fill and beneficially re-used coal combustion by-product (CCB) were likely used for the construction of the berms for the ash ponds and that there is CCB documented within the well bore columns of each of the five downgradient monitoring wells since these wells are drilled within the berm materials. The boron to sulfate ratios for these wells, using the September 2017 data on which the SSIs were identified, is summarized as follows:

Well	MW-01	MW-02	MW-03	MW-04	MW-16
B/SO4	0.008	0.016	0.013	0.010	0.009

All of these ratios, except for well MW-02 which is at the bottom of the above noted LEAF Test/Natural pH test data ratio range, are consistently below the boron to sulfate ratio range predicted by the LEAF Test data for the bottom ash stored within the ponds. This suggests that one or both of these compounds in groundwater have a source other than leachate from the regulated units.

Sulfate

Focusing on sulfate, the concentration of this compound in downgradient wells as shown on Figure 3, is consistently higher than what would be expected from just ash leachate impacts. Additional sulfate can be generated by reaction of high pH leachate with any sulfide minerals that may be present in the aquifer, however, this reaction would drive pH values downward which is not the case at well MW-01 where pH is higher than within the Natural pH sample of ash (discussed further below in the pH discussion).

The range in sulfate concentrations in the downgradient wells was 260 to 480 mg/l and the calculated statistical PL based on the pooled upgradient well data was 233 mg/l. It is noted that the pooled upgradient sulfate PL is still higher than the sulfate concentrations of the Natural pH analyses (38 and 130 mg/l). Assuming that the Natural pH test is fairly representative of equilibrium concentrations within the ash leachate, any sulfate detections in the downgradient wells would be expected to be the same or less than that of the leachate. There is also a monitoring well MW-05 which is just west (upgradient) of the West Ash Pond (see Figure 1) which is not within the CCR monitoring well network. The quarterly sampling data for 2017 from well MW-05 is provided in Attachment 3. The range of sulfate detections in MW-05 well for 2017 was from 700 to 1,100 mg/l with an average of approximately 835 mg/l. Using an Illinois Environmental Protection Agency (IEPA) recognized, two-dimensional analytical model identified within the Tiered Approach to Corrective Action Objectives (TACO) for simple advection-dispersion based constituent transport with a starting sulfate concentration of 835 mg/l immediately west of the West Ash Pond, the estimated concentrations of sulfate is projected to

be in the range from 29.2 mg/l to 51.7 mg/l at distances that would be representative of the five downgradient monitoring wells (see Attachment 4). It is noted that this calculation conservatively assumes that the constituent is migrating from the upgradient well to the downgradient wells through a “clean/unimpacted” zone of aquifer which does not contain any other sources of sulfate. If this residual estimated impact from an upgradient source of sulfate is mixed with Natural pH test leachate from ash ponds, the resulting range of potential concentrations of sulfate would be approximately 33.6 to 66.1 mg/l. Based on the above discussions and observations, the elevated sulfate concentrations in the downgradient wells appear to be related to overall elevated sulfate concentrations within the aquifer from sources other than the regulated units.

### Boron

Relative to boron, the concentration of this element is consistently slightly higher in the downgradient monitoring wells (ranging from 2.1 to 2.8 mg/l) than in the Natural pH test leachate (ranging from 1.9 to 2.0 mg/l). Assuming that the Natural pH test is fairly representative of equilibrium concentrations within the ash leachate, any boron detections in the downgradient wells would be expected to be the same or less than that of the leachate. As discussed above, there is a monitoring well (MW-05) immediately west of the west Ash Pond that is not part of the CCR monitoring network. The range of boron detections in that well for 2017 was from 7.7 to 47 mg/l (see Attachment 3) with an average of approximately 35 mg/l. Using the same two-dimensional analytical model noted above for simple advection-dispersion based constituent transport with a starting boron concentration of 35 mg/l immediately west of the West Ash Pond, projects estimated concentrations of boron to range from 1.23 to 2.17 mg/l at distances that would be representative of the five downgradient monitoring wells (see Attachment 4). As noted above, this calculation conservatively assumes that the constituent is migrating from the upgradient well to the downgradient wells through a “clean/unimpacted” zone of aquifer which does not contain any other sources of boron. If this residual estimated impact from an upgradient source of boron is mixed with Natural pH test leachate from ash ponds, an anticipated resulting range of potential concentrations of boron would be approximately 1.56 to 2.08 mg/l. Based on the above discussions and observations, the elevated boron concentrations in the downgradient wells can be attributed to potential source(s) other than the regulated units.

### pH

The pH at downgradient well locations MW-01 and MW-02 during the September 2017 sampling were at 10.45 and 8.19, respectively. Both of these were over the calculated upper value of the PL for pH of 7.7 indicating an SSI for this parameter. Both wells monitor the northeast portion of the ash ponds. It is noted that both of these monitoring wells were installed in the fourth quarter of 2010 as part of groundwater monitoring initiated voluntarily by Midwest Generation prior to the development of the federal CCR Rule. Figure 8 provides a full time versus pH plot

for both wells since the initial sampling event in fourth quarter 2010. This plot shows that there appears to be some cyclical upward and downward trends within the pH data at these locations with the highest pH of 12.01 being recorded at well location MW-01 in the February 2015 sampling and the pH peak at MW-02 (10.13) being slightly less and lagging approximately two quarters later than seen at MW-01. The 12.01 pH is higher than would be expected from any bottom ash source. In addition, based on the LEAF Test curves for boron discussed above, boron concentrations within the ash are a function of pH with decreasing concentrations through about a pH of 9 and then increasing again as pH continues to rise. Therefore, as pH rises and falls cyclically above 9 as documented in Figure 8, it would be expected to see a similar contemporaneous, cyclical trend in boron concentrations over time if this elevated pH was the result of ash leachate emanating from the northeast portion of the pond. No such trend is seen in the boron data for these wells since the boron concentrations during those two high pH events were 1.9 and 2.5 mg/l, respectively for wells MW-01 and MW-02.

Since the other potential indicator parameters for coal ash leachate do not suggest leakage from the regulated units, it appears more likely that the elevated pH at the northeast corner of the ash ponds is related to another localized source and not leakage from the regulated units.

## CONCLUSIONS/RECOMMENDATIONS

Based on the data evaluation and discussions provided above, it is concluded that the noted SSIs for boron, sulfate and pH are not the result of leakage of leachate from the regulated units (West and East Ash Ponds) but rather from other potential historical sources. This is based on the following:

- Boron and sulfate, being recognized indicator parameters for coal ash leachate and conservative in nature once dissolved in groundwater, within the ash samples tested have a clear and common relationship as a function of pH with the boron to sulfate ratio being within a narrow range of 0.015 to 0.05. Most downgradient monitoring wells have a lower boron to sulfate ratio.
- All downgradient sulfate concentrations are greater than what would be expected to be emanating from ash leachate based on the LEAF Test data.
- The pooled upgradient sulfate background PL is higher than the sulfate concentrations of the Natural pH test analysis indicating generally elevated sulfate in the area outside of the regulated units.
- Groundwater from immediately upgradient of the ash ponds has substantially higher sulfate and boron than noted in the downgradient wells and the Natural pH leach test analysis suggesting another potential source outside of the ash ponds.

- The boron concentrations in all downgradient monitoring wells are slightly higher than what would be anticipated based on boron concentrations of the natural pH test analysis and can be accounted for with conservative 2-dimensional analytical solutions for simple advection-dispersion effects from documented elevated boron impacts immediately west and upgradient of the West Ash Pond.
- The elevated pH at monitoring wells MW-01 and MW-02 at the northeast side of the East Ash Pond are cyclical in nature with the highest pH readings being above expected bottom ash pH measurements. There is no correlation of increasing boron concentration at these wells with pH increases above 9 which would be expected based on LEAF Test curve data. These observations, in conjunction with the discussions above, suggests it is more likely that the elevated pH at the northeast corner of the ash ponds is related to another localized source and not leakage from the regulated units.

Based on this conclusion, it is recommended to continue with detection monitoring at this time.

Sincerely,  
KPRG and Associates, Inc.



Richard R. Gnat, P.G.  
Principal



Timothy Stohner, P.E.  
Project Manager/Sr. Engineer

cc: David Bacher, NRG  
Fred Veenbaas, Midwest Generation

### CERTIFICATION

In accordance with Section 257.94(e)(2) of the CCR Rule, I hereby certify based on a review of the information contained within this CCR Alternate Source Demonstration dated April 12, 2018, that the information contained in this report is accurate to the best of my knowledge.

Certified by:



Date: April 12, 2018

Timothy Stohner, P.E.  
Illinois Professional Engineer Registration No.: 062.057635  
KPRG and Associates, Inc.

**FIGURES**





NOTE:  
BACKGROUND MAP RETRIEVED FROM MAPQUEST 2012

LOCATION:  
SECTION 15, TOWNSHIP 45 N, RANGE 12 E

**LEGEND**

- MW-1 EXISTING CCR MONITORING WELL
- MW-5 NON-CCR MONITORING WELL

0 550'  
APPROXIMATE SCALE

ENVIRONMENTAL CONSULTATION & REMEDIATION

**K P R G**

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

**CCR MONITORING WELL SITE MAP**

**WAUKEGAN STATION  
WAUKEGAN, ILLINOIS**

Scale: 1" = 550' | Date: March 26, 2018

KPRG Project No. 23517

FIGURE 1

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Figure 2. Boron Concentration vs. pH Value - Waukegan Station

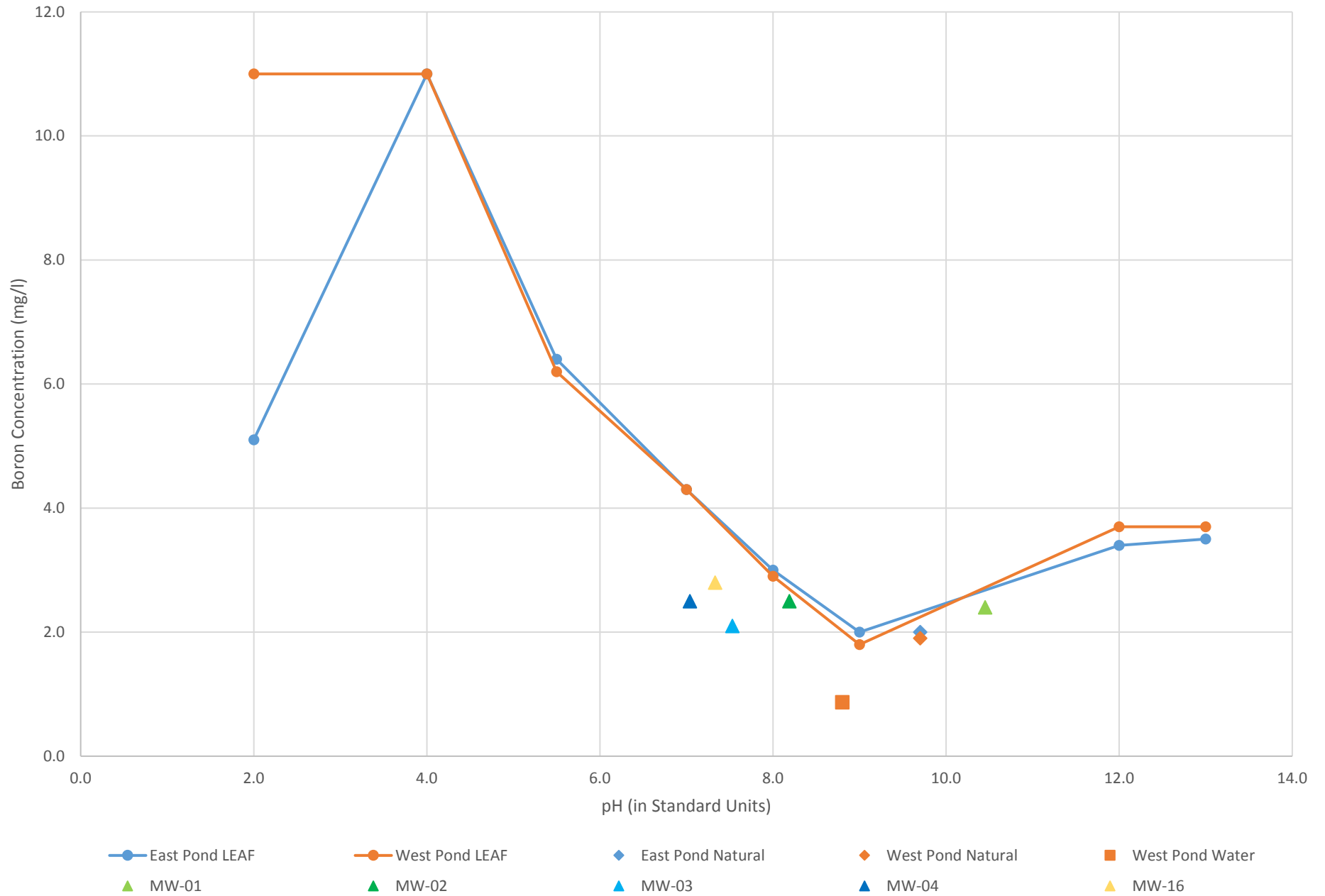


Figure 3. Sulfate Concentration vs. pH Value - Waukegan Station

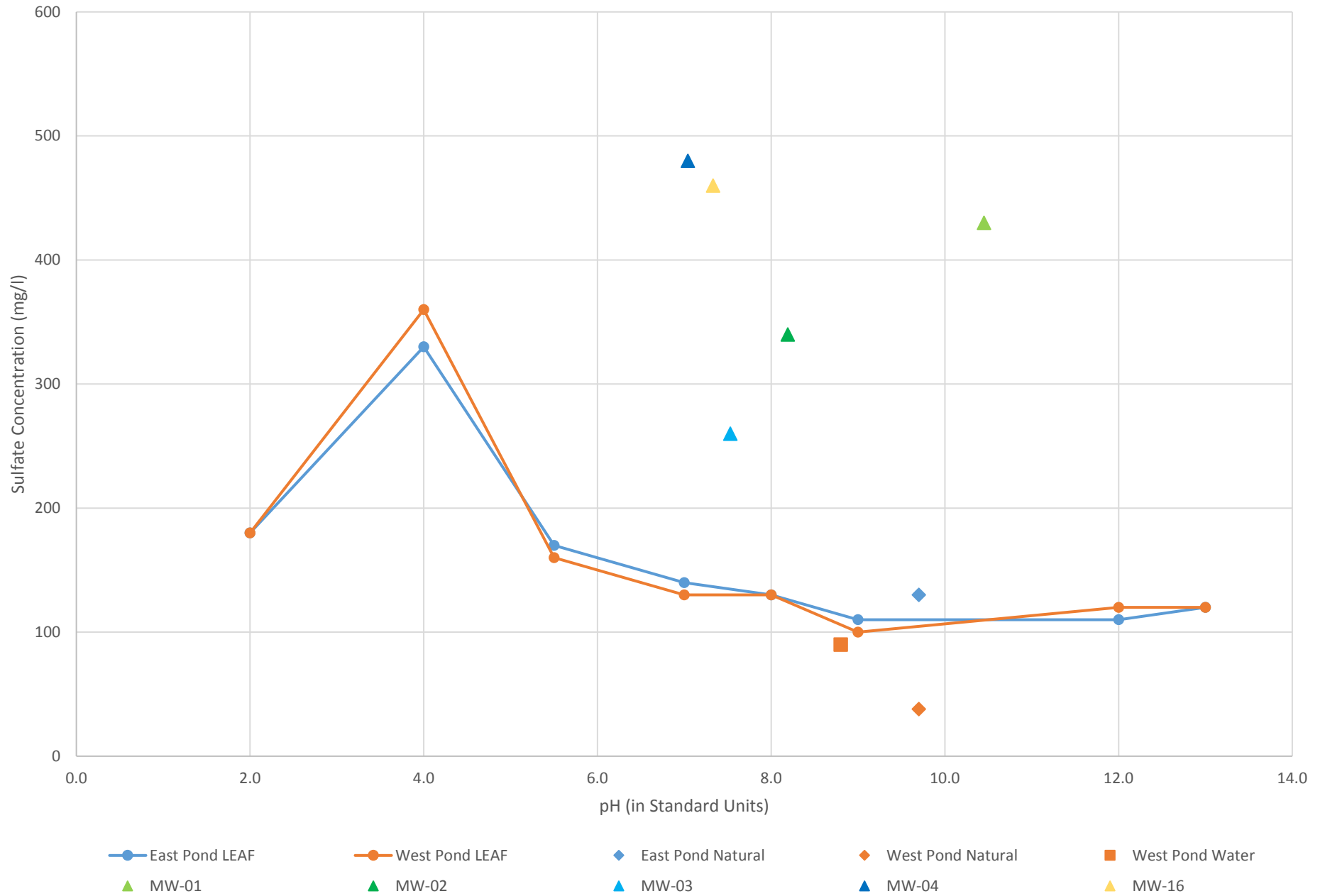




Figure 5. ORP Concentration vs. pH Value - Waukegan Station

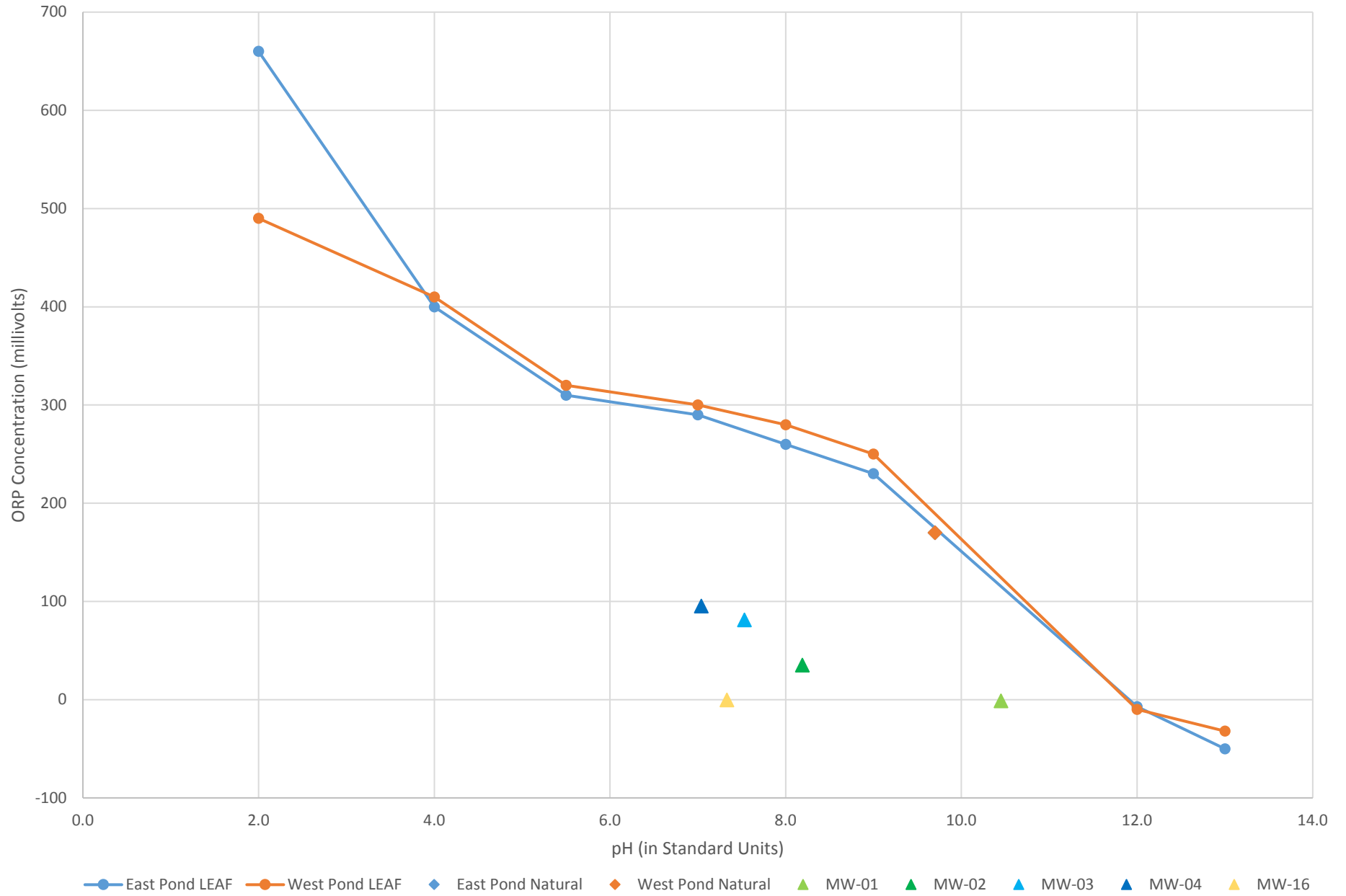


Figure 6. Specific Conductivity vs. pH Value - Waukegan Station

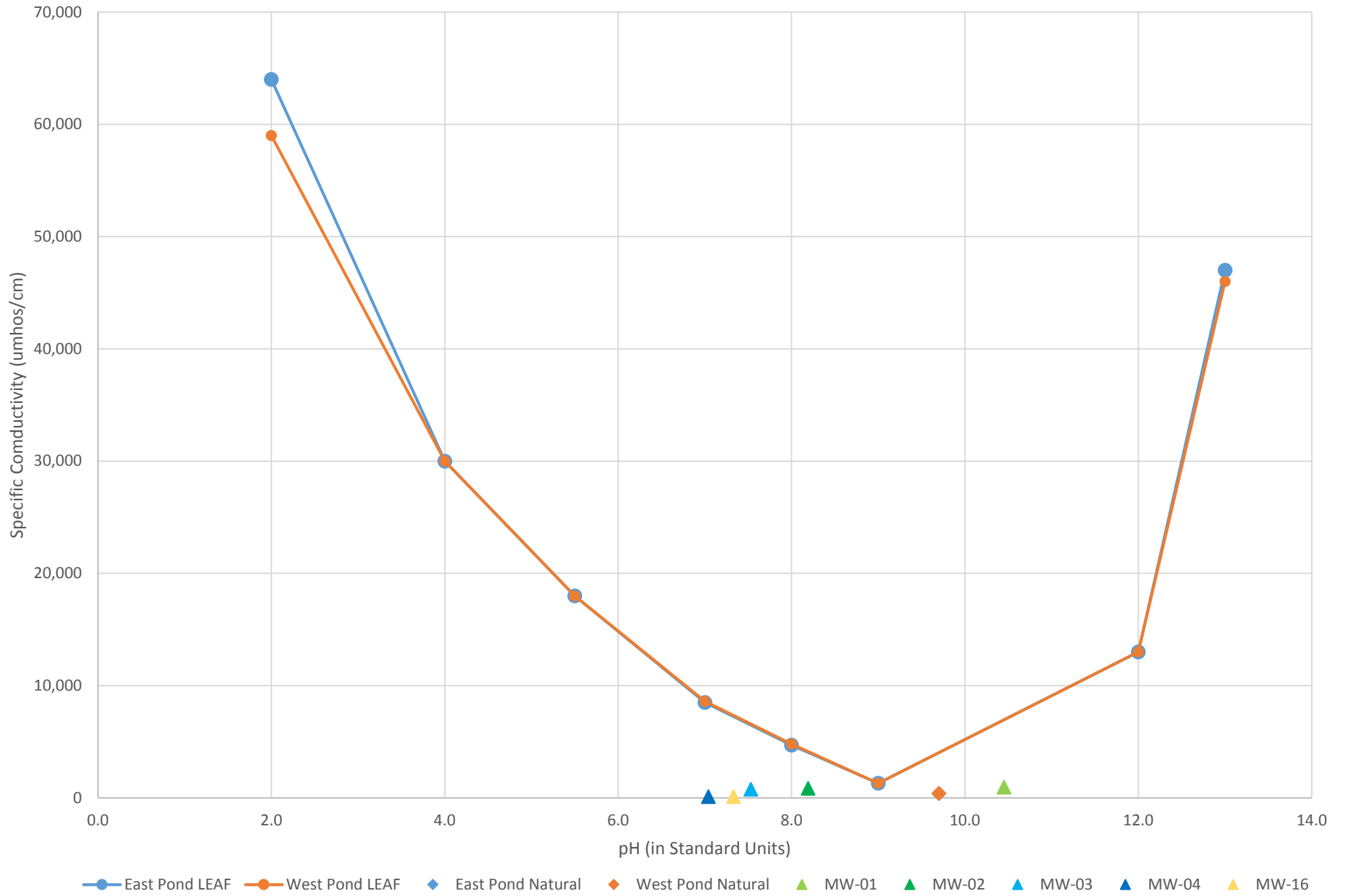


Figure 7. TDS Concentration vs. pH Value - Waukegan Station

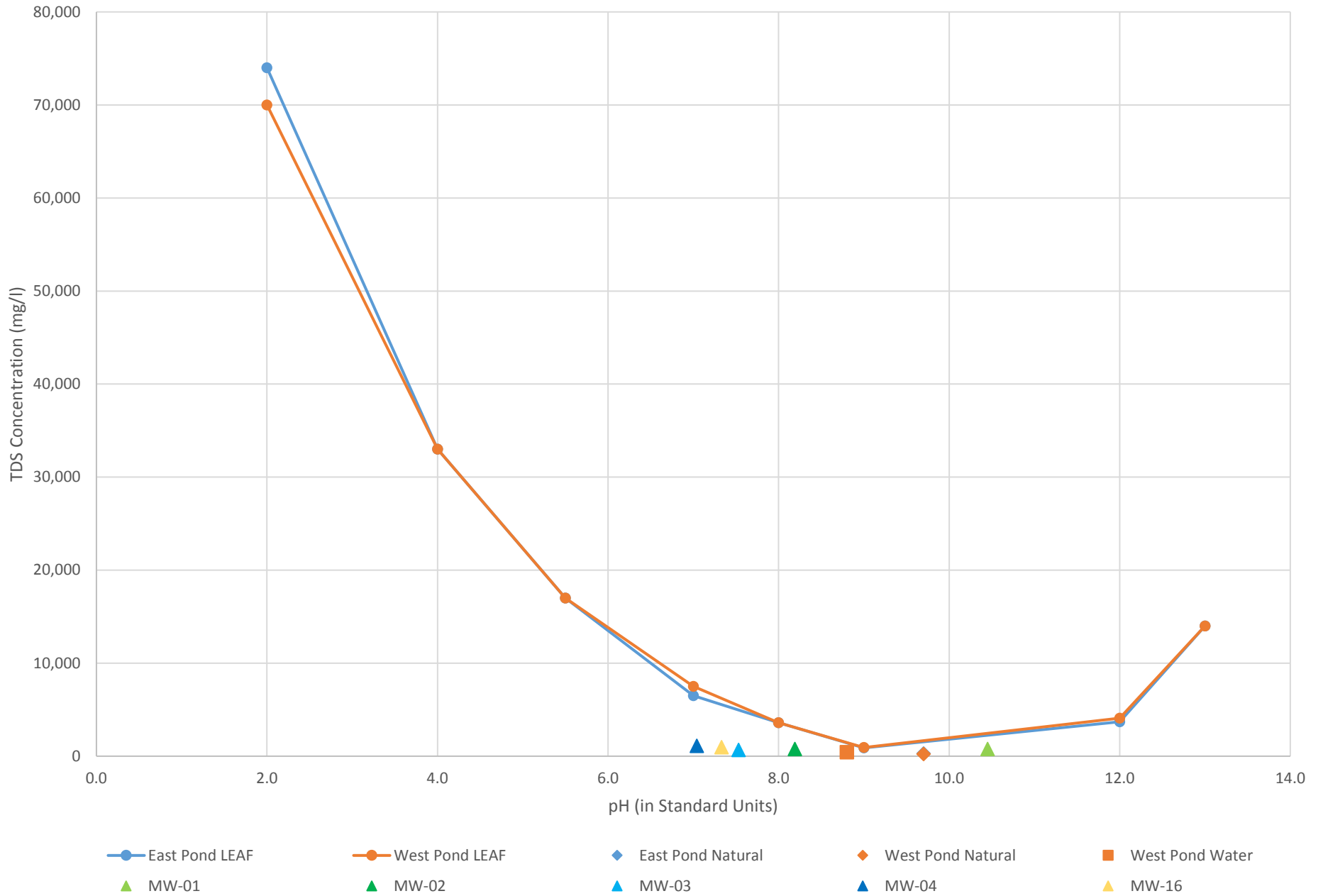
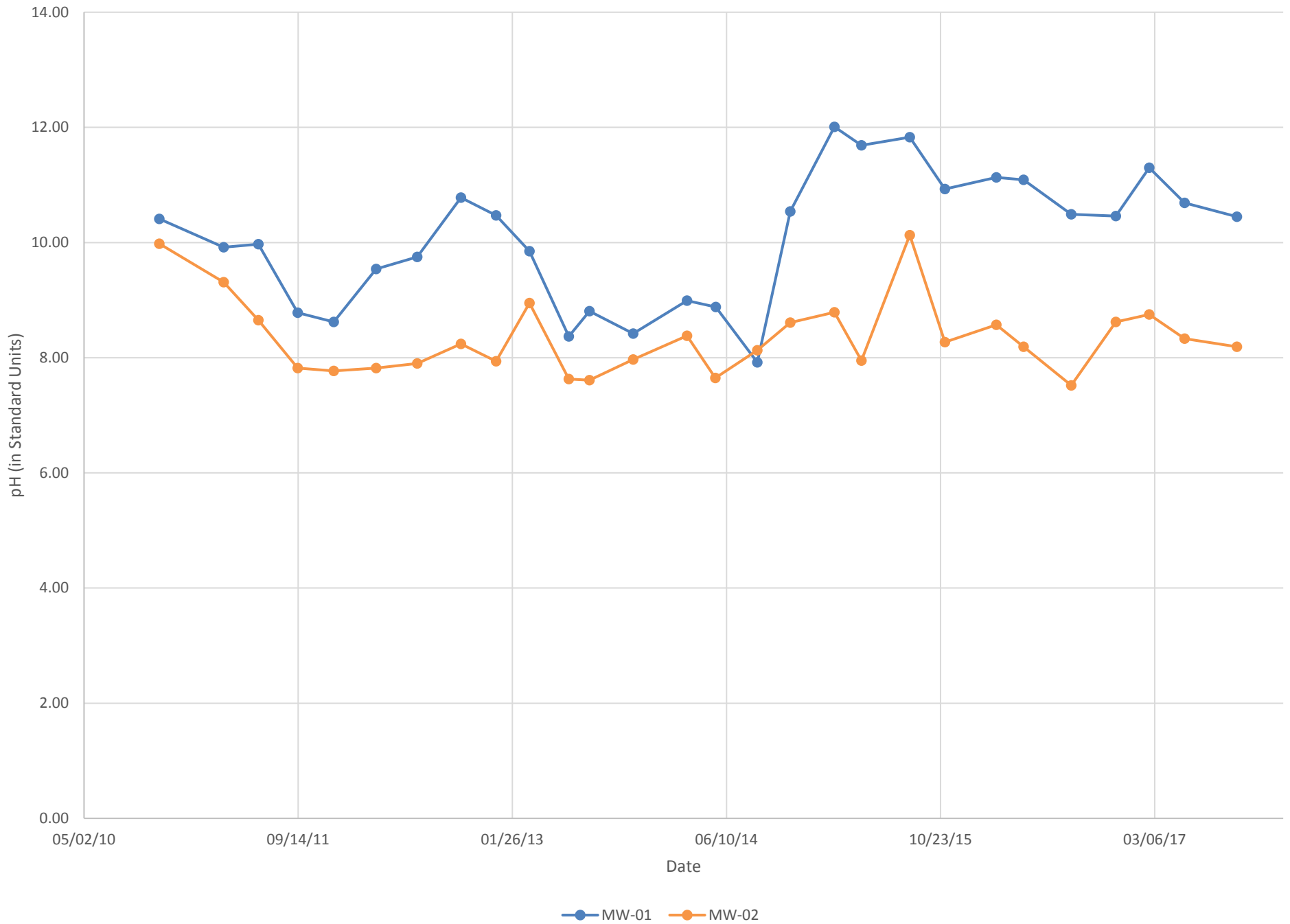


Figure 8. pH Value vs. Date - Waukegan Station





**TABLES**

Table 1. Pond Water Results - Midwest Generation Waukegan Station, Waukegan, Illinois

PARAMETER	UNITS	West Pond
Boron	mg/L	0.87
Calcium	mg/L	70
Chloride	mg/L	52
Fluoride	mg/L	0.21
pH	SU	8.8
Sulfate	mg/L	90
TDS	mg/L	430

Notes: Units are as noted.  
TDS - Total Dissolved Solids

Table 2. LEAF Test Results from Ash Samples- Midwest Generation Waukegan Station, Waukegan, Illinois

EAST POND ASH PARAMETER	UNITS	LEAF TEST TARGETED pH VALUES								
		13.0	12.0	9.0	8.0	7.0	5.5	4.0	2.0	Natural*
Boron	mg/L	3.5	3.4	2.0	3.0	4.3	6.4	11.0	5.1	2.0
Calcium	mg/L	3.7	3.5	120	660	1,500	3,100	5,000	2,200	43.0
Chloride	mg/L	<50	<25	2.8	<2.5	<10	<25	<25	<100	2.9
Fluoride	mg/L	<5.0	<2.5	0.51	<0.50	<1.0	<2.5	7.5	<10	0.32
ORP	millivolts	-50	-7.0	230	260	290	310	400	660	170
pH	SU	12.8	12.5	8.9	7.7	7.0	5.8	3.8	2.1	9.7
Spec Cond	umhos/cm	47,000	13,000	1,300	4,700	8,500	18,000	30,000	64,000	390
Sulfate	mg/L	120	110	110	130	140	170	330	180	130
TDS	mg/L	14,000	3,700	890	3,600	6,500	17,000	33,000	74,000	270

WEST POND ASH PARAMETER	UNITS	LEAF TEST TARGETED pH VALUES								
		13.0	12.0	9.0	8.0	7.0	5.5	4.0	2.0	Natural*
Boron	mg/L	3.7	3.7	1.8	2.9	4.3	6.2	11.0	11.0	1.9
Calcium	mg/L	3.8	3.8	130	710	1,400	3,000	5,100	4,400	42.0
Chloride	mg/L	<50	<25	2.2	<5.0	<10	<25	<25	<100	17
Fluoride	mg/L	<5.0	<2.5	0.2	<0.50	<1.0	<2.5	7.7	<10	0.53
ORP	millivolts	-32	-10	250	280	300	320	410	490	170
pH	SU	12.8	12.4	8.7	7.5	7.0	5.9	3.8	2.5	9.7
Spec Cond	umhos/cm	46,000	13,000	1,300	4,800	8,600	18,000	30,000	59,000	400
Sulfate	mg/L	120	120	100	130	130	160	360	180	38
TDS	mg/L	14,000	4,100	930	3,600	7,500	17,000	33,000	70,000	240

Notes: Units are as noted.  
 ORP - Oxidation Reduction Potential  
 Spec Cond - Specific Conductivity  
 TDS - Total Dissolved Solids  
 Natural\* - pH of ash as measured in the laboratory prior to any pH test modifications.

**ATTACHMENT 1**

**Statistical Data Evaluation Tables – January 12, 2018**

Table 1. Detection Monitoring Statistical Comparisons - Appendix III Groundwater Analytical Results 3rd Quarter 2017 and Resample - Midwest Generation, LLC, Waukegan Station, Waukegan, IL

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-09 up-gradient	11/4/2015	13	210	450	0.14	6.60	370	1700
	3/2/2016	35	380	720	0.11	7.02	970	2800
	5/3/2016	16	310	620	0.12	7.02	740	2500
	8/25/2016	4.5	130	270	0.21	7.13	190	1100
	12/8/2016	15	200	330	0.18	7.01	270	1300
	2/23/2017	14	190	290	0.12	7.68	320	1300
	5/16/2017	27	160	67	0.29	8.15	420	970
	7/6/2017	21	220	430	0.13	7.18	610	1800
	<b>Pred. Limit*</b>	<b>43.9</b>	<b>449</b>	<b>963</b>	<b>0.33</b>	<b>8.53-5.92</b>	<b>1214</b>	<b>3499</b>
9/13/2017	21	250	420	0.14	7.17	520	1800	
11/29/2017	26	200	390	0.13	7.05	390	1600	
MW-11 up-gradient	11/5/2015	5.2	140	240	0.13	6.51	190	1100
	3/2/2016	4.0	170	240	0.1	7.16	210	1200
	5/5/2016	5.0	140	280	0.11	7.17	160	1000
	8/26/2016	3.5	180	240	0.13	6.97	110	1100
	12/7/2016	3.0	170	270	0.12	7.06	110	1200
	2/24/2017	2.4	180	220	4.9	6.61	170	1200
	5/18/2017	1.8	160	170	0.12	7.42	120	1000
	7/6/2017	2.4	160	190	0.14	7.33	130	1100
	<b>Pred. Limit*</b>	<b>6.83</b>	<b>206</b>	<b>333</b>	<b>4.9</b>	<b>7.91-6.14</b>	<b>255</b>	<b>1341</b>
9/13/2017	1.9	140	150	0.26	7.16	96	870	
11/30/2017	2.2	170	200	0.14	6.99	93	1100	
MW-14 up-gradient	11/5/2015	1.4	150	190	0.19	6.78	140	1000
	3/2/2016	0.93	150	110	0.17	7.24	150	870
	5/5/2016	1.2	170	120	0.18	7.17	190	980
	8/26/2016	1.5	200	210	0.12	7.00	190	1300
	12/7/2016	0.95	240	340	0.25	6.81	120	1100
	2/23/2017	0.73	150	99	0.19	6.88	110	730
	5/18/2017	0.81	120	130	0.3	7.62	70	590
	7/6/2017	1.2	190	180	0.13	7.29	190	1300
	<b>Pred. Limit*</b>	<b>1.85</b>	<b>274</b>	<b>389</b>	<b>0.35</b>	<b>7.89-6.31</b>	<b>266</b>	<b>1676</b>
9/13/2017	<u>2.3</u>	180	190	0.15	7.20	<b>270</b>	1200	
11/30/2017	0.85	170	130	0.19	7.33	99	940	
MW-01 down-gradient	11/2/2015	1.8	64	71	0.46	10.93	310	560
	3/1/2016	V	1.9	58	0.26	11.13	270	570
	5/4/2016	2.0	45	60	0.3	11.09	210	490
	8/23/2016	2.0	42	60	0.26	10.49	240	550
	12/5/2016	2.2	55	65	0.34	10.46	180	560
	2/21/2017	2.2	50	61	0.29	11.30	250	540
	5/15/2017	2.1	52	59	0.37	10.69	330	570
	7/5/2017	2.3	44	51	0.34	10.83	320	570
	<b>Pred. Limit</b>	<b>1.83</b>	<b>227**</b>	<b>345**</b>	<b>4.9**</b>	<b>7.70-6.43**</b>	<b>233**</b>	<b>1461**</b>
9/14/2017	<u>2.4</u>	71	47	0.24	<u>10.45</u>	<b>430</b>	770	
11/27/2017	<u>2.7</u>	84	43	0.11	7.85	<b>330</b>	840	

Notes:

\* - Intrawell Prediction Limit. All others are interwell comparisons.

All units are in mg/l except pH is in standard units.

F1 - MS and/or MSD Recovery outside of limits.

Pred. Limit - Prediction Limit

*Italics Date* - First round of Detection Monitoring and resample after statistical background establishment.

\*\* - Based on pooled background from MW-11/MW-14.

All others based on MW-14 as background.

**Bold** - Potential statistically significant increase.

V - Serial dilution exceeds the control limits.

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Table 1. Detection Monitoring Statistical Comparisons - Appendix III Groundwater Analytical Results 3rd Quarter 2017 and Resample - Midwest Generation, LLC, Waukegan Station, Waukegan, IL.

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-02 down-gradient	11/2/2015	3.0	32	47	0.78	8.27	230	460
	3/1/2016	4.1	39	47	1.3	8.57	220	510
	5/4/2016	3.3	34	51	1.5	8.19	180	440
	8/23/2016	3.1	42	59	1.3	7.52	250	500
	12/5/2016	3.1	28	56	1.0	8.62	160	430
	2/21/2017	3.3	31	52	0.8	8.75	190	420
	5/15/2017	3.6	85	48	0.6	8.33	320	640
	7/5/2017	4.2	100	52	0.4	7.92	300	710
	<b>Pred. Limit</b>	<b>1.83</b>	<b>227**</b>	<b>345**</b>	<b>4.9**</b>	<b>7.70-6.43**</b>	<b>233**</b>	<b>1461**</b>
9/14/2017	<u>2.5</u>	87	54	0.4	<u>8.19</u>	<u>340</u>	780	
11/27/2017	<u>3.4</u>	69	57	0.6	7.34	200	570	
MW-03 down-gradient	11/2/2015	2.3	72	87	0.51	9.26	270	570
	3/1/2016	2.9	61	70	0.33	7.33	220	530
	5/4/2016	2.4	42	74	0.56	7.25	170	470
	8/24/2016	2.0	70	59	0.3	9.13	200	430
	12/5/2016	2.4	57	60	0.41	7.62	120	440
	2/21/2017	2.2	56	65	0.33	7.56	180	460
	5/16/2017	3.9	110	61	0.27	7.9	320	820
	7/5/2017	3	60	60	0.28	7.46	200	470
	<b>Pred. Limit</b>	<b>1.83</b>	<b>227**</b>	<b>345**</b>	<b>4.9**</b>	<b>7.70-6.43**</b>	<b>233**</b>	<b>1461**</b>
9/14/2017	<u>2.1</u>	86	57	0.26	7.53	<u>260</u>	680	
11/28/2017	<u>2.6</u>	69	63	0.56	6.96	120	500	
MW-04 down-gradient	11/3/2015	1.8	66	62	0.51	6.68	240	480
	3/1/2016	2.0	58	51	0.5	7.17	170	450
	5/4/2016	1.6	44	49	0.61	6.92	140	340
	8/24/2016	2.0	46	58	0.56	7.01	120	370
	12/5/2016	3.4	200	60	0.21	7.40	300	1000
	2/22/2017	2.4	150	41	0.17	7.44	290	850
	5/16/2017	2.5	170	29	0.32	7.94	400	970
	7/5/2017	3.6	200	51	0.29	7.09	520	1100
	<b>Pred. Limit</b>	<b>1.83</b>	<b>227**</b>	<b>345**</b>	<b>4.9**</b>	<b>7.70-6.43**</b>	<b>233**</b>	<b>1461**</b>
9/14/2017	<u>2.5</u>	180	45	0.28	7.04	<u>480</u>	1100	
11/28/2017	<u>2.3</u>	110	32	0.28	7.04	130	560	
MW-16 down-gradient	11/3/2015	4.1	230	87	0.43	6.24	610	1400
	3/2/2016	3.1	360	130	0.35	6.76	990	1700
	5/2/2016	4.9	250	150	0.49	6.99	620	1600
	8/24/2016	3.6	130	53	0.71	7.00	330	830
	12/5/2016	3.8	160	52	0.51	7.03	280	920
	2/24/2017	6.5	200	67	0.2	5.76	570	1100
	5/16/2017	2.6	340	130	0.15	7.57	760	1700
	7/6/2017	9.5	190	70	0.57	7.35	480	1100
	<b>Pred. Limit</b>	<b>1.83</b>	<b>227**</b>	<b>345**</b>	<b>4.9**</b>	<b>7.70-6.43**</b>	<b>233**</b>	<b>1461**</b>
9/13/2017	<u>2.8</u>	190	55	0.61	7.33	<u>460</u>	970	
11/27/2017	<u>4.2</u>	140	58	0.71	7.16	<u>270</u>	760	

Notes:

\* - Intra-well Prediction Limit. All others are interwell comparisons.  
All units are in mg/l except pH is in standard units.

\*\* - Based on pooled background from MW-11/MW-14.  
All others based on MW-14 as background.

F1 - MS and/or MSD Recovery outside of limits.

**Bold -** Potential statistically significant increase.

Pred. Limit - Prediction Limit

V- Serial dilution exceeds the control limits.

*Italics Date* - First round of Detection Monitoring and resample after statistical background establishment.

**ATTACHMENT 2**  
**Analytical Data Packages**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pittsburgh

301 Alpha Drive

RIDC Park

Pittsburgh, PA 15238

Tel: (412)963-7058

TestAmerica Job ID: 180-74229-1

Client Project/Site: Midwest Generation

For:

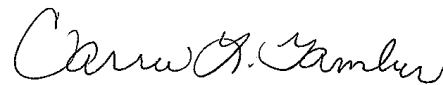
KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 2B

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

2/27/2018 10:38:12 AM

Carrie Gamber, Senior Project Manager

(412)963-2428

[carrie.gamber@testamericainc.com](mailto:carrie.gamber@testamericainc.com)



### LINKS

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[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Job ID: 180-74229-1**

**Laboratory: TestAmerica Pittsburgh**

**Narrative**

**CASE NARRATIVE**

**Client: KPRG and Associates, Inc.**

**Project: Midwest Generation**

**Report Number: 180-74229-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

**RECEIPT**

The samples were received on 1/18/2018 12:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.4° C.

**IC**

Several samples were diluted due to the nature of the sample matrix. Dilutions were based on the conductivity readings during pre-screen. Elevated reporting limits (RLs) are provided.

Several samples were diluted due to the level of analytes detected in the samples. Elevated reporting limits (RLs) are provided.

**METALS**

Several samples were diluted due to the nature of the sample matrix and/or to bring the concentration of boron and calcium within the linear range. Elevated reporting limits (RLs) are provided.

**GENERAL CHEMISTRY**

Due to the sample matrix and amount of sample generated, the initial volumes used for several samples deviated from the standard procedure for TDS. The reporting limits (RLs) have been adjusted proportionately.



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**Laboratory: TestAmerica Pittsburgh**

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200005	06-30-18

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte
SM 2510B		Solid	Specific Conductance
SM 2540C		Solid	Total Dissolved Solids

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
2540G		Solid	Percent Moisture
2540G		Solid	Percent Solids
SM 2580B		Solid	Oxidation Reduction Potential



Sample Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-74229-1	EAST POND - PRETEST	Solid	01/17/18 10:18	01/18/18 12:20
180-74229-2	EAST POND - PH 13.0	Solid	01/17/18 10:18	01/18/18 12:20
180-74229-3	EAST POND - PH 12.0	Solid	01/17/18 10:18	01/18/18 12:20
180-74229-5	EAST POND - PH 9.0	Solid	01/17/18 10:18	01/18/18 12:20
180-74229-6	EAST POND - PH 8.0	Solid	01/17/18 10:18	01/18/18 12:20
180-74229-7	EAST POND - PH 7.0	Solid	01/17/18 10:18	01/18/18 12:20
180-74229-8	EAST POND - PH 5.5	Solid	01/17/18 10:18	01/18/18 12:20
180-74229-9	EAST POND - PH 4.0	Solid	01/17/18 10:18	01/18/18 12:20
180-74229-10	EAST POND - PH 2.0	Solid	01/17/18 10:37	01/18/18 12:20
180-74229-11	EAST POND - NATURAL	Solid	01/17/18 10:37	01/18/18 12:20
180-74229-12	WEST POND - PRETEST	Solid	01/17/18 10:37	01/18/18 12:20
180-74229-13	WEST POND - PH 13.0	Solid	01/17/18 10:37	01/18/18 12:20
180-74229-14	WEST POND - PH 12.0	Solid	01/17/18 10:37	01/18/18 12:20
180-74229-16	WEST POND - PH 9.0	Solid	01/17/18 10:37	01/18/18 12:20
180-74229-17	WEST POND - PH 8.0	Solid	01/17/18 10:37	01/18/18 12:20
180-74229-18	WEST POND - PH 7.0	Solid	01/17/18 10:37	01/18/18 12:20
180-74229-19	WEST POND - PH 5.5	Solid	01/17/18 10:37	01/18/18 12:20
180-74229-20	WEST POND - PH 4.0	Solid	01/17/18 10:37	01/18/18 12:20
180-74229-21	WEST POND - PH 2.0	Solid	01/17/18 10:37	01/18/18 12:20
180-74229-22	WEST POND - NATURAL	Solid	01/17/18 10:37	01/18/18 12:20
180-74229-23	EAST POND - AIR DRIED	Solid	01/17/18 10:18	01/18/18 12:20
180-74229-24	WEST POND - AIR DRIED	Solid	01/17/18 10:37	01/18/18 12:20



Method Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
EPA 6020A	Metals (ICP/MS)	SW846	TAL PIT
2540G	SM 2540G	SM22	TAL PIT
EPA 9040C	pH	SW846	TAL PIT
SM 2510B	Conductivity, Specific Conductance	SM	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
SM 2580B	Reduction-Oxidation (REDOX) Potential	SM	TAL PIT

**Protocol References:**

- SM = "Standard Methods For The Examination Of Water And Wastewater",
- SM22 = SM22
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058



Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

**Client Sample ID: EAST POND - PRETEST**

**Lab Sample ID: 180-74229-1**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			234978	01/24/18 09:55	CLL	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 15:07	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 15:16	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: EAST POND - PH 13.0**

**Lab Sample ID: 180-74229-2**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			236553	02/09/18 19:50	CMR	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/10/18 00:39	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 03:43	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 12:13	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 12:01	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	3 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 11:54	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: EAST POND - PH 12.0**

**Lab Sample ID: 180-74229-3**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

**Client Sample ID: EAST POND - PH 12.0**

**Lab Sample ID: 180-74229-3**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 9056A		25			237859	02/26/18 13:35	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237590	02/21/18 01:20	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237713	02/22/18 04:30	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 13:32	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237752	02/16/18 13:16	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	10 mL	100 mL	237329	02/19/18 15:41	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237751	02/16/18 13:18	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: EAST POND - PH 9.0**

**Lab Sample ID: 180-74229-5**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			236732	02/13/18 17:11	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			236891	02/14/18 16:40	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237198	02/15/18 23:15	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 15:19	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 15:01	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT

TestAmerica Pittsburgh



Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

**Client Sample ID: EAST POND - PH 9.0**

**Lab Sample ID: 180-74229-5**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2540C		1	100 mL	100 mL	237077	02/15/18 14:55	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 15:02	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: EAST POND - PH 8.0**

**Lab Sample ID: 180-74229-6**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		2.5			236732	02/13/18 17:43	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			236891	02/14/18 16:56	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237198	02/15/18 23:06	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 15:10	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 14:51	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	25 mL	100 mL	237077	02/15/18 14:55	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 14:49	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: EAST POND - PH 7.0**

**Lab Sample ID: 180-74229-7**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		10			236997	02/15/18 14:02	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

**Client Sample ID: EAST POND - PH 7.0**

**Lab Sample ID: 180-74229-7**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 9056A		10			237100	02/16/18 07:20	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			237323	02/16/18 20:43	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 15:13	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 14:56	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	25 mL	100 mL	237077	02/15/18 14:55	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 14:55	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: EAST POND - PH 5.5**

**Lab Sample ID: 180-74229-8**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		25			236997	02/15/18 14:18	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		25			237100	02/16/18 07:36	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			237323	02/16/18 20:47	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 15:23	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 15:07	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	10 mL	100 mL	237077	02/15/18 14:55	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

**Client Sample ID: EAST POND - PH 5.5**

**Lab Sample ID: 180-74229-8**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2580B		1			237422	02/12/18 15:08	MTW	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: EAST POND - PH 4.0**

**Lab Sample ID: 180-74229-9**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		25			236553	02/09/18 18:15	CMR	TAL PIT
Instrument ID: CHICS2000										
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			236828	02/13/18 04:00	WTR	TAL PIT
Instrument ID: M										
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 11:39	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 11:21	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	4 mL	100 mL	236825	02/13/18 15:26	KXW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 11:16	MTW	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: EAST POND - PH 2.0**

**Lab Sample ID: 180-74229-10**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100			237859	02/26/18 11:59	MJH	TAL PIT
Instrument ID: CHICS2000										
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			237713	02/22/18 04:48	WTR	TAL PIT
Instrument ID: M										
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 13:38	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

**Client Sample ID: EAST POND - PH 2.0**

**Lab Sample ID: 180-74229-10**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2510B		1			237752	02/16/18 13:24	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	2 mL	100 mL	237329	02/19/18 15:41	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237751	02/16/18 13:26	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: EAST POND - NATURAL**

**Lab Sample ID: 180-74229-11**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			236373	02/08/18 11:47	MJH	TAL PIT
		Instrument ID: CHICS2100B								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/09/18 23:12	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 01:15	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 14:19	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 14:45	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	100 mL	100 mL	236825	02/13/18 15:26	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 14:47	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: WEST POND - PRETEST**

**Lab Sample ID: 180-74229-12**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			234978	01/24/18 09:55	CLL	TAL PIT

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

**Client Sample ID: WEST POND - PRETEST**

**Lab Sample ID: 180-74229-12**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			234978	01/24/18 09:55	CLL	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 15:32	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 15:35	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: WEST POND - PH 13.0**

**Lab Sample ID: 180-74229-13**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			236553	02/09/18 20:22	CMR	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/10/18 00:50	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 04:05	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 11:27	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 11:07	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	3 mL	100 mL	236825	02/13/18 15:26	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 11:04	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: WEST POND - PH 12.0**

**Lab Sample ID: 180-74229-14**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.6 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

**Client Sample ID: WEST POND - PH 12.0**

**Lab Sample ID: 180-74229-14**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 9056A		25			237859	02/26/18 14:06	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.6 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237590	02/21/18 01:25	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			40.6 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237713	02/22/18 04:53	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.6 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 13:43	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237752	02/16/18 13:31	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	10 mL	100 mL	237329	02/19/18 15:41	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237751	02/16/18 13:34	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: WEST POND - PH 9.0**

**Lab Sample ID: 180-74229-16**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			236997	02/15/18 14:33	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		10			237100	02/16/18 07:52	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237198	02/15/18 23:51	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 15:44	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 15:38	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

**Client Sample ID: WEST POND - PH 9.0**

**Lab Sample ID: 180-74229-16**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2540C		1	100 mL	100 mL	237077	02/15/18 14:55	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 15:40	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: WEST POND - PH 8.0**

**Lab Sample ID: 180-74229-17**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			236997	02/15/18 15:05	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			237100	02/16/18 08:08	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237198	02/15/18 23:24	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 15:26	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 15:12	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	25 mL	100 mL	237077	02/15/18 14:55	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 15:14	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: WEST POND - PH 7.0**

**Lab Sample ID: 180-74229-18**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		10			236997	02/15/18 15:21	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

**Client Sample ID: WEST POND - PH 7.0**

**Lab Sample ID: 180-74229-18**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 9056A		10			237100	02/16/18 08:24	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			237323	02/16/18 20:52	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 15:29	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 15:17	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	10 mL	100 mL	237077	02/15/18 14:55	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 15:21	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: WEST POND - PH 5.5**

**Lab Sample ID: 180-74229-19**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		25			236997	02/15/18 15:37	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		25			237100	02/16/18 08:40	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			237323	02/16/18 20:57	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 15:41	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 15:33	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	10 mL	100 mL	237077	02/15/18 14:55	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT



Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

**Client Sample ID: WEST POND - PH 5.5**

**Lab Sample ID: 180-74229-19**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2580B		1			237422	02/12/18 15:34	MTW	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: WEST POND - PH 4.0**

**Lab Sample ID: 180-74229-20**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		25			236553	02/09/18 18:47	CMR	TAL PIT
Instrument ID: CHICS2000										
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			236828	02/13/18 04:10	WTR	TAL PIT
Instrument ID: M										
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 11:58	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 11:36	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	4 mL	100 mL	236825	02/13/18 15:26	KXW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 11:33	MTW	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: WEST POND - PH 2.0**

**Lab Sample ID: 180-74229-21**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.6 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100			237859	02/26/18 12:31	MJH	TAL PIT
Instrument ID: CHICS2000										
Leach	Leach	1313			40.6 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			237713	02/22/18 04:58	WTR	TAL PIT
Instrument ID: M										
Leach	Leach	1313			40.6 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 13:49	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.6 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

**Client Sample ID: WEST POND - PH 2.0**

**Lab Sample ID: 180-74229-21**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2510B		1			237752	02/16/18 13:38	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	2 mL	100 mL	237329	02/19/18 15:41	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237751	02/16/18 13:43	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: WEST POND - NATURAL**

**Lab Sample ID: 180-74229-22**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			236373	02/08/18 12:03	MJH	TAL PIT
		Instrument ID: CHICS2100B								
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/09/18 23:14	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 01:20	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 14:23	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 14:49	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	100 mL	100 mL	236785	02/13/18 10:45	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.6 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 14:51	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: EAST POND - AIR DRIED**

**Lab Sample ID: 180-74229-23**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			235859	02/02/18 11:37	SES	TAL PIT

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

**Client Sample ID: EAST POND - AIR DRIED**

**Lab Sample ID: 180-74229-23**

**Date Collected: 01/17/18 10:18**

**Matrix: Solid**

**Date Received: 01/18/18 12:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			235859	02/02/18 11:37	SES	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: WEST POND - AIR DRIED**

**Lab Sample ID: 180-74229-24**

**Date Collected: 01/17/18 10:37**

**Matrix: Solid**

**Date Received: 01/18/18 12:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			235859	02/02/18 11:37	SES	TAL PIT
Instrument ID: NOEQUIP										

**Laboratory References:**

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

**Analyst References:**

Lab: TAL PIT

Batch Type: Leach

LWM = Larry Matko

Batch Type: Prep

KA = Kayla Kalamasz

Batch Type: Analysis

CLL = Cheryl Loheyde

CMR = Carl Reagle

KXW = Kaitlyn White

MJH = Matthew Hartman

MTW = Michael Wesoloski

SES = Samantha Strauser

WTR = Bill Reinheimer



Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74229-1

**Client Sample ID: EAST POND - PRETEST**

**Lab Sample ID: 180-74229-1**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	14.8		0.1		%			01/24/18 09:55	1
Percent Solids	85.2		0.1		%			01/24/18 09:55	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.8		0.1		SU			02/12/18 15:07	1
pH	3.6		0.1		SU			02/12/18 15:16	1

**Client Sample ID: EAST POND - PH 13.0**

**Lab Sample ID: 180-74229-2**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<50		50		mg/L			02/09/18 19:50	50
Fluoride	<5.0		5.0		mg/L			02/09/18 19:50	50
Sulfate	120		50		mg/L			02/09/18 19:50	50

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3500		80		ug/L		02/08/18 11:28	02/13/18 03:43	1
Calcium	3700		500		ug/L		02/08/18 11:28	02/10/18 00:39	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.8		0.1		SU			02/07/18 12:13	1
Specific Conductance	47000		1.0		umhos/cm			02/07/18 12:01	1
Total Dissolved Solids	14000		330		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	- 50		10		millivolts			02/07/18 11:54	1

**Client Sample ID: EAST POND - PH 12.0**

**Lab Sample ID: 180-74229-3**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<25		25		mg/L			02/26/18 13:35	25
Fluoride	<2.5		2.5		mg/L			02/26/18 13:35	25
Sulfate	110		25		mg/L			02/26/18 13:35	25

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3400		80		ug/L		02/19/18 13:03	02/22/18 04:30	1
Calcium	3500		500		ug/L		02/19/18 13:03	02/21/18 01:20	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.5		0.1		SU			02/16/18 13:32	1
Specific Conductance	13000		1.0		umhos/cm			02/16/18 13:16	1
Total Dissolved Solids	3700		100		mg/L			02/19/18 15:41	1
Oxidation Reduction Potential	- 7		10		millivolts			02/16/18 13:18	1

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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**Client Sample ID: EAST POND - PH 9.0**

**Lab Sample ID: 180-74229-5**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.8		1.0		mg/L			02/13/18 17:11	1
Fluoride	0.51		0.50		mg/L			02/14/18 16:40	5
Sulfate	110		1.0		mg/L			02/13/18 17:11	1

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2000		80		ug/L		02/13/18 13:38	02/15/18 23:15	1
Calcium	120000		500		ug/L		02/13/18 13:38	02/15/18 23:15	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.9		0.1		SU			02/12/18 15:19	1
Specific Conductance	1300		1.0		umhos/cm			02/12/18 15:01	1
Total Dissolved Solids	890		10		mg/L			02/15/18 14:55	1
Oxidation Reduction Potential	230		10		millivolts			02/12/18 15:02	1

**Client Sample ID: EAST POND - PH 8.0**

**Lab Sample ID: 180-74229-6**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.5		2.5		mg/L			02/13/18 17:43	2.5
Fluoride	<0.50		0.50		mg/L			02/14/18 16:56	5
Sulfate	130		2.5		mg/L			02/13/18 17:43	2.5

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3000		80		ug/L		02/13/18 13:38	02/15/18 23:06	1
Calcium	660000		500		ug/L		02/13/18 13:38	02/15/18 23:06	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.7		0.1		SU			02/12/18 15:10	1
Specific Conductance	4700		1.0		umhos/cm			02/12/18 14:51	1
Total Dissolved Solids	3600		40		mg/L			02/15/18 14:55	1
Oxidation Reduction Potential	260		10		millivolts			02/12/18 14:49	1

**Client Sample ID: EAST POND - PH 7.0**

**Lab Sample ID: 180-74229-7**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10		10		mg/L			02/15/18 14:02	10
Fluoride	<1.0		1.0		mg/L			02/15/18 14:02	10
Sulfate	140		10		mg/L			02/16/18 07:20	10

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4300		800		ug/L		02/13/18 13:38	02/16/18 20:43	10

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

### Client Sample Results

**Client Sample ID: EAST POND - PH 7.0**

**Lab Sample ID: 180-74229-7**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 6020A - Metals (ICP/MS) - Leach (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1500000		5000		ug/L		02/13/18 13:38	02/16/18 20:43	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0		0.1		SU			02/12/18 15:13	1
Specific Conductance	8500		1.0		umhos/cm			02/12/18 14:56	1
Total Dissolved Solids	6500		40		mg/L			02/15/18 14:55	1
Oxidation Reduction Potential	290		10		millivolts			02/12/18 14:55	1

**Client Sample ID: EAST POND - PH 5.5**

**Lab Sample ID: 180-74229-8**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<25		25		mg/L			02/15/18 14:18	25
Fluoride	<2.5		2.5		mg/L			02/15/18 14:18	25
Sulfate	170		25		mg/L			02/16/18 07:36	25

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	6400		800		ug/L		02/13/18 13:38	02/16/18 20:47	10
Calcium	3100000		5000		ug/L		02/13/18 13:38	02/16/18 20:47	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.8		0.1		SU			02/12/18 15:23	1
Specific Conductance	18000		1.0		umhos/cm			02/12/18 15:07	1
Total Dissolved Solids	17000		100		mg/L			02/15/18 14:55	1
Oxidation Reduction Potential	310		10		millivolts			02/12/18 15:08	1

**Client Sample ID: EAST POND - PH 4.0**

**Lab Sample ID: 180-74229-9**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<25		25		mg/L			02/09/18 18:15	25
Fluoride	7.5		2.5		mg/L			02/09/18 18:15	25
Sulfate	330		25		mg/L			02/09/18 18:15	25

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	11000		800		ug/L		02/08/18 11:28	02/13/18 04:00	10
Calcium	5000000		5000		ug/L		02/08/18 11:28	02/13/18 04:00	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	3.8		0.1		SU			02/07/18 11:39	1
Specific Conductance	30000		1.0		umhos/cm			02/07/18 11:21	1
Total Dissolved Solids	33000		250		mg/L			02/13/18 15:26	1

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Client Sample Results**

**Client Sample ID: EAST POND - PH 4.0**

**Lab Sample ID: 180-74229-9**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

**General Chemistry - Leach (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	400		10		millivolts			02/07/18 11:16	1

**Client Sample ID: EAST POND - PH 2.0**

**Lab Sample ID: 180-74229-10**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<100		100		mg/L			02/26/18 11:59	100
Fluoride	<10		10		mg/L			02/26/18 11:59	100
Sulfate	180		100		mg/L			02/26/18 11:59	100

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5100		800		ug/L		02/19/18 13:03	02/22/18 04:48	10
Calcium	2200000		5000		ug/L		02/19/18 13:03	02/22/18 04:48	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	2.1		0.1		SU			02/16/18 13:38	1
Specific Conductance	64000		1.0		umhos/cm			02/16/18 13:24	1
Total Dissolved Solids	74000		500		mg/L			02/19/18 15:41	1
Oxidation Reduction Potential	660		10		millivolts			02/16/18 13:26	1

**Client Sample ID: EAST POND - NATURAL**

**Lab Sample ID: 180-74229-11**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.9		1.0		mg/L			02/08/18 11:47	1
Fluoride	0.32		0.10		mg/L			02/08/18 11:47	1
Sulfate	130		1.0		mg/L			02/08/18 11:47	1

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2000		80		ug/L		02/08/18 11:22	02/13/18 01:15	1
Calcium	43000		500		ug/L		02/08/18 11:22	02/09/18 23:12	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	9.7		0.1		SU			02/07/18 14:19	1
Specific Conductance	390		1.0		umhos/cm			02/07/18 14:45	1
Total Dissolved Solids	270		10		mg/L			02/13/18 15:26	1
Oxidation Reduction Potential	170		10		millivolts			02/07/18 14:47	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74229-1

**Client Sample ID: WEST POND - PRETEST**

**Lab Sample ID: 180-74229-12**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	38.6		0.1		%			01/24/18 09:55	1
Percent Solids	61.4		0.1		%			01/24/18 09:55	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.7		0.1		SU			02/12/18 15:32	1
pH	3.7		0.1		SU			02/12/18 15:35	1

**Client Sample ID: WEST POND - PH 13.0**

**Lab Sample ID: 180-74229-13**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<50		50		mg/L			02/09/18 20:22	50
Fluoride	<5.0		5.0		mg/L			02/09/18 20:22	50
Sulfate	120		50		mg/L			02/09/18 20:22	50

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3700		80		ug/L		02/08/18 11:28	02/13/18 04:05	1
Calcium	3800		500		ug/L		02/08/18 11:28	02/10/18 00:50	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.8		0.1		SU			02/07/18 11:27	1
Specific Conductance	46000		1.0		umhos/cm			02/07/18 11:07	1
Total Dissolved Solids	14000		330		mg/L			02/13/18 15:26	1
Oxidation Reduction Potential	- 32		10		millivolts			02/07/18 11:04	1

**Client Sample ID: WEST POND - PH 12.0**

**Lab Sample ID: 180-74229-14**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<25		25		mg/L			02/26/18 14:06	25
Fluoride	<2.5		2.5		mg/L			02/26/18 14:06	25
Sulfate	120		25		mg/L			02/26/18 14:06	25

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3700		80		ug/L		02/19/18 13:03	02/22/18 04:53	1
Calcium	3800		500		ug/L		02/19/18 13:03	02/21/18 01:25	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.4		0.1		SU			02/16/18 13:43	1
Specific Conductance	13000		1.0		umhos/cm			02/16/18 13:31	1
Total Dissolved Solids	4100		100		mg/L			02/19/18 15:41	1
Oxidation Reduction Potential	- 10		10		millivolts			02/16/18 13:34	1



Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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**Client Sample ID: WEST POND - PH 9.0**

**Lab Sample ID: 180-74229-16**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.2		1.0		mg/L			02/15/18 14:33	1
Fluoride	0.20		0.10		mg/L			02/15/18 14:33	1
Sulfate	100		10		mg/L			02/16/18 07:52	10

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1800		80		ug/L		02/13/18 13:38	02/15/18 23:51	1
Calcium	130000		500		ug/L		02/13/18 13:38	02/15/18 23:51	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.7		0.1		SU			02/12/18 15:44	1
Specific Conductance	1300		1.0		umhos/cm			02/12/18 15:38	1
Total Dissolved Solids	930		10		mg/L			02/15/18 14:55	1
Oxidation Reduction Potential	250		10		millivolts			02/12/18 15:40	1

**Client Sample ID: WEST POND - PH 8.0**

**Lab Sample ID: 180-74229-17**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.0		5.0		mg/L			02/15/18 15:05	5
Fluoride	<0.50		0.50		mg/L			02/15/18 15:05	5
Sulfate	130		5.0		mg/L			02/16/18 08:08	5

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2900		80		ug/L		02/13/18 13:38	02/15/18 23:24	1
Calcium	710000		500		ug/L		02/13/18 13:38	02/15/18 23:24	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5		0.1		SU			02/12/18 15:26	1
Specific Conductance	4800		1.0		umhos/cm			02/12/18 15:12	1
Total Dissolved Solids	3600		40		mg/L			02/15/18 14:55	1
Oxidation Reduction Potential	280		10		millivolts			02/12/18 15:14	1

**Client Sample ID: WEST POND - PH 7.0**

**Lab Sample ID: 180-74229-18**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10		10		mg/L			02/15/18 15:21	10
Fluoride	<1.0		1.0		mg/L			02/15/18 15:21	10
Sulfate	130		10		mg/L			02/16/18 08:24	10

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4300		800		ug/L		02/13/18 13:38	02/16/18 20:52	10

**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Client Sample ID: WEST POND - PH 7.0**

**Lab Sample ID: 180-74229-18**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 6020A - Metals (ICP/MS) - Leach (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1400000		5000		ug/L		02/13/18 13:38	02/16/18 20:52	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0		0.1		SU			02/12/18 15:29	1
Specific Conductance	8600		1.0		umhos/cm			02/12/18 15:17	1
Total Dissolved Solids	7500		100		mg/L			02/15/18 14:55	1
Oxidation Reduction Potential	300		10		millivolts			02/12/18 15:21	1

**Client Sample ID: WEST POND - PH 5.5**

**Lab Sample ID: 180-74229-19**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<25		25		mg/L			02/15/18 15:37	25
Fluoride	<2.5		2.5		mg/L			02/15/18 15:37	25
Sulfate	160		25		mg/L			02/16/18 08:40	25

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	6200		800		ug/L		02/13/18 13:38	02/16/18 20:57	10
Calcium	3000000		5000		ug/L		02/13/18 13:38	02/16/18 20:57	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.9		0.1		SU			02/12/18 15:41	1
Specific Conductance	18000		1.0		umhos/cm			02/12/18 15:33	1
Total Dissolved Solids	17000		100		mg/L			02/15/18 14:55	1
Oxidation Reduction Potential	320		10		millivolts			02/12/18 15:34	1

**Client Sample ID: WEST POND - PH 4.0**

**Lab Sample ID: 180-74229-20**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<25		25		mg/L			02/09/18 18:47	25
Fluoride	7.7		2.5		mg/L			02/09/18 18:47	25
Sulfate	360		25		mg/L			02/09/18 18:47	25

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	11000		800		ug/L		02/08/18 11:28	02/13/18 04:10	10
Calcium	5100000		5000		ug/L		02/08/18 11:28	02/13/18 04:10	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	3.8		0.1		SU			02/07/18 11:58	1
Specific Conductance	30000		1.0		umhos/cm			02/07/18 11:36	1
Total Dissolved Solids	33000		250		mg/L			02/13/18 15:26	1

**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Client Sample ID: WEST POND - PH 4.0**

**Lab Sample ID: 180-74229-20**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

**General Chemistry - Leach (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	410		10		millivolts			02/07/18 11:33	1

**Client Sample ID: WEST POND - PH 2.0**

**Lab Sample ID: 180-74229-21**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<100		100		mg/L			02/26/18 12:31	100
Fluoride	<10		10		mg/L			02/26/18 12:31	100
Sulfate	180		100		mg/L			02/26/18 12:31	100

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	11000		800		ug/L		02/19/18 13:03	02/22/18 04:58	10
Calcium	4400000		5000		ug/L		02/19/18 13:03	02/22/18 04:58	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	2.5		0.1		SU			02/16/18 13:49	1
Specific Conductance	59000		1.0		umhos/cm			02/16/18 13:38	1
Total Dissolved Solids	70000		500		mg/L			02/19/18 15:41	1
Oxidation Reduction Potential	490		10		millivolts			02/16/18 13:43	1

**Client Sample ID: WEST POND - NATURAL**

**Lab Sample ID: 180-74229-22**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17		1.0		mg/L			02/08/18 12:03	1
Fluoride	0.53		0.10		mg/L			02/08/18 12:03	1
Sulfate	38		1.0		mg/L			02/08/18 12:03	1

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1900		80		ug/L		02/08/18 11:22	02/13/18 01:20	1
Calcium	42000		500		ug/L		02/08/18 11:22	02/09/18 23:14	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	9.7		0.1		SU			02/07/18 14:23	1
Specific Conductance	400		1.0		umhos/cm			02/07/18 14:49	1
Total Dissolved Solids	240		10		mg/L			02/13/18 10:45	1
Oxidation Reduction Potential	170		10		millivolts			02/07/18 14:51	1

**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

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 TestAmerica Job ID: 180-74229-1

**Client Sample ID: EAST POND - AIR DRIED**

**Lab Sample ID: 180-74229-23**

Date Collected: 01/17/18 10:18

Matrix: Solid

Date Received: 01/18/18 12:20

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.2		0.1		%			02/02/18 11:37	1
Percent Solids	98.8		0.1		%			02/02/18 11:37	1

**Client Sample ID: WEST POND - AIR DRIED**

**Lab Sample ID: 180-74229-24**

Date Collected: 01/17/18 10:37

Matrix: Solid

Date Received: 01/18/18 12:20

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.4		0.1		%			02/02/18 11:37	1
Percent Solids	98.6		0.1		%			02/02/18 11:37	1



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74229-1

**Method: EPA 9056A - Anions, Ion Chromatography**

Lab Sample ID: MB 180-236373/6  
Matrix: Solid  
Analysis Batch: 236373

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/08/18 06:17	1
Fluoride	<0.10		0.10		mg/L			02/08/18 06:17	1
Sulfate	<1.0		1.0		mg/L			02/08/18 06:17	1

Lab Sample ID: LCS 180-236373/5  
Matrix: Solid  
Analysis Batch: 236373

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.0		mg/L		100	80 - 120
Fluoride	1.25	1.02		mg/L		82	80 - 120
Sulfate	25.0	24.0		mg/L		96	80 - 120

Lab Sample ID: MB 180-236553/16  
Matrix: Solid  
Analysis Batch: 236553

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/09/18 16:56	1
Fluoride	<0.10		0.10		mg/L			02/09/18 16:56	1
Sulfate	<1.0		1.0		mg/L			02/09/18 16:56	1

Lab Sample ID: LCS 180-236553/15  
Matrix: Solid  
Analysis Batch: 236553

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.9		mg/L		103	80 - 120
Fluoride	1.25	1.20		mg/L		96	80 - 120
Sulfate	25.0	22.0		mg/L		88	80 - 120

Lab Sample ID: MB 180-236732/6  
Matrix: Solid  
Analysis Batch: 236732

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/13/18 05:33	1
Sulfate	<1.0		1.0		mg/L			02/13/18 05:33	1

Lab Sample ID: LCS 180-236732/5  
Matrix: Solid  
Analysis Batch: 236732

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.9		mg/L		103	80 - 120
Sulfate	25.0	25.1		mg/L		100	80 - 120

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74229-1

**Method: EPA 9056A - Anions, Ion Chromatography (Continued)**

Lab Sample ID: MB 180-236891/6  
Matrix: Solid  
Analysis Batch: 236891

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/14/18 11:05	1
Fluoride	<0.10		0.10		mg/L			02/14/18 11:05	1
Sulfate	<1.0		1.0		mg/L			02/14/18 11:05	1

Lab Sample ID: LCS 180-236891/5  
Matrix: Solid  
Analysis Batch: 236891

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.9		mg/L		104	80 - 120
Fluoride	2.50	2.58		mg/L		103	80 - 120
Sulfate	50.0	49.2		mg/L		98	80 - 120

Lab Sample ID: MB 180-236997/6  
Matrix: Solid  
Analysis Batch: 236997

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/15/18 09:09	1
Fluoride	<0.10		0.10		mg/L			02/15/18 09:09	1
Sulfate	<1.0		1.0		mg/L			02/15/18 09:09	1

Lab Sample ID: LCS 180-236997/5  
Matrix: Solid  
Analysis Batch: 236997

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.6		mg/L		99	80 - 120
Fluoride	2.50	2.35		mg/L		94	80 - 120
Sulfate	50.0	45.6		mg/L		91	80 - 120

Lab Sample ID: MB 180-237100/6  
Matrix: Solid  
Analysis Batch: 237100

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/16/18 06:07	1
Fluoride	<0.10		0.10		mg/L			02/16/18 06:07	1
Sulfate	<1.0		1.0		mg/L			02/16/18 06:07	1

Lab Sample ID: LCS 180-237100/5  
Matrix: Solid  
Analysis Batch: 237100

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50.0	45.2		mg/L		90	80 - 120

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74229-1

**Method: EPA 9056A - Anions, Ion Chromatography (Continued)**

Lab Sample ID: MB 180-237859/6  
Matrix: Solid  
Analysis Batch: 237859

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/26/18 08:06	1
Fluoride	<0.10		0.10		mg/L			02/26/18 08:06	1
Sulfate	<1.0		1.0		mg/L			02/26/18 08:06	1

Lab Sample ID: LCS 180-237859/5  
Matrix: Solid  
Analysis Batch: 237859

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.4		mg/L		106	80 - 120
Fluoride	1.25	1.23		mg/L		99	80 - 120
Sulfate	25.0	22.5		mg/L		90	80 - 120

**Method: EPA 6020A - Metals (ICP/MS)**

Lab Sample ID: MB 180-236437/1-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/08/18 11:22	02/09/18 22:43	1

Lab Sample ID: MB 180-236437/1-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/08/18 11:22	02/13/18 00:25	1

Lab Sample ID: LCS 180-236437/2-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	50000	53100		ug/L		106	80 - 120

Lab Sample ID: LCS 180-236437/2-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	1010		ug/L		101	80 - 120

Lab Sample ID: LCSD 180-236437/3-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	52500		ug/L		105	80 - 120	1	20

TestAmerica Pittsburgh

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

Method: EPA 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 180-236437/3-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	1030		ug/L		103	80 - 120	2	20

Lab Sample ID: MB 180-236440/1-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/08/18 11:28	02/10/18 00:04	1

Lab Sample ID: MB 180-236440/1-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/08/18 11:28	02/13/18 02:47	1

Lab Sample ID: LCS 180-236440/2-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 236440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	52800		ug/L		106	80 - 120		

Lab Sample ID: LCS 180-236440/2-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 236440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	916		ug/L		92	80 - 120		

Lab Sample ID: LCSD 180-236440/3-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 236440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	51500		ug/L		103	80 - 120	2	20

Lab Sample ID: LCSD 180-236440/3-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 236440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	917		ug/L		92	80 - 120	0	20

Lab Sample ID: MB 180-236807/1-A  
Matrix: Solid  
Analysis Batch: 237198

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236807

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/13/18 13:38	02/15/18 21:43	1



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

Method: EPA 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-236807/1-A  
Matrix: Solid  
Analysis Batch: 237198

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236807

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/13/18 13:38	02/15/18 21:43	1

Lab Sample ID: LCS 180-236807/2-A  
Matrix: Solid  
Analysis Batch: 237198

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 236807

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1000	866		ug/L		87	80 - 120
Calcium	50000	46700		ug/L		93	80 - 120

Lab Sample ID: LCSD 180-236807/3-A  
Matrix: Solid  
Analysis Batch: 237198

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 236807

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Boron	1000	879		ug/L		88	80 - 120	1	20
Calcium	50000	46500		ug/L		93	80 - 120	1	20

Lab Sample ID: MB 180-237311/1-A  
Matrix: Solid  
Analysis Batch: 237590

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/19/18 13:03	02/21/18 00:31	1

Lab Sample ID: MB 180-237311/1-A  
Matrix: Solid  
Analysis Batch: 237713

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/19/18 13:03	02/22/18 03:08	1

Lab Sample ID: LCS 180-237311/2-A  
Matrix: Solid  
Analysis Batch: 237590

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	50000	48400		ug/L		97	80 - 120

Lab Sample ID: LCS 180-237311/2-A  
Matrix: Solid  
Analysis Batch: 237713

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1000	1010		ug/L		101	80 - 120

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

Method: EPA 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 180-237311/3-A  
Matrix: Solid  
Analysis Batch: 237590

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	48200		ug/L		96	80 - 120	0	20

Lab Sample ID: LCSD 180-237311/3-A  
Matrix: Solid  
Analysis Batch: 237713

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	1020		ug/L		102	80 - 120	0	20

Method: 2540G - SM 2540G

Lab Sample ID: 180-74229-1 DU  
Matrix: Solid  
Analysis Batch: 234978

Client Sample ID: EAST POND - PRETEST  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	%Rec	RPD	RPD Limit
Percent Moisture	14.8		17.0		%			14	20
Percent Solids	85.2		83.0		%			3	20

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-236465/1  
Matrix: Solid  
Analysis Batch: 236465

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
pH	7.00	7.0		SU		100	99 - 101		

Lab Sample ID: LCS 180-236465/24  
Matrix: Solid  
Analysis Batch: 236465

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
pH	7.00	7.0		SU		100	99 - 101		

Lab Sample ID: LCS 180-236465/47  
Matrix: Solid  
Analysis Batch: 236465

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
pH	7.00	7.0		SU		100	99 - 101		

Lab Sample ID: LCS 180-237380/1  
Matrix: Solid  
Analysis Batch: 237380

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
pH	7.00	7.0		SU		100	99 - 101		

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Method: EPA 9040C - pH (Continued)**

Lab Sample ID: LCS 180-237737/1  
Matrix: Solid  
Analysis Batch: 237737

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

**Method: SM 2510B - Conductivity, Specific Conductance**

Lab Sample ID: MB 180-236475/17  
Matrix: Solid  
Analysis Batch: 236475

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/07/18 11:58	1

Lab Sample ID: MB 180-236475/2  
Matrix: Solid  
Analysis Batch: 236475

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/07/18 11:03	1

Lab Sample ID: MB 180-236475/43  
Matrix: Solid  
Analysis Batch: 236475

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/07/18 13:32	1

Lab Sample ID: LCS 180-236475/1  
Matrix: Solid  
Analysis Batch: 236475

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.1		umhos/cm		101	90 - 110

Lab Sample ID: LCS 180-236475/16  
Matrix: Solid  
Analysis Batch: 236475

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.0		umhos/cm		101	90 - 110

Lab Sample ID: LCS 180-236475/42  
Matrix: Solid  
Analysis Batch: 236475

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.1		umhos/cm		101	90 - 110

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

**Method: SM 2510B - Conductivity, Specific Conductance (Continued)**

Lab Sample ID: MB 180-237425/2  
Matrix: Solid  
Analysis Batch: 237425

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/12/18 10:05	1

Lab Sample ID: LCS 180-237425/1  
Matrix: Solid  
Analysis Batch: 237425

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.0		umhos/cm		101	90 - 110

Lab Sample ID: MB 180-237752/2  
Matrix: Solid  
Analysis Batch: 237752

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/16/18 08:07	1

Lab Sample ID: LCS 180-237752/1  
Matrix: Solid  
Analysis Batch: 237752

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.1		umhos/cm		101	90 - 110

**Method: SM 2540C - Solids, Total Dissolved (TDS)**

Lab Sample ID: MB 180-236785/2  
Matrix: Solid  
Analysis Batch: 236785

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/13/18 10:45	1

Lab Sample ID: LCS 180-236785/1  
Matrix: Solid  
Analysis Batch: 236785

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	388		mg/L		114	80 - 120

Lab Sample ID: MB 180-236825/2  
Matrix: Solid  
Analysis Batch: 236825

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/13/18 15:26	1

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74229-1

**Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)**

Lab Sample ID: LCS 180-236825/1  
Matrix: Solid  
Analysis Batch: 236825

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	364		mg/L		107	80 - 120

Lab Sample ID: MB 180-237077/2  
Matrix: Solid  
Analysis Batch: 237077

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/15/18 14:55	1

Lab Sample ID: LCS 180-237077/1  
Matrix: Solid  
Analysis Batch: 237077

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	346		mg/L		102	80 - 120

Lab Sample ID: MB 180-237078/2  
Matrix: Solid  
Analysis Batch: 237078

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/15/18 14:59	1

Lab Sample ID: LCS 180-237078/1  
Matrix: Solid  
Analysis Batch: 237078

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	342		mg/L		101	80 - 120

Lab Sample ID: MB 180-237329/2  
Matrix: Solid  
Analysis Batch: 237329

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/19/18 15:41	1

Lab Sample ID: LCS 180-237329/1  
Matrix: Solid  
Analysis Batch: 237329

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	330		mg/L		97	80 - 120

Lab Sample ID: 180-74229-13 DU  
Matrix: Solid  
Analysis Batch: 236825

Client Sample ID: WEST POND - PH 13.0  
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	14000		14200		mg/L		1	10

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QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

Lab Sample ID: 180-74229-19 DU  
Matrix: Solid  
Analysis Batch: 237077

Client Sample ID: WEST POND - PH 5.5  
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	17000		17200		mg/L		2	10

Lab Sample ID: 180-74229-2 DU  
Matrix: Solid  
Analysis Batch: 237078

Client Sample ID: EAST POND - PH 13.0  
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	14000		13400		mg/L		2	10

Method: SM 2580B - Reduction-Oxidation (REDOX) Potential

Lab Sample ID: LCS 180-236472/1  
Matrix: Solid  
Analysis Batch: 236472

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	467		millivolts		98	90 - 110

Lab Sample ID: LCS 180-236472/13  
Matrix: Solid  
Analysis Batch: 236472

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	465		millivolts		98	90 - 110

Lab Sample ID: LCS 180-236472/36  
Matrix: Solid  
Analysis Batch: 236472

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	463		millivolts		97	90 - 110

Lab Sample ID: LCS 180-237422/1  
Matrix: Solid  
Analysis Batch: 237422

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	466		millivolts		98	90 - 110

Lab Sample ID: LCS 180-237751/1  
Matrix: Solid  
Analysis Batch: 237751

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	467		millivolts		98	90 - 110

Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**HPLC/IC**

**Leach Batch: 236165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-2	EAST POND - PH 13.0	Leach	Solid	1313	
180-74229-9	EAST POND - PH 4.0	Leach	Solid	1313	
180-74229-11	EAST POND - NATURAL	Leach	Solid	1313	
180-74229-13	WEST POND - PH 13.0	Leach	Solid	1313	
180-74229-20	WEST POND - PH 4.0	Leach	Solid	1313	
180-74229-22	WEST POND - NATURAL	Leach	Solid	1313	

**Analysis Batch: 236373**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-11	EAST POND - NATURAL	Leach	Solid	EPA 9056A	236165
180-74229-22	WEST POND - NATURAL	Leach	Solid	EPA 9056A	236165
MB 180-236373/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236373/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Analysis Batch: 236553**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-2	EAST POND - PH 13.0	Leach	Solid	EPA 9056A	236165
180-74229-9	EAST POND - PH 4.0	Leach	Solid	EPA 9056A	236165
180-74229-13	WEST POND - PH 13.0	Leach	Solid	EPA 9056A	236165
180-74229-20	WEST POND - PH 4.0	Leach	Solid	EPA 9056A	236165
MB 180-236553/16	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236553/15	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Leach Batch: 236722**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-5	EAST POND - PH 9.0	Leach	Solid	1313	
180-74229-6	EAST POND - PH 8.0	Leach	Solid	1313	
180-74229-7	EAST POND - PH 7.0	Leach	Solid	1313	
180-74229-8	EAST POND - PH 5.5	Leach	Solid	1313	
180-74229-16	WEST POND - PH 9.0	Leach	Solid	1313	
180-74229-17	WEST POND - PH 8.0	Leach	Solid	1313	
180-74229-18	WEST POND - PH 7.0	Leach	Solid	1313	
180-74229-19	WEST POND - PH 5.5	Leach	Solid	1313	

**Analysis Batch: 236732**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-5	EAST POND - PH 9.0	Leach	Solid	EPA 9056A	236722
180-74229-6	EAST POND - PH 8.0	Leach	Solid	EPA 9056A	236722
MB 180-236732/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236732/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Analysis Batch: 236891**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-5	EAST POND - PH 9.0	Leach	Solid	EPA 9056A	236722
180-74229-6	EAST POND - PH 8.0	Leach	Solid	EPA 9056A	236722
MB 180-236891/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236891/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Analysis Batch: 236997**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-7	EAST POND - PH 7.0	Leach	Solid	EPA 9056A	236722



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**HPLC/IC (Continued)**

**Analysis Batch: 236997 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-8	EAST POND - PH 5.5	Leach	Solid	EPA 9056A	236722
180-74229-16	WEST POND - PH 9.0	Leach	Solid	EPA 9056A	236722
180-74229-17	WEST POND - PH 8.0	Leach	Solid	EPA 9056A	236722
180-74229-18	WEST POND - PH 7.0	Leach	Solid	EPA 9056A	236722
180-74229-19	WEST POND - PH 5.5	Leach	Solid	EPA 9056A	236722
MB 180-236997/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236997/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Analysis Batch: 237100**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-7	EAST POND - PH 7.0	Leach	Solid	EPA 9056A	236722
180-74229-8	EAST POND - PH 5.5	Leach	Solid	EPA 9056A	236722
180-74229-16	WEST POND - PH 9.0	Leach	Solid	EPA 9056A	236722
180-74229-17	WEST POND - PH 8.0	Leach	Solid	EPA 9056A	236722
180-74229-18	WEST POND - PH 7.0	Leach	Solid	EPA 9056A	236722
180-74229-19	WEST POND - PH 5.5	Leach	Solid	EPA 9056A	236722
MB 180-237100/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-237100/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Leach Batch: 237165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-3	EAST POND - PH 12.0	Leach	Solid	1313	
180-74229-10	EAST POND - PH 2.0	Leach	Solid	1313	
180-74229-14	WEST POND - PH 12.0	Leach	Solid	1313	
180-74229-21	WEST POND - PH 2.0	Leach	Solid	1313	

**Analysis Batch: 237859**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-3	EAST POND - PH 12.0	Leach	Solid	EPA 9056A	237165
180-74229-10	EAST POND - PH 2.0	Leach	Solid	EPA 9056A	237165
180-74229-14	WEST POND - PH 12.0	Leach	Solid	EPA 9056A	237165
180-74229-21	WEST POND - PH 2.0	Leach	Solid	EPA 9056A	237165
MB 180-237859/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-237859/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Metals**

**Leach Batch: 236165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-2	EAST POND - PH 13.0	Leach	Solid	1313	
180-74229-9	EAST POND - PH 4.0	Leach	Solid	1313	
180-74229-11	EAST POND - NATURAL	Leach	Solid	1313	
180-74229-13	WEST POND - PH 13.0	Leach	Solid	1313	
180-74229-20	WEST POND - PH 4.0	Leach	Solid	1313	
180-74229-22	WEST POND - NATURAL	Leach	Solid	1313	

**Prep Batch: 236437**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-11	EAST POND - NATURAL	Leach	Solid	3010A	236165
180-74229-22	WEST POND - NATURAL	Leach	Solid	3010A	236165





Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**Metals (Continued)**

**Prep Batch: 236437 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-236437/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-236437/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-236437/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Prep Batch: 236440**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-2	EAST POND - PH 13.0	Leach	Solid	3010A	236165
180-74229-9	EAST POND - PH 4.0	Leach	Solid	3010A	236165
180-74229-13	WEST POND - PH 13.0	Leach	Solid	3010A	236165
180-74229-20	WEST POND - PH 4.0	Leach	Solid	3010A	236165
MB 180-236440/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-236440/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-236440/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Leach Batch: 236722**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-5	EAST POND - PH 9.0	Leach	Solid	1313	
180-74229-6	EAST POND - PH 8.0	Leach	Solid	1313	
180-74229-7	EAST POND - PH 7.0	Leach	Solid	1313	
180-74229-8	EAST POND - PH 5.5	Leach	Solid	1313	
180-74229-16	WEST POND - PH 9.0	Leach	Solid	1313	
180-74229-17	WEST POND - PH 8.0	Leach	Solid	1313	
180-74229-18	WEST POND - PH 7.0	Leach	Solid	1313	
180-74229-19	WEST POND - PH 5.5	Leach	Solid	1313	

**Analysis Batch: 236729**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-2	EAST POND - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74229-11	EAST POND - NATURAL	Leach	Solid	EPA 6020A	236437
180-74229-13	WEST POND - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74229-22	WEST POND - NATURAL	Leach	Solid	EPA 6020A	236437
MB 180-236437/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236437
MB 180-236440/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236440
LCS 180-236437/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236437
LCS 180-236440/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236440
LCSD 180-236437/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236437
LCSD 180-236440/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236440

**Prep Batch: 236807**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-5	EAST POND - PH 9.0	Leach	Solid	3010A	236722
180-74229-6	EAST POND - PH 8.0	Leach	Solid	3010A	236722
180-74229-7	EAST POND - PH 7.0	Leach	Solid	3010A	236722
180-74229-8	EAST POND - PH 5.5	Leach	Solid	3010A	236722
180-74229-16	WEST POND - PH 9.0	Leach	Solid	3010A	236722
180-74229-17	WEST POND - PH 8.0	Leach	Solid	3010A	236722
180-74229-18	WEST POND - PH 7.0	Leach	Solid	3010A	236722
180-74229-19	WEST POND - PH 5.5	Leach	Solid	3010A	236722
MB 180-236807/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-236807/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-236807/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**Analysis Batch: 236828**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-2	EAST POND - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74229-9	EAST POND - PH 4.0	Leach	Solid	EPA 6020A	236440
180-74229-11	EAST POND - NATURAL	Leach	Solid	EPA 6020A	236437
180-74229-13	WEST POND - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74229-20	WEST POND - PH 4.0	Leach	Solid	EPA 6020A	236440
180-74229-22	WEST POND - NATURAL	Leach	Solid	EPA 6020A	236437
MB 180-236437/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236437
MB 180-236440/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236440
LCS 180-236437/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236437
LCS 180-236440/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236440
LCSD 180-236437/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236437
LCSD 180-236440/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236440

**Leach Batch: 237165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-3	EAST POND - PH 12.0	Leach	Solid	1313	
180-74229-10	EAST POND - PH 2.0	Leach	Solid	1313	
180-74229-14	WEST POND - PH 12.0	Leach	Solid	1313	
180-74229-21	WEST POND - PH 2.0	Leach	Solid	1313	

**Analysis Batch: 237198**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-5	EAST POND - PH 9.0	Leach	Solid	EPA 6020A	236807
180-74229-6	EAST POND - PH 8.0	Leach	Solid	EPA 6020A	236807
180-74229-16	WEST POND - PH 9.0	Leach	Solid	EPA 6020A	236807
180-74229-17	WEST POND - PH 8.0	Leach	Solid	EPA 6020A	236807
MB 180-236807/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236807
LCS 180-236807/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236807
LCSD 180-236807/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236807

**Prep Batch: 237311**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-3	EAST POND - PH 12.0	Leach	Solid	3010A	237165
180-74229-10	EAST POND - PH 2.0	Leach	Solid	3010A	237165
180-74229-14	WEST POND - PH 12.0	Leach	Solid	3010A	237165
180-74229-21	WEST POND - PH 2.0	Leach	Solid	3010A	237165
MB 180-237311/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-237311/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-237311/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Analysis Batch: 237323**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-7	EAST POND - PH 7.0	Leach	Solid	EPA 6020A	236807
180-74229-8	EAST POND - PH 5.5	Leach	Solid	EPA 6020A	236807
180-74229-18	WEST POND - PH 7.0	Leach	Solid	EPA 6020A	236807
180-74229-19	WEST POND - PH 5.5	Leach	Solid	EPA 6020A	236807

**Analysis Batch: 237590**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-3	EAST POND - PH 12.0	Leach	Solid	EPA 6020A	237311
180-74229-14	WEST POND - PH 12.0	Leach	Solid	EPA 6020A	237311
MB 180-237311/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237311
LCS 180-237311/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237311



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**Metals (Continued)**

**Analysis Batch: 237590 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 180-237311/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237311

**Analysis Batch: 237713**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-3	EAST POND - PH 12.0	Leach	Solid	EPA 6020A	237311
180-74229-10	EAST POND - PH 2.0	Leach	Solid	EPA 6020A	237311
180-74229-14	WEST POND - PH 12.0	Leach	Solid	EPA 6020A	237311
180-74229-21	WEST POND - PH 2.0	Leach	Solid	EPA 6020A	237311
MB 180-237311/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237311
LCS 180-237311/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237311
LCSD 180-237311/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237311

**General Chemistry**

**Analysis Batch: 234978**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-1	EAST POND - PRETEST	Total/NA	Solid	2540G	
180-74229-12	WEST POND - PRETEST	Total/NA	Solid	2540G	
180-74229-1 DU	EAST POND - PRETEST	Total/NA	Solid	2540G	

**Analysis Batch: 235859**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-23	EAST POND - AIR DRIED	Total/NA	Solid	2540G	
180-74229-24	WEST POND - AIR DRIED	Total/NA	Solid	2540G	

**Leach Batch: 236165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-2	EAST POND - PH 13.0	Leach	Solid	1313	
180-74229-9	EAST POND - PH 4.0	Leach	Solid	1313	
180-74229-11	EAST POND - NATURAL	Leach	Solid	1313	
180-74229-13	WEST POND - PH 13.0	Leach	Solid	1313	
180-74229-20	WEST POND - PH 4.0	Leach	Solid	1313	
180-74229-22	WEST POND - NATURAL	Leach	Solid	1313	
180-74229-2 DU	EAST POND - PH 13.0	Leach	Solid	1313	
180-74229-13 DU	WEST POND - PH 13.0	Leach	Solid	1313	

**Analysis Batch: 236465**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-2	EAST POND - PH 13.0	Leach	Solid	EPA 9040C	236165
180-74229-9	EAST POND - PH 4.0	Leach	Solid	EPA 9040C	236165
180-74229-11	EAST POND - NATURAL	Leach	Solid	EPA 9040C	236165
180-74229-13	WEST POND - PH 13.0	Leach	Solid	EPA 9040C	236165
180-74229-20	WEST POND - PH 4.0	Leach	Solid	EPA 9040C	236165
180-74229-22	WEST POND - NATURAL	Leach	Solid	EPA 9040C	236165
LCS 180-236465/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	
LCS 180-236465/24	Lab Control Sample	Total/NA	Solid	EPA 9040C	
LCS 180-236465/47	Lab Control Sample	Total/NA	Solid	EPA 9040C	

Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**General Chemistry (Continued)**

**Analysis Batch: 236472**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-2	EAST POND - PH 13.0	Leach	Solid	SM 2580B	236165
180-74229-9	EAST POND - PH 4.0	Leach	Solid	SM 2580B	236165
180-74229-11	EAST POND - NATURAL	Leach	Solid	SM 2580B	236165
180-74229-13	WEST POND - PH 13.0	Leach	Solid	SM 2580B	236165
180-74229-20	WEST POND - PH 4.0	Leach	Solid	SM 2580B	236165
180-74229-22	WEST POND - NATURAL	Leach	Solid	SM 2580B	236165
LCS 180-236472/1	Lab Control Sample	Total/NA	Solid	SM 2580B	
LCS 180-236472/13	Lab Control Sample	Total/NA	Solid	SM 2580B	
LCS 180-236472/36	Lab Control Sample	Total/NA	Solid	SM 2580B	

**Analysis Batch: 236475**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-2	EAST POND - PH 13.0	Leach	Solid	SM 2510B	236165
180-74229-9	EAST POND - PH 4.0	Leach	Solid	SM 2510B	236165
180-74229-11	EAST POND - NATURAL	Leach	Solid	SM 2510B	236165
180-74229-13	WEST POND - PH 13.0	Leach	Solid	SM 2510B	236165
180-74229-20	WEST POND - PH 4.0	Leach	Solid	SM 2510B	236165
180-74229-22	WEST POND - NATURAL	Leach	Solid	SM 2510B	236165
MB 180-236475/17	Method Blank	Total/NA	Solid	SM 2510B	
MB 180-236475/2	Method Blank	Total/NA	Solid	SM 2510B	
MB 180-236475/43	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-236475/1	Lab Control Sample	Total/NA	Solid	SM 2510B	
LCS 180-236475/16	Lab Control Sample	Total/NA	Solid	SM 2510B	
LCS 180-236475/42	Lab Control Sample	Total/NA	Solid	SM 2510B	

**Leach Batch: 236722**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-5	EAST POND - PH 9.0	Leach	Solid	1313	
180-74229-6	EAST POND - PH 8.0	Leach	Solid	1313	
180-74229-7	EAST POND - PH 7.0	Leach	Solid	1313	
180-74229-8	EAST POND - PH 5.5	Leach	Solid	1313	
180-74229-16	WEST POND - PH 9.0	Leach	Solid	1313	
180-74229-17	WEST POND - PH 8.0	Leach	Solid	1313	
180-74229-18	WEST POND - PH 7.0	Leach	Solid	1313	
180-74229-19	WEST POND - PH 5.5	Leach	Solid	1313	
180-74229-19 DU	WEST POND - PH 5.5	Leach	Solid	1313	

**Analysis Batch: 236785**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-22	WEST POND - NATURAL	Leach	Solid	SM 2540C	236165
MB 180-236785/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-236785/1	Lab Control Sample	Total/NA	Solid	SM 2540C	

**Analysis Batch: 236825**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-9	EAST POND - PH 4.0	Leach	Solid	SM 2540C	236165
180-74229-11	EAST POND - NATURAL	Leach	Solid	SM 2540C	236165
180-74229-13	WEST POND - PH 13.0	Leach	Solid	SM 2540C	236165
180-74229-20	WEST POND - PH 4.0	Leach	Solid	SM 2540C	236165
MB 180-236825/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-236825/1	Lab Control Sample	Total/NA	Solid	SM 2540C	



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**General Chemistry (Continued)**

**Analysis Batch: 236825 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-13 DU	WEST POND - PH 13.0	Leach	Solid	SM 2540C	236165

**Analysis Batch: 237077**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-5	EAST POND - PH 9.0	Leach	Solid	SM 2540C	236722
180-74229-6	EAST POND - PH 8.0	Leach	Solid	SM 2540C	236722
180-74229-7	EAST POND - PH 7.0	Leach	Solid	SM 2540C	236722
180-74229-8	EAST POND - PH 5.5	Leach	Solid	SM 2540C	236722
180-74229-16	WEST POND - PH 9.0	Leach	Solid	SM 2540C	236722
180-74229-17	WEST POND - PH 8.0	Leach	Solid	SM 2540C	236722
180-74229-18	WEST POND - PH 7.0	Leach	Solid	SM 2540C	236722
180-74229-19	WEST POND - PH 5.5	Leach	Solid	SM 2540C	236722
MB 180-237077/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-237077/1	Lab Control Sample	Total/NA	Solid	SM 2540C	
180-74229-19 DU	WEST POND - PH 5.5	Leach	Solid	SM 2540C	236722

**Analysis Batch: 237078**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-2	EAST POND - PH 13.0	Leach	Solid	SM 2540C	236165
MB 180-237078/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-237078/1	Lab Control Sample	Total/NA	Solid	SM 2540C	
180-74229-2 DU	EAST POND - PH 13.0	Leach	Solid	SM 2540C	236165

**Leach Batch: 237107**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-1	EAST POND - PRETEST	Leach	Solid	1313	
180-74229-1	EAST POND - PRETEST	Leach	Solid	1313	
180-74229-12	WEST POND - PRETEST	Leach	Solid	1313	
180-74229-12	WEST POND - PRETEST	Leach	Solid	1313	

**Leach Batch: 237165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-3	EAST POND - PH 12.0	Leach	Solid	1313	
180-74229-10	EAST POND - PH 2.0	Leach	Solid	1313	
180-74229-14	WEST POND - PH 12.0	Leach	Solid	1313	
180-74229-21	WEST POND - PH 2.0	Leach	Solid	1313	

**Analysis Batch: 237329**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-3	EAST POND - PH 12.0	Leach	Solid	SM 2540C	237165
180-74229-10	EAST POND - PH 2.0	Leach	Solid	SM 2540C	237165
180-74229-14	WEST POND - PH 12.0	Leach	Solid	SM 2540C	237165
180-74229-21	WEST POND - PH 2.0	Leach	Solid	SM 2540C	237165
MB 180-237329/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-237329/1	Lab Control Sample	Total/NA	Solid	SM 2540C	

**Analysis Batch: 237380**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-1	EAST POND - PRETEST	Leach	Solid	EPA 9040C	237107
180-74229-1	EAST POND - PRETEST	Leach	Solid	EPA 9040C	237107
180-74229-5	EAST POND - PH 9.0	Leach	Solid	EPA 9040C	236722



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**General Chemistry (Continued)**

**Analysis Batch: 237380 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-6	EAST POND - PH 8.0	Leach	Solid	EPA 9040C	236722
180-74229-7	EAST POND - PH 7.0	Leach	Solid	EPA 9040C	236722
180-74229-8	EAST POND - PH 5.5	Leach	Solid	EPA 9040C	236722
180-74229-12	WEST POND - PRETEST	Leach	Solid	EPA 9040C	237107
180-74229-12	WEST POND - PRETEST	Leach	Solid	EPA 9040C	237107
180-74229-16	WEST POND - PH 9.0	Leach	Solid	EPA 9040C	236722
180-74229-17	WEST POND - PH 8.0	Leach	Solid	EPA 9040C	236722
180-74229-18	WEST POND - PH 7.0	Leach	Solid	EPA 9040C	236722
180-74229-19	WEST POND - PH 5.5	Leach	Solid	EPA 9040C	236722
LCS 180-237380/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	

**Analysis Batch: 237422**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-5	EAST POND - PH 9.0	Leach	Solid	SM 2580B	236722
180-74229-6	EAST POND - PH 8.0	Leach	Solid	SM 2580B	236722
180-74229-7	EAST POND - PH 7.0	Leach	Solid	SM 2580B	236722
180-74229-8	EAST POND - PH 5.5	Leach	Solid	SM 2580B	236722
180-74229-16	WEST POND - PH 9.0	Leach	Solid	SM 2580B	236722
180-74229-17	WEST POND - PH 8.0	Leach	Solid	SM 2580B	236722
180-74229-18	WEST POND - PH 7.0	Leach	Solid	SM 2580B	236722
180-74229-19	WEST POND - PH 5.5	Leach	Solid	SM 2580B	236722
LCS 180-237422/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

**Analysis Batch: 237425**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-5	EAST POND - PH 9.0	Leach	Solid	SM 2510B	236722
180-74229-6	EAST POND - PH 8.0	Leach	Solid	SM 2510B	236722
180-74229-7	EAST POND - PH 7.0	Leach	Solid	SM 2510B	236722
180-74229-8	EAST POND - PH 5.5	Leach	Solid	SM 2510B	236722
180-74229-16	WEST POND - PH 9.0	Leach	Solid	SM 2510B	236722
180-74229-17	WEST POND - PH 8.0	Leach	Solid	SM 2510B	236722
180-74229-18	WEST POND - PH 7.0	Leach	Solid	SM 2510B	236722
180-74229-19	WEST POND - PH 5.5	Leach	Solid	SM 2510B	236722
MB 180-237425/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-237425/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

**Analysis Batch: 237737**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-3	EAST POND - PH 12.0	Leach	Solid	EPA 9040C	237165
180-74229-10	EAST POND - PH 2.0	Leach	Solid	EPA 9040C	237165
180-74229-14	WEST POND - PH 12.0	Leach	Solid	EPA 9040C	237165
180-74229-21	WEST POND - PH 2.0	Leach	Solid	EPA 9040C	237165
LCS 180-237737/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	

**Analysis Batch: 237751**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-3	EAST POND - PH 12.0	Leach	Solid	SM 2580B	237165
180-74229-10	EAST POND - PH 2.0	Leach	Solid	SM 2580B	237165
180-74229-14	WEST POND - PH 12.0	Leach	Solid	SM 2580B	237165
180-74229-21	WEST POND - PH 2.0	Leach	Solid	SM 2580B	237165
LCS 180-237751/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**Analysis Batch: 237752**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74229-3	EAST POND - PH 12.0	Leach	Solid	SM 2510B	237165
180-74229-10	EAST POND - PH 2.0	Leach	Solid	SM 2510B	237165
180-74229-14	WEST POND - PH 12.0	Leach	Solid	SM 2510B	237165
180-74229-21	WEST POND - PH 2.0	Leach	Solid	SM 2510B	237165
MB 180-237752/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-237752/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

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**Chain of Custody Record**

Report To: \_\_\_\_\_ (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To: \_\_\_\_\_ (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO# / Reference# \_\_\_\_\_

Client: **KPRG & Assoc.** Client Project # **23517**  
 Project Name: **NRG**  
 Project Location/State: **IL**  
 Sampler: **LR/MW**  
 Lab Project #: \_\_\_\_\_  
 Lab PM: \_\_\_\_\_

Lab ID	MS/MSD	Sample ID	Sampling		Preservative	# of Containers	Matrix	Comments
			Date	Time				
		East Pond	1/17/18	1018	2 SE	2	SEAF	
		West Pond	1/17/18	1037	2 SE	2	SEAF	



- Preservative Key
- HCL, Cool to 4°
  - H2SO4, Cool to 4°
  - HNO3, Cool to 4°
  - NaOH, Cool to 4°
  - NaOH/Zn, Cool to 4°
  - NaHSO4
  - Cool to 4°
  - None
  - Other

Turnaround Time Required (Business Days)  
 1 Day 2 Days 5 Days 7 Days 10 Days 15 Days Other \_\_\_\_\_  
 Requested Due Date \_\_\_\_\_

Sample Disposal  
 Return to Client  
 Disposal by Lab \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: *[Signature]* Company: **KRRS** Date: **1/17/18** Time: **1325**  
 Relinquished By: *[Signature]* Company: **JA** Date: **1-18-18** Time: **1325**  
 Relinquished By: *[Signature]* Company: **Wiberville** Date: **1-18-18** Time: **12:20**

Lab Comments:  
**SEAF Method 1313 CCR Appendix 3**  
**→ B, Ca, Cl, FL, PH, SO4, TDS**

Matrix Key  
 WW - Wastewater  
 W - Water  
 S - Soil  
 SL - Sludge  
 MS - Miscellaneous  
 OL - Oil  
 A - Air

SE - Sediment  
 SO - Soil  
 L - Leachate  
 WI - Wipe  
 DW - Drinking Water  
 O - Other





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ORIGIN ID:RRLA  
 SHIPPING  
 TESTAMERICA  
 4125 N 24TH ST

BROOKFIELD, WI 53005  
 UNITED STATES US

SHIP DATE:  
 ACTWGT:  
 CAD: 5

RT 97  
 FZ B02  
 1  
 10:30  
 5482  
 01.18  
 A

TO **SAMPLE RECEIPT**  
**TESTAMERICA**  
**301 ALPHA DR.**

**PITTSBURGH PA 15238**

(412) 963-7058

REF:

INU:

DEPT:



**FedEx**  
Express



**- 18 JAN 10:30A**

**PRIORITY OVERNIGHT**

TRK# 7125 4937 5482  
 0201

**NA AGCA**

38  
IT

uncorrected temp  
 thermometer ID

0.5 °C  
 4

Initials

SD

NI-SR-001 effective 7/26/13



**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 180-74229-1

**Login Number: 74229**

**List Source: TestAmerica Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-139827-1

Client Project/Site: Waukegan CCR

For:

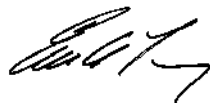
KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 2B

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

1/30/2018 1:18:47 PM

Eric Lang, Manager of Project Management

(708)534-5200

[eric.lang@testamericainc.com](mailto:eric.lang@testamericainc.com)



### LINKS

Review your project results through

TotalAccess

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Job ID: 500-139827-1**

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative  
500-139827-1**

**Comments**

No additional comments.

**Receipt**

The sample was received on 1/18/2018 9:55 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

**Metals**

Method(s) 6020A: The continuing calibration verification (CCV) at line 37 in AD batch 417738 was outside the control limits for Boron. This CCV bracketed the method blank (MB) and laboratory control sample (LCS) only. Both the MB and LCS were within the method control limits. The associated samples were bracketed by CCV that were within control limits. Therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Method Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
9040C	pH	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater",  
 SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



# Sample Summary

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

Page 180 of 193  
TestAmerica Job ID: 500-139827-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-139827-1	West Pond	Water	01/17/18 10:31	01/18/18 10:41

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**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

Page 181 of 193  
 TestAmerica Job ID: 500-139827-1

**Client Sample ID: West Pond**

**Lab Sample ID: 500-139827-1**

**Date Collected: 01/17/18 10:31**

**Matrix: Water**

**Date Received: 01/18/18 10:41**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.87		0.050		mg/L		01/18/18 15:10	01/23/18 14:39	1
Calcium	70		0.20		mg/L		01/18/18 15:10	01/23/18 14:39	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.8	HF	0.2		SU			01/18/18 16:28	1
Total Dissolved Solids	430		10		mg/L			01/19/18 04:41	1
Chloride	52		2.0		mg/L			01/19/18 00:03	1
Fluoride	0.21		0.10		mg/L			01/25/18 13:00	1
Sulfate	90		25		mg/L			01/19/18 07:57	5





Definitions/Glossary

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Qualifiers**

**Metals**

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

**General Chemistry**

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

**Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

**Metals**

**Prep Batch: 417296**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139827-1	West Pond	Total Recoverable	Water	3005A	
MB 500-417296/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-417296/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

**Analysis Batch: 417738**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139827-1	West Pond	Total Recoverable	Water	6020A	417296
MB 500-417296/1-A	Method Blank	Total Recoverable	Water	6020A	417296
LCS 500-417296/2-A	Lab Control Sample	Total Recoverable	Water	6020A	417296

**General Chemistry**

**Analysis Batch: 417329**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139827-1	West Pond	Total/NA	Water	SM 2540C	
MB 500-417329/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-417329/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-139827-1 DU	West Pond	Total/NA	Water	SM 2540C	

**Analysis Batch: 417361**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139827-1	West Pond	Total/NA	Water	SM 4500 SO4 E	
MB 500-417361/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-417361/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

**Analysis Batch: 417368**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139827-1	West Pond	Total/NA	Water	9040C	
500-139827-1 DU	West Pond	Total/NA	Water	9040C	

**Analysis Batch: 417451**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139827-1	West Pond	Total/NA	Water	SM 4500 Cl- E	
MB 500-417451/4	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-417451/5	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

**Analysis Batch: 418006**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139827-1	West Pond	Total/NA	Water	SM 4500 F C	
MB 500-418006/31	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-418006/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-139827-1 MS	West Pond	Total/NA	Water	SM 4500 F C	
500-139827-1 MSD	West Pond	Total/NA	Water	SM 4500 F C	



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

TestAmerica Job ID: 500-139827-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-417296/1-A  
Matrix: Water  
Analysis Batch: 417738

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 417296

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050	^	0.050		mg/L		01/18/18 15:10	01/23/18 12:40	1
Calcium	<0.20		0.20		mg/L		01/18/18 15:10	01/23/18 12:40	1

Lab Sample ID: LCS 500-417296/2-A  
Matrix: Water  
Analysis Batch: 417738

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 417296

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.927	^	mg/L		93	80 - 120
Calcium	10.0	10.4		mg/L		104	80 - 120

Method: 9040C - pH

Lab Sample ID: 500-139827-1 DU  
Matrix: Water  
Analysis Batch: 417368

Client Sample ID: West Pond  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.8	HF	8.8		SU		0.2	

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-417329/1  
Matrix: Water  
Analysis Batch: 417329

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			01/19/18 04:03	1

Lab Sample ID: LCS 500-417329/2  
Matrix: Water  
Analysis Batch: 417329

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	288		mg/L		115	80 - 120

Lab Sample ID: 500-139827-1 DU  
Matrix: Water  
Analysis Batch: 417329

Client Sample ID: West Pond  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	430		458		mg/L		5	5

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

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TestAmerica Job ID: 500-139827-1

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-417451/4  
Matrix: Water  
Analysis Batch: 417451

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			01/18/18 23:43	1

Lab Sample ID: LCS 500-417451/5  
Matrix: Water  
Analysis Batch: 417451

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.7		mg/L		99	85 - 115

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-418006/31  
Matrix: Water  
Analysis Batch: 418006

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			01/25/18 12:53	1

Lab Sample ID: LCS 500-418006/32  
Matrix: Water  
Analysis Batch: 418006

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.1		mg/L		101	80 - 120

Lab Sample ID: 500-139827-1 MS  
Matrix: Water  
Analysis Batch: 418006

Client Sample ID: West Pond  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.21		5.00	5.00		mg/L		96	75 - 125

Lab Sample ID: 500-139827-1 MSD  
Matrix: Water  
Analysis Batch: 418006

Client Sample ID: West Pond  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.21		5.00	5.03		mg/L		96	75 - 125	1	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-417361/3  
Matrix: Water  
Analysis Batch: 417361

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			01/19/18 07:43	1

**QC Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Waukegan CCR

TestAmerica Job ID: 500-139827-1

**Method: SM 4500 SO4 E - Sulfate, Total (Continued)**

Lab Sample ID: LCS 500-417361/4  
 Matrix: Water  
 Analysis Batch: 417361

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.5		mg/L		97	80 - 120

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
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- 11
- 12



**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-139827-1

**Login Number: 139827**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Sanchez, Ariel M**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Client: KPRG and Associates, Inc.  
Project/Site: Waukegan CCR

**Laboratory: TestAmerica Chicago**

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-18

- 1
- 2
- 3
- 4
- 5
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- 10
- 11
- 12



**ATTACHMENT 3**  
**2017 Quarterly Monitoring Data from Non-CCR Well MW-05**

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

MW-05		Date		2/22/2017		5/15/2017		9/11/2017		11/30/2017	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.040	0.0010	0.0053	0.0010	0.076	0.0010	0.034	0.0010	0.034
Barium	2.0	0.0025	0.061	0.0025	0.036	0.0025	0.046	0.0025	0.066	0.0025	0.066
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	5.0	42	0.50	7.7	5.0	44	5.0	47	5.0	47
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	82	2.0	73	2.0	71 F1	10	81	10	81
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide, Total	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.21	0.10	0.15	0.10	0.25	0.10	0.27	0.10	0.27
Iron	5.0	0.10	15	0.10	1.9	0.10	35	0.10	19	0.10	19
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.54	0.0025	0.12	0.0025	0.62	0.0025	0.63	0.0025	0.63
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	0.0038	0.0020	0.0033	0.0020	ND	0.0020	ND
Nitrogen, Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen, Nitrate Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen, Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Radium 226	20	0.110	0.331	0.110	ND	0.0778	0.170	0.0771	0.284	0.0771	0.284
Radium 228	20	0.443	0.805	0.531	0.703	0.474	ND	0.332	1.29	0.332	1.29
Selenium	0.05	0.0025	ND	0.0025	0.0041	0.0025	0.0071	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	250	700	500	1100	250	750	100	790	100	790
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1700	10	2600	10	2000	10	1900	10	1900
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	0.020	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	6.5 - 9.0	NA	7.46	NA	7.78	NA	6.89	NA	7.02	NA	7.02
Temperature	NA	NA	14.8	NA	13.9	NA	14.6	NA	11.2	NA	11.2
Conductivity	NA	NA	1.63	NA	2.20	NA	1.79	NA	1.48	NA	1.48
Dissolved Oxygen	NA	NA	1.46	NA	5.90	NA	0.58	NA	1.44	NA	1.44
ORP	NA	NA	-29.1	NA	-20.7	NA	-68.1	NA	58.5	NA	58.5

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater  
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit  
\* - LCS or LCSD is outside acceptable limits.  
NA - Not Applicable  
ND - Not Detected

Temperature °C degrees Celsius  
Conductivity ms/cm millisiemens/centimeters  
Dissolved Oxygen mg/L milligrams/liter  
Oxygen Reduction Potential (ORP) mV millivolts

**ATTACHMENT 4**  
**Analytical Model Calculations**

**SITE NAME:** Waukegan Station  
**ADDRESS:** 401 E. Greenwood Ave.  
 Waukegan, IL 60087  
**LPC NUMBER:**  
**LOCATION:** Ash Pond Well

**RISK-BASED CORRECTIVE ACTION (RBCA) GROUNDWATER COMPONENT OF THE GROUNDWATER  
 INGESTION EXPOSURE ROUTE TIER 2 EVALUATION**

**CONTAMINANT:**

		Boron-800	Boron-1000	Boron-1200	Sulfate-800	Sulfate-1000	Sulfate-1200
	X (cm)	dist along centerline of plume in gw flow dir to N property boundary					
	ALPHA <sub>x</sub> (cm)	24384	30480	36576	24384	30480	36576
R16	ALPHA <sub>x</sub> (cm)	2438.4	3048	3657.6	2438.4	3048	3657.6
R17	ALPHA <sub>y</sub> (cm)	812.8	1016	1219.2	812.8	1016	1219.2
R18	ALPHA <sub>z</sub> (cm)	121.92	152.4	182.88	121.92	152.4	182.88
	LAMBDA (1/d)	first order degradation constant*					
	U (cm/d)	0	0	0	0	0	0
R19	U (cm/d)	72.955	72.955	72.955	72.955	72.955	72.955
	K (cm/d)	hydraulic conductivity (site specific)					
	i (cm/cm)	10639.22688	10639.227	10639.227	10639.227	10639.2269	10639.2269
	THETA <sub>t</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	hydraulic gradient (site specific), 11/27/17					
	THETA <sub>as</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024
	THETA <sub>ws</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	total soil porosity (site specific)					
	S <sub>w</sub> (cm)	0.35	0.35	0.35	0.35	0.35	0.35
	S <sub>d</sub> (cm)	0.14	0.14	0.14	0.14	0.14	0.14
	BETA <sub>y</sub>	0.18	0.18	0.18	0.18	0.18	0.18
	BETA <sub>z</sub>	source width perpendicular to gw flow dir in horiz plane-					
	C <sub>x</sub> /C <sub>source</sub>	24384	24384	24384	24384	24384	24384
	RHO <sub>s</sub> (g/cm <sup>3</sup> )	source width perpendicular to gw flow dir in vertical plane (default)					
	k <sub>s</sub> (cm <sup>3</sup> /g)	200	200	200	200	200	200
	K <sub>oc</sub> (cm <sup>3</sup> /g)	1.369	1.095	0.913	1.369	1.095	0.913
	f <sub>oc</sub> (g/g)	0.058	0.046	0.039	0.058	0.046	0.039
	H'	steady-state attenuation along centerline of dissolve plume					
R15	U <sub>gw</sub> (cm/yr)	6.19E-02	4.60E-02	3.50E-02	6.19E-02	4.60E-02	3.50E-02
	DELTA <sub>gw</sub> (cm)	1.5	1.5	1.5	1.5	1.5	1.5
	W (cm)	soil bulk density (default)					
R20	I (cm/yr)	1.1	1.1	1.1	0	0	0
	LF <sub>sw</sub> (kg <sub>soil</sub> /L <sub>water</sub> )	soil water sorption coefficient					
	C <sub>source</sub> (mg/L)	0	0	0	0	0	0
	GW <sub>comp</sub> (mg/L)	organic carbon partition coefficient					
	GW <sub>comp</sub> (mg/L)	organic carbon content of soil (subsurface default)					
	C <sub>s</sub> (mg/kg)	0.002	0.002	0.002	0.002	0.002	0.002
	X (feet)	0	0	0	0	0	0
R24	U <sub>gw</sub> (cm/yr)	9319.96	9319.96	9319.96	9319.96	9319.96	9319.96
	DELTA <sub>gw</sub> (cm)	200	200	200	200	200	200
	W (cm)	width of source area parallel to dir gw-					
	I (cm/yr)	15240	15240	15240	15240	15240	15240
	LF <sub>sw</sub> (kg <sub>soil</sub> /L <sub>water</sub> )	30	30	30	30	30	30
R14	LF <sub>sw</sub> (kg <sub>soil</sub> /L <sub>water</sub> )	0.1614489	0.1614489	0.1614489	1.6413977	1.6413977	1.6413977
	C <sub>source</sub> (mg/L)	leaching factor					
	GW <sub>comp</sub> (mg/L)	35	35	35	835	835	835
	GW <sub>comp</sub> (mg/L)	greatest potential concentration of contaminant at source					
	GW <sub>comp</sub> (mg/L)	2	2	2	2	2	2
	GW <sub>comp</sub> (mg/L)	gw objective at compliance point (Class I)					
	GW <sub>comp</sub> (mg/L)	gw objective at compliance point (Class II)					
R26	C <sub>x</sub> (mg/L)	2.17E+00	1.61E+00	1.23E+00	5.17E+01	3.84E+01	2.92E+01
	C <sub>s</sub> (mg/kg)	dissolved concentration along centerline at property boundary					
	X (feet)	800	1000	1200	800	1000	1200
	X (feet)	Distance to POC					

# Exhibit C



ENVIRONMENTAL CONSULTATION & REMEDIATION

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**KPRG and Associates, Inc.**

**CCR COMPLIANCE  
ANNUAL GROUNDWATER MONITORING and  
CORRECTIVE ACTION REPORT - 2018**

**Midwest Generation, LLC  
Will County  
259 E. 135<sup>th</sup> Street  
Romeoville, Illinois**

Prepared By: **KPRG and Associates, Inc.  
14665 West Lisbon Road, Suite 1A  
Brookfield, WI 53005**

January 31, 2019

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- 2 – CCR Groundwater Contour 05/2018
- 3 – CCR Groundwater Contour 10/2018

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- 1 – Groundwater Elevations
- 2 – Groundwater Flow Direction and Estimated Seepage Velocity/Flow Rate
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- 4 – Detection Monitoring Appendix III Groundwater Analytical Results

APPENDICES

- A – Analytical Data Packages
- B – Alternate Source Demonstration April 12, 2018

## 1.0 INTRODUCTION

The Detection Monitoring requirements in accordance with the Federal Register, Environmental Protection Agency, 40 CFR Parts 257.94, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule dated April 17, 2015 (CCR Rule) have been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Will County Generating Station. The wells sampled were selected to meet the monitoring requirements of the CCR Rule for Ash Ponds 2 South (2S) and 3 South (3S). The CCR monitoring well network around these ponds consists of six monitoring wells (MW-05, MW-06, MW-09, MW-10, MW-11 and MW-12) as shown on Figure 1. Wells MW-05 and MW-06 are upgradient wells.

The first CCR Compliance Annual Groundwater Monitoring and Corrective Action report was submitted January 24, 2018. This second annual report covers the work performed relative to CCR groundwater monitoring from January 1, 2018 through the end of 2018. It does not duplicate information or activities previously reported for 2017. It is prepared in accordance with Section 257.90(e)(1-5) and summarizes the sampling procedures used, provides an evaluation of groundwater flow conditions, summarizes the analytical data generated and provides a discussion of the statistical evaluations and alternate source demonstration testing completed as a basis for determining the appropriate next phase of compliance activities.



## 2.0 FIELD PROCEDURES AND GROUNDWATER FLOW EVALUATION

### 2.1 Field Procedures

As previously noted, the CCR groundwater monitoring network around the Ash Ponds 2S and 3S at the Will County facility consists of six wells (MW-05, MW-06, MW-09, MW-10, MW-11 and MW-12) as shown on Figure 1. As part of sampling procedures, the integrity of all monitoring wells was inspected and water levels obtained using an electronic water level meter (see summary of water level discussion below). Wells MW-05, MW-06, MW-09 were found in good condition with locked protector casings and intact concrete surface seals. Wells MW-10, MW-11 and MW-12 are completed with flush-mounts at ground surface and were also in good condition.

All groundwater samples were collected using the low-flow sampling technique from dedicated pumps. The samples were not filtered prior to analysis to provide for total metals concentrations as opposed to dissolved metals concentrations. One duplicate sample was collected from a randomly selected monitoring well per sampling event for quality assurance purposes.

### 2.2 Groundwater Flow Evaluation

Water level data measurements were obtained from each well during each round of groundwater monitoring. A complete round of water levels was collected prior to initiating sampling, and the water level data are summarized in Table 1. The water levels were used to generate a groundwater flow map for each sampling event. These maps are provided as Figures 2 and 3. A review of the maps indicates a consistent westerly groundwater flow direction. In accordance with general groundwater sampling requirements under Section 257.93(c), Table 2 provides a summary of the flow direction and an estimated rate of groundwater flow for each sampling event. The flow rate was calculated using the following equation:

$$V_s = \frac{Kdh}{n_e dl}, \text{ where}$$

$V_s$  is seepage velocity (distance/time)

$K$  is hydraulic conductivity (distance/time)

$dh/dl$  is hydraulic gradient (unitless)

$n_e$  is effective porosity (unitless)

The average hydraulic conductivity of  $4.32 \times 10^{-4}$  ft/sec used in Table 2 was obtained from the Hydrogeologic Assessment Report dated February 2011 and prepared by Patrick

Engineering. The estimated effective porosity of the aquifer materials (0.20) was obtained from literature (Groundwater, Freeze and Cherry, 1979).

### 3.0 ANALYTICAL DATA AND STATUS OF EVALUATIONS

#### 3.1 Sampling Summary

The groundwater sampling summary from 2018 is provided in Table 3, in accordance with 257.90 (e)(3).

#### 3.2 Data Summary

The analytical data from the detection monitoring groundwater sampling for Appendix III parameters are provided in Table 4 which includes calculated Prediction Limits (PLs) established in the initial CCR Groundwater Monitoring Statistical Evaluation Summary dated January 2018 for data comparison purposes. The downgradient intrawell prediction limits were established for the three parameters which were part of the Alternate Source Demonstration (ASD) as recommended at the end of that evaluation (see discussion in Section 4.2 below). For those parameters in downgradient wells, a concentration above both interwell and intrawell prediction limits would be considered a potential statistically significant increase (SSI).

Semi-annual groundwater sampling was completed for Appendix III in 2018 in accordance with detection monitoring requirements under Section 257.94. The data tables include the sample dates and whether the specific well is considered upgradient or downgradient relative to groundwater flow and the regulated unit. All duplicate values were within an acceptable range. The analytical data packages from the detection monitoring events are provided in Appendix A. Groundwater sampling for Appendix IV was not performed in 2018 since this facility is not in assessment monitoring.

Resampling events were limited to any potential statistically significant increases (SSI) for specific parameters at specific wells. First semi-annual sampling data indicated pH and sulfate above the PLs at MW-06 and sulfate above its PL at MW-09. Confirmatory resampling as permitted within the rule indicated that analytical results were below the PLs for each resampled well.

#### 3.3 Current Status

Ash Ponds 2S and 3S are, and continue to be, in detection monitoring, and there has been no transition between monitoring programs in 2018 since no confirmed SSIs in association with the regulated unit(s) were recorded.

#### 4.0 OTHER REQUIRED SUBMITTALS

##### 4.1 Initial Statistical Evaluation Summary

The initial data to establish statistical background was collected as part of detection monitoring requirements under 257.94(b) and completed in 2017. Eight rounds of groundwater data were generated for all upgradient and downgradient monitoring wells for Appendix III and Appendix IV parameters. In addition, a ninth round and resample event was collected for subsequent use in statistical comparisons. The CCR Groundwater Monitoring Statistical Evaluation Summary dated January 2018 was prepared by KPRG and Associates, Inc. All statistical calculations were completed in accordance with the CCR Compliance Statistical Approach for Groundwater Data Evaluation for Will County Generating Station dated October 10, 2017.

The completed detection monitoring statistical evaluation determined that there were SSIs in downgradient monitoring wells relative to established background for chloride, fluoride and TDS. It was recommended to complete an ASD in accordance with 40 CFR 257.94(e)(2) to determine whether these SSIs may be associated with an actual release from the regulated unit(s) or if another potential source in the vicinity of the ash ponds may be affecting the local groundwater quality. The results of the ASD are discussed below.

##### 4.2 Alternate Source Demonstration

The ASD was completed April 12, 2018 in accordance with 40 CFR 257.94(e)(2) for the Will County Generating Station Ash Ponds 2S and 3S (see Appendix B). Ash and water samples were collected from each of the two ponds (2S and 3S) and analyzed using the Leaching Environmental Assessment Framework (LEAF) method to determine whether SSIs may be associated with an actual release from the regulated unit(s) or if another potential source in the vicinity of the ash ponds may be affecting the local groundwater quality.

It was concluded that the SSIs for chloride, fluoride and TDS are not the result of a release of leachate from the regulated units (Ponds 2S and 3S) but rather from other potential source(s). The recommendation was to continue with routine detection monitoring. It was also recommended, if necessary, to include intrawell statistical evaluations/comparisons for the downgradient wells in addition to the current interwell evaluations, since upgradient well chemistry for various Appendix III constituents is similar to ash leachate chemistry at natural pH levels. Based on this recommendation, the intrawell PLs for the three parameters that were part of the ASD were calculated for the downgradient monitoring wells and are included in Table 4 (see discussion in Section 3.2 above).

## 5.0 SUMMARY/CONCLUSIONS AND RECOMMENDATIONS

The detection monitoring requirements in accordance with the CCR Rule have been successfully met. While in detection monitoring, Ash Ponds 2S and 3S analytical results were below the established PLs. Groundwater monitoring wells that had analytical results that showed parameters above the PLs were resampled to minimize potential for a false positive. All monitoring wells that were resampled showed analytical results below the PLs. An ASD completed in April 2018 determined that SSIs for chloride, fluoride and TDS are from other sources, and not leakage of leachate from the regulated units (Ponds 2S and 3S). Therefore, it is recommended that the site continue with routine detection monitoring at this time. The next round of CCR semi-annual detection monitoring groundwater sampling is scheduled for 2<sup>nd</sup> Quarter of 2019.

## 6.0 REFERENCES

- Federal Register, Environmental Protection Agency, 40 CFR Parts 257 and 261, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule. Vol. 80, No. 74, Friday April 17, 2015.
- Patrick Engineering, Inc., Hydrogeologic Assessment Report – Will County Generating Station, Romeoville, IL. February 2011.
- KPRG and Associates, Inc., CCR Compliance Monitoring, Sampling and Analysis Plan, Midwest Generation, LLC Will County Generating Station. October 10, 2017.
- KPRG and Associates, Inc., CCR Compliance Statistical Approach for Groundwater Data Evaluation, Midwest Generation, LLC Will County Generating Station. October 10, 2017.
- KPRG and Associates, Inc., CCR Groundwater Monitoring Statistical Evaluation Summary - 2017, Midwest Generation, LLC Will County Generating Station. January 12, 2018.
- R.A. Freeze and J.A. Cherry, Groundwater. Prentice-Hall, Inc. Publishing Co., 1979.

**FIGURES**



0 150'  
APPROXIMATE SCALE

**LEGEND**

MW-1 MONITORING WELL

ENVIRONMENTAL CONSULTATION & REMEDIATION

**CCR MONITORING WELL SITE MAP**

**K P R G**

KPRG and Associates, inc.

**WILL COUNTY STATION  
ROMEOWILLE, ILLINOIS**

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

**Scale: 1" = 150' | Date: December 27, 2017**

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

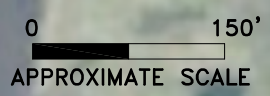
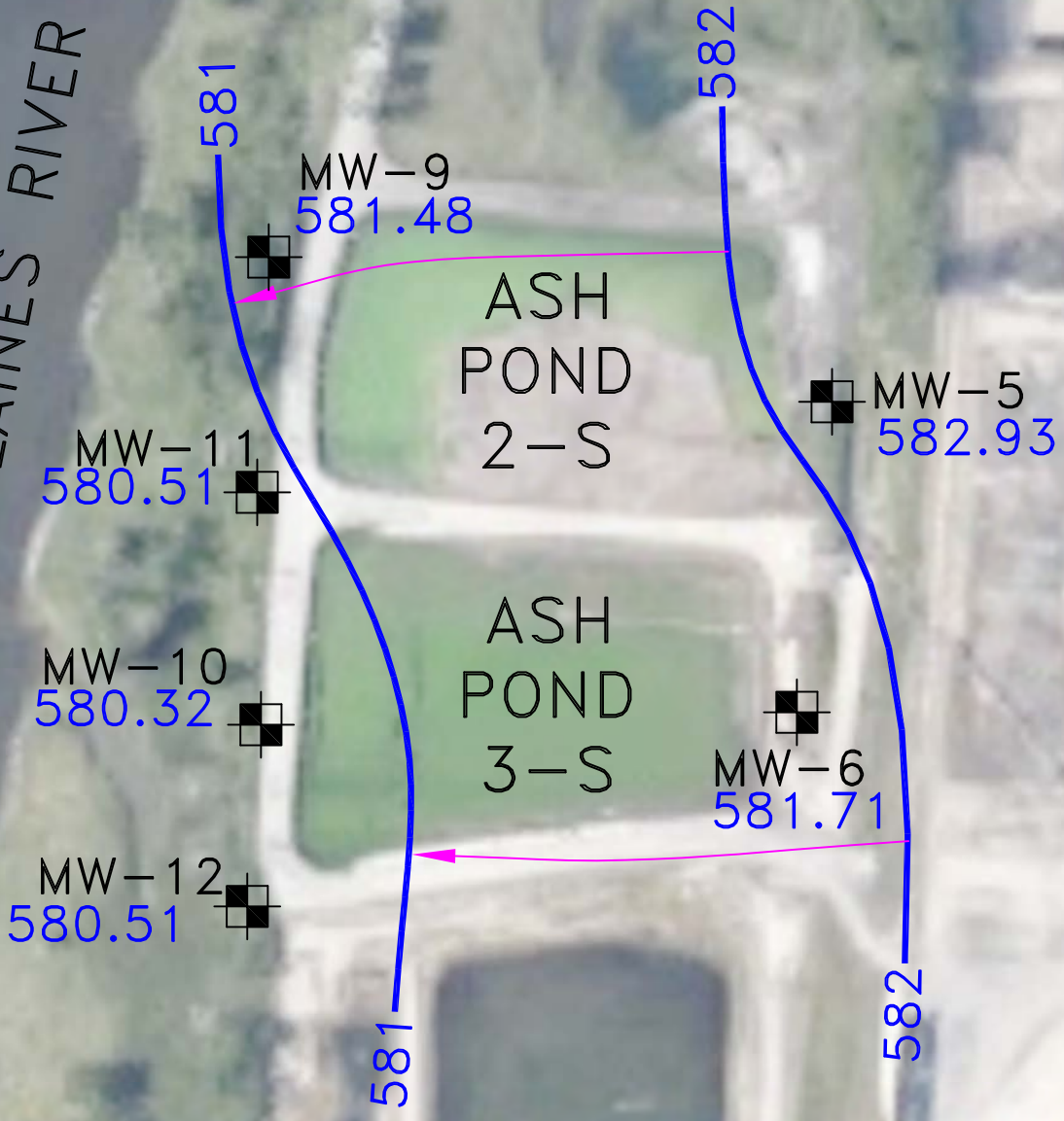
**KPRG Project No. 12313.3**

**FIGURE 1**





DES PLAINES RIVER  
FLOW ±579



**LEGEND**

- MW-1 MONITORING WELL
- 581 GROUNDWATER CONTOUR

ATTORNEY-CLIENT PRIVILEGE  
WORK PRODUCT

ENVIRONMENTAL CONSULTATION & REMEDIATION

**K P R G** KPRG and Associates, inc.

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14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

**CCR GROUNDWATER CONTOUR-05/2018**

**WILL COUNTY STATION  
ROMEOVILLE, ILLINOIS**

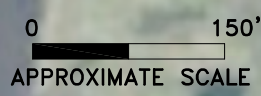
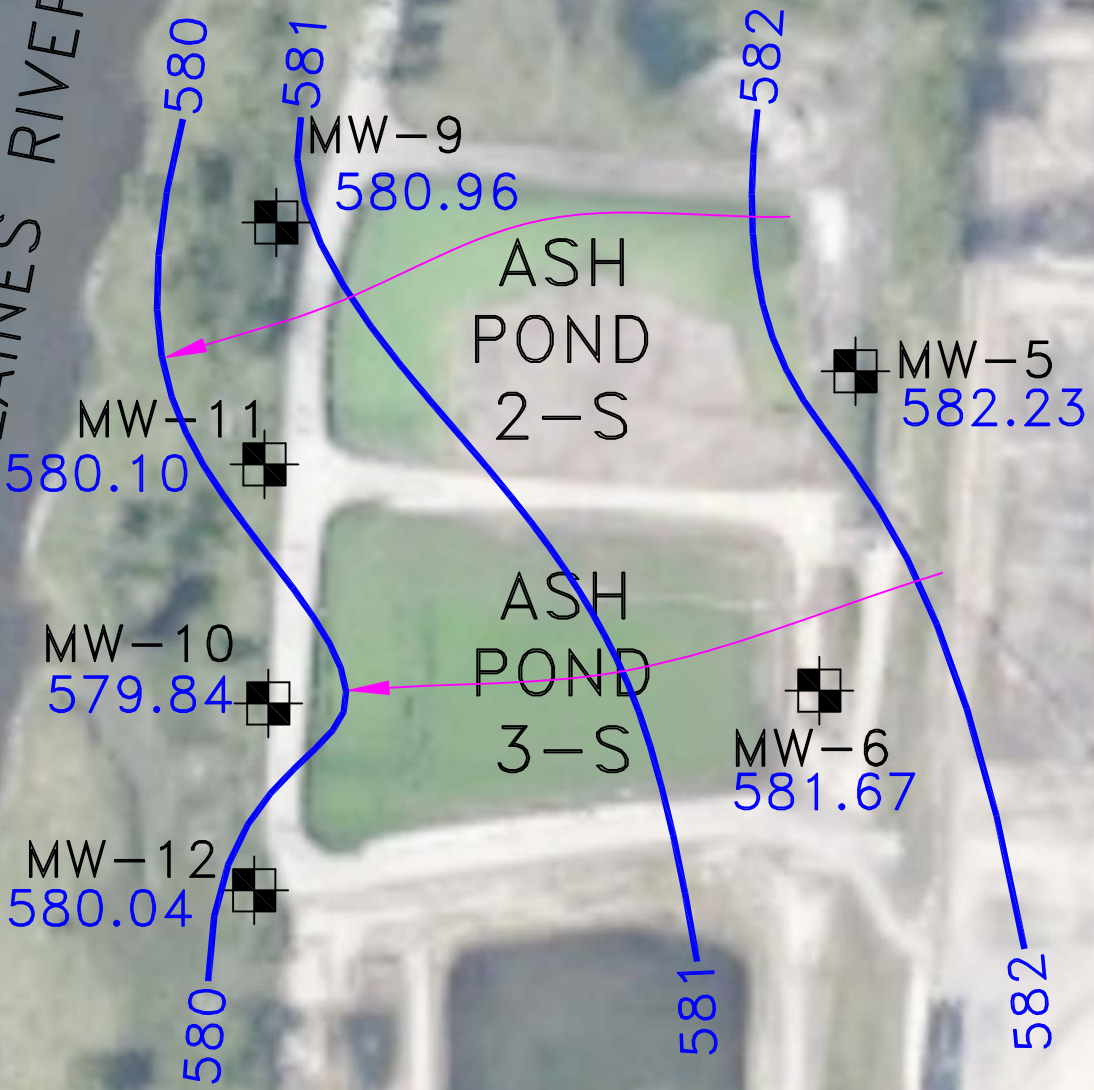
Scale: 1" = 150' | Date: June 07, 2018

KPRG Project No. 12313.3 | **FIGURE 2**

SERVER2:\Common\Projects\Midwest Generation\12313 Ash Pond Groundwater\Figures\Will County CCR



DES PLAINES RIVER  
FLOW ±579



**LEGEND**

MW-1 MONITORING WELL

581 GROUNDWATER CONTOUR

ATTORNEY-CLIENT PRIVILEGE  
WORK PRODUCT

ENVIRONMENTAL CONSULTATION & REMEDIATION

**K P R G**

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414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 1A Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

**CCR GROUNDWATER CONTOUR-10/2018**

WILL COUNTY STATION  
ROMEOWILLE, ILLINOIS

Scale: 1" = 150' | Date: December 26, 2018

KPRG Project No. 12313.3 | FIGURE 3

SERVER2\Common\Projects\Midwest Generation\12313 Ash Pond Groundwater\Figures\Will County CCR

**TABLES**

Table 1. Groundwater Elevations - Midwest Generation, LLC, Will County Station, Romeoville, IL

Well ID	Date	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
MW-05	11/9/2015	592.87	9.99	582.88
	2/16/2016	592.87	9.91	582.96
	5/24/2016	592.87	9.94	582.93
	8/9/2016	592.87	10.09	582.78
	10/25/2016	592.87	9.02	583.85
	1/31/2017	592.87	9.81	583.06
	5/9/2017	592.87	9.63	583.24
	6/27/2017	592.87	10.26	582.61
	9/6/2017	592.87	10.48	582.39
	11/16/2017	592.87	10.02	582.85
	2/28/2018	592.87	9.48	583.39
	5/1/2018	592.87	9.94	582.93
10/2/2018	592.87	10.64	582.23	
MW-06	11/9/2015	593.18	9.96	583.22
	2/16/2016	593.18	11.37	581.81
	5/24/2016	593.18	11.37	581.81
	8/9/2016	593.18	11.54	581.64
	10/25/2016	593.18	11.37	581.81
	1/31/2017	593.18	11.24	581.94
	5/9/2017	593.18	10.86	582.32
	6/27/2017	593.18	11.55	581.63
	9/6/2017	593.18	11.77	581.41
	11/16/2017	593.18	11.49	581.69
	2/28/2018	593.18	10.91	582.27
	5/1/2018	593.18	11.47	581.71
10/2/2018	593.18	11.89	581.29	
MW-09	11/9/2015	592.87	11.38	581.49
	2/16/2016	592.87	11.03	581.84
	5/24/2016	592.87	11.35	581.52
	8/9/2016	592.87	11.43	581.44
	10/25/2016	592.87	10.74	582.13
	1/31/2017	592.87	11.15	581.72
	5/9/2017	592.87	10.45	582.42
	6/27/2017	592.87	11.66	581.21
	9/6/2017	592.87	11.95	580.92
	11/14/2017	592.87	11.54	581.33
	2/27/2018	592.87	10.13	582.74
	5/1/2018	592.87	11.39	581.48
10/2/2018	592.87	11.91	580.96	
MW-10	11/9/2015	590.96	10.65	580.31
	2/16/2016	590.96	10.43	580.53
	5/24/2016	590.96	10.72	580.24
	8/9/2016	590.96	11.12	579.84
	10/25/2016	590.96	10.73	580.23
	1/31/2017	590.96	10.37	580.59
	5/9/2017	590.96	9.78	581.18
	6/27/2017	590.96	11.09	579.87
	9/6/2017	590.96	11.20	579.76
	11/15/2017	590.96	10.76	580.20
	2/27/2018	590.96	9.54	581.42
	5/1/2018	590.96	10.64	580.32
10/2/2018	590.96	11.12	579.84	
MW-11	11/9/2015	590.69	10.28	580.41
	2/16/2016	590.69	10.15	580.54
	5/24/2016	590.69	10.25	580.44
	8/9/2016	590.69	10.66	580.03
	10/25/2016	590.69	10.42	580.27
	1/31/2017	590.69	9.91	580.78
	5/9/2017	590.69	9.21	581.48
	6/27/2017	590.69	10.48	580.21
	9/6/2017	590.69	10.73	579.96
	11/15/2017	590.69	10.43	580.26
	5/1/2018	590.69	10.18	580.51
	10/2/2018	590.69	10.59	580.10
MW-12	11/9/2015	590.81	10.15	580.66
	2/16/2016	590.81	10.24	580.57
	5/24/2016	590.81	10.31	580.50
	8/9/2016	590.81	10.73	580.08
	10/25/2016	590.81	10.45	580.36
	1/31/2017	590.81	10.16	580.65
	5/9/2017	590.81	9.88	580.93
	6/27/2017	590.81	10.62	580.19
	9/6/2017	590.81	10.61	580.20
	11/15/2017	590.81	10.20	580.61
	5/1/2018	590.81	10.30	580.51
	10/2/2018	590.81	10.77	580.04

MSL - Mean Sea Level  
TOC - Top of Casing

Table 2. Groundwater Flow Direction and Estimated Seepage Velocity/Flow Rate - Midwest Generation, LLC, Will County Station, Romeoville, IL.

DATE	Groundwater Flow Direction	K <sub>avg</sub> (ft/sec)*	Average Hydraulic Gradient (ft/ft)	Porosity (unitless)**	Estimated Seepage Velocity (ft/day)
11/9/2015	West	4.320E-04	0.0053	0.2	0.99
2/16/2016	West	4.320E-04	0.0030	0.2	0.55
5/24/2016	West	4.320E-04	0.0030	0.2	0.55
8/9/2016	West	4.320E-04	0.0030	0.2	0.55
10/25/2016	West	4.320E-04	0.0030	0.2	0.55
1/31/2017	West	4.320E-04	0.0030	0.2	0.55
5/9/2017	West	4.320E-04	0.0045	0.2	0.84
6/27/2017	West	4.320E-04	0.0049	0.2	0.91
9/6/2017	West	4.320E-04	0.0047	0.2	0.88
11/16/2017	West	4.320E-04	0.0026	0.2	0.49
5/1/2018	West	4.320E-04	0.0025	0.2	0.46
10/2/2018	West	4.320E-04	0.0040	0.2	0.75

\* K<sub>avg</sub> - Average hydraulic conductivity (feet/second) from Hydrogeologic Assessment Report, Patrick Engineering, February 2011.

\*\* - Porosity estimate from Groundwater, Freeze and Cherry, 1979.

Table 3. CCR Groundwater Sample Collection Summary for 2018 - Will County Generating Station

Well ID	Number of Groundwater Sampling Events	Dates Groundwater Sampling Events	Detection Monitoring (D) versus Assessment Monitoring (A)
MW-5 (Upgradient)	2	5/2/2018	D
		10/3/2018	D
MW-6 (Upgradient)	2	5/3/2018	D
		10/3/2018	D
MW-9 (Downgradient)	2	5/1/2018	D
		10/2/2018	D
MW-10 (Downgradient)	2	5/1/2018	D
		10/3/2018	D
MW-11 (Downgradient)	2	5/3/2018	D
		10/3/2018	D
MW-12 (Downgradient)	2	5/3/2018	D
		10/2/2018	D

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Table 4. Semi-Annual Detection Monitoring Statistical Comparisons - Appendix III Groundwater Analytical Results 2018 and Confirmatory Resampling - Midwest Generation, LLC, Will County Station, Romeoville, IL.

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-05 up-gradient	11/11/2015	6.1	220	110	0.31	7.24	770	1,900
	2/18/2016	4.4	230	120	0.31	6.99	730	1,600
	5/26/2016	3.7	170	110	0.33	6.73	670	1,500
	8/10/2016	3.6	67	120	0.72	8.62	480	970
	10/26/2016	3.6	44	120	0.70	9.08	410	920
	2/1/2017	4.6	250	48	0.35	6.81	530	1,600
	5/11/2017	4.0	140	85	0.31	7.86	610	1,200
	6/27/2017	3.8	83	99	0.53	7.95	500	1,000
	<b>Pred. Limit*</b>	<b>6.65</b>	<b>359</b>	<b>148</b>	<b>0.72</b>	<b>9.93-5.39</b>	<b>923</b>	<b>2,286</b>
	9/8/2017	4.8	89	78	0.52	9.40	490	1,000
	11/16/2017	4.8	180	52	0.45	6.70	650	1,500
5/2/2018	3.6	200	32	0.39	7.23	510	1,300	
10/3/2018	4.9	150	55	0.48	7.07	430	1,200	
MW-06 up-gradient	11/10/2015	3.0	52	100	0.55	8.63	300	660
	2/18/2016	2.5	74	150	0.47	8.58	280	650
	5/26/2016	2.7	86	92	0.44	7.79	350	800
	8/11/2016	3.6	110	58	0.35	7.74	330	840
	10/26/2016	3.8	86	74	0.40	8.16	220	800
	2/1/2017	3.4	70	83	0.41	7.88	260	700
	5/11/2017	3.0	75	84	0.28	8.68	330	570
	6/27/2017	3.1	65	74	0.38	8.15	330	710
	<b>Pred. Limit*</b>	<b>4.29</b>	<b>122</b>	<b>162</b>	<b>0.62</b>	<b>9.21-7.19</b>	<b>415</b>	<b>956</b>
	9/7/2017	3.5	75	67	0.40	8.20	300	740
	11/16/2017	3.9	88	54	0.39	7.59	280	810
	5/3/2018	3	91	52	0.26	<b>6.91</b>	<b>530</b>	750
	7/25/2018 R	NA	NA	NA	NA	7.47	280	NA
10/3/2018	3.5	93	44	0.31	7.83	240	720	
MW-09 down-gradient	11/11/2015	1.9	56	190	0.55	9.12	460	750
	2/17/2016	1.8	47	160	0.55	9.10	250	600
	5/24/2016	1.6	48	180	0.51	8.79	240	640
	8/9/2016	2.2	53	140	0.48	8.35	280	750
	10/26/2016	2.2	33	130	0.81	9.16	230	660
	1/31/2017	2.0	61	250	0.57	8.59	180	710
	5/9/2017	1.8	66	340	0.38	8.58	250	900
	6/27/2017	1.9	64	330	0.51	7.76	240	940
	<b>Pred. Limit</b>	<b>4.26</b>	<b>275**</b>	<b>149**</b>	<b>0.72**</b>	<b>9.39-6.48**</b>	<b>413</b>	<b>950</b>
	<b>Pred. Limit*</b>	<b>NC</b>	<b>NC</b>	<b>431.2</b>	<b>0.87</b>	<b>NC</b>	<b>NC</b>	<b>1,060</b>
	9/6/2017	1.8	59	<b>310</b>	0.51	8.98	240	890
	11/14/2017	2.6	160	<b>270</b>	0.51	8.1	290	910
	5/1/2018	1.7	49	<b>200</b>	0.52	7.81	<b>430</b>	820
	7/25/2018 R	NA	NA	NA	NA	NA	320	NA
10/2/2018	2.1	49	<b>170</b>	0.55	8.09	270	820	
MW-10 down-gradient	11/10/2015	3.9	140	140	0.77	7.34	310	980
	2/16/2016	3.6	150	240	0.79	7.29	290	950
	5/25/2016	3.6	120	140	0.83	7.26	260	1,000
	8/10/2016	4.3	150	120	0.78	7.22	230	970
	10/26/2016	3.0	160	74	0.52	7.30	220	1,000
	2/2/2017	3.7	180	81	0.54	7.16	160	930
	5/10/2017	3.0	150	100	0.44	7.83	340	860
	6/27/2017	2.8	130	110	0.67	7.49	250	930
	<b>Pred. Limit</b>	<b>4.26</b>	<b>275**</b>	<b>149**</b>	<b>0.72**</b>	<b>9.39-6.48**</b>	<b>413</b>	<b>950</b>
	<b>Pred. Limit*</b>	<b>NC</b>	<b>NC</b>	<b>262.2</b>	<b>1.06</b>	<b>NC</b>	<b>NC</b>	<b>1,074</b>
	9/7/2017	2.8	120	120	<b>0.77</b>	7.37	290	920
	11/15/2017	4.1	140	120	<b>0.77</b>	7.10	270	<b>1,000</b>
	5/1/2018	3.2	150	130	0.65	7.31	280	<b>990</b>
10/3/2018	2.5	110	140	<b>0.89</b>	7.60	200	860	

Notes: All units are in mg/l except pH is in standard units.  
 \* - Intrawell Prediction Limit. All others are interwell comparisons.  
 \*\* - Based on pooled background from MW-5/MW-6. All others based on MW-6 as background.  
*Italics Date* - First round of Detection Monitoring and resample after statistical background establishment.  
 NC - Not calculated.

**BOLD** - Potential statistically significant increase relative to interwell Prediction Limit.  
**BOLD** - Potential statistically significant increase relative to intrawell Prediction Limit.  
**BOLD** - Above both interwell and intrawell Prediction Limits  
 NA - Not analyzed. No confirmation resample required.  
 R - Resample  
 F1 - MS and/or MSD Recovery outside of limits.

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Table 4. Semi-Annual Detection Monitoring Statistical Comparisons - Appendix III Groundwater Analytical Results 2018 and Confirmatory Resampling - Midwest Generation, LLC, Will County Station, Romeoville, IL.

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-11 down-gradient	11/10/2015	2.6	120	89	0.61	7.60	180	620
	2/16/2016	3.0	100	88	0.68	7.47	170	640
	5/25/2016	2.8	82	98	0.75	7.43	170	640
	8/10/2016	3.1	96	86	0.72	7.57	150	660
	10/26/2016	2.5	110	67	0.53	7.82	120	630
	2/1/2017	3.9	110	72	0.65	7.54	110	600
	5/10/2017	3.1	95	84	0.46	8.37	170	590
	6/27/2017	2.8	87	90	0.59	7.57	150	680
	<b>Pred. Limit</b>	<b>4.26</b>	<b>275**</b>	<b>149**</b>	<b>0.72**</b>	<b>9.39-6.48**</b>	<b>413</b>	<b>950</b>
	<b>Pred. Limit*</b>	NC	NC	<b>110.6</b>	<b>0.88</b>	NC	NC	<b>710</b>
	9/7/2017	2.8	90	94	0.58	7.40	150	<b>730</b>
	11/15/2017	2.9	96	100	0.65	7.41	160	<b>750</b>
	5/3/2018	3.8	73	110	0.69	6.74	190	670
10/3/2018	3.1	78	110	0.66	7.65	120	680	
MW-12 down-gradient	11/10/2015	2.3	150	160	0.59	7.44	290	1,000
	2/16/2016	1.8	130	140	0.52	7.38	220	850
	5/25/2016	1.9	130	150	0.54	7.23	250	890
	8/10/2016	2.4	170	140	0.49	7.20	280	1000
	10/26/2016	2.6	140	120	0.49	7.44	220	980
	2/1/2017	2.0	160	120	0.48	7.30	150	900
	5/10/2017	2.3	200	240	0.30	7.65	260	1,300
	6/27/2017	2.4	180	280	0.44	7.31	260	1,300
	<b>Pred. Limit</b>	<b>4.26</b>	<b>275**</b>	<b>149**</b>	<b>0.72**</b>	<b>9.39-6.48**</b>	<b>413</b>	<b>950</b>
	<b>Pred. Limit*</b>	NC	NC	<b>338.8</b>	<b>0.71</b>	NC	NC	<b>1,519</b>
	9/6/2017	2.6	190	<b>270</b>	0.49	7.26	260	<b>1,400</b>
	11/15/2017	1.7	55	<b>200</b>	0.47	6.90	250	<b>1,200</b>
	5/3/2018	1.8	140	<b>170</b>	0.47	6.60	170	<b>960</b>
10/2/2018	F1 2.2	150	<b>160</b>	0.49	7.30	170	<b>1,100</b>	

Notes: All units are in mg/l except pH is in standard units.  
 \* - Intrawell Prediction Limit. All others are interwell comparisons.  
 \*\* - Based on pooled background from MW-5/MW-6. All others based on MW-6 as background.  
*Italics Date* - First round of Detection Monitoring and resample after statistical background establishment.  
 NC - Not calculated.

**BOLD** - Potential statistically significant increase relative to interwell Prediction Limit.  
**BOLD** - Potential statistically significant increase relative to intrawell Prediction Limit.  
**BOLD** - Above both interwell and intrawell Prediction Limits  
 NA - Not analyzed. No confirmation resample required.  
 R - Resample  
 F1 - MS and/or MSD Recovery outside of limits.



**APPENDIX A**  
**Analytical Data Packages**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-144853-1

Client Project/Site: Will County CCR

For:

KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 2B

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

5/17/2018 12:33:58 PM

Therese Hargraves, Project Manager I

[therese.hargraves@testamericainc.com](mailto:therese.hargraves@testamericainc.com)

Designee for

Eric Lang, Manager of Project Management

(708)534-5200

[eric.lang@testamericainc.com](mailto:eric.lang@testamericainc.com)

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

**Job ID: 500-144853-1**

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative  
500-144853-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 5/3/2018 3:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.9° C and 3.2° C.

**Metals**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



Sample Summary

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-144853-1	MW-05	Water	05/02/18 15:42	05/03/18 15:40
500-144853-2	MW-06	Water	05/03/18 10:04	05/03/18 15:40
500-144853-3	MW-09	Water	05/01/18 14:35	05/03/18 15:40
500-144853-4	MW-10	Water	05/01/18 16:17	05/03/18 15:40
500-144853-5	MW-11	Water	05/03/18 11:25	05/03/18 15:40
500-144853-6	MW-12	Water	05/03/18 12:17	05/03/18 15:40
500-144853-7	Duplicate	Water	05/03/18 00:00	05/03/18 15:40

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**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Client Sample ID: MW-05**  
**Date Collected: 05/02/18 15:42**  
**Date Received: 05/03/18 15:40**

**Lab Sample ID: 500-144853-1**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.6		0.50		mg/L		05/04/18 07:13	05/07/18 11:30	10
Calcium	200		0.20		mg/L		05/04/18 07:13	05/04/18 17:36	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1300		10		mg/L			05/08/18 04:43	1
Chloride	32		2.0		mg/L			05/13/18 19:37	1
Fluoride	0.39		0.10		mg/L			05/11/18 23:05	1
Sulfate	510		100		mg/L			05/12/18 06:06	20



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Client Sample ID: MW-06**  
**Date Collected: 05/03/18 10:04**  
**Date Received: 05/03/18 15:40**

**Lab Sample ID: 500-144853-2**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.0		0.50		mg/L		05/04/18 07:13	05/07/18 11:33	10
Calcium	91		0.20		mg/L		05/04/18 07:13	05/04/18 17:39	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	750		10		mg/L			05/10/18 05:35	1
Chloride	52		2.0		mg/L			05/13/18 19:38	1
Fluoride	0.26		0.10		mg/L			05/11/18 23:09	1
Sulfate	530		100		mg/L			05/12/18 06:07	20





**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

**Client Sample ID: MW-09**  
**Date Collected: 05/01/18 14:35**  
**Date Received: 05/03/18 15:40**

**Lab Sample ID: 500-144853-3**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.7		0.25		mg/L		05/04/18 07:13	05/07/18 11:37	5
Calcium	49		0.20		mg/L		05/04/18 07:13	05/04/18 17:43	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	820		10		mg/L			05/07/18 04:58	1
Chloride	200		10		mg/L			05/13/18 20:16	5
Fluoride	0.52		0.10		mg/L			05/11/18 23:14	1
Sulfate	430		100		mg/L			05/12/18 06:08	20



**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

**Client Sample ID: MW-10**  
**Date Collected: 05/01/18 16:17**  
**Date Received: 05/03/18 15:40**

**Lab Sample ID: 500-144853-4**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.2		0.50		mg/L		05/04/18 07:13	05/07/18 11:41	10
Calcium	150		0.20		mg/L		05/04/18 07:13	05/04/18 17:47	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	990		10		mg/L			05/07/18 05:01	1
Chloride	130		10		mg/L			05/13/18 20:17	5
Fluoride	0.65		0.10		mg/L			05/11/18 23:18	1
Sulfate	280		50		mg/L			05/12/18 06:09	10



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Client Sample ID: MW-11**  
**Date Collected: 05/03/18 11:25**  
**Date Received: 05/03/18 15:40**

**Lab Sample ID: 500-144853-5**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.8		0.50		mg/L		05/04/18 07:13	05/07/18 11:45	10
Calcium	73		0.20		mg/L		05/04/18 07:13	05/04/18 17:51	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	670		10		mg/L			05/10/18 05:37	1
Chloride	110		10		mg/L			05/13/18 20:18	5
Fluoride	0.69		0.10		mg/L			05/11/18 23:22	1
Sulfate	190		50		mg/L			05/12/18 06:10	10



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Client Sample ID: MW-12**  
**Date Collected: 05/03/18 12:17**  
**Date Received: 05/03/18 15:40**

**Lab Sample ID: 500-144853-6**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.8		0.25		mg/L		05/04/18 07:13	05/07/18 11:48	5
Calcium	140		0.20		mg/L		05/04/18 07:13	05/04/18 17:54	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	960		10		mg/L			05/10/18 05:40	1
Chloride	170		10		mg/L			05/13/18 20:18	5
Fluoride	0.47		0.10		mg/L			05/11/18 23:26	1
Sulfate	170		50		mg/L			05/12/18 06:11	10



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Client Sample ID: Duplicate**  
**Date Collected: 05/03/18 00:00**  
**Date Received: 05/03/18 15:40**

**Lab Sample ID: 500-144853-7**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.9	F1	0.50		mg/L		05/04/18 07:13	05/07/18 12:00	10
Calcium	68		0.20		mg/L		05/04/18 07:13	05/04/18 18:06	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	670		10		mg/L			05/10/18 05:43	1
Chloride	110		10		mg/L			05/13/18 20:19	5
Fluoride	0.70		0.10		mg/L			05/11/18 23:30	1
Sulfate	180		25		mg/L			05/12/18 06:12	5



Definitions/Glossary

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

**Qualifiers**

**Metals**

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

**General Chemistry**

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

**Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Metals**

**Prep Batch: 430640**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total Recoverable	Water	3005A	
500-144853-2	MW-06	Total Recoverable	Water	3005A	
500-144853-3	MW-09	Total Recoverable	Water	3005A	
500-144853-4	MW-10	Total Recoverable	Water	3005A	
500-144853-5	MW-11	Total Recoverable	Water	3005A	
500-144853-6	MW-12	Total Recoverable	Water	3005A	
500-144853-7	Duplicate	Total Recoverable	Water	3005A	
MB 500-430640/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-430640/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-144853-7 MS	Duplicate	Total Recoverable	Water	3005A	
500-144853-7 MSD	Duplicate	Total Recoverable	Water	3005A	
500-144853-7 DU	Duplicate	Total Recoverable	Water	3005A	

**Analysis Batch: 430950**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total Recoverable	Water	6020A	430640
500-144853-2	MW-06	Total Recoverable	Water	6020A	430640
500-144853-3	MW-09	Total Recoverable	Water	6020A	430640
500-144853-4	MW-10	Total Recoverable	Water	6020A	430640
500-144853-5	MW-11	Total Recoverable	Water	6020A	430640
500-144853-6	MW-12	Total Recoverable	Water	6020A	430640
500-144853-7	Duplicate	Total Recoverable	Water	6020A	430640
MB 500-430640/1-A	Method Blank	Total Recoverable	Water	6020A	430640
LCS 500-430640/2-A	Lab Control Sample	Total Recoverable	Water	6020A	430640
500-144853-7 MS	Duplicate	Total Recoverable	Water	6020A	430640
500-144853-7 MSD	Duplicate	Total Recoverable	Water	6020A	430640
500-144853-7 DU	Duplicate	Total Recoverable	Water	6020A	430640

**Analysis Batch: 431132**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total Recoverable	Water	6020A	430640
500-144853-2	MW-06	Total Recoverable	Water	6020A	430640
500-144853-3	MW-09	Total Recoverable	Water	6020A	430640
500-144853-4	MW-10	Total Recoverable	Water	6020A	430640
500-144853-5	MW-11	Total Recoverable	Water	6020A	430640
500-144853-6	MW-12	Total Recoverable	Water	6020A	430640
500-144853-7	Duplicate	Total Recoverable	Water	6020A	430640
MB 500-430640/1-A	Method Blank	Total Recoverable	Water	6020A	430640
LCS 500-430640/2-A	Lab Control Sample	Total Recoverable	Water	6020A	430640
500-144853-7 MS	Duplicate	Total Recoverable	Water	6020A	430640
500-144853-7 MSD	Duplicate	Total Recoverable	Water	6020A	430640
500-144853-7 DU	Duplicate	Total Recoverable	Water	6020A	430640

**General Chemistry**

**Analysis Batch: 430893**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-3	MW-09	Total/NA	Water	SM 2540C	
500-144853-4	MW-10	Total/NA	Water	SM 2540C	
MB 500-430893/1	Method Blank	Total/NA	Water	SM 2540C	



Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**General Chemistry (Continued)**

**Analysis Batch: 430893 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-430893/2	Lab Control Sample	Total/NA	Water	SM 2540C	

**Analysis Batch: 431082**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total/NA	Water	SM 2540C	
MB 500-431082/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-431082/2	Lab Control Sample	Total/NA	Water	SM 2540C	

**Analysis Batch: 431535**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-2	MW-06	Total/NA	Water	SM 2540C	
500-144853-5	MW-11	Total/NA	Water	SM 2540C	
500-144853-6	MW-12	Total/NA	Water	SM 2540C	
500-144853-7	Duplicate	Total/NA	Water	SM 2540C	
MB 500-431535/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-431535/2	Lab Control Sample	Total/NA	Water	SM 2540C	

**Analysis Batch: 431959**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total/NA	Water	SM 4500 F C	
500-144853-2	MW-06	Total/NA	Water	SM 4500 F C	
500-144853-3	MW-09	Total/NA	Water	SM 4500 F C	
500-144853-4	MW-10	Total/NA	Water	SM 4500 F C	
500-144853-5	MW-11	Total/NA	Water	SM 4500 F C	
500-144853-6	MW-12	Total/NA	Water	SM 4500 F C	
500-144853-7	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-431959/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-431959/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-144853-7 MS	Duplicate	Total/NA	Water	SM 4500 F C	
500-144853-7 MSD	Duplicate	Total/NA	Water	SM 4500 F C	

**Analysis Batch: 431994**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-144853-2	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-144853-3	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-144853-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-144853-5	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-144853-6	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-144853-7	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-431994/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-431994/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

**Analysis Batch: 432035**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-144853-2	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-144853-3	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-144853-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-144853-5	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-144853-6	MW-12	Total/NA	Water	SM 4500 Cl- E	





Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

**General Chemistry (Continued)**

**Analysis Batch: 432035 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-7	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-432035/4	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-432035/5	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-144853-3 MS	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-144853-3 MSD	MW-09	Total/NA	Water	SM 4500 Cl- E	

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QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-430640/1-A  
Matrix: Water  
Analysis Batch: 430950

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 430640

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		05/04/18 07:13	05/04/18 16:43	1

Lab Sample ID: MB 500-430640/1-A  
Matrix: Water  
Analysis Batch: 431132

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 430640

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/04/18 07:13	05/07/18 11:22	1

Lab Sample ID: LCS 500-430640/2-A  
Matrix: Water  
Analysis Batch: 430950

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 430640

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.63		mg/L		96	80 - 120

Lab Sample ID: LCS 500-430640/2-A  
Matrix: Water  
Analysis Batch: 431132

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 430640

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.02		mg/L		102	80 - 120

Lab Sample ID: 500-144853-7 MS  
Matrix: Water  
Analysis Batch: 430950

Client Sample ID: Duplicate  
Prep Type: Total Recoverable  
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	68		10.0	77.6	4	mg/L		96	75 - 125

Lab Sample ID: 500-144853-7 MS  
Matrix: Water  
Analysis Batch: 431132

Client Sample ID: Duplicate  
Prep Type: Total Recoverable  
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	3.9	F1	1.00	5.09		mg/L		123	75 - 125

Lab Sample ID: 500-144853-7 MSD  
Matrix: Water  
Analysis Batch: 430950

Client Sample ID: Duplicate  
Prep Type: Total Recoverable  
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	68		10.0	79.4	4	mg/L		114	75 - 125	2	20

Lab Sample ID: 500-144853-7 MSD  
Matrix: Water  
Analysis Batch: 431132

Client Sample ID: Duplicate  
Prep Type: Total Recoverable  
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	3.9	F1	1.00	5.18	F1	mg/L		132	75 - 125	2	20

TestAmerica Chicago

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

Lab Sample ID: 500-144853-7 DU  
Matrix: Water  
Analysis Batch: 430950

Client Sample ID: Duplicate  
Prep Type: Total Recoverable  
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Calcium	68		69.8		mg/L		3	20

Lab Sample ID: 500-144853-7 DU  
Matrix: Water  
Analysis Batch: 431132

Client Sample ID: Duplicate  
Prep Type: Total Recoverable  
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	3.9	F1	3.98		mg/L		3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-430893/1  
Matrix: Water  
Analysis Batch: 430893

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/07/18 04:02	1

Lab Sample ID: LCS 500-430893/2  
Matrix: Water  
Analysis Batch: 430893

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	292		mg/L		117	80 - 120

Lab Sample ID: MB 500-431082/1  
Matrix: Water  
Analysis Batch: 431082

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/08/18 03:49	1

Lab Sample ID: LCS 500-431082/2  
Matrix: Water  
Analysis Batch: 431082

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	292		mg/L		117	80 - 120

Lab Sample ID: MB 500-431535/1  
Matrix: Water  
Analysis Batch: 431535

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/10/18 05:12	1

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

**Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)**

Lab Sample ID: LCS 500-431535/2  
Matrix: Water  
Analysis Batch: 431535

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	288		mg/L		115	80 - 120

**Method: SM 4500 Cl- E - Chloride, Total**

Lab Sample ID: MB 500-432035/4  
Matrix: Water  
Analysis Batch: 432035

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/13/18 19:35	1

Lab Sample ID: LCS 500-432035/5  
Matrix: Water  
Analysis Batch: 432035

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.0		mg/L		104	85 - 115

Lab Sample ID: 500-144853-3 MS  
Matrix: Water  
Analysis Batch: 432035

Client Sample ID: MW-09  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200		50.0	230	4	mg/L		58	75 - 125

Lab Sample ID: 500-144853-3 MSD  
Matrix: Water  
Analysis Batch: 432035

Client Sample ID: MW-09  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	200		50.0	238	4	mg/L		75	75 - 125	4	20

**Method: SM 4500 F C - Fluoride**

Lab Sample ID: MB 500-431959/3  
Matrix: Water  
Analysis Batch: 431959

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			05/11/18 21:56	1

Lab Sample ID: LCS 500-431959/4  
Matrix: Water  
Analysis Batch: 431959

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.3		mg/L		103	80 - 120

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

**Method: SM 4500 F C - Fluoride (Continued)**

Lab Sample ID: 500-144853-7 MS  
Matrix: Water  
Analysis Batch: 431959

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.70		5.00	5.84		mg/L		103	75 - 125

Lab Sample ID: 500-144853-7 MSD  
Matrix: Water  
Analysis Batch: 431959

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.70		5.00	5.87		mg/L		103	75 - 125	1	20

**Method: SM 4500 SO4 E - Sulfate, Total**

Lab Sample ID: MB 500-431994/3  
Matrix: Water  
Analysis Batch: 431994

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/12/18 05:51	1

Lab Sample ID: LCS 500-431994/4  
Matrix: Water  
Analysis Batch: 431994

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.4		mg/L		92	80 - 120

**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago  
2417 Bond St.  
University Park, IL 60484  
708-534-5200  
Fax: 708-534-5211

<b>Report To:</b>	<b>Bill To:</b>	<b>Lab Lot #</b> 500-144853	
Contact: Richard Gnat	Contact:	<b>Package Sealed</b>	<b>Samples Sealed</b>
Company: KPRG and Associates, Inc	Company:	Yes <input checked="" type="radio"/> No <input type="radio"/>	Yes <input checked="" type="radio"/> No <input type="radio"/>
Address: 14665 W. Lisbon Rd., Suite 2B	Address:	<b>Received on Ice</b>	<b>Samples Intact</b>
Brookfield, WI 53005		Yes <input checked="" type="radio"/> No <input type="radio"/>	Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
Phone: 262-781-0475	Phone:	<b>Temperature °C of Cooler</b>	
Email: richardg@kprginc.com	Email:	(3.2)/(2.9)	
	PO #:		

Sampler Name:		COMPANY:	# / Cont.							Within Hold Time	Preserv. Indicated	
Ian John Howieson		KPRG and Associates Inc.	Volume							Yes <input checked="" type="radio"/> No <input type="radio"/>	Yes <input checked="" type="radio"/> No <input type="radio"/> N/A	
Project Name:		TestAmerica Project Number:	Preserv.							pH Check OK	Res. CL <sub>2</sub> Check OK	
Quarterly- Will County CCR		50011609								Yes <input checked="" type="radio"/> No <input type="radio"/>	Yes <input checked="" type="radio"/> No <input type="radio"/> N/A	
Project Location:		TAT	Matrix	# of Cont						Sample Labels and COC Agree		
Romeoville, IL		15 Days								Yes <input checked="" type="radio"/> No <input type="radio"/>	COC not present	
Lab PM:		eric.lang@testamerica.com							Additional Analyses / Remarks			
Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time								
						6020A - Total Metals (B, Ca)	2540C - TDS	4500_F_C - Fluoride	SM4500_CLE Chloride	SM4500_SO4_E - Sulfate		
1		MW-05	5-2-18	15:42	W	2	X	X	X	X	X	
2		MW-06	5-3-18	10:04	W	2	X	X	X	X	X	
3		MW-09	5-1-18	14:35	W	2	X	X	X	X	X	
4		MW-10	5-1-18	16:17	W	2	X	X	X	X	X	
5		MW-11	5-3-18	11:25	W	2	X	X	X	X	X	
6		MW-12	5-3-18	12:17	W	2	X	X	X	X	X	
7		Duplicate	5-3-18	N/A	W	2	X	X	X	X	X	

RELINQUISHED BY: IJH	COMPANY: KPRG	DATE: 5-3-18	TIME: 15:40	RECEIVED BY: [Signature]	COMPANY: TA-CORP	DATE: 5/3/18	TIME: 1540
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

**Matrix Key**  
 WW = Wastewater SE = Sediment  
 W = Water SO = Solid  
 S = Soil DL = Drum Liquid  
 SL = Sludge DS = Drum Solid  
 MS = Miscellaneous L = Leachate  
 OL = Oil W = Wipe  
 A = Air O = \_\_\_\_\_

**Container Key**  
 1. Plastic  
 2. VOA Vial  
 3. Sterile Plastic  
 4. Amber Glass  
 5. Widemouth Glass  
 6. Other

**Preservative Key**  
 1. HCl, Cool to 4°  
 2. H<sub>2</sub>SO<sub>4</sub>, Cool to 4°  
 3. HNO<sub>3</sub>, Cool to 4°  
 4. NaOH, Cool to 4°  
 5. NaOH/Zn, Cool to 4°  
 6. Cool to 4°  
 7. None

500-144853 COC

Date Received	5.3.18
Courier:	144
Hand Delivered	<input type="checkbox"/>
Bill of Lading:	

STL-8208 (0600)

**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-144853-1

**Login Number: 144853**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(3.2)(2.9)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	



Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

**Client Sample ID: MW-05**  
**Date Collected: 05/02/18 15:42**  
**Date Received: 05/03/18 15:40**

**Lab Sample ID: 500-144853-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:36	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		10	431132	05/07/18 11:30	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	431082	05/08/18 04:43	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		1	432035	05/13/18 19:37	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:05	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	431994		CLB	TAL CHI
					(Start)	05/12/18 06:06		
					(End)	05/12/18 06:07		

**Client Sample ID: MW-06**  
**Date Collected: 05/03/18 10:04**  
**Date Received: 05/03/18 15:40**

**Lab Sample ID: 500-144853-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:39	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		10	431132	05/07/18 11:33	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	431535	05/10/18 05:35	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		1	432035	05/13/18 19:38	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:09	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	431994		CLB	TAL CHI
					(Start)	05/12/18 06:07		
					(End)	05/12/18 06:08		

**Client Sample ID: MW-09**  
**Date Collected: 05/01/18 14:35**  
**Date Received: 05/03/18 15:40**

**Lab Sample ID: 500-144853-3**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:43	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		5	431132	05/07/18 11:37	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430893	05/07/18 04:58	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	432035	05/13/18 20:16	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:14	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	431994		CLB	TAL CHI
					(Start)	05/12/18 06:08		
					(End)	05/12/18 06:09		



Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

**Client Sample ID: MW-10**

**Lab Sample ID: 500-144853-4**

**Date Collected: 05/01/18 16:17**

**Matrix: Water**

**Date Received: 05/03/18 15:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:47	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		10	431132	05/07/18 11:41	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430893	05/07/18 05:01	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	432035	05/13/18 20:17	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:18	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	431994		CLB	TAL CHI
						(Start) 05/12/18 06:09		
						(End) 05/12/18 06:10		

**Client Sample ID: MW-11**

**Lab Sample ID: 500-144853-5**

**Date Collected: 05/03/18 11:25**

**Matrix: Water**

**Date Received: 05/03/18 15:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:51	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		10	431132	05/07/18 11:45	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	431535	05/10/18 05:37	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	432035	05/13/18 20:18	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:22	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	431994		CLB	TAL CHI
						(Start) 05/12/18 06:10		
						(End) 05/12/18 06:11		

**Client Sample ID: MW-12**

**Lab Sample ID: 500-144853-6**

**Date Collected: 05/03/18 12:17**

**Matrix: Water**

**Date Received: 05/03/18 15:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:54	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		5	431132	05/07/18 11:48	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	431535	05/10/18 05:40	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	432035	05/13/18 20:18	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:26	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	431994		CLB	TAL CHI
						(Start) 05/12/18 06:11		
						(End) 05/12/18 06:12		

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

**Client Sample ID: Duplicate**

**Lab Sample ID: 500-144853-7**

**Date Collected: 05/03/18 00:00**

**Matrix: Water**

**Date Received: 05/03/18 15:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 18:06	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		10	431132	05/07/18 12:00	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	431535	05/10/18 05:43	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	432035	05/13/18 20:19	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:30	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	431994		CLB	TAL CHI
					(Start)	05/12/18 06:12		
					(End)	05/12/18 06:13		

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-149021-1

Client Project/Site: Will County CCR

For:

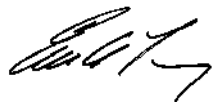
KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 1A

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

8/3/2018 4:47:52 PM

Eric Lang, Manager of Project Management

(708)534-5200

[eric.lang@testamericainc.com](mailto:eric.lang@testamericainc.com)



### LINKS

Review your project results through

TotalAccess

Have a Question?



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[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

**Job ID: 500-149021-1**

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative  
500-149021-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 7/26/2018 11:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.6° C.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

### Method Summary

Method	Method Description	Protocol	Laboratory
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



Sample Summary

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-149021-1	MW-06	Water	07/25/18 16:16	07/26/18 11:20
500-149021-2	MW-09	Water	07/25/18 12:10	07/26/18 11:20

- 1
- 2
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- 4
- 5
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- 7
- 8
- 9
- 10
- 11
- 12

# Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

**Client Sample ID: MW-06**  
**Date Collected: 07/25/18 16:16**  
**Date Received: 07/26/18 11:20**

**Lab Sample ID: 500-149021-1**  
**Matrix: Water**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	280		50		mg/L			08/02/18 11:50	10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12



# Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

**Client Sample ID: MW-09**  
**Date Collected: 07/25/18 12:10**  
**Date Received: 07/26/18 11:20**

**Lab Sample ID: 500-149021-2**  
**Matrix: Water**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	320		50		mg/L			08/02/18 11:51	10



Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

### General Chemistry

#### Analysis Batch: 443674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149021-1	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-149021-2	MW-09	Total/NA	Water	SM 4500 SO4 E	
MB 500-443674/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-443674/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

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QC Sample Results

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

**Method: SM 4500 SO4 E - Sulfate, Total**

Lab Sample ID: MB 500-443674/3  
 Matrix: Water  
 Analysis Batch: 443674

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			08/02/18 11:31	1

Lab Sample ID: LCS 500-443674/4  
 Matrix: Water  
 Analysis Batch: 443674

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.0		mg/L		100	80 - 120





**TestAmerica Chicago**  
2417 Bond St.  
University Park, IL 60484  
708-534-5200  
Fax: 708-534-5211

<b>Report To:</b> Contact: Richard Gnat Company: KPRG and Associates, Inc Address: 14665 W. Lisbon Rd., Suite 2B Brookfield, WI 53005 Phone: 262-781-0475 Email: richardg@kprginc.com	<b>Bill To:</b> Contact: Company: Address: Phone: Email: PO #:	<b>Lab Lot #</b> 500-149021
Package Sealed: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Samples Sealed: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Received on Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Temperature °C of Cooler: 5.0		

<b>Sampler Name:</b> Ian John Howieson		<b>COMPANY:</b> KPRG and Associates Inc.		<b># / Cont.</b>																<b>Within Hold Time</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Preserv. Indicated</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<b>Project Name:</b> Quarterly- Will County CCR		<b>TestAmerica Project Number:</b> 50011609		<b>Preserv.</b>																<b>pH Check OK</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Res. CL<sub>2</sub> Check OK</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<b>Project Location:</b> Romeoville, IL		<b>TAT</b> 15 Days		<b>Matrix</b>																<b>Sample Labels and COC Agree</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> COC not present	
<b>Lab PM:</b> Eric Lang		eric.lang@testamerica.com		<b># of Cont</b>																<b>Additional Analyses / Remarks</b>	
<b>Laboratory ID</b>	<b>MS-MSD</b>	<b>Client Sample ID</b>	<b>Sampling Date</b>	<b>Sampling Time</b>																	
		MW-05	---	---	W																
1		MW-06	7-25-18	16:16	W	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
2		MW-09	7-25-18	12:10	W	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
		MW-10	---	---	W																
		MW-11	---	---	W																
		MW-12	---	---	W																
		Duplicate	---	---	W																

<b>RELINQUISHED BY:</b> IJH	<b>COMPANY:</b> KPRG	<b>DATE:</b> 7-25-18	<b>TIME:</b> 11:20	<b>RECEIVED BY:</b> Shirley Scott	<b>COMPANY:</b> KPRG	<b>DATE:</b> 7/26/18	<b>TIME:</b> 11:20
<b>RELINQUISHED BY:</b>	<b>COMPANY:</b>	<b>DATE:</b>	<b>TIME:</b>	<b>RECEIVED BY:</b>	<b>COMPANY:</b>	<b>DATE:</b>	<b>TIME:</b>

**Matrix Key**  
 WW = Wastewater SE = Sediment  
 W = Water SO = Solid  
 S = Soil DL = Drum Liquid  
 SL = Sludge DS = Drum Solid  
 MS = Miscellaneous L = Leachate  
 OL = Oil W = Wipe  
 A = Air O = \_\_\_\_\_

**Container Key**  
 1. Plastic  
 2. VOA Vial  
 3. Sterile Plastic  
 4. Amber Glass  
 5. Widemouth Glass  
 6. Other

**Preservative Key**  
 1. HCl, Cool to 4°  
 2. H<sub>2</sub>SO<sub>4</sub>, Cool to 4°  
 3. HNO<sub>3</sub>, Cool to 4°  
 4. NaOH, Cool to 4°  
 5. NaOH/Zn, Cool to 4°  
 6. Cool to 4°  
 7. None

**COMMENTS:**

**Date Received** 07/26/18  
**Courier:**  
**Hand Delivered**   
**Bill of Lading:** 2 of 2

STL-8208 (0600)

**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-149021-1

**Login Number: 149021**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Sanchez, Ariel M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

**Client Sample ID: MW-06**  
**Date Collected: 07/25/18 16:16**  
**Date Received: 07/26/18 11:20**

**Lab Sample ID: 500-149021-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 SO4 E		10	443674	08/02/18 11:50 08/02/18 11:51	CLB	TAL CHI

**Client Sample ID: MW-09**  
**Date Collected: 07/25/18 12:10**  
**Date Received: 07/26/18 11:20**

**Lab Sample ID: 500-149021-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 SO4 E		10	443674	08/02/18 11:51 08/02/18 11:52	CLB	TAL CHI

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-152628-1

Client Project/Site: Will County CCR

For:

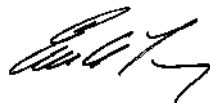
KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 1A

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

10/22/2018 3:05:36 PM

Eric Lang, Manager of Project Management

(708)534-5200

[eric.lang@testamericainc.com](mailto:eric.lang@testamericainc.com)



### LINKS

Review your project results through

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[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

**Job ID: 500-152628-1**

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative  
500-152628-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 10/4/2018 1:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.9° C.

**Metals**

Method(s) 6020A: The matrix spike duplicate (MSD) recovery for sample (500-152628-A-6-D MSD ^5) were outside control limits for Boron. The associated laboratory control sample (LCS) recovery was within acceptance limits, therefore the data has been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



Sample Summary

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-152628-1	MW-05	Water	10/03/18 09:18	10/04/18 13:25
500-152628-2	MW-06	Water	10/03/18 10:44	10/04/18 13:25
500-152628-3	MW-09	Water	10/02/18 14:10	10/04/18 13:25
500-152628-4	MW-10	Water	10/03/18 12:52	10/04/18 13:25
500-152628-5	MW-11	Water	10/03/18 15:05	10/04/18 13:25
500-152628-6	MW-12	Water	10/03/18 11:56	10/04/18 13:25
500-152628-7	Duplicate	Water	10/03/18 00:00	10/04/18 13:25

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**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Client Sample ID: MW-05**  
**Date Collected: 10/03/18 09:18**  
**Date Received: 10/04/18 13:25**

**Lab Sample ID: 500-152628-1**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.9		0.50		mg/L		10/08/18 08:49	10/10/18 14:31	10
Calcium	150		0.20		mg/L		10/08/18 08:49	10/09/18 21:59	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1200		10		mg/L			10/08/18 00:03	1
Chloride	55		2.0		mg/L			10/19/18 11:30	1
Fluoride	0.48		0.10		mg/L			10/05/18 23:31	1
Sulfate	430		100		mg/L			10/12/18 08:00	20



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Client Sample ID: MW-06**  
**Date Collected: 10/03/18 10:44**  
**Date Received: 10/04/18 13:25**

**Lab Sample ID: 500-152628-2**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.5		0.50		mg/L		10/08/18 08:49	10/10/18 14:35	10
Calcium	93		0.20		mg/L		10/08/18 08:49	10/09/18 22:03	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	720		10		mg/L			10/08/18 00:08	1
Chloride	44		2.0		mg/L			10/19/18 11:31	1
Fluoride	0.31		0.10		mg/L			10/05/18 23:35	1
Sulfate	240		50		mg/L			10/12/18 08:01	10



**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

**Client Sample ID: MW-09**

**Date Collected: 10/02/18 14:10**

**Date Received: 10/04/18 13:25**

**Lab Sample ID: 500-152628-3**

**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.1		0.25		mg/L		10/08/18 08:49	10/10/18 14:45	5
Calcium	49		0.20		mg/L		10/08/18 08:49	10/09/18 22:14	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	820		10		mg/L			10/08/18 00:11	1
Chloride	170		10		mg/L			10/19/18 11:32	5
Fluoride	0.55		0.10		mg/L			10/05/18 23:40	1
Sulfate	270		100		mg/L			10/12/18 08:02	20



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Client Sample ID: MW-10**  
**Date Collected: 10/03/18 12:52**  
**Date Received: 10/04/18 13:25**

**Lab Sample ID: 500-152628-4**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.5		0.25		mg/L		10/08/18 08:49	10/10/18 14:49	5
Calcium	110		0.20		mg/L		10/08/18 08:49	10/09/18 22:18	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	860		10		mg/L			10/08/18 00:14	1
Chloride	140		10		mg/L			10/19/18 11:33	5
Fluoride	0.89		0.10		mg/L			10/05/18 23:42	1
Sulfate	200		100		mg/L			10/12/18 08:05	20





**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Client Sample ID: MW-11**  
**Date Collected: 10/03/18 15:05**  
**Date Received: 10/04/18 13:25**

**Lab Sample ID: 500-152628-5**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.1		0.50		mg/L		10/08/18 08:49	10/10/18 14:52	10
Calcium	78		0.20		mg/L		10/08/18 08:49	10/09/18 22:22	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	680		10		mg/L			10/08/18 00:16	1
Chloride	110		10		mg/L			10/19/18 11:34	5
Fluoride	0.66		0.10		mg/L			10/05/18 23:46	1
Sulfate	120		50		mg/L			10/12/18 08:06	10



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Client Sample ID: MW-12**  
**Date Collected: 10/03/18 11:56**  
**Date Received: 10/04/18 13:25**

**Lab Sample ID: 500-152628-6**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2	F1	0.25		mg/L		10/08/18 08:49	10/10/18 14:56	5
Calcium	150		0.20		mg/L		10/08/18 08:49	10/09/18 22:26	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1100		10		mg/L			10/08/18 00:19	1
Chloride	160		10		mg/L			10/19/18 11:35	5
Fluoride	0.49		0.10		mg/L			10/06/18 00:02	1
Sulfate	170		50		mg/L			10/12/18 08:07	10



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Client Sample ID: Duplicate**  
**Date Collected: 10/03/18 00:00**  
**Date Received: 10/04/18 13:25**

**Lab Sample ID: 500-152628-7**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5.0		0.50		mg/L		10/08/18 08:49	10/10/18 15:22	10
Calcium	140		0.20		mg/L		10/08/18 08:49	10/09/18 22:45	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1200		10		mg/L			10/08/18 00:21	1
Chloride	56		2.0		mg/L			10/19/18 11:40	1
Fluoride	0.47		0.10		mg/L			10/06/18 00:06	1
Sulfate	400		100		mg/L			10/12/18 08:08	20



Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Qualifiers**

**Metals**

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

**Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Metals**

**Prep Batch: 453720**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-1	MW-05	Total Recoverable	Water	3005A	
500-152628-2	MW-06	Total Recoverable	Water	3005A	
500-152628-3	MW-09	Total Recoverable	Water	3005A	
500-152628-4	MW-10	Total Recoverable	Water	3005A	
500-152628-5	MW-11	Total Recoverable	Water	3005A	
500-152628-6	MW-12	Total Recoverable	Water	3005A	
500-152628-7	Duplicate	Total Recoverable	Water	3005A	
MB 500-453720/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-453720/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-152628-6 MS	MW-12	Total Recoverable	Water	3005A	
500-152628-6 MSD	MW-12	Total Recoverable	Water	3005A	
500-152628-6 DU	MW-12	Total Recoverable	Water	3005A	

**Analysis Batch: 454115**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-1	MW-05	Total Recoverable	Water	6020A	453720
500-152628-2	MW-06	Total Recoverable	Water	6020A	453720
500-152628-3	MW-09	Total Recoverable	Water	6020A	453720
500-152628-4	MW-10	Total Recoverable	Water	6020A	453720
500-152628-5	MW-11	Total Recoverable	Water	6020A	453720
500-152628-6	MW-12	Total Recoverable	Water	6020A	453720
500-152628-7	Duplicate	Total Recoverable	Water	6020A	453720
MB 500-453720/1-A	Method Blank	Total Recoverable	Water	6020A	453720
LCS 500-453720/2-A	Lab Control Sample	Total Recoverable	Water	6020A	453720
500-152628-6 MS	MW-12	Total Recoverable	Water	6020A	453720
500-152628-6 MSD	MW-12	Total Recoverable	Water	6020A	453720
500-152628-6 DU	MW-12	Total Recoverable	Water	6020A	453720

**Analysis Batch: 454359**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-1	MW-05	Total Recoverable	Water	6020A	453720
500-152628-2	MW-06	Total Recoverable	Water	6020A	453720
500-152628-3	MW-09	Total Recoverable	Water	6020A	453720
500-152628-4	MW-10	Total Recoverable	Water	6020A	453720
500-152628-5	MW-11	Total Recoverable	Water	6020A	453720
500-152628-6	MW-12	Total Recoverable	Water	6020A	453720
500-152628-7	Duplicate	Total Recoverable	Water	6020A	453720
MB 500-453720/1-A	Method Blank	Total Recoverable	Water	6020A	453720
LCS 500-453720/2-A	Lab Control Sample	Total Recoverable	Water	6020A	453720
500-152628-6 MS	MW-12	Total Recoverable	Water	6020A	453720
500-152628-6 MSD	MW-12	Total Recoverable	Water	6020A	453720
500-152628-6 DU	MW-12	Total Recoverable	Water	6020A	453720

**General Chemistry**

**Analysis Batch: 453606**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-1	MW-05	Total/NA	Water	SM 4500 F C	
500-152628-2	MW-06	Total/NA	Water	SM 4500 F C	
500-152628-3	MW-09	Total/NA	Water	SM 4500 F C	

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**General Chemistry (Continued)**

**Analysis Batch: 453606 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-4	MW-10	Total/NA	Water	SM 4500 F C	
500-152628-5	MW-11	Total/NA	Water	SM 4500 F C	
500-152628-6	MW-12	Total/NA	Water	SM 4500 F C	
500-152628-7	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-453606/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-453606/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

**Analysis Batch: 453675**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-1	MW-05	Total/NA	Water	SM 2540C	
500-152628-2	MW-06	Total/NA	Water	SM 2540C	
500-152628-3	MW-09	Total/NA	Water	SM 2540C	
500-152628-4	MW-10	Total/NA	Water	SM 2540C	
500-152628-5	MW-11	Total/NA	Water	SM 2540C	
500-152628-6	MW-12	Total/NA	Water	SM 2540C	
500-152628-7	Duplicate	Total/NA	Water	SM 2540C	
MB 500-453675/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-453675/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-152628-1 DU	MW-05	Total/NA	Water	SM 2540C	

**Analysis Batch: 454555**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-1	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-152628-2	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-152628-3	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-152628-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-152628-5	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-152628-6	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-152628-7	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-454555/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-454555/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

**Analysis Batch: 455858**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-1	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-152628-2	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-152628-3	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-152628-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-152628-5	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-152628-6	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-152628-7	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-455858/39	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-455858/40	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-152628-6 MS	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-152628-6 MSD	MW-12	Total/NA	Water	SM 4500 Cl- E	



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-453720/1-A  
Matrix: Water  
Analysis Batch: 454115

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 453720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		10/08/18 08:49	10/09/18 21:28	1

Lab Sample ID: MB 500-453720/1-A  
Matrix: Water  
Analysis Batch: 454359

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 453720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		10/08/18 08:49	10/10/18 14:24	1

Lab Sample ID: LCS 500-453720/2-A  
Matrix: Water  
Analysis Batch: 454115

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 453720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	10.6		mg/L		106	80 - 120

Lab Sample ID: LCS 500-453720/2-A  
Matrix: Water  
Analysis Batch: 454359

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 453720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.869		mg/L		87	80 - 120

Lab Sample ID: 500-152628-6 MS  
Matrix: Water  
Analysis Batch: 454115

Client Sample ID: MW-12  
Prep Type: Total Recoverable  
Prep Batch: 453720

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	150		10.0	151	4	mg/L		30	75 - 125

Lab Sample ID: 500-152628-6 MS  
Matrix: Water  
Analysis Batch: 454359

Client Sample ID: MW-12  
Prep Type: Total Recoverable  
Prep Batch: 453720

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	2.2	F1	1.00	3.03		mg/L		80	75 - 125

Lab Sample ID: 500-152628-6 MSD  
Matrix: Water  
Analysis Batch: 454115

Client Sample ID: MW-12  
Prep Type: Total Recoverable  
Prep Batch: 453720

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	150		10.0	156	4	mg/L		81	75 - 125	3	20

Lab Sample ID: 500-152628-6 MSD  
Matrix: Water  
Analysis Batch: 454359

Client Sample ID: MW-12  
Prep Type: Total Recoverable  
Prep Batch: 453720

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	2.2	F1	1.00	2.97	F1	mg/L		74	75 - 125	2	20

TestAmerica Chicago

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

Lab Sample ID: 500-152628-6 DU  
Matrix: Water  
Analysis Batch: 454115

Client Sample ID: MW-12  
Prep Type: Total Recoverable  
Prep Batch: 453720

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Calcium	150		147		mg/L		1	20

Lab Sample ID: 500-152628-6 DU  
Matrix: Water  
Analysis Batch: 454359

Client Sample ID: MW-12  
Prep Type: Total Recoverable  
Prep Batch: 453720

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	2.2	F1	2.17		mg/L		3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-453675/1  
Matrix: Water  
Analysis Batch: 453675

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			10/07/18 23:25	1

Lab Sample ID: LCS 500-453675/2  
Matrix: Water  
Analysis Batch: 453675

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	252		mg/L		101	80 - 120

Lab Sample ID: 500-152628-1 DU  
Matrix: Water  
Analysis Batch: 453675

Client Sample ID: MW-05  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1200		1240		mg/L		2	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-455858/39  
Matrix: Water  
Analysis Batch: 455858

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			10/19/18 11:28	1

Lab Sample ID: LCS 500-455858/40  
Matrix: Water  
Analysis Batch: 455858

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	48.5		mg/L		97	85 - 115



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

**Method: SM 4500 Cl- E - Chloride, Total (Continued)**

Lab Sample ID: 500-152628-6 MS  
Matrix: Water  
Analysis Batch: 455858

Client Sample ID: MW-12  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	160		50.0	207		mg/L		86	75 - 125

Lab Sample ID: 500-152628-6 MSD  
Matrix: Water  
Analysis Batch: 455858

Client Sample ID: MW-12  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	160		50.0	212		mg/L		97	75 - 125	3	20

**Method: SM 4500 F C - Fluoride**

Lab Sample ID: MB 500-453606/3  
Matrix: Water  
Analysis Batch: 453606

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			10/05/18 22:17	1

Lab Sample ID: LCS 500-453606/4  
Matrix: Water  
Analysis Batch: 453606

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.6		mg/L		106	80 - 120

**Method: SM 4500 SO4 E - Sulfate, Total**

Lab Sample ID: MB 500-454555/3  
Matrix: Water  
Analysis Batch: 454555

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			10/12/18 07:53	1

Lab Sample ID: LCS 500-454555/4  
Matrix: Water  
Analysis Batch: 454555

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.3		mg/L		97	80 - 120



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TestAmerica Chic.  
2417 Bond St.  
University Park, IL 6  
708-534-5200  
Fax. 708-534-5211



500-152628 COC

Report To:

Contact: Richard Gnat  
Company: KPRG and Associates, Inc  
Address: 14665 W. Lisbon Rd., Suite 2B  
Brookfield, WI 53005  
Phone: 262-781-0475  
Email: richardg@kprginc.com

Bill To:

Contact:  
Company:  
Address:  
Phone:  
Email:  
PO #:

Lab Lot # 500-152628  
Package Sealed: Yes  No   
Samples Sealed: Yes  No   
Received on Ice: Yes  No   
Samples Intact: Yes  No  N/A   
Temperature °C of Cooler: 4.9

Sampler Name:		COMPANY:		# / Cont.		Volume		Preserv.		Matrix		# of Cont		Within Hold Time		Preserv. Indicated		
Ian John Howieson		KPRG and Associates Inc.												Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>		
Project Name:		TestAmerica Project Number:		Matrix		# of Cont		Preserv.		pH Check OK		Res CL <sub>2</sub> Check OK		Sample Labels and COC Agree				
Quarterly- VIII County CCR		50011609								Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> COC not present <input type="checkbox"/>				
Project Location:		TAT																
Romeoville, IL		15 Days																
Lab PM:		eric.lang@testamerica.com																
Eric Lang																		
Laboratory ID	MS/MSD	Client Sample ID	Sampling Date	Sampling Time											Additional Analyses / Remarks			
1		MW-05	10-3-18	09:18	W	2	-	X	X	X	X	X	X	X				
2		MW-06	10-3-18	10:44	W	2	-	X	X	X	X	X	X	X				
3		MW-09	10-2-18	14:10	W	2	-	X	X	X	X	X	X	X				
4		MW-10	10-3-18	12:52	W	2	-	X	X	X	X	X	X	X				
5		MW-11	10-3-18	15:05	W	2	-	X	X	X	X	X	X	X				
6		MW-12	10-3-18	11:56	W	2	-	X	X	X	X	X	X	X				
7		Duplicate	10-3-18	-	W	2	-	X	X	X	X	X	X	X				

RELINQUISHED BY: IJH	COMPANY: KPRG	DATE: 10-4-18	TIME: 13:25	RECEIVED BY: <i>[Signature]</i>	COMPANY: TA-CRT	DATE: 10/4/18	TIME: 13:25
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

- Matrix Key**
- WW = Wastewater
  - W = Water
  - S = Soil
  - SL = Sludge
  - MS = Miscellaneous
  - OL = Oil
  - A = Air
  - SE = Sediment
  - SO = Solid
  - DL = Drum Liquid
  - DS = Drum Solid
  - L = Leachate
  - W = Wipe
  - O = \_\_\_\_\_

- Container Key**
1. Plastic
  2. VOA Vial
  3. Sterile Plastic
  4. Amber Glass
  5. Widemouth Glass
  6. Other

- Preservative Key**
1. HCl, Cool to 4°
  2. H<sub>2</sub>SO<sub>4</sub>, Cool to 4°
  3. HNO<sub>3</sub>, Cool to 4°
  4. NaOH, Cool to 4°
  5. NaOH/Zn, Cool to 4°
  6. Cool to 4°
  7. None

COMMENTS:

Date Received: 1/1/  
Courier:  
Hand Delivered:   
Bill of Lading:

2 of 2

STL-8208 (0600)

**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-152628-1

**Login Number: 152628**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Scott, Sherri L**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

**Client Sample ID: MW-05**  
**Date Collected: 10/03/18 09:18**  
**Date Received: 10/04/18 13:25**

**Lab Sample ID: 500-152628-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	454115	10/09/18 21:59	FXG	TAL CHI
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		10	454359	10/10/18 14:31	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	453675	10/08/18 00:03	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		1	455858	10/19/18 11:30	CCK	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	453606	10/05/18 23:31	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	454555		CLB	TAL CHI
					(Start)	10/12/18 08:00		
					(End)	10/12/18 08:01		

**Client Sample ID: MW-06**  
**Date Collected: 10/03/18 10:44**  
**Date Received: 10/04/18 13:25**

**Lab Sample ID: 500-152628-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	454115	10/09/18 22:03	FXG	TAL CHI
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		10	454359	10/10/18 14:35	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	453675	10/08/18 00:08	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		1	455858	10/19/18 11:31	CCK	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	453606	10/05/18 23:35	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	454555		CLB	TAL CHI
					(Start)	10/12/18 08:01		
					(End)	10/12/18 08:02		

**Client Sample ID: MW-09**  
**Date Collected: 10/02/18 14:10**  
**Date Received: 10/04/18 13:25**

**Lab Sample ID: 500-152628-3**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	454115	10/09/18 22:14	FXG	TAL CHI
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	454359	10/10/18 14:45	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	453675	10/08/18 00:11	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	455858	10/19/18 11:32	CCK	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	453606	10/05/18 23:40	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	454555		CLB	TAL CHI
					(Start)	10/12/18 08:02		
					(End)	10/12/18 08:03		

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

**Client Sample ID: MW-10**

**Lab Sample ID: 500-152628-4**

**Date Collected: 10/03/18 12:52**

**Matrix: Water**

**Date Received: 10/04/18 13:25**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	454115	10/09/18 22:18	FXG	TAL CHI
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	454359	10/10/18 14:49	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	453675	10/08/18 00:14	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	455858	10/19/18 11:33	CCK	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	453606	10/05/18 23:42	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	454555		CLB	TAL CHI
						(Start) 10/12/18 08:05		
						(End) 10/12/18 08:06		

**Client Sample ID: MW-11**

**Lab Sample ID: 500-152628-5**

**Date Collected: 10/03/18 15:05**

**Matrix: Water**

**Date Received: 10/04/18 13:25**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	454115	10/09/18 22:22	FXG	TAL CHI
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		10	454359	10/10/18 14:52	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	453675	10/08/18 00:16	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	455858	10/19/18 11:34	CCK	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	453606	10/05/18 23:46	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	454555		CLB	TAL CHI
						(Start) 10/12/18 08:06		
						(End) 10/12/18 08:07		

**Client Sample ID: MW-12**

**Lab Sample ID: 500-152628-6**

**Date Collected: 10/03/18 11:56**

**Matrix: Water**

**Date Received: 10/04/18 13:25**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	454115	10/09/18 22:26	FXG	TAL CHI
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	454359	10/10/18 14:56	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	453675	10/08/18 00:19	CLB	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	455858	10/19/18 11:35	CCK	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	453606	10/06/18 00:02	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	454555		CLB	TAL CHI
						(Start) 10/12/18 08:07		
						(End) 10/12/18 08:08		

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

**Client Sample ID: Duplicate**

**Lab Sample ID: 500-152628-7**

**Date Collected: 10/03/18 00:00**

**Matrix: Water**

**Date Received: 10/04/18 13:25**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	454115	10/09/18 22:45	FXG	TAL CHI
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		10	454359	10/10/18 15:22	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	453675	10/08/18 00:21	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	455858	10/19/18 11:40	CCK	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	453606	10/06/18 00:06	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	454555		CLB	TAL CHI
					(Start)	10/12/18 08:08		
					(End)	10/12/18 08:09		

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



**APPENDIX B**

**Alternate Source Demonstration April 12, 2018**



ENVIRONMENTAL CONSULTATION &amp; REMEDIATION

**KPRG and Associates, Inc.**

**ALTERNATE SOURCE DEMONSTRATION**  
**CCR GROUNDWATER MONITORING**  
**WILL COUNTY GENERATING STATION**

April 12, 2018

Ms. Sharene Shealey  
Midwest Generation, LLC  
529 E. Romeo Road  
Romeoville, IL 60446

VIA E-MAIL

Re: Alternate Source Demonstration  
Will County Generating Station – Ash Ponds

Dear Ms. Shealey:

The initial Detection Monitoring requirements in accordance with the Federal Register, Environmental Protection Agency, 40 CFR Parts 257.94, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule dated April 17, 2015 (CCR Rule) have been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Will County Generating Station. The wells sampled were selected by Midwest Generation to meet the monitoring requirements of the CCR Rule for Ash Ponds 2 South (2S) and 3 South (3S). The CCR monitoring well network around these ponds consists of six monitoring wells (MW-05, MW-06, MW-09, MW-10, MW-11 and MW-12) as shown on Figure 1. Wells MW-05 and MW-06 are upgradient wells.

A statistical evaluation of the initial detection monitoring data was completed and submitted to Midwest Generation. The statistical evaluations were completed in accordance with the CCR Compliance Statistical Approach for Groundwater Data Evaluation, Midwest Generation Will County Generating Station dated October 10, 2017. The evaluations included outlier testing, spatial/temporal variability testing, distributional testing, and the establishment of statistical Prediction Limits (PLs) for all Appendix III compounds to which the ninth round of groundwater detection monitoring data were compared to determine whether there may be a statistically significant increase (SSI) for a specific compound at each well location. The evaluations were performed with the assistance of the Sanitas<sup>TM</sup> statistical software package and provided in the Statistical Evaluation Summary – 2017 CCR Groundwater Monitoring Will County Generating



Station dated January 12, 2018. The following conclusion/recommendations were provided:

“The completed detection monitoring statistical evaluations have determined that there are SSIs in downgradient monitoring wells relative to established background for chloride, fluoride and TDS. At this time, KPRG recommends completing an alternate source demonstration to determine whether these exceedances may be associated with an actual release from the regulated unit(s) or if another potential historical source in the vicinity of the ash ponds may be affecting the local groundwater quality. If the alternate source demonstration is successful, then detection monitoring will resume. If the alternate source demonstration is not successful, then a transition to an assessment monitoring program complying with Section 257.95 will be required.”

This report summarizes the results of the Alternate Source Demonstration in accordance with 40 CFR 257.94(e)(2) completed for the Will County Generating Station Ash Ponds 2S and 3S. The report is structured to provide a documentation of field investigation activities, a summary of LEAF Test data observations, an alternate source evaluation of the SSI parameters, conclusions and recommendations. Each is discussed separately below. The statistical evaluation data tables from the January 12, 2018 submittal are provided in Attachment 1 for reference.

#### DOCUMENTATION OF FIELD ACTIVITIES

To assist in evaluating a potential alternate source, both pond water and ash samples were collected. A pond water sample was collected from ash pond 3S directly into laboratory prepared containers, transported on ice under a completed chain-of-custody to the analytical laboratory and analyzed for CCR Appendix III detection monitoring parameters. No sample was collected for ash pond 2S due to frozen conditions. The analytical data package is provided in Attachment 2.

One composite ash sample was collected for each of the two ponds (2S and 3S). The composite samples consisted of a series of equivalent grab samples from across the length of the pond, from the inlet area to the outfall, to minimize potential skewing of the sample due to gradation changes (i.e., a larger coarse fraction near the inlet and a larger fine fraction near outfall). The individual grab samples were thoroughly mixed to form a single composite sample for each pond. The composite sample was transferred directly into laboratory prepared containers, placed on ice and shipped to the analytical laboratory under a completed chain-of-custody. The ash sediment samples were analyzed using the Leaching Environmental Assessment Framework (LEAF) test using Method 1313. Under this method, each ash sediment sample underwent leaching over a range of eight pH values plus under “Natural pH” conditions. The Natural pH condition is the actual pH of the ash itself measured in the laboratory prior to any pH modifications performed under the LEAF Test. The collected leachate from each pH value was analyzed for CCR Appendix III detection monitoring parameters. The analytical data package is included in Attachment 2.

## LEAF TEST DATA OBSERVATIONS

The results of the pond water and the ash LEAF Test analyses are provided in Tables 1 and 2, respectively. A review of Tables 1 and 2 indicates that the Natural pH of the ash leachate ranges from 8.8 to 9.2 which is higher by an order of magnitude, or more, than the noted pH of the pond water sample (7.8). This suggests that the pond water sample is not fully representative of equilibrium conditions of expected pore water within the ash sediment and, therefore, that the compound specific data from the pond water sample may also not be representative of leachate under equilibrium conditions. Based on this observation, the focus of this analysis will rely on the results of the LEAF Test data and in particular the data from the “Natural pH” samples.

Focusing on the LEAF Test data, it is noted that fluoride appears to be fairly minor component of the ash leachate with most measurements at varying pH levels being below reporting limits. The Natural pH fluoride test data for Pond 2S was <0.10 mg/l and the Natural pH fluoride test data for Pond 3S was 0.31 mg/l. The remaining analytical constituent LEAF Test data are illustrated in graphical form on Figures 2 through 8 as a function of pH. On those figures are also plotted the results of the “Natural pH” test samples and the up- and downgradient monitoring well data from the September 2017 sampling event (the initial detection monitoring event which was compared to established statistical background). In general, the following observations are made:

- Boron – The boron leachate concentration is a function of pH with concentrations decreasing from a pH of 2 through a pH of 12. There is a noted disparity in boron concentrations above a pH of 12 with Pond 2S showing a substantial increase in boron concentration and Pond 3S fairly consistent with the overall curve trend. The Natural pH sample data plots close to where it would be expected on the LEAF Test curves. The boron concentrations at all downgradient wells are slightly lower than the boron concentration noted for the Natural pH test analyses for both ash samples. The upgradient monitoring well detections for boron are within the same range as the Natural pH test analyses for both ash samples.
- Sulfate – The sulfate leachate concentration shows some scatter relative to pH. The Natural pH test samples plot within an expected range for sulfate based on their pH as compared to the two LEAF Test curves. The upgradient well sulfate data plots similar to the Natural pH analyses for both ash samples and most downgradient monitoring wells show lower sulfate concentrations than from the Natural pH analyses for both ash samples.
- Calcium – The calcium leachate concentration is a function of pH with concentrations decreasing with increasing pH. The Natural pH sample data for both Ponds 2S and 3S plots close to where it would be expected on the LEAF Test curve with calcium concentrations ranging from 59 to 95 mg/l. The upgradient well concentrations fall within the noted Natural pH test range for both ash samples. Downgradient wells generally show lower concentrations than within the noted Natural pH test range for both ash samples.

- Chloride – There were some non-detect values within the LEAF Test chloride data. For these cases, one-half of the noted detection limit was used for graphing purposes. The chloride concentrations do not appear to be a function of pH with a relatively narrow range of concentrations. The Natural pH test data and the upgradient monitoring well data all plot within a similar range as defined by the LEAF Test data. All downgradient monitoring wells show elevated chloride levels relative to the LEAF Test data.
- ORP – The oxidation-reduction potential (ORP) is a known function of pH with ORP generally decreasing with increasing pH. This is reflected in the LEAF Test curves. The Natural pH sample data for both Ponds 2S and 3S plots slightly lower than what would be expected on the LEAF Test curves. The ORP in all downgradient (and upgradient) monitoring wells plot lower than the LEAF Test curve and Natural pH test data for both ash samples.
- Specific Conductance (SC) – The SC measurements have a clear correlation with pH with measurements decreasing from a pH of 2 to a pH of 10 and then again increasing sharply as a pH of 13 is approached. The SC values of the Natural pH samples both plot slightly below the LEAF Test curve. The specific conductivity values in both the up- and downgradient monitoring wells plots below the Natural pH test data for both ash samples.
- Total Dissolved Solids (TDS) – The TDS LEAF Test curves mimic the SC curves with concentrations decreasing to a pH of just over 10 and then increasing as pH increases. The TDS values of the Natural pH samples both plot slightly below the LEAF Test curve with a narrow range of 590 to 610 mg/l. The TDS concentrations in the upgradient wells and downgradient wells are above the concentration range for both ash samples.

#### ALTERNATE SOURCE EVALUATION OF THE SSI PARAMETERS

As previously noted, the three parameters that were determined to have SSIs in downgradient monitoring wells relative to established background were chloride, fluoride and TDS. Each is discussed separately below.

##### Chloride

Downgradient monitoring wells MW-09 and MW-12 had potential SSIs for chloride during the September 2017 sampling event relative to the established pooled upgradient background. The two exceeding chloride concentrations were 310 and 270 mg/l, respectively with an established background of 149 mg/l. As discussed above in the LEAF Test curve evaluation, the chloride concentrations are independent of pH. The range of detected chloride concentrations from the LEAF Testing, including the Natural pH test, is 12 to 210 mg/l with an average of 48.7 (using one-half reporting limit for non-detect values). It is also noted that the 210 mg/l value appears to be an outlier with the next highest LEAF Test concentration

being 69 mg/l. The upgradient well chloride concentrations were 67 to 78 mg/l. Based on this data distribution, the elevated chloride concentrations detected in downgradient wells MW-09 and MW-12 must have a source other than the leachate from the ponds.

#### Fluoride

Downgradient monitoring well MW-10 had a potential SSI for this parameter during the September 2017 sampling event relative to the established pooled upgradient background. The exceeding fluoride concentration was 0.77 mg/l which was just above the established background of 0.72 mg/l. Most of the LEAF Test data shows no detections of fluoride. The two Natural pH test samples reported fluoride at <0.10 mg/l (Pond 2S) and 0.31 mg/l (Pond 3S). The upgradient well fluoride concentrations ranged from 0.40 to 0.52 mg/l. Based on this data distribution, the elevated fluoride concentration detected in monitoring well MW-10 must have a different source other than the leachate from the ponds.

#### TDS

Downgradient monitoring well MW-12 had a potential SSI for this parameter during the September 2017 sampling event relative to the established upgradient background. The exceeding TDS concentration was 1,400 mg/l which was above the established background of 950 mg/l. The TDS concentrations in the Natural pH test data ranged from 590 mg/l to 610 mg/l. The upgradient well TDS concentrations ranged from 740 mg/l to 1,000 mg/l. Based on this data, the elevated TDS concentration detected in monitoring well MW-12 must have a different source other than the leachate from the ponds.

### CONCLUSIONS/RECOMMENDATIONS

Based on the data evaluation and discussions provided above, it is concluded that the noted SSIs for chloride, fluoride and TDS are not the result of leakage of leachate from the regulated units (Ponds 2S and 3S) but rather from other potential sources. This is based on the following:

- Upgradient monitoring well concentrations of fluoride and TDS are higher than those measured for ash leachate at Natural pH conditions.
- The ash leachate at Natural pH conditions does not contain a sufficient concentration of each of these constituents to result in the measured downgradient well concentrations.

It is therefore, recommended to continue with routine detection monitoring at this time. It is noted that since upgradient well chemistry for various Appendix III constituents is similar to ash leachate chemistry at natural pH levels, it is also recommended to include intra-well statistical evaluations/comparisons for the downgradient wells in addition to the current inter-well evaluations.

If there are any questions, please contact me at 262-781-0475.

Sincerely,  
KPRG and Associates, Inc.



Richard R. Gnat, P.G.  
Principal



Timothy Stohner, P.E.  
Project Manager/Sr. Engineer

cc: David Bacher, NRG  
Peter O'Day, Midwest Generation

CERTIFICATION

In accordance with Section 257.94(e)(2) of the CCR Rule, I hereby certify based on a review of the information contained within this CCR Alternate Source Demonstration dated April 12, 2018, that the information contained in this report is accurate to the best of my knowledge.



Certified by:

Date: April 12, 2018

Timothy Stohner, P.E.  
Illinois Professional Engineer Registration No.: 062.057635  
KPRG and Associates, Inc.

**FIGURES**



DES PLAINES RIVER

MW-9

MW-11

MW-10

MW-12

ASH POND 2-S

ASH POND 3-S

MW-5

MW-6

LEGEND

MW-1 MONITORING WELL

0 150'  
APPROXIMATE SCALE

ENVIRONMENTAL CONSULTATION & REMEDIATION

**K P R G**

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

CCR MONITORING WELL SITE MAP

WILL COUNTY STATION  
ROMEOWILLE, ILLINOIS

Scale: 1" = 150' | Date: December 27, 2017

KPRG Project No. 12313.3 | FIGURE 1

\\projects\midwest\_generation\attorney-client\_privilege\_gw\_evaluations\will\_county\_map.dwg

Figure 2. Boron Concentration vs. pH Value - Will County Station

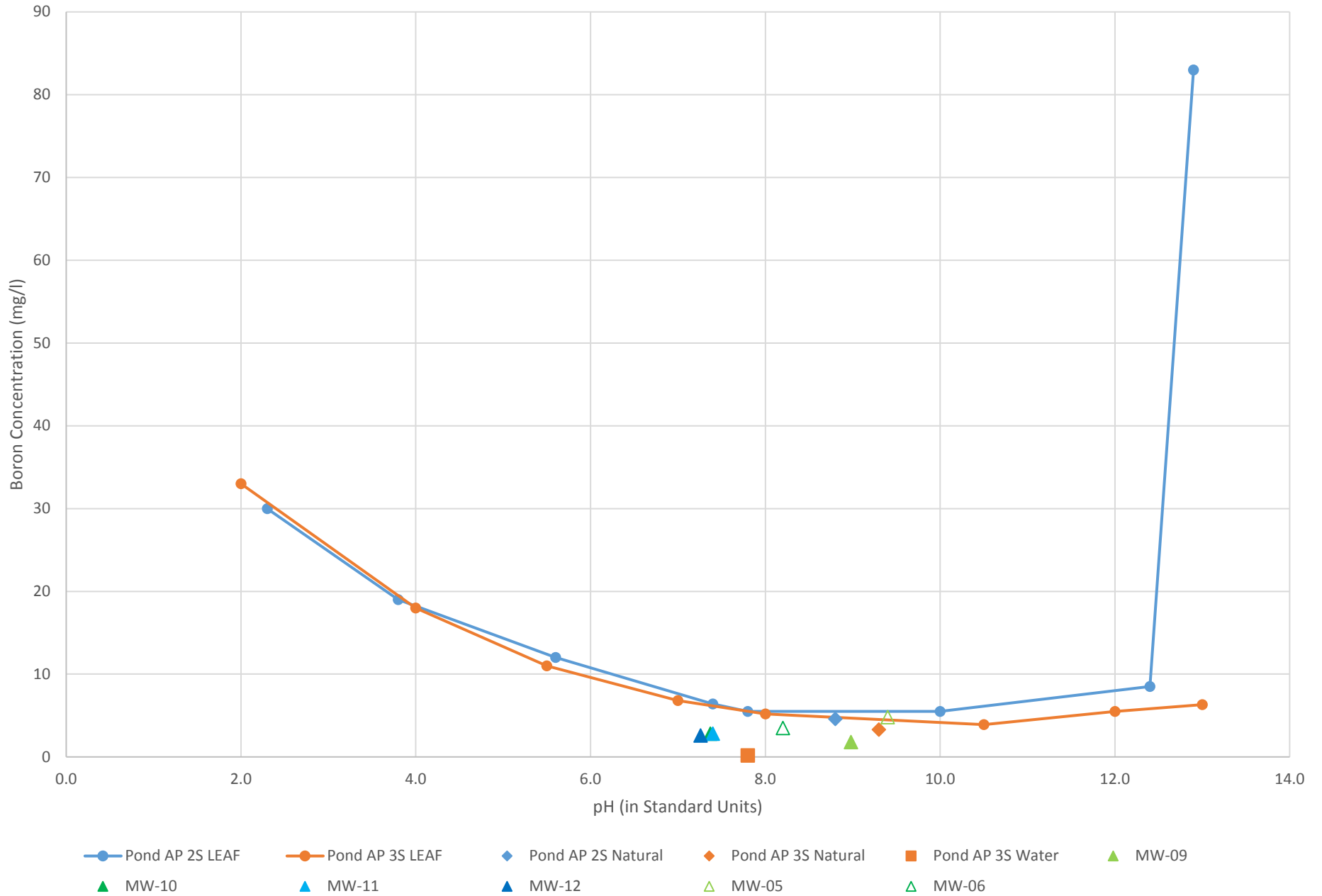




Figure 3. Sulfate Concentration vs. pH Value - Will County Station

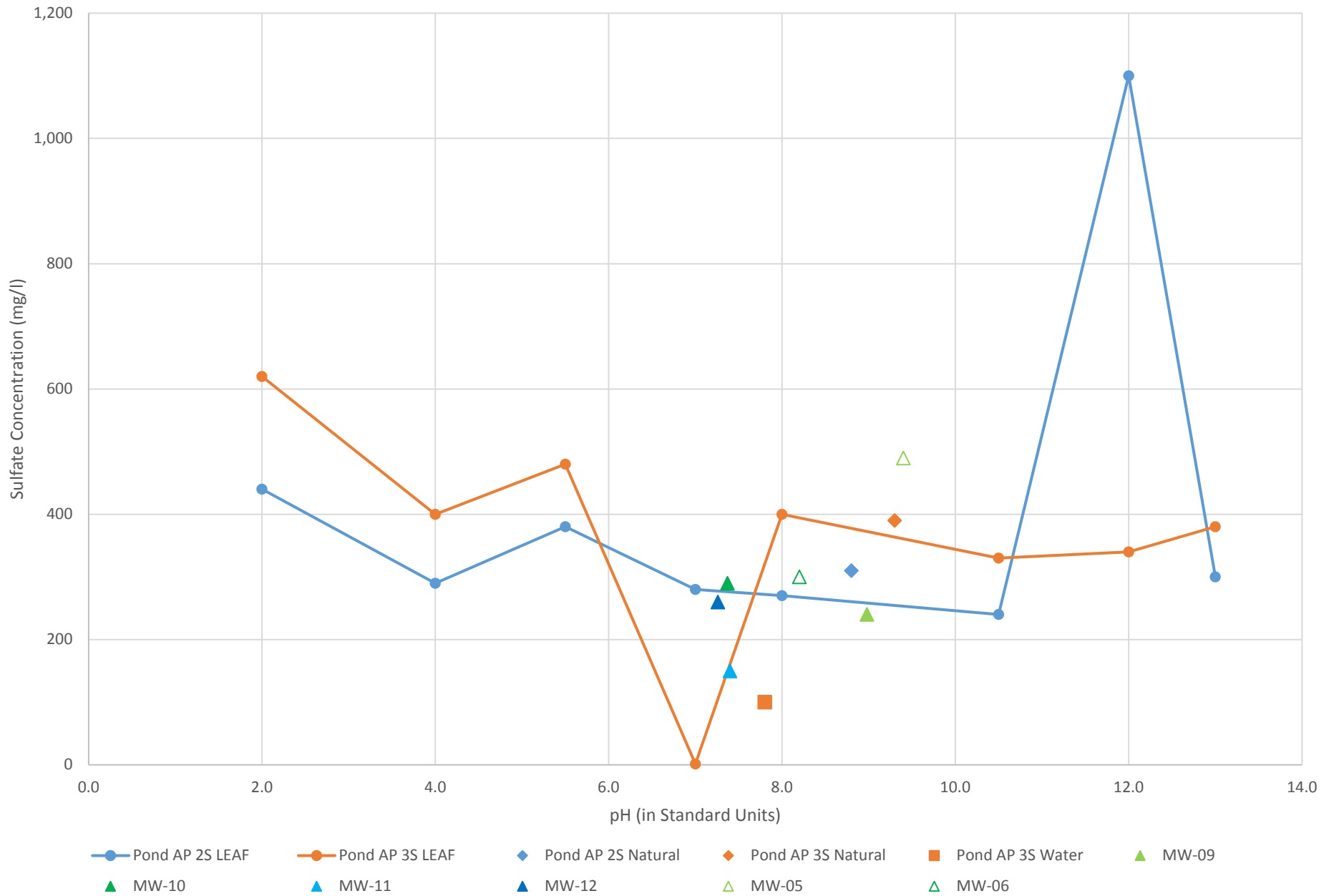


Figure 4. Calcium Concentration vs. pH Value - Will County Station

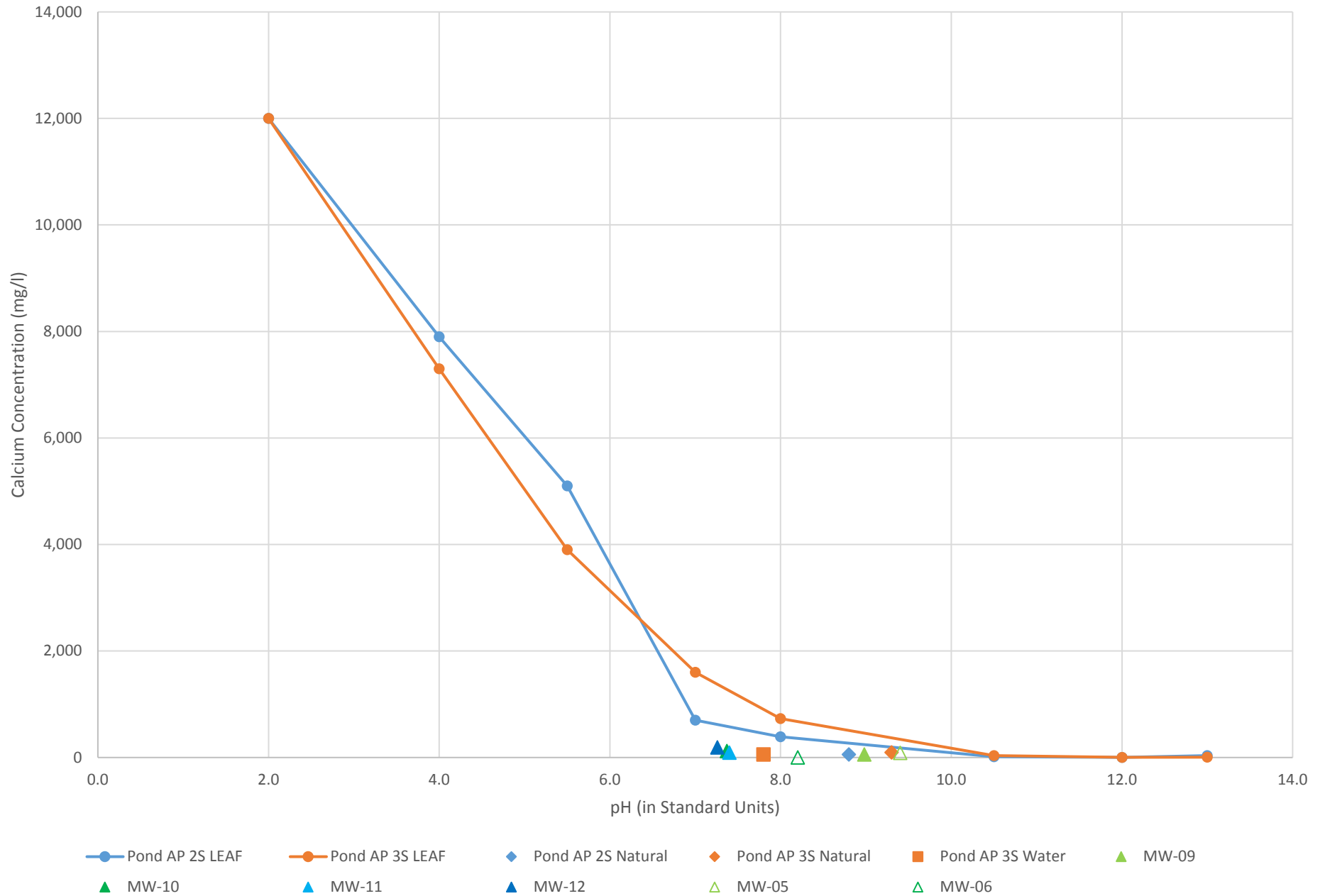


Figure 5. Chloride Concentration vs. pH Value - Will County Station

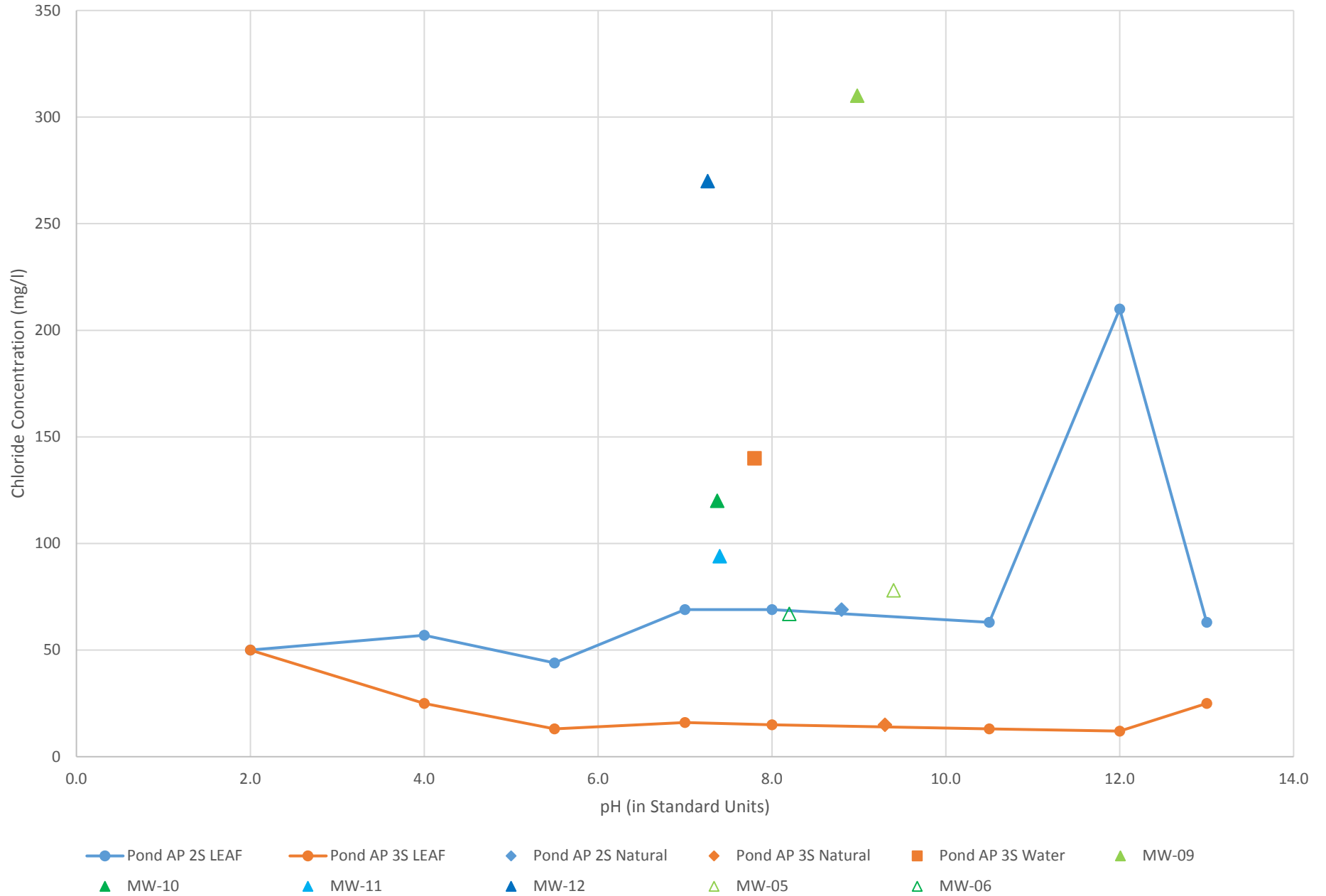


Figure 6. ORP Concentration vs. pH Value - Will County Station

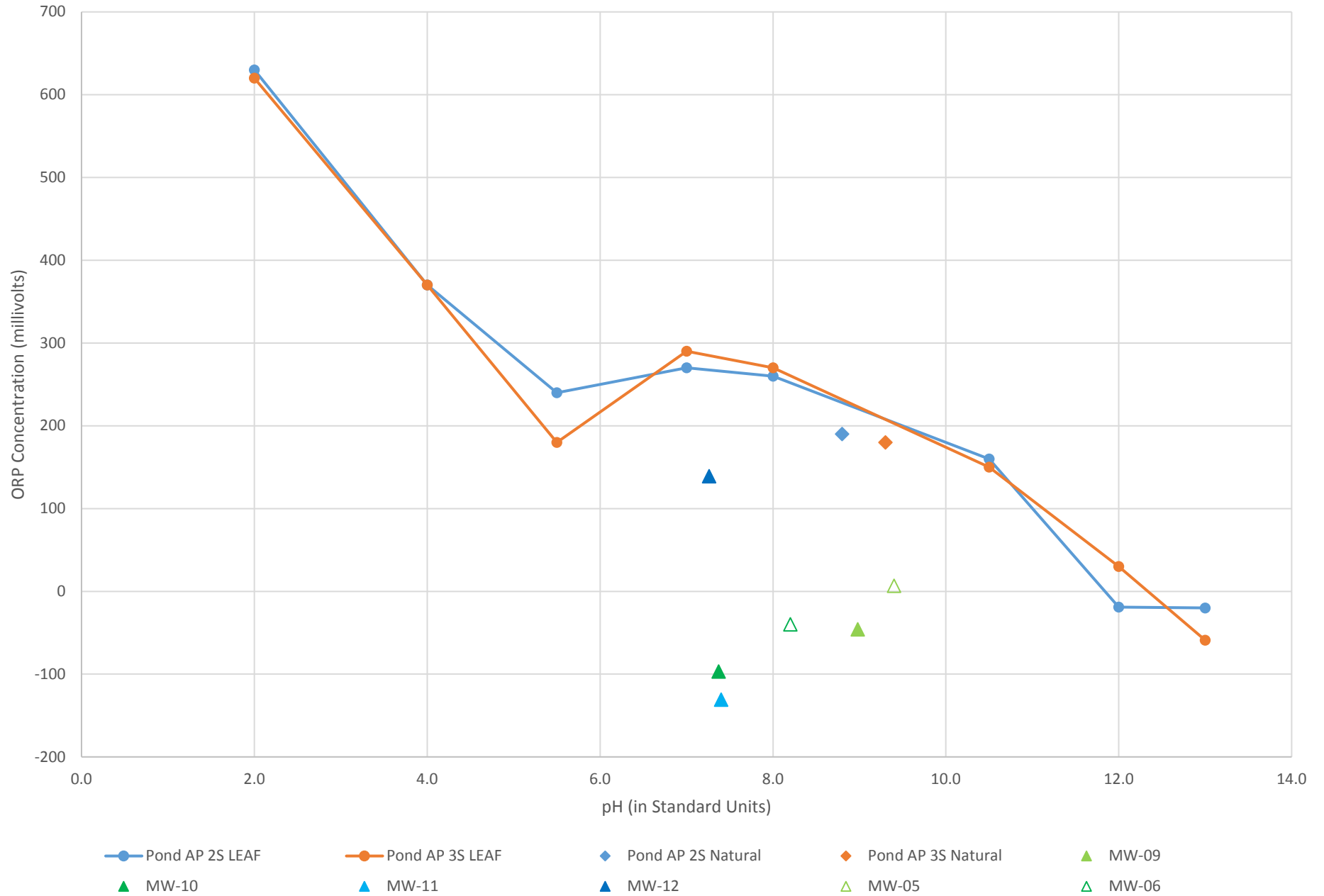


Figure 7. Specific Conductivity vs. pH Value - Will County Station

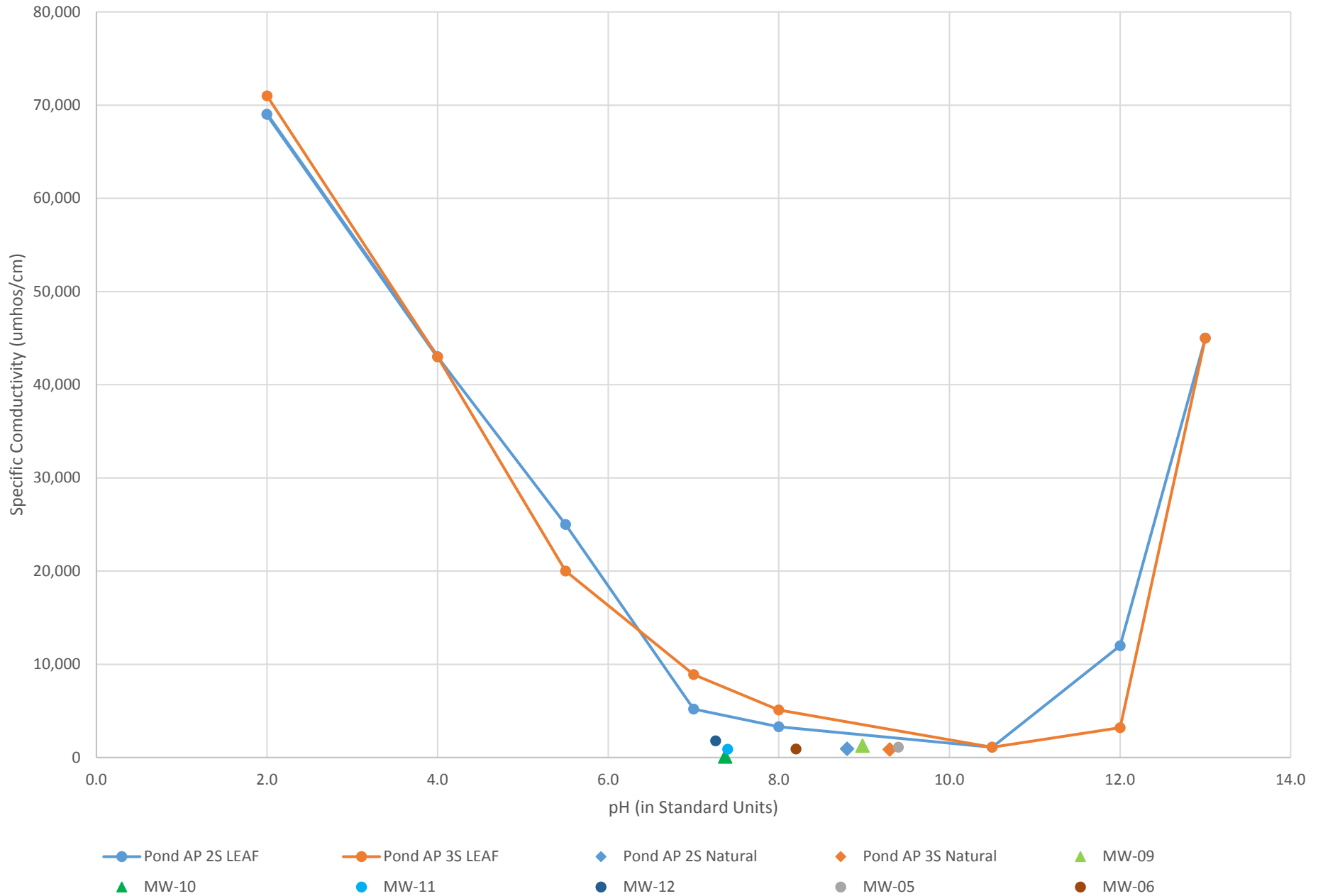
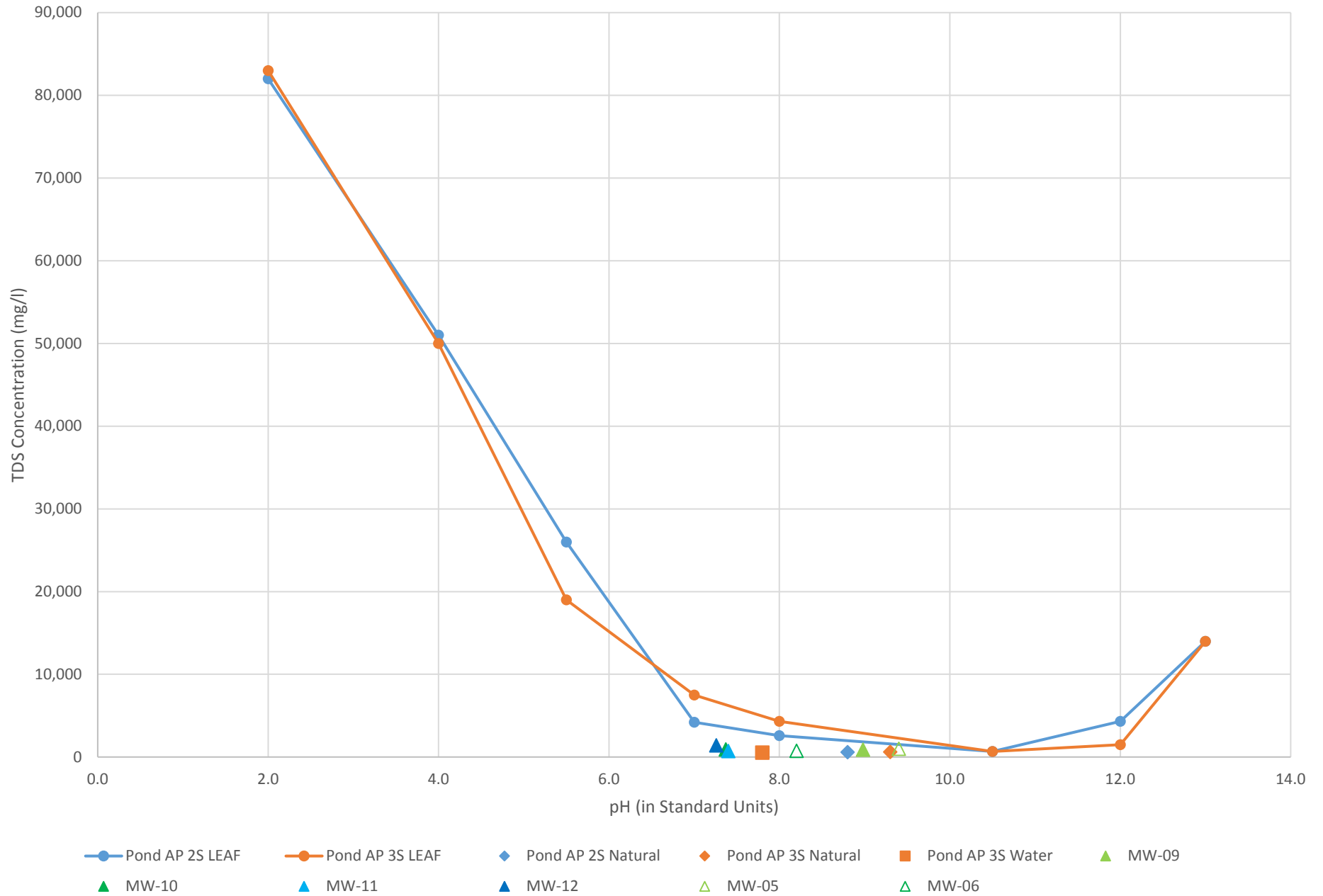


Figure 8. TDS Concentration vs. pH Value - Will County Station



**TABLES**

Table 1. Pond Water Results - Midwest Generation Will County Station, Romeoville, Illinois

PARAMETER	UNITS	Pond AP 3S
Boron	mg/L	0.18
Calcium	mg/L	56
Chloride	mg/L	140
Fluoride	mg/L	0.52
pH	SU	7.8
Sulfate	mg/L	100
TDS	mg/L	540

Notes: Units are as noted.  
TDS - Total Dissolved Solids



Table 2. LEAF Test Results from Ash Samples - Midwest Generation Will County Station, Romeoville, Illinois

AP 2S ASH PARAMETER	UNITS	LEAF TEST TARGETED pH VALUES								
		13.0	12.0	10.5	8.0	7.0	5.5	4.0	2.0	Natural*
Boron	mg/L	83	8.5	5.5	5.5	6.4	12	19	30	4.6
Calcium	mg/L	34	2.5	13	390	700	5,100	7,900	12,000	59
Chloride	mg/L	63	210	63	69	69	44	57	<100	69
Fluoride	mg/L	<5.0	<10	0.42	<0.50	<0.50	<2.5	<10	<10	<0.10
ORP	millivolts	-20	-19	160	260	270	240	370	630	190
pH	SU	12.9	12.4	10.0	7.8	7.4	5.6	3.8	2.3	8.8
Spec Cond	umhos/cm	45,000	12,000	1,100	3,300	5,200	25,000	43,000	69,000	930
Sulfate	mg/L	300	1,100	240	270	280	380	290	440	310
TDS	mg/L	14,000	4,300	670	2,600	4,200	26,000	51,000	82,000	590

AP 3S ASH PARAMETER	UNITS	LEAF TEST TARGETED pH VALUES								
		13.0	12.0	10.5	8.0	7.0	5.5	4.0	2.0	Natural*
Boron	mg/L	6.3	5.5	3.9	5.2	6.8	11	18	33	3.3
Calcium	mg/L	4.7	3.6	37	730	1,600	3,900	7,300	12,000	95
Chloride	mg/L	<50	12	13	15	16	<25	<50	<100	15
Fluoride	mg/L	<5.0	1.0	0.47	<0.50	<0.50	<2.5	11	<10	0.31
ORP	millivolts	-59	30	150	270	290	180	370	620	180
pH	SU	12.7	11.9	10.2	7.5	7.0	6.0	3.8	2.3	9.3
Spec Cond	umhos/cm	45,000	3,200	1,100	5,100	8,900	20,000	43,000	71,000	870
Sulfate	mg/L	380	340	330	400	<2.5	480	400	620	390
TDS	mg/L	14,000	1,500	670	4,300	7,500	19,000	50,000	83,000	610

Notes: Units are as noted.  
 ORP - Oxidation Reduction Potential  
 Spec Cond - Specific Conductivity  
 TDS - Total Dissolved Solids  
 Natural\* - pH of ash as measured in the laboratory prior to any pH test modifications.

**ATTACHMENT 1**  
**Statistical Evaluation Data Tables – January 12, 2018**

Electronic Filing: Received, Clerk's Office 07/19/2019

Table 1. Detection Monitoring Statistical Comparisons - Appendix III Groundwater Analytical Results 3rd Quarter 2017 and Resample - Midwest Generation, LLC, Will County Station, Romeoville, IL.

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-05 up-gradient	11/11/2015	6.1	220	110	0.31	7.24	770	1900
	2/18/2016	4.4	230	120	0.31	6.99	730	1600
	5/26/2016	3.7	170	110	0.33	6.73	670	1500
	8/10/2016	3.6	67	120	0.72	8.62	480	970
	10/26/2016	3.6	44	120	0.70	9.08	410	920
	2/1/2017	4.6	250	48	0.35	6.81	530	1600
	5/11/2017	4	140	85	0.31	7.86	610	1200
	6/27/2017	3.8	83	99	0.53	7.95	500	1000
	<b>Pred. Limit*</b>	<b>6.65</b>	<b>359</b>	<b>148</b>	<b>0.72</b>	<b>9.93-5.39</b>	<b>923</b>	<b>2286</b>
	9/8/2017	4.8	89	78	0.52	9.4	490	1000
11/16/2017	4.8	180	52	0.45	6.7	650	1500	
MW-06 up-gradient	11/10/2015	3.0	52	100	0.55	8.63	300	660
	2/18/2016	2.5	74	150	0.47	8.58	280	650
	5/26/2016	2.7	86	92	0.44	7.79	350	800
	8/11/2016	3.6	110	58	0.35	7.74	330	840
	10/26/2016	3.8	86	74	0.40	8.16	220	800
	2/1/2017	3.4	70	83	0.41	7.88	260	700
	5/11/2017	3	75	84	0.28	8.68	330	570
	6/27/2017	3.1	65	74	0.38	8.15	330	710
	<b>Pred. Limit*</b>	<b>4.29</b>	<b>122</b>	<b>162</b>	<b>0.62</b>	<b>9.21-7.19</b>	<b>415</b>	<b>956</b>
	9/7/2017	3.5	75	67	0.40	8.2	300	740
11/16/2017	3.9	88	54	0.39	7.59	280	810	
MW-09 down-gradient	11/11/2015	1.9	56	190	0.55	9.12	460	750
	2/17/2016	1.8	47	160	0.55	9.10	250	600
	5/24/2016	1.6	48	180	0.51	8.79	240	640
	8/9/2016	2.2	53	140	0.48	8.35	280	750
	10/26/2016	2.2	33	130	0.81	9.16	230	660
	1/31/2017	2	61	250	0.57	8.59	180	710
	5/9/2017	1.8	66	340	0.38	8.58	250	900
	6/27/2017	1.9	64	330	0.51	7.76	240	940
	<b>Pred. Limit</b>	<b>4.26</b>	<b>275**</b>	<b>149**</b>	<b>0.72**</b>	<b>9.39-6.48**</b>	<b>413</b>	<b>950</b>
	9/6/2017	1.8	59	<b>310</b>	0.51	8.98	240	890
11/14/2017	2.6	160	<b>270</b>	0.51	8.1	290	910	
MW-10 down-gradient	11/10/2015	3.9	140	140	0.77	7.34	310	980
	2/16/2016	3.6	150	240	0.79	7.29	290	950
	5/25/2016	3.6	120	140	0.83	7.26	260	1000
	8/10/2016	4.3	150	120	0.78	7.22	230	970
	10/26/2016	3.0	160	74	0.52	7.30	220	1000
	2/2/2017	3.7	180	81	0.54	7.16	160	930
	5/10/2017	3.0	150	100	0.44	7.83	340	860
	6/27/2017	2.8	130	110	0.67	7.49	250	930
	<b>Pred. Limit</b>	<b>4.26</b>	<b>275**</b>	<b>149**</b>	<b>0.72**</b>	<b>9.39-6.48**</b>	<b>413</b>	<b>950</b>
	9/7/2017	2.8	120	120	<b>0.77</b>	7.37	290	920
11/15/2017	4.1	140	120	<b>0.77</b>	7.10	270	<b>1000</b>	

Notes:

\* - Intrawell Prediction Limit. All others are interwell comparisons.

\*\* - Based on pooled background from MW-5/MW-6.

All units are in mg/l except pH is in standard units.

All others based on MW-6 as background.

F1 - MS and/or MSD Recovery outside of limits.

**Bold** - Potential statistically significant increase.

*Italics Date* - First round of Detection Monitoring and resample after statistical background establishment.

# Electronic Filing: Received, Clerk's Office 07/19/2019

Table 1. Detection Monitoring Statistical Comparisons - Appendix III Groundwater Analytical Results 3rd Quarter 2017 and Resample - Midwest Generation, LLC, Will County Station, Romeoville, IL.

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-11 down-gradient	11/10/2015	2.6	120	89	0.61	7.60	180	620
	2/16/2016	3.0	100	88	0.68	7.47	170	640
	5/25/2016	2.8	82	98	0.75	7.43	170	640
	8/10/2016	3.1	96	86	0.72	7.57	150	660
	10/26/2016	2.5	110	67	0.53	7.82	120	630
	2/1/2017	3.9	110	72	0.65	7.54	110	600
	5/10/2017	3.1	95	84	0.46	8.37	170	590
	6/27/2017	2.8	87	90	0.59	7.57	150	680
	<b>Pred. Limit</b>	<b>4.26</b>	<b>275**</b>	<b>149**</b>	<b>0.72**</b>	<b>9.39-6.48**</b>	<b>413</b>	<b>950</b>
	9/7/2017	2.8	90	94	0.58	7.4	150	730
11/15/2017	2.9	96	100	0.65	7.41	160	750	
MW-12 down-gradient	11/10/2015	2.3	150	160	0.59	7.44	290	1000
	2/16/2016	1.8	130	140	0.52	7.38	220	850
	5/25/2016	1.9	130	150	0.54	7.23	250	890
	8/10/2016	2.4	170	140	0.49	7.20	280	1000
	10/26/2016	2.6	140	120	0.49	7.44	220	980
	2/1/2017	2	160	120	0.48	7.3	150	900
	5/10/2017	2.3	200	240	0.3	7.65	260	1300
	6/27/2017	2.4	180	280	0.44	7.31	260	1300
	<b>Pred. Limit</b>	<b>4.26</b>	<b>275**</b>	<b>149**</b>	<b>0.72**</b>	<b>9.39-6.48**</b>	<b>413</b>	<b>950</b>
	9/6/2017	2.6	190	<b>270</b>	0.49	7.26	260	<b>1400</b>
	11/15/2017	1.7	55	<b>200</b>	0.47	6.90	250	<b>1200</b>

Notes:

\* - Intrawell Prediction Limit. All others are interwell comparisons.

\*\* - Based on pooled background from MW-5/MW-6.

All units are in mg/l except pH is in standard units.

All others based on MW-6 as background.

F1 - MS and/or MSD Recovery outside of limits.

**Bold** - Potential statistically significant increase.

*Italics Date* - First round of Detection Monitoring and resample after statistical background establishment.

**ATTACHMENT 2**  
**Analytical Data Packages**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-139618-1

Client Project/Site: Will County CCR

For:

KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 2B

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

1/26/2018 2:20:29 PM

Richard Wright, Senior Project Manager

[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

Designee for

Eric Lang, Manager of Project Management

(708)534-5200

[eric.lang@testamericainc.com](mailto:eric.lang@testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



### LINKS

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Case Narrative

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

TestAmerica Job ID: 500-139618-1

**Job ID: 500-139618-1**

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative  
500-139618-1**

**Comments**

No additional comments.

**Receipt**

The sample was received on 1/12/2018 9:40 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.3° C.

**Metals**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.





Method Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
9040C	pH	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater",  
 SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



# Sample Summary

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-139618-1	AP 3-S	Water	01/10/18 09:55	01/12/18 09:40

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

Page 110 of 174  
 TestAmerica Job ID: 500-139618-1

**Client Sample ID: AP 3-S**

**Lab Sample ID: 500-139618-1**

**Date Collected: 01/10/18 09:55**

**Matrix: Water**

**Date Received: 01/12/18 09:40**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.18		0.050		mg/L		01/12/18 14:46	01/15/18 13:05	1
Calcium	56		0.20		mg/L		01/12/18 14:46	01/15/18 13:05	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8	HF	0.2		SU			01/12/18 15:56	1
Total Dissolved Solids	540		10		mg/L			01/14/18 23:49	1
Chloride	140		10		mg/L			01/15/18 00:54	5
Fluoride	0.52		0.10		mg/L			01/25/18 11:25	1
Sulfate	100		25		mg/L			01/16/18 04:24	5



Definitions/Glossary

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Qualifiers**

**Metals**

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

**General Chemistry**

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

**Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: KPRG and Associates, Inc.  
 Project/Site: Will County CCR

**Metals**

**Prep Batch: 416709**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139618-1	AP 3-S	Total Recoverable	Water	3005A	
MB 500-416709/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-416709/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-139618-1 MS	AP 3-S	Total Recoverable	Water	3005A	
500-139618-1 MSD	AP 3-S	Total Recoverable	Water	3005A	
500-139618-1 DU	AP 3-S	Total Recoverable	Water	3005A	

**Analysis Batch: 416965**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139618-1	AP 3-S	Total Recoverable	Water	6020A	416709
MB 500-416709/1-A	Method Blank	Total Recoverable	Water	6020A	416709
LCS 500-416709/2-A	Lab Control Sample	Total Recoverable	Water	6020A	416709
500-139618-1 MS	AP 3-S	Total Recoverable	Water	6020A	416709
500-139618-1 MSD	AP 3-S	Total Recoverable	Water	6020A	416709
500-139618-1 DU	AP 3-S	Total Recoverable	Water	6020A	416709

**General Chemistry**

**Analysis Batch: 416763**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139618-1	AP 3-S	Total/NA	Water	SM 2540C	
MB 500-416763/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-416763/2	Lab Control Sample	Total/NA	Water	SM 2540C	

**Analysis Batch: 416921**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139618-1	AP 3-S	Total/NA	Water	SM 4500 Cl- E	
MB 500-416921/4	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-416921/37	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

**Analysis Batch: 416927**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139618-1	AP 3-S	Total/NA	Water	SM 4500 SO4 E	
MB 500-416927/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-416927/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

**Analysis Batch: 416975**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139618-1	AP 3-S	Total/NA	Water	9040C	
500-139618-1 DU	AP 3-S	Total/NA	Water	9040C	

**Analysis Batch: 418006**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139618-1	AP 3-S	Total/NA	Water	SM 4500 F C	
MB 500-418006/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-418006/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-139618-1 MS	AP 3-S	Total/NA	Water	SM 4500 F C	
500-139618-1 MSD	AP 3-S	Total/NA	Water	SM 4500 F C	



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

TestAmerica Job ID: 500-139618-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-416709/1-A  
Matrix: Water  
Analysis Batch: 416965

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 416709

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		01/12/18 14:46	01/15/18 12:57	1
Calcium	<0.20		0.20		mg/L		01/12/18 14:46	01/15/18 12:57	1

Lab Sample ID: LCS 500-416709/2-A  
Matrix: Water  
Analysis Batch: 416965

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 416709

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.988		mg/L		99	80 - 120
Calcium	10.0	9.54		mg/L		95	80 - 120

Lab Sample ID: 500-139618-1 MS  
Matrix: Water  
Analysis Batch: 416965

Client Sample ID: AP 3-S  
Prep Type: Total Recoverable  
Prep Batch: 416709

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.18		1.00	1.19		mg/L		101	75 - 125
Calcium	56		10.0	65.5	4	mg/L		93	75 - 125

Lab Sample ID: 500-139618-1 MSD  
Matrix: Water  
Analysis Batch: 416965

Client Sample ID: AP 3-S  
Prep Type: Total Recoverable  
Prep Batch: 416709

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.18		1.00	1.18		mg/L		100	75 - 125	2	20
Calcium	56		10.0	64.3	4	mg/L		81	75 - 125	2	20

Lab Sample ID: 500-139618-1 DU  
Matrix: Water  
Analysis Batch: 416965

Client Sample ID: AP 3-S  
Prep Type: Total Recoverable  
Prep Batch: 416709

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	0.18		0.174		mg/L		4	20
Calcium	56		56.5		mg/L		0.4	20

Method: 9040C - pH

Lab Sample ID: 500-139618-1 DU  
Matrix: Water  
Analysis Batch: 416975

Client Sample ID: AP 3-S  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8	HF	7.8		SU		0.3	

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

**Method: SM 2540C - Solids, Total Dissolved (TDS)**

Lab Sample ID: MB 500-416763/1  
Matrix: Water  
Analysis Batch: 416763

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			01/14/18 22:56	1

Lab Sample ID: LCS 500-416763/2  
Matrix: Water  
Analysis Batch: 416763

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	278		mg/L		111	80 - 120

**Method: SM 4500 Cl- E - Chloride, Total**

Lab Sample ID: MB 500-416921/4  
Matrix: Water  
Analysis Batch: 416921

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			01/15/18 00:10	1

Lab Sample ID: LCS 500-416921/37  
Matrix: Water  
Analysis Batch: 416921

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.5		mg/L		105	85 - 115

**Method: SM 4500 F C - Fluoride**

Lab Sample ID: MB 500-418006/3  
Matrix: Water  
Analysis Batch: 418006

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			01/25/18 11:20	1

Lab Sample ID: LCS 500-418006/4  
Matrix: Water  
Analysis Batch: 418006

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.1		mg/L		101	80 - 120

Lab Sample ID: 500-139618-1 MS  
Matrix: Water  
Analysis Batch: 418006

Client Sample ID: AP 3-S  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.52		5.00	5.51		mg/L		100	75 - 125

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

**Method: SM 4500 F C - Fluoride (Continued)**

Lab Sample ID: 500-139618-1 MSD  
Matrix: Water  
Analysis Batch: 418006

Client Sample ID: AP 3-S  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.52		5.00	5.46		mg/L		99	75 - 125	1	20

**Method: SM 4500 SO4 E - Sulfate, Total**

Lab Sample ID: MB 500-416927/3  
Matrix: Water  
Analysis Batch: 416927

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			01/16/18 04:04	1

Lab Sample ID: LCS 500-416927/4  
Matrix: Water  
Analysis Batch: 416927

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.4		mg/L		97	80 - 120







**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-139618-1

**Login Number: 139618**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Scott, Sherri L**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Client: KPRG and Associates, Inc.  
Project/Site: Will County CCR

**Laboratory: TestAmerica Chicago**

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-18

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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pittsburgh

301 Alpha Drive

RIDC Park

Pittsburgh, PA 15238

Tel: (412)963-7058

TestAmerica Job ID: 180-74122-1

Client Project/Site: Midwest Generation

For:

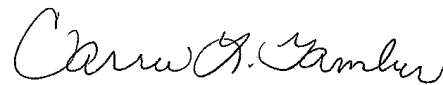
KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 2B

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

2/28/2018 5:01:06 PM

Carrie Gamber, Senior Project Manager

(412)963-2428

[carrie.gamber@testamericainc.com](mailto:carrie.gamber@testamericainc.com)



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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Job ID: 180-74122-1**

**Laboratory: TestAmerica Pittsburgh**

**Narrative**

**CASE NARRATIVE**

**Client: KPRG and Associates, Inc.**

**Project: Midwest Generation**

**Report Number: 180-74122-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

**RECEIPT**

The samples were received on 01/12/2018; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.8 C.

**IC**

Several samples were diluted due to the nature of the sample matrix. Elevated reporting limits (RLs) were provided. Dilutions were based on conductivity pre-screen of samples.

**METALS**

Several samples were diluted due to the nature of the sample matrix. Elevated reporting limits (RLs) are provided.

**GENERAL CHEMISTRY**

Due to the matrix, the initial volumes used for several samples deviated from the standard procedure for TDS.



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**Laboratory: TestAmerica Pittsburgh**

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200005	06-30-18

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte
SM 2510B		Solid	Specific Conductance
SM 2540C		Solid	Total Dissolved Solids

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
2540G		Solid	Percent Moisture
2540G		Solid	Percent Solids
SM 2580B		Solid	Oxidation Reduction Potential





Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-74122-1	AP 3-S - PRETEST	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-2	AP 3-S - PH 13.0	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-3	AP 3-S - PH 12.0	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-4	AP 3-S - PH 10.5	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-6	AP 3-S - PH 8.0	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-7	AP 3-S - PH 7.0	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-8	AP 3-S - PH 5.5	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-9	AP 3-S - PH 4.0	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-10	AP 3-S - PH 2.0	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-11	AP 3-S - NATURAL	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-12	AP 2-S - PRETEST	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-13	AP 2-S - PH 13.0	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-14	AP 2-S - PH 12.0	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-15	AP 2-S - PH 10.5	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-17	AP 2-S - PH 8.0	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-18	AP 2-S - PH 7.0	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-19	AP 2-S - PH 5.5	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-20	AP 2-S - PH 4.0	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-21	AP 2-S - PH 2.0	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-22	AP 2-S - NATURAL	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-23	AP 3-S - AIR DIED	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-24	AP 2-S - AIR DRIED	Solid	01/10/18 10:50	01/12/18 09:10



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
EPA 6020A	Metals (ICP/MS)	SW846	TAL PIT
2540G	SM 2540G	SM22	TAL PIT
EPA 9040C	pH	SW846	TAL PIT
SM 2510B	Conductivity, Specific Conductance	SM	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
SM 2580B	Reduction-Oxidation (REDOX) Potential	SM	TAL PIT

**Protocol References:**

- SM = "Standard Methods For The Examination Of Water And Wastewater",
- SM22 = SM22
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058



Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

**Client Sample ID: AP 3-S - PRETEST**

**Lab Sample ID: 180-74122-1**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			234952	01/24/18 06:29	CLL	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 11:36	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:21	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:24	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:27	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:33	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237733	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 13:05	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237733	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 13:10	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: AP 3-S - PH 13.0**

**Lab Sample ID: 180-74122-2**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			236377	02/08/18 20:09	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/10/18 00:33	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 03:33	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 11:43	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

**Client Sample ID: AP 3-S - PH 13.0**

**Lab Sample ID: 180-74122-2**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2510B		1			236475	02/07/18 11:25	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	3 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 11:21	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: AP 3-S - PH 12.0**

**Lab Sample ID: 180-74122-3**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			237859	02/26/18 16:14	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			237859	02/26/18 16:30	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237590	02/21/18 01:14	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237713	02/22/18 04:21	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 12:54	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237752	02/16/18 12:48	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	25 mL	100 mL	237329	02/19/18 15:41	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237751	02/16/18 12:53	MTW	TAL PIT
		Instrument ID: NOEQUIP								

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

**Client Sample ID: AP 3-S - PH 10.5**

**Lab Sample ID: 180-74122-4**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1	1 mL	1.0 mL	237598	02/22/18 12:20	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		10	1 mL	1.0 mL	237598	02/22/18 12:35	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237537	02/21/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237821	02/23/18 11:40	RSK	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237537	02/21/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			238052	02/26/18 21:29	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237531	02/19/18 10:12	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237553	02/19/18 10:18	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	100 mL	100 mL	237940	02/26/18 14:33	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237550	02/19/18 10:13	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: AP 3-S - PH 8.0**

**Lab Sample ID: 180-74122-6**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		2.5			236732	02/13/18 11:30	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			236891	02/14/18 14:33	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237198	02/15/18 22:34	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:39	MTW	TAL PIT
		Instrument ID: NOEQUIP								

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

**Client Sample ID: AP 3-S - PH 8.0**

**Lab Sample ID: 180-74122-6**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B Instrument ID: NOEQUIP		1			237425	02/12/18 14:19	MTW	TAL PIT
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C Instrument ID: NOEQUIP		1	25 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B Instrument ID: NOEQUIP		1			237422	02/12/18 14:17	MTW	TAL PIT

**Client Sample ID: AP 3-S - PH 7.0**

**Lab Sample ID: 180-74122-7**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A Instrument ID: CHIC2100A		2.5			236732	02/13/18 12:00	MJH	TAL PIT
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A Instrument ID: CHICS2000		5			236891	02/14/18 14:49	MJH	TAL PIT
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A Instrument ID: M		10			237323	02/16/18 20:33	WTR	TAL PIT
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			237380	02/12/18 14:36	MTW	TAL PIT
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B Instrument ID: NOEQUIP		1			237425	02/12/18 14:14	MTW	TAL PIT
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C Instrument ID: NOEQUIP		1	25 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B Instrument ID: NOEQUIP		1			237422	02/12/18 14:10	MTW	TAL PIT

**Client Sample ID: AP 3-S - PH 5.5**

**Lab Sample ID: 180-74122-8**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

**Client Sample ID: AP 3-S - PH 5.5**

**Lab Sample ID: 180-74122-8**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 9056A		25			237859	02/26/18 08:57	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.5 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			238052	02/27/18 09:59	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.5 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237772	02/23/18 10:12	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237776	02/23/18 10:12	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	5 mL	100 mL	238055	02/27/18 15:07	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237774	02/23/18 10:12	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: AP 3-S - PH 4.0**

**Lab Sample ID: 180-74122-9**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			236732	02/13/18 13:32	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100			236891	02/14/18 15:04	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			237323	02/16/18 20:29	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:18	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 13:58	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	3 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

**Client Sample ID: AP 3-S - PH 4.0**

**Lab Sample ID: 180-74122-9**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2580B		1			237422	02/12/18 13:57	MTW	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: AP 3-S - PH 2.0**

**Lab Sample ID: 180-74122-10**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100	1 mL	1.0 mL	237598	02/22/18 11:16	MJH	TAL PIT
Instrument ID: CHICS2000										
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			237942	02/24/18 17:13	WTR	TAL PIT
Instrument ID: A										
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			238052	02/27/18 09:46	WTR	TAL PIT
Instrument ID: M										
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237531	02/19/18 10:38	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237553	02/19/18 10:36	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	2 mL	100 mL	237940	02/26/18 14:33	KXW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237550	02/19/18 10:34	MTW	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: AP 3-S - NATURAL**

**Lab Sample ID: 180-74122-11**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			236373	02/08/18 10:43	MJH	TAL PIT
Instrument ID: CHICS2100B										
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			236373	02/08/18 10:59	MJH	TAL PIT
Instrument ID: CHICS2100B										
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT



Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

**Client Sample ID: AP 3-S - NATURAL**

**Lab Sample ID: 180-74122-11**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/09/18 23:06	WTR	TAL PIT
Instrument ID: A										
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 01:06	WTR	TAL PIT
Instrument ID: M										
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 14:13	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 14:38	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	100 mL	100 mL	236785	02/13/18 10:45	KXW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 14:38	MTW	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: AP 2-S - PRETEST**

**Lab Sample ID: 180-74122-12**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			234952	01/24/18 06:29	CLL	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 11:49	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.9 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:43	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.9 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:46	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.9 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 15:01	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.9 g	400 mL	237733	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 13:16	MTW	TAL PIT
Instrument ID: NOEQUIP										

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	237733	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 13:27	MTW	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: AP 2-S - PH 13.0**  
**Date Collected: 01/10/18 10:50**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74122-13**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			236377	02/08/18 20:40	MJH	TAL PIT
Instrument ID: CHIC2100A										
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/10/18 00:36	WTR	TAL PIT
Instrument ID: A										
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 03:38	WTR	TAL PIT
Instrument ID: M										
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 11:30	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 11:10	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	3 mL	100 mL	236788	02/13/18 11:04	KXW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 11:08	MTW	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: AP 2-S - PH 12.0**  
**Date Collected: 01/10/18 10:50**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74122-14**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100			237859	02/26/18 13:03	MJH	TAL PIT
Instrument ID: CHICS2000										
Leach	Leach	1313			40.9 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237590	02/21/18 01:17	WTR	TAL PIT
Instrument ID: A										
Leach	Leach	1313			40.9 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237713	02/22/18 04:26	WTR	TAL PIT
Instrument ID: M										

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

**Client Sample ID: AP 2-S - PH 12.0**

**Lab Sample ID: 180-74122-14**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			237737	02/16/18 13:21	MTW	TAL PIT
Leach	Leach	1313			40.9 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2510B Instrument ID: NOEQUIP		1			237752	02/16/18 13:09	MTW	TAL PIT
Leach	Leach	1313			40.9 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2540C Instrument ID: NOEQUIP		1	10 mL	100 mL	237329	02/19/18 15:41	KXW	TAL PIT
Leach	Leach	1313			40.9 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2580B Instrument ID: NOEQUIP		1			237751	02/16/18 13:09	MTW	TAL PIT

**Client Sample ID: AP 2-S - PH 10.5**

**Lab Sample ID: 180-74122-15**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A Instrument ID: CHICS2000		1	1 mL	1.0 mL	237598	02/22/18 12:51	MJH	TAL PIT
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A Instrument ID: CHICS2000		10	1 mL	1.0 mL	237598	02/22/18 13:07	MJH	TAL PIT
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237537	02/21/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A Instrument ID: A		1			237821	02/23/18 11:43	RSK	TAL PIT
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237537	02/21/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A Instrument ID: M		1			238052	02/26/18 21:33	WTR	TAL PIT
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			237531	02/19/18 10:19	MTW	TAL PIT
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B Instrument ID: NOEQUIP		1			237553	02/19/18 10:24	MTW	TAL PIT
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	237940	02/26/18 14:33	KXW	TAL PIT
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B Instrument ID: NOEQUIP		1			237550	02/19/18 10:20	MTW	TAL PIT

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

**Client Sample ID: AP 2-S - PH 8.0**

**Lab Sample ID: 180-74122-17**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		2.5			236732	02/13/18 14:03	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			236891	02/14/18 15:20	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237198	02/15/18 23:01	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:55	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 14:35	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	50 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 14:36	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: AP 2-S - PH 7.0**

**Lab Sample ID: 180-74122-18**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		2.5			236732	02/13/18 14:34	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			236891	02/14/18 15:36	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237198	02/15/18 22:39	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:49	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 14:24	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

**Client Sample ID: AP 2-S - PH 7.0**

**Lab Sample ID: 180-74122-18**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2540C		1	25 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 14:23	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: AP 2-S - PH 5.5**

**Lab Sample ID: 180-74122-19**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		25			237859	02/26/18 09:13	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.9 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			238052	02/27/18 10:17	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.9 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237772	02/23/18 10:18	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.9 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237776	02/23/18 10:17	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.9 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	5 mL	100 mL	238055	02/27/18 15:07	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.9 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237774	02/23/18 10:18	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: AP 2-S - PH 4.0**

**Lab Sample ID: 180-74122-20**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			236732	02/13/18 16:40	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100			236891	02/14/18 15:52	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

**Client Sample ID: AP 2-S - PH 4.0**

**Lab Sample ID: 180-74122-20**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 6020A		10			237323	02/16/18 20:38	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:52	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 14:29	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	3 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 14:29	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: AP 2-S - PH 2.0**

**Lab Sample ID: 180-74122-21**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100	1 mL	1.0 mL	237598	02/22/18 11:48	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			237942	02/24/18 17:16	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			238052	02/27/18 09:50	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237531	02/19/18 10:44	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237553	02/19/18 10:42	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	2 mL	100 mL	237940	02/26/18 14:33	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237550	02/19/18 10:40	MTW	TAL PIT
		Instrument ID: NOEQUIP								

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

**Client Sample ID: AP 2-S - NATURAL**

**Lab Sample ID: 180-74122-22**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			236373	02/08/18 11:15	MJH	TAL PIT
Instrument ID: CHICS2100B										
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			236373	02/08/18 11:31	MJH	TAL PIT
Instrument ID: CHICS2100B										
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/09/18 23:09	WTR	TAL PIT
Instrument ID: A										
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 01:11	WTR	TAL PIT
Instrument ID: M										
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 14:16	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 14:41	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	100 mL	100 mL	236785	02/13/18 10:45	KXW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 14:43	MTW	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: AP 3-S - AIR DIED**

**Lab Sample ID: 180-74122-23**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			235859	02/02/18 11:37	SES	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: AP 2-S - AIR DRIED**

**Lab Sample ID: 180-74122-24**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			235859	02/02/18 11:37	SES	TAL PIT
Instrument ID: NOEQUIP										

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Laboratory References:**

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

**Analyst References:**

Lab: TAL PIT

Batch Type: Leach

LWM = Larry Matko

Batch Type: Prep

KA = Kayla Kalamasz

Batch Type: Analysis

CLL = Cheryl Loheyde

KXW = Kaitlyn White

MJH = Matthew Hartman

MTW = Michael Wesoloski

RSK = Robert Kurtz

SES = Samantha Strauser

WTR = Bill Reinheimer





Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

### Client Sample Results

**Client Sample ID: AP 3-S - PRETEST**

**Lab Sample ID: 180-74122-1**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	28.6		0.1		%			01/24/18 06:29	1
Percent Solids	71.4		0.1		%			01/24/18 06:29	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	4.6		0.1		SU			02/07/18 11:36	1
pH	12.6		0.1		SU			02/12/18 14:21	1
pH	12.7		0.1		SU			02/12/18 14:24	1
pH	4.4		0.1		SU			02/12/18 14:27	1
pH	6.2		0.1		SU			02/12/18 14:33	1
pH	12.4		0.1		SU			02/16/18 13:05	1
pH	3.2		0.1		SU			02/16/18 13:10	1

**Client Sample ID: AP 3-S - PH 13.0**

**Lab Sample ID: 180-74122-2**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<50		50		mg/L			02/08/18 20:09	50
Fluoride	<5.0		5.0		mg/L			02/08/18 20:09	50
Sulfate	380		50		mg/L			02/08/18 20:09	50

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	6300		80		ug/L		02/08/18 11:28	02/13/18 03:33	1
Calcium	4700		500		ug/L		02/08/18 11:28	02/10/18 00:33	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.7		0.1		SU			02/07/18 11:43	1
Specific Conductance	45000		1.0		umhos/cm			02/07/18 11:25	1
Total Dissolved Solids	14000		330		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	- 59		10		millivolts			02/07/18 11:21	1

**Client Sample ID: AP 3-S - PH 12.0**

**Lab Sample ID: 180-74122-3**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		5.0		mg/L			02/26/18 16:14	5
Fluoride	1.0		0.50		mg/L			02/26/18 16:14	5
Sulfate	340		50		mg/L			02/26/18 16:30	50

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5500		80		ug/L		02/19/18 13:03	02/22/18 04:21	1
Calcium	3600		500		ug/L		02/19/18 13:03	02/21/18 01:14	1

**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74122-1

**Client Sample ID: AP 3-S - PH 12.0**  
**Date Collected: 01/10/18 10:20**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74122-3**  
**Matrix: Solid**

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	11.9		0.1		SU			02/16/18 12:54	1
Specific Conductance	3200		1.0		umhos/cm			02/16/18 12:48	1
Total Dissolved Solids	1500		40		mg/L			02/19/18 15:41	1
Oxidation Reduction Potential	30		10		millivolts			02/16/18 12:53	1

**Client Sample ID: AP 3-S - PH 10.5**  
**Date Collected: 01/10/18 10:20**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74122-4**  
**Matrix: Solid**

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		1.0		mg/L			02/22/18 12:20	1
Fluoride	0.47		0.10		mg/L			02/22/18 12:20	1
Sulfate	330		10		mg/L			02/22/18 12:35	10

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3900		80		ug/L		02/21/18 11:22	02/26/18 21:29	1
Calcium	37000		500		ug/L		02/21/18 11:22	02/23/18 11:40	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	10.2		0.1		SU			02/19/18 10:12	1
Specific Conductance	1100		1.0		umhos/cm			02/19/18 10:18	1
Total Dissolved Solids	670		10		mg/L			02/26/18 14:33	1
Oxidation Reduction Potential	150		10		millivolts			02/19/18 10:13	1

**Client Sample ID: AP 3-S - PH 8.0**  
**Date Collected: 01/10/18 10:20**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74122-6**  
**Matrix: Solid**

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		2.5		mg/L			02/13/18 11:30	2.5
Fluoride	<0.50		0.50		mg/L			02/14/18 14:33	5
Sulfate	400		2.5		mg/L			02/13/18 11:30	2.5

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5200		80		ug/L		02/13/18 13:38	02/15/18 22:34	1
Calcium	730000		500		ug/L		02/13/18 13:38	02/15/18 22:34	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5		0.1		SU			02/12/18 14:39	1
Specific Conductance	5100		1.0		umhos/cm			02/12/18 14:19	1
Total Dissolved Solids	4300		40		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	270		10		millivolts			02/12/18 14:17	1

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Client Sample Results**

**Client Sample ID: AP 3-S - PH 7.0**

**Date Collected: 01/10/18 10:20**

**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74122-7**

**Matrix: Solid**

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16		2.5		mg/L			02/13/18 12:00	2.5
Fluoride	<0.50		0.50		mg/L			02/14/18 14:49	5
Sulfate	<2.5		2.5		mg/L			02/13/18 12:00	2.5

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	6800		800		ug/L		02/13/18 13:38	02/16/18 20:33	10
Calcium	1600000		5000		ug/L		02/13/18 13:38	02/16/18 20:33	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0		0.1		SU			02/12/18 14:36	1
Specific Conductance	8900		1.0		umhos/cm			02/12/18 14:14	1
Total Dissolved Solids	7500		40		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	290		10		millivolts			02/12/18 14:10	1

**Client Sample ID: AP 3-S - PH 5.5**

**Date Collected: 01/10/18 10:20**

**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74122-8**

**Matrix: Solid**

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<25		25		mg/L			02/26/18 08:57	25
Fluoride	<2.5		2.5		mg/L			02/26/18 08:57	25
Sulfate	480		25		mg/L			02/26/18 08:57	25

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	11000		800		ug/L		02/23/18 12:01	02/27/18 09:59	10
Calcium	3900000		5000		ug/L		02/23/18 12:01	02/27/18 09:59	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.0		0.1		SU			02/23/18 10:12	1
Specific Conductance	20000		1.0		umhos/cm			02/23/18 10:12	1
Total Dissolved Solids	19000		200		mg/L			02/27/18 15:07	1
Oxidation Reduction Potential	180		10		millivolts			02/23/18 10:12	1

**Client Sample ID: AP 3-S - PH 4.0**

**Date Collected: 01/10/18 10:20**

**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74122-9**

**Matrix: Solid**

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<50		50		mg/L			02/13/18 13:32	50
Fluoride	11		10		mg/L			02/14/18 15:04	100
Sulfate	400		50		mg/L			02/13/18 13:32	50

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	18000		800		ug/L		02/13/18 13:38	02/16/18 20:29	10

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Client Sample Results**

**Client Sample ID: AP 3-S - PH 4.0**

**Lab Sample ID: 180-74122-9**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 6020A - Metals (ICP/MS) - Leach (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	7300000		5000		ug/L		02/13/18 13:38	02/16/18 20:29	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	3.8		0.1		SU			02/12/18 14:18	1
Specific Conductance	43000		1.0		umhos/cm			02/12/18 13:58	1
Total Dissolved Solids	50000		330		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	370		10		millivolts			02/12/18 13:57	1

**Client Sample ID: AP 3-S - PH 2.0**

**Lab Sample ID: 180-74122-10**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<100		100		mg/L			02/22/18 11:16	100
Fluoride	<10		10		mg/L			02/22/18 11:16	100
Sulfate	620		100		mg/L			02/22/18 11:16	100

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	33000		8000		ug/L		02/23/18 12:01	02/27/18 09:46	10
Calcium	12000000		50000		ug/L		02/23/18 12:01	02/24/18 17:13	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	2.3		0.1		SU			02/19/18 10:38	1
Specific Conductance	71000		1.0		umhos/cm			02/19/18 10:36	1
Total Dissolved Solids	83000		500		mg/L			02/26/18 14:33	1
Oxidation Reduction Potential	620		10		millivolts			02/19/18 10:34	1

**Client Sample ID: AP 3-S - NATURAL**

**Lab Sample ID: 180-74122-11**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		1.0		mg/L			02/08/18 10:43	1
Fluoride	0.31		0.10		mg/L			02/08/18 10:43	1
Sulfate	390		5.0		mg/L			02/08/18 10:59	5

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3300		80		ug/L		02/08/18 11:22	02/13/18 01:06	1
Calcium	95000		500		ug/L		02/08/18 11:22	02/09/18 23:06	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	9.3		0.1		SU			02/07/18 14:13	1
Specific Conductance	870		1.0		umhos/cm			02/07/18 14:38	1
Total Dissolved Solids	610		10		mg/L			02/13/18 10:45	1

**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Client Sample ID: AP 3-S - NATURAL**

**Lab Sample ID: 180-74122-11**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

**General Chemistry - Leach (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	180		10		millivolts			02/07/18 14:38	1

**Client Sample ID: AP 2-S - PRETEST**

**Lab Sample ID: 180-74122-12**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	31.6		0.1		%			01/24/18 06:29	1
Percent Solids	68.4		0.1		%			01/24/18 06:29	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	4.9		0.1		SU			02/07/18 11:49	1
pH	12.5		0.1		SU			02/12/18 14:43	1
pH	6.3		0.1		SU			02/12/18 14:46	1
pH	4.7		0.1		SU			02/12/18 14:58	1
pH	12.7		0.1		SU			02/12/18 15:01	1
pH	11.3		0.1		SU			02/16/18 13:16	1
pH	3.4		0.1		SU			02/16/18 13:27	1

**Client Sample ID: AP 2-S - PH 13.0**

**Lab Sample ID: 180-74122-13**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	63		50		mg/L			02/08/18 20:40	50
Fluoride	<5.0		5.0		mg/L			02/08/18 20:40	50
Sulfate	300		50		mg/L			02/08/18 20:40	50

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	83000		800		ug/L		02/08/18 11:28	02/13/18 03:38	1
Calcium	34000		5000		ug/L		02/08/18 11:28	02/10/18 00:36	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.9		0.1		SU			02/07/18 11:30	1
Specific Conductance	45000		1.0		umhos/cm			02/07/18 11:10	1
Total Dissolved Solids	14000		330		mg/L			02/13/18 11:04	1
Oxidation Reduction Potential	- 20		10		millivolts			02/07/18 11:08	1

**Client Sample ID: AP 2-S - PH 12.0**

**Lab Sample ID: 180-74122-14**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	210		100		mg/L			02/26/18 13:03	100
Fluoride	<10		10		mg/L			02/26/18 13:03	100

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Client Sample Results**

**Client Sample ID: AP 2-S - PH 12.0**

Date Collected: 01/10/18 10:50

Date Received: 01/12/18 09:10

**Lab Sample ID: 180-74122-14**

Matrix: Solid

**Method: EPA 9056A - Anions, Ion Chromatography - Leach (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1100		100		mg/L			02/26/18 13:03	100

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	8500		80		ug/L		02/19/18 13:03	02/22/18 04:26	1
Calcium	2500		500		ug/L		02/19/18 13:03	02/21/18 01:17	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.4		0.1		SU			02/16/18 13:21	1
Specific Conductance	12000		1.0		umhos/cm			02/16/18 13:09	1
Total Dissolved Solids	4300		100		mg/L			02/19/18 15:41	1
Oxidation Reduction Potential	- 19		10		millivolts			02/16/18 13:09	1

**Client Sample ID: AP 2-S - PH 10.5**

Date Collected: 01/10/18 10:50

Date Received: 01/12/18 09:10

**Lab Sample ID: 180-74122-15**

Matrix: Solid

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	63		1.0		mg/L			02/22/18 12:51	1
Fluoride	0.42		0.10		mg/L			02/22/18 12:51	1
Sulfate	240		10		mg/L			02/22/18 13:07	10

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5500		80		ug/L		02/21/18 11:22	02/26/18 21:33	1
Calcium	13000		500		ug/L		02/21/18 11:22	02/23/18 11:43	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	10.0		0.1		SU			02/19/18 10:19	1
Specific Conductance	1100		1.0		umhos/cm			02/19/18 10:24	1
Total Dissolved Solids	670		10		mg/L			02/26/18 14:33	1
Oxidation Reduction Potential	160		10		millivolts			02/19/18 10:20	1

**Client Sample ID: AP 2-S - PH 8.0**

Date Collected: 01/10/18 10:50

Date Received: 01/12/18 09:10

**Lab Sample ID: 180-74122-17**

Matrix: Solid

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69		2.5		mg/L			02/13/18 14:03	2.5
Fluoride	<0.50		0.50		mg/L			02/14/18 15:20	5
Sulfate	270		2.5		mg/L			02/13/18 14:03	2.5

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5500		80		ug/L		02/13/18 13:38	02/15/18 23:01	1
Calcium	390000		500		ug/L		02/13/18 13:38	02/15/18 23:01	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74122-1

**Client Sample ID: AP 2-S - PH 8.0**  
**Date Collected: 01/10/18 10:50**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74122-17**  
**Matrix: Solid**

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8		0.1		SU			02/12/18 14:55	1
Specific Conductance	3300		1.0		umhos/cm			02/12/18 14:35	1
Total Dissolved Solids	2600		20		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	260		10		millivolts			02/12/18 14:36	1

**Client Sample ID: AP 2-S - PH 7.0**  
**Date Collected: 01/10/18 10:50**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74122-18**  
**Matrix: Solid**

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69		2.5		mg/L			02/13/18 14:34	2.5
Fluoride	<0.50		0.50		mg/L			02/14/18 15:36	5
Sulfate	280		2.5		mg/L			02/13/18 14:34	2.5

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	6400		80		ug/L		02/13/18 13:38	02/15/18 22:39	1
Calcium	700000		500		ug/L		02/13/18 13:38	02/15/18 22:39	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4		0.1		SU			02/12/18 14:49	1
Specific Conductance	5200		1.0		umhos/cm			02/12/18 14:24	1
Total Dissolved Solids	4200		40		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	270		10		millivolts			02/12/18 14:23	1

**Client Sample ID: AP 2-S - PH 5.5**  
**Date Collected: 01/10/18 10:50**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74122-19**  
**Matrix: Solid**

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44		25		mg/L			02/26/18 09:13	25
Fluoride	<2.5		2.5		mg/L			02/26/18 09:13	25
Sulfate	380		25		mg/L			02/26/18 09:13	25

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	12000		800		ug/L		02/23/18 12:01	02/27/18 10:17	10
Calcium	5100000		5000		ug/L		02/23/18 12:01	02/27/18 10:17	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.6		0.1		SU			02/23/18 10:18	1
Specific Conductance	25000		1.0		umhos/cm			02/23/18 10:17	1
Total Dissolved Solids	26000		200		mg/L			02/27/18 15:07	1
Oxidation Reduction Potential	240		10		millivolts			02/23/18 10:18	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74122-1

**Client Sample ID: AP 2-S - PH 4.0**

**Lab Sample ID: 180-74122-20**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	57		50		mg/L			02/13/18 16:40	50
Fluoride	<10		10		mg/L			02/14/18 15:52	100
Sulfate	290		50		mg/L			02/13/18 16:40	50

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	19000		800		ug/L		02/13/18 13:38	02/16/18 20:38	10
Calcium	7900000		5000		ug/L		02/13/18 13:38	02/16/18 20:38	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	3.8		0.1		SU			02/12/18 14:52	1
Specific Conductance	43000		1.0		umhos/cm			02/12/18 14:29	1
Total Dissolved Solids	51000		330		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	370		10		millivolts			02/12/18 14:29	1

**Client Sample ID: AP 2-S - PH 2.0**

**Lab Sample ID: 180-74122-21**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<100		100		mg/L			02/22/18 11:48	100
Fluoride	<10		10		mg/L			02/22/18 11:48	100
Sulfate	440		100		mg/L			02/22/18 11:48	100

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	30000		8000		ug/L		02/23/18 12:01	02/27/18 09:50	10
Calcium	12000000		50000		ug/L		02/23/18 12:01	02/24/18 17:16	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	2.3		0.1		SU			02/19/18 10:44	1
Specific Conductance	69000		1.0		umhos/cm			02/19/18 10:42	1
Total Dissolved Solids	82000		500		mg/L			02/26/18 14:33	1
Oxidation Reduction Potential	630		10		millivolts			02/19/18 10:40	1

**Client Sample ID: AP 2-S - NATURAL**

**Lab Sample ID: 180-74122-22**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69		1.0		mg/L			02/08/18 11:15	1
Fluoride	<0.10		0.10		mg/L			02/08/18 11:15	1
Sulfate	310		5.0		mg/L			02/08/18 11:31	5

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4600		80		ug/L		02/08/18 11:22	02/13/18 01:11	1



Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Client Sample Results**

**Client Sample ID: AP 2-S - NATURAL**

**Lab Sample ID: 180-74122-22**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 6020A - Metals (ICP/MS) - Leach (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	59000		500		ug/L		02/08/18 11:22	02/09/18 23:09	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.8		0.1		SU			02/07/18 14:16	1
Specific Conductance	930		1.0		umhos/cm			02/07/18 14:41	1
Total Dissolved Solids	590		10		mg/L			02/13/18 10:45	1
Oxidation Reduction Potential	190		10		millivolts			02/07/18 14:43	1

**Client Sample ID: AP 3-S - AIR DIED**

**Lab Sample ID: 180-74122-23**

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.2		0.1		%			02/02/18 11:37	1
Percent Solids	98.8		0.1		%			02/02/18 11:37	1

**Client Sample ID: AP 2-S - AIR DRIED**

**Lab Sample ID: 180-74122-24**

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	2.1		0.1		%			02/02/18 11:37	1
Percent Solids	97.9		0.1		%			02/02/18 11:37	1

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

**Method: EPA 9056A - Anions, Ion Chromatography**

Lab Sample ID: MB 180-236373/6  
Matrix: Solid  
Analysis Batch: 236373

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/08/18 06:17	1
Fluoride	<0.10		0.10		mg/L			02/08/18 06:17	1
Sulfate	<1.0		1.0		mg/L			02/08/18 06:17	1

Lab Sample ID: LCS 180-236373/5  
Matrix: Solid  
Analysis Batch: 236373

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.0		mg/L		100	80 - 120
Fluoride	1.25	1.02		mg/L		82	80 - 120
Sulfate	25.0	24.0		mg/L		96	80 - 120

Lab Sample ID: MB 180-236377/17  
Matrix: Solid  
Analysis Batch: 236377

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/08/18 09:27	1
Fluoride	<0.10		0.10		mg/L			02/08/18 09:27	1
Sulfate	<1.0		1.0		mg/L			02/08/18 09:27	1

Lab Sample ID: LCS 180-236377/16  
Matrix: Solid  
Analysis Batch: 236377

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.0		mg/L		100	80 - 120
Fluoride	1.25	1.18		mg/L		94	80 - 120
Sulfate	25.0	24.1		mg/L		96	80 - 120

Lab Sample ID: MB 180-236732/6  
Matrix: Solid  
Analysis Batch: 236732

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/13/18 05:33	1
Sulfate	<1.0		1.0		mg/L			02/13/18 05:33	1

Lab Sample ID: LCS 180-236732/5  
Matrix: Solid  
Analysis Batch: 236732

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.9		mg/L		103	80 - 120
Sulfate	25.0	25.1		mg/L		100	80 - 120

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

**Method: EPA 9056A - Anions, Ion Chromatography (Continued)**

Lab Sample ID: MB 180-236891/6  
Matrix: Solid  
Analysis Batch: 236891

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/14/18 11:05	1
Fluoride	<0.10		0.10		mg/L			02/14/18 11:05	1
Sulfate	<1.0		1.0		mg/L			02/14/18 11:05	1

Lab Sample ID: LCS 180-236891/5  
Matrix: Solid  
Analysis Batch: 236891

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.9		mg/L		104	80 - 120
Fluoride	2.50	2.58		mg/L		103	80 - 120
Sulfate	50.0	49.2		mg/L		98	80 - 120

Lab Sample ID: MB 180-237598/6  
Matrix: Solid  
Analysis Batch: 237598

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/22/18 08:13	1
Fluoride	<0.10		0.10		mg/L			02/22/18 08:13	1
Sulfate	<1.0		1.0		mg/L			02/22/18 08:13	1

Lab Sample ID: LCS 180-237598/5  
Matrix: Solid  
Analysis Batch: 237598

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.4		mg/L		102	80 - 120
Fluoride	1.25	1.20		mg/L		96	80 - 120
Sulfate	25.0	21.2		mg/L		85	80 - 120

Lab Sample ID: MB 180-237859/6  
Matrix: Solid  
Analysis Batch: 237859

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/26/18 08:06	1
Fluoride	<0.10		0.10		mg/L			02/26/18 08:06	1
Sulfate	<1.0		1.0		mg/L			02/26/18 08:06	1

Lab Sample ID: LCS 180-237859/5  
Matrix: Solid  
Analysis Batch: 237859

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.4		mg/L		106	80 - 120
Fluoride	1.25	1.23		mg/L		99	80 - 120
Sulfate	25.0	22.5		mg/L		90	80 - 120

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

Method: EPA 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-236437/1-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/08/18 11:22	02/09/18 22:43	1

Lab Sample ID: MB 180-236437/1-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/08/18 11:22	02/13/18 00:25	1

Lab Sample ID: LCS 180-236437/2-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	50000	53100		ug/L		106	80 - 120

Lab Sample ID: LCS 180-236437/2-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	1010		ug/L		101	80 - 120

Lab Sample ID: LCSD 180-236437/3-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	52500		ug/L		105	80 - 120	1	20

Lab Sample ID: LCSD 180-236437/3-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	1030		ug/L		103	80 - 120	2	20

Lab Sample ID: MB 180-236440/1-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/08/18 11:28	02/10/18 00:04	1

Lab Sample ID: MB 180-236440/1-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/08/18 11:28	02/13/18 02:47	1

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

Lab Sample ID: LCS 180-236440/2-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 236440  
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	50000	52800		ug/L		106	80 - 120

Lab Sample ID: LCS 180-236440/2-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 236440  
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1000	916		ug/L		92	80 - 120

Lab Sample ID: LCSD 180-236440/3-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 236440  
%Rec. RPD

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Calcium	50000	51500		ug/L		103	80 - 120	2	20

Lab Sample ID: LCSD 180-236440/3-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 236440  
%Rec. RPD

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Boron	1000	917		ug/L		92	80 - 120	0	20

Lab Sample ID: MB 180-236807/1-A  
Matrix: Solid  
Analysis Batch: 237198

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236807

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/13/18 13:38	02/15/18 21:43	1
Calcium	<500		500		ug/L		02/13/18 13:38	02/15/18 21:43	1

Lab Sample ID: LCS 180-236807/2-A  
Matrix: Solid  
Analysis Batch: 237198

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 236807  
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1000	866		ug/L		87	80 - 120
Calcium	50000	46700		ug/L		93	80 - 120

Lab Sample ID: LCSD 180-236807/3-A  
Matrix: Solid  
Analysis Batch: 237198

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 236807  
%Rec. RPD

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Boron	1000	879		ug/L		88	80 - 120	1	20
Calcium	50000	46500		ug/L		93	80 - 120	1	20

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74122-1

Method: EPA 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-237311/1-A  
Matrix: Solid  
Analysis Batch: 237590

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/19/18 13:03	02/21/18 00:31	1

Lab Sample ID: MB 180-237311/1-A  
Matrix: Solid  
Analysis Batch: 237713

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/19/18 13:03	02/22/18 03:08	1

Lab Sample ID: LCS 180-237311/2-A  
Matrix: Solid  
Analysis Batch: 237590

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	50000	48400		ug/L		97	80 - 120

Lab Sample ID: LCS 180-237311/2-A  
Matrix: Solid  
Analysis Batch: 237713

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	1010		ug/L		101	80 - 120

Lab Sample ID: LCSD 180-237311/3-A  
Matrix: Solid  
Analysis Batch: 237590

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	48200		ug/L		96	80 - 120	0	20

Lab Sample ID: LCSD 180-237311/3-A  
Matrix: Solid  
Analysis Batch: 237713

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	1020		ug/L		102	80 - 120	0	20

Lab Sample ID: MB 180-237537/1-A  
Matrix: Solid  
Analysis Batch: 237821

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/21/18 11:22	02/23/18 11:29	1

Lab Sample ID: MB 180-237537/1-A  
Matrix: Solid  
Analysis Batch: 238052

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/21/18 11:22	02/26/18 21:10	1

TestAmerica Pittsburgh

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

Lab Sample ID: LCS 180-237537/2-A  
Matrix: Solid  
Analysis Batch: 237821

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237537  
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	50000	55300		ug/L		111	80 - 120

Lab Sample ID: LCS 180-237537/2-A  
Matrix: Solid  
Analysis Batch: 238052

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237537  
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1000	1010		ug/L		101	80 - 120

Lab Sample ID: LCSD 180-237537/3-A  
Matrix: Solid  
Analysis Batch: 237821

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237537  
%Rec.

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Calcium	50000	55200		ug/L		110	80 - 120	0	20

Lab Sample ID: LCSD 180-237537/3-A  
Matrix: Solid  
Analysis Batch: 238052

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237537  
%Rec.

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Boron	1000	1060		ug/L		106	80 - 120	5	20

Lab Sample ID: MB 180-237767/1-A  
Matrix: Solid  
Analysis Batch: 237942

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/23/18 12:01	02/24/18 16:45	1

Lab Sample ID: MB 180-237767/1-A  
Matrix: Solid  
Analysis Batch: 238052

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/23/18 12:01	02/27/18 09:22	1

Lab Sample ID: LCS 180-237767/2-A  
Matrix: Solid  
Analysis Batch: 237942

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237767  
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	50000	51800		ug/L		104	80 - 120

Lab Sample ID: LCS 180-237767/2-A  
Matrix: Solid  
Analysis Batch: 238052

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237767  
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1000	970		ug/L		97	80 - 120

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

Method: EPA 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 180-237767/3-A  
Matrix: Solid  
Analysis Batch: 237942

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237767

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	52100		ug/L		104	80 - 120	1	20

Lab Sample ID: LCSD 180-237767/3-A  
Matrix: Solid  
Analysis Batch: 238052

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237767

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	1000		ug/L		100	80 - 120	3	20

Method: 2540G - SM 2540G

Lab Sample ID: 180-74122-12 DU  
Matrix: Solid  
Analysis Batch: 234952

Client Sample ID: AP 2-S - PRETEST  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	31.6		32.9		%		4	20
Percent Solids	68.4		67.1		%		2	20

Lab Sample ID: 180-74122-23 DU  
Matrix: Solid  
Analysis Batch: 235859

Client Sample ID: AP 3-S - AIR DIED  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	1.2		1.2		%		0.4	20
Percent Solids	98.8		98.8		%		0	20

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-236465/1  
Matrix: Solid  
Analysis Batch: 236465

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
pH	7.00	7.0		SU		100	99 - 101		

Lab Sample ID: LCS 180-236465/47  
Matrix: Solid  
Analysis Batch: 236465

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
pH	7.00	7.0		SU		100	99 - 101		

Lab Sample ID: LCS 180-237380/1  
Matrix: Solid  
Analysis Batch: 237380

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
pH	7.00	7.0		SU		100	99 - 101		



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

Lab Sample ID: LCS 180-237531/1  
Matrix: Solid  
Analysis Batch: 237531

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-237737/1  
Matrix: Solid  
Analysis Batch: 237737

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-237772/1  
Matrix: Solid  
Analysis Batch: 237772

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 180-236475/2  
Matrix: Solid  
Analysis Batch: 236475

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/07/18 11:03	1

Lab Sample ID: MB 180-236475/43  
Matrix: Solid  
Analysis Batch: 236475

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/07/18 13:32	1

Lab Sample ID: LCS 180-236475/1  
Matrix: Solid  
Analysis Batch: 236475

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.1		umhos/cm		101	90 - 110

Lab Sample ID: LCS 180-236475/42  
Matrix: Solid  
Analysis Batch: 236475

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.1		umhos/cm		101	90 - 110

Lab Sample ID: MB 180-237425/2  
Matrix: Solid  
Analysis Batch: 237425

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/12/18 10:05	1

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**QC Sample Results**

**Lab Sample ID: LCS 180-237425/1**  
**Matrix: Solid**  
**Analysis Batch: 237425**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.0		umhos/cm		101	90 - 110

**Lab Sample ID: MB 180-237553/2**  
**Matrix: Solid**  
**Analysis Batch: 237553**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/19/18 10:06	1

**Lab Sample ID: LCS 180-237553/1**  
**Matrix: Solid**  
**Analysis Batch: 237553**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	88.6		umhos/cm		105	90 - 110

**Lab Sample ID: MB 180-237752/2**  
**Matrix: Solid**  
**Analysis Batch: 237752**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/16/18 08:07	1

**Lab Sample ID: LCS 180-237752/1**  
**Matrix: Solid**  
**Analysis Batch: 237752**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.1		umhos/cm		101	90 - 110

**Lab Sample ID: MB 180-237776/2**  
**Matrix: Solid**  
**Analysis Batch: 237776**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/23/18 10:04	1

**Lab Sample ID: LCS 180-237776/1**  
**Matrix: Solid**  
**Analysis Batch: 237776**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	88.5		umhos/cm		105	90 - 110



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74122-1

**Method: SM 2540C - Solids, Total Dissolved (TDS)**

Lab Sample ID: MB 180-236785/2  
Matrix: Solid  
Analysis Batch: 236785

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/13/18 10:45	1

Lab Sample ID: LCS 180-236785/1  
Matrix: Solid  
Analysis Batch: 236785

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	388		mg/L		114	80 - 120

Lab Sample ID: MB 180-236788/2  
Matrix: Solid  
Analysis Batch: 236788

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/13/18 11:04	1

Lab Sample ID: LCS 180-236788/1  
Matrix: Solid  
Analysis Batch: 236788

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	360		mg/L		106	80 - 120

Lab Sample ID: MB 180-237078/2  
Matrix: Solid  
Analysis Batch: 237078

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/15/18 14:59	1

Lab Sample ID: LCS 180-237078/1  
Matrix: Solid  
Analysis Batch: 237078

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	342		mg/L		101	80 - 120

Lab Sample ID: MB 180-237329/2  
Matrix: Solid  
Analysis Batch: 237329

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/19/18 15:41	1

Lab Sample ID: LCS 180-237329/1  
Matrix: Solid  
Analysis Batch: 237329

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	330		mg/L		97	80 - 120

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**QC Sample Results**

**Lab Sample ID: MB 180-237940/2**  
**Matrix: Solid**  
**Analysis Batch: 237940**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/26/18 14:33	1

**Lab Sample ID: LCS 180-237940/1**  
**Matrix: Solid**  
**Analysis Batch: 237940**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	338		mg/L		100	80 - 120

**Lab Sample ID: MB 180-238055/2**  
**Matrix: Solid**  
**Analysis Batch: 238055**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/27/18 15:07	1

**Lab Sample ID: LCS 180-238055/1**  
**Matrix: Solid**  
**Analysis Batch: 238055**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	360		mg/L		106	80 - 120

**Lab Sample ID: 180-74122-13 DU**  
**Matrix: Solid**  
**Analysis Batch: 236788**

**Client Sample ID: AP 2-S - PH 13.0**  
**Prep Type: Leach**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	14000		13800		mg/L		3	10

**Lab Sample ID: 180-74122-2 DU**  
**Matrix: Solid**  
**Analysis Batch: 237078**

**Client Sample ID: AP 3-S - PH 13.0**  
**Prep Type: Leach**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	14000		13800		mg/L		1	10

**Lab Sample ID: 180-74122-10 DU**  
**Matrix: Solid**  
**Analysis Batch: 237940**

**Client Sample ID: AP 3-S - PH 2.0**  
**Prep Type: Leach**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	83000		83300		mg/L		0.8	10

**Lab Sample ID: 180-74122-21 DU**  
**Matrix: Solid**  
**Analysis Batch: 237940**

**Client Sample ID: AP 2-S - PH 2.0**  
**Prep Type: Leach**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	82000		79400		mg/L		4	10

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Method: SM 2580B - Reduction-Oxidation (REDOX) Potential**

Lab Sample ID: LCS 180-236472/1  
Matrix: Solid  
Analysis Batch: 236472

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	467		millivolts		98	90 - 110

Lab Sample ID: LCS 180-236472/36  
Matrix: Solid  
Analysis Batch: 236472

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	463		millivolts		97	90 - 110

Lab Sample ID: LCS 180-237422/1  
Matrix: Solid  
Analysis Batch: 237422

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	466		millivolts		98	90 - 110

Lab Sample ID: LCS 180-237550/1  
Matrix: Solid  
Analysis Batch: 237550

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	469		millivolts		99	90 - 110

Lab Sample ID: LCS 180-237751/1  
Matrix: Solid  
Analysis Batch: 237751

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	467		millivolts		98	90 - 110

Lab Sample ID: LCS 180-237774/1  
Matrix: Solid  
Analysis Batch: 237774

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	473		millivolts		100	90 - 110

Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**HPLC/IC**

**Leach Batch: 236165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	1313	
180-74122-11	AP 3-S - NATURAL	Leach	Solid	1313	
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	1313	
180-74122-22	AP 2-S - NATURAL	Leach	Solid	1313	

**Analysis Batch: 236373**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-11	AP 3-S - NATURAL	Leach	Solid	EPA 9056A	236165
180-74122-11	AP 3-S - NATURAL	Leach	Solid	EPA 9056A	236165
180-74122-22	AP 2-S - NATURAL	Leach	Solid	EPA 9056A	236165
180-74122-22	AP 2-S - NATURAL	Leach	Solid	EPA 9056A	236165
MB 180-236373/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236373/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Analysis Batch: 236377**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	EPA 9056A	236165
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	EPA 9056A	236165
MB 180-236377/17	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236377/16	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Leach Batch: 236722**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	1313	
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	1313	
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	1313	
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	1313	
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	1313	
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	1313	

**Analysis Batch: 236732**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	EPA 9056A	236722
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	EPA 9056A	236722
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	EPA 9056A	236722
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	EPA 9056A	236722
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	EPA 9056A	236722
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	EPA 9056A	236722
MB 180-236732/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236732/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Analysis Batch: 236891**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	EPA 9056A	236722
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	EPA 9056A	236722
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	EPA 9056A	236722
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	EPA 9056A	236722
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	EPA 9056A	236722
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	EPA 9056A	236722
MB 180-236891/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236891/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	



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**Leach Batch: 237165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	1313	
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	1313	

**Leach Batch: 237381**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	1313	
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	1313	
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	1313	
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	1313	

**Analysis Batch: 237598**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	EPA 9056A	237381
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	EPA 9056A	237381
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	EPA 9056A	237381
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	EPA 9056A	237381
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	EPA 9056A	237381
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	EPA 9056A	237381
MB 180-237598/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-237598/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Leach Batch: 237761**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	1313	
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	1313	

**Analysis Batch: 237859**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	EPA 9056A	237165
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	EPA 9056A	237165
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	EPA 9056A	237761
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	EPA 9056A	237165
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	EPA 9056A	237761
MB 180-237859/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-237859/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Metals**

**Leach Batch: 236165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	1313	
180-74122-11	AP 3-S - NATURAL	Leach	Solid	1313	
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	1313	
180-74122-22	AP 2-S - NATURAL	Leach	Solid	1313	

**Prep Batch: 236437**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-11	AP 3-S - NATURAL	Leach	Solid	3010A	236165
180-74122-22	AP 2-S - NATURAL	Leach	Solid	3010A	236165
MB 180-236437/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-236437/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-236437/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

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 Project/Site: Midwest Generation

**Metals (Continued)**

**Prep Batch: 236440**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	3010A	236165
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	3010A	236165
MB 180-236440/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-236440/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-236440/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Leach Batch: 236722**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	1313	
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	1313	
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	1313	
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	1313	
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	1313	
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	1313	

**Analysis Batch: 236729**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74122-11	AP 3-S - NATURAL	Leach	Solid	EPA 6020A	236437
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74122-22	AP 2-S - NATURAL	Leach	Solid	EPA 6020A	236437
MB 180-236437/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236437
MB 180-236440/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236440
LCS 180-236437/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236437
LCS 180-236440/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236440
LCSD 180-236437/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236437
LCSD 180-236440/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236440

**Prep Batch: 236807**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	3010A	236722
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	3010A	236722
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	3010A	236722
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	3010A	236722
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	3010A	236722
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	3010A	236722
MB 180-236807/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-236807/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-236807/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Analysis Batch: 236828**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74122-11	AP 3-S - NATURAL	Leach	Solid	EPA 6020A	236437
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74122-22	AP 2-S - NATURAL	Leach	Solid	EPA 6020A	236437
MB 180-236437/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236437
MB 180-236440/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236440
LCS 180-236437/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236437
LCS 180-236440/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236440
LCSD 180-236437/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236437





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**Metals (Continued)**

**Analysis Batch: 236828 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 180-236440/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236440

**Leach Batch: 237165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	1313	
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	1313	

**Analysis Batch: 237198**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	EPA 6020A	236807
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	EPA 6020A	236807
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	EPA 6020A	236807
MB 180-236807/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236807
LCS 180-236807/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236807
LCSD 180-236807/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236807

**Prep Batch: 237311**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	3010A	237165
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	3010A	237165
MB 180-237311/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-237311/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-237311/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Analysis Batch: 237323**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	EPA 6020A	236807
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	EPA 6020A	236807
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	EPA 6020A	236807

**Leach Batch: 237381**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	1313	
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	1313	
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	1313	
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	1313	

**Prep Batch: 237537**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	3010A	237381
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	3010A	237381
MB 180-237537/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-237537/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-237537/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Analysis Batch: 237590**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	EPA 6020A	237311
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	EPA 6020A	237311
MB 180-237311/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237311
LCS 180-237311/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237311



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**Metals (Continued)**

**Analysis Batch: 237590 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 180-237311/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237311

**Analysis Batch: 237713**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	EPA 6020A	237311
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	EPA 6020A	237311
MB 180-237311/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237311
LCS 180-237311/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237311
LCSD 180-237311/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237311

**Leach Batch: 237761**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	1313	
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	1313	

**Prep Batch: 237767**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	3010A	237761
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	3010A	237381
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	3010A	237761
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	3010A	237381
MB 180-237767/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-237767/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-237767/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Analysis Batch: 237821**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	EPA 6020A	237537
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	EPA 6020A	237537
MB 180-237537/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237537
LCS 180-237537/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237537
LCSD 180-237537/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237537

**Analysis Batch: 237942**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	EPA 6020A	237767
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	EPA 6020A	237767
MB 180-237767/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237767
LCS 180-237767/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237767
LCSD 180-237767/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237767

**Analysis Batch: 238052**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	EPA 6020A	237537
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	EPA 6020A	237767
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	EPA 6020A	237767
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	EPA 6020A	237537
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	EPA 6020A	237767
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	EPA 6020A	237767
MB 180-237537/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237537
MB 180-237767/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237767



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**Metals (Continued)**

**Analysis Batch: 238052 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-237537/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237537
LCS 180-237767/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237767
LCS 180-237537/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237537
LCS 180-237767/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237767

**General Chemistry**

**Analysis Batch: 234952**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-1	AP 3-S - PRETEST	Total/NA	Solid	2540G	
180-74122-12	AP 2-S - PRETEST	Total/NA	Solid	2540G	
180-74122-12 DU	AP 2-S - PRETEST	Total/NA	Solid	2540G	

**Analysis Batch: 235859**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-23	AP 3-S - AIR DIED	Total/NA	Solid	2540G	
180-74122-24	AP 2-S - AIR DRIED	Total/NA	Solid	2540G	
180-74122-23 DU	AP 3-S - AIR DIED	Total/NA	Solid	2540G	

**Leach Batch: 236165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-1	AP 3-S - PRETEST	Leach	Solid	1313	
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	1313	
180-74122-11	AP 3-S - NATURAL	Leach	Solid	1313	
180-74122-12	AP 2-S - PRETEST	Leach	Solid	1313	
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	1313	
180-74122-22	AP 2-S - NATURAL	Leach	Solid	1313	
180-74122-2 DU	AP 3-S - PH 13.0	Leach	Solid	1313	
180-74122-13 DU	AP 2-S - PH 13.0	Leach	Solid	1313	

**Analysis Batch: 236465**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-1	AP 3-S - PRETEST	Leach	Solid	EPA 9040C	236165
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	EPA 9040C	236165
180-74122-11	AP 3-S - NATURAL	Leach	Solid	EPA 9040C	236165
180-74122-12	AP 2-S - PRETEST	Leach	Solid	EPA 9040C	236165
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	EPA 9040C	236165
180-74122-22	AP 2-S - NATURAL	Leach	Solid	EPA 9040C	236165
LCS 180-236465/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	
LCS 180-236465/47	Lab Control Sample	Total/NA	Solid	EPA 9040C	

**Analysis Batch: 236472**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	SM 2580B	236165
180-74122-11	AP 3-S - NATURAL	Leach	Solid	SM 2580B	236165
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	SM 2580B	236165
180-74122-22	AP 2-S - NATURAL	Leach	Solid	SM 2580B	236165
LCS 180-236472/1	Lab Control Sample	Total/NA	Solid	SM 2580B	
LCS 180-236472/36	Lab Control Sample	Total/NA	Solid	SM 2580B	

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**General Chemistry (Continued)**

**Analysis Batch: 236475**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	SM 2510B	236165
180-74122-11	AP 3-S - NATURAL	Leach	Solid	SM 2510B	236165
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	SM 2510B	236165
180-74122-22	AP 2-S - NATURAL	Leach	Solid	SM 2510B	236165
MB 180-236475/2	Method Blank	Total/NA	Solid	SM 2510B	
MB 180-236475/43	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-236475/1	Lab Control Sample	Total/NA	Solid	SM 2510B	
LCS 180-236475/42	Lab Control Sample	Total/NA	Solid	SM 2510B	

**Leach Batch: 236722**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	1313	
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	1313	
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	1313	
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	1313	
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	1313	
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	1313	

**Analysis Batch: 236785**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-11	AP 3-S - NATURAL	Leach	Solid	SM 2540C	236165
180-74122-22	AP 2-S - NATURAL	Leach	Solid	SM 2540C	236165
MB 180-236785/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-236785/1	Lab Control Sample	Total/NA	Solid	SM 2540C	

**Analysis Batch: 236788**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	SM 2540C	236165
MB 180-236788/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-236788/1	Lab Control Sample	Total/NA	Solid	SM 2540C	
180-74122-13 DU	AP 2-S - PH 13.0	Leach	Solid	SM 2540C	236165

**Analysis Batch: 237078**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	SM 2540C	236165
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	SM 2540C	236722
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	SM 2540C	236722
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	SM 2540C	236722
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	SM 2540C	236722
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	SM 2540C	236722
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	SM 2540C	236722
MB 180-237078/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-237078/1	Lab Control Sample	Total/NA	Solid	SM 2540C	
180-74122-2 DU	AP 3-S - PH 13.0	Leach	Solid	SM 2540C	236165

**Leach Batch: 237107**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-1	AP 3-S - PRETEST	Leach	Solid	1313	
180-74122-1	AP 3-S - PRETEST	Leach	Solid	1313	
180-74122-1	AP 3-S - PRETEST	Leach	Solid	1313	
180-74122-1	AP 3-S - PRETEST	Leach	Solid	1313	

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Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**General Chemistry (Continued)**

**Leach Batch: 237107 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-12	AP 2-S - PRETEST	Leach	Solid	1313	
180-74122-12	AP 2-S - PRETEST	Leach	Solid	1313	
180-74122-12	AP 2-S - PRETEST	Leach	Solid	1313	
180-74122-12	AP 2-S - PRETEST	Leach	Solid	1313	

**Leach Batch: 237165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	1313	
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	1313	

**Analysis Batch: 237329**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	SM 2540C	237165
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	SM 2540C	237165
MB 180-237329/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-237329/1	Lab Control Sample	Total/NA	Solid	SM 2540C	

**Analysis Batch: 237380**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-1	AP 3-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-1	AP 3-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-1	AP 3-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-1	AP 3-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	EPA 9040C	236722
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	EPA 9040C	236722
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	EPA 9040C	236722
180-74122-12	AP 2-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-12	AP 2-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-12	AP 2-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-12	AP 2-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	EPA 9040C	236722
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	EPA 9040C	236722
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	EPA 9040C	236722
LCS 180-237380/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	

**Leach Batch: 237381**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	1313	
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	1313	
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	1313	
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	1313	
180-74122-10 DU	AP 3-S - PH 2.0	Leach	Solid	1313	
180-74122-21 DU	AP 2-S - PH 2.0	Leach	Solid	1313	

**Analysis Batch: 237422**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	SM 2580B	236722
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	SM 2580B	236722
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	SM 2580B	236722
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	SM 2580B	236722
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	SM 2580B	236722



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**General Chemistry (Continued)**

**Analysis Batch: 237422 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	SM 2580B	236722
LCS 180-237422/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

**Analysis Batch: 237425**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	SM 2510B	236722
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	SM 2510B	236722
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	SM 2510B	236722
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	SM 2510B	236722
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	SM 2510B	236722
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	SM 2510B	236722
MB 180-237425/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-237425/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

**Analysis Batch: 237531**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	EPA 9040C	237381
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	EPA 9040C	237381
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	EPA 9040C	237381
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	EPA 9040C	237381
LCS 180-237531/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	

**Analysis Batch: 237550**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	SM 2580B	237381
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	SM 2580B	237381
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	SM 2580B	237381
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	SM 2580B	237381
LCS 180-237550/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

**Analysis Batch: 237553**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	SM 2510B	237381
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	SM 2510B	237381
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	SM 2510B	237381
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	SM 2510B	237381
MB 180-237553/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-237553/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

**Leach Batch: 237733**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-1	AP 3-S - PRETEST	Leach	Solid	1313	
180-74122-1	AP 3-S - PRETEST	Leach	Solid	1313	
180-74122-12	AP 2-S - PRETEST	Leach	Solid	1313	
180-74122-12	AP 2-S - PRETEST	Leach	Solid	1313	

**Analysis Batch: 237737**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-1	AP 3-S - PRETEST	Leach	Solid	EPA 9040C	237733
180-74122-1	AP 3-S - PRETEST	Leach	Solid	EPA 9040C	237733
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	EPA 9040C	237165



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**General Chemistry (Continued)**

**Analysis Batch: 237737 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-12	AP 2-S - PRETEST	Leach	Solid	EPA 9040C	237733
180-74122-12	AP 2-S - PRETEST	Leach	Solid	EPA 9040C	237733
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	EPA 9040C	237165
LCS 180-237737/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	

**Analysis Batch: 237751**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	SM 2580B	237165
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	SM 2580B	237165
LCS 180-237751/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

**Analysis Batch: 237752**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	SM 2510B	237165
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	SM 2510B	237165
MB 180-237752/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-237752/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

**Leach Batch: 237761**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	1313	
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	1313	

**Analysis Batch: 237772**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	EPA 9040C	237761
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	EPA 9040C	237761
LCS 180-237772/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	

**Analysis Batch: 237774**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	SM 2580B	237761
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	SM 2580B	237761
LCS 180-237774/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

**Analysis Batch: 237776**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	SM 2510B	237761
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	SM 2510B	237761
MB 180-237776/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-237776/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

**Analysis Batch: 237940**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	SM 2540C	237381
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	SM 2540C	237381
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	SM 2540C	237381
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	SM 2540C	237381
MB 180-237940/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-237940/1	Lab Control Sample	Total/NA	Solid	SM 2540C	
180-74122-10 DU	AP 3-S - PH 2.0	Leach	Solid	SM 2540C	237381

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Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**General Chemistry (Continued)**

**Analysis Batch: 237940 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-21 DU	AP 2-S - PH 2.0	Leach	Solid	SM 2540C	237381

**Analysis Batch: 238055**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	SM 2540C	237761
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	SM 2540C	237761
MB 180-238055/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-238055/1	Lab Control Sample	Total/NA	Solid	SM 2540C	

- 1
- 2
- 3
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- 7
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- 11
- 12
- 13



**Chain of Custody Record**

Report To: \_\_\_\_\_ (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To: \_\_\_\_\_ (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference#: \_\_\_\_\_

Lab Job #: \_\_\_\_\_  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: \_\_\_\_\_

Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix	Preservative	Comments
		AP 3-S	1/10/18	1020	2	SE	LEAF Method 1313	
		AP 2-S	1/10/18	1050	2	SE		



Turnaround Time Required (Business Days)  
 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days \_\_\_ 10 Days \_\_\_ 15 Days \_\_\_ Other \_\_\_  
 Requested Due Date \_\_\_\_\_

Sample Disposal:  Return to Client  Disposal by Lab  Archive for \_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: *[Signature]* Company: **KPRG** Date: **1/11/18** Time: **1630**  
 Reacquired By: *[Signature]* Company: **KPRG** Date: **1-11-18** Time: **430**  
 Relinquished By: *[Signature]* Company: **JA** Date: **1/12/18** Time: **0910**  
 Reacquired By: *[Signature]* Company: **JA** Date: **1/12/18** Time: **0910**

Matrix Key: WW - Wastewater, W - Water, S - Soil, SL - Sludge, MS - Miscellaneous, OL - Oil, A - Air  
 SE - Sediment, SO - Soil, L - Leachate, WI - Wipe, DW - Drinking Water, O - Other

Client Comments: **LEAF Method 1313 CCR Appendix 3**  
**→ B, Ca, Cl, FL, PH, SO4, TDS**

Lab Comments: \_\_\_\_\_



1  
2  
3  
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6  
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11  
12  
13

ORIGIN ID: RRLA  
SHIPPING  
TESTAMERICA  
4125 N 124TH ST  
BROOKFIELD, WI 53005  
UNITED STATES US

SHIP DATE: 11-  
ACTWGT: 41.65  
CAD: 525155/CA

BILL RECIPIENT

TO **SAMPLE RECEIPT**  
**TESTAMERICA**  
**301 ALPHA DR.**  
**PITTSBURGH PA 15238**

(412) 963-7068 REF:



180-74122 Waybill

TRK# 7125 4937 5449  
0201

FRI - 12 JAN  
PRIORITY OVERNIGHT

02/18 **NA AGCA**

15238  
PA-US PIT

Uncorrected temp 1.3 / 0.8 °C  
Thermometer ID \_\_\_\_\_  
CF -0.5 Initials TS  
PT-WI-SR-001 effective 7/26/13

**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 180-74122-1

**Login Number: 74122**

**List Source: TestAmerica Pittsburgh**

**List Number: 1**

**Creator: Neri, Tom**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Exhibit D



ENVIRONMENTAL CONSULTATION & REMEDIATION

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**KPRG and Associates, Inc.**

**CCR COMPLIANCE  
ANNUAL GROUNDWATER MONITORING and  
CORRECTIVE ACTION REPORT – 2018  
ASH BY-PASS BASIN AND ASH SURGE BASIN**

**Midwest Generation, LLC  
Powerton Station  
13082 E. Manito Rd.  
Pekin, IL 61554**

Prepared By: **KPRG and Associates, Inc.  
14665 West Lisbon Road, Suite 1A  
Brookfield, WI 53005**

January 31, 2019

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APPENDICES

- A – Analytical Data Packages from 2018 Assessment Monitoring
- B – Alternate Source Demonstration April 12, 2018

## 1.0 INTRODUCTION

Based on the results of the initial detection monitoring statistical evaluation performed in January 2018, an Alternate Source Demonstration (ASD) was performed for the Ash Surge Basin (ASB) and Ash By-pass Basin (ABB). The ASD was completed on April 12, 2018, in accordance with 40 CFR 257.94(e)(2) and concluded that based upon statistically significant increases (SSIs) in various detection monitoring parameters, the ASB and ABB monitoring would transition from detection monitoring to assessment monitoring in accordance with 40 CFR 257.95.

The Assessment Monitoring requirements in accordance with the Federal Register, Environmental Protection Agency, 40 CFR Parts 257.95, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule dated April 17, 2015 (CCR Rule) have been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Powerton Generating Station. The wells sampled were selected to meet the monitoring requirements of the CCR Rule for the ASB and the ABB. The monitoring well network around these ponds consists of monitoring wells (MW-01 [upgradient], MW-08, MW-09 [upgradient], MW-11, MW-12, MW-15, MW-17, MW-18 and MW-19 [upgradient]) as shown on Figure 1.

With the vacating of Section 257.100(b) through (d) in October 2016, the inactive Former Ash Basin (FAB), which is being planned for closure, was added to the CCR units that would require monitoring under the CCR Rule. Wells MW-02 through MW-05 and MW-10 were added to the CCR sampling program specifically for the FAB and are not part of the monitoring program for the Ash Surge Basin and Ash By-pass Basin. The FAB monitoring results are discussed under separate cover.

The 2017 CCR Compliance Annual Groundwater Monitoring and Corrective Action Report was submitted on January 24, 2018. This annual report covers the work performed relative to CCR groundwater monitoring from January 1, 2018 through the end of 2018 for the ASB and ABB. It does not duplicate information or activities previously reported for 2017. It is prepared in accordance with Section 257.90(e)(1-5) and summarizes the sampling procedures used, provides an evaluation of groundwater flow conditions, summarizes the analytical data generated, provides a discussion of an initial statistical evaluation summary completed for Appendix III and IV parameters, and summarizes the results of an alternate source demonstration completed at the site.

## 2.0 FIELD PROCEDURES AND GROUNDWATER FLOW EVALUATION

### 2.1 Field Procedures

As previously noted, the CCR groundwater monitoring network around the ASB and ABB consists of monitoring wells (MW-01 [upgradient], MW-08, MW-09 [upgradient], MW-11, MW-12, MW-15, MW-17, MW-18 and MW-19 [upgradient]) as shown on Figure 1. As part of sampling procedures, the integrity of all monitoring wells was inspected and water levels obtained using an electronic water level meter (see summary of water level discussion below). All wells were found in generally good condition.

All groundwater samples were collected using the low-flow sampling technique from dedicated pumps. The samples were not filtered prior to analysis to provide for total metals concentrations as opposed to dissolved metals concentrations. One duplicate sample was collected from a randomly selected monitoring well per sampling event for quality assurance purposes.

### 2.2 Groundwater Flow Evaluation

Water level data measurements were obtained from monitoring wells during each round of groundwater sampling. A complete round of water levels was collected prior to initiating sampling, and the water level data are summarized in Table 1. It is noted that water levels were also concurrently measured at other monitoring well locations in the area that are not part of the CCR monitoring network for the ASB and ABB. The full set of water levels were used to generate a groundwater flow map for each sampling event. It is also noted that CCR monitoring wells MW-08, MW-12, MW-15 and MW-17 are screened within a shallow, localized, saturated clay/silt unit which is underlain by a more extensive sand unit. The remaining monitoring wells, have deeper screens, within the more extensive sand unit. The water levels from wells screened in the clay/silt unit and the water levels from monitoring wells screened within the sand unit were evaluated separately and used to generate groundwater flow maps for each unit. These maps are provided on Figures 2 through 5.

In accordance with general groundwater sampling requirements under Section 257.93(c), Table 2 provides a summary of the flow direction and an estimated rate of groundwater flow for each sampling event. The flow rate was calculated using the following equation:

$$V_s = \frac{Kdh}{n_e dl}, \text{ where}$$

- $V_s$  is seepage velocity (distance/time)
- $K$  is hydraulic conductivity (distance/time)
- $dh/dl$  is hydraulic gradient (unitless)
- $n_e$  is effective porosity (unitless)



The average hydraulic conductivities of  $3.28 \times 10^{-7}$  ft/sec (silt/clay unit) in Table 2 was estimated from literature (Freeze and Cherry, 1979). The hydraulic conductivity of  $3.81 \times 10^{-3}$  (sandy unit) used in Table 2 was obtained from the Hydrogeologic Assessment Report dated February 2011 and prepared by Patrick Engineering. The estimated effective porosities of the silt/clay materials (0.40) and of the sandy materials (0.35) were obtained from literature (Applied Hydrogeology, Fetter, 1980).

### 3.0 ANALYTICAL DATA AND STATUS OF EVALUATIONS

#### 3.1 Sampling Summary

The groundwater sampling summary from 2018 is provided in Table 3, in accordance with 257.90 (e)(3).

#### 3.2 Data Summary

In accordance with assessment monitoring requirements, a complete round of CCR well groundwater samples were collected in May 2018 and analyzed for the full list of parameters specified in both Appendix III and Appendix IV of the CCR Rule. This initial round of assessment monitoring data was evaluated and summarized in a letter report dated July 12, 2018 (see discussion in Section 4.1).

In accordance with Section 257.95(d)(1), within 90 days of obtaining the initial assessment results, the CCR wells were resampled for all parameters in Appendix III and all constituents in Appendix IV that were detected in the initial assessment sampling round in August 2018.

The analytical data from the ABB and ASB assessment monitoring groundwater sampling for Appendix III and IV parameters are provided in Tables 4 and 5, respectively. Table 4 includes Prediction Limits (PLs) for Appendix III parameters and Table 5 includes Groundwater Protection Standards (GWPS) for detected Appendix IV constituents (see discussion in Section 4.1). Both tables include the sample dates and whether the specific well is considered upgradient or downgradient relative to groundwater flow and the regulated unit(s). All duplicate values were within an acceptable range. The analytical data packages from these sampling events are provided in Appendix A.

#### 3.3 Current Status

The ASB and ABB were transitioned from detection monitoring to assessment monitoring in April, 2018 and currently remain in assessment monitoring.

#### 4.0 OTHER REQUIRED SUBMITTALS

##### 4.1 Initial Statistical Evaluation Summaries

The first eight rounds of Appendix III detection monitoring data from established upgradient wells MW-01 and MW-09 were statistically evaluated to establish background water quality in accordance with procedures defined in CCR Compliance Statistical Approach for Groundwater Data Evaluation, Midwest Generation Powerton Generating Station dated October 10, 2017. This included outlier testing, spatial/temporal variability testing, distributional testing, and the establishment of Prediction Limits for all Appendix III compounds to which the ninth round of groundwater detection monitoring data were compared to determine whether there may be a SSI for a specific compound at each well location. The Statistical Evaluation Summary Dated January 12, 2018 was prepared by KPRG and Associates, Inc. It is noted that at the time of the initial statistical data evaluation, a full eight rounds of groundwater data was not available for upgradient monitoring well MW-19 which was installed at a later date than the original monitoring wells. Since that time the full set of eight rounds of sampling was completed for this well and PLs were established and are included in the summary data tables referenced in Section 3.2.

The completed initial detection monitoring statistical evaluations determined that there were potential SSIs in various downgradient monitoring wells relative to established background for all seven Appendix III parameters, not all parameters were above SSIs at all well locations. It was recommended to complete an ASD in accordance with Section 257.94(e)(2) of the CCR Rule to determine whether these SSIs may be associated with an actual release from the regulated unit(s) or if another potential source in the vicinity of the ash ponds may be affecting the local groundwater quality. The results of the ASD are discussed in Section 4.2 of this report.

Based on the results of the ASD (see Section 4.2), the site was transitioned to assessment monitoring. As required under Part 257.95(b), all CCR monitoring wells were sampled and analyzed for Appendix III and Appendix IV parameters. The Appendix IV parameters that were detected during this round of sampling included arsenic, barium, cadmium, cobalt, fluoride, lead, lithium, mercury, molybdenum, radium 226/228, selenium and thallium. Based on the results of the initial assessment sampling, all CCR monitoring wells were sampled again for Appendix III parameters and the detected Appendix IV parameters in accordance with Part 257.95(d)(1).

The initial eight rounds of CCR sampling included analysis of all Appendix IV parameters for the purposes of establishing background statistics. The first eight rounds of Appendix IV monitoring data from upgradient wells MW-01, MW-09 and MW-19 were statistically evaluated to establish the applicable site specific Groundwater Protection Standards

(GWPSs) for the twelve detected Appendix IV parameters in accordance with procedures defined in CCR Compliance Statistical Approach for Groundwater Data Evaluation, Midwest Generation Powerton Generating Station dated October 10, 2017 and Part 257.95(h)(1-3) of the CCR Rule. This evaluation was summarized in a letter report titled Statistical Evaluation Summary CCR Groundwater Assessment Monitoring Powerton Generating Station dated December 26, 2018.

The completed assessment monitoring statistical evaluations and data comparison to the established GWPSs for the site indicated the following detection above the established GWPSs: arsenic at three well locations MW-11, MW-12 and MW-17, barium at well location MW-11 (August sampling only), selenium at well location MW-15 and molybdenum (May sampling only) and thallium at well location MW-17. In accordance with the CCR Rule requirements, it was recommended that a notification of the Appendix IV parameters that were found to be above the GWPSs be completed and the notification placed in the facilities operating record. It was also recommended that an ASD be completed in accordance with provisions in Section 257.95(g)(ii) to determine whether these SSIs may be associated with an actual release from the regulated unit(s) or if another potential source in the vicinity of the ash ponds may be affecting the local groundwater quality.

#### 4.2 Alternate Source Demonstration

An ASD for SSIs of Appendix III detection monitoring parameters was completed April 12, 2018 in accordance with Section 257.94(e)(2) for the Powerton Generating Station ASB and ABB. As required under section 257.94(e)(2) a full copy of the ASD is provided in Appendix B. Ash and water samples were collected from each of the two ponds (ASB and ABB) and analyzed using the Leaching Environmental Assessment Framework (LEAF) method to determine whether the noted SSIs may be associated with an actual release from the regulated unit(s) or if another potential historical source in the vicinity of the ash ponds may be affecting the local groundwater quality.

It was concluded that the ASB is not the source of downgradient monitoring well SSIs and that there is an alternate source(s) of impacts. However, the data relative to the ABB was not as definitive and potential contribution of leachate from the ABB to the local downgradient groundwater impacts could not be ruled out. Since the monitoring well network for the ABB and the ASB are somewhat integrated, it was recommended that the ASB and ABB be shifted from detection monitoring into assessment monitoring in accordance with Section 257.95 of the CCR Rule.

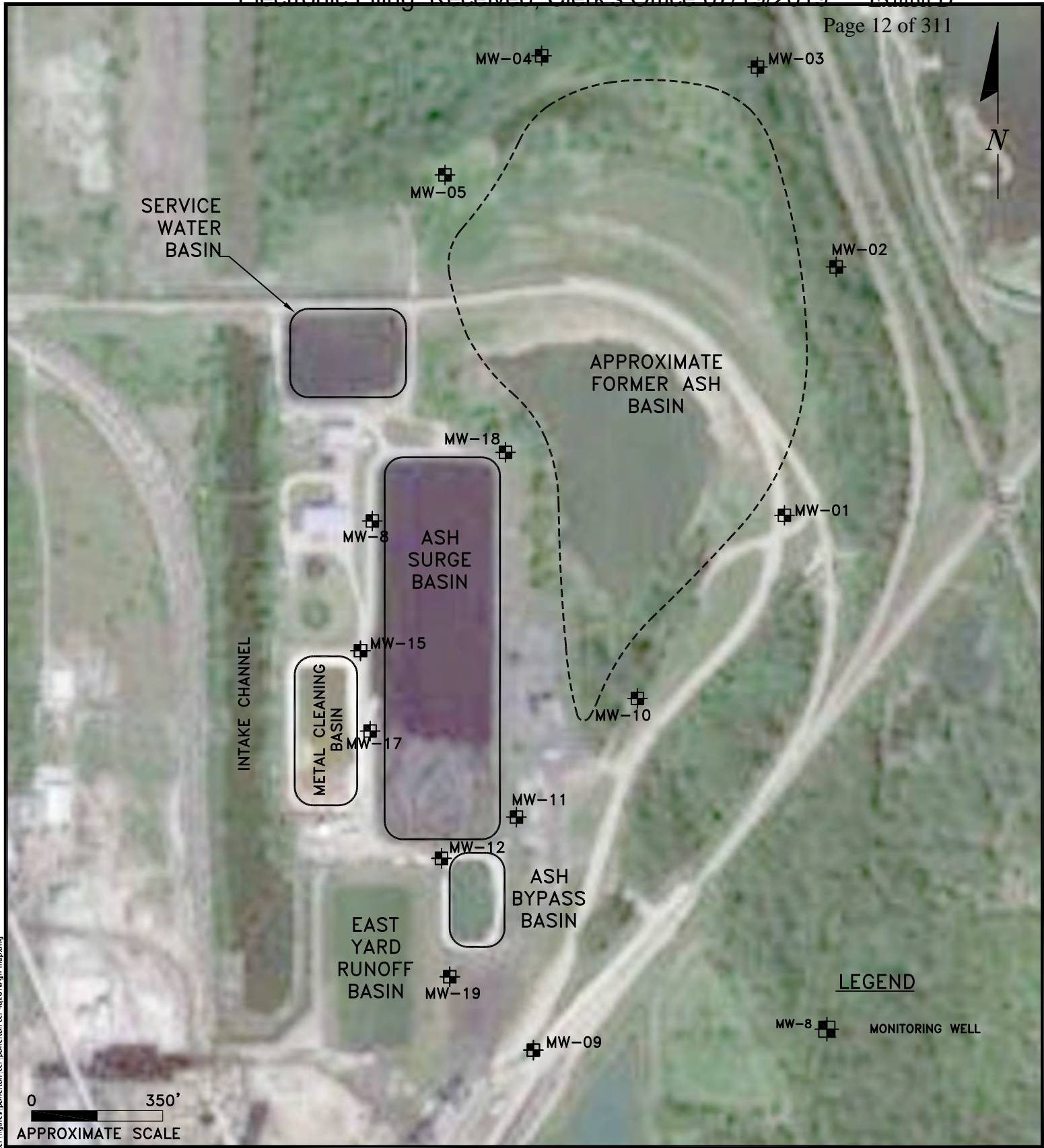
## 5.0 SUMMARY/CONCLUSIONS AND RECOMMENDATIONS

The assessment monitoring requirements in accordance with the CCR rule are being successfully met. An initial ASD was completed which determined that potential contribution of leachate from the ABB could not be ruled out for SSIs of various Appendix III parameters. It was recommended that the regulated units be transitioned from detection monitoring to assessment monitoring based on these conclusions. This triggered an initial round of assessment monitoring sampling for all Appendix III and IV for parameters. CCR wells were then resampled for all parameters in Appendix III and all constituents in Appendix IV that were detected in the initial assessment sampling round. The Statistical Evaluation Summary dated December 26, 2018 established GWPSs for the twelve detected Appendix IV parameters. Four wells showed various parameter concentrations above the established GWPSs. Midwest Generation is in the process of completing another ASD for these parameters in accordance with provisions in Section 257.95(g)(ii) of the CCR Rule. Once the ASD is completed, appropriate recommendations will be made regarding the next steps that should be taken to maintain compliance with the CCR Rule.

## 6.0 REFERENCES

- Federal Register, Environmental Protection Agency, 40 CFR Parts 257 and 261, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule. Vol. 80, No. 74, Friday April 17, 2015.
- Patrick Engineering, Inc., Hydrogeologic Assessment Report – Powerton Generating Station, Pekin, IL. February 2011.
- KPRG and Associates, Inc., CCR Compliance Monitoring, Sampling and Analysis Plan, Midwest Generation, LLC Powerton Generating Station. October 10, 2017.
- KPRG and Associates, Inc., CCR Compliance Statistical Approach for Groundwater Data Evaluation, Midwest Generation, LLC Powerton Generating Station. October 10, 2017.
- KPRG and Associates, Inc., Statistical Evaluation Summary CCR Groundwater Monitoring Powerton Generating Station. January 12, 2018.
- KPRG and Associates, Inc., Initial Assessment Monitoring Data Evaluation CCR Groundwater Monitoring Powerton Generating Station. July 12, 2018.
- KPRG and Associates, Inc., Statistical Evaluation Summary CCR Groundwater Assessment Monitoring Powerton Generation Station. December 26, 2018.
- C.W. Fetter, Jr., Applied Hydrogeology. Charles E. Merrill Publishing Co., 1980.
- R.A. Freeze and J.A. Cherry, Groundwater. Prentice-Hall, Inc. Publishing Co., 1979

**FIGURES**



0 350'  
 APPROXIMATE SCALE

LEGEND

MW-8 MONITORING WELL

ENVIRONMENTAL CONSULTATION & REMEDIATION

**K P R G** KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

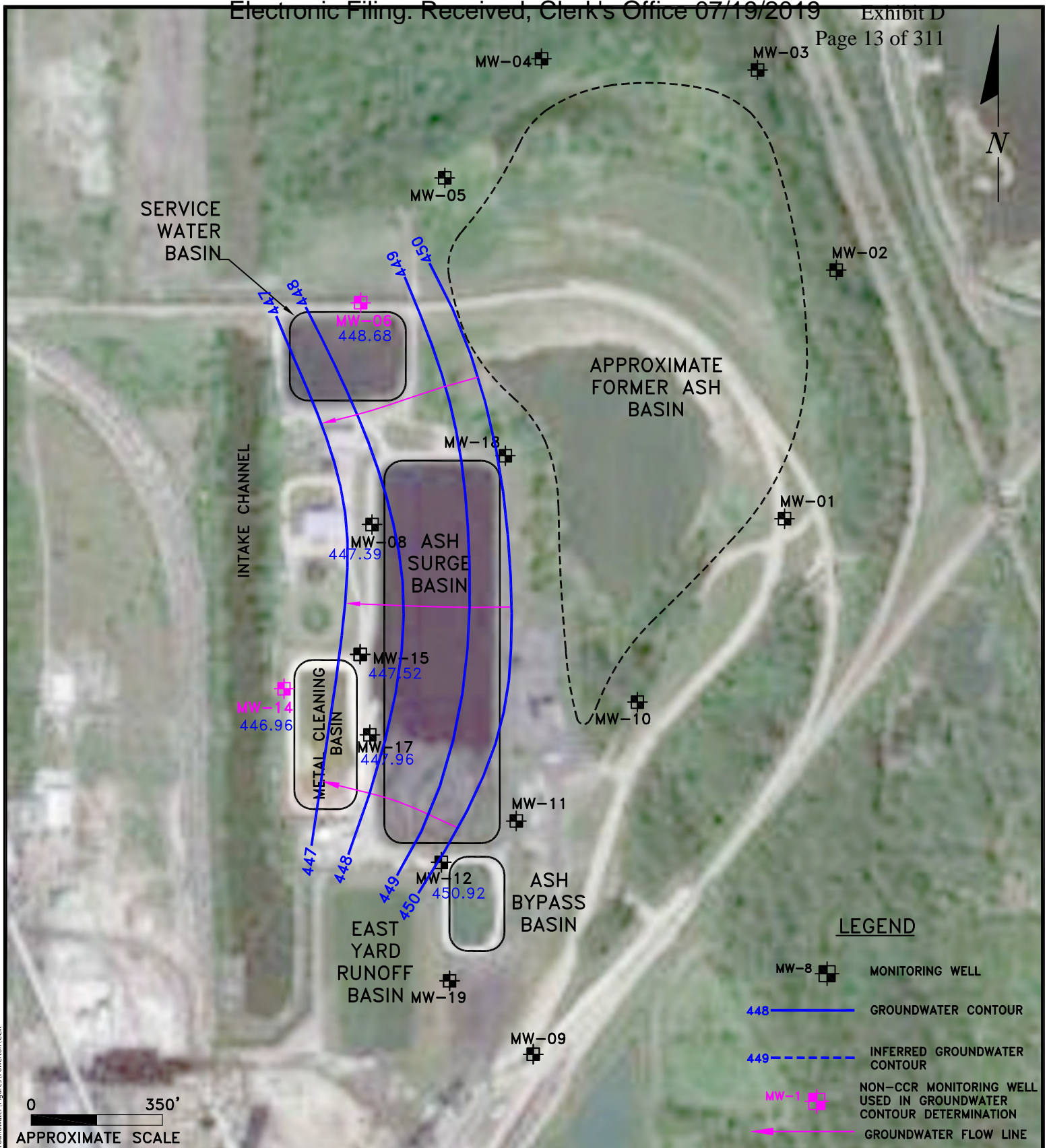
**CCR MONITORING WELL SITE MAP**

POWERTON STATION  
 PEKIN, ILLINOIS

Scale: 1" = 350' Date: December 19, 2018

KPRG Project No. 12313.1 FIGURE 1





0 350'  
 APPROXIMATE SCALE

ENVIRONMENTAL CONSULTATION & REMEDIATION

**K P R G**

KPRG and Associates, inc.

**CCR GROUNDWATER CONTOUR MAP  
 FOR SILT/CLAY UNIT 05/2018**

**POWERTON STATION  
 PEKIN, ILLINOIS**

Scale: 1" = 350' Date: June 08, 2018

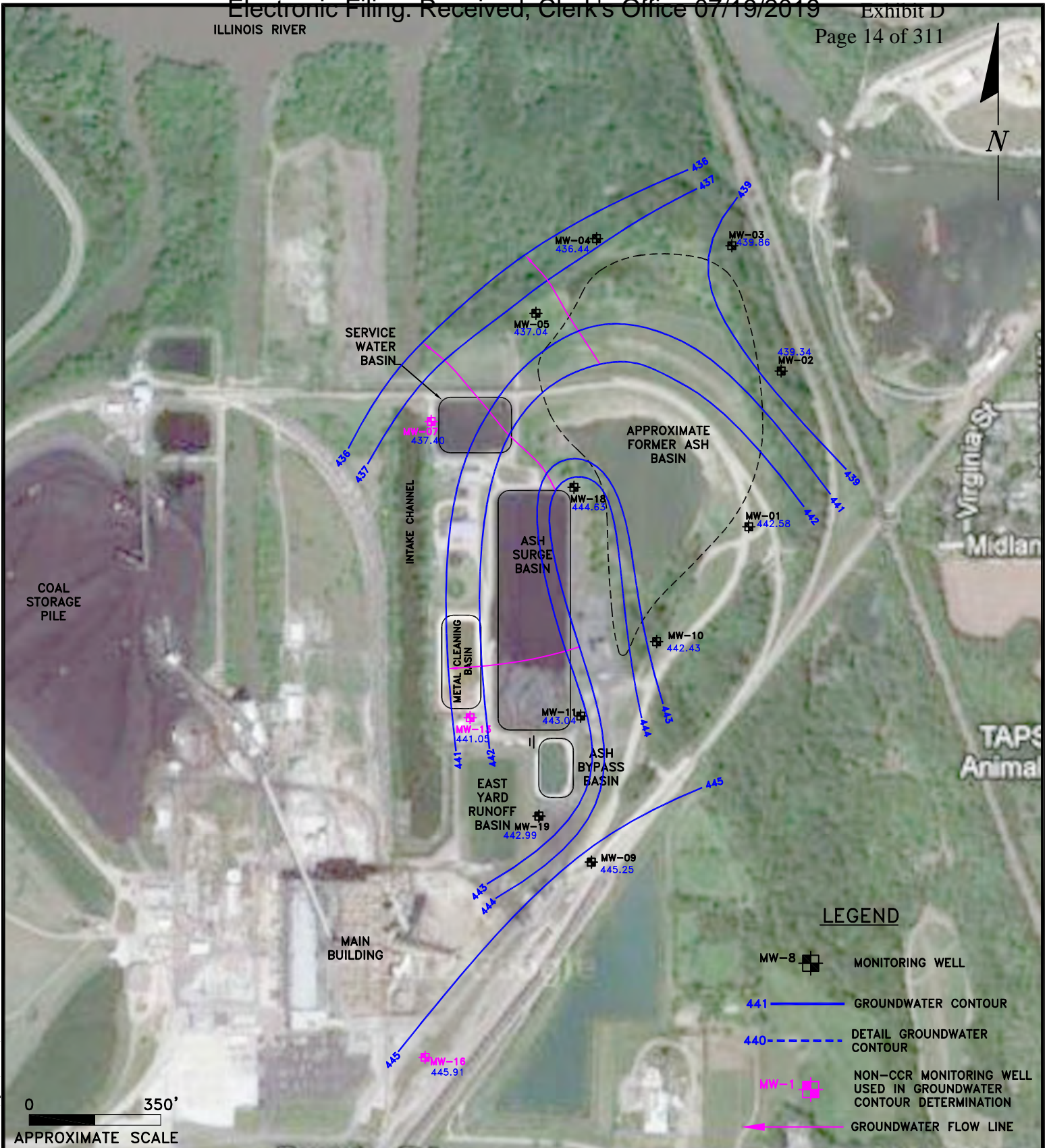
414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

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KPRG Project No. 12313.1

FIGURE 2

W:\Projects\Midwest Generation\12313 Ash Pond Groundwater Figures\Powerton\_CCR



**LEGEND**

- MW-8 MONITORING WELL
- 441 GROUNDWATER CONTOUR
- 440 DETAIL GROUNDWATER CONTOUR
- MW-16 NON-CCR MONITORING WELL USED IN GROUNDWATER CONTOUR DETERMINATION
- GROUNDWATER FLOW LINE

0 350'  
APPROXIMATE SCALE

ENVIRONMENTAL CONSULTATION & REMEDIATION



KPRG and Associates, inc.

**CCR GROUNDWATER CONTOUR MAP  
FOR GRAVELLY SAND UNIT 05/2018**

**POWERTON STATION  
PEKIN, ILLINOIS**

**Scale: 1" = 350'    Date: June 08, 2018**

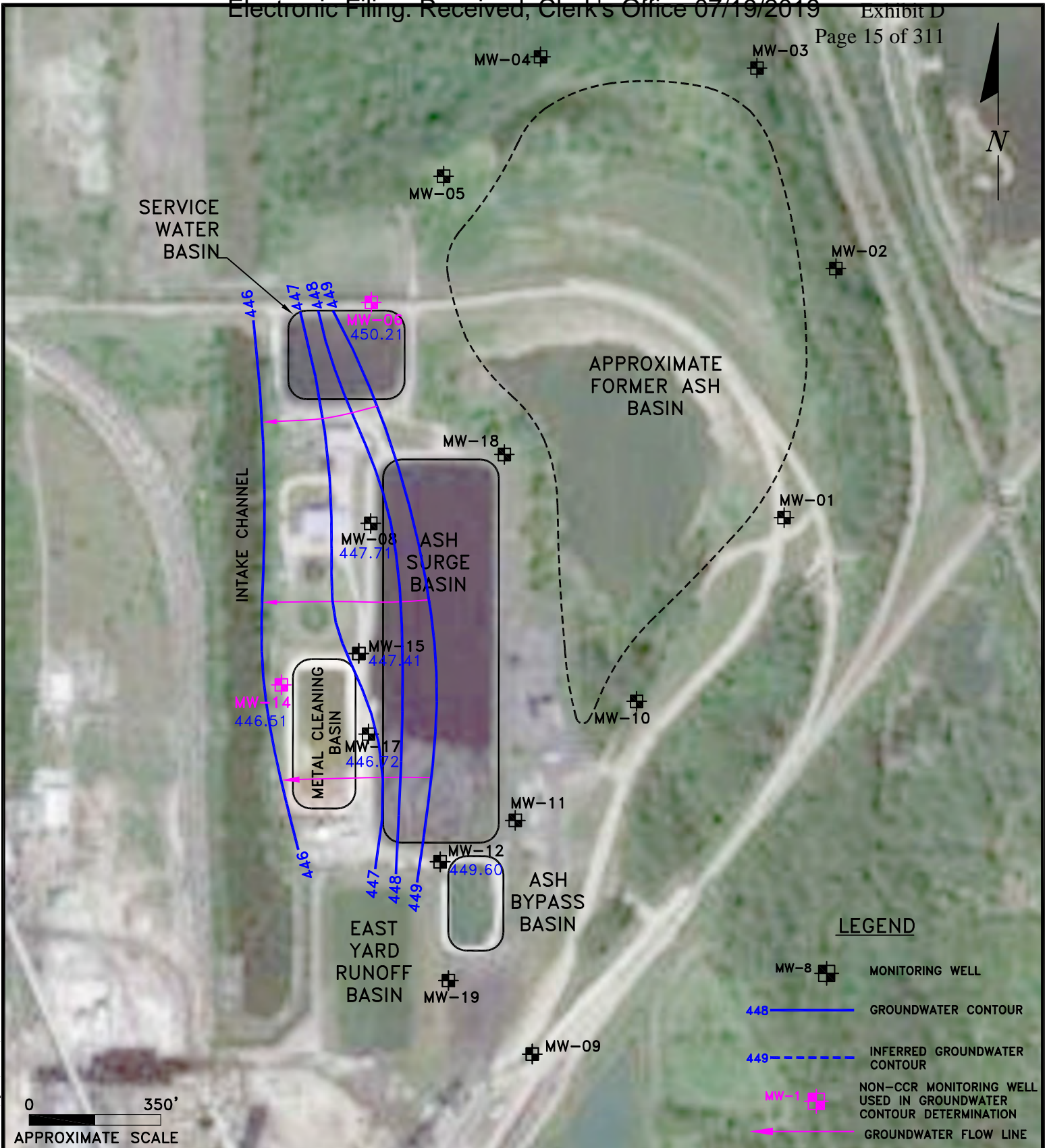
**KPRG Project No. 12313.1**

**FIGURE 3**

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

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I:\Projects\Midwest Generation\12313 Ash Pond Groundwater Figures\Powerton\_CCR



0 350'  
APPROXIMATE SCALE

ENVIRONMENTAL CONSULTATION & REMEDIATION

**K P R G**

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414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

**CCR GROUNDWATER CONTOUR MAP FOR SILT/CLAY UNIT 08/2018**

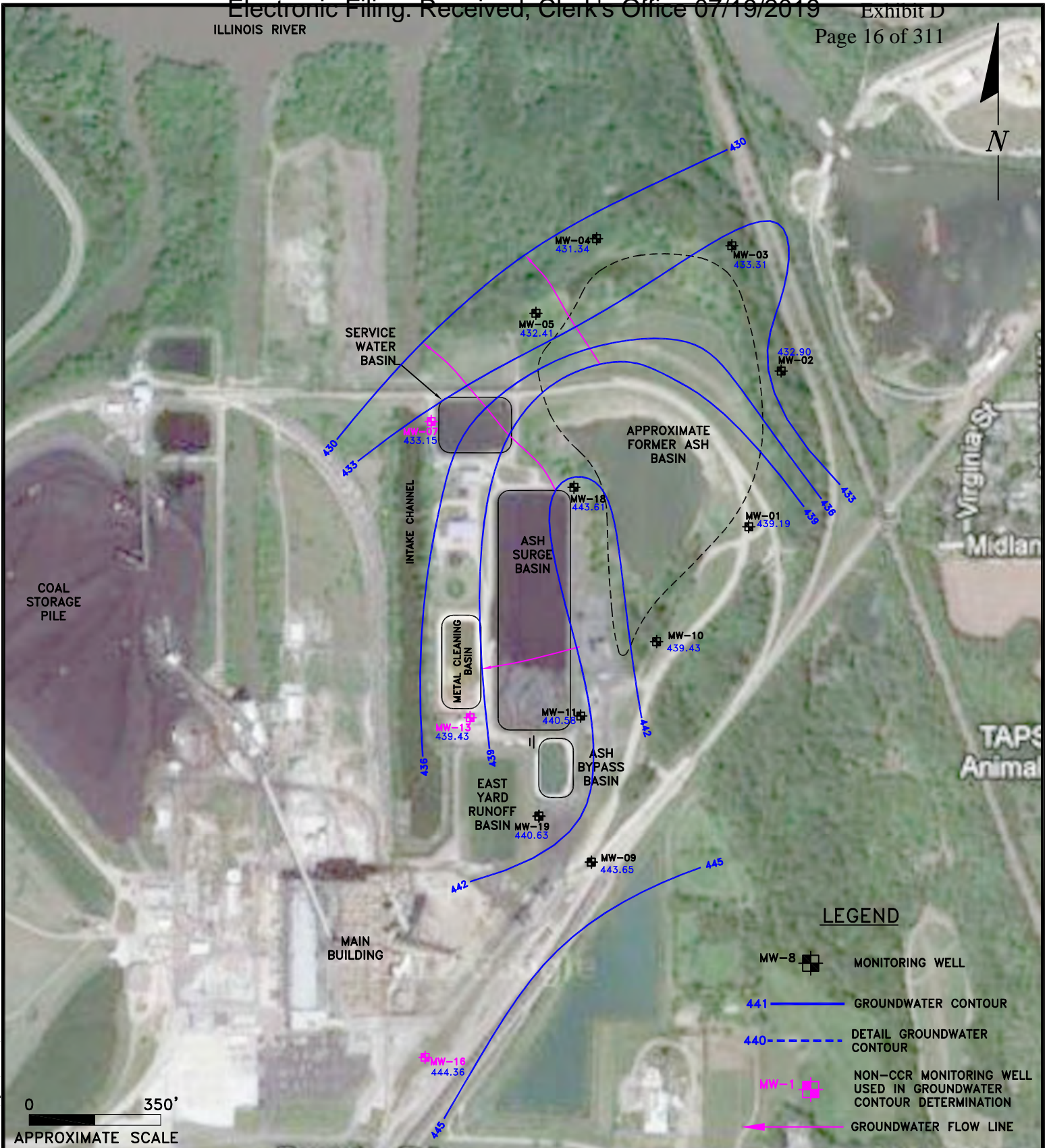
**POWERTON STATION PEKIN, ILLINOIS**

Scale: 1" = 350' Date: October 08, 2018






KPRG Project No. 12313.1

FIGURE 4

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**LEGEND**

- MW-8  MONITORING WELL
- 441  GROUNDWATER CONTOUR
- 440  DETAIL GROUNDWATER CONTOUR
- MW-1  NON-CCR MONITORING WELL USED IN GROUNDWATER CONTOUR DETERMINATION
-  GROUNDWATER FLOW LINE

ENVIRONMENTAL CONSULTATION & REMEDIATION

**K P R G**

KPRG and Associates, Inc.

**CCR GROUNDWATER CONTOUR MAP  
FOR GRAVELLY SAND UNIT 08/2018**

**POWERTON STATION  
PEKIN, ILLINOIS**

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

**Scale: 1" = 350'    Date: June 08, 2018**

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

**KPRG Project No. 12313.1**

**FIGURE 5**

I:\Projects\Midwest Generation\12313 Ash Pond Groundwater Figures\Poweron\_CCR

**TABLES**

Table 1. Groundwater Elevations - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well ID	Date	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
MW-01	11/16/2015	465.24	26.04	439.20
	2/22/2016	465.24	21.90	443.34
	5/16/2016	465.24	21.83	443.41
	8/15/2016	465.24	23.89	441.35
	11/14/2016	465.24	23.38	441.86
	2/13/2017	465.24	21.71	443.53
	5/1/2017	465.24	18.87	446.37
	6/20/2017	465.24	21.54	443.70
	8/25/2017	465.24	24.70	440.54
	11/8/2017	465.24	24.92	440.32
MW-08	5/17/2018	465.24	22.66	442.58
	8/8/2018	465.24	26.05	439.19
	10/30/2018	465.24	24.69	440.55
	11/16/2015	471.75	26.06	445.69
	2/22/2016	471.75	23.99	447.76
	5/16/2016	471.75	25.48	446.27
	8/15/2016	471.75	23.61	448.14
	11/14/2016	471.75	24.31	447.44
	2/13/2017	471.75	23.97	447.78
	5/1/2017	471.75	23.28	448.47
MW-09	6/20/2017	471.75	23.31	448.44
	8/29/2017	471.75	24.52	447.23
	11/8/2017	471.75	25.27	446.48
	5/17/2018	471.75	24.36	447.39
	8/8/2018	471.75	24.04	447.71
	10/31/2018	471.75	24.92	446.83
	11/16/2015	469.14	26.07	443.07
	2/22/2016	469.14	22.83	446.31
	5/16/2016	469.14	23.06	446.08
	8/15/2016	469.14	24.50	444.64
MW-11	11/14/2016	469.14	24.33	444.81
	2/13/2017	469.14	23.43	445.71
	5/1/2017	469.14	20.77	448.37
	6/20/2017	469.14	22.15	446.99
	8/25/2017	469.14	24.79	444.35
	11/8/2017	469.14	25.74	443.40
	5/16/2018	469.14	23.89	445.25
	8/8/2018	469.14	25.49	443.65
	11/1/2018	469.14	26.02	443.12
	MW-11	11/16/2015	471.62	31.67
2/22/2016		471.62	28.34	443.28
5/16/2016		471.62	27.11	444.51
8/15/2016		471.62	29.64	441.98
11/14/2016		471.62	29.19	442.43
2/13/2017		471.62	27.49	444.13
5/1/2017		471.62	24.34	447.28
6/20/2017		471.62	26.94	444.68
8/29/2017		471.62	30.42	441.20
11/9/2017		471.62	30.27	441.35
5/16/2018		471.62	28.58	443.04
8/9/2018		471.62	31.04	440.58
11/1/2018		471.62	30.82	440.80

Table 1. Groundwater Elevations - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well ID	Date	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
MW-12	11/16/2015	473.38	24.48	448.90
	2/22/2016	473.38	21.41	451.97
	5/16/2016	473.38	22.94	450.44
	8/15/2016	473.38	23.85	449.53
	11/14/2016	473.38	23.89	449.49
	2/13/2017	473.38	21.93	451.45
	5/1/2017	473.38	22.26	451.12
	6/20/2017	473.38	22.76	450.62
	8/26/2017	473.38	23.92	449.46
	11/10/2017	473.38	24.29	449.09
	5/16/2018	473.38	22.46	450.92
8/9/2018	473.38	23.78	449.60	
11/1/2018	473.38	23.74	449.64	
MW-15	11/16/2015	471.37	25.33	446.04
	2/22/2016	471.37	22.91	448.46
	5/16/2016	471.37	24.71	446.66
	8/15/2016	471.37	23.45	447.92
	11/14/2016	471.37	23.94	447.43
	2/13/2017	471.37	23.73	447.64
	5/1/2017	471.37	23.27	448.10
	6/20/2017	471.37	22.86	448.51
	8/29/2017	471.37	23.13	448.24
	11/10/2017	471.37	25.13	446.24
	5/17/2018	471.37	23.85	447.52
	8/9/2018	471.37	23.96	447.41
	10/31/2018	471.37	24.55	446.82
MW-17	11/16/2015	467.75	26.92	440.83
	2/22/2016	467.75	19.86	447.89
	5/16/2016	467.75	20.42	447.33
	8/15/2016	467.75	21.61	446.14
	11/14/2016	467.75	21.39	446.36
	2/13/2017	467.75	19.66	448.09
	5/1/2017	467.75	18.78	448.97
	6/20/2017	467.75	19.42	448.33
	8/29/2017	467.75	22.68	445.07
	11/6/2017	467.75	24.66	443.09
	5/14/2018	467.75	19.79	447.96
	8/6/2018	467.75	21.03	446.72
	10/29/2018	467.75	21.98	445.77
MW-18	11/16/2015	469.28	28.42	440.86
	2/22/2016	469.28	27.96	441.32
	5/16/2016	469.28	25.57	443.71
	8/15/2016	469.28	27.86	441.42
	11/14/2016	469.28	27.39	441.89
	2/13/2017	469.28	25.06	444.22
	5/1/2017	469.28	22.49	446.79
	6/20/2017	469.28	24.97	444.31
	8/28/2017	469.28	27.30	441.98
	11/6/2017	469.28	26.33	442.95
	5/14/2018	469.28	24.65	444.63
	8/6/2018	469.28	25.67	443.61
	10/29/2018	469.28	25.79	443.49
MW-19	11/14/2016	465.07	22.65	442.42
	2/13/2017	465.07	21.27	443.80
	5/1/2017	465.07	18.39	446.68
	6/20/2017	465.07	20.44	444.63
	8/28/2017	465.07	23.60	441.47
	11/9/2017	465.07	23.80	441.27
	5/14/2018	465.07	22.08	442.99
	8/6/2018	465.07	24.14	440.93
10/29/2018	465.07	24.31	440.76	

MSL - Mean Sea Level  
TOC - Top of Casing

Table 2. Groundwater Flow Direction and Estimated Seepage Velocity/Flow Rate - Powerton Generation Station.

DATE	Screened Unit	Groundwater Flow Direction	Kavg (ft/sec)*	Average Hydraulic Gradient (ft/ft)	Porosity (unitless)**	Estimated Seepage Velocity (ft/day)
11/16/2015	Silt/clay	Westerly	3.280E-07	0.0093	0.4	0.001
11/16/2015	Sandy	North-Northwest	3.810E-03	0.0026	0.35	2.40
2/22/2016	Silt/clay	Westerly	3.280E-07	0.0098	0.4	0.001
2/22/2016	Sandy	North-Northwest	3.810E-03	0.0030	0.35	2.82
5/16/2016	Silt/clay	Westerly	3.280E-07	0.0124	0.4	0.001
5/16/2016	Sandy	North-Northwest	3.810E-03	0.0021	0.35	1.98
8/15/2016	Silt/clay	Westerly	3.280E-07	0.0093	0.4	0.001
8/15/2016	Sandy	North-Northwest	3.810E-03	0.0014	0.35	1.32
11/14/2016	Silt/clay	Westerly	3.280E-07	0.0083	0.4	0.001
11/14/2016	Sandy	North-Northwest	3.810E-03	0.0014	0.35	1.32
2/13/2017	Silt/clay	Westerly	3.280E-07	0.0091	0.4	0.001
2/13/2017	Sandy	Northeasterly - Northwesterly	3.810E-03	0.0049	0.35	4.61
5/1/2017	Silt/clay	Westerly	3.280E-07	0.0100	0.4	0.001
5/1/2017	Sandy	Northeasterly - Northwesterly	3.810E-03	0.0021	0.35	1.98
6/20/2017	Silt/clay	Westerly	3.280E-07	0.0088	0.4	0.001
6/20/2017	Sandy	Northeasterly - Northwesterly	3.810E-03	0.0057	0.35	5.36
8/25/2017	Silt/clay	Westerly	3.280E-07	0.0214	0.4	0.002
8/25/2017	Sandy	North-Northwest	3.810E-03	0.0174	0.35	16.37
11/8/2017	Silt/clay	Westerly	3.280E-07	0.0267	0.4	0.002
11/8/2017	Sandy	North-Northwest	3.810E-03	0.0157	0.35	14.77
5/17/2018	Silt/clay	Westerly	3.280E-07	0.0070	0.4	0.0005
5/17/2018	Sandy	North-Northwest	3.810E-03	0.0042	0.35	3.95
8/7/2018	Silt/clay	Westerly	3.280E-07	0.0263	0.4	0.002
8/7/2018	Sandy	North-Northwest	3.810E-03	0.0037	0.35	3.48

\* Kavg - Average hydraulic conductivity for sandy unit (feet/second) from Hydrogeologic Assessment Report, Patrick Engineering, February 2011.  
Average hydraulic conductivity for silt/clay unit (feet/second) from Groundwater, Freeze and Cherry, 1979.

\*\* - Porosity estimates from Applied Hydrogeology, Fetter, 1980.



Table 3. CCR Groundwater Sample Collection Summary for 2018 - Powerton Generating Station Ash Bypass Basin &amp; Ash Surge Basin

Well ID	Number of Groundwater Sampling Events	Dates of Groundwater Sampling Events	Detection Monitoring (D) versus Assessment Monitoring (A)
MW-01 (Upgradient)	2	5/17/2018	A
		8/8/2018	A
MW-09 (Upgradient)	2	5/16/2018	A
		8/8/2018	A
MW-19 (Upgradient)	2	5/14/2018	A
		8/6/2018	A
MW-08 (Downgradient)	2	5/17/2018	A
		8/8/2018	A
MW-11 (Downgradient)	2	5/16/2018	A
		8/9/2018	A
MW-12 (Downgradient)	2	5/16/2018	A
		8/9/2018	A
MW-15 (Downgradient)	2	5/17/2018	A
		8/9/2018	A
MW-17 (Downgradient)	2	5/14/2018	A
		8/6/2018	A
MW-18 (Downgradient)	2	5/14/2018	A
		8/6/2018	A

Table 4. ASB/ABB Assessment Monitoring - Appendix III Groundwater Analytical Results through 2018 - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-01 (S) up-gradient	11/16/2015	1.0	98	44	0.17	7.07	93	530
	2/25/2016	0.2	110	42	0.16	7.23	54	460
	5/20/2016	0.34	100	44	0.17	6.95	65	430
	8/17/2016	0.27	78	39	0.25	7.16	50	530
	11/16/2016	0.18	97	39	0.21	7.22	32	500
	2/14/2017	0.18	120	55	0.17	7.30	60	550
	5/3/2017	0.19	86	66	0.16	7.41	45	460
	6/21/2017	0.18	85	58	0.18	7.60	47	540
	<b>Pred. Limit*</b>	<b>1.0</b>	<b>142</b>	<b>81</b>	<b>0.25</b>	<b>7.90-6.58</b>	<b>115</b>	<b>648</b>
	8/25/2017	0.56	86	41	0.18	7.41	63	490
	11/8/2017	0.57	130	38	0.12	6.69	61	640
	5/17/2018	0.15	88	50	0.12	6.7	48	540
8/8/2018	0.14	86	48	0.13	6.80	43	430	
MW-09 (S) up-gradient	11/18/2015	2.0	63	H 31	H 0.19	7.15	H 110	H 440
	2/25/2016	2.3	77	36	0.19	7.34	120	500
	5/19/2016	2.0	73	38	0.17	7.30	100	520
	8/17/2016	2.7	74	39	0.15	7.32	120	750
	11/17/2016	4.5	85	38	0.13	7.37	110	630
	2/15/2017	4.1	84	38	0.13	6.94	160	620
	5/3/2017	3.5	85	38	0.17	7.48	170	680
	6/21/2017	3.3	82	38	0.14	7.63	180	760
	<b>Pred. Limit*</b>	<b>6.19</b>	<b>103</b>	<b>39</b>	<b>0.24</b>	<b>7.99-6.64</b>	<b>236</b>	<b>1000</b>
	8/25/2017	3.8	85	36	0.14	7.30	150	630
	11/8/2017	4	89	37	0.13	6.92	190	650
	5/16/2018	4.1	89	36	0.15	7.83	180	550
8/8/2018	4.3	86	39	0.14	7.31	180	690	
MW-19 <sup>^</sup> (S) up-gradient	11/18/2016	3.8	89	38	0.13	7.34	120	670
	2/15/2017	4.7	88	37	0.13	7.50	180	630
	5/5/2017	3.3	88	38	0.14	7.51	160	640
	6/21/2017	2.3	110	35	0.12	7.30	170	690
	8/28/2017	3.5	97	36	0.16	7.20	160	700
	11/6/2017	4.5	86	35	0.17	7.26	190	640
	5/14/2018	4.1	96	35	0.16	7.92	180	820
	8/6/2018	3.8	100	37	0.13	7.57	170	720
<b>Pred. Limit*</b>	<b>6.20</b>	<b>121</b>	<b>41</b>	<b>0.20</b>	<b>8.20-6.70</b>	<b>236</b>	<b>890</b>	
MW-08 (CL) down-gradient	11/18/2015	1.5	160	H 170	H 0.44	7.61	H 470	H 1300
	2/25/2016	1.7	160	200	0.30	7.00	280	1100
	5/18/2016	1.7	160	140	0.34	7.67	300	1200
	8/17/2016	1.0	150	230	0.35	7.33	360	1400
	11/15/2016	1.2	140	290	0.33	6.90	230	1300
	2/16/2017	1.5	150	460	0.28	7.00	230	1500
	5/2/2017	0.55	140	300	0.33	7.30	320	1300
	6/21/2017	1.2	160	490	0.30	7.27	350	1700
	<b>Pred. Limit</b>	<b>1.0</b>	<b>136</b>	<b>77</b>	<b>0.24**</b>	<b>7.73-6.83**</b>	<b>107</b>	<b>788**</b>
	8/29/2017	<u>1.2</u>	<u>150</u>	<u>360</u>	<u>0.47</u>	7.29	<u>300</u>	<u>1500</u>
	11/8/2017	<u>0.68</u>	130	<u>260</u>	<u>0.45</u>	7.27	<u>270</u>	<u>1200</u>
	5/17/2018	<u>1.2</u>	130	<u>200</u>	<u>0.37</u>	6.79	<u>170</u>	<u>1000</u>
8/8/2018	<u>1.1</u>	<u>140</u>	<u>270</u>	<u>0.32</u>	6.93	<u>190</u>	<u>1200</u>	

Notes: All units are in mg/l except pH is in standard units.

Pred. Limit - Prediction Limit

(S) - Sandy Unit

(CL) - Silty Clay Unit

\* - Intrawell Prediction Limit. All others are interwell comparisons.

\*\* - Based on pooled background from MW-01/MW-09. All others based on MW-01 as background.

<sup>^</sup> - Recently installed upgradient well. Insufficient rounds of sampling for statistical evaluation at this time.

*Italics Date* - First round of Detection Monitoring and resample after statistical background establishment.

**Bold** - Potential statistically significant increase.

F1 - MS and/or MSD Recovery outside of limits.

H - Sample was prepped or analyzed beyond the specified holding time.

V - Serial dilution exceeds control limits.

Table 4. ASB/ABB Assessment Monitoring - Appendix III Groundwater Analytical Results through 2018 - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-11 (S) down-gradient	11/18/2015	1.7	110	H 54	H 0.55	7.06	H 160	H 670
	2/26/2016	1.5	140	120	0.55	7.25	220	850
	5/20/2016	1.6	140	120	0.56	7.10	210	920
	8/17/2016	1.0	130	93	0.67	7.08	180	910
	11/17/2016	1.2	140	130	0.44	7.21	240	1100
	2/16/2017	1.6	140	110	0.40	6.62	260	910
	5/3/2017	1.3	160	160	0.42	7.36	440	1300
	6/22/2017	1.2	140	120	0.60	7.21	260	1000
	<b>Pred. Limit</b>	<b>1.0</b>	<b>136</b>	<b>77</b>	<b>0.24**</b>	<b>7.73-6.83**</b>	<b>107</b>	<b>788**</b>
	8/29/2017	<u>2.2</u>	130	<b>83</b>	<u>0.52</u>	7.23	<b>310</b>	<b>1100</b>
	11/9/2017	<u>1.5</u>	<b>140</b>	<b>100</b>	<u>0.59</u>	6.96	<b>230</b>	<b>970</b>
	5/16/2018	<u>2.0</u>	<b>140</b>	<b>88</b>	<u>0.61</u>	<b>7.89</b>	<b>270</b>	<b>1000</b>
8/9/2018	<u>1.4</u>	<b>160</b>	<b>120</b>	<u>0.65</u>	7.24	<b>220</b>	<b>1000</b>	
MW-12 (CL) down-gradient	11/19/2015	0.94	160	H 220	H 0.57	7.12	H 650	H 1400
	2/26/2016	0.42	130	200	0.40	7.96	530	1200
	5/20/2016	0.65	150	200	0.49	7.28	550	1400
	8/18/2016	0.69	170	200	0.49	7.06	620	1600
	11/18/2016	0.83	140	180	0.46	7.34	340	1300
	2/16/2017	0.48	140	190	0.37	7.54	630	1300
	5/3/2017	0.49	120	190	0.37	7.47	500	1200
	6/22/2017	0.50	130	190	0.48	7.36	580	1400
	<b>Pred. Limit</b>	<b>1.0</b>	<b>136</b>	<b>77</b>	<b>0.24**</b>	<b>7.73-6.83**</b>	<b>107</b>	<b>788**</b>
	8/29/2017	0.78	<b>140</b>	<b>180</b>	<u>0.52</u>	7.34	<b>520</b>	<b>1400</b>
	11/10/2017	0.94	<b>130</b>	<b>170</b>	<u>0.48</u>	7.38	<b>370</b>	<b>1200</b>
	5/16/2018	0.46	<b>100</b>	<b>180</b>	<u>0.47</u>	<b>8.12</b>	<b>720</b>	<b>1500</b>
8/9/2018	0.61	120	<b>190</b>	<u>0.44</u>	7.42	<b>480</b>	<b>1300</b>	
MW-15 (CL) down-gradient	11/18/2015	1.5	270	H 210	H 0.53	6.55	H 1400	H 2400
	2/25/2016	2.0	240	110	0.61	6.84	640	1700
	5/19/2016	2.7	320	240	0.53	6.83	1200	2800
	8/18/2016	1.5	200	F1 170	0.54	6.96	660	1900
	11/17/2016	1.3	120	180	0.47	6.91	560	1900
	2/17/2017	1.9	200	190	0.43	7.24	670	1700
	5/4/2017	1.5	180	190	0.57	7.35	670	1700
	6/21/2017	1.6	180	200	0.56	7.30	530	1600
	<b>Pred. Limit</b>	<b>1.0</b>	<b>136</b>	<b>77</b>	<b>0.24**</b>	<b>7.73-6.83**</b>	<b>107</b>	<b>788**</b>
	8/29/2017	<u>2.2</u>	<b>190</b>	<b>200</b>	<u>0.53</u>	6.87	<b>540</b>	<b>1800</b>
	11/10/2017	<u>1.6</u>	<b>170</b>	<b>180</b>	<u>0.63</u>	7.09	<b>530</b>	<b>1500</b>
	5/17/2018	<u>2.3</u>	<b>200</b>	<b>160</b>	<u>0.5</u>	<b>6.75</b>	<b>680</b>	<b>1800</b>
8/9/2018	<u>2.3</u>	<b>200</b>	<b>200</b>	<u>0.48</u>	7.06	<b>520</b>	<b>1700</b>	
MW-17 (CL) down-gradient	11/19/2015	1.6	210	H 230	H 0.43	7.11	H 850	H 1800
	2/22/2016	1.8	290	280	0.55	7.19	960	2100
	5/18/2016	1.4	200	230	0.64	7.02	700	1800
	8/15/2016	1.1	220	220	0.60	7.08	860	2100
	11/14/2016	1.5	200	210	0.56	7.26	560	2000
	2/13/2017	1.6	190	230	0.56	6.84	770	1600
	5/4/2017	1.2	170	210	0.61	7.29	720	1500
	6/22/2017	0.95	150	230	0.72	7.38	580	1600
	<b>Pred. Limit</b>	<b>1.0</b>	<b>136</b>	<b>77</b>	<b>0.24**</b>	<b>7.73-6.83**</b>	<b>107</b>	<b>788**</b>
	8/29/2017	<u>1.4</u>	<b>190</b>	<b>230</b>	<u>0.64</u>	7.19	<b>640</b>	<b>1900</b>
	11/6/2017	<u>1.7</u>	<b>190</b>	<b>240</b>	<u>0.62</u>	7.27	<b>840</b>	<b>1800</b>
	5/14/2018	<u>1.6</u>	<b>170</b>	<b>220</b>	<u>0.6</u>	<b>7.79</b>	<b>800</b>	<b>1700</b>
8/6/2018	<u>1.3</u>	<b>170</b>	<b>230</b>	<u>0.6</u>	7.12	<b>620</b>	<b>1600</b>	
MW-18 (S) down-gradient	11/19/2015	0.80	140	H 220	H 0.66	7.62	H 310	H 1200
	2/22/2016	0.76	150	220	0.68	7.06	310	1200
	5/18/2016	0.72	120	230	0.71	7.68	230	1200
	8/15/2016	0.67	130	210	0.64	7.52	330	1300
	11/18/2016	0.94	130	200	0.58	7.69	250	1300
	2/15/2017	0.56	140	190	0.50	7.81	340	1200
	5/5/2017	0.46	130	180	0.52	8.12	360	1100
	6/21/2017	0.53	120	190	0.51	8.10	320	1200
	<b>Pred. Limit</b>	<b>1.00</b>	<b>136</b>	<b>77</b>	<b>0.24**</b>	<b>7.73-6.83**</b>	<b>107</b>	<b>788**</b>
	8/28/2017	0.65	120	<b>200</b>	<u>0.53</u>	<b>7.81</b>	<b>310</b>	<b>1200</b>
	11/6/2017	0.67	120	<b>190</b>	<u>0.57</u>	<b>7.74</b>	<b>400</b>	<b>1200</b>
	5/14/2018	0.57	130	<b>180</b>	<u>0.59</u>	<b>8.27</b>	<b>440</b>	<b>1200</b>
8/6/2018	0.58	120	<b>230</b>	<u>0.57</u>	<b>7.88</b>	<b>270</b>	<b>1100</b>	

Notes: All units are in mg/l except pH is in standard units.  
 Pred. Limit - Prediction Limit  
 (S) - Sandy Unit  
 (CL) - Silty Clay Unit  
 \* - Intrawell Prediction Limit. All others are interwell comparisons.  
 \*\* - Based on pooled background from MW-01/MW-09. All others based on MW-01 as background.  
 ^ - Recently installed upgradient well. Insufficient rounds of sampling for statistical evaluation at this time.  
*Italics Date* - First round of Detection Monitoring and resample after statistical background establishment.  
**Bold** - Potential statistically significant increase.  
 F1 - MS and/or MSD Recovery outside of limits.  
 H - Sample was prepped or analyzed beyond the specified holding time.  
 V - Serial dilution exceeds control limits.

Table 5. ASB/ABB Assessment Monitoring - Detected Appendix IV Groundwater Analytical Results through 2018 - Midwest Generation, LLC, Powerton Station, Pekin, IL.

Well	Date	Arsenic	Barium	Cadmium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Radium 226 + 228 Combined	Selenium	Thallium
MW-01 up-gradient	11/16/2015	< 0.001	0.057	< 0.0005	< 0.001	0.17	* < 0.0005	< 0.01	< 0.0002	< 0.0050	0.744	< 0.0025	* < 0.002
	2/25/2016	0.0025	0.053	< 0.0005	0.0014	0.16	0.0019	< 0.01	< 0.0002	< 0.005	< 0.722	0.0029	< 0.002
	5/20/2016	0.0081	0.062	< 0.0005	0.0053	0.17	0.011	< 0.01	< 0.0002	< 0.005	< 0.953	< 0.0025	< 0.002
	8/17/2016	0.0014	0.048	< 0.0005	< 0.001	0.25	0.0014	< 0.010	< 0.0002	0.0057	< 0.491	< 0.0025	< 0.002
	11/16/2016	0.0051	0.056	< 0.0005	0.0044	0.21	0.0082	< 0.01	< 0.0002	0.0059	< 0.618	< 0.0025	< 0.002
	2/14/2017	0.0041	0.056	< 0.0005	0.0045	0.17	0.0076	< 0.01	< 0.0002	0.0056	< 0.837	< 0.0025	< 0.002
	5/3/2017	0.0015	0.045	< 0.0005	0.0033	0.16	0.0067	< 0.01	< 0.0002	< 0.005	< 0.574	< 0.0025	< 0.002
	6/21/2017	< 0.001	0.04	< 0.0005	< 0.001	0.18	< 0.0005	< 0.01	< 0.0002	0.0061	< 0.418	< 0.0025	< 0.002
	<b>GWPS</b>	<b>0.011</b>	<b>2.0</b>	<b>0.005</b>	<b>0.009</b>	<b>4.0</b>	<b>0.018</b>	<b>0.04</b>	<b>0.002</b>	<b>0.10</b>	<b>5.0</b>	<b>0.05</b>	<b>0.002</b>
	8/25/2017	< 0.001	0.049	< 0.0005	< 0.001	0.18	< 0.0005	< 0.01	< 0.0002	0.0059	< 0.775	< 0.0025	< 0.002
	11/8/2017	< 0.001	0.083	< 0.0005	< 0.001	0.12	< 0.0005	< 0.01	< 0.0002	< 0.005	0.343	< 0.0025	< 0.002
	5/17/2018	< 0.001	0.045	< 0.0005	< 0.001	0.12	0.00068	< 0.01	< 0.0002	< 0.005	< 0.396	< 0.0025	< 0.002
8/8/2018	< 0.001	0.051	< 0.0005	< 0.001	0.13	< 0.0005	< 0.01	< 0.0002	< 0.005	< 0.579	< 0.0025	< 0.002	
MW-09 up-gradient	11/18/2015	< 0.001	0.027	< 0.0005	< 0.001	H 0.19	< 0.0005	< 0.01	H < 0.0002	0.043	< 0.655	< 0.0025	< 0.002
	2/25/2016	0.0042	0.036	< 0.0005	0.0011	0.19	< 0.0005	< 0.01	< 0.0002	0.053	< 0.361	< 0.0025	< 0.002
	5/19/2016	< 0.001	0.029	< 0.0005	< 0.001	0.17	< 0.0005	< 0.01	< 0.0002	0.042	< 0.394	0.0032	< 0.002
	8/17/2016	< 0.001	0.031	< 0.0005	< 0.001	0.15	< 0.0005	< 0.01	< 0.0002	0.036	< 0.498	< 0.0025	< 0.002
	11/17/2016	0.0038	0.039	< 0.0005	< 0.001	0.13	< 0.0005	< 0.010	< 0.0002	0.036	0.646	0.0025	< 0.002
	2/15/2017	0.0032	0.043	< 0.0005	< 0.001	0.13	< 0.0005	< 0.010	< 0.0002	0.035	< 0.377	0.0062	< 0.002
	5/3/2017	0.0012	0.034	< 0.0005	< 0.001	0.17	< 0.0005	< 0.010	< 0.0002	0.034	< 0.445	0.011	< 0.002
	6/21/2017	< 0.001	0.037	< 0.0005	< 0.001	0.14	< 0.0005	< 0.010	< 0.0002	0.033	< 0.380	0.0072	< 0.002
	<b>GWPS</b>	<b>0.011</b>	<b>2.0</b>	<b>0.005</b>	<b>0.009</b>	<b>4.0</b>	<b>0.018</b>	<b>0.04</b>	<b>0.002</b>	<b>0.10</b>	<b>5.0</b>	<b>0.05</b>	<b>0.002</b>
	8/25/2017	< 0.001	0.044	< 0.0005	< 0.001	0.14	< 0.0005	< 0.010	< 0.0002	0.028	< 0.160	0.0043	< 0.002
	11/8/2017	0.0012	0.048	< 0.0005	< 0.001	0.13	< 0.0005	< 0.010	< 0.0002	0.026	0.344	< 0.0025	< 0.002
	5/16/2018	< 0.001	0.038	< 0.0005	< 0.001	0.15	< 0.0005	< 0.010	0.00029	0.031	< 0.424	0.006	< 0.002
8/8/2018	< 0.001	0.037	< 0.0005	< 0.001	0.14	< 0.0005	< 0.010	< 0.0002	0.032	< 0.440	0.0078	< 0.002	
MW-19 up-gradient	11/18/2016	< 0.001	0.084	< 0.0005	0.001	0.13	0.00068	< 0.01	< 0.0002	0.035	< 0.476	0.0043	< 0.002
	2/15/2017	< 0.001	0.088	< 0.0005	< 0.001	0.13	0.00061	< 0.01	< 0.0002	0.046	< 0.482	0.0063	< 0.002
	5/5/2017	< 0.001	0.076	< 0.0005	0.0013	0.14	0.0012	< 0.01	< 0.0002	0.035	< 0.923	0.0068	< 0.002
	6/21/2017	< 0.001	0.089	< 0.0005	< 0.001	0.12	< 0.0005	< 0.01	< 0.0002	0.024	< 0.334	0.0028	< 0.002
	8/28/2017	< 0.001	0.073	< 0.0005	< 0.001	0.16	< 0.0005	< 0.01	< 0.0002	0.041	0.370	0.0035	< 0.002
	11/6/2017	< 0.001	0.071	< 0.0005	< 0.001	0.17	< 0.0005	< 0.01	< 0.0002	0.042	0.360	< 0.0025	< 0.002
	5/14/2018	< 0.001	0.079	< 0.0005	< 0.001	0.16	< 0.0005	< 0.01	< 0.0002	0.043	0.562	0.0044	< 0.002
	8/7/2018	< 0.001	0.078	< 0.0005	< 0.001	0.13	< 0.0005	< 0.01	< 0.0002	0.032	0.835	0.0052	< 0.002
	<b>GWPS</b>	<b>0.011</b>	<b>2.0</b>	<b>0.005</b>	<b>0.009</b>	<b>4.0</b>	<b>0.018</b>	<b>0.04</b>	<b>0.002</b>	<b>0.10</b>	<b>5.0</b>	<b>0.05</b>	<b>0.002</b>
	11/18/2015	0.0029	0.15	< 0.0005	< 0.001	H 0.44	< 0.0005	< 0.028	H < 0.0002	0.01	< 0.559	< 0.0025	< 0.002
2/25/2016	0.0018	0.11	0.00052	< 0.001	0.30	0.00072	0.015	< 0.0002	0.02	0.535	< 0.0025	< 0.002	
5/18/2016	0.0029	0.16	< 0.0005	< 0.001	0.34	< 0.0005	0.036	< 0.0002	0.0069	0.417	< 0.0025	< 0.002	
8/17/2016	0.0032	0.15	< 0.0005	< 0.001	0.35	< 0.0005	0.023	< 0.0002	0.013	< 0.519	< 0.0025	< 0.002	
11/15/2016	0.0012	0.076	< 0.0005	< 0.001	0.33	< 0.0005	0.017	< 0.0002	0.016	0.583	< 0.0025	< 0.002	
2/16/2017	0.003	0.086	< 0.0005	< 0.001	0.28	0.00087	< 0.01	< 0.0002	0.026	< 0.375	< 0.0025	< 0.002	
5/2/2017	0.0029	0.13	< 0.0005	< 0.001	0.33	< 0.0005	0.022	< 0.0002	0.0083	< 0.480	< 0.0025	< 0.002	
6/21/2017	0.0045	0.14	< 0.0005	< 0.001	0.30	< 0.0005	0.017	< 0.0002	0.031	< 0.439	< 0.0025	< 0.002	
<b>GWPS</b>	<b>0.011</b>	<b>2.0</b>	<b>0.005</b>	<b>0.009</b>	<b>4.0</b>	<b>0.018</b>	<b>0.04</b>	<b>0.002</b>	<b>0.10</b>	<b>5.0</b>	<b>0.05</b>	<b>0.002</b>	
8/29/2017	0.0011	0.062	< 0.0005	< 0.001	0.47	< 0.0005	< 0.01	< 0.0002	0.034	0.699	< 0.0025	< 0.002	
11/8/2017	0.0027	0.10	< 0.0005	< 0.001	0.45	< 0.0005	0.019	< 0.0002	0.014	0.806	< 0.0025	< 0.002	
5/17/2018	0.003	0.07	< 0.0005	< 0.001	0.37	< 0.0005	< 0.01	< 0.0002	0.024	0.655	< 0.0025	< 0.002	
8/8/2018	0.0055	0.071	< 0.0005	< 0.001	0.32	< 0.0005	< 0.01	< 0.0002	0.019	< 0.410	< 0.0025	< 0.002	

Notes:

All units are in mg/l except Radium is in pCi/L as noted.

*Italics* - Assessment Monitoring Conducted After Identification of Detected Appendix IV Compounds.

**GWPS** - Groundwater Protection Standard based on Table 2 and discussion in text

**BOLD** - Exceeds established GWPS.

F1 - MS and/or MSD Recovery outside of limits.

H - Sample was prepped or analyzed beyond the specified holding time.

\* - LCS or LCSD is outside acceptance limits.

^ - Denotes instrument related QC exceeds the control limits

Table 5. ASB/ABB Assessment Monitoring - Detected Appendix IV Groundwater Analytical Results through 2018 - Midwest Generation, LLC, Powerton Station, Pekin, IL.

Well	Date	Arsenic	Barium	Cadmium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Radium 226 + 228 Combined	Selenium	Thallium
MW-11 down-gradient	11/18/2015	0.017	0.18	< 0.0005	0.002	H 0.55	< 0.0005	< 0.01	H < 0.0002	0.0120	0.788	< 0.0025	< 0.002
	2/26/2016	0.023	0.23	< 0.0005	0.0023	0.55	< 0.0005	< 0.01	< 0.0002	0.013	0.562	< 0.0025	< 0.002
	5/20/2016	0.027	0.26	< 0.0005	0.0024	0.56	0.00076	< 0.01	< 0.0002	0.014	0.524	< 0.0025	< 0.002
	8/17/2016	F1 0.29	1.4	< 0.0005	0.0034	0.67	0.001	< 0.010	< 0.0002	0.011	1.130	< 0.0025	< 0.002
	11/17/2016	0.071	0.44	< 0.0005	0.0037	0.44	0.0013	< 0.01	< 0.0002	0.0088	0.734	< 0.0025	< 0.002
	2/16/2017	0.04	0.3	< 0.0005	0.003	0.40	0.00094	< 0.01	< 0.0002	0.013	0.341	< 0.0025	< 0.002
	5/3/2017	0.039	0.26	< 0.0005	0.0035	0.42	0.00093	< 0.01	< 0.0002	0.015	0.662	< 0.0025	< 0.002
	6/22/2017	0.07	0.36	< 0.0005	0.0025	0.60	< 0.0005	< 0.01	< 0.0002	0.014	< 0.418	< 0.0025	< 0.002
	GWPS	<b>0.011</b>	<b>2.0</b>	<b>0.005</b>	<b>0.009</b>	<b>4.0</b>	<b>0.018</b>	<b>0.04</b>	<b>0.002</b>	<b>0.10</b>	<b>5.0</b>	<b>0.05</b>	<b>0.002</b>
	8/29/2017	<b>0.017</b>	0.21	< 0.0005	0.0026	0.52	< 0.0005	< 0.01	< 0.0002	0.016	< 0.313	< 0.0025	< 0.002
	11/9/2017	<b>0.092</b>	0.54	< 0.0005	0.0034	0.59	< 0.0005	< 0.01	< 0.0002	0.014	1.24	< 0.0025	< 0.002
	5/16/2018	<b>0.089</b>	0.47	< 0.0005	0.0041	0.61	< 0.0005	< 0.01	< 0.0002	0.014	1.12	< 0.0025	< 0.002
8/9/2018	<b>0.68</b>	<b>3.0</b>	< 0.00082	0.0053	0.65	0.0012	< 0.01	< 0.0002	0.013	1.48	< 0.0025	< 0.002	
MW-12 down-gradient	11/19/2015	0.10	0.180	0.00068	< 0.001	H 0.57	0.00063	0.023	H < 0.0002	0.0280	< 0.685	< 0.0025	< 0.002
	2/26/2016	0.077	0.130	0.0016	< 0.001	0.40	0.0014	0.014	< 0.0002	0.0150	1.11	< 0.0025	< 0.002
	5/20/2016	0.065	0.16	0.00077	< 0.001	0.49	0.0016	0.013	< 0.0002	0.028	0.576	< 0.0025	< 0.002
	8/18/2016	0.33	0.88	0.007	0.001	0.49	0.0011	0.015	< 0.0002	0.011	3.68	< 0.0025	< 0.002
	11/18/2016	0.23	0.67	0.0028	< 0.001	0.46	< 0.0005	0.017	< 0.0002	< 0.01	1.86	< 0.0025	< 0.002
	2/16/2017	0.29	0.26	0.0057	0.0013	0.37	0.0042	0.010	< 0.0002	0.015	1.15	< 0.0025	< 0.002
	5/3/2017	0.10	0.17	0.0022	< 0.001	0.37	0.0038	0.011	< 0.0002	0.017	0.518	< 0.0025	< 0.002
	6/22/2017	0.025	0.11	< 0.0005	< 0.001	0.48	0.00096	< 0.010	< 0.0002	0.028	0.376	< 0.0025	< 0.002
	GWPS	<b>0.011</b>	<b>2.0</b>	<b>0.005</b>	<b>0.009</b>	<b>4.0</b>	<b>0.018</b>	<b>0.04</b>	<b>0.002</b>	<b>0.10</b>	<b>5.0</b>	<b>0.05</b>	<b>0.002</b>
	8/29/2017	<b>0.02</b>	0.095	< 0.0005	< 0.001	0.52	< 0.0005	0.014	< 0.0002	0.024	0.529	< 0.0025	< 0.002
	11/10/2017	<b>0.50</b>	0.45	0.0015	< 0.001	0.48	0.00097	0.018	< 0.0002	0.023	1.67	< 0.0025	< 0.002
	5/16/2018	<b>0.09</b>	0.1	0.00052	< 0.001	0.47	0.00067	0.012	< 0.0002	0.021	0.741	< 0.0025	< 0.002
8/9/2018	<b>0.12</b>	0.15	0.00084	< 0.001	0.44	0.00072	< 0.010	< 0.0002	0.026	0.735	< 0.0025	< 0.002	
MW-15 down-gradient	11/18/2015	0.03	0.096	0.00061	< 0.001	H 0.53	< 0.0005	0.042	H < 0.0002	0.023	< 0.599	0.0065	< 0.002
	2/25/2016	0.025	0.083	< 0.0005	< 0.001	0.61	< 0.0005	0.041	< 0.0002	0.035	0.870	0.045	< 0.002
	5/19/2016	0.04	0.097	0.00098	< 0.001	0.53	< 0.0005	0.044	< 0.0002	0.041	< 0.420	0.0067	< 0.002
	8/18/2016	0.13	0.11	0.0041	< 0.001	0.54	< 0.0005	0.028	< 0.0002	0.027	< 0.672	0.0061	< 0.002
	11/17/2016	0.0033	0.031	< 0.0005	< 0.0010	0.47	< 0.0005	0.016	< 0.0002	0.018	< 0.570	0.0078	< 0.002
	2/17/2017	0.02	0.056	< 0.0005	< 0.0010	0.43	< 0.0005	0.025	< 0.0002	0.027	< 0.392	0.0032	< 0.002
	5/4/2017	0.011	0.049	< 0.0005	< 0.0010	0.57	< 0.0005	0.023	< 0.0002	0.023	< 0.456	0.0034	< 0.002
	6/21/2017	0.0093	0.054	< 0.0005	< 0.0010	0.56	< 0.0005	0.027	< 0.0002	0.03	< 0.347	0.019	< 0.002
	GWPS	<b>0.011</b>	<b>2.0</b>	<b>0.005</b>	<b>0.009</b>	<b>4.0</b>	<b>0.018</b>	<b>0.04</b>	<b>0.002</b>	<b>0.10</b>	<b>5.0</b>	<b>0.05</b>	<b>0.002</b>
	8/29/2017	0.0018	0.044	< 0.0005	< 0.0010	0.53	< 0.0005	0.023	< 0.0002	0.032	0.377	0.0092	< 0.002
	11/10/2017	0.0063	0.046	< 0.0005	< 0.0010	0.63	< 0.0005	0.025	< 0.0002	0.02	< 0.313	0.016	< 0.002
	5/17/2018	0.0081	0.05	< 0.0005	< 0.0010	0.5	< 0.0005	0.029	< 0.0002	0.03	0.397	<b>0.077</b>	< 0.002
8/9/2018	0.0083	0.048	< 0.0005	< 0.0010	0.48	< 0.0005	0.026	< 0.0002	0.033	0.566	<b>0.06</b>	< 0.002	
MW-17 down-gradient	11/19/2015	0.0028	0.14	< 0.0005	0.0012	H 0.43	0.0012	0.019	H < 0.0002	0.035	< 0.790	< 0.0025	< 0.002
	2/22/2016	0.021	0.051	< 0.0005	0.0012	0.55	< 0.0005	0.038	< 0.0002	0.093	1.07	< 0.0025	< 0.002
	5/18/2016	0.32	0.12	0.0011	0.0015	0.64	< 0.0005	0.026	< 0.0002	0.12	8.27	< 0.0025	0.0028
	8/15/2016	0.34	0.12	0.001	0.0016	0.6	< 0.0005	0.022	< 0.0002	0.1	0.606	< 0.0025	0.0031
	11/14/2016	0.19	0.073	0.00051	0.0012	0.56	< 0.0005	0.022	< 0.0002	0.042	3.76	< 0.0025	0.0021
	2/13/2017	0.35	0.16	0.00093	0.0014	0.56	0.00079	0.019	< 0.0002	0.088	2.08	< 0.0025	0.0025
	5/4/2017	0.24	0.39	0.0023	0.0023	0.61	0.00066	0.016	< 0.0002	0.036	1.91	< 0.0025	0.0065
	6/22/2017	0.41	0.13	0.0007	0.0012	0.72	0.0011	0.022	< 0.0002	0.11	1.21	< 0.0025	0.0022
	GWPS	<b>0.011</b>	<b>2.0</b>	<b>0.005</b>	<b>0.009</b>	<b>4.0</b>	<b>0.018</b>	<b>0.04</b>	<b>0.002</b>	<b>0.10</b>	<b>5.0</b>	<b>0.05</b>	<b>0.002</b>
	8/29/2017	<b>0.24</b>	0.092	< 0.0005	< 0.001	0.64	0.00058	0.021	< 0.0002	<b>0.13</b>	3.32	< 0.0025	<b>0.0025</b>
	11/6/2017	<b>0.17</b>	0.38	0.0022	0.0015	0.62	< 0.0005	< 0.01	< 0.0002	0.019	2.54	< 0.0025	<b>0.0075</b>
	5/14/2018	<b>0.42</b>	0.17	0.002	0.0029	0.6	0.0021	0.015	< 0.0002	<b>0.13</b>	2.03	< 0.0025	<b>0.0068</b>
8/6/2018	<b>0.087</b>	0.055	0.00094	0.0015	0.60	< 0.0005	0.019	< 0.0002	0.084	1.34	< 0.0025	<b>0.0023</b>	
MW-18 down-gradient	11/19/2015	0.0014	0.14	< 0.0005	< 0.001	H 0.66	< 0.0005	0.017	H < 0.0002	0.0051	< 0.845	< 0.0025	< 0.002
	2/22/2016	0.0012	0.15	< 0.0005	< 0.001	0.68	< 0.0005	0.022	< 0.0002	0.0055	1.88	< 0.0025	< 0.002
	5/18/2016	< 0.001	0.13	< 0.0005	< 0.001	0.71	< 0.0005	0.014	< 0.0002	0.0052	< 0.493	< 0.0025	< 0.002
	8/15/2016	< 0.001	0.14	< 0.0005	< 0.001	0.64	< 0.0005	0.012	< 0.0002	0.0059	0.836	< 0.0025	< 0.002
	11/18/2016	< 0.001	0.14	< 0.0005	< 0.001	0.58	< 0.0005	0.013	< 0.0002	0.0053	0.488	< 0.0025	< 0.002
	2/15/2017	< 0.001	0.14	< 0.0005	< 0.001	0.5	< 0.0005	0.014	< 0.0002	0.0058	< 0.347	< 0.0025	< 0.002
	5/5/2017	0.0032	0.12	< 0.0005	< 0.001	0.52	0.00057	0.01	< 0.0002	< 0.005	0.612	< 0.0025	< 0.002
	6/21/2017	< 0.001	0.12	< 0.0005	< 0.001	0.51	< 0.0005	0.014	< 0.0002	0.0051	0.629	< 0.0025	< 0.002
	GWPS	<b>0.011</b>	<b>2.0</b>	<b>0.005</b>	<b>0.009</b>	<b>4.0</b>	<b>0.018</b>	<b>0.04</b>	<b>0.002</b>	<b>0.10</b>	<b>5.0</b>	<b>0.05</b>	<b>0.002</b>
	8/28/2017	< 0.001	0.12	< 0.0005	< 0.001	0.53	< 0.0005	0.012	< 0.0002	0.005	0.498	< 0.0025	< 0.002
	11/6/2017	< 0.001	0.12	< 0.0005	< 0.001	0.57	< 0.0005	0.011	< 0.0002	0.0057	0.755	< 0.0025	< 0.002
	5/14/2018	< 0.001	0.13	< 0.0005	< 0.001	0.59	< 0.0005	0.013	< 0.0002	0.0052	0.641	< 0.0025	< 0.002
8/6/2018	< 0.001	0.12	< 0.0005	< 0.001	0.57	< 0.0005	0.013	< 0.0002	0.0052	1.02	< 0.0025	< 0.002	

Notes:

All units are in mg/l except Radium is in pCi/L as noted.

*Italics* - Assessment Monitoring Conducted After Identification of Detected Appendix IV Compounds.

**GWPS** - Groundwater Protection Standard based on Table 2 and discussion in text

**BOLD** - Exceeds established GWPS.

F1 - MS and/or MSD Recovery outside of limits.

H - Sample was prepped or analyzed beyond the specified holding time.

\* - LCS or LCSD is outside acceptance limits.

^ - Denotes instrument related QC exceeds the control limits

**Appendix A**

**Analytical Data Packages from 2018 Assessment Monitoring**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-145716-1

Client Project/Site: Powerton CCR

For:

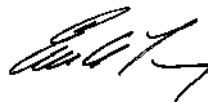
KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 2B

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

6/4/2018 4:41:01 PM

Eric Lang, Manager of Project Management

(708)534-5200

[eric.lang@testamericainc.com](mailto:eric.lang@testamericainc.com)



### LINKS

Review your project results through

**TotalAccess**

Have a Question?



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[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Job ID: 500-145716-1**

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative  
500-145716-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 5/18/2018 5:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 2.1° C, 2.8° C, 3.1° C, 3.9° C and 4.7° C.

**Metals**

Method(s) 6020A: The low level continuing calibration verification (CCVL) at line 58, associated with batch 500-433393 recovered above the upper control limit for Beryllium. The samples associated with this CCVL were non-detects for the affected analytes; therefore, the data have been reported

Method(s) 6020A: The internal standard Terbium (Tb) was used to report the elements Lead and Thallium in batch 500-433393. This was due to the LCS being spiked with the trace digestion spike which contains Bismuth.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Detection Summary

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-01**

**Lab Sample ID: 500-145716-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.045		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.15		0.050		mg/L	1		6020A	Total Recoverable
Calcium	88		0.20		mg/L	1		6020A	Total Recoverable
Lead	0.00068		0.00050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	540		10		mg/L	1		SM 2540C	Total/NA
Chloride	50		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.12		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	48		20		mg/L	4		SM 4500 SO4 E	Total/NA

**Client Sample ID: MW-02**

**Lab Sample ID: 500-145716-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0013		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.065		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.22		0.050		mg/L	1		6020A	Total Recoverable
Calcium	80		0.20		mg/L	1		6020A	Total Recoverable
Mercury	0.00040		0.00020		mg/L	1		7470A	Total/NA
Total Dissolved Solids	500		10		mg/L	1		SM 2540C	Total/NA
Chloride	45		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.23		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	54		20		mg/L	4		SM 4500 SO4 E	Total/NA

**Client Sample ID: MW-03**

**Lab Sample ID: 500-145716-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0010		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.059		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.35		0.050		mg/L	1		6020A	Total Recoverable
Calcium	77		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	520		10		mg/L	1		SM 2540C	Total/NA
Chloride	65		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.23		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	77		20		mg/L	4		SM 4500 SO4 E	Total/NA

**Client Sample ID: MW-04**

**Lab Sample ID: 500-145716-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.037		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.68		0.050		mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-145716-1

Client Sample ID: MW-04 (Continued)

Lab Sample ID: 500-145716-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	87		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	630		10		mg/L	1		SM 2540C	Total/NA
Chloride	66		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.27		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	100		25		mg/L	5		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-05

Lab Sample ID: 500-145716-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.062		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.61		0.050		mg/L	1		6020A	Total Recoverable
Calcium	130		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	910		10		mg/L	1		SM 2540C	Total/NA
Chloride	89		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.29		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	210		50		mg/L	10		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-08

Lab Sample ID: 500-145716-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0030		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.072		0.0025		mg/L	1		6020A	Total Recoverable
Boron	1.2		0.25		mg/L	5		6020A	Total Recoverable
Calcium	130		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.024		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1000		10		mg/L	1		SM 2540C	Total/NA
Chloride	200		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.37		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	170		50		mg/L	10		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-09

Lab Sample ID: 500-145716-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.038		0.0025		mg/L	1		6020A	Total Recoverable
Boron	4.1		1.0		mg/L	20		6020A	Total Recoverable
Calcium	89		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.031		0.0050		mg/L	1		6020A	Total Recoverable
Selenium	0.0060		0.0025		mg/L	1		6020A	Total Recoverable
Mercury	0.00029		0.00020		mg/L	1		7470A	Total/NA
Total Dissolved Solids	550		10		mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

Client Sample ID: MW-09 (Continued)

Lab Sample ID: 500-145716-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	36		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.15		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	180		50		mg/L	10		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-10

Lab Sample ID: 500-145716-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0010		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.22		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.42		0.050		mg/L	1		6020A	Total Recoverable
Calcium	93		0.20		mg/L	1		6020A	Total Recoverable
Cobalt	0.021		0.0010		mg/L	1		6020A	Total Recoverable
Lead	0.0010		0.00050		mg/L	1		6020A	Total Recoverable
Selenium	0.0050		0.0025		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	530		10		mg/L	1		SM 2540C	Total/NA
Chloride	44		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.19		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	80		20		mg/L	4		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-11

Lab Sample ID: 500-145716-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.089		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.47		0.0025		mg/L	1		6020A	Total Recoverable
Boron	2.0		0.50		mg/L	10		6020A	Total Recoverable
Calcium	140		0.20		mg/L	1		6020A	Total Recoverable
Cobalt	0.0041		0.0010		mg/L	1		6020A	Total Recoverable
Molybdenum	0.014		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1000		10		mg/L	1		SM 2540C	Total/NA
Chloride	88		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.61		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	270		50		mg/L	10		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-12

Lab Sample ID: 500-145716-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.012		0.010		mg/L	1		6010C	Total Recoverable
Arsenic	0.086		0.0010		mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-145716-1

Client Sample ID: MW-12 (Continued)

Lab Sample ID: 500-145716-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.10		0.0025		mg/L		1	6020A	Total Recoverable
Boron	0.46		0.050		mg/L		1	6020A	Total Recoverable
Cadmium	0.00052		0.00050		mg/L		1	6020A	Total Recoverable
Calcium	100		0.20		mg/L		1	6020A	Total Recoverable
Lead	0.00067		0.00050		mg/L		1	6020A	Total Recoverable
Molybdenum	0.021		0.0050		mg/L		1	6020A	Total Recoverable
Total Dissolved Solids	1500		10		mg/L		1	SM 2540C	Total/NA
Chloride	180		10		mg/L		5	SM 4500 Cl- E	Total/NA
Fluoride	0.47		0.10		mg/L		1	SM 4500 F C	Total/NA
Sulfate	720		130		mg/L		25	SM 4500 SO4 E	Total/NA

Client Sample ID: MW-15

Lab Sample ID: 500-145716-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.029		0.010		mg/L		1	6010C	Total Recoverable
Arsenic	0.0081		0.0010		mg/L		1	6020A	Total Recoverable
Barium	0.050		0.0025		mg/L		1	6020A	Total Recoverable
Boron	2.3		0.50		mg/L		10	6020A	Total Recoverable
Calcium	200		0.20		mg/L		1	6020A	Total Recoverable
Molybdenum	0.030		0.0050		mg/L		1	6020A	Total Recoverable
Selenium	0.077		0.0025		mg/L		1	6020A	Total Recoverable
Total Dissolved Solids	1800		10		mg/L		1	SM 2540C	Total/NA
Chloride	160		10		mg/L		5	SM 4500 Cl- E	Total/NA
Fluoride	0.50		0.10		mg/L		1	SM 4500 F C	Total/NA
Sulfate	680		130		mg/L		25	SM 4500 SO4 E	Total/NA

Client Sample ID: MW-17

Lab Sample ID: 500-145716-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.015		0.010		mg/L		1	6010C	Total Recoverable
Arsenic	0.42		0.0010		mg/L		1	6020A	Total Recoverable
Barium	0.17		0.0025		mg/L		1	6020A	Total Recoverable
Boron	1.6		0.50		mg/L		10	6020A	Total Recoverable
Cadmium	0.0020		0.00050		mg/L		1	6020A	Total Recoverable
Calcium	170		0.20		mg/L		1	6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-145716-1

Client Sample ID: MW-17 (Continued)

Lab Sample ID: 500-145716-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.0029		0.0010		mg/L	1		6020A	Total Recoverable
Lead	0.0021		0.00050		mg/L	1		6020A	Total Recoverable
Molybdenum	0.13		0.0050		mg/L	1		6020A	Total Recoverable
Thallium	0.0068		0.0020		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1700		10		mg/L	1		SM 2540C	Total/NA
Chloride	220		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.60		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	800		130		mg/L	25		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-18

Lab Sample ID: 500-145716-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.013		0.010		mg/L	1		6010C	Total Recoverable
Barium	0.13		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.57		0.050		mg/L	1		6020A	Total Recoverable
Calcium	130		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.0052		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1200		10		mg/L	1		SM 2540C	Total/NA
Chloride	180		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.59		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	440		100		mg/L	20		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-19

Lab Sample ID: 500-145716-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.079		0.0025		mg/L	1		6020A	Total Recoverable
Boron	4.1		1.0		mg/L	20		6020A	Total Recoverable
Calcium	96		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.043		0.0050		mg/L	1		6020A	Total Recoverable
Selenium	0.0044		0.0025		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	820		10		mg/L	1		SM 2540C	Total/NA
Chloride	35		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.16		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	180		50		mg/L	10		SM 4500 SO4 E	Total/NA

Client Sample ID: Duplicate

Lab Sample ID: 500-145716-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.077		0.0025		mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

Client Sample ID: Duplicate (Continued)

Lab Sample ID: 500-145716-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	3.9		1.0		mg/L	20		6020A	Total Recoverable
Calcium	95		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.042		0.0050		mg/L	1		6020A	Total Recoverable
Selenium	0.0040		0.0025		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	850		10		mg/L	1		SM 2540C	Total/NA
Chloride	36		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.15		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	190		50		mg/L	10		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.



Method Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI
7470A	Preparation, Mercury	SW846	TAL CHI

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200





Sample Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-145716-1	MW-01	Water	05/17/18 15:15	05/18/18 17:20
500-145716-2	MW-02	Water	05/15/18 09:05	05/18/18 17:20
500-145716-3	MW-03	Water	05/15/18 11:00	05/18/18 17:20
500-145716-4	MW-04	Water	05/15/18 12:11	05/18/18 17:20
500-145716-5	MW-05	Water	05/15/18 13:31	05/18/18 17:20
500-145716-6	MW-08	Water	05/17/18 13:29	05/18/18 17:20
500-145716-7	MW-09	Water	05/16/18 10:19	05/18/18 17:20
500-145716-8	MW-10	Water	05/16/18 11:41	05/18/18 17:20
500-145716-9	MW-11	Water	05/16/18 13:01	05/18/18 17:20
500-145716-10	MW-12	Water	05/16/18 14:41	05/18/18 17:20
500-145716-11	MW-15	Water	05/17/18 11:58	05/18/18 17:20
500-145716-12	MW-17	Water	05/14/18 14:51	05/18/18 17:20
500-145716-13	MW-18	Water	05/14/18 16:05	05/18/18 17:20
500-145716-14	MW-19	Water	05/14/18 17:35	05/18/18 17:20
500-145716-15	Duplicate	Water	05/14/18 00:00	05/18/18 17:20

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Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-01**  
**Date Collected: 05/17/18 15:15**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-1**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/19/18 11:03	05/22/18 19:37	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/21/18 22:46	1
Arsenic	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 22:46	1
<b>Barium</b>	<b>0.045</b>		0.0025		mg/L		05/19/18 11:03	05/21/18 22:46	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 22:46	1
<b>Boron</b>	<b>0.15</b>		0.050		mg/L		05/19/18 11:03	05/22/18 17:05	1
Cadmium	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 22:46	1
<b>Calcium</b>	<b>88</b>		0.20		mg/L		05/19/18 11:03	05/21/18 22:46	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 22:46	1
Cobalt	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 22:46	1
<b>Lead</b>	<b>0.00068</b>		0.00050		mg/L		05/19/18 11:03	05/22/18 17:05	1
Molybdenum	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 22:46	1
Selenium	<0.0025		0.0025		mg/L		05/19/18 11:03	05/21/18 22:46	1
Thallium	<0.0020		0.0020		mg/L		05/19/18 11:03	05/21/18 22:46	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/25/18 12:35	05/30/18 16:04	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>540</b>		10		mg/L			05/21/18 04:13	1
<b>Chloride</b>	<b>50</b>		2.0		mg/L			05/28/18 18:53	1
<b>Fluoride</b>	<b>0.12</b>		0.10		mg/L			05/26/18 14:30	1
<b>Sulfate</b>	<b>48</b>		20		mg/L			05/30/18 12:43	4

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-02**  
**Date Collected: 05/15/18 09:05**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-2**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/19/18 11:03	05/22/18 19:56	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/21/18 23:12	1
<b>Arsenic</b>	<b>0.0013</b>		0.0010		mg/L		05/19/18 11:03	05/21/18 23:12	1
<b>Barium</b>	<b>0.065</b>		0.0025		mg/L		05/19/18 11:03	05/21/18 23:12	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:12	1
<b>Boron</b>	<b>0.22</b>		0.050		mg/L		05/19/18 11:03	05/22/18 17:24	1
Cadmium	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:12	1
<b>Calcium</b>	<b>80</b>		0.20		mg/L		05/19/18 11:03	05/21/18 23:12	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:12	1
Cobalt	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:12	1
Lead	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:12	1
Molybdenum	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:12	1
Selenium	<0.0025		0.0025		mg/L		05/19/18 11:03	05/21/18 23:12	1
Thallium	<0.0020		0.0020		mg/L		05/19/18 11:03	05/21/18 23:12	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.00040</b>		0.00020		mg/L		05/25/18 12:35	05/30/18 16:06	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>500</b>		10		mg/L			05/21/18 04:20	1
<b>Chloride</b>	<b>45</b>		2.0		mg/L			05/28/18 18:54	1
<b>Fluoride</b>	<b>0.23</b>		0.10		mg/L			05/26/18 14:38	1
<b>Sulfate</b>	<b>54</b>		20		mg/L			05/30/18 12:44	4

**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-145716-1

**Client Sample ID: MW-03**  
**Date Collected: 05/15/18 11:00**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-3**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/19/18 11:03	05/22/18 20:00	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/21/18 23:16	1
<b>Arsenic</b>	<b>0.0010</b>		0.0010		mg/L		05/19/18 11:03	05/21/18 23:16	1
<b>Barium</b>	<b>0.059</b>		0.0025		mg/L		05/19/18 11:03	05/21/18 23:16	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:16	1
<b>Boron</b>	<b>0.35</b>		0.050		mg/L		05/19/18 11:03	05/22/18 17:28	1
Cadmium	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:16	1
<b>Calcium</b>	<b>77</b>		0.20		mg/L		05/19/18 11:03	05/21/18 23:16	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:16	1
Cobalt	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:16	1
Lead	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:16	1
Molybdenum	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:16	1
Selenium	<0.0025		0.0025		mg/L		05/19/18 11:03	05/21/18 23:16	1
Thallium	<0.0020		0.0020		mg/L		05/19/18 11:03	05/21/18 23:16	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/25/18 12:35	05/30/18 16:08	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>520</b>		10		mg/L			05/21/18 04:26	1
<b>Chloride</b>	<b>65</b>		2.0		mg/L			05/28/18 18:55	1
<b>Fluoride</b>	<b>0.23</b>		0.10		mg/L			05/26/18 14:41	1
<b>Sulfate</b>	<b>77</b>		20		mg/L			06/04/18 12:51	4

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-04**  
**Date Collected: 05/15/18 12:11**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-4**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/19/18 11:03	05/22/18 20:04	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/21/18 23:20	1
Arsenic	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:20	1
<b>Barium</b>	<b>0.037</b>		0.0025		mg/L		05/19/18 11:03	05/21/18 23:20	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:20	1
<b>Boron</b>	<b>0.68</b>		0.050		mg/L		05/19/18 11:03	05/22/18 17:32	1
Cadmium	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:20	1
<b>Calcium</b>	<b>87</b>		0.20		mg/L		05/19/18 11:03	05/21/18 23:20	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:20	1
Cobalt	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:20	1
Lead	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:20	1
Molybdenum	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:20	1
Selenium	<0.0025		0.0025		mg/L		05/19/18 11:03	05/21/18 23:20	1
Thallium	<0.0020		0.0020		mg/L		05/19/18 11:03	05/21/18 23:20	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/25/18 12:35	05/30/18 16:10	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>630</b>		10		mg/L			05/21/18 04:28	1
<b>Chloride</b>	<b>66</b>		2.0		mg/L			05/28/18 18:56	1
<b>Fluoride</b>	<b>0.27</b>		0.10		mg/L			05/26/18 14:45	1
<b>Sulfate</b>	<b>100</b>		25		mg/L			06/04/18 12:52	5

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-05**  
**Date Collected: 05/15/18 13:31**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-5**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/19/18 11:03	05/22/18 20:08	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/21/18 23:24	1
Arsenic	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:24	1
<b>Barium</b>	<b>0.062</b>		0.0025		mg/L		05/19/18 11:03	05/21/18 23:24	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:24	1
<b>Boron</b>	<b>0.61</b>		0.050		mg/L		05/19/18 11:03	05/22/18 17:44	1
Cadmium	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:24	1
<b>Calcium</b>	<b>130</b>		0.20		mg/L		05/19/18 11:03	05/21/18 23:24	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:24	1
Cobalt	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:24	1
Lead	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:24	1
Molybdenum	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:24	1
Selenium	<0.0025		0.0025		mg/L		05/19/18 11:03	05/21/18 23:24	1
Thallium	<0.0020		0.0020		mg/L		05/19/18 11:03	05/21/18 23:24	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/25/18 12:35	05/30/18 16:23	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>910</b>		10		mg/L			05/21/18 04:31	1
<b>Chloride</b>	<b>89</b>		10		mg/L			05/28/18 18:57	5
<b>Fluoride</b>	<b>0.29</b>		0.10		mg/L			05/26/18 14:48	1
<b>Sulfate</b>	<b>210</b>		50		mg/L			06/04/18 12:55	10

**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-08**  
**Date Collected: 05/17/18 13:29**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-6**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/19/18 11:03	05/22/18 20:12	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/21/18 23:27	1
<b>Arsenic</b>	<b>0.0030</b>		0.0010		mg/L		05/19/18 11:03	05/21/18 23:27	1
<b>Barium</b>	<b>0.072</b>		0.0025		mg/L		05/19/18 11:03	05/21/18 23:27	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:27	1
<b>Boron</b>	<b>1.2</b>		0.25		mg/L		05/19/18 11:03	05/22/18 17:47	5
Cadmium	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:27	1
<b>Calcium</b>	<b>130</b>		0.20		mg/L		05/19/18 11:03	05/21/18 23:27	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:27	1
Cobalt	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:27	1
Lead	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:27	1
<b>Molybdenum</b>	<b>0.024</b>		0.0050		mg/L		05/19/18 11:03	05/21/18 23:27	1
Selenium	<0.0025		0.0025		mg/L		05/19/18 11:03	05/21/18 23:27	1
Thallium	<0.0020		0.0020		mg/L		05/19/18 11:03	05/21/18 23:27	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/25/18 12:35	05/30/18 16:26	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>1000</b>		10		mg/L			05/21/18 04:33	1
<b>Chloride</b>	<b>200</b>		10		mg/L			05/28/18 18:58	5
<b>Fluoride</b>	<b>0.37</b>		0.10		mg/L			05/26/18 14:51	1
<b>Sulfate</b>	<b>170</b>		50		mg/L			06/04/18 12:56	10

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-145716-1

**Client Sample ID: MW-09**  
**Date Collected: 05/16/18 10:19**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-7**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/19/18 11:03	05/22/18 20:24	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/21/18 23:31	1
Arsenic	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:31	1
<b>Barium</b>	<b>0.038</b>		0.0025		mg/L		05/19/18 11:03	05/21/18 23:31	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:31	1
<b>Boron</b>	<b>4.1</b>		1.0		mg/L		05/19/18 11:03	05/22/18 17:51	20
Cadmium	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:31	1
<b>Calcium</b>	<b>89</b>		0.20		mg/L		05/19/18 11:03	05/21/18 23:31	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:31	1
Cobalt	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:31	1
Lead	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:31	1
<b>Molybdenum</b>	<b>0.031</b>		0.0050		mg/L		05/19/18 11:03	05/21/18 23:31	1
<b>Selenium</b>	<b>0.0060</b>		0.0025		mg/L		05/19/18 11:03	05/21/18 23:31	1
Thallium	<0.0020		0.0020		mg/L		05/19/18 11:03	05/21/18 23:31	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.00029</b>		0.00020		mg/L		05/25/18 12:35	05/30/18 16:28	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>550</b>		10		mg/L			05/21/18 04:36	1
<b>Chloride</b>	<b>36</b>		2.0		mg/L			05/28/18 19:01	1
<b>Fluoride</b>	<b>0.15</b>		0.10		mg/L			05/26/18 15:04	1
<b>Sulfate</b>	<b>180</b>		50		mg/L			06/04/18 12:57	10



**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-145716-1

**Client Sample ID: MW-10**  
**Date Collected: 05/16/18 11:41**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-8**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/19/18 11:03	05/22/18 20:28	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/21/18 23:35	1
<b>Arsenic</b>	<b>0.0010</b>		0.0010		mg/L		05/19/18 11:03	05/21/18 23:35	1
<b>Barium</b>	<b>0.22</b>		0.0025		mg/L		05/19/18 11:03	05/21/18 23:35	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:35	1
<b>Boron</b>	<b>0.42</b>		0.050		mg/L		05/19/18 11:03	05/22/18 17:55	1
Cadmium	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:35	1
<b>Calcium</b>	<b>93</b>		0.20		mg/L		05/19/18 11:03	05/21/18 23:35	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:35	1
<b>Cobalt</b>	<b>0.021</b>		0.0010		mg/L		05/19/18 11:03	05/21/18 23:35	1
<b>Lead</b>	<b>0.0010</b>		0.00050		mg/L		05/19/18 11:03	05/21/18 23:35	1
Molybdenum	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:35	1
<b>Selenium</b>	<b>0.0050</b>		0.0025		mg/L		05/19/18 11:03	05/21/18 23:35	1
Thallium	<0.0020		0.0020		mg/L		05/19/18 11:03	05/21/18 23:35	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/25/18 12:35	05/30/18 16:30	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>530</b>		10		mg/L			05/21/18 04:39	1
<b>Chloride</b>	<b>44</b>		2.0		mg/L			05/28/18 19:02	1
<b>Fluoride</b>	<b>0.19</b>		0.10		mg/L			05/26/18 15:07	1
<b>Sulfate</b>	<b>80</b>		20		mg/L			06/04/18 12:58	4

**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-145716-1

**Client Sample ID: MW-11**  
**Date Collected: 05/16/18 13:01**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-9**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/19/18 11:03	05/22/18 20:32	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/21/18 23:39	1
<b>Arsenic</b>	<b>0.089</b>		0.0010		mg/L		05/19/18 11:03	05/21/18 23:39	1
<b>Barium</b>	<b>0.47</b>		0.0025		mg/L		05/19/18 11:03	05/21/18 23:39	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:39	1
<b>Boron</b>	<b>2.0</b>		0.50		mg/L		05/19/18 11:03	05/22/18 17:59	10
Cadmium	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:39	1
<b>Calcium</b>	<b>140</b>		0.20		mg/L		05/19/18 11:03	05/21/18 23:39	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:39	1
<b>Cobalt</b>	<b>0.0041</b>		0.0010		mg/L		05/19/18 11:03	05/21/18 23:39	1
Lead	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:39	1
<b>Molybdenum</b>	<b>0.014</b>		0.0050		mg/L		05/19/18 11:03	05/21/18 23:39	1
Selenium	<0.0025		0.0025		mg/L		05/19/18 11:03	05/21/18 23:39	1
Thallium	<0.0020		0.0020		mg/L		05/19/18 11:03	05/21/18 23:39	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/25/18 12:35	05/30/18 16:33	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>1000</b>		10		mg/L			05/21/18 04:41	1
<b>Chloride</b>	<b>88</b>		10		mg/L			05/28/18 19:03	5
<b>Fluoride</b>	<b>0.61</b>		0.10		mg/L			05/26/18 15:10	1
<b>Sulfate</b>	<b>270</b>		50		mg/L			06/04/18 13:01	10

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-12**  
**Date Collected: 05/16/18 14:41**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-10**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.012		0.010		mg/L		05/19/18 11:03	05/22/18 20:36	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/21/18 23:43	1
Arsenic	0.086		0.0010		mg/L		05/19/18 11:03	05/21/18 23:43	1
Barium	0.10		0.0025		mg/L		05/19/18 11:03	05/21/18 23:43	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:43	1
Boron	0.46		0.050		mg/L		05/19/18 11:03	05/22/18 18:03	1
Cadmium	0.00052		0.00050		mg/L		05/19/18 11:03	05/21/18 23:43	1
Calcium	100		0.20		mg/L		05/19/18 11:03	05/21/18 23:43	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:43	1
Cobalt	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:43	1
Lead	0.00067		0.00050		mg/L		05/19/18 11:03	05/21/18 23:43	1
Molybdenum	0.021		0.0050		mg/L		05/19/18 11:03	05/21/18 23:43	1
Selenium	<0.0025		0.0025		mg/L		05/19/18 11:03	05/21/18 23:43	1
Thallium	<0.0020		0.0020		mg/L		05/19/18 11:03	05/21/18 23:43	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/25/18 12:35	05/30/18 16:35	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1500		10		mg/L			05/21/18 04:44	1
Chloride	180		10		mg/L			05/28/18 19:21	5
Fluoride	0.47		0.10		mg/L			05/26/18 15:13	1
Sulfate	720		130		mg/L			06/04/18 13:02	25

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-15**  
**Date Collected: 05/17/18 11:58**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-11**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.029		0.010		mg/L		05/19/18 11:03	05/22/18 20:40	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/21/18 23:54	1
Arsenic	0.0081		0.0010		mg/L		05/19/18 11:03	05/21/18 23:54	1
Barium	0.050		0.0025		mg/L		05/19/18 11:03	05/21/18 23:54	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:54	1
Boron	2.3		0.50		mg/L		05/19/18 11:03	05/22/18 18:07	10
Cadmium	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:54	1
Calcium	200		0.20		mg/L		05/19/18 11:03	05/21/18 23:54	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:54	1
Cobalt	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:54	1
Lead	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 23:54	1
Molybdenum	0.030		0.0050		mg/L		05/19/18 11:03	05/21/18 23:54	1
Selenium	0.077		0.0025		mg/L		05/19/18 11:03	05/21/18 23:54	1
Thallium	<0.0020		0.0020		mg/L		05/19/18 11:03	05/21/18 23:54	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/25/18 12:35	05/30/18 16:37	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1800		10		mg/L			05/21/18 04:46	1
Chloride	160		10		mg/L			05/28/18 19:04	5
Fluoride	0.50		0.10		mg/L			05/26/18 15:16	1
Sulfate	680		130		mg/L			06/04/18 13:03	25

**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-145716-1

**Client Sample ID: MW-17**  
**Date Collected: 05/14/18 14:51**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-12**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.015		0.010		mg/L		05/19/18 11:03	05/22/18 20:44	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/21/18 23:58	1
Arsenic	0.42		0.0010		mg/L		05/19/18 11:03	05/21/18 23:58	1
Barium	0.17		0.0025		mg/L		05/19/18 11:03	05/21/18 23:58	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 23:58	1
Boron	1.6		0.50		mg/L		05/19/18 11:03	05/22/18 18:11	10
Cadmium	0.0020		0.00050		mg/L		05/19/18 11:03	05/21/18 23:58	1
Calcium	170		0.20		mg/L		05/19/18 11:03	05/21/18 23:58	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 23:58	1
Cobalt	0.0029		0.0010		mg/L		05/19/18 11:03	05/21/18 23:58	1
Lead	0.0021		0.00050		mg/L		05/19/18 11:03	05/21/18 23:58	1
Molybdenum	0.13		0.0050		mg/L		05/19/18 11:03	05/21/18 23:58	1
Selenium	<0.0025		0.0025		mg/L		05/19/18 11:03	05/21/18 23:58	1
Thallium	0.0068		0.0020		mg/L		05/19/18 11:03	05/21/18 23:58	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/25/18 12:35	05/30/18 16:44	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1700		10		mg/L			05/21/18 04:49	1
Chloride	220		10		mg/L			05/28/18 19:04	5
Fluoride	0.60		0.10		mg/L			05/26/18 15:19	1
Sulfate	800		130		mg/L			06/04/18 13:04	25

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-18**  
**Date Collected: 05/14/18 16:05**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-13**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.013		0.010		mg/L		05/19/18 11:03	05/22/18 20:48	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/22/18 00:01	1
Arsenic	<0.0010		0.0010		mg/L		05/19/18 11:03	05/22/18 00:01	1
Barium	0.13		0.0025		mg/L		05/19/18 11:03	05/22/18 00:01	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/22/18 00:01	1
Boron	0.57		0.050		mg/L		05/19/18 11:03	05/22/18 18:15	1
Cadmium	<0.00050		0.00050		mg/L		05/19/18 11:03	05/22/18 00:01	1
Calcium	130		0.20		mg/L		05/19/18 11:03	05/22/18 00:01	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/22/18 00:01	1
Cobalt	<0.0010		0.0010		mg/L		05/19/18 11:03	05/22/18 00:01	1
Lead	<0.00050		0.00050		mg/L		05/19/18 11:03	05/22/18 00:01	1
Molybdenum	0.0052		0.0050		mg/L		05/19/18 11:03	05/22/18 00:01	1
Selenium	<0.0025		0.0025		mg/L		05/19/18 11:03	05/22/18 00:01	1
Thallium	<0.0020		0.0020		mg/L		05/19/18 11:03	05/22/18 00:01	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/25/18 12:35	05/30/18 16:46	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1200		10		mg/L			05/21/18 04:51	1
Chloride	180		10		mg/L			05/28/18 19:05	5
Fluoride	0.59		0.10		mg/L			05/26/18 15:22	1
Sulfate	440		100		mg/L			06/04/18 13:05	20

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-19**  
**Date Collected: 05/14/18 17:35**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-14**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/19/18 11:03	05/22/18 20:52	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/22/18 00:05	1
Arsenic	<0.0010		0.0010		mg/L		05/19/18 11:03	05/22/18 00:05	1
<b>Barium</b>	<b>0.079</b>		0.0025		mg/L		05/19/18 11:03	05/22/18 00:05	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/22/18 00:05	1
<b>Boron</b>	<b>4.1</b>		1.0		mg/L		05/19/18 11:03	05/22/18 18:18	20
Cadmium	<0.00050		0.00050		mg/L		05/19/18 11:03	05/22/18 00:05	1
<b>Calcium</b>	<b>96</b>		0.20		mg/L		05/19/18 11:03	05/22/18 00:05	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/22/18 00:05	1
Cobalt	<0.0010		0.0010		mg/L		05/19/18 11:03	05/22/18 00:05	1
Lead	<0.00050		0.00050		mg/L		05/19/18 11:03	05/22/18 00:05	1
<b>Molybdenum</b>	<b>0.043</b>		0.0050		mg/L		05/19/18 11:03	05/22/18 00:05	1
<b>Selenium</b>	<b>0.0044</b>		0.0025		mg/L		05/19/18 11:03	05/22/18 00:05	1
Thallium	<0.0020		0.0020		mg/L		05/19/18 11:03	05/22/18 00:05	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/25/18 12:35	05/30/18 16:49	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>820</b>		10		mg/L			05/21/18 04:54	1
<b>Chloride</b>	<b>35</b>		2.0		mg/L			05/28/18 19:07	1
<b>Fluoride</b>	<b>0.16</b>		0.10		mg/L			05/26/18 15:25	1
<b>Sulfate</b>	<b>180</b>		50		mg/L			06/04/18 13:06	10

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: Duplicate**  
**Date Collected: 05/14/18 00:00**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-15**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/19/18 11:03	05/22/18 20:57	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/22/18 00:09	1
Arsenic	<0.0010		0.0010		mg/L		05/19/18 11:03	05/22/18 00:09	1
<b>Barium</b>	<b>0.077</b>		0.0025		mg/L		05/19/18 11:03	05/22/18 00:09	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/22/18 00:09	1
<b>Boron</b>	<b>3.9</b>		1.0		mg/L		05/19/18 11:03	05/22/18 18:33	20
Cadmium	<0.00050		0.00050		mg/L		05/19/18 11:03	05/22/18 00:09	1
<b>Calcium</b>	<b>95</b>		0.20		mg/L		05/19/18 11:03	05/22/18 00:09	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/22/18 00:09	1
Cobalt	<0.0010		0.0010		mg/L		05/19/18 11:03	05/22/18 00:09	1
Lead	<0.00050		0.00050		mg/L		05/19/18 11:03	05/22/18 00:09	1
<b>Molybdenum</b>	<b>0.042</b>		0.0050		mg/L		05/19/18 11:03	05/22/18 00:09	1
<b>Selenium</b>	<b>0.0040</b>		0.0025		mg/L		05/19/18 11:03	05/22/18 00:09	1
Thallium	<0.0020		0.0020		mg/L		05/19/18 11:03	05/22/18 00:09	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/25/18 12:35	05/30/18 16:51	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>850</b>		10		mg/L			05/21/18 04:57	1
<b>Chloride</b>	<b>36</b>		2.0		mg/L			05/28/18 19:22	1
<b>Fluoride</b>	<b>0.15</b>		0.10		mg/L			05/26/18 15:29	1
<b>Sulfate</b>	<b>190</b>		50		mg/L			06/04/18 13:07	10



Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

## Qualifiers

### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Metals**

**Prep Batch: 433097**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-1	MW-01	Total Recoverable	Water	3005A	
500-145716-2	MW-02	Total Recoverable	Water	3005A	
500-145716-3	MW-03	Total Recoverable	Water	3005A	
500-145716-4	MW-04	Total Recoverable	Water	3005A	
500-145716-5	MW-05	Total Recoverable	Water	3005A	
500-145716-6	MW-08	Total Recoverable	Water	3005A	
500-145716-7	MW-09	Total Recoverable	Water	3005A	
500-145716-8	MW-10	Total Recoverable	Water	3005A	
500-145716-9	MW-11	Total Recoverable	Water	3005A	
500-145716-10	MW-12	Total Recoverable	Water	3005A	
500-145716-11	MW-15	Total Recoverable	Water	3005A	
500-145716-12	MW-17	Total Recoverable	Water	3005A	
500-145716-13	MW-18	Total Recoverable	Water	3005A	
500-145716-14	MW-19	Total Recoverable	Water	3005A	
500-145716-15	Duplicate	Total Recoverable	Water	3005A	
MB 500-433097/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-433097/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-145716-1 MS	MW-01	Total Recoverable	Water	3005A	
500-145716-1 MSD	MW-01	Total Recoverable	Water	3005A	
500-145716-1 DU	MW-01	Total Recoverable	Water	3005A	

**Analysis Batch: 433393**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-1	MW-01	Total Recoverable	Water	6020A	433097
500-145716-2	MW-02	Total Recoverable	Water	6020A	433097
500-145716-3	MW-03	Total Recoverable	Water	6020A	433097
500-145716-4	MW-04	Total Recoverable	Water	6020A	433097
500-145716-5	MW-05	Total Recoverable	Water	6020A	433097
500-145716-6	MW-08	Total Recoverable	Water	6020A	433097
500-145716-7	MW-09	Total Recoverable	Water	6020A	433097
500-145716-8	MW-10	Total Recoverable	Water	6020A	433097
500-145716-9	MW-11	Total Recoverable	Water	6020A	433097
500-145716-10	MW-12	Total Recoverable	Water	6020A	433097
500-145716-11	MW-15	Total Recoverable	Water	6020A	433097
500-145716-12	MW-17	Total Recoverable	Water	6020A	433097
500-145716-13	MW-18	Total Recoverable	Water	6020A	433097
500-145716-14	MW-19	Total Recoverable	Water	6020A	433097
500-145716-15	Duplicate	Total Recoverable	Water	6020A	433097
MB 500-433097/1-A	Method Blank	Total Recoverable	Water	6020A	433097
LCS 500-433097/2-A	Lab Control Sample	Total Recoverable	Water	6020A	433097
500-145716-1 MS	MW-01	Total Recoverable	Water	6020A	433097
500-145716-1 MSD	MW-01	Total Recoverable	Water	6020A	433097
500-145716-1 DU	MW-01	Total Recoverable	Water	6020A	433097

**Analysis Batch: 433534**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-1	MW-01	Total Recoverable	Water	6010C	433097
500-145716-2	MW-02	Total Recoverable	Water	6010C	433097
500-145716-3	MW-03	Total Recoverable	Water	6010C	433097
500-145716-4	MW-04	Total Recoverable	Water	6010C	433097
500-145716-5	MW-05	Total Recoverable	Water	6010C	433097

TestAmerica Chicago



Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Metals (Continued)**

**Analysis Batch: 433534 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-6	MW-08	Total Recoverable	Water	6010C	433097
500-145716-7	MW-09	Total Recoverable	Water	6010C	433097
500-145716-8	MW-10	Total Recoverable	Water	6010C	433097
500-145716-9	MW-11	Total Recoverable	Water	6010C	433097
500-145716-10	MW-12	Total Recoverable	Water	6010C	433097
500-145716-11	MW-15	Total Recoverable	Water	6010C	433097
500-145716-12	MW-17	Total Recoverable	Water	6010C	433097
500-145716-13	MW-18	Total Recoverable	Water	6010C	433097
500-145716-14	MW-19	Total Recoverable	Water	6010C	433097
500-145716-15	Duplicate	Total Recoverable	Water	6010C	433097
MB 500-433097/1-A	Method Blank	Total Recoverable	Water	6010C	433097
LCS 500-433097/2-A	Lab Control Sample	Total Recoverable	Water	6010C	433097
500-145716-1 MS	MW-01	Total Recoverable	Water	6010C	433097
500-145716-1 MSD	MW-01	Total Recoverable	Water	6010C	433097
500-145716-1 DU	MW-01	Total Recoverable	Water	6010C	433097

**Analysis Batch: 433604**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-1	MW-01	Total Recoverable	Water	6020A	433097
500-145716-2	MW-02	Total Recoverable	Water	6020A	433097
500-145716-3	MW-03	Total Recoverable	Water	6020A	433097
500-145716-4	MW-04	Total Recoverable	Water	6020A	433097
500-145716-5	MW-05	Total Recoverable	Water	6020A	433097
500-145716-6	MW-08	Total Recoverable	Water	6020A	433097
500-145716-7	MW-09	Total Recoverable	Water	6020A	433097
500-145716-8	MW-10	Total Recoverable	Water	6020A	433097
500-145716-9	MW-11	Total Recoverable	Water	6020A	433097
500-145716-10	MW-12	Total Recoverable	Water	6020A	433097
500-145716-11	MW-15	Total Recoverable	Water	6020A	433097
500-145716-12	MW-17	Total Recoverable	Water	6020A	433097
500-145716-13	MW-18	Total Recoverable	Water	6020A	433097
500-145716-14	MW-19	Total Recoverable	Water	6020A	433097
500-145716-15	Duplicate	Total Recoverable	Water	6020A	433097
MB 500-433097/1-A	Method Blank	Total Recoverable	Water	6020A	433097
LCS 500-433097/2-A	Lab Control Sample	Total Recoverable	Water	6020A	433097
500-145716-1 MS	MW-01	Total Recoverable	Water	6020A	433097
500-145716-1 MSD	MW-01	Total Recoverable	Water	6020A	433097
500-145716-1 DU	MW-01	Total Recoverable	Water	6020A	433097

**Prep Batch: 434080**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-1	MW-01	Total/NA	Water	7470A	
500-145716-2	MW-02	Total/NA	Water	7470A	
500-145716-3	MW-03	Total/NA	Water	7470A	
500-145716-4	MW-04	Total/NA	Water	7470A	
500-145716-5	MW-05	Total/NA	Water	7470A	
500-145716-6	MW-08	Total/NA	Water	7470A	
500-145716-7	MW-09	Total/NA	Water	7470A	
500-145716-8	MW-10	Total/NA	Water	7470A	
500-145716-9	MW-11	Total/NA	Water	7470A	
500-145716-10	MW-12	Total/NA	Water	7470A	

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Metals (Continued)**

**Prep Batch: 434080 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-11	MW-15	Total/NA	Water	7470A	
500-145716-12	MW-17	Total/NA	Water	7470A	
500-145716-13	MW-18	Total/NA	Water	7470A	
500-145716-14	MW-19	Total/NA	Water	7470A	
500-145716-15	Duplicate	Total/NA	Water	7470A	
MB 500-434080/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-434080/13-A	Lab Control Sample	Total/NA	Water	7470A	
500-145716-4 MS	MW-04	Total/NA	Water	7470A	
500-145716-4 MSD	MW-04	Total/NA	Water	7470A	
500-145716-4 DU	MW-04	Total/NA	Water	7470A	

**Analysis Batch: 434677**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-1	MW-01	Total/NA	Water	7470A	434080
500-145716-2	MW-02	Total/NA	Water	7470A	434080
500-145716-3	MW-03	Total/NA	Water	7470A	434080
500-145716-4	MW-04	Total/NA	Water	7470A	434080
500-145716-5	MW-05	Total/NA	Water	7470A	434080
500-145716-6	MW-08	Total/NA	Water	7470A	434080
500-145716-7	MW-09	Total/NA	Water	7470A	434080
500-145716-8	MW-10	Total/NA	Water	7470A	434080
500-145716-9	MW-11	Total/NA	Water	7470A	434080
500-145716-10	MW-12	Total/NA	Water	7470A	434080
500-145716-11	MW-15	Total/NA	Water	7470A	434080
500-145716-12	MW-17	Total/NA	Water	7470A	434080
500-145716-13	MW-18	Total/NA	Water	7470A	434080
500-145716-14	MW-19	Total/NA	Water	7470A	434080
500-145716-15	Duplicate	Total/NA	Water	7470A	434080
MB 500-434080/12-A	Method Blank	Total/NA	Water	7470A	434080
LCS 500-434080/13-A	Lab Control Sample	Total/NA	Water	7470A	434080
500-145716-4 MS	MW-04	Total/NA	Water	7470A	434080
500-145716-4 MSD	MW-04	Total/NA	Water	7470A	434080
500-145716-4 DU	MW-04	Total/NA	Water	7470A	434080

**General Chemistry**

**Analysis Batch: 433168**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-1	MW-01	Total/NA	Water	SM 2540C	
500-145716-2	MW-02	Total/NA	Water	SM 2540C	
500-145716-3	MW-03	Total/NA	Water	SM 2540C	
500-145716-4	MW-04	Total/NA	Water	SM 2540C	
500-145716-5	MW-05	Total/NA	Water	SM 2540C	
500-145716-6	MW-08	Total/NA	Water	SM 2540C	
500-145716-7	MW-09	Total/NA	Water	SM 2540C	
500-145716-8	MW-10	Total/NA	Water	SM 2540C	
500-145716-9	MW-11	Total/NA	Water	SM 2540C	
500-145716-10	MW-12	Total/NA	Water	SM 2540C	
500-145716-11	MW-15	Total/NA	Water	SM 2540C	
500-145716-12	MW-17	Total/NA	Water	SM 2540C	



Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**General Chemistry (Continued)**

**Analysis Batch: 433168 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-13	MW-18	Total/NA	Water	SM 2540C	
500-145716-14	MW-19	Total/NA	Water	SM 2540C	
500-145716-15	Duplicate	Total/NA	Water	SM 2540C	
MB 500-433168/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-433168/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-145716-1 MS	MW-01	Total/NA	Water	SM 2540C	
500-145716-1 DU	MW-01	Total/NA	Water	SM 2540C	
500-145716-2 DU	MW-02	Total/NA	Water	SM 2540C	

**Analysis Batch: 434275**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-1	MW-01	Total/NA	Water	SM 4500 F C	
500-145716-2	MW-02	Total/NA	Water	SM 4500 F C	
500-145716-3	MW-03	Total/NA	Water	SM 4500 F C	
500-145716-4	MW-04	Total/NA	Water	SM 4500 F C	
500-145716-5	MW-05	Total/NA	Water	SM 4500 F C	
500-145716-6	MW-08	Total/NA	Water	SM 4500 F C	
500-145716-7	MW-09	Total/NA	Water	SM 4500 F C	
500-145716-8	MW-10	Total/NA	Water	SM 4500 F C	
500-145716-9	MW-11	Total/NA	Water	SM 4500 F C	
500-145716-10	MW-12	Total/NA	Water	SM 4500 F C	
500-145716-11	MW-15	Total/NA	Water	SM 4500 F C	
500-145716-12	MW-17	Total/NA	Water	SM 4500 F C	
500-145716-13	MW-18	Total/NA	Water	SM 4500 F C	
500-145716-14	MW-19	Total/NA	Water	SM 4500 F C	
500-145716-15	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-434275/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-434275/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-145716-1 MS	MW-01	Total/NA	Water	SM 4500 F C	
500-145716-1 MSD	MW-01	Total/NA	Water	SM 4500 F C	

**Analysis Batch: 434300**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-1	MW-01	Total/NA	Water	SM 4500 CI- E	
500-145716-2	MW-02	Total/NA	Water	SM 4500 CI- E	
500-145716-3	MW-03	Total/NA	Water	SM 4500 CI- E	
500-145716-4	MW-04	Total/NA	Water	SM 4500 CI- E	
500-145716-5	MW-05	Total/NA	Water	SM 4500 CI- E	
500-145716-6	MW-08	Total/NA	Water	SM 4500 CI- E	
500-145716-7	MW-09	Total/NA	Water	SM 4500 CI- E	
500-145716-8	MW-10	Total/NA	Water	SM 4500 CI- E	
500-145716-9	MW-11	Total/NA	Water	SM 4500 CI- E	
500-145716-10	MW-12	Total/NA	Water	SM 4500 CI- E	
500-145716-11	MW-15	Total/NA	Water	SM 4500 CI- E	
500-145716-12	MW-17	Total/NA	Water	SM 4500 CI- E	
500-145716-13	MW-18	Total/NA	Water	SM 4500 CI- E	
500-145716-14	MW-19	Total/NA	Water	SM 4500 CI- E	
500-145716-15	Duplicate	Total/NA	Water	SM 4500 CI- E	
MB 500-434300/4	Method Blank	Total/NA	Water	SM 4500 CI- E	
LCS 500-434300/5	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	
500-145716-7 MS	MW-09	Total/NA	Water	SM 4500 CI- E	

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**General Chemistry (Continued)**

**Analysis Batch: 434300 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-7 MSD	MW-09	Total/NA	Water	SM 4500 Cl- E	

**Analysis Batch: 434591**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-1	MW-01	Total/NA	Water	SM 4500 SO4 E	
500-145716-2	MW-02	Total/NA	Water	SM 4500 SO4 E	
MB 500-434591/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-434591/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

**Analysis Batch: 435221**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-3	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-145716-4	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-145716-5	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-145716-6	MW-08	Total/NA	Water	SM 4500 SO4 E	
500-145716-7	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-145716-8	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-145716-9	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-145716-10	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-145716-11	MW-15	Total/NA	Water	SM 4500 SO4 E	
500-145716-12	MW-17	Total/NA	Water	SM 4500 SO4 E	
500-145716-13	MW-18	Total/NA	Water	SM 4500 SO4 E	
500-145716-14	MW-19	Total/NA	Water	SM 4500 SO4 E	
500-145716-15	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-435221/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-435221/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-145716-4 MS	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-145716-4 MSD	MW-04	Total/NA	Water	SM 4500 SO4 E	



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-145716-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-433097/1-A  
Matrix: Water  
Analysis Batch: 433534

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 433097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/19/18 11:03	05/22/18 19:21	1

Lab Sample ID: LCS 500-433097/2-A  
Matrix: Water  
Analysis Batch: 433534

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 433097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lithium	0.500	0.515		mg/L		103	80 - 120

Lab Sample ID: 500-145716-1 MS  
Matrix: Water  
Analysis Batch: 433534

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 433097

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Lithium	<0.010		0.500	0.545		mg/L		109	75 - 125

Lab Sample ID: 500-145716-1 MSD  
Matrix: Water  
Analysis Batch: 433534

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 433097

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lithium	<0.010		0.500	0.541		mg/L		108	75 - 125	1	20

Lab Sample ID: 500-145716-1 DU  
Matrix: Water  
Analysis Batch: 433534

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 433097

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Lithium	<0.010		<0.010		mg/L		NC	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-433097/1-A  
Matrix: Water  
Analysis Batch: 433393

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 433097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/19/18 11:03	05/21/18 22:39	1
Arsenic	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 22:39	1
Barium	<0.0025		0.0025		mg/L		05/19/18 11:03	05/21/18 22:39	1
Beryllium	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 22:39	1
Cadmium	<0.00050		0.00050		mg/L		05/19/18 11:03	05/21/18 22:39	1
Calcium	<0.20		0.20		mg/L		05/19/18 11:03	05/21/18 22:39	1
Chromium	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 22:39	1
Cobalt	<0.0010		0.0010		mg/L		05/19/18 11:03	05/21/18 22:39	1
Molybdenum	<0.0050		0.0050		mg/L		05/19/18 11:03	05/21/18 22:39	1
Selenium	<0.0025		0.0025		mg/L		05/19/18 11:03	05/21/18 22:39	1
Thallium	<0.0020		0.0020		mg/L		05/19/18 11:03	05/21/18 22:39	1

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-145716-1

**Method: 6020A - Metals (ICP/MS) (Continued)**

**Lab Sample ID: MB 500-433097/1-A**  
**Matrix: Water**  
**Analysis Batch: 433604**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 433097**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/19/18 11:03	05/22/18 16:57	1
Lead	<0.00050		0.00050		mg/L		05/19/18 11:03	05/22/18 16:57	1

**Lab Sample ID: LCS 500-433097/2-A**  
**Matrix: Water**  
**Analysis Batch: 433393**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 433097**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.508		mg/L		102	80 - 120
Arsenic	0.100	0.0952		mg/L		95	80 - 120
Barium	2.00	2.01		mg/L		100	80 - 120
Beryllium	0.0500	0.0518		mg/L		104	80 - 120
Cadmium	0.0500	0.0511		mg/L		102	80 - 120
Calcium	10.0	9.19		mg/L		92	80 - 120
Chromium	0.200	0.211		mg/L		105	80 - 120
Cobalt	0.500	0.533		mg/L		107	80 - 120
Molybdenum	1.00	0.940		mg/L		94	80 - 120
Selenium	0.100	0.0954		mg/L		95	80 - 120
Thallium	0.100	0.106		mg/L		106	80 - 120

**Lab Sample ID: LCS 500-433097/2-A**  
**Matrix: Water**  
**Analysis Batch: 433604**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 433097**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.988		mg/L		99	80 - 120
Lead	0.100	0.109		mg/L		109	80 - 120

**Lab Sample ID: 500-145716-1 MS**  
**Matrix: Water**  
**Analysis Batch: 433393**

**Client Sample ID: MW-01**  
**Prep Type: Total Recoverable**  
**Prep Batch: 433097**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.521		mg/L		104	75 - 125
Arsenic	<0.0010		0.100	0.0994		mg/L		99	75 - 125
Barium	0.045		2.00	2.06		mg/L		101	75 - 125
Beryllium	<0.0010		0.0500	0.0503		mg/L		101	75 - 125
Cadmium	<0.00050		0.0500	0.0516		mg/L		103	75 - 125
Calcium	88		10.0	95.5	4	mg/L		78	75 - 125
Chromium	<0.0050		0.200	0.204		mg/L		102	75 - 125
Cobalt	<0.0010		0.500	0.506		mg/L		101	75 - 125
Molybdenum	<0.0050		1.00	0.974		mg/L		97	75 - 125
Selenium	<0.0025		0.100	0.101		mg/L		98	75 - 125
Thallium	<0.0020		0.100	0.105		mg/L		105	75 - 125



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-145716-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-145716-1 MS

Matrix: Water

Analysis Batch: 433604

Client Sample ID: MW-01

Prep Type: Total Recoverable

Prep Batch: 433097

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Boron	0.15		1.00	1.14		mg/L		99	75 - 125
Lead	0.00068		0.100	0.107		mg/L		107	75 - 125

Lab Sample ID: 500-145716-1 MSD

Matrix: Water

Analysis Batch: 433393

Client Sample ID: MW-01

Prep Type: Total Recoverable

Prep Batch: 433097

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.523		mg/L		105	75 - 125	0	20
Arsenic	<0.0010		0.100	0.100		mg/L		99	75 - 125	1	20
Barium	0.045		2.00	2.05		mg/L		100	75 - 125	0	20
Beryllium	<0.0010		0.0500	0.0494		mg/L		99	75 - 125	2	20
Cadmium	<0.00050		0.0500	0.0517		mg/L		103	75 - 125	0	20
Calcium	88		10.0	97.1	4	mg/L		94	75 - 125	2	20
Chromium	<0.0050		0.200	0.206		mg/L		103	75 - 125	1	20
Cobalt	<0.0010		0.500	0.511		mg/L		102	75 - 125	1	20
Molybdenum	<0.0050		1.00	0.980		mg/L		98	75 - 125	1	20
Selenium	<0.0025		0.100	0.101		mg/L		99	75 - 125	1	20
Thallium	<0.0020		0.100	0.105		mg/L		105	75 - 125	0	20

Lab Sample ID: 500-145716-1 MSD

Matrix: Water

Analysis Batch: 433604

Client Sample ID: MW-01

Prep Type: Total Recoverable

Prep Batch: 433097

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Boron	0.15		1.00	1.15		mg/L		101	75 - 125	1	20
Lead	0.00068		0.100	0.109		mg/L		109	75 - 125	2	20

Lab Sample ID: 500-145716-1 DU

Matrix: Water

Analysis Batch: 433393

Client Sample ID: MW-01

Prep Type: Total Recoverable

Prep Batch: 433097

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030		<0.0030		mg/L		NC	20
Arsenic	<0.0010		<0.0010		mg/L		NC	20
Barium	0.045		0.0459		mg/L		1	20
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Calcium	88		89.6		mg/L		2	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Molybdenum	<0.0050		<0.0050		mg/L		NC	20
Selenium	<0.0025		<0.0025		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Method: 6020A - Metals (ICP/MS) (Continued)**

Lab Sample ID: 500-145716-1 DU  
Matrix: Water  
Analysis Batch: 433604

Client Sample ID: MW-01  
Prep Type: Total Recoverable  
Prep Batch: 433097

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Boron	0.15		0.141		mg/L		5	20
Lead	0.00068		0.000683		mg/L		1	20

**Method: 7470A - Mercury (CVAA)**

Lab Sample ID: MB 500-434080/12-A  
Matrix: Water  
Analysis Batch: 434677

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 434080

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/25/18 12:35	05/30/18 15:47	1

Lab Sample ID: LCS 500-434080/13-A  
Matrix: Water  
Analysis Batch: 434677

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 434080  
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00200	0.00221		mg/L		111	80 - 120

Lab Sample ID: 500-145716-4 MS  
Matrix: Water  
Analysis Batch: 434677

Client Sample ID: MW-04  
Prep Type: Total/NA  
Prep Batch: 434080  
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	<0.00020		0.00100	0.00110		mg/L		110	75 - 125

Lab Sample ID: 500-145716-4 MSD  
Matrix: Water  
Analysis Batch: 434677

Client Sample ID: MW-04  
Prep Type: Total/NA  
Prep Batch: 434080  
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	<0.00020		0.00100	0.000972		mg/L		97	75 - 125	12	20

Lab Sample ID: 500-145716-4 DU  
Matrix: Water  
Analysis Batch: 434677

Client Sample ID: MW-04  
Prep Type: Total/NA  
Prep Batch: 434080

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

**Method: SM 2540C - Solids, Total Dissolved (TDS)**

Lab Sample ID: MB 500-433168/1  
Matrix: Water  
Analysis Batch: 433168

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/21/18 04:08	1

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)**

Lab Sample ID: LCS 500-433168/2  
Matrix: Water  
Analysis Batch: 433168

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	296		mg/L		118	80 - 120

Lab Sample ID: 500-145716-1 MS  
Matrix: Water  
Analysis Batch: 433168

Client Sample ID: MW-01  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	540		250	788		mg/L		98	75 - 125

Lab Sample ID: 500-145716-1 DU  
Matrix: Water  
Analysis Batch: 433168

Client Sample ID: MW-01  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	540		554		mg/L		2	5

Lab Sample ID: 500-145716-2 DU  
Matrix: Water  
Analysis Batch: 433168

Client Sample ID: MW-02  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	500		508		mg/L		1	5

**Method: SM 4500 Cl- E - Chloride, Total**

Lab Sample ID: MB 500-434300/4  
Matrix: Water  
Analysis Batch: 434300

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/28/18 18:51	1

Lab Sample ID: LCS 500-434300/5  
Matrix: Water  
Analysis Batch: 434300

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.6		mg/L		99	85 - 115

Lab Sample ID: 500-145716-7 MS  
Matrix: Water  
Analysis Batch: 434300

Client Sample ID: MW-09  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	36		50.0	81.0		mg/L		90	75 - 125

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Method: SM 4500 Cl- E - Chloride, Total (Continued)**

Lab Sample ID: 500-145716-7 MSD  
Matrix: Water  
Analysis Batch: 434300

Client Sample ID: MW-09  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	36		50.0	80.6		mg/L		89	75 - 125	1	20

**Method: SM 4500 F C - Fluoride**

Lab Sample ID: MB 500-434275/3  
Matrix: Water  
Analysis Batch: 434275

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			05/26/18 14:23	1

Lab Sample ID: LCS 500-434275/4  
Matrix: Water  
Analysis Batch: 434275

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.4		mg/L		104	80 - 120

Lab Sample ID: 500-145716-1 MS  
Matrix: Water  
Analysis Batch: 434275

Client Sample ID: MW-01  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.12		5.00	5.21		mg/L		102	75 - 125

Lab Sample ID: 500-145716-1 MSD  
Matrix: Water  
Analysis Batch: 434275

Client Sample ID: MW-01  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.12		5.00	5.29		mg/L		103	75 - 125	2	20

**Method: SM 4500 SO4 E - Sulfate, Total**

Lab Sample ID: MB 500-434591/3  
Matrix: Water  
Analysis Batch: 434591

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/30/18 12:23	1

Lab Sample ID: LCS 500-434591/4  
Matrix: Water  
Analysis Batch: 434591

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.3		mg/L		102	80 - 120

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: MB 500-435221/3  
Matrix: Water  
Analysis Batch: 435221

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			06/04/18 12:49	1

Lab Sample ID: LCS 500-435221/4  
Matrix: Water  
Analysis Batch: 435221

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.6		mg/L		98	80 - 120

Lab Sample ID: 500-145716-4 MS  
Matrix: Water  
Analysis Batch: 435221

Client Sample ID: MW-04  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	100		200	330		mg/L		113	75 - 125

Lab Sample ID: 500-145716-4 MSD  
Matrix: Water  
Analysis Batch: 435221

Client Sample ID: MW-04  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	100		200	285		mg/L		90	75 - 125	15	20

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-145716-1

**Client Sample ID: MW-01**

**Lab Sample ID: 500-145716-1**

**Date Collected: 05/17/18 15:15**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	433534	05/22/18 19:37	PJ1	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433393	05/21/18 22:46	FXG	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433604	05/22/18 17:05	FXG	TAL CHI
Total/NA	Prep	7470A			434080	05/25/18 12:35	EEN	TAL CHI
Total/NA	Analysis	7470A		1	434677	05/30/18 16:04	EEN	TAL CHI
Total/NA	Analysis	SM 2540C		1	433168	05/21/18 04:13	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	434300	05/28/18 18:53	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	434275	05/26/18 14:30	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	434591		CLB	TAL CHI
					(Start)	05/30/18 12:43		
					(End)	05/30/18 12:44		

**Client Sample ID: MW-02**

**Lab Sample ID: 500-145716-2**

**Date Collected: 05/15/18 09:05**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	433534	05/22/18 19:56	PJ1	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433393	05/21/18 23:12	FXG	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433604	05/22/18 17:24	FXG	TAL CHI
Total/NA	Prep	7470A			434080	05/25/18 12:35	EEN	TAL CHI
Total/NA	Analysis	7470A		1	434677	05/30/18 16:06	EEN	TAL CHI
Total/NA	Analysis	SM 2540C		1	433168	05/21/18 04:20	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	434300	05/28/18 18:54	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	434275	05/26/18 14:38	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	434591		CLB	TAL CHI
					(Start)	05/30/18 12:44		
					(End)	05/30/18 12:45		

**Client Sample ID: MW-03**

**Lab Sample ID: 500-145716-3**

**Date Collected: 05/15/18 11:00**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	433534	05/22/18 20:00	PJ1	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-145716-1

**Client Sample ID: MW-03**

**Lab Sample ID: 500-145716-3**

**Date Collected: 05/15/18 11:00**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		1	433393	05/21/18 23:16	FXG	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433604	05/22/18 17:28	FXG	TAL CHI
Total/NA	Prep	7470A			434080	05/25/18 12:35	EEN	TAL CHI
Total/NA	Analysis	7470A		1	434677	05/30/18 16:08	EEN	TAL CHI
Total/NA	Analysis	SM 2540C		1	433168	05/21/18 04:26	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	434300	05/28/18 18:55	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	434275	05/26/18 14:41	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	435221		CLB	TAL CHI
						(Start) 06/04/18 12:51		
						(End) 06/04/18 12:52		

**Client Sample ID: MW-04**

**Lab Sample ID: 500-145716-4**

**Date Collected: 05/15/18 12:11**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	433534	05/22/18 20:04	PJ1	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433393	05/21/18 23:20	FXG	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433604	05/22/18 17:32	FXG	TAL CHI
Total/NA	Prep	7470A			434080	05/25/18 12:35	EEN	TAL CHI
Total/NA	Analysis	7470A		1	434677	05/30/18 16:10	EEN	TAL CHI
Total/NA	Analysis	SM 2540C		1	433168	05/21/18 04:28	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	434300	05/28/18 18:56	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	434275	05/26/18 14:45	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	435221		CLB	TAL CHI
						(Start) 06/04/18 12:52		
						(End) 06/04/18 12:53		

**Client Sample ID: MW-05**

**Lab Sample ID: 500-145716-5**

**Date Collected: 05/15/18 13:31**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	433534	05/22/18 20:08	PJ1	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433393	05/21/18 23:24	FXG	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433604	05/22/18 17:44	FXG	TAL CHI

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-145716-1

**Client Sample ID: MW-05**

**Lab Sample ID: 500-145716-5**

**Date Collected: 05/15/18 13:31**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			434080	05/25/18 12:35	EEN	TAL CHI
Total/NA	Analysis	7470A		1	434677	05/30/18 16:23	EEN	TAL CHI
Total/NA	Analysis	SM 2540C		1	433168	05/21/18 04:31	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	434300	05/28/18 18:57	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	434275	05/26/18 14:48	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	435221		CLB	TAL CHI
					(Start)	06/04/18 12:55		
					(End)	06/04/18 12:56		

**Client Sample ID: MW-08**

**Lab Sample ID: 500-145716-6**

**Date Collected: 05/17/18 13:29**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	433534	05/22/18 20:12	PJ1	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433393	05/21/18 23:27	FXG	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	433604	05/22/18 17:47	FXG	TAL CHI
Total/NA	Prep	7470A			434080	05/25/18 12:35	EEN	TAL CHI
Total/NA	Analysis	7470A		1	434677	05/30/18 16:26	EEN	TAL CHI
Total/NA	Analysis	SM 2540C		1	433168	05/21/18 04:33	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	434300	05/28/18 18:58	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	434275	05/26/18 14:51	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	435221		CLB	TAL CHI
					(Start)	06/04/18 12:56		
					(End)	06/04/18 12:57		

**Client Sample ID: MW-09**

**Lab Sample ID: 500-145716-7**

**Date Collected: 05/16/18 10:19**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	433534	05/22/18 20:24	PJ1	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433393	05/21/18 23:31	FXG	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		20	433604	05/22/18 17:51	FXG	TAL CHI
Total/NA	Prep	7470A			434080	05/25/18 12:35	EEN	TAL CHI
Total/NA	Analysis	7470A		1	434677	05/30/18 16:28	EEN	TAL CHI
Total/NA	Analysis	SM 2540C		1	433168	05/21/18 04:36	CLB	TAL CHI



Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-09**

**Date Collected: 05/16/18 10:19**

**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-7**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	434300	05/28/18 19:01	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	434275	05/26/18 15:04	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	435221	06/04/18 12:57 (Start) 06/04/18 12:58 (End)	CLB	TAL CHI

**Client Sample ID: MW-10**

**Date Collected: 05/16/18 11:41**

**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-8**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	433534	05/22/18 20:28	PJ1	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433393	05/21/18 23:35	FXG	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433604	05/22/18 17:55	FXG	TAL CHI
Total/NA	Prep	7470A			434080	05/25/18 12:35	EEN	TAL CHI
Total/NA	Analysis	7470A		1	434677	05/30/18 16:30	EEN	TAL CHI
Total/NA	Analysis	SM 2540C		1	433168	05/21/18 04:39	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	434300	05/28/18 19:02	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	434275	05/26/18 15:07	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	435221	06/04/18 12:58 (Start) 06/04/18 12:59 (End)	CLB	TAL CHI

**Client Sample ID: MW-11**

**Date Collected: 05/16/18 13:01**

**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-9**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	433534	05/22/18 20:32	PJ1	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433393	05/21/18 23:39	FXG	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	433604	05/22/18 17:59	FXG	TAL CHI
Total/NA	Prep	7470A			434080	05/25/18 12:35	EEN	TAL CHI
Total/NA	Analysis	7470A		1	434677	05/30/18 16:33	EEN	TAL CHI
Total/NA	Analysis	SM 2540C		1	433168	05/21/18 04:41	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	434300	05/28/18 19:03	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	434275	05/26/18 15:10	EAT	TAL CHI

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-145716-1

**Client Sample ID: MW-11**

**Lab Sample ID: 500-145716-9**

Date Collected: 05/16/18 13:01

Matrix: Water

Date Received: 05/18/18 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 SO4 E		10	435221	06/04/18 13:01 06/04/18 13:02	CLB	TAL CHI

**Client Sample ID: MW-12**

**Lab Sample ID: 500-145716-10**

Date Collected: 05/16/18 14:41

Matrix: Water

Date Received: 05/18/18 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	433534	05/22/18 20:36	PJ1	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433393	05/21/18 23:43	FXG	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433604	05/22/18 18:03	FXG	TAL CHI
Total/NA	Prep	7470A			434080	05/25/18 12:35	EEN	TAL CHI
Total/NA	Analysis	7470A		1	434677	05/30/18 16:35	EEN	TAL CHI
Total/NA	Analysis	SM 2540C		1	433168	05/21/18 04:44	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	434300	05/28/18 19:21	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	434275	05/26/18 15:13	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		25	435221	06/04/18 13:02 06/04/18 13:03	CLB	TAL CHI

**Client Sample ID: MW-15**

**Lab Sample ID: 500-145716-11**

Date Collected: 05/17/18 11:58

Matrix: Water

Date Received: 05/18/18 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	433534	05/22/18 20:40	PJ1	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433393	05/21/18 23:54	FXG	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	433604	05/22/18 18:07	FXG	TAL CHI
Total/NA	Prep	7470A			434080	05/25/18 12:35	EEN	TAL CHI
Total/NA	Analysis	7470A		1	434677	05/30/18 16:37	EEN	TAL CHI
Total/NA	Analysis	SM 2540C		1	433168	05/21/18 04:46	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	434300	05/28/18 19:04	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	434275	05/26/18 15:16	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		25	435221	06/04/18 13:03 06/04/18 13:04	CLB	TAL CHI

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-17**

**Lab Sample ID: 500-145716-12**

**Date Collected: 05/14/18 14:51**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	433534	05/22/18 20:44	PJ1	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433393	05/21/18 23:58	FXG	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	433604	05/22/18 18:11	FXG	TAL CHI
Total/NA	Prep	7470A			434080	05/25/18 12:35	EEN	TAL CHI
Total/NA	Analysis	7470A		1	434677	05/30/18 16:44	EEN	TAL CHI
Total/NA	Analysis	SM 2540C		1	433168	05/21/18 04:49	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	434300	05/28/18 19:04	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	434275	05/26/18 15:19	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		25	435221		CLB	TAL CHI
						(Start) 06/04/18 13:04		
						(End) 06/04/18 13:05		

**Client Sample ID: MW-18**

**Lab Sample ID: 500-145716-13**

**Date Collected: 05/14/18 16:05**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	433534	05/22/18 20:48	PJ1	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433393	05/22/18 00:01	FXG	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433604	05/22/18 18:15	FXG	TAL CHI
Total/NA	Prep	7470A			434080	05/25/18 12:35	EEN	TAL CHI
Total/NA	Analysis	7470A		1	434677	05/30/18 16:46	EEN	TAL CHI
Total/NA	Analysis	SM 2540C		1	433168	05/21/18 04:51	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	434300	05/28/18 19:05	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	434275	05/26/18 15:22	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	435221		CLB	TAL CHI
						(Start) 06/04/18 13:05		
						(End) 06/04/18 13:06		

**Client Sample ID: MW-19**

**Lab Sample ID: 500-145716-14**

**Date Collected: 05/14/18 17:35**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	433534	05/22/18 20:52	PJ1	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-19**

**Lab Sample ID: 500-145716-14**

**Date Collected: 05/14/18 17:35**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		1	433393	05/22/18 00:05	FXG	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		20	433604	05/22/18 18:18	FXG	TAL CHI
Total/NA	Prep	7470A			434080	05/25/18 12:35	EEN	TAL CHI
Total/NA	Analysis	7470A		1	434677	05/30/18 16:49	EEN	TAL CHI
Total/NA	Analysis	SM 2540C		1	433168	05/21/18 04:54	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	434300	05/28/18 19:07	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	434275	05/26/18 15:25	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	435221		CLB	TAL CHI
						(Start) 06/04/18 13:06		
						(End) 06/04/18 13:07		

**Client Sample ID: Duplicate**

**Lab Sample ID: 500-145716-15**

**Date Collected: 05/14/18 00:00**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	433534	05/22/18 20:57	PJ1	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	433393	05/22/18 00:09	FXG	TAL CHI
Total Recoverable	Prep	3005A			433097	05/19/18 11:03	BDE	TAL CHI
Total Recoverable	Analysis	6020A		20	433604	05/22/18 18:33	FXG	TAL CHI
Total/NA	Prep	7470A			434080	05/25/18 12:35	EEN	TAL CHI
Total/NA	Analysis	7470A		1	434677	05/30/18 16:51	EEN	TAL CHI
Total/NA	Analysis	SM 2540C		1	433168	05/21/18 04:57	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	434300	05/28/18 19:22	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	434275	05/26/18 15:29	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	435221		CLB	TAL CHI
						(Start) 06/04/18 13:07		
						(End) 06/04/18 13:08		

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Laboratory: TestAmerica Chicago**

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-19

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THE LEADER IN ENVIRONMENTAL TESTING

**TestAmerica Chicago**  
2417 Bond St.  
University Park, IL 60484  
708-534-5200  
Fax: 708-534-5211

**Report To:**

Contact: Richard Gnat  
Company: KPRG and Associates, Inc  
Address: 14665 W. Lisbon Rd., Suite 2B  
Brookfield, WI 53005  
Phone: 262-781-0475  
Email: richardg@kprginc.com

**Bill To:**

Contact:  
Company:  
Address:  
Phone:  
Email:  
PO #:

Lab Lot # 500-145716  
Package Sealed: Yes  No  
Samples Sealed: Yes  No  
Received on Ice: Yes  No  
Samples Intact: Yes  No N/A  
Temperature °C of Cooler: 2.8, 2.1, 3.1, 3.9, 4.7

Sampler Name: Ian John Howieson		COMPANY: KPRG & Associates Inc.		# / Cont.	Volume											Within Hold Time	Preserv. Indicated					
Project Name: Quarterly- Powerton CCR		TestAmerica Project Number: 50011612		Preserv.												pH Check OK	Res-CL <sub>2</sub> Check OK					
Project Location: Pekin, IL		TAT 15 Days		Matrix	# of Cont											Sample Labels and COC Agree						
Lab PM: Eric Lang		eric.lang@testamerica.com														COC not present						
Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time		903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C - TDS	4500_F_C - Fluoride	SM4500_CL_E Chloride	SM4500_SO4_E - Sulfate											Additional Analyses / Remarks
12		MW-17	5-14-18	14:51	W 5	X	X	X	X	X	X											
13		MW-18	5-14-18	16:05	W 5	X	X	X	X	X	X											
14		MW-19	5-14-18	17:35	W 5	X	X	X	X	X	X											
15		Duplicates	5-14-18	--	W 5	X	X	X	X	X	X											

RELINQUISHED BY: <u>IJH</u>	COMPANY: KPRG	DATE: <u>5-18-18</u>	TIME: <u>17:20</u>	RECEIVED BY: <u>[Signature]</u>	COMPANY: <u>TA</u>	DATE: <u>5/18/18</u>	TIME: <u>1720</u>
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

**Matrix Key**  
 WW = Wastewater SE = Sediment  
 W = Water SO = Solid  
 S = Soil DL = Drum Liquid  
 SL = Sludge DS = Drum Solid  
 MS = Miscellaneous L = Leachate  
 OL = Oil W = Wipe  
 A = Air O = \_\_\_\_\_

**Container Key**  
 1. Plastic  
 2. VOA Vial  
 3. Sterile Plastic  
 4. Amber Glass  
 5. Widemouth Glass  
 6. Other

**Preservative Key**  
 1. HCl, Cool to 4°  
 2. H<sub>2</sub>SO<sub>4</sub>, Cool to 4°  
 3. HNO<sub>3</sub>, Cool to 4°  
 4. NaOH, Cool to 4°  
 5. NaOH/Zn, Cool to 4°  
 6. Cool to 4°  
 7. None

COMMENTS:

Date Received 05/18/18  
 Courier:  
 Hand Delivered   
 Bill of Lading:

2 of 2

STL-8208 (0600)

**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-145716-1

**Login Number: 145716**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Sanchez, Ariel M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1, 2.8, 3.1, 3.9, 4.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-145716-2

Client Project/Site: Powerton CCR

For:

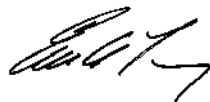
KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 2B

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

6/28/2018 1:30:40 PM

Eric Lang, Manager of Project Management

(708)534-5200

[eric.lang@testamericainc.com](mailto:eric.lang@testamericainc.com)



### LINKS

Review your project results through

**TotalAccess**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Case Narrative

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Job ID: 500-145716-2**

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative  
500-145716-2**

**Comments**

No additional comments.

**Receipt**

The samples were received on 5/18/2018 5:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 2.1° C, 2.8° C, 3.1° C, 3.9° C and 4.7° C.

**RAD**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

**Protocol References:**

- EPA = US Environmental Protection Agency
- None = None
- TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

**Laboratory References:**

- TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-145716-1	MW-01	Water	05/17/18 15:15	05/18/18 17:20
500-145716-2	MW-02	Water	05/15/18 09:05	05/18/18 17:20
500-145716-3	MW-03	Water	05/15/18 11:00	05/18/18 17:20
500-145716-4	MW-04	Water	05/15/18 12:11	05/18/18 17:20
500-145716-5	MW-05	Water	05/15/18 13:31	05/18/18 17:20
500-145716-6	MW-08	Water	05/17/18 13:29	05/18/18 17:20
500-145716-7	MW-09	Water	05/16/18 10:19	05/18/18 17:20
500-145716-8	MW-10	Water	05/16/18 11:41	05/18/18 17:20
500-145716-9	MW-11	Water	05/16/18 13:01	05/18/18 17:20
500-145716-10	MW-12	Water	05/16/18 14:41	05/18/18 17:20
500-145716-11	MW-15	Water	05/17/18 11:58	05/18/18 17:20
500-145716-12	MW-17	Water	05/14/18 14:51	05/18/18 17:20
500-145716-13	MW-18	Water	05/14/18 16:05	05/18/18 17:20
500-145716-14	MW-19	Water	05/14/18 17:35	05/18/18 17:20
500-145716-15	Duplicate	Water	05/14/18 00:00	05/18/18 17:20

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Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-01**  
**Date Collected: 05/17/18 15:15**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-1**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.109	U	0.143	0.143	1.00	0.238	pCi/L	05/29/18 11:58	06/20/18 10:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.2		40 - 110					05/29/18 11:58	06/20/18 10:42	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.244	U	0.243	0.244	1.00	0.396	pCi/L	05/29/18 13:22	06/19/18 10:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.2		40 - 110					05/29/18 13:22	06/19/18 10:52	1
Y Carrier	87.1		40 - 110					05/29/18 13:22	06/19/18 10:52	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.353	U	0.282	0.283	5.00	0.396	pCi/L		06/23/18 19:42	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-02**  
**Date Collected: 05/15/18 09:05**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-2**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0490	U	0.132	0.132	1.00	0.244	pCi/L	05/29/18 11:58	06/20/18 10:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					05/29/18 11:58	06/20/18 10:42	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0624	U	0.224	0.224	1.00	0.408	pCi/L	05/29/18 13:22	06/19/18 10:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					05/29/18 13:22	06/19/18 10:52	1
Y Carrier	84.5		40 - 110					05/29/18 13:22	06/19/18 10:52	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0134	U	0.260	0.260	5.00	0.408	pCi/L		06/23/18 19:42	1



Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-03**  
**Date Collected: 05/15/18 11:00**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-3**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0740	U	0.146	0.146	1.00	0.262	pCi/L	05/29/18 11:58	06/20/18 10:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.5		40 - 110					05/29/18 11:58	06/20/18 10:43	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.326	U	0.302	0.303	1.00	0.489	pCi/L	05/29/18 13:22	06/19/18 10:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.5		40 - 110					05/29/18 13:22	06/19/18 10:52	1
Y Carrier	80.7		40 - 110					05/29/18 13:22	06/19/18 10:52	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.400	U	0.335	0.336	5.00	0.489	pCi/L		06/23/18 19:42	1



Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-04**  
**Date Collected: 05/15/18 12:11**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-4**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.243	U	0.188	0.190	1.00	0.273	pCi/L	05/29/18 11:58	06/20/18 10:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					05/29/18 11:58	06/20/18 10:43	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.418		0.270	0.273	1.00	0.417	pCi/L	05/29/18 13:22	06/19/18 10:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					05/29/18 13:22	06/19/18 10:52	1
Y Carrier	81.5		40 - 110					05/29/18 13:22	06/19/18 10:52	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.661		0.329	0.333	5.00	0.417	pCi/L		06/23/18 19:42	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-05**  
**Date Collected: 05/15/18 13:31**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-5**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0476	U	0.142	0.142	1.00	0.266	pCi/L	05/29/18 11:58	06/20/18 10:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.3		40 - 110					05/29/18 11:58	06/20/18 10:43	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.337	U	0.248	0.250	1.00	0.390	pCi/L	05/29/18 13:22	06/19/18 10:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.3		40 - 110					05/29/18 13:22	06/19/18 10:52	1
Y Carrier	86.0		40 - 110					05/29/18 13:22	06/19/18 10:52	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.385	U	0.286	0.288	5.00	0.390	pCi/L		06/23/18 19:42	1



Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-08**  
**Date Collected: 05/17/18 13:29**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-6**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.323		0.210	0.212	1.00	0.285	pCi/L	05/29/18 11:58	06/20/18 10:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.5		40 - 110					05/29/18 11:58	06/20/18 10:43	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.333	U	0.265	0.267	1.00	0.420	pCi/L	05/29/18 13:22	06/19/18 10:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.5		40 - 110					05/29/18 13:22	06/19/18 10:53	1
Y Carrier	87.9		40 - 110					05/29/18 13:22	06/19/18 10:53	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.655		0.338	0.341	5.00	0.420	pCi/L		06/23/18 19:42	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-09**  
**Date Collected: 05/16/18 10:19**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-7**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.103	U	0.141	0.142	1.00	0.238	pCi/L	05/29/18 11:58	06/20/18 10:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					05/29/18 11:58	06/20/18 10:43	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.235	U	0.259	0.260	1.00	0.424	pCi/L	05/29/18 13:22	06/19/18 10:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					05/29/18 13:22	06/19/18 10:53	1
Y Carrier	87.1		40 - 110					05/29/18 13:22	06/19/18 10:53	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.338	U	0.295	0.296	5.00	0.424	pCi/L		06/23/18 19:42	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-145716-2

**Client Sample ID: MW-10**  
**Date Collected: 05/16/18 11:41**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-8**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.780		0.259	0.268	1.00	0.251	pCi/L	05/29/18 11:58	06/20/18 10:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					05/29/18 11:58	06/20/18 10:43	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.766		0.289	0.297	1.00	0.400	pCi/L	05/29/18 13:22	06/19/18 10:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					05/29/18 13:22	06/19/18 10:53	1
Y Carrier	83.0		40 - 110					05/29/18 13:22	06/19/18 10:53	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.55		0.388	0.400	5.00	0.400	pCi/L		06/23/18 19:42	1

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample Results**

**Client Sample ID: MW-11**  
**Date Collected: 05/16/18 13:01**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-9**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.625		0.234	0.241	1.00	0.235	pCi/L	05/29/18 11:58	06/20/18 10:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					05/29/18 11:58	06/20/18 10:43	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.497		0.263	0.267	1.00	0.395	pCi/L	05/29/18 13:22	06/19/18 10:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					05/29/18 13:22	06/19/18 10:53	1
Y Carrier	88.6		40 - 110					05/29/18 13:22	06/19/18 10:53	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.12		0.352	0.360	5.00	0.395	pCi/L		06/23/18 19:42	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-12**  
**Date Collected: 05/16/18 14:41**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-10**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.690		0.255	0.263	1.00	0.263	pCi/L	05/29/18 11:58	06/20/18 10:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		40 - 110					05/29/18 11:58	06/20/18 10:43	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0505	U	0.229	0.229	1.00	0.401	pCi/L	05/29/18 13:22	06/19/18 10:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		40 - 110					05/29/18 13:22	06/19/18 10:53	1
Y Carrier	88.2		40 - 110					05/29/18 13:22	06/19/18 10:53	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.741		0.343	0.349	5.00	0.401	pCi/L		06/23/18 19:42	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-15**  
**Date Collected: 05/17/18 11:58**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-11**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.172	U	0.154	0.154	1.00	0.232	pCi/L	05/29/18 11:58	06/20/18 13:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.6		40 - 110					05/29/18 11:58	06/20/18 13:17	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.226	U	0.217	0.218	1.00	0.351	pCi/L	05/29/18 13:22	06/19/18 10:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.6		40 - 110					05/29/18 13:22	06/19/18 10:53	1
Y Carrier	85.6		40 - 110					05/29/18 13:22	06/19/18 10:53	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.397		0.266	0.267	5.00	0.351	pCi/L		06/23/18 19:42	1



Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-17**  
**Date Collected: 05/14/18 14:51**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-12**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.27		0.316	0.336	1.00	0.250	pCi/L	05/29/18 11:58	06/20/18 13:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					05/29/18 11:58	06/20/18 13:17	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.755		0.284	0.292	1.00	0.398	pCi/L	05/29/18 13:22	06/19/18 10:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					05/29/18 13:22	06/19/18 10:53	1
Y Carrier	92.3		40 - 110					05/29/18 13:22	06/19/18 10:53	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.03		0.425	0.445	5.00	0.398	pCi/L		06/23/18 19:42	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-18**  
**Date Collected: 05/14/18 16:05**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-13**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.332		0.189	0.192	1.00	0.244	pCi/L	05/29/18 11:58	06/20/18 12:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					05/29/18 11:58	06/20/18 12:47	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.309	U	0.206	0.208	1.00	0.317	pCi/L	05/29/18 13:22	06/19/18 10:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					05/29/18 13:22	06/19/18 10:57	1
Y Carrier	87.5		40 - 110					05/29/18 13:22	06/19/18 10:57	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.641		0.280	0.283	5.00	0.317	pCi/L		06/23/18 19:42	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-145716-2

**Client Sample ID: MW-19**  
**Date Collected: 05/14/18 17:35**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-14**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.235	U	0.173	0.174	1.00	0.246	pCi/L	05/29/18 11:58	06/20/18 12:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					05/29/18 11:58	06/20/18 12:47	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.326		0.193	0.195	1.00	0.288	pCi/L	05/29/18 13:22	06/19/18 10:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					05/29/18 13:22	06/19/18 10:57	1
Y Carrier	88.2		40 - 110					05/29/18 13:22	06/19/18 10:57	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.562		0.259	0.261	5.00	0.288	pCi/L		06/23/18 19:42	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: Duplicate**  
**Date Collected: 05/14/18 00:00**  
**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-15**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.193	U	0.166	0.166	1.00	0.249	pCi/L	05/29/18 11:58	06/20/18 12:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					05/29/18 11:58	06/20/18 12:47	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.404		0.210	0.213	1.00	0.307	pCi/L	05/29/18 13:22	06/19/18 10:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					05/29/18 13:22	06/19/18 10:57	1
Y Carrier	87.5		40 - 110					05/29/18 13:22	06/19/18 10:57	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.597		0.268	0.270	5.00	0.307	pCi/L		06/23/18 19:42	1

Definitions/Glossary

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Qualifiers**

**Rad**

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

**Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Rad**

**Prep Batch: 367843**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-1	MW-01	Total/NA	Water	PrecSep-21	
500-145716-2	MW-02	Total/NA	Water	PrecSep-21	
500-145716-3	MW-03	Total/NA	Water	PrecSep-21	
500-145716-4	MW-04	Total/NA	Water	PrecSep-21	
500-145716-5	MW-05	Total/NA	Water	PrecSep-21	
500-145716-6	MW-08	Total/NA	Water	PrecSep-21	
500-145716-7	MW-09	Total/NA	Water	PrecSep-21	
500-145716-8	MW-10	Total/NA	Water	PrecSep-21	
500-145716-9	MW-11	Total/NA	Water	PrecSep-21	
500-145716-10	MW-12	Total/NA	Water	PrecSep-21	
500-145716-11	MW-15	Total/NA	Water	PrecSep-21	
500-145716-12	MW-17	Total/NA	Water	PrecSep-21	
500-145716-13	MW-18	Total/NA	Water	PrecSep-21	
500-145716-14	MW-19	Total/NA	Water	PrecSep-21	
500-145716-15	Duplicate	Total/NA	Water	PrecSep-21	
MB 160-367843/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-367843/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
500-145716-10 DU	MW-12	Total/NA	Water	PrecSep-21	

**Prep Batch: 367857**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-145716-1	MW-01	Total/NA	Water	PrecSep_0	
500-145716-2	MW-02	Total/NA	Water	PrecSep_0	
500-145716-3	MW-03	Total/NA	Water	PrecSep_0	
500-145716-4	MW-04	Total/NA	Water	PrecSep_0	
500-145716-5	MW-05	Total/NA	Water	PrecSep_0	
500-145716-6	MW-08	Total/NA	Water	PrecSep_0	
500-145716-7	MW-09	Total/NA	Water	PrecSep_0	
500-145716-8	MW-10	Total/NA	Water	PrecSep_0	
500-145716-9	MW-11	Total/NA	Water	PrecSep_0	
500-145716-10	MW-12	Total/NA	Water	PrecSep_0	
500-145716-11	MW-15	Total/NA	Water	PrecSep_0	
500-145716-12	MW-17	Total/NA	Water	PrecSep_0	
500-145716-13	MW-18	Total/NA	Water	PrecSep_0	
500-145716-14	MW-19	Total/NA	Water	PrecSep_0	
500-145716-15	Duplicate	Total/NA	Water	PrecSep_0	
MB 160-367857/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-367857/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
500-145716-10 DU	MW-12	Total/NA	Water	PrecSep_0	



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-145716-2

**Method: 903.0 - Radium-226 (GFPC)**

Lab Sample ID: MB 160-367843/23-A  
Matrix: Water  
Analysis Batch: 371317

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 367843

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1840	U	0.137	0.138	1.00	0.195	pCi/L	05/29/18 11:58	06/20/18 12:44	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					05/29/18 11:58	06/20/18 12:44	1

Lab Sample ID: LCS 160-367843/1-A  
Matrix: Water  
Analysis Batch: 371320

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 367843

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.8	11.82		1.37	1.00	0.215	pCi/L	100	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	107		40 - 110						

Lab Sample ID: 500-145716-10 DU  
Matrix: Water  
Analysis Batch: 371320

Client Sample ID: MW-12  
Prep Type: Total/NA  
Prep Batch: 367843

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.690		0.4100		0.198	1.00	0.223	pCi/L	0.61	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	97.1		40 - 110							

**Method: 904.0 - Radium-228 (GFPC)**

Lab Sample ID: MB 160-367857/23-A  
Matrix: Water  
Analysis Batch: 371107

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 367857

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.05875	U	0.188	0.188	1.00	0.328	pCi/L	05/29/18 13:22	06/19/18 10:59	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					05/29/18 13:22	06/19/18 10:59	1
Y Carrier	87.9		40 - 110					05/29/18 13:22	06/19/18 10:59	1

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-367857/1-A  
Matrix: Water  
Analysis Batch: 371219

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 367857

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	8.21	7.721		0.925	1.00	0.422	pCi/L	94	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	107		40 - 110
Y Carrier	84.5		40 - 110

Lab Sample ID: 500-145716-10 DU  
Matrix: Water  
Analysis Batch: 371219

Client Sample ID: MW-12  
Prep Type: Total/NA  
Prep Batch: 367857

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.0505	U	0.1106	U	0.228	1.00	0.388	pCi/L	0.13	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	97.1		40 - 110
Y Carrier	82.6		40 - 110



Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-01**

**Date Collected: 05/17/18 15:15**

**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-1**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			367843	05/29/18 11:58	TJT	TAL SL
Total/NA	Analysis	903.0		1	371320	06/20/18 10:42	KLS	TAL SL
Total/NA	Prep	PrecSep_0			367857	05/29/18 13:22	TJT	TAL SL
Total/NA	Analysis	904.0		1	371219	06/19/18 10:52	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	372130	06/23/18 19:42	RTM	TAL SL

**Client Sample ID: MW-02**

**Date Collected: 05/15/18 09:05**

**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-2**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			367843	05/29/18 11:58	TJT	TAL SL
Total/NA	Analysis	903.0		1	371320	06/20/18 10:42	KLS	TAL SL
Total/NA	Prep	PrecSep_0			367857	05/29/18 13:22	TJT	TAL SL
Total/NA	Analysis	904.0		1	371219	06/19/18 10:52	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	372130	06/23/18 19:42	RTM	TAL SL

**Client Sample ID: MW-03**

**Date Collected: 05/15/18 11:00**

**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-3**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			367843	05/29/18 11:58	TJT	TAL SL
Total/NA	Analysis	903.0		1	371320	06/20/18 10:43	KLS	TAL SL
Total/NA	Prep	PrecSep_0			367857	05/29/18 13:22	TJT	TAL SL
Total/NA	Analysis	904.0		1	371219	06/19/18 10:52	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	372130	06/23/18 19:42	RTM	TAL SL

**Client Sample ID: MW-04**

**Date Collected: 05/15/18 12:11**

**Date Received: 05/18/18 17:20**

**Lab Sample ID: 500-145716-4**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			367843	05/29/18 11:58	TJT	TAL SL
Total/NA	Analysis	903.0		1	371320	06/20/18 10:43	KLS	TAL SL
Total/NA	Prep	PrecSep_0			367857	05/29/18 13:22	TJT	TAL SL
Total/NA	Analysis	904.0		1	371219	06/19/18 10:52	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	372130	06/23/18 19:42	RTM	TAL SL

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-145716-2

**Client Sample ID: MW-05**

**Lab Sample ID: 500-145716-5**

**Date Collected: 05/15/18 13:31**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			367843	05/29/18 11:58	TJT	TAL SL
Total/NA	Analysis	903.0		1	371320	06/20/18 10:43	KLS	TAL SL
Total/NA	Prep	PrecSep_0			367857	05/29/18 13:22	TJT	TAL SL
Total/NA	Analysis	904.0		1	371219	06/19/18 10:52	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	372130	06/23/18 19:42	RTM	TAL SL

**Client Sample ID: MW-08**

**Lab Sample ID: 500-145716-6**

**Date Collected: 05/17/18 13:29**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			367843	05/29/18 11:58	TJT	TAL SL
Total/NA	Analysis	903.0		1	371320	06/20/18 10:43	KLS	TAL SL
Total/NA	Prep	PrecSep_0			367857	05/29/18 13:22	TJT	TAL SL
Total/NA	Analysis	904.0		1	371219	06/19/18 10:53	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	372130	06/23/18 19:42	RTM	TAL SL

**Client Sample ID: MW-09**

**Lab Sample ID: 500-145716-7**

**Date Collected: 05/16/18 10:19**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			367843	05/29/18 11:58	TJT	TAL SL
Total/NA	Analysis	903.0		1	371320	06/20/18 10:43	KLS	TAL SL
Total/NA	Prep	PrecSep_0			367857	05/29/18 13:22	TJT	TAL SL
Total/NA	Analysis	904.0		1	371219	06/19/18 10:53	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	372130	06/23/18 19:42	RTM	TAL SL

**Client Sample ID: MW-10**

**Lab Sample ID: 500-145716-8**

**Date Collected: 05/16/18 11:41**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			367843	05/29/18 11:58	TJT	TAL SL
Total/NA	Analysis	903.0		1	371320	06/20/18 10:43	KLS	TAL SL
Total/NA	Prep	PrecSep_0			367857	05/29/18 13:22	TJT	TAL SL
Total/NA	Analysis	904.0		1	371219	06/19/18 10:53	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	372130	06/23/18 19:42	RTM	TAL SL

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-145716-2

**Client Sample ID: MW-11**

**Lab Sample ID: 500-145716-9**

**Date Collected: 05/16/18 13:01**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			367843	05/29/18 11:58	TJT	TAL SL
Total/NA	Analysis	903.0		1	371320	06/20/18 10:43	KLS	TAL SL
Total/NA	Prep	PrecSep_0			367857	05/29/18 13:22	TJT	TAL SL
Total/NA	Analysis	904.0		1	371219	06/19/18 10:53	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	372130	06/23/18 19:42	RTM	TAL SL

**Client Sample ID: MW-12**

**Lab Sample ID: 500-145716-10**

**Date Collected: 05/16/18 14:41**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			367843	05/29/18 11:58	TJT	TAL SL
Total/NA	Analysis	903.0		1	371320	06/20/18 10:43	KLS	TAL SL
Total/NA	Prep	PrecSep_0			367857	05/29/18 13:22	TJT	TAL SL
Total/NA	Analysis	904.0		1	371219	06/19/18 10:53	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	372130	06/23/18 19:42	RTM	TAL SL

**Client Sample ID: MW-15**

**Lab Sample ID: 500-145716-11**

**Date Collected: 05/17/18 11:58**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			367843	05/29/18 11:58	TJT	TAL SL
Total/NA	Analysis	903.0		1	371320	06/20/18 13:17	KLS	TAL SL
Total/NA	Prep	PrecSep_0			367857	05/29/18 13:22	TJT	TAL SL
Total/NA	Analysis	904.0		1	371219	06/19/18 10:53	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	372130	06/23/18 19:42	RTM	TAL SL

**Client Sample ID: MW-17**

**Lab Sample ID: 500-145716-12**

**Date Collected: 05/14/18 14:51**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			367843	05/29/18 11:58	TJT	TAL SL
Total/NA	Analysis	903.0		1	371320	06/20/18 13:17	KLS	TAL SL
Total/NA	Prep	PrecSep_0			367857	05/29/18 13:22	TJT	TAL SL
Total/NA	Analysis	904.0		1	371219	06/19/18 10:53	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	372130	06/23/18 19:42	RTM	TAL SL

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-18**

**Lab Sample ID: 500-145716-13**

**Date Collected: 05/14/18 16:05**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			367843	05/29/18 11:58	TJT	TAL SL
Total/NA	Analysis	903.0		1	371320	06/20/18 12:47	KLS	TAL SL
Total/NA	Prep	PrecSep_0			367857	05/29/18 13:22	TJT	TAL SL
Total/NA	Analysis	904.0		1	371132	06/19/18 10:57	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	372130	06/23/18 19:42	RTM	TAL SL

**Client Sample ID: MW-19**

**Lab Sample ID: 500-145716-14**

**Date Collected: 05/14/18 17:35**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			367843	05/29/18 11:58	TJT	TAL SL
Total/NA	Analysis	903.0		1	371320	06/20/18 12:47	KLS	TAL SL
Total/NA	Prep	PrecSep_0			367857	05/29/18 13:22	TJT	TAL SL
Total/NA	Analysis	904.0		1	371132	06/19/18 10:57	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	372130	06/23/18 19:42	RTM	TAL SL

**Client Sample ID: Duplicate**

**Lab Sample ID: 500-145716-15**

**Date Collected: 05/14/18 00:00**

**Matrix: Water**

**Date Received: 05/18/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			367843	05/29/18 11:58	TJT	TAL SL
Total/NA	Analysis	903.0		1	371320	06/20/18 12:47	KLS	TAL SL
Total/NA	Prep	PrecSep_0			367857	05/29/18 13:22	TJT	TAL SL
Total/NA	Analysis	904.0		1	371132	06/19/18 10:57	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	372130	06/23/18 19:42	RTM	TAL SL

**Laboratory References:**

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Laboratory: TestAmerica Chicago**

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-19

**Laboratory: TestAmerica St. Louis**

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200023	11-30-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
903.0	PrecSep-21	Water	Radium-226
904.0	PrecSep_0	Water	Radium-228
Ra226_Ra228		Water	Combined Radium 226 + 228



**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

**TestAmerica Chicago**  
2417 Bond St.  
University Park, IL 60484  
708-534-5200  
Fax: 708-534-5211

**Report To:**

Contact: Richard Gnat  
Company: KPRG and Associates, Inc  
Address: 14665 W. Lisbon Rd., Suite 2B  
Brookfield, WI 53005  
Phone: 262-781-0475  
Email: richardg@kprginc.com

**Bill To:**

Contact: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: 500-145716 COC  
PO #: \_\_\_\_\_



Lab Lot # 500-145716  
Package Sealed: Yes  No   
Samples Sealed: Yes  No   
Received on Ice: Yes  No   
Samples Intact: Yes  No  N/A

Temperature °C of Cooler  
3, 9, 47, 31, 21, 28

Sampler Name:		COMPANY:		# / Cont.												Within Hold Time		Preserv. Indicated				
Ian John Howieson		KPRG & Associates Inc.		Volume												Yes No		Yes No N/A				
Project Name:		TestAmerica Project Number:		Preserv.												pH Check OK		Res. CL <sub>2</sub> Check OK				
Quarterly- Powerton CCR		50011612														Yes No		Yes No N/A				
Project Location:		TAT		Matrix		# of Cont												Sample Labels and COC Agree				
Pekin, IL		15 Days																Yes No COC not present				
Lab PM:		eric.lang@testamerica.com																Additional Analyses / Remarks				
Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time			903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_CL_E Chloride	SM4500_SO4_E - Sulfate										
1		MW-01	5-17-18	15:15	W	5	X	X	X	X	X	X										
2		MW-02	5-15-18	09:05	W	5	X	X	X	X	X	X										
3		MW-03	5-15-18	11:00	W	5	X	X	X	X	X	X										
4		MW-04	5-15-18	12:11	W	5	X	X	X	X	X	X										
5		MW-05	5-15-18	13:31	W	5	X	X	X	X	X	X										
6		MW-08	5-17-18	13:29	W	5	X	X	X	X	X	X										
7		MW-09	5-16-18	10:19	W	5	X	X	X	X	X	X										
8		MW-10	5-16-18	11:41	W	5	X	X	X	X	X	X										
9		MW-11	5-16-18	13:01	W	5	X	X	X	X	X	X										
10		MW-12	5-16-18	14:41	W	5	X	X	X	X	X	X										
11		MW-15	5-17-18	11:58	W	5	X	X	X	X	X	X										

RELINQUISHED BY: IJH	COMPANY: KPRG	DATE: 5-18-18	TIME: 17:20	RECEIVED BY: [Signature]	COMPANY: TA	DATE: 5/18/18	TIME: 1720
RELINQUISHED BY: [Signature]	COMPANY: _____	DATE: _____	TIME: _____	RECEIVED BY: _____	COMPANY: _____	DATE: _____	TIME: _____

**Matrix Key**  
 WW = Wastewater SE = Sediment  
 W = Water SO = Solid  
 S = Soil DL = Drum Liquid  
 SL = Sludge DS = Drum Solid  
 MS = Miscellaneous L = Leachate  
 OL = Oil W = Wipe  
 A = Air O = \_\_\_\_\_

**Container Key**  
 1. Plastic  
 2. VOA Vial  
 3. Sterile Plastic  
 4. Amber Glass  
 5. Widemouth Glass  
 6. Other

**Preservative Key**  
 1. HCl, Cool to 4°  
 2. H<sub>2</sub>SO<sub>4</sub>, Cool to 4°  
 3. HNO<sub>3</sub>, Cool to 4°  
 4. NaOH, Cool to 4°  
 5. NaOH/Zn, Cool to 4°  
 6. Cool to 4°  
 7. None

COMMENTS:

Date Received: 05, 18, 18  
 Courier:  
 Hand Delivered   
 Bill of Lading:

STL-8208 (0600)



**TestAmerica Chicago**  
2417 Bond St.  
University Park, IL 60484  
708-534-5200  
Fax: 708-534-5211

<b>Report To:</b> Contact: Richard Gnat Company: KPRG and Associates, Inc Address: 14665 W. Lisbon Rd., Suite 2B Brookfield, WI 53005 Phone: 262-781-0475 Email: richardg@kprginc.com	<b>Bill To:</b> Contact: Company: Address: Phone: Email: PO #:	<b>Lab Lot #</b> 500-145716 <b>Package Sealed</b> Yes No <b>Samples Sealed</b> Yes No <b>Received on Ice</b> Yes No <b>Samples Intact</b> Yes No N/A <b>Temperature °C of Cooler</b> 2.8, 2.1, 3.1, 3.9, 4.7
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<b>Sampler Name:</b> Ian John Howieson	<b>COMPANY:</b> KPRG & Associates Inc.	<b># / Cont.</b>																<b>Within Hold Time</b> Yes No <b>Preserv. Indicated</b> Yes No N/A
<b>Project Name:</b> Quarterly- Powerton CCR	<b>TestAmerica Project Number:</b> 50011612	<b>Volume</b>																<b>pH Check OK</b> Yes No <b>Res-CL<sub>2</sub> Check OK</b> Yes No N/A
<b>Project Location:</b> Pekin, IL	<b>TAT</b> 15 Days	<b>Preserv.</b>																<b>Sample Labels and COC Agree</b> Yes No <b>COC not present</b>
<b>Lab PM:</b> Eric Lang	eric.lang@testamerica.com	<b>Matrix</b>																<b>Additional Analyses / Remarks</b>
<b>Laboratory ID</b>	<b>Client Sample ID</b>	<b># of Cont</b>																

<b>RELINQUISHED BY:</b> IJH	<b>COMPANY:</b> KPRG	<b>DATE:</b> 5-18-18	<b>TIME:</b> 17:20	<b>RECEIVED BY:</b> <i>[Signature]</i>	<b>COMPANY:</b> TA	<b>DATE:</b> 5/18/18	<b>TIME:</b> 1720
<b>RELINQUISHED BY:</b>	<b>COMPANY:</b>	<b>DATE:</b>	<b>TIME:</b>	<b>RECEIVED BY:</b>	<b>COMPANY:</b>	<b>DATE:</b>	<b>TIME:</b>

- |  |   |  |
|--|---|--|
| <b>Matrix Key</b>  | <b>Container Key</b>  | <b>Preservative Key</b>  |
| WW = Wastewater<br>W = Water<br>S = Soil<br>SL = Sludge<br>MS = Miscellaneous<br>OL = Oil<br>A = Air | SE = Sediment<br>SO = Solid<br>DL = Drum Liquid<br>DS = Drum Solid<br>L = Leachate<br>W = Wipe<br>O = _____ | 1. Plastic<br>2. VOA Vial<br>3. Sterile Plastic<br>4. Amber Glass<br>5. Widemouth Glass<br>6. Other<br>7. None   |
|  |   | 1. HCl, Cool to 4°<br>2. H <sub>2</sub> SO <sub>4</sub> , Cool to 4°<br>3. HNO <sub>3</sub> , Cool to 4°<br>4. NaOH, Cool to 4°<br>5. NaOH/Zn, Cool to 4°<br>6. Cool to 4° |

<b>COMMENTS:</b>	<b>Date</b> Received 05/18/18 <b>Courier:</b> <b>Hand Delivered</b> <input checked="" type="checkbox"/> <b>Bill of Lading:</b>
------------------	--

Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b> Company: TestAmerica Laboratories, Inc. Address: 13715 Rider Trail North, Earth City, MO 63045 Phone: 314-298-8566(Tel) 314-298-8757(Fax) Email:		Lab PM: Lang, Eric A. E-Mail: eric.lang@testamericainc.com Carrier Tracking No(s): State of Origin: Illinois	
Project Name: Powerton CCR Site: MWG - Powerton		Job #: 500-145716-2 Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Due Date Requested: 6/19/2018 TAT Requested (days):		Accreditations Required (See note): NELAP - Illinois	
PO #: WO #: Project #: 50011612 SSOW#:		Analysis Requested	
<b>Sample Identification - Client ID (Lab ID)</b>		Total Number of Containers	
MW-01 (500-145716-1)	Sample Date: 5/17/18 Sample Time: 15:15 Central	Field Filtered Sample (Yes or No): Perform MS/MSD (Yes or No): 903.0/PreSep. 21 Standard Target List 904.0/PreSep. 0 Standard Target List	3 Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCIMs
MW-02 (500-145716-2)	Sample Date: 5/15/18 Sample Time: 09:05 Central	Field Filtered Sample (Yes or No): Perform MS/MSD (Yes or No): 903.0/PreSep. 21 Standard Target List 904.0/PreSep. 0 Standard Target List	3 Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCIMs
MW-03 (500-145716-3)	Sample Date: 5/15/18 Sample Time: 11:00 Central	Field Filtered Sample (Yes or No): Perform MS/MSD (Yes or No): 903.0/PreSep. 21 Standard Target List 904.0/PreSep. 0 Standard Target List	3 Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCIMs
MW-04 (500-145716-4)	Sample Date: 5/15/18 Sample Time: 12:11 Central	Field Filtered Sample (Yes or No): Perform MS/MSD (Yes or No): 903.0/PreSep. 21 Standard Target List 904.0/PreSep. 0 Standard Target List	3 Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCIMs
MW-05 (500-145716-5)	Sample Date: 5/15/18 Sample Time: 13:31 Central	Field Filtered Sample (Yes or No): Perform MS/MSD (Yes or No): 903.0/PreSep. 21 Standard Target List 904.0/PreSep. 0 Standard Target List	3 Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCIMs
MW-08 (500-145716-6)	Sample Date: 5/17/18 Sample Time: 13:29 Central	Field Filtered Sample (Yes or No): Perform MS/MSD (Yes or No): 903.0/PreSep. 21 Standard Target List 904.0/PreSep. 0 Standard Target List	3 Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCIMs
MW-09 (500-145716-7)	Sample Date: 5/16/18 Sample Time: 10:19 Central	Field Filtered Sample (Yes or No): Perform MS/MSD (Yes or No): 903.0/PreSep. 21 Standard Target List 904.0/PreSep. 0 Standard Target List	3 Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCIMs
MW-10 (500-145716-8)	Sample Date: 5/16/18 Sample Time: 11:41 Central	Field Filtered Sample (Yes or No): Perform MS/MSD (Yes or No): 903.0/PreSep. 21 Standard Target List 904.0/PreSep. 0 Standard Target List	3 Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCIMs
MW-11 (500-145716-9)	Sample Date: 5/16/18 Sample Time: 13:01 Central	Field Filtered Sample (Yes or No): Perform MS/MSD (Yes or No): 903.0/PreSep. 21 Standard Target List 904.0/PreSep. 0 Standard Target List	3 Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCIMs
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.			
<b>Possible Hazard Identification</b> Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)			
Empty Kit Relinquished by:			
Relinquished by: [Signature] Date/Time: 5/21/18 13:15 Company: [Company]			
Relinquished by: [Signature] Date/Time: 5/21/18 13:15 Company: [Company]			
Relinquished by: [Signature] Date/Time: 5/21/18 13:15 Company: [Company]			
Custody Seals Intact: Δ Yes Δ No			
Custody Seal No.:			



**Chain of Custody Record**

<b>Client Information (Sub Contract Lab)</b>		Lab PM: Lang, Eric A.	Carrier Tracking No(s): 500-104744-2									
Client Contact: Shipping/Receiving		E-Mail: eric.lang@testamericainc.com	Page: Page 2 of 2									
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois	Job #: 500-145716-2									
Address: 13715 Rider Trail North, Earth City State: Zn MO, 63045		Due Date Requested: 6/19/2018	Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)									
Phone: 314-298-9566(Tel) 314-298-8757(Fax)		TAT Requested (days):	Analysis Requested									
Email:		PO #:	Analysis Requested									
Project Name: Powerton CCR		WO #:	Analysis Requested									
Site: MWG - Powerton		Project #: 50011612	Analysis Requested									
		SSOW#:	Analysis Requested									
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewat, AN=tissue, A=air)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreSep_21 Standard Target List	904.0/PreSep_0 Standard Target List	Ra226Ra228 GPPC	Total Number of Containers	Special Instructions/Note:
MW-12 (500-145716-10)	5/16/18	14:41 Central	Water	Water	X	X	X	X	X		3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-15 (500-145716-11)	5/17/18	11:58 Central	Water	Water	X	X	X	X	X		3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-17 (500-145716-12)	5/14/18	14:51 Central	Water	Water	X	X	X	X	X		3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-18 (500-145716-13)	5/14/18	16:05 Central	Water	Water	X	X	X	X	X		3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-19 (500-145716-14)	5/14/18	17:35 Central	Water	Water	X	X	X	X	X		3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
Duplicate (500-145716-15)	5/14/18	Central	Water	Water	X	X	X	X	X		3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
<p>Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte &amp; accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I</p>												
<p><b>Possible Hazard Identification</b>                  Unconfirmed                  Deliverable Requested: I, II, III, IV, Other (specify)                  Primary Deliverable Rank: 2</p>												
<p>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months</p>												
<p>Special Instructions/QC Requirements:</p>												
<p>Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____</p>												
<p>Relinquished by: _____ Date/Time: 5/21/18 13:15 Company: <i>Windsor Power</i></p>												
<p>Relinquished by: _____ Date/Time: _____ Company: _____</p>												
<p>Relinquished by: _____ Date/Time: _____ Company: _____</p>												
<p>Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: _____</p>												



**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-145716-2

**Login Number: 145716**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Sanchez, Ariel M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1, 2.8, 3.1, 3.9, 4.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-145716-2

**Login Number: 145716**

**List Number: 2**

**Creator: Press, Nicholas B**

**List Source: TestAmerica St. Louis**

**List Creation: 05/22/18 11:08 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	12
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-145716-2

**Login Number: 145716**

**List Source: TestAmerica St. Louis**

**List Number: 3**

**List Creation: 05/22/18 11:23 AM**

**Creator: Press, Nicholas B**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	12
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Method: 903.0 - Radium-226 (GFPC)**

**Matrix: Water**

**Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Ba Carrier (40-110)	Percent Yield (Acceptance Limits)			
500-145716-1	MW-01	98.2				
500-145716-2	MW-02	100				
500-145716-3	MW-03	96.5				
500-145716-4	MW-04	93.2				
500-145716-5	MW-05	95.3				
500-145716-6	MW-08	85.5				
500-145716-7	MW-09	92.9				
500-145716-8	MW-10	95.9				
500-145716-9	MW-11	95.0				
500-145716-10	MW-12	93.8				
500-145716-10 DU	MW-12	97.1				
500-145716-11	MW-15	97.6				
500-145716-12	MW-17	92.9				
500-145716-13	MW-18	103				
500-145716-14	MW-19	104				
500-145716-15	Duplicate	101				
LCS 160-367843/1-A	Lab Control Sample	107				
MB 160-367843/23-A	Method Blank	103				

**Tracer/Carrier Legend**

Ba Carrier = Ba Carrier

**Method: 904.0 - Radium-228 (GFPC)**

**Matrix: Water**

**Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Ba Carrier (40-110)	Y Carrier (40-110)	Percent Yield (Acceptance Limits)			
500-145716-1	MW-01	98.2	87.1				
500-145716-2	MW-02	100	84.5				
500-145716-3	MW-03	96.5	80.7				
500-145716-4	MW-04	93.2	81.5				
500-145716-5	MW-05	95.3	86.0				
500-145716-6	MW-08	85.5	87.9				
500-145716-7	MW-09	92.9	87.1				
500-145716-8	MW-10	95.9	83.0				
500-145716-9	MW-11	95.0	88.6				
500-145716-10	MW-12	93.8	88.2				
500-145716-10 DU	MW-12	97.1	82.6				
500-145716-11	MW-15	97.6	85.6				
500-145716-12	MW-17	92.9	92.3				
500-145716-13	MW-18	103	87.5				
500-145716-14	MW-19	104	88.2				
500-145716-15	Duplicate	101	87.5				
LCS 160-367857/1-A	Lab Control Sample	107	84.5				
MB 160-367857/23-A	Method Blank	103	87.9				

**Tracer/Carrier Legend**

Ba Carrier = Ba Carrier

Y Carrier = Y Carrier

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-149809-1

Client Project/Site: Powerton CCR

For:

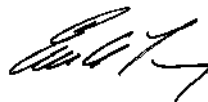
KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 1A

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

8/24/2018 2:41:29 PM

Eric Lang, Manager of Project Management

(708)534-5200

[eric.lang@testamericainc.com](mailto:eric.lang@testamericainc.com)



### LINKS

Review your project results through

**TotalAccess**

Have a Question?



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[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Job ID: 500-149809-1**

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative  
500-149809-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 8/10/2018 4:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 3.6° C, 3.7° C, 5.2° C, 5.4° C and 6.0° C.

**Metals**

Method(s) 6020A: The internal standard Terbium (Tb) was used to report the elements Lead and Thallium in batch 500-445195. This was due to the LCS being spiked with the trace digestion spike which contains Bismuth

Method(s) 6020A: The CCV at line 63 and CCVL at line 38, associated with batch 500-445195 recovered above the upper control limit for Beryllium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.





Detection Summary

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-1

Client Sample ID: MW-01

Lab Sample ID: 500-149809-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.051		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.14		0.050		mg/L	1		6020A	Total Recoverable
Calcium	86		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	430		10		mg/L	1		SM 2540C	Total/NA
Chloride	48		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.13		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	43		10		mg/L	2		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-02

Lab Sample ID: 500-149809-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0016		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.067		0.0025		mg/L	1		6020A	Total Recoverable
Boron	1.5		0.25		mg/L	5		6020A	Total Recoverable
Calcium	89		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	530		10		mg/L	1		SM 2540C	Total/NA
Chloride	54		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.15		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	51		25		mg/L	5		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-03

Lab Sample ID: 500-149809-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0015		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.067		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.40		0.050		mg/L	1		6020A	Total Recoverable
Calcium	82		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	500		10		mg/L	1		SM 2540C	Total/NA
Chloride	67		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.22		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	49		25		mg/L	5		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-04

Lab Sample ID: 500-149809-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0011		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.031		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.79		0.050		mg/L	1		6020A	Total Recoverable
Calcium	84		0.20		mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-1

Client Sample ID: MW-04 (Continued)

Lab Sample ID: 500-149809-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	0.0060		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	510		10		mg/L	1		SM 2540C	Total/NA
Chloride	71		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.32		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	49		25		mg/L	5		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-05

Lab Sample ID: 500-149809-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.054		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.49		0.050		mg/L	1		6020A	Total Recoverable
Calcium	110		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.0069		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	890		10		mg/L	1		SM 2540C	Total/NA
Chloride	120		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.32		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	180		50		mg/L	10		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-08

Lab Sample ID: 500-149809-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0055		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.071		0.0025		mg/L	1		6020A	Total Recoverable
Boron	1.1		0.25		mg/L	5		6020A	Total Recoverable
Calcium	140		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.019		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1200		10		mg/L	1		SM 2540C	Total/NA
Chloride	270		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.32		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	190		50		mg/L	10		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-09

Lab Sample ID: 500-149809-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.037		0.0025		mg/L	1		6020A	Total Recoverable
Boron	4.3		1.0		mg/L	20		6020A	Total Recoverable
Calcium	86		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.032		0.0050		mg/L	1		6020A	Total Recoverable
Selenium	0.0078		0.0025		mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-1

**Client Sample ID: MW-09 (Continued)**

**Lab Sample ID: 500-149809-7**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	690		10		mg/L	1		SM 2540C	Total/NA
Chloride	39		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.14		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	180		50		mg/L	10		SM 4500 SO4 E	Total/NA

**Client Sample ID: MW-10**

**Lab Sample ID: 500-149809-8**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0012		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.22		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.39		0.050		mg/L	1		6020A	Total Recoverable
Calcium	99		0.20		mg/L	1		6020A	Total Recoverable
Cobalt	0.014		0.0010		mg/L	1		6020A	Total Recoverable
Lead	0.00079		0.00050		mg/L	1		6020A	Total Recoverable
Selenium	0.0062		0.0025		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	550		10		mg/L	1		SM 2540C	Total/NA
Chloride	58		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.19		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	60		20		mg/L	4		SM 4500 SO4 E	Total/NA

**Client Sample ID: MW-11**

**Lab Sample ID: 500-149809-9**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.68		0.0010		mg/L	1		6020A	Total Recoverable
Barium	3.0		0.0025		mg/L	1		6020A	Total Recoverable
Boron	1.4		0.50		mg/L	10		6020A	Total Recoverable
Cadmium	0.00082		0.00050		mg/L	1		6020A	Total Recoverable
Calcium	160		0.20		mg/L	1		6020A	Total Recoverable
Cobalt	0.0053		0.0010		mg/L	1		6020A	Total Recoverable
Lead	0.0012		0.00050		mg/L	1		6020A	Total Recoverable
Molybdenum	0.013		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1000		10		mg/L	1		SM 2540C	Total/NA
Chloride	120		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.65		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	220		50		mg/L	10		SM 4500 SO4 E	Total/NA

**Client Sample ID: MW-12**

**Lab Sample ID: 500-149809-10**

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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Client Sample ID: MW-12 (Continued)

Lab Sample ID: 500-149809-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.12		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.15		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.61		0.050		mg/L	1		6020A	Total Recoverable
Cadmium	0.00084		0.00050		mg/L	1		6020A	Total Recoverable
Calcium	120		0.20		mg/L	1		6020A	Total Recoverable
Lead	0.00072		0.00050		mg/L	1		6020A	Total Recoverable
Molybdenum	0.026		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1300		10		mg/L	1		SM 2540C	Total/NA
Chloride	190		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.44		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	480		100		mg/L	20		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-15

Lab Sample ID: 500-149809-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.026		0.010		mg/L	1		6010C	Total Recoverable
Arsenic	0.0083		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.048		0.0025		mg/L	1		6020A	Total Recoverable
Boron	2.3		0.50		mg/L	10		6020A	Total Recoverable
Calcium	200		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.033		0.0050		mg/L	1		6020A	Total Recoverable
Selenium	0.060		0.0025		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1700		10		mg/L	1		SM 2540C	Total/NA
Chloride	200		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.48		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	520		130		mg/L	25		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-17

Lab Sample ID: 500-149809-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.019		0.010		mg/L	1		6010C	Total Recoverable
Arsenic	0.087		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.055		0.0025		mg/L	1		6020A	Total Recoverable
Boron	1.3		0.50		mg/L	10		6020A	Total Recoverable
Cadmium	0.00094		0.00050		mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-1

Client Sample ID: MW-17 (Continued)

Lab Sample ID: 500-149809-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	170		0.20		mg/L	1		6020A	Total Recoverable
Cobalt	0.0015		0.0010		mg/L	1		6020A	Total Recoverable
Molybdenum	0.084		0.0050		mg/L	1		6020A	Total Recoverable
Thallium	0.0023		0.0020		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1600		10		mg/L	1		SM 2540C	Total/NA
Chloride	230		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.60		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	620		250		mg/L	50		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-18

Lab Sample ID: 500-149809-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.013		0.010		mg/L	1		6010C	Total Recoverable
Barium	0.12		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.58		0.050		mg/L	1		6020A	Total Recoverable
Calcium	120		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.0052		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1100		10		mg/L	1		SM 2540C	Total/NA
Chloride	230		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.57		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	270		50		mg/L	10		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-19

Lab Sample ID: 500-149809-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.078		0.0025		mg/L	1		6020A	Total Recoverable
Boron	3.8		1.0		mg/L	20		6020A	Total Recoverable
Calcium	100		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.032		0.0050		mg/L	1		6020A	Total Recoverable
Selenium	0.0052		0.0025		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	720		10		mg/L	1		SM 2540C	Total/NA
Chloride	37		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.13		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	170		50		mg/L	10		SM 4500 SO4 E	Total/NA

Client Sample ID: Duplicate

Lab Sample ID: 500-149809-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0014		0.0010		mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

Client Sample ID: Duplicate (Continued)

Lab Sample ID: 500-149809-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.067		0.0025		mg/L	1		6020A	Total Recoverable
Boron	1.6		0.50		mg/L	10		6020A	Total Recoverable
Calcium	91		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	560		10		mg/L	1		SM 2540C	Total/NA
Chloride	55		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.14		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	70		20		mg/L	4		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.



Method Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI
7470A	Preparation, Mercury	SW846	TAL CHI

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



Sample Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

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 TestAmerica Job ID: 500-149809-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-149809-1	MW-01	Water	08/08/18 09:49	08/10/18 16:50
500-149809-2	MW-02	Water	08/07/18 09:30	08/10/18 16:50
500-149809-3	MW-03	Water	08/07/18 10:54	08/10/18 16:50
500-149809-4	MW-04	Water	08/07/18 12:27	08/10/18 16:50
500-149809-5	MW-05	Water	08/07/18 13:30	08/10/18 16:50
500-149809-6	MW-08	Water	08/08/18 11:11	08/10/18 16:50
500-149809-7	MW-09	Water	08/08/18 12:46	08/10/18 16:50
500-149809-8	MW-10	Water	08/08/18 14:44	08/10/18 16:50
500-149809-9	MW-11	Water	08/09/18 14:03	08/10/18 16:50
500-149809-10	MW-12	Water	08/09/18 15:46	08/10/18 16:50
500-149809-11	MW-15	Water	08/09/18 11:42	08/10/18 16:50
500-149809-12	MW-17	Water	08/06/18 14:41	08/10/18 16:50
500-149809-13	MW-18	Water	08/06/18 15:46	08/10/18 16:50
500-149809-14	MW-19	Water	08/06/18 16:48	08/10/18 16:50
500-149809-15	Duplicate	Water	08/07/18 00:00	08/10/18 16:50

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Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-1

**Client Sample ID: MW-01**  
**Date Collected: 08/08/18 09:49**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-1**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/11/18 12:28	08/13/18 14:08	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 14:01	1
Arsenic	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 14:01	1
Barium	0.051		0.0025		mg/L		08/11/18 12:28	08/13/18 14:01	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 14:01	1
Boron	0.14		0.050		mg/L		08/11/18 12:28	08/13/18 16:41	1
Cadmium	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:01	1
Calcium	86		0.20		mg/L		08/11/18 12:28	08/13/18 14:01	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:01	1
Cobalt	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 14:01	1
Lead	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:01	1
Molybdenum	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:01	1
Selenium	<0.0025		0.0025		mg/L		08/11/18 12:28	08/13/18 14:01	1
Thallium	<0.0020		0.0020		mg/L		08/11/18 12:28	08/13/18 14:01	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 10:30	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	430		10		mg/L			08/12/18 22:38	1
Chloride	48		2.0		mg/L			08/20/18 14:07	1
Fluoride	0.13		0.10		mg/L			08/13/18 18:53	1
Sulfate	43		10		mg/L			08/15/18 05:38	2

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-1

**Client Sample ID: MW-02**  
**Date Collected: 08/07/18 09:30**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-2**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/11/18 12:28	08/13/18 14:12	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 14:04	1
Arsenic	<b>0.0016</b>		0.0010		mg/L		08/11/18 12:28	08/13/18 14:04	1
Barium	<b>0.067</b>		0.0025		mg/L		08/11/18 12:28	08/13/18 14:04	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 14:04	1
Boron	<b>1.5</b>		0.25		mg/L		08/11/18 12:28	08/13/18 16:45	5
Cadmium	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:04	1
Calcium	<b>89</b>		0.20		mg/L		08/11/18 12:28	08/13/18 14:04	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:04	1
Cobalt	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 14:04	1
Lead	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:04	1
Molybdenum	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:04	1
Selenium	<0.0025		0.0025		mg/L		08/11/18 12:28	08/13/18 14:04	1
Thallium	<0.0020		0.0020		mg/L		08/11/18 12:28	08/13/18 14:04	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 10:36	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<b>530</b>		10		mg/L			08/12/18 22:43	1
Chloride	<b>54</b>		2.0		mg/L			08/20/18 14:08	1
Fluoride	<b>0.15</b>		0.10		mg/L			08/13/18 18:57	1
Sulfate	<b>51</b>		25		mg/L			08/15/18 05:39	5

**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-1

**Client Sample ID: MW-03**  
**Date Collected: 08/07/18 10:54**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-3**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/11/18 12:28	08/13/18 14:16	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 14:08	1
<b>Arsenic</b>	<b>0.0015</b>		0.0010		mg/L		08/11/18 12:28	08/13/18 14:08	1
<b>Barium</b>	<b>0.067</b>		0.0025		mg/L		08/11/18 12:28	08/13/18 14:08	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 14:08	1
<b>Boron</b>	<b>0.40</b>		0.050		mg/L		08/11/18 12:28	08/13/18 16:48	1
Cadmium	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:08	1
<b>Calcium</b>	<b>82</b>		0.20		mg/L		08/11/18 12:28	08/13/18 14:08	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:08	1
Cobalt	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 14:08	1
Lead	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:08	1
Molybdenum	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:08	1
Selenium	<0.0025		0.0025		mg/L		08/11/18 12:28	08/13/18 14:08	1
Thallium	<0.0020		0.0020		mg/L		08/11/18 12:28	08/13/18 14:08	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 10:38	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>500</b>		10		mg/L			08/12/18 22:46	1
<b>Chloride</b>	<b>67</b>		10		mg/L			08/20/18 14:42	5
<b>Fluoride</b>	<b>0.22</b>		0.10		mg/L			08/13/18 19:00	1
<b>Sulfate</b>	<b>49</b>		25		mg/L			08/15/18 05:42	5

**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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**Client Sample ID: MW-04**  
**Date Collected: 08/07/18 12:27**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-4**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/11/18 12:28	08/13/18 14:20	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 14:12	1
<b>Arsenic</b>	<b>0.0011</b>		0.0010		mg/L		08/11/18 12:28	08/13/18 14:12	1
<b>Barium</b>	<b>0.031</b>		0.0025		mg/L		08/11/18 12:28	08/13/18 14:12	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 14:12	1
<b>Boron</b>	<b>0.79</b>		0.050		mg/L		08/11/18 12:28	08/13/18 16:52	1
Cadmium	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:12	1
<b>Calcium</b>	<b>84</b>		0.20		mg/L		08/11/18 12:28	08/13/18 14:12	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:12	1
Cobalt	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 14:12	1
Lead	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:12	1
<b>Molybdenum</b>	<b>0.0060</b>		0.0050		mg/L		08/11/18 12:28	08/13/18 14:12	1
Selenium	<0.0025		0.0025		mg/L		08/11/18 12:28	08/13/18 14:12	1
Thallium	<0.0020		0.0020		mg/L		08/11/18 12:28	08/13/18 14:12	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 10:39	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>510</b>		10		mg/L			08/12/18 22:48	1
<b>Chloride</b>	<b>71</b>		2.0		mg/L			08/20/18 14:10	1
<b>Fluoride</b>	<b>0.32</b>		0.10		mg/L			08/13/18 19:03	1
<b>Sulfate</b>	<b>49</b>		25		mg/L			08/15/18 05:43	5

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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**Client Sample ID: MW-05**  
**Date Collected: 08/07/18 13:30**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-5**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/11/18 12:28	08/13/18 14:23	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 14:16	1
Arsenic	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 14:16	1
Barium	<b>0.054</b>		0.0025		mg/L		08/11/18 12:28	08/13/18 14:16	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 14:16	1
Boron	<b>0.49</b>		0.050		mg/L		08/11/18 12:28	08/13/18 16:56	1
Cadmium	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:16	1
Calcium	<b>110</b>		0.20		mg/L		08/11/18 12:28	08/13/18 14:16	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:16	1
Cobalt	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 14:16	1
Lead	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:16	1
Molybdenum	<b>0.0069</b>		0.0050		mg/L		08/11/18 12:28	08/13/18 14:16	1
Selenium	<0.0025		0.0025		mg/L		08/11/18 12:28	08/13/18 14:16	1
Thallium	<0.0020		0.0020		mg/L		08/11/18 12:28	08/13/18 14:16	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 10:41	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<b>890</b>		10		mg/L			08/12/18 22:51	1
Chloride	<b>120</b>		10		mg/L			08/20/18 14:11	5
Fluoride	<b>0.32</b>		0.10		mg/L			08/13/18 19:06	1
Sulfate	<b>180</b>		50		mg/L			08/15/18 05:44	10

Client Sample Results

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**Client Sample ID: MW-08**  
**Date Collected: 08/08/18 11:11**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-6**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/11/18 12:28	08/13/18 14:27	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 14:19	1
<b>Arsenic</b>	<b>0.0055</b>		0.0010		mg/L		08/11/18 12:28	08/13/18 14:19	1
<b>Barium</b>	<b>0.071</b>		0.0025		mg/L		08/11/18 12:28	08/13/18 14:19	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 14:19	1
<b>Boron</b>	<b>1.1</b>		0.25		mg/L		08/11/18 12:28	08/13/18 17:00	5
Cadmium	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:19	1
<b>Calcium</b>	<b>140</b>		0.20		mg/L		08/11/18 12:28	08/13/18 14:19	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:19	1
Cobalt	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 14:19	1
Lead	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:19	1
<b>Molybdenum</b>	<b>0.019</b>		0.0050		mg/L		08/11/18 12:28	08/13/18 14:19	1
Selenium	<0.0025		0.0025		mg/L		08/11/18 12:28	08/13/18 14:19	1
Thallium	<0.0020		0.0020		mg/L		08/11/18 12:28	08/13/18 14:19	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 10:43	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>1200</b>		10		mg/L			08/12/18 22:54	1
<b>Chloride</b>	<b>270</b>		10		mg/L			08/20/18 14:12	5
<b>Fluoride</b>	<b>0.32</b>		0.10		mg/L			08/13/18 19:10	1
<b>Sulfate</b>	<b>190</b>		50		mg/L			08/15/18 05:45	10

Client Sample Results

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**Client Sample ID: MW-09**  
**Date Collected: 08/08/18 12:46**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-7**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/11/18 12:28	08/13/18 14:32	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 14:34	1
Arsenic	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 14:34	1
<b>Barium</b>	<b>0.037</b>		0.0025		mg/L		08/11/18 12:28	08/13/18 14:34	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 14:34	1
<b>Boron</b>	<b>4.3</b>		1.0		mg/L		08/11/18 12:28	08/13/18 17:03	20
Cadmium	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:34	1
<b>Calcium</b>	<b>86</b>		0.20		mg/L		08/11/18 12:28	08/13/18 14:34	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:34	1
Cobalt	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 14:34	1
Lead	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:34	1
<b>Molybdenum</b>	<b>0.032</b>		0.0050		mg/L		08/11/18 12:28	08/13/18 14:34	1
<b>Selenium</b>	<b>0.0078</b>		0.0025		mg/L		08/11/18 12:28	08/13/18 14:34	1
Thallium	<0.0020		0.0020		mg/L		08/11/18 12:28	08/13/18 14:34	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 10:44	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>690</b>		10		mg/L			08/12/18 22:56	1
<b>Chloride</b>	<b>39</b>		2.0		mg/L			08/20/18 14:16	1
<b>Fluoride</b>	<b>0.14</b>		0.10		mg/L			08/13/18 19:13	1
<b>Sulfate</b>	<b>180</b>		50		mg/L			08/15/18 05:46	10

Client Sample Results

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**Client Sample ID: MW-10**  
**Date Collected: 08/08/18 14:44**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-8**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/11/18 12:28	08/13/18 14:36	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 14:38	1
Arsenic	<b>0.0012</b>		0.0010		mg/L		08/11/18 12:28	08/13/18 14:38	1
Barium	<b>0.22</b>		0.0025		mg/L		08/11/18 12:28	08/13/18 14:38	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 14:38	1
Boron	<b>0.39</b>		0.050		mg/L		08/11/18 12:28	08/13/18 17:07	1
Cadmium	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:38	1
Calcium	<b>99</b>		0.20		mg/L		08/11/18 12:28	08/13/18 14:38	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:38	1
Cobalt	<b>0.014</b>		0.0010		mg/L		08/11/18 12:28	08/13/18 14:38	1
Lead	<b>0.00079</b>		0.00050		mg/L		08/11/18 12:28	08/13/18 14:38	1
Molybdenum	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:38	1
Selenium	<b>0.0062</b>		0.0025		mg/L		08/11/18 12:28	08/13/18 14:38	1
Thallium	<0.0020		0.0020		mg/L		08/11/18 12:28	08/13/18 14:38	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 10:46	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<b>550</b>		10		mg/L			08/12/18 22:59	1
Chloride	<b>58</b>		2.0		mg/L			08/20/18 14:18	1
Fluoride	<b>0.19</b>		0.10		mg/L			08/23/18 16:03	1
Sulfate	<b>60</b>		20		mg/L			08/15/18 05:47	4



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**Client Sample ID: MW-11**  
**Date Collected: 08/09/18 14:03**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-9**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/11/18 12:28	08/13/18 14:40	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 14:42	1
<b>Arsenic</b>	<b>0.68</b>		0.0010		mg/L		08/11/18 12:28	08/13/18 14:42	1
<b>Barium</b>	<b>3.0</b>		0.0025		mg/L		08/11/18 12:28	08/13/18 14:42	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 14:42	1
<b>Boron</b>	<b>1.4</b>		0.50		mg/L		08/11/18 12:28	08/13/18 17:19	10
<b>Cadmium</b>	<b>0.00082</b>		0.00050		mg/L		08/11/18 12:28	08/13/18 14:42	1
<b>Calcium</b>	<b>160</b>		0.20		mg/L		08/11/18 12:28	08/13/18 14:42	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:42	1
<b>Cobalt</b>	<b>0.0053</b>		0.0010		mg/L		08/11/18 12:28	08/13/18 14:42	1
<b>Lead</b>	<b>0.0012</b>		0.00050		mg/L		08/11/18 12:28	08/13/18 14:42	1
<b>Molybdenum</b>	<b>0.013</b>		0.0050		mg/L		08/11/18 12:28	08/13/18 14:42	1
Selenium	<0.0025		0.0025		mg/L		08/11/18 12:28	08/13/18 14:42	1
Thallium	<0.0020		0.0020		mg/L		08/11/18 12:28	08/13/18 14:42	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 10:57	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>1000</b>		10		mg/L			08/12/18 23:01	1
<b>Chloride</b>	<b>120</b>		10		mg/L			08/20/18 14:19	5
<b>Fluoride</b>	<b>0.65</b>		0.10		mg/L			08/23/18 16:06	1
<b>Sulfate</b>	<b>220</b>		50		mg/L			08/15/18 05:48	10

**Client Sample Results**

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**Client Sample ID: MW-12**  
**Date Collected: 08/09/18 15:46**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-10**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/11/18 12:28	08/13/18 14:56	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 14:46	1
<b>Arsenic</b>	<b>0.12</b>		0.0010		mg/L		08/11/18 12:28	08/13/18 14:46	1
<b>Barium</b>	<b>0.15</b>		0.0025		mg/L		08/11/18 12:28	08/13/18 14:46	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 14:46	1
<b>Boron</b>	<b>0.61</b>		0.050		mg/L		08/11/18 12:28	08/13/18 17:22	1
<b>Cadmium</b>	<b>0.00084</b>		0.00050		mg/L		08/11/18 12:28	08/13/18 14:46	1
<b>Calcium</b>	<b>120</b>		0.20		mg/L		08/11/18 12:28	08/13/18 14:46	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:46	1
Cobalt	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 14:46	1
<b>Lead</b>	<b>0.00072</b>		0.00050		mg/L		08/11/18 12:28	08/13/18 14:46	1
<b>Molybdenum</b>	<b>0.026</b>		0.0050		mg/L		08/11/18 12:28	08/13/18 14:46	1
Selenium	<0.0025		0.0025		mg/L		08/11/18 12:28	08/13/18 14:46	1
Thallium	<0.0020		0.0020		mg/L		08/11/18 12:28	08/13/18 14:46	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 10:59	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>1300</b>		10		mg/L			08/12/18 23:04	1
<b>Chloride</b>	<b>190</b>		10		mg/L			08/20/18 14:20	5
<b>Fluoride</b>	<b>0.44</b>		0.10		mg/L			08/23/18 16:09	1
<b>Sulfate</b>	<b>480</b>		100		mg/L			08/15/18 05:49	20

Client Sample Results

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**Client Sample ID: MW-15**  
**Date Collected: 08/09/18 11:42**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-11**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.026		0.010		mg/L		08/11/18 12:28	08/13/18 15:00	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 14:49	1
Arsenic	0.0083		0.0010		mg/L		08/11/18 12:28	08/13/18 14:49	1
Barium	0.048		0.0025		mg/L		08/11/18 12:28	08/13/18 14:49	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 14:49	1
Boron	2.3		0.50		mg/L		08/11/18 12:28	08/13/18 17:26	10
Cadmium	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:49	1
Calcium	200		0.20		mg/L		08/11/18 12:28	08/13/18 14:49	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:49	1
Cobalt	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 14:49	1
Lead	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:49	1
Molybdenum	0.033		0.0050		mg/L		08/11/18 12:28	08/13/18 14:49	1
Selenium	0.060		0.0025		mg/L		08/11/18 12:28	08/13/18 14:49	1
Thallium	<0.0020		0.0020		mg/L		08/11/18 12:28	08/13/18 14:49	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 11:00	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1700		10		mg/L			08/12/18 23:06	1
Chloride	200		10		mg/L			08/20/18 14:20	5
Fluoride	0.48		0.10		mg/L			08/23/18 16:12	1
Sulfate	520		130		mg/L			08/15/18 05:50	25

Client Sample Results

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**Client Sample ID: MW-17**  
**Date Collected: 08/06/18 14:41**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-12**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.019		0.010		mg/L		08/11/18 12:28	08/13/18 15:04	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 14:53	1
Arsenic	0.087		0.0010		mg/L		08/11/18 12:28	08/13/18 14:53	1
Barium	0.055		0.0025		mg/L		08/11/18 12:28	08/13/18 14:53	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 14:53	1
Boron	1.3		0.50		mg/L		08/11/18 12:28	08/13/18 17:30	10
Cadmium	0.00094		0.00050		mg/L		08/11/18 12:28	08/13/18 14:53	1
Calcium	170		0.20		mg/L		08/11/18 12:28	08/13/18 14:53	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:53	1
Cobalt	0.0015		0.0010		mg/L		08/11/18 12:28	08/13/18 14:53	1
Lead	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:53	1
Molybdenum	0.084		0.0050		mg/L		08/11/18 12:28	08/13/18 14:53	1
Selenium	<0.0025		0.0025		mg/L		08/11/18 12:28	08/13/18 14:53	1
Thallium	0.0023		0.0020		mg/L		08/11/18 12:28	08/13/18 14:53	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 11:02	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1600		10		mg/L			08/12/18 23:09	1
Chloride	230		10		mg/L			08/20/18 14:21	5
Fluoride	0.60		0.10		mg/L			08/23/18 16:24	1
Sulfate	620		250		mg/L			08/15/18 05:51	50

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-1

**Client Sample ID: MW-18**  
**Date Collected: 08/06/18 15:46**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-13**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.013		0.010		mg/L		08/11/18 12:28	08/13/18 15:08	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 14:57	1
Arsenic	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 14:57	1
Barium	0.12		0.0025		mg/L		08/11/18 12:28	08/13/18 14:57	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 14:57	1
Boron	0.58		0.050		mg/L		08/11/18 12:28	08/13/18 17:34	1
Cadmium	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:57	1
Calcium	120		0.20		mg/L		08/11/18 12:28	08/13/18 14:57	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 14:57	1
Cobalt	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 14:57	1
Lead	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 14:57	1
Molybdenum	0.0052		0.0050		mg/L		08/11/18 12:28	08/13/18 14:57	1
Selenium	<0.0025		0.0025		mg/L		08/11/18 12:28	08/13/18 14:57	1
Thallium	<0.0020		0.0020		mg/L		08/11/18 12:28	08/13/18 14:57	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 11:03	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1100		10		mg/L			08/12/18 23:12	1
Chloride	230		10		mg/L			08/20/18 14:21	5
Fluoride	0.57		0.10		mg/L			08/23/18 16:32	1
Sulfate	270		50		mg/L			08/22/18 05:36	10

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-1

**Client Sample ID: MW-19**  
**Date Collected: 08/06/18 16:48**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-14**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/11/18 12:28	08/13/18 15:12	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 15:01	1
Arsenic	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 15:01	1
Barium	<b>0.078</b>		0.0025		mg/L		08/11/18 12:28	08/13/18 15:01	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 15:01	1
Boron	<b>3.8</b>		1.0		mg/L		08/11/18 12:28	08/13/18 17:38	20
Cadmium	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 15:01	1
Calcium	<b>100</b>		0.20		mg/L		08/11/18 12:28	08/13/18 15:01	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 15:01	1
Cobalt	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 15:01	1
Lead	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 15:01	1
Molybdenum	<b>0.032</b>		0.0050		mg/L		08/11/18 12:28	08/13/18 15:01	1
Selenium	<b>0.0052</b>		0.0025		mg/L		08/11/18 12:28	08/13/18 15:01	1
Thallium	<0.0020		0.0020		mg/L		08/11/18 12:28	08/13/18 15:01	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 11:05	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<b>720</b>		10		mg/L			08/12/18 23:14	1
Chloride	<b>37</b>		2.0		mg/L			08/20/18 14:43	1
Fluoride	<b>0.13</b>		0.10		mg/L			08/23/18 16:45	1
Sulfate	<b>170</b>		50		mg/L			08/22/18 05:37	10

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-1

**Client Sample ID: Duplicate**  
**Date Collected: 08/07/18 00:00**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-15**  
**Matrix: Water**

**Method: 6010C - Metals (ICP) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/11/18 12:28	08/13/18 15:16	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 15:05	1
Arsenic	<b>0.0014</b>		0.0010		mg/L		08/11/18 12:28	08/13/18 15:05	1
Barium	<b>0.067</b>		0.0025		mg/L		08/11/18 12:28	08/13/18 15:05	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 15:05	1
Boron	<b>1.6</b>		0.50		mg/L		08/11/18 12:28	08/13/18 17:41	10
Cadmium	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 15:05	1
Calcium	<b>91</b>		0.20		mg/L		08/11/18 12:28	08/13/18 15:05	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 15:05	1
Cobalt	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 15:05	1
Lead	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 15:05	1
Molybdenum	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 15:05	1
Selenium	<0.0025		0.0025		mg/L		08/11/18 12:28	08/13/18 15:05	1
Thallium	<0.0020		0.0020		mg/L		08/11/18 12:28	08/13/18 15:05	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 11:06	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<b>560</b>		10		mg/L			08/12/18 23:17	1
Chloride	<b>55</b>		2.0		mg/L			08/20/18 14:24	1
Fluoride	<b>0.14</b>		0.10		mg/L			08/23/18 16:49	1
Sulfate	<b>70</b>		20		mg/L			08/22/18 05:40	4

Definitions/Glossary

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Qualifiers**

**Metals**

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

**Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Metals**

**Prep Batch: 445039**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-1	MW-01	Total Recoverable	Water	3005A	
500-149809-2	MW-02	Total Recoverable	Water	3005A	
500-149809-3	MW-03	Total Recoverable	Water	3005A	
500-149809-4	MW-04	Total Recoverable	Water	3005A	
500-149809-5	MW-05	Total Recoverable	Water	3005A	
500-149809-6	MW-08	Total Recoverable	Water	3005A	
500-149809-7	MW-09	Total Recoverable	Water	3005A	
500-149809-8	MW-10	Total Recoverable	Water	3005A	
500-149809-9	MW-11	Total Recoverable	Water	3005A	
500-149809-10	MW-12	Total Recoverable	Water	3005A	
500-149809-11	MW-15	Total Recoverable	Water	3005A	
500-149809-12	MW-17	Total Recoverable	Water	3005A	
500-149809-13	MW-18	Total Recoverable	Water	3005A	
500-149809-14	MW-19	Total Recoverable	Water	3005A	
500-149809-15	Duplicate	Total Recoverable	Water	3005A	
MB 500-445039/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-445039/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

**Analysis Batch: 445195**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-1	MW-01	Total Recoverable	Water	6020A	445039
500-149809-2	MW-02	Total Recoverable	Water	6020A	445039
500-149809-3	MW-03	Total Recoverable	Water	6020A	445039
500-149809-4	MW-04	Total Recoverable	Water	6020A	445039
500-149809-5	MW-05	Total Recoverable	Water	6020A	445039
500-149809-6	MW-08	Total Recoverable	Water	6020A	445039
500-149809-7	MW-09	Total Recoverable	Water	6020A	445039
500-149809-8	MW-10	Total Recoverable	Water	6020A	445039
500-149809-9	MW-11	Total Recoverable	Water	6020A	445039
500-149809-10	MW-12	Total Recoverable	Water	6020A	445039
500-149809-11	MW-15	Total Recoverable	Water	6020A	445039
500-149809-12	MW-17	Total Recoverable	Water	6020A	445039
500-149809-13	MW-18	Total Recoverable	Water	6020A	445039
500-149809-14	MW-19	Total Recoverable	Water	6020A	445039
500-149809-15	Duplicate	Total Recoverable	Water	6020A	445039
MB 500-445039/1-A	Method Blank	Total Recoverable	Water	6020A	445039
LCS 500-445039/2-A	Lab Control Sample	Total Recoverable	Water	6020A	445039

**Analysis Batch: 445254**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-1	MW-01	Total Recoverable	Water	6010C	445039
500-149809-2	MW-02	Total Recoverable	Water	6010C	445039
500-149809-3	MW-03	Total Recoverable	Water	6010C	445039
500-149809-4	MW-04	Total Recoverable	Water	6010C	445039
500-149809-5	MW-05	Total Recoverable	Water	6010C	445039
500-149809-6	MW-08	Total Recoverable	Water	6010C	445039
500-149809-7	MW-09	Total Recoverable	Water	6010C	445039
500-149809-8	MW-10	Total Recoverable	Water	6010C	445039
500-149809-9	MW-11	Total Recoverable	Water	6010C	445039
500-149809-10	MW-12	Total Recoverable	Water	6010C	445039
500-149809-11	MW-15	Total Recoverable	Water	6010C	445039



Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Metals (Continued)**

**Analysis Batch: 445254 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-12	MW-17	Total Recoverable	Water	6010C	445039
500-149809-13	MW-18	Total Recoverable	Water	6010C	445039
500-149809-14	MW-19	Total Recoverable	Water	6010C	445039
500-149809-15	Duplicate	Total Recoverable	Water	6010C	445039
MB 500-445039/1-A	Method Blank	Total Recoverable	Water	6010C	445039
LCS 500-445039/2-A	Lab Control Sample	Total Recoverable	Water	6010C	445039

**Analysis Batch: 445305**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-1	MW-01	Total Recoverable	Water	6020A	445039
500-149809-2	MW-02	Total Recoverable	Water	6020A	445039
500-149809-3	MW-03	Total Recoverable	Water	6020A	445039
500-149809-4	MW-04	Total Recoverable	Water	6020A	445039
500-149809-5	MW-05	Total Recoverable	Water	6020A	445039
500-149809-6	MW-08	Total Recoverable	Water	6020A	445039
500-149809-7	MW-09	Total Recoverable	Water	6020A	445039
500-149809-8	MW-10	Total Recoverable	Water	6020A	445039
500-149809-9	MW-11	Total Recoverable	Water	6020A	445039
500-149809-10	MW-12	Total Recoverable	Water	6020A	445039
500-149809-11	MW-15	Total Recoverable	Water	6020A	445039
500-149809-12	MW-17	Total Recoverable	Water	6020A	445039
500-149809-13	MW-18	Total Recoverable	Water	6020A	445039
500-149809-14	MW-19	Total Recoverable	Water	6020A	445039
500-149809-15	Duplicate	Total Recoverable	Water	6020A	445039
MB 500-445039/1-A	Method Blank	Total Recoverable	Water	6020A	445039
LCS 500-445039/2-A	Lab Control Sample	Total Recoverable	Water	6020A	445039

**Prep Batch: 445342**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-1	MW-01	Total/NA	Water	7470A	
500-149809-2	MW-02	Total/NA	Water	7470A	
500-149809-3	MW-03	Total/NA	Water	7470A	
500-149809-4	MW-04	Total/NA	Water	7470A	
500-149809-5	MW-05	Total/NA	Water	7470A	
500-149809-6	MW-08	Total/NA	Water	7470A	
500-149809-7	MW-09	Total/NA	Water	7470A	
500-149809-8	MW-10	Total/NA	Water	7470A	
500-149809-9	MW-11	Total/NA	Water	7470A	
500-149809-10	MW-12	Total/NA	Water	7470A	
500-149809-11	MW-15	Total/NA	Water	7470A	
500-149809-12	MW-17	Total/NA	Water	7470A	
500-149809-13	MW-18	Total/NA	Water	7470A	
500-149809-14	MW-19	Total/NA	Water	7470A	
500-149809-15	Duplicate	Total/NA	Water	7470A	
MB 500-445342/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-445342/13-A	Lab Control Sample	Total/NA	Water	7470A	
500-149809-8 MS	MW-10	Total/NA	Water	7470A	
500-149809-8 MSD	MW-10	Total/NA	Water	7470A	
500-149809-8 DU	MW-10	Total/NA	Water	7470A	

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Metals (Continued)**

**Analysis Batch: 445532**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-1	MW-01	Total/NA	Water	7470A	445342
500-149809-2	MW-02	Total/NA	Water	7470A	445342
500-149809-3	MW-03	Total/NA	Water	7470A	445342
500-149809-4	MW-04	Total/NA	Water	7470A	445342
500-149809-5	MW-05	Total/NA	Water	7470A	445342
500-149809-6	MW-08	Total/NA	Water	7470A	445342
500-149809-7	MW-09	Total/NA	Water	7470A	445342
500-149809-8	MW-10	Total/NA	Water	7470A	445342
500-149809-9	MW-11	Total/NA	Water	7470A	445342
500-149809-10	MW-12	Total/NA	Water	7470A	445342
500-149809-11	MW-15	Total/NA	Water	7470A	445342
500-149809-12	MW-17	Total/NA	Water	7470A	445342
500-149809-13	MW-18	Total/NA	Water	7470A	445342
500-149809-14	MW-19	Total/NA	Water	7470A	445342
500-149809-15	Duplicate	Total/NA	Water	7470A	445342
MB 500-445342/12-A	Method Blank	Total/NA	Water	7470A	445342
LCS 500-445342/13-A	Lab Control Sample	Total/NA	Water	7470A	445342
500-149809-8 MS	MW-10	Total/NA	Water	7470A	445342
500-149809-8 MSD	MW-10	Total/NA	Water	7470A	445342
500-149809-8 DU	MW-10	Total/NA	Water	7470A	445342

**General Chemistry**

**Analysis Batch: 445061**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-1	MW-01	Total/NA	Water	SM 2540C	
500-149809-2	MW-02	Total/NA	Water	SM 2540C	
500-149809-3	MW-03	Total/NA	Water	SM 2540C	
500-149809-4	MW-04	Total/NA	Water	SM 2540C	
500-149809-5	MW-05	Total/NA	Water	SM 2540C	
500-149809-6	MW-08	Total/NA	Water	SM 2540C	
500-149809-7	MW-09	Total/NA	Water	SM 2540C	
500-149809-8	MW-10	Total/NA	Water	SM 2540C	
500-149809-9	MW-11	Total/NA	Water	SM 2540C	
500-149809-10	MW-12	Total/NA	Water	SM 2540C	
500-149809-11	MW-15	Total/NA	Water	SM 2540C	
500-149809-12	MW-17	Total/NA	Water	SM 2540C	
500-149809-13	MW-18	Total/NA	Water	SM 2540C	
500-149809-14	MW-19	Total/NA	Water	SM 2540C	
500-149809-15	Duplicate	Total/NA	Water	SM 2540C	
MB 500-445061/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-445061/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-149809-1 DU	MW-01	Total/NA	Water	SM 2540C	

**Analysis Batch: 445284**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-1	MW-01	Total/NA	Water	SM 4500 F C	
500-149809-2	MW-02	Total/NA	Water	SM 4500 F C	
500-149809-3	MW-03	Total/NA	Water	SM 4500 F C	
500-149809-4	MW-04	Total/NA	Water	SM 4500 F C	



Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**General Chemistry (Continued)**

**Analysis Batch: 445284 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-5	MW-05	Total/NA	Water	SM 4500 F C	
500-149809-6	MW-08	Total/NA	Water	SM 4500 F C	
500-149809-7	MW-09	Total/NA	Water	SM 4500 F C	
MB 500-445284/31	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-445284/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	

**Analysis Batch: 445449**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-1	MW-01	Total/NA	Water	SM 4500 SO4 E	
500-149809-2	MW-02	Total/NA	Water	SM 4500 SO4 E	
500-149809-3	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-149809-4	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-149809-5	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-149809-6	MW-08	Total/NA	Water	SM 4500 SO4 E	
500-149809-7	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-149809-8	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-149809-9	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-149809-10	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-149809-11	MW-15	Total/NA	Water	SM 4500 SO4 E	
500-149809-12	MW-17	Total/NA	Water	SM 4500 SO4 E	
MB 500-445449/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-445449/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

**Analysis Batch: 446204**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-1	MW-01	Total/NA	Water	SM 4500 CI- E	
500-149809-2	MW-02	Total/NA	Water	SM 4500 CI- E	
500-149809-3	MW-03	Total/NA	Water	SM 4500 CI- E	
500-149809-4	MW-04	Total/NA	Water	SM 4500 CI- E	
500-149809-5	MW-05	Total/NA	Water	SM 4500 CI- E	
500-149809-6	MW-08	Total/NA	Water	SM 4500 CI- E	
500-149809-7	MW-09	Total/NA	Water	SM 4500 CI- E	
500-149809-8	MW-10	Total/NA	Water	SM 4500 CI- E	
500-149809-9	MW-11	Total/NA	Water	SM 4500 CI- E	
500-149809-10	MW-12	Total/NA	Water	SM 4500 CI- E	
500-149809-11	MW-15	Total/NA	Water	SM 4500 CI- E	
500-149809-12	MW-17	Total/NA	Water	SM 4500 CI- E	
500-149809-13	MW-18	Total/NA	Water	SM 4500 CI- E	
500-149809-14	MW-19	Total/NA	Water	SM 4500 CI- E	
500-149809-15	Duplicate	Total/NA	Water	SM 4500 CI- E	
MB 500-446204/4	Method Blank	Total/NA	Water	SM 4500 CI- E	
LCS 500-446204/5	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	
500-149809-7 MS	MW-09	Total/NA	Water	SM 4500 CI- E	
500-149809-7 MSD	MW-09	Total/NA	Water	SM 4500 CI- E	

**Analysis Batch: 446448**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-13	MW-18	Total/NA	Water	SM 4500 SO4 E	
500-149809-14	MW-19	Total/NA	Water	SM 4500 SO4 E	
500-149809-15	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-446448/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	



Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**General Chemistry (Continued)**

**Analysis Batch: 446448 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-446448/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

**Analysis Batch: 446883**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-8	MW-10	Total/NA	Water	SM 4500 F C	
500-149809-9	MW-11	Total/NA	Water	SM 4500 F C	
500-149809-10	MW-12	Total/NA	Water	SM 4500 F C	
500-149809-11	MW-15	Total/NA	Water	SM 4500 F C	
500-149809-12	MW-17	Total/NA	Water	SM 4500 F C	
500-149809-13	MW-18	Total/NA	Water	SM 4500 F C	
500-149809-14	MW-19	Total/NA	Water	SM 4500 F C	
500-149809-15	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-446883/3	Method Blank	Total/NA	Water	SM 4500 F C	
MB 500-446883/31	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-446883/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCS 500-446883/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-149809-12 MS	MW-17	Total/NA	Water	SM 4500 F C	
500-149809-12 MSD	MW-17	Total/NA	Water	SM 4500 F C	



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-445039/1-A  
Matrix: Water  
Analysis Batch: 445254

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 445039

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/11/18 12:28	08/13/18 13:52	1

Lab Sample ID: LCS 500-445039/2-A  
Matrix: Water  
Analysis Batch: 445254

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 445039

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.496		mg/L		99	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-445039/1-A  
Matrix: Water  
Analysis Batch: 445195

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 445039

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/11/18 12:28	08/13/18 12:59	1
Arsenic	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 12:59	1
Barium	<0.0025		0.0025		mg/L		08/11/18 12:28	08/13/18 12:59	1
Beryllium	<0.0010	^	0.0010		mg/L		08/11/18 12:28	08/13/18 12:59	1
Cadmium	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 12:59	1
Calcium	<0.20		0.20		mg/L		08/11/18 12:28	08/13/18 12:59	1
Chromium	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 12:59	1
Cobalt	<0.0010		0.0010		mg/L		08/11/18 12:28	08/13/18 12:59	1
Lead	<0.00050		0.00050		mg/L		08/11/18 12:28	08/13/18 12:59	1
Molybdenum	<0.0050		0.0050		mg/L		08/11/18 12:28	08/13/18 12:59	1
Selenium	<0.0025		0.0025		mg/L		08/11/18 12:28	08/13/18 12:59	1
Thallium	<0.0020		0.0020		mg/L		08/11/18 12:28	08/13/18 12:59	1

Lab Sample ID: MB 500-445039/1-A  
Matrix: Water  
Analysis Batch: 445305

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 445039

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		08/11/18 12:28	08/13/18 16:33	1

Lab Sample ID: LCS 500-445039/2-A  
Matrix: Water  
Analysis Batch: 445195

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 445039

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.486		mg/L		97	80 - 120
Arsenic	0.100	0.0987		mg/L		99	80 - 120
Barium	2.00	2.09		mg/L		104	80 - 120
Beryllium	0.0500	0.0526	^	mg/L		105	80 - 120
Cadmium	0.0500	0.0499		mg/L		100	80 - 120
Calcium	10.0	9.26		mg/L		93	80 - 120
Chromium	0.200	0.199		mg/L		99	80 - 120
Cobalt	0.500	0.512		mg/L		102	80 - 120

TestAmerica Chicago

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-445039/2-A  
Matrix: Water  
Analysis Batch: 445195

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 445039

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.100	0.104		mg/L		104	80 - 120
Molybdenum	1.00	0.962		mg/L		96	80 - 120
Selenium	0.100	0.0975		mg/L		97	80 - 120
Thallium	0.100	0.102		mg/L		102	80 - 120

Lab Sample ID: LCS 500-445039/2-A  
Matrix: Water  
Analysis Batch: 445305

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 445039

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.999		mg/L		100	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-445342/12-A  
Matrix: Water  
Analysis Batch: 445532

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 445342

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/14/18 11:53	08/15/18 10:27	1

Lab Sample ID: LCS 500-445342/13-A  
Matrix: Water  
Analysis Batch: 445532

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 445342

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00183		mg/L		91	80 - 120

Lab Sample ID: 500-149809-8 MS  
Matrix: Water  
Analysis Batch: 445532

Client Sample ID: MW-10  
Prep Type: Total/NA  
Prep Batch: 445342

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020		0.00100	0.00104		mg/L		104	75 - 125

Lab Sample ID: 500-149809-8 MSD  
Matrix: Water  
Analysis Batch: 445532

Client Sample ID: MW-10  
Prep Type: Total/NA  
Prep Batch: 445342

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	<0.00020		0.00100	0.00110		mg/L		110	75 - 125	5	20

Lab Sample ID: 500-149809-8 DU  
Matrix: Water  
Analysis Batch: 445532

Client Sample ID: MW-10  
Prep Type: Total/NA  
Prep Batch: 445342

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-1

**Method: SM 2540C - Solids, Total Dissolved (TDS)**

Lab Sample ID: MB 500-445061/1  
Matrix: Water  
Analysis Batch: 445061

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			08/12/18 22:23	1

Lab Sample ID: LCS 500-445061/2  
Matrix: Water  
Analysis Batch: 445061

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	294		mg/L		118	80 - 120

Lab Sample ID: 500-149809-1 DU  
Matrix: Water  
Analysis Batch: 445061

Client Sample ID: MW-01  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	430		448		mg/L		3	5

**Method: SM 4500 Cl- E - Chloride, Total**

Lab Sample ID: MB 500-446204/4  
Matrix: Water  
Analysis Batch: 446204

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			08/20/18 14:06	1

Lab Sample ID: LCS 500-446204/5  
Matrix: Water  
Analysis Batch: 446204

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.4		mg/L		103	85 - 115

Lab Sample ID: 500-149809-7 MS  
Matrix: Water  
Analysis Batch: 446204

Client Sample ID: MW-09  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	39		50.0	82.0		mg/L		86	75 - 125

Lab Sample ID: 500-149809-7 MSD  
Matrix: Water  
Analysis Batch: 446204

Client Sample ID: MW-09  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	39		50.0	83.5		mg/L		89	75 - 125	2	20



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Method: SM 4500 F C - Fluoride**

Lab Sample ID: MB 500-445284/31  
Matrix: Water  
Analysis Batch: 445284

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			08/13/18 18:24	1

Lab Sample ID: LCS 500-445284/32  
Matrix: Water  
Analysis Batch: 445284

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.3		mg/L		103	80 - 120

Lab Sample ID: MB 500-446883/3  
Matrix: Water  
Analysis Batch: 446883

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			08/23/18 14:41	1

Lab Sample ID: MB 500-446883/31  
Matrix: Water  
Analysis Batch: 446883

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			08/23/18 16:19	1

Lab Sample ID: LCS 500-446883/32  
Matrix: Water  
Analysis Batch: 446883

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.4		mg/L		104	80 - 120

Lab Sample ID: LCS 500-446883/4  
Matrix: Water  
Analysis Batch: 446883

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.5		mg/L		105	80 - 120

Lab Sample ID: 500-149809-12 MS  
Matrix: Water  
Analysis Batch: 446883

Client Sample ID: MW-17  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.60		5.00	5.80		mg/L		104	75 - 125

Lab Sample ID: 500-149809-12 MSD  
Matrix: Water  
Analysis Batch: 446883

Client Sample ID: MW-17  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Fluoride	0.60		5.00	5.69		mg/L		102	75 - 125	2	20

TestAmerica Chicago

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Method: SM 4500 SO4 E - Sulfate, Total**

Lab Sample ID: MB 500-445449/3  
Matrix: Water  
Analysis Batch: 445449

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			08/15/18 05:30	1

Lab Sample ID: LCS 500-445449/4  
Matrix: Water  
Analysis Batch: 445449

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.2		mg/L		101	80 - 120

Lab Sample ID: MB 500-446448/3  
Matrix: Water  
Analysis Batch: 446448

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			08/22/18 05:28	1

Lab Sample ID: LCS 500-446448/4  
Matrix: Water  
Analysis Batch: 446448

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	21.8		mg/L		109	80 - 120



Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-149809-1

**Client Sample ID: MW-01**  
**Date Collected: 08/08/18 09:49**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	445254	08/13/18 14:08	EEN	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445195	08/13/18 14:01	FXG	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445305	08/13/18 16:41	FXG	TAL CHI
Total/NA	Prep	7470A			445342	08/14/18 11:53	MJG	TAL CHI
Total/NA	Analysis	7470A		1	445532	08/15/18 10:30	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	445061	08/12/18 22:38	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	446204	08/20/18 14:07	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	445284	08/13/18 18:53	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		2	445449		CLB	TAL CHI
						(Start) 08/15/18 05:38		
						(End) 08/15/18 05:39		

**Client Sample ID: MW-02**  
**Date Collected: 08/07/18 09:30**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	445254	08/13/18 14:12	EEN	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445195	08/13/18 14:04	FXG	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	445305	08/13/18 16:45	FXG	TAL CHI
Total/NA	Prep	7470A			445342	08/14/18 11:53	MJG	TAL CHI
Total/NA	Analysis	7470A		1	445532	08/15/18 10:36	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	445061	08/12/18 22:43	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	446204	08/20/18 14:08	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	445284	08/13/18 18:57	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	445449		CLB	TAL CHI
						(Start) 08/15/18 05:39		
						(End) 08/15/18 05:40		

**Client Sample ID: MW-03**  
**Date Collected: 08/07/18 10:54**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-3**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	445254	08/13/18 14:16	EEN	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-149809-1

**Client Sample ID: MW-03**

**Lab Sample ID: 500-149809-3**

**Date Collected: 08/07/18 10:54**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		1	445195	08/13/18 14:08	FXG	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445305	08/13/18 16:48	FXG	TAL CHI
Total/NA	Prep	7470A			445342	08/14/18 11:53	MJG	TAL CHI
Total/NA	Analysis	7470A		1	445532	08/15/18 10:38	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	445061	08/12/18 22:46	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	446204	08/20/18 14:42	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	445284	08/13/18 19:00	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	445449		CLB	TAL CHI
					(Start)	08/15/18 05:42		
					(End)	08/15/18 05:43		

**Client Sample ID: MW-04**

**Lab Sample ID: 500-149809-4**

**Date Collected: 08/07/18 12:27**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	445254	08/13/18 14:20	EEN	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445195	08/13/18 14:12	FXG	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445305	08/13/18 16:52	FXG	TAL CHI
Total/NA	Prep	7470A			445342	08/14/18 11:53	MJG	TAL CHI
Total/NA	Analysis	7470A		1	445532	08/15/18 10:39	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	445061	08/12/18 22:48	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	446204	08/20/18 14:10	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	445284	08/13/18 19:03	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	445449		CLB	TAL CHI
					(Start)	08/15/18 05:43		
					(End)	08/15/18 05:44		

**Client Sample ID: MW-05**

**Lab Sample ID: 500-149809-5**

**Date Collected: 08/07/18 13:30**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	445254	08/13/18 14:23	EEN	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445195	08/13/18 14:16	FXG	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445305	08/13/18 16:56	FXG	TAL CHI

TestAmerica Chicago

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-149809-1

**Client Sample ID: MW-05**

**Lab Sample ID: 500-149809-5**

**Date Collected: 08/07/18 13:30**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			445342	08/14/18 11:53	MJG	TAL CHI
Total/NA	Analysis	7470A		1	445532	08/15/18 10:41	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	445061	08/12/18 22:51	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	446204	08/20/18 14:11	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	445284	08/13/18 19:06	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	445449		CLB	TAL CHI
					(Start)	08/15/18 05:44		
					(End)	08/15/18 05:45		

**Client Sample ID: MW-08**

**Lab Sample ID: 500-149809-6**

**Date Collected: 08/08/18 11:11**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	445254	08/13/18 14:27	EEN	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445195	08/13/18 14:19	FXG	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	445305	08/13/18 17:00	FXG	TAL CHI
Total/NA	Prep	7470A			445342	08/14/18 11:53	MJG	TAL CHI
Total/NA	Analysis	7470A		1	445532	08/15/18 10:43	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	445061	08/12/18 22:54	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	446204	08/20/18 14:12	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	445284	08/13/18 19:10	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	445449		CLB	TAL CHI
					(Start)	08/15/18 05:45		
					(End)	08/15/18 05:46		

**Client Sample ID: MW-09**

**Lab Sample ID: 500-149809-7**

**Date Collected: 08/08/18 12:46**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	445254	08/13/18 14:32	EEN	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445195	08/13/18 14:34	FXG	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		20	445305	08/13/18 17:03	FXG	TAL CHI
Total/NA	Prep	7470A			445342	08/14/18 11:53	MJG	TAL CHI
Total/NA	Analysis	7470A		1	445532	08/15/18 10:44	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	445061	08/12/18 22:56	CLB	TAL CHI

TestAmerica Chicago

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-149809-1

**Client Sample ID: MW-09**

**Lab Sample ID: 500-149809-7**

**Date Collected: 08/08/18 12:46**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	446204	08/20/18 14:16	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	445284	08/13/18 19:13	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	445449	08/15/18 05:46 (Start) 08/15/18 05:47 (End)	CLB	TAL CHI

**Client Sample ID: MW-10**

**Lab Sample ID: 500-149809-8**

**Date Collected: 08/08/18 14:44**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	445254	08/13/18 14:36	EEN	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445195	08/13/18 14:38	FXG	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445305	08/13/18 17:07	FXG	TAL CHI
Total/NA	Prep	7470A			445342	08/14/18 11:53	MJG	TAL CHI
Total/NA	Analysis	7470A		1	445532	08/15/18 10:46	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	445061	08/12/18 22:59	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	446204	08/20/18 14:18	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	446883	08/23/18 16:03	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	445449	08/15/18 05:47 (Start) 08/15/18 05:48 (End)	CLB	TAL CHI

**Client Sample ID: MW-11**

**Lab Sample ID: 500-149809-9**

**Date Collected: 08/09/18 14:03**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	445254	08/13/18 14:40	EEN	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445195	08/13/18 14:42	FXG	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	445305	08/13/18 17:19	FXG	TAL CHI
Total/NA	Prep	7470A			445342	08/14/18 11:53	MJG	TAL CHI
Total/NA	Analysis	7470A		1	445532	08/15/18 10:57	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	445061	08/12/18 23:01	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	446204	08/20/18 14:19	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	446883	08/23/18 16:06	EAT	TAL CHI

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-149809-1

**Client Sample ID: MW-11**

**Lab Sample ID: 500-149809-9**

**Date Collected: 08/09/18 14:03**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 SO4 E		10	445449	08/15/18 05:48 08/15/18 05:49	CLB	TAL CHI

**Client Sample ID: MW-12**

**Lab Sample ID: 500-149809-10**

**Date Collected: 08/09/18 15:46**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	445254	08/13/18 14:56	EEN	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445195	08/13/18 14:46	FXG	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445305	08/13/18 17:22	FXG	TAL CHI
Total/NA	Prep	7470A			445342	08/14/18 11:53	MJG	TAL CHI
Total/NA	Analysis	7470A		1	445532	08/15/18 10:59	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	445061	08/12/18 23:04	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	446204	08/20/18 14:20	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	446883	08/23/18 16:09	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	445449	08/15/18 05:49 08/15/18 05:50	CLB	TAL CHI

**Client Sample ID: MW-15**

**Lab Sample ID: 500-149809-11**

**Date Collected: 08/09/18 11:42**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	445254	08/13/18 15:00	EEN	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445195	08/13/18 14:49	FXG	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	445305	08/13/18 17:26	FXG	TAL CHI
Total/NA	Prep	7470A			445342	08/14/18 11:53	MJG	TAL CHI
Total/NA	Analysis	7470A		1	445532	08/15/18 11:00	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	445061	08/12/18 23:06	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	446204	08/20/18 14:20	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	446883	08/23/18 16:12	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		25	445449	08/15/18 05:50 08/15/18 05:51	CLB	TAL CHI

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-149809-1

**Client Sample ID: MW-17**

**Lab Sample ID: 500-149809-12**

**Date Collected: 08/06/18 14:41**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	445254	08/13/18 15:04	EEN	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445195	08/13/18 14:53	FXG	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	445305	08/13/18 17:30	FXG	TAL CHI
Total/NA	Prep	7470A			445342	08/14/18 11:53	MJG	TAL CHI
Total/NA	Analysis	7470A		1	445532	08/15/18 11:02	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	445061	08/12/18 23:09	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	446204	08/20/18 14:21	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	446883	08/23/18 16:24	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		50	445449		CLB	TAL CHI
						(Start) 08/15/18 05:51		
						(End) 08/15/18 05:52		

**Client Sample ID: MW-18**

**Lab Sample ID: 500-149809-13**

**Date Collected: 08/06/18 15:46**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	445254	08/13/18 15:08	EEN	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445195	08/13/18 14:57	FXG	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445305	08/13/18 17:34	FXG	TAL CHI
Total/NA	Prep	7470A			445342	08/14/18 11:53	MJG	TAL CHI
Total/NA	Analysis	7470A		1	445532	08/15/18 11:03	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	445061	08/12/18 23:12	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	446204	08/20/18 14:21	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	446883	08/23/18 16:32	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	446448		CLB	TAL CHI
						(Start) 08/22/18 05:36		
						(End) 08/22/18 05:37		

**Client Sample ID: MW-19**

**Lab Sample ID: 500-149809-14**

**Date Collected: 08/06/18 16:48**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	445254	08/13/18 15:12	EEN	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI

TestAmerica Chicago



Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-19**

**Date Collected: 08/06/18 16:48**

**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-14**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		1	445195	08/13/18 15:01	FXG	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		20	445305	08/13/18 17:38	FXG	TAL CHI
Total/NA	Prep	7470A			445342	08/14/18 11:53	MJG	TAL CHI
Total/NA	Analysis	7470A		1	445532	08/15/18 11:05	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	445061	08/12/18 23:14	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	446204	08/20/18 14:43	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	446883	08/23/18 16:45	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	446448		CLB	TAL CHI
						(Start) 08/22/18 05:37		
						(End) 08/22/18 05:38		

**Client Sample ID: Duplicate**

**Date Collected: 08/07/18 00:00**

**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-15**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	445254	08/13/18 15:16	EEN	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	445195	08/13/18 15:05	FXG	TAL CHI
Total Recoverable	Prep	3005A			445039	08/11/18 12:28	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	445305	08/13/18 17:41	FXG	TAL CHI
Total/NA	Prep	7470A			445342	08/14/18 11:53	MJG	TAL CHI
Total/NA	Analysis	7470A		1	445532	08/15/18 11:06	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	445061	08/12/18 23:17	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	446204	08/20/18 14:24	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	446883	08/23/18 16:49	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	446448		CLB	TAL CHI
						(Start) 08/22/18 05:40		
						(End) 08/22/18 05:41		

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Laboratory: TestAmerica Chicago**

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-19

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



THE LEADER IN ENVIRONMENTAL TESTING  
**TestAmerica Chicago**  
2417 Bond St.  
University Park, IL 60484  
708-534-5200  
Fax: 708-534-5211

<b>Report To:</b>	<b>Bill To:</b>	<b>Lab Lot #</b> 500-149809
Contact: Richard Gnat	Contact:	Package Sealed <input checked="" type="radio"/> Yes <input type="radio"/> No
Company: KPRG and Associates, Inc	Company:	Samples Sealed <input checked="" type="radio"/> Yes <input type="radio"/> No
Address: 14665 W. Lisbon Rd., Suite 2B Brookfield, WI 53005	Address:	Received on Ice <input checked="" type="radio"/> Yes <input type="radio"/> No
Phone: 262-781-0475	Phone:	Samples Intact <input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A
Email: richardg@kprginc.com	Email:	Temperature °C of Cooler 3.6, 3.7, 10.0, 5.2, 5.4
PO #:	PO #:	500-149809 COC



Sampler Name:		COMPANY:		# / Cont.		Volume		Preserv.		Matrix		# of Cont		Additional Analyses / Remarks					
Ian John Howieson		KPRG & Associates Inc.												Within Hold Time <input checked="" type="radio"/> Yes <input type="radio"/> No Preserv. Indicated <input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A pH Check OK <input checked="" type="radio"/> Yes <input type="radio"/> No Res. CL <sub>2</sub> Check OK <input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A Sample Labels and COC Agree. <input checked="" type="radio"/> Yes <input type="radio"/> No COC not present					
Project Name:		TestAmerica Project Number:		Matrix		# of Cont		903.0, 904.0 Radium 226/228		6010C, 6020A, 7470A - Total Metals		2540C -TDS		4500_F_C - Fluoride		SM4500_CL_E Chloride		SM4500_SO4_E - Sulfate	
Quarterly- Powerton CCR		50011612																	
Project Location:		TAT		Sampling Date		Sampling Time													
Pekin, IL		15 Days																	
Lab PM:		eric.lang@testamerica.com																	
Eric Lang																			
1	MW-01	8-8-18	09:49	W	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	MW-02	8-7-18	09:30	W	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3	MW-03	8-7-18	10:54	W	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4	MW-04	8-7-18	12:27	W	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5	MW-05	8-7-18	13:30	W	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6	MW-08	8-8-18	11:11	W	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7	MW-09	8-8-18	12:46	W	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8	MW-10	8-8-18	14:44	W	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
9	MW-11	8-9-18	14:03	W	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10	MW-12	8-9-18	15:46	W	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11	MW-13	8-9-18	11:42	W	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X

RELINQUISHED BY: IJH	COMPANY: KPRG	DATE: 8-10-18	TIME: 16:50	RECEIVED BY: [Signature]	COMPANY: TA	DATE: 8/10/18	TIME: 16:50
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

- Matrix Key**
- WW = Wastewater
  - W = Water
  - S = Soil
  - SL = Sludge
  - MS = Miscellaneous
  - OL = Oil
  - A = Air
  - SE = Sediment
  - SO = Solid
  - DL = Drum Liquid
  - DS = Drum Solid
  - L = Leachate
  - W = Wipe
  - O = \_\_\_\_\_

- Container Key**
1. Plastic
  2. VOA Vial
  3. Sterile Plastic
  4. Amber Glass
  5. Widemouth Glass
  6. Other

- Reservative Key**
1. HCl, Cool to 4°
  2. H<sub>2</sub>SO<sub>4</sub>, Cool to 4°
  3. HNO<sub>3</sub>, Cool to 4°
  4. NaOH, Cool to 4°
  5. NaOH/Zn, Cool to 4°
  6. Cool to 4°
  7. None

COMMENTS:

Date Received: 08, 10, 18

Courier:

Hand Delivered

Bill of Lading:



**TestAmerica Chicago**  
2417 Bond St.  
University Park, IL 60484  
708-534-5200  
Fax: 708-534-5211

<b>Report To:</b> Contact: Richard Gnat Company: KPRG and Associates, Inc Address: 14665 W. Lisbon Rd., Suite 2B Brookfield, WI 53005 Phone: 262-781-0475 Email: richardg@kprginc.com	<b>Bill To:</b> Contact: Company: Address: Phone: Email: PO #:	<b>Lab Lot #</b> 500-149809 <b>Package Sealed</b> Yes No <b>Samples Sealed</b> Yes No <b>Received on Ice</b> Yes No <b>Samples Intact</b> Yes No N/A <b>Temperature °C of Cooler</b> 3.6, 3.7, 6.0, 5.2, 5.4 <b>Within Hold Time</b> Yes No <b>Preserv. Indicated</b> Yes No N/A <b>pH Check OK</b> Yes No <b>Res. Cl. Check OK</b> Yes No N/A <b>Sample Labels and GOC Agree</b> Yes No <b>COC not present</b>
---	--	--

Sampler Name: Ian John Howieson		COMPANY: KPRG & Associates Inc.		# / Cont.	Volume											Additional Analyses / Remarks				
Project Name: Quarterly- Powerton CCR		TestAmerica Project Number: 50011612		Preserv.																
Project Location: Pekin, IL		TAT 15 Days		Matrix	# of Cont	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C - TDS	4500_F_C - Fluoride	SM4500_CL_E Chloride	SM4500_SO4_E - Sulfate									
Lab PM: Eric Lang		eric.lang@testamerica.com																		
Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time																
12		MW-17	8-6-18	14:41	W	5	X	X	X	X	X	X	X	X	X	X	X	X	X	
13		MW-18	8-6-18	15:46	W	5	X	X	X	X	X	X	X	X	X	X	X	X	X	
14		MW-19	8-6-18	16:48	W	5	X	X	X	X	X	X	X	X	X	X	X	X	X	
15		Duplicates	8-7-18	--	W	5	X	X	X	X	X	X	X	X	X	X	X	X	X	

RELINQUISHED BY: IJH	COMPANY: KPRG	DATE: 8-10-18	TIME: 16:50	RECEIVED BY: [Signature]	COMPANY: TA	DATE: 8/10/18	TIME: 16:50
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

- |  |   |  |
|--|---|--|
| <b>Matrix Key</b>  | <b>Container Key</b>  | <b>Preservative Key</b>  |
| WW = Wastewater<br>W = Water<br>S = Soil<br>SL = Sludge<br>MS = Miscellaneous<br>OL = Oil<br>A = Air | SE = Sediment<br>SO = Solid<br>DL = Drum Liquid<br>DS = Drum Solid<br>L = Leachate<br>W = Wipe<br>O = _____ | 1. Plastic<br>2. VOA Vial<br>3. Sterile Plastic<br>4. Amber Glass<br>5. Widemouth Glass<br>6. Other<br>7. None   |
|  |   | 1. HCl, Cool to 4°<br>2. H <sub>2</sub> SO <sub>4</sub> , Cool to 4°<br>3. HNO <sub>3</sub> , Cool to 4°<br>4. NaOH, Cool to 4°<br>5. NaOH/Zn, Cool to 4°<br>6. Cool to 4° |

<b>COMMENTS:</b>	<b>Date Received</b> 8/10/18 <b>Courier:</b> <b>Hand Delivered</b> <input checked="" type="checkbox"/> <b>Bill of Lading:</b>
------------------	--

**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-149809-1

**Login Number: 149809**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Sanchez, Ariel M**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.6, 3.7, 5.2, 5.4, 6.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-149809-2

Client Project/Site: Powerton CCR

For:

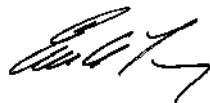
KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 1A

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

9/26/2018 7:15:47 AM

Eric Lang, Manager of Project Management

(708)534-5200

[eric.lang@testamericainc.com](mailto:eric.lang@testamericainc.com)



### LINKS

Review your project results through

TotalAccess

Have a Question?



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[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Job ID: 500-149809-2**

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative  
 500-149809-2**

**Comments**

No additional comments.

**Receipt**

The samples were received on 8/10/2018 4:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 3.6° C, 3.7° C, 5.2° C, 5.4° C and 6.0° C.

**RAD**

Method(s) PrecSep\_0: Radium 228 Prep Batch 160-382531:

Sample aliquot 280-113076-1 reduced due to potential matrix interference. Sample was black, opaque, contained heavy sediment levels, and contained plant material.

Sample aliquots 500-149809-8 and 500-149809-12 reduced due to potential matrix interference. Samples contained heavy levels of black sediment.

Sample aliquot 500-149809-9 reduced due to potential matrix interference. Sample was yellow, murky, and contained sediment.

Sample aliquot 500-149809-10 reduced due to potential matrix interference. Sample contained brown floating debris.

Sample aliquot 500-149809-13 reduced due to potential matrix interference. Sample had a strong odor similar to that of sulfur.

MW-10 (500-149809-8), MW-11 (500-149809-9), MW-12 (500-149809-10), MW-17 (500-149809-12) and MW-18 (500-149809-13)

Method(s) PrecSep-21: Radium 226 Prep Batch 160-382525:

Sample aliquot 280-113076-1 reduced due to potential matrix interference. Sample was black, opaque, contained heavy sediment levels, and contained plant material.

Sample aliquots 500-149809-8 and 500-149809-12 reduced due to potential matrix interference. Samples contained heavy levels of black sediment.

Sample aliquot 500-149809-9 reduced due to potential matrix interference. Sample was yellow, murky, and contained sediment.

Sample aliquot 500-149809-10 reduced due to potential matrix interference. Sample contained brown floating debris.

Sample aliquot 500-149809-13 reduced due to potential matrix interference. Sample had a strong odor similar to that of sulfur.

MW-10 (500-149809-8), MW-11 (500-149809-9), MW-12 (500-149809-10), MW-17 (500-149809-12) and MW-18 (500-149809-13)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.





Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

TestAmerica Job ID: 500-149809-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

**Protocol References:**

- EPA = US Environmental Protection Agency
- None = None
- TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

**Laboratory References:**

- TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

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 TestAmerica Job ID: 500-149809-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-149809-1	MW-01	Water	08/08/18 09:49	08/10/18 16:50
500-149809-2	MW-02	Water	08/07/18 09:30	08/10/18 16:50
500-149809-3	MW-03	Water	08/07/18 10:54	08/10/18 16:50
500-149809-4	MW-04	Water	08/07/18 12:27	08/10/18 16:50
500-149809-5	MW-05	Water	08/07/18 13:30	08/10/18 16:50
500-149809-6	MW-08	Water	08/08/18 11:11	08/10/18 16:50
500-149809-7	MW-09	Water	08/08/18 12:46	08/10/18 16:50
500-149809-8	MW-10	Water	08/08/18 14:44	08/10/18 16:50
500-149809-9	MW-11	Water	08/09/18 14:03	08/10/18 16:50
500-149809-10	MW-12	Water	08/09/18 15:46	08/10/18 16:50
500-149809-11	MW-15	Water	08/09/18 11:42	08/10/18 16:50
500-149809-12	MW-17	Water	08/06/18 14:41	08/10/18 16:50
500-149809-13	MW-18	Water	08/06/18 15:46	08/10/18 16:50
500-149809-14	MW-19	Water	08/06/18 16:48	08/10/18 16:50
500-149809-15	Duplicate	Water	08/07/18 00:00	08/10/18 16:50

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Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-2

**Client Sample ID: MW-01**  
**Date Collected: 08/08/18 09:49**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-1**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.218		0.0846	0.0868	1.00	0.0848	pCi/L	08/15/18 08:57	09/07/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110					08/15/18 08:57	09/07/18 05:35	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.361	U	0.246	0.249	1.00	0.384	pCi/L	08/15/18 10:00	08/22/18 09:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110					08/15/18 10:00	08/22/18 09:16	1
Y Carrier	93.1		40 - 110					08/15/18 10:00	08/22/18 09:16	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.579		0.260	0.264	5.00	0.384	pCi/L		09/11/18 02:43	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-2

**Client Sample ID: MW-02**  
**Date Collected: 08/07/18 09:30**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-2**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.293		0.0924	0.0961	1.00	0.0714	pCi/L	08/15/18 08:57	09/07/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					08/15/18 08:57	09/07/18 05:35	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.330	U	0.241	0.243	1.00	0.376	pCi/L	08/15/18 10:00	08/22/18 09:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					08/15/18 10:00	08/22/18 09:16	1
Y Carrier	85.6		40 - 110					08/15/18 10:00	08/22/18 09:16	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.622		0.258	0.261	5.00	0.376	pCi/L		09/11/18 02:43	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-2

**Client Sample ID: MW-03**  
**Date Collected: 08/07/18 10:54**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-3**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.214		0.0803	0.0825	1.00	0.0767	pCi/L	08/15/18 08:57	09/07/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					08/15/18 08:57	09/07/18 05:35	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0137	U	0.191	0.191	1.00	0.341	pCi/L	08/15/18 10:00	08/22/18 09:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					08/15/18 10:00	08/22/18 09:16	1
Y Carrier	89.3		40 - 110					08/15/18 10:00	08/22/18 09:16	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.227	U	0.207	0.208	5.00	0.341	pCi/L		09/11/18 02:43	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-2

**Client Sample ID: MW-04**  
**Date Collected: 08/07/18 12:27**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-4**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.198		0.0801	0.0821	1.00	0.0789	pCi/L	08/15/18 08:57	09/07/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					08/15/18 08:57	09/07/18 05:35	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0210	U	0.186	0.186	1.00	0.334	pCi/L	08/15/18 10:00	08/22/18 09:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					08/15/18 10:00	08/22/18 09:16	1
Y Carrier	90.1		40 - 110					08/15/18 10:00	08/22/18 09:16	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.219	U	0.203	0.203	5.00	0.334	pCi/L		09/11/18 02:43	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-05**  
**Date Collected: 08/07/18 13:30**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-5**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.220		0.0870	0.0892	1.00	0.0905	pCi/L	08/15/18 08:57	09/07/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					08/15/18 08:57	09/07/18 05:35	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.303	U	0.263	0.265	1.00	0.423	pCi/L	08/15/18 10:00	08/22/18 09:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					08/15/18 10:00	08/22/18 09:16	1
Y Carrier	86.4		40 - 110					08/15/18 10:00	08/22/18 09:16	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.523		0.277	0.280	5.00	0.423	pCi/L		09/11/18 02:43	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-2

**Client Sample ID: MW-08**  
**Date Collected: 08/08/18 11:11**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-6**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.309		0.0962	0.100	1.00	0.0786	pCi/L	08/15/18 08:57	09/07/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					08/15/18 08:57	09/07/18 05:35	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0582	U	0.234	0.234	1.00	0.410	pCi/L	08/15/18 10:00	08/22/18 09:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					08/15/18 10:00	08/22/18 09:16	1
Y Carrier	80.4		40 - 110					08/15/18 10:00	08/22/18 09:16	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.367	U	0.253	0.254	5.00	0.410	pCi/L		09/11/18 02:43	1



Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-2

**Client Sample ID: MW-09**  
**Date Collected: 08/08/18 12:46**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-7**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.266		0.0889	0.0921	1.00	0.0739	pCi/L	08/15/18 08:57	09/07/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					08/15/18 08:57	09/07/18 05:35	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.173	U	0.207	0.208	1.00	0.342	pCi/L	08/15/18 10:00	08/22/18 09:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					08/15/18 10:00	08/22/18 09:16	1
Y Carrier	88.6		40 - 110					08/15/18 10:00	08/22/18 09:16	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.440		0.225	0.227	5.00	0.342	pCi/L		09/11/18 02:43	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-2

**Client Sample ID: MW-10**  
**Date Collected: 08/08/18 14:44**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-8**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.557		0.149	0.157	1.00	0.121	pCi/L	08/15/18 08:57	09/07/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					08/15/18 08:57	09/07/18 05:35	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0123	U	0.306	0.306	1.00	0.551	pCi/L	08/15/18 10:00	08/22/18 09:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					08/15/18 10:00	08/22/18 09:17	1
Y Carrier	80.0		40 - 110					08/15/18 10:00	08/22/18 09:17	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.545	U	0.340	0.344	5.00	0.551	pCi/L		09/11/18 02:43	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-2

**Client Sample ID: MW-11**  
**Date Collected: 08/09/18 14:03**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-9**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.940		0.187	0.205	1.00	0.108	pCi/L	08/15/18 08:57	09/07/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		40 - 110					08/15/18 08:57	09/07/18 05:35	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.536		0.332	0.336	1.00	0.507	pCi/L	08/15/18 10:00	08/22/18 09:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		40 - 110					08/15/18 10:00	08/22/18 09:17	1
Y Carrier	87.9		40 - 110					08/15/18 10:00	08/22/18 09:17	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.48		0.381	0.394	5.00	0.507	pCi/L		09/11/18 02:43	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-2

**Client Sample ID: MW-12**  
**Date Collected: 08/09/18 15:46**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-10**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.456		0.135	0.141	1.00	0.105	pCi/L	08/15/18 08:57	09/07/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		40 - 110					08/15/18 08:57	09/07/18 05:35	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.279	U	0.331	0.332	1.00	0.546	pCi/L	08/15/18 10:00	08/22/18 09:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		40 - 110					08/15/18 10:00	08/22/18 09:17	1
Y Carrier	81.9		40 - 110					08/15/18 10:00	08/22/18 09:17	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.735		0.357	0.361	5.00	0.546	pCi/L		09/11/18 02:43	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-2

**Client Sample ID: MW-15**  
**Date Collected: 08/09/18 11:42**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-11**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.246		0.0895	0.0922	1.00	0.0884	pCi/L	08/15/18 08:57	09/07/18 05:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.6		40 - 110					08/15/18 08:57	09/07/18 05:36	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.320	U	0.212	0.214	1.00	0.323	pCi/L	08/15/18 10:00	08/22/18 09:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.6		40 - 110					08/15/18 10:00	08/22/18 09:17	1
Y Carrier	85.2		40 - 110					08/15/18 10:00	08/22/18 09:17	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.566		0.230	0.233	5.00	0.323	pCi/L		09/11/18 02:43	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-2

**Client Sample ID: MW-17**  
**Date Collected: 08/06/18 14:41**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-12**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.619		0.156	0.166	1.00	0.117	pCi/L	08/15/18 08:57	09/07/18 05:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					08/15/18 08:57	09/07/18 05:36	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.720		0.340	0.347	1.00	0.491	pCi/L	08/15/18 10:00	08/22/18 09:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					08/15/18 10:00	08/22/18 09:17	1
Y Carrier	84.1		40 - 110					08/15/18 10:00	08/22/18 09:17	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.34		0.374	0.385	5.00	0.491	pCi/L		09/11/18 02:43	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-2

**Client Sample ID: MW-18**  
**Date Collected: 08/06/18 15:46**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-13**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.325		0.112	0.116	1.00	0.0992	pCi/L	08/15/18 08:57	09/07/18 05:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.6		40 - 110					08/15/18 08:57	09/07/18 05:37	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.695		0.365	0.371	1.00	0.541	pCi/L	08/15/18 10:00	08/22/18 09:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.6		40 - 110					08/15/18 10:00	08/22/18 09:18	1
Y Carrier	79.3		40 - 110					08/15/18 10:00	08/22/18 09:18	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.02		0.382	0.389	5.00	0.541	pCi/L		09/11/18 02:43	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-149809-2

**Client Sample ID: MW-19**  
**Date Collected: 08/06/18 16:48**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-14**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.268		0.0900	0.0932	1.00	0.0790	pCi/L	08/15/18 08:57	09/07/18 05:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					08/15/18 08:57	09/07/18 05:37	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.567		0.287	0.292	1.00	0.415	pCi/L	08/15/18 10:00	08/22/18 09:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					08/15/18 10:00	08/22/18 09:18	1
Y Carrier	74.0		40 - 110					08/15/18 10:00	08/22/18 09:18	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.835		0.301	0.307	5.00	0.415	pCi/L		09/11/18 02:43	1



Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: Duplicate**  
**Date Collected: 08/07/18 00:00**  
**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-15**  
**Matrix: Water**

**Method: 903.0 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.206		0.0779	0.0801	1.00	0.0620	pCi/L	08/15/18 08:57	09/07/18 05:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.9		40 - 110					08/15/18 08:57	09/07/18 05:38	1

**Method: 904.0 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.204	U	0.282	0.283	1.00	0.471	pCi/L	08/15/18 10:00	08/22/18 09:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.9		40 - 110					08/15/18 10:00	08/22/18 09:18	1
Y Carrier	68.8		40 - 110					08/15/18 10:00	08/22/18 09:18	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.410	U	0.293	0.294	5.00	0.471	pCi/L		09/11/18 02:43	1

Definitions/Glossary

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Qualifiers**

**Rad**

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

**Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Rad**

**Prep Batch: 382525**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-1	MW-01	Total/NA	Water	PrecSep-21	
500-149809-2	MW-02	Total/NA	Water	PrecSep-21	
500-149809-3	MW-03	Total/NA	Water	PrecSep-21	
500-149809-4	MW-04	Total/NA	Water	PrecSep-21	
500-149809-5	MW-05	Total/NA	Water	PrecSep-21	
500-149809-6	MW-08	Total/NA	Water	PrecSep-21	
500-149809-7	MW-09	Total/NA	Water	PrecSep-21	
500-149809-8	MW-10	Total/NA	Water	PrecSep-21	
500-149809-9	MW-11	Total/NA	Water	PrecSep-21	
500-149809-10	MW-12	Total/NA	Water	PrecSep-21	
500-149809-11	MW-15	Total/NA	Water	PrecSep-21	
500-149809-12	MW-17	Total/NA	Water	PrecSep-21	
500-149809-13	MW-18	Total/NA	Water	PrecSep-21	
500-149809-14	MW-19	Total/NA	Water	PrecSep-21	
500-149809-15	Duplicate	Total/NA	Water	PrecSep-21	
MB 160-382525/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-382525/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
500-149809-15 DU	Duplicate	Total/NA	Water	PrecSep-21	

**Prep Batch: 382531**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149809-1	MW-01	Total/NA	Water	PrecSep_0	
500-149809-2	MW-02	Total/NA	Water	PrecSep_0	
500-149809-3	MW-03	Total/NA	Water	PrecSep_0	
500-149809-4	MW-04	Total/NA	Water	PrecSep_0	
500-149809-5	MW-05	Total/NA	Water	PrecSep_0	
500-149809-6	MW-08	Total/NA	Water	PrecSep_0	
500-149809-7	MW-09	Total/NA	Water	PrecSep_0	
500-149809-8	MW-10	Total/NA	Water	PrecSep_0	
500-149809-9	MW-11	Total/NA	Water	PrecSep_0	
500-149809-10	MW-12	Total/NA	Water	PrecSep_0	
500-149809-11	MW-15	Total/NA	Water	PrecSep_0	
500-149809-12	MW-17	Total/NA	Water	PrecSep_0	
500-149809-13	MW-18	Total/NA	Water	PrecSep_0	
500-149809-14	MW-19	Total/NA	Water	PrecSep_0	
500-149809-15	Duplicate	Total/NA	Water	PrecSep_0	
MB 160-382531/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-382531/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
500-149809-15 DU	Duplicate	Total/NA	Water	PrecSep_0	



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-149809-2

**Method: 903.0 - Radium-226 (GFPC)**

Lab Sample ID: MB 160-382525/22-A  
Matrix: Water  
Analysis Batch: 387770

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 382525

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1537		0.0721	0.0734	1.00	0.0777	pCi/L	08/15/18 08:57	09/07/18 05:38	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					08/15/18 08:57	09/07/18 05:38	1

Lab Sample ID: LCS 160-382525/1-A  
Matrix: Water  
Analysis Batch: 387769

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 382525

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.4	10.54		1.09	1.00	0.0673	pCi/L	93	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	97.3		40 - 110						

Lab Sample ID: 500-149809-15 DU  
Matrix: Water  
Analysis Batch: 387770

Client Sample ID: Duplicate  
Prep Type: Total/NA  
Prep Batch: 382525

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.206		0.2069		0.0824	1.00	0.0767	pCi/L	0	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	96.5		40 - 110							

**Method: 904.0 - Radium-228 (GFPC)**

Lab Sample ID: MB 160-382531/22-A  
Matrix: Water  
Analysis Batch: 384512

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 382531

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.05685	U	0.219	0.219	1.00	0.386	pCi/L	08/15/18 10:00	08/22/18 09:18	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					08/15/18 10:00	08/22/18 09:18	1
Y Carrier	82.2		40 - 110					08/15/18 10:00	08/22/18 09:18	1

QC Sample Results

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Method: 904.0 - Radium-228 (GFPC) (Continued)**

Lab Sample ID: LCS 160-382531/1-A  
 Matrix: Water  
 Analysis Batch: 384512

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 382531

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	11.1	11.55		1.28	1.00	0.359	pCi/L	104	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	97.3		40 - 110
Y Carrier	88.2		40 - 110

Lab Sample ID: 500-149809-15 DU  
 Matrix: Water  
 Analysis Batch: 384512

Client Sample ID: Duplicate  
 Prep Type: Total/NA  
 Prep Batch: 382531

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.204	U	0.07311	U	0.232	1.00	0.402	pCi/L	0.25	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	96.5		40 - 110
Y Carrier	85.2		40 - 110

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-01**

**Date Collected: 08/08/18 09:49**

**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-1**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			382525	08/15/18 08:57	JLC	TAL SL
Total/NA	Analysis	903.0		1	387769	09/07/18 05:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			382531	08/15/18 10:00	JLC	TAL SL
Total/NA	Analysis	904.0		1	384512	08/22/18 09:16	MAR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	388346	09/11/18 02:43	MAR	TAL SL

**Client Sample ID: MW-02**

**Date Collected: 08/07/18 09:30**

**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-2**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			382525	08/15/18 08:57	JLC	TAL SL
Total/NA	Analysis	903.0		1	387769	09/07/18 05:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			382531	08/15/18 10:00	JLC	TAL SL
Total/NA	Analysis	904.0		1	384512	08/22/18 09:16	MAR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	388346	09/11/18 02:43	MAR	TAL SL

**Client Sample ID: MW-03**

**Date Collected: 08/07/18 10:54**

**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-3**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			382525	08/15/18 08:57	JLC	TAL SL
Total/NA	Analysis	903.0		1	387769	09/07/18 05:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			382531	08/15/18 10:00	JLC	TAL SL
Total/NA	Analysis	904.0		1	384512	08/22/18 09:16	MAR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	388346	09/11/18 02:43	MAR	TAL SL

**Client Sample ID: MW-04**

**Date Collected: 08/07/18 12:27**

**Date Received: 08/10/18 16:50**

**Lab Sample ID: 500-149809-4**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			382525	08/15/18 08:57	JLC	TAL SL
Total/NA	Analysis	903.0		1	387769	09/07/18 05:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			382531	08/15/18 10:00	JLC	TAL SL
Total/NA	Analysis	904.0		1	384512	08/22/18 09:16	MAR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	388346	09/11/18 02:43	MAR	TAL SL

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-149809-2

**Client Sample ID: MW-05**

**Lab Sample ID: 500-149809-5**

**Date Collected: 08/07/18 13:30**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			382525	08/15/18 08:57	JLC	TAL SL
Total/NA	Analysis	903.0		1	387769	09/07/18 05:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			382531	08/15/18 10:00	JLC	TAL SL
Total/NA	Analysis	904.0		1	384512	08/22/18 09:16	MAR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	388346	09/11/18 02:43	MAR	TAL SL

**Client Sample ID: MW-08**

**Lab Sample ID: 500-149809-6**

**Date Collected: 08/08/18 11:11**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			382525	08/15/18 08:57	JLC	TAL SL
Total/NA	Analysis	903.0		1	387769	09/07/18 05:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			382531	08/15/18 10:00	JLC	TAL SL
Total/NA	Analysis	904.0		1	384512	08/22/18 09:16	MAR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	388346	09/11/18 02:43	MAR	TAL SL

**Client Sample ID: MW-09**

**Lab Sample ID: 500-149809-7**

**Date Collected: 08/08/18 12:46**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			382525	08/15/18 08:57	JLC	TAL SL
Total/NA	Analysis	903.0		1	387769	09/07/18 05:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			382531	08/15/18 10:00	JLC	TAL SL
Total/NA	Analysis	904.0		1	384512	08/22/18 09:16	MAR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	388346	09/11/18 02:43	MAR	TAL SL

**Client Sample ID: MW-10**

**Lab Sample ID: 500-149809-8**

**Date Collected: 08/08/18 14:44**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			382525	08/15/18 08:57	JLC	TAL SL
Total/NA	Analysis	903.0		1	387769	09/07/18 05:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			382531	08/15/18 10:00	JLC	TAL SL
Total/NA	Analysis	904.0		1	384512	08/22/18 09:17	MAR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	388346	09/11/18 02:43	MAR	TAL SL

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-149809-2

**Client Sample ID: MW-11**

**Lab Sample ID: 500-149809-9**

**Date Collected: 08/09/18 14:03**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			382525	08/15/18 08:57	JLC	TAL SL
Total/NA	Analysis	903.0		1	387769	09/07/18 05:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			382531	08/15/18 10:00	JLC	TAL SL
Total/NA	Analysis	904.0		1	384512	08/22/18 09:17	MAR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	388346	09/11/18 02:43	MAR	TAL SL

**Client Sample ID: MW-12**

**Lab Sample ID: 500-149809-10**

**Date Collected: 08/09/18 15:46**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			382525	08/15/18 08:57	JLC	TAL SL
Total/NA	Analysis	903.0		1	387769	09/07/18 05:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			382531	08/15/18 10:00	JLC	TAL SL
Total/NA	Analysis	904.0		1	384512	08/22/18 09:17	MAR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	388346	09/11/18 02:43	MAR	TAL SL

**Client Sample ID: MW-15**

**Lab Sample ID: 500-149809-11**

**Date Collected: 08/09/18 11:42**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			382525	08/15/18 08:57	JLC	TAL SL
Total/NA	Analysis	903.0		1	387769	09/07/18 05:36	KLS	TAL SL
Total/NA	Prep	PrecSep_0			382531	08/15/18 10:00	JLC	TAL SL
Total/NA	Analysis	904.0		1	384512	08/22/18 09:17	MAR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	388346	09/11/18 02:43	MAR	TAL SL

**Client Sample ID: MW-17**

**Lab Sample ID: 500-149809-12**

**Date Collected: 08/06/18 14:41**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			382525	08/15/18 08:57	JLC	TAL SL
Total/NA	Analysis	903.0		1	387769	09/07/18 05:36	KLS	TAL SL
Total/NA	Prep	PrecSep_0			382531	08/15/18 10:00	JLC	TAL SL
Total/NA	Analysis	904.0		1	384512	08/22/18 09:17	MAR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	388346	09/11/18 02:43	MAR	TAL SL



Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Client Sample ID: MW-18**

**Lab Sample ID: 500-149809-13**

**Date Collected: 08/06/18 15:46**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			382525	08/15/18 08:57	JLC	TAL SL
Total/NA	Analysis	903.0		1	387770	09/07/18 05:37	KLS	TAL SL
Total/NA	Prep	PrecSep_0			382531	08/15/18 10:00	JLC	TAL SL
Total/NA	Analysis	904.0		1	384512	08/22/18 09:18	MAR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	388346	09/11/18 02:43	MAR	TAL SL

**Client Sample ID: MW-19**

**Lab Sample ID: 500-149809-14**

**Date Collected: 08/06/18 16:48**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			382525	08/15/18 08:57	JLC	TAL SL
Total/NA	Analysis	903.0		1	387770	09/07/18 05:37	KLS	TAL SL
Total/NA	Prep	PrecSep_0			382531	08/15/18 10:00	JLC	TAL SL
Total/NA	Analysis	904.0		1	384512	08/22/18 09:18	MAR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	388346	09/11/18 02:43	MAR	TAL SL

**Client Sample ID: Duplicate**

**Lab Sample ID: 500-149809-15**

**Date Collected: 08/07/18 00:00**

**Matrix: Water**

**Date Received: 08/10/18 16:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			382525	08/15/18 08:57	JLC	TAL SL
Total/NA	Analysis	903.0		1	387770	09/07/18 05:38	KLS	TAL SL
Total/NA	Prep	PrecSep_0			382531	08/15/18 10:00	JLC	TAL SL
Total/NA	Analysis	904.0		1	384512	08/22/18 09:18	MAR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	388346	09/11/18 02:43	MAR	TAL SL

**Laboratory References:**

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Laboratory: TestAmerica Chicago**

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-19

**Laboratory: TestAmerica St. Louis**

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200023	11-30-18

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
903.0	PrecSep-21	Water	Radium-226
904.0	PrecSep_0	Water	Radium-228
Ra226_Ra228		Water	Combined Radium 226 + 228



Electronic Filing: Received, Clerk's Office 07/19/2019



TestAmerica Chicago  
2417 Bond St.  
University Park, IL 60484  
708-534-5200  
Fax: 708-534-5211

<b>Report To:</b> Contact: Richard Gnat Company: KPRG and Associates, Inc Address: 14665 W. Lisbon Rd., Suite 2B Brookfield, WI 53005 Phone: 262-781-0475 Email: richardg@kprginc.com	<b>Bill To:</b> Contact: Company: Address: Phone: Email: PO #:	<b>Lab Lot #</b> 500-149809 <b>Package Sealed</b> (Yes) No <b>Samples Sealed</b> (Yes) No <b>Received on Ice</b> (Yes) No <b>Samples Intact</b> (Yes) No N/A <b>Temperature °C of Cooler</b> 3.6, 3.7, 10.0, 5.2, 5.4 <b>Within Hold Time</b> (Yes) No <b>Preserv. Indicated</b> (Yes) No N/A <b>pH Check OK</b> (Yes) No <b>Res. GL Check OK</b> (Yes) No N/A <b>Sample Labels and COC Agree.</b> (Yes) No COC not present
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500-149809 COC

Sampler Name:		COMPANY:		# / Cont.		Volume		Preserv.		Matrix		# of Cont		Additional Analyses / Remarks	
Ian John Howieson		KPRG & Associates Inc.													
Project Name:		TestAmerica Project Number:		Matrix		# of Cont		903.0, 904.0 Radium 226/228		6010C, 6020A, 7470A - Total Metals		2540C -TDS		4500_F_C - Fluoride	
Quarterly- Powerton CCR		50011612													
Project Location:		TAT													
Pekin, IL		15 Days													
Lab PM: Eric Lang		eric.lang@testamerica.com													
Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	W	5	X	X	X	X	X	X	X	X	X
1		MW-01	8-8-18	09:49	W	5	X	X	X	X	X	X	X	X	X
2		MW-02	8-7-18	09:30	W	5	X	X	X	X	X	X	X	X	X
3		MW-03	8-7-18	10:54	W	5	X	X	X	X	X	X	X	X	X
4		MW-04	8-7-18	12:27	W	5	X	X	X	X	X	X	X	X	X
5		MW-05	8-7-18	13:30	W	5	X	X	X	X	X	X	X	X	X
6		MW-08	8-8-18	11:11	W	5	X	X	X	X	X	X	X	X	X
7		MW-09	8-8-18	12:46	W	5	X	X	X	X	X	X	X	X	X
8		MW-10	8-8-18	14:44	W	5	X	X	X	X	X	X	X	X	X
9		MW-11	8-9-18	14:03	W	5	X	X	X	X	X	X	X	X	X
10		MW-12	8-9-18	15:46	W	5	X	X	X	X	X	X	X	X	X
11		MW-13	8-9-18	11:42	W	5	X	X	X	X	X	X	X	X	X

RELINQUISHED BY: IJH	COMPANY: KPRG	DATE: 8-10-18	TIME: 16:50	RECEIVED BY: [Signature]	COMPANY: TA	DATE: 8/10/18	TIME: 16:50
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

**Matrix Key**  
 WW = Wastewater SE = Sediment  
 W = Water SO = Solid  
 S = Soil DL = Drum Liquid  
 SL = Sludge DS = Drum Solid  
 MS = Miscellaneous L = Leachate  
 OL = Oil W = Wipe  
 A = Air O = \_\_\_\_\_

**Container Key**  
 1. Plastic  
 2. VOA Vial  
 3. Sterile Plastic  
 4. Amber Glass  
 5. Widemouth Glass  
 6. Other

**Reservative Key**  
 1. HCl, Cool to 4°  
 2. H<sub>2</sub>SO<sub>4</sub>, Cool to 4°  
 3. HNO<sub>3</sub>, Cool to 4°  
 4. NaOH, Cool to 4°  
 5. NaOH/Zn, Cool to 4°  
 6. Cool to 4°  
 7. None

COMMENTS:

Date Received: 08, 10, 18  
 Courier:   
 Hand Delivered:   
 Bill of Lading: \_\_\_\_\_

1 of 2

STL-8208 (0600)



THE LEADER IN ENVIRONMENTAL TESTING

**TestAmerica Chicago**  
2417 Bond St.  
University Park, IL 60484  
708-534-5200  
Fax: 708-534-5211

**Report To:**

Contact: Richard Gnat  
Company: KPRG and Associates, Inc  
Address: 14665 W. Lisbon Rd., Suite 2B  
Brookfield, WI 53005  
Phone: 262-781-0475  
Email: richardg@kprginc.com

**Bill To:**

Contact:  
Company:  
Address:  
Phone:  
Email:  
PO #:

Lab Lot # 500-149809  
Package Sealed Yes No Samples Sealed Yes No  
Received on Ice Yes No Samples Intact Yes No N/A  
Temperature °C of Cooler 3.6, 3.7, 6.0, 5.2, 5.4

Sampler Name:		COMPANY:		# / Cont.											Within Hold Time		Preserv. Indicated								
Ian John Howieson		KPRG & Associates Inc.		Volume											Yes	No	Yes	No	N/A						
Project Name:		TestAmerica Project Number:		Preserv.											pH Check OK		Res. Cl. Check OK								
Quarterly- Powerton CCR		50011612													Yes	No	Yes	No	N/A						
Project Location:		TAT		Matrix	# of Cont											Sample Labels and GOC Agree									
Pekin, IL		15 Days				903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C - TDS	4500_F_C - Fluoride	SM4500_CL_E Chloride	SM4500_SO4_E - Sulfate											Yes	No	COC not present	
Lab PM:		eric.lang@testamerica.com												Additional Analyses / Remarks											
Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time																					
12		MW-17	8-6-18	14:41	W	5	X	X	X	X	X	X													
13		MW-18	8-6-18	15:46	W	5	X	X	X	X	X	X													
14		MW-19	8-6-18	16:48	W	5	X	X	X	X	X	X													
15		Duplicates	8-7-18	--	W	5	X	X	X	X	X	X													

RELINQUISHED BY: *IJH* COMPANY: KPRG DATE: 8-10-18 TIME: 16:50 RECEIVED BY: *R. Lang* COMPANY: TA DATE: 8/10/18 TIME: 16:50

**Matrix Key**  
WW = Wastewater SE = Sediment  
W = Water SO = Solid  
S = Soil DL = Drum Liquid  
SL = Sludge DS = Drum Solid  
MS = Miscellaneous L = Leachate  
OL = Oil W = Wipe  
A = Air O =

**Container Key**  
1. Plastic  
2. VOA Vial  
3. Sterile Plastic  
4. Amber Glass  
5. Widemouth Glass  
6. Other

**Preservative Key**  
1. HCl, Cool to 4°  
2. H<sub>2</sub>SO<sub>4</sub>, Cool to 4°  
3. HNO<sub>3</sub>, Cool to 4°  
4. NaOH, Cool to 4°  
5. NaOH/Zn, Cool to 4°  
6. Cool to 4°  
7. None

COMMENTS:

Date Received 8/10/18  
Courier:  
Hand Delivered   
Bill of Lading:

2 of 2

**TestAmerica Chicago**  
 2417 Bond Street  
 University Park, IL 60484  
 Phone (708) 534-5200 Fax (708) 534-5211

**Chain of Custody Record**



<b>Client Information (Sub Contract Lab)</b>		Sampler: Lab PM: Lang, Eric A.		Carrier Tracking No(s): COC No: 500-108777.1					
Client Contact: Shipping/Receiving		E-Mail: eric.lang@testamericainc.com		Page: Page 1 of 2					
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-149809-2					
Address: 13715 Rider Trail North, Earth City, MO, 63045		Due Date Requested: 9/10/2018		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (Specify)					
PO #: 314-298-8566(Tel) 314-298-8757(Fax)		TAT Requested (days):		Analysis Requested:					
WO #:		Project #: 50011612		Total Number of Containers:					
Site: MWG - Powerton		SSOW#:		Special Instructions/Note:					
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Soils, Oil, Tissue, Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreSep_21 Standard Target List	904.0/PreSep_0 Standard Target List	Ra226Ra228 GFPC
MW-01 (500-149809-1)	8/8/18	09:49 Central	Water	Water	X	X	X	X	3
MW-02 (500-149809-2)	8/7/18	09:30 Central	Water	Water	X	X	X	X	3
MW-03 (500-149809-3)	8/7/18	10:54 Central	Water	Water	X	X	X	X	3
MW-04 (500-149809-4)	8/7/18	12:27 Central	Water	Water	X	X	X	X	3
MW-05 (500-149809-5)	8/7/18	13:30 Central	Water	Water	X	X	X	X	3
MW-08 (500-149809-6)	8/8/18	11:11 Central	Water	Water	X	X	X	X	3
MW-09 (500-149809-7)	8/8/18	12:46 Central	Water	Water	X	X	X	X	3
MW-10 (500-149809-8)	8/8/18	14:44 Central	Water	Water	X	X	X	X	3
MW-11 (500-149809-9)	8/9/18	14:03 Central	Water	Water	X	X	X	X	3

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify)  
 Primary Deliverable Rank: 2

Empty Kit Relinquished by: *A. K. Dwyer* Date: 8/13/18  
 Relinquished by: *M. J. H. Lee* Date: 8/14/18  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months  
 Special Instructions/QC Requirements:

Method of Shipment: \_\_\_\_\_  
 Received by: *M. J. H. Lee* Date: 8-14-18  
 Received by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_





**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-149809-2

**Login Number: 149809**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Sanchez, Ariel M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.6, 3.7, 5.2, 5.4, 6.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-149809-2

**Login Number: 149809**

**List Source: TestAmerica St. Louis**

**List Number: 2**

**List Creation: 08/14/18 11:55 AM**

**Creator: Hellm, Michael**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	16.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Method: 903.0 - Radium-226 (GFPC)**

**Matrix: Water**

**Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Ba Carrier (40-110)	Percent Yield (Acceptance Limits)			
500-149809-1	MW-01	93.5				
500-149809-2	MW-02	94.1				
500-149809-3	MW-03	101				
500-149809-4	MW-04	93.2				
500-149809-5	MW-05	95.0				
500-149809-6	MW-08	95.0				
500-149809-7	MW-09	95.9				
500-149809-8	MW-10	95.0				
500-149809-9	MW-11	93.8				
500-149809-10	MW-12	91.2				
500-149809-11	MW-15	95.6				
500-149809-12	MW-17	97.3				
500-149809-13	MW-18	95.6				
500-149809-14	MW-19	92.9				
500-149809-15	Duplicate	90.9				
500-149809-15 DU	Duplicate	96.5				
LCS 160-382525/1-A	Lab Control Sample	97.3				
MB 160-382525/22-A	Method Blank	90.0				

**Tracer/Carrier Legend**

Ba Carrier = Ba Carrier

**Method: 904.0 - Radium-228 (GFPC)**

**Matrix: Water**

**Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Ba Carrier (40-110)	Y Carrier (40-110)	Percent Yield (Acceptance Limits)			
500-149809-1	MW-01	93.5	93.1				
500-149809-2	MW-02	94.1	85.6				
500-149809-3	MW-03	101	89.3				
500-149809-4	MW-04	93.2	90.1				
500-149809-5	MW-05	95.0	86.4				
500-149809-6	MW-08	95.0	80.4				
500-149809-7	MW-09	95.9	88.6				
500-149809-8	MW-10	95.0	80.0				
500-149809-9	MW-11	93.8	87.9				
500-149809-10	MW-12	91.2	81.9				
500-149809-11	MW-15	95.6	85.2				
500-149809-12	MW-17	97.3	84.1				
500-149809-13	MW-18	95.6	79.3				
500-149809-14	MW-19	92.9	74.0				
500-149809-15	Duplicate	90.9	68.8				
500-149809-15 DU	Duplicate	96.5	85.2				
LCS 160-382531/1-A	Lab Control Sample	97.3	88.2				
MB 160-382531/22-A	Method Blank	90.0	82.2				

**Tracer/Carrier Legend**

Ba Carrier = Ba Carrier

Y Carrier = Y Carrier

**Appendix B**

**Alternate Source Demonstration April 12, 2018**



ENVIRONMENTAL CONSULTATION &amp; REMEDIATION

**KPRG and Associates, Inc.**

**ALTERNATE SOURCE DEMONSTRATION**  
**CCR GROUNDWATER MONITORING**  
**POWERTON GENERATING STATION**

April 12, 2018

Ms. Sharene Shealey  
Midwest Generation, LLC  
529 E. Romeo Road  
Romeoville, IL 60446

VIA E-MAIL

Re: Alternate Source Demonstration  
Powerton Generating Station – Ash Basins

Dear Ms. Shealey:

The initial Detection Monitoring requirements in accordance with the Federal Register, Environmental Protection Agency, 40 CFR Parts 257.94, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule dated April 17, 2015 (CCR Rule) have been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Powerton Generating Station. The wells sampled were selected by Midwest Generation to meet the monitoring requirements of the CCR Rule for the Ash Surge Basin and the Ash By-pass Basin. The monitoring well network around these ponds consists of ten monitoring wells (MW-01 [upgradient], MW-08, MW-09 [upgradient], MW-11, MW-12, MW-15, MW-17, MW-18 and MW-19 [upgradient]) as shown on Figure 1. It is noted that upgradient monitoring well, MW-19 was more recently installed (October 2016) and is still in the process of having the first full eight rounds of detection monitoring data being collected. Since it is an upgradient well, it was not included in the statistical comparisons but the data is considered in evaluations provided within this report as appropriate.

A statistical evaluation of the initial detection monitoring data was completed and submitted to Midwest Generation. The statistical evaluations were completed in accordance with the CCR Compliance Statistical Approach for Groundwater Data Evaluation, Midwest Generation Powerton Generating Station dated October 10, 2017. The evaluations included outlier testing, spatial/temporal variability testing, distributional testing, and the establishment of statistical Prediction Limits (PLs) for all Appendix III compounds to which the ninth round of groundwater detection monitoring data were

compared to determine whether there may be a statistically significant increase (SSI) for a specific compound at each well location. The evaluations were performed with the assistance of the Sanitas™ statistical software package and provided in the Statistical Evaluation Summary – 2017 CCR Groundwater Monitoring Powerton Generating Station dated January 12, 2018. The following conclusion/recommendations were provided:

“The completed detection monitoring statistical evaluations have determined that there are SSIs in downgradient monitoring wells relative to established background for various Appendix III parameters, depending on well location. At this time, KPRG recommends completing an alternate source demonstration to determine whether these exceedances may be associated with an actual release from the regulated unit(s) or if another potential historical source in the vicinity of the ash ponds may be affecting the local groundwater quality. If the alternate source demonstration is successful, then detection monitoring will resume. If the alternate source demonstration is not successful, then a transition to an assessment monitoring program complying with Section 257.95 will be required.”

This report summarizes the results of the Alternate Source Demonstration in accordance with 40 CFR 257.94(e)(2) completed for the Powerton Generating Station Ash Surge Basin (ASB) and Ash By-pass Basin (ABB). The report is structured to provide a documentation of field investigation activities, a summary of LEAF Test data observations, an alternate source evaluation of the SSI parameters, conclusions and recommendations. Each is discussed separately below. The statistical evaluation data tables from the January 12, 2018 submittal are provided in Attachment 1 for reference.

#### DOCUMENTATION OF FIELD ACTIVITIES

To assist in evaluating a potential alternate source, both basin water and ash samples were collected. One water sample was collected from the ASB and one water sample was collected from the ABB. The water samples were collected directly into laboratory prepared containers, transported on ice under a completed chain-of-custody to the analytical laboratory and analyzed for CCR Appendix III detection monitoring parameters. Analytical data package is provided in Attachment 2.

One composite ash sample was collected for each of the two basins (ASB and ABB). The composite samples consisted of a series of equivalent grab samples from across the length of the basin, from the inlet area to the outfall, to minimize potential skewing of the sample due to gradation changes (i.e., a larger coarse fraction near the inlet and larger fine fraction near outfall). The individual grab samples were thoroughly mixed to form a single composite sample for each basin. The composite samples were transferred directly into laboratory prepared containers, placed on ice and shipped to the analytical laboratory under a completed chain-of-custody. The ash sediment samples were analyzed using the Leaching Environmental Assessment Framework (LEAF) test using Method 1313. Under this method, each ash sediment sample underwent leaching over a range of eight pH values plus under “Natural pH” conditions. The Natural pH condition is the actual pH of the ash itself measured in the laboratory prior to any pH modifications performed under the LEAF

Test. The collected leachate from each pH value was analyzed for CCR Appendix III detection monitoring parameters. The analytical data package is provided in Attachment 2.

### LEAF TEST DATA OBSERVATIONS

The results of the pond water and the ash LEAF Test analyses are provided in Tables 1 and 2, respectively. A review of Tables 1 and 2 indicates that the Natural pH of the ash leachate ranges from 8.5 in the ASB to 8.8 in the ABB. Both of these are slightly higher than the pH values from the corresponding pond water samples (8.2 to 8.4, respectively). This suggests that the pond water samples may not be fully representative of equilibrium conditions of expected pore water within the ash sediment but fairly close. Based on this observation, the focus of this analysis will rely mostly on the results of the LEAF Test data and in particular the data from the “Natural pH” samples, although the pond water data may be brought into consideration as necessary.

The remaining analytical constituent LEAF Test data are illustrated in graphical form on Figures 2 through 9 as a function of pH. On those figures are also plotted the results of the “Natural pH” test samples and the up- and downgradient monitoring well data from the August 2017 sampling event (the initial detection monitoring event which was compared to established statistical background). For values reported as not-detected, one-half of the detection limit was used on the curves. In general, the following observations are made:

- Boron – The LEAF Test curves for boron vary between the ABB and the ASB in two ways. First, the ABB ash consistently shows higher boron concentrations across all pH ranges. Second, The ABB ash curve indicates a decrease in boron concentration with increasing pH to a pH level of 8 after which point there appears to be a slight increase in boron concentration. The ASB ash curve indicates a continual decrease in boron concentration with increasing pH. The Natural pH sample data for both the ABB and ASB plot close to where it would be expected on the specific LEAF Test curves. The boron concentrations at all downgradient monitoring wells plot lower than the boron concentration noted for the Natural pH test analysis for the ABB but above the Natural pH test analysis for the ASB.
- Sulfate – The LEAF Test curves for sulfate vary between the ABB and the ASB in two ways. First, the ABB ash consistently shows higher sulfate concentrations across all pH ranges. Second, the ABB ash curve indicates an overall decreasing trend in sulfate concentration with increasing pH. The ASB curve indicates no general correlation between pH and sulfate concentrations. The Natural pH samples for each basin plot close to the expected range for sulfate based on their pH as compared to the two LEAF Test curves. The monitoring well data sulfate concentrations generally plot (except for upgradient/side-gradient well MW-01) between the ASB and ABB concentrations.
- Chloride – There were some non-detect values within the LEAF Test chloride data. For these cases, one-half of the noted detection limit was used for graphing purposes. The chloride concentrations do not appear to be a function of pH with a

relatively narrow range of concentrations. The Natural pH test data corresponds well with the LEAF Test curve. The upgradient monitoring well data plot slightly above the curves and all downgradient well data show elevated chloride levels relative to the LEAF Test data.

- Fluoride – There were some non-detect values within the LEAF Test chloride data. For these cases, one-half of the noted detection limit was used for graphing purposes. The LEAF Test curves for the ABB and ASB vary with the ABB showing a correlation of fluoride with pH and the ASB curve indicating no correlation. The Natural pH test data plot on or close to the respective LEAF Test curves. The upgradient and downgradient monitoring well data all plot within a cluster with a narrow range of concentrations.
- Calcium – The calcium leachate concentration is a function of pH with decreasing concentrations with increasing pH. The Natural pH sample data for both basins plot close to where it would be expected on the LEAF Test curve with calcium concentrations ranging from 35 to 130 mg/l. Monitoring well concentrations of calcium range from 85 to 190 mg/l, with higher concentrations in upgradient wells.
- ORP – The oxidation-reduction potential (ORP) is a known function of pH with ORP generally decreasing with increasing pH. This is reflected in the LEAF Test curves. The Natural pH sample data for both basins plot closely with their respective ash leachate curves. There is a wide range of ORP in monitoring wells within a narrow pH range.
- Specific Conductance (SC) – The SC measurements have a clear correlation with pH with measurements decreasing from a pH of 2 to a pH of 10 and then again increasing sharply as a pH of 13 is approached. The SC values of the Natural pH sample both plot close to, but slightly below, their respective LEAF Test curves. The specific conductivity values in both the up- and downgradient monitoring wells plots below the Natural pH test data.
- Total Dissolved Solids (TDS) – The TDS LEAF Test curves mimic the SC curves with concentrations decreasing to a pH of just over 10 and then increasing as pH increases. The TDS values of the Natural pH samples both plot near, but slightly below, their respective LEAF Test curves. The TDS concentrations in the upgradient wells generally plotted within or above the range of Natural pH sample concentrations.

#### ALTERNATE SOURCE EVALUATION OF THE SSI PARAMETERS

Boron and sulfate are both conservative compounds once in dissolved phase and are accepted indicator parameters of coal ash leachate. Based on the discussions above, the ABB and the ABS have slightly different boron and sulfate profiles, with the ABB consistently showing higher concentrations of both constituents. Therefore, the subsequent data evaluations will focus on basin specific monitoring wells.

### Ash By-pass Basin (ABB)

Relative to the ABB, monitoring wells MW-09 and MW-19 are considered local upgradient monitoring points and wells MW-11 and MW-12 are the immediate downgradient monitoring points. It is noted that all of these monitoring wells are completed within areas of historical fill material placement which includes ash. For statistical evaluation purposes, well MW-01 was also considered for representation of background. This well is located to the east and north (mostly side-gradient) within an area that did not include historic ash placement. Downgradient monitoring well MW-11 is screened within the gravelly sand unit and indicated potential SSIs in the August 2017 sampling for boron, sulfate, chloride, fluoride, and TDS. Downgradient well MW-12 is screened within a silty clay unit and indicated potential SSIs in the August 2017 sampling for sulfate, chloride, calcium, fluoride and TDS.

#### Boron

Relative to the noted potential boron exceedance at MW-11, the measured concentration in the monitoring well was 2.2 mg/l. This is above the established background PL of 1 mg/l based on background data from well MW-01. However, the boron concentrations in the more local upgradient wells MW-09 and MW-19 ranged from 3.5 to 3.8 mg/l (it is noted that these wells are screened within an area that contains some historic fill mixed with ash). The boron concentration in the Natural pH test sample for the ABB was 3.7. Since the local upgradient monitoring well and the ABB ash leachate boron concentrations are basically the same, KPRG used an Illinois Environmental Protection Agency (IEPA) recognized, two-dimensional analytical model identified within the Tiered Approach to Corrective Action Objectives (TACO) for simple advection-dispersion based constituent transport. A starting boron concentration of 3.65 mg/l (average of MW-09 and MW-19 concentrations) was assumed starting at a point between the two upgradient wells. The estimated boron concentration at well MW-11 was 0.18 mg/l based on this calculation (see Attachment 3). It is noted that this calculation conservatively assumes that the constituent is migrating from the upgradient wells to the downgradient wells through a “clean/unimpacted” zone of aquifer which does not contain any other source of boron. If this residual estimated concentration of boron is mixed with Natural pH test leachate from the ABB a resulting concentration estimate of boron would be 1.94 mg/l. Therefore, there appears to be some additional source of boron is affecting the downgradient wells, however, some potential contribution from the ABB cannot be ruled out at this time.

#### Sulfate

Both downgradient monitoring wells MW-11 and MW-12 had potential SSIs for sulfate with a PL based on side-gradient well MW-01 of 107 mg/l. The range of sulfate concentration in more local upgradient monitoring wells (MW-09 and MW-19) was 150 to 160 mg/l and in the ABB ash

Natural pH test it was 910 mg/l. The downgradient monitoring well sulfate concentrations were 310 and 520 mg/l. Using the same two-dimensional advection dispersion model noted above with a starting sulfate concentration of 155 mg/l at a point between the two local upgradient monitoring wells would project an estimated sulfate concentration at the downgradient monitoring wells of approximately 7.42 mg/l. As noted above, this calculation conservatively assumes that the constituent is migrating from the upgradient wells to the downgradient wells through a “clean/unimpacted” zone of aquifer which does not contain any additional source of sulfate. If this residual estimated concentration of sulfate is mixed with Natural pH test leachate from the ABB a resulting concentration estimate of sulfate would be approximately 459 mg/l which is within the range of concentrations detected within the downgradient monitoring wells. Based on this distribution of concentrations, a potential contribution of sulfate from the ABB cannot be ruled out at this time.

#### Chloride

Both downgradient monitoring wells MW-11 and MW-12 had potential SSIs for chloride with a PL based on side-gradient well MW-01 of 136 mg/l. The chloride concentration in both local upgradient monitoring wells (MW-09 and MW-19) was 36 mg/l and in the ABB ash Natural pH test it was 27 mg/l. The downgradient monitoring well chloride concentrations were 83 and 180 mg/l. Based on this distribution of concentrations, the ABB does not appear to be the source of elevated chloride in downgradient monitoring wells.

#### Calcium

Downgradient monitoring well MW-12 had a potential SSI for calcium with a PL based on side-gradient well MW-01 of 136 mg/l. The range of calcium concentration in the more local upgradient monitoring wells was 85 to 97 mg/l and in the ABB ash Natural pH test it was 130 mg/l. The downgradient monitoring well MW-12 calcium concentrations was 140 (just above the PL). Based on this distribution of concentrations, the ABB does not appear to be the source of elevated calcium in well MW-12.

#### Fluoride

Both downgradient monitoring wells MW-11 and MW-12 had potential SSIs for fluoride with a pooled PL (using data from wells MW-01 and MW-09) of 0.24 mg/l. The range of fluoride concentration in just the local upgradient monitoring wells was 0.14 to 0.16 mg/l and in the ABB ash Natural pH test it was 2.8 mg/l. The two downgradient monitoring well fluoride concentrations were both 0.52 mg/l. Based on this distribution of concentrations, a potential contribution of fluoride from the ABB cannot be ruled out at this time.



TDS

Both downgradient monitoring wells MW-11 and MW-12 had potential SSIs for TDS with a pooled PL (using data from wells MW-01 and MW-09) of 788 mg/l. The range of TDS concentration in just the local upgradient monitoring wells was 630 to 700 mg/l and in the ABB ash Natural pH test it was 1,500 mg/l. The downgradient monitoring well TDS concentrations were 1,100 and 1,400 mg/l. Based on this distribution of concentrations, a potential contribution of TDS from the ABB cannot be ruled out at this time.

Although some of the evaluations provided above suggest that the ABB leachate may be contributing to some elevated detections of various compounds, it must also be considered that the ABB (as well as the ASB) was just recently relined in 2015 and that some residual impacts may still be present within the aquifer from past operations prior to relining. This is supported by the observed distribution of pH measurements. The measured pH in local upgradient monitoring wells ranged from 7.2 to 7.3 and in the ABB Natural pH test it was 8.8. The pH in the downgradient wells ranged from 7.23 to 7.24 which is basically unchanged from the upgradient well measurements. If the current ABB is in fact contributing over time to elevated concentrations of other indicator parameters, it would be expected to see some consistent increase in the pH in the downgradient wells associated with an ongoing contribution of additional hydroxyl ion. This is not evident in the data, however, pH alone cannot be the determining factor in this analysis.

Discussions with Powerton Station personnel indicate that a tear in the liner was identified by maintenance personnel on August 31, 2018. It is believed the tear occurred sometime in the first part of August, however, the exact time of occurrence cannot be determined. This tear has been subsequently repaired by the liner installation contractor (see picture of repair in Attachment 4). The monitoring event which detected the potential SSIs being discussed above was completed during the last week of August 2018, prior to the repair of the tear. The data are therefore consistent with site events suggesting that a release may have been detected as a result of the tear and it is expected that SSI parameter concentrations at the downgradient well locations will return to historical level trends within the wells.

Ash Surge Basin (ASB)

Relative to the ASB, monitoring wells MW-09 and MW-19 are upgradient, however, wells MW-11 and MW-12 may also be considered upgradient of the basin (they are downgradient wells for the ABB and located generally between the two basins). Wells MW-11 and MW-12 are considered the “more local” upgradient wells in the discussions below. Wells MW-8, MW-15, MW-17 and MW-18 are the immediate downgradient monitoring wells. It is noted that all of these monitoring wells are completed within areas of historical fill mixed with ash placement. For statistical evaluation purposes, well MW-01 was also considered for representation of background. Downgradient monitoring well MW-18 is screened through the silty clay unit and into the sandy gravel unit and for the August 2017 sampling indicated

potential SSIs for sulfate, chloride, fluoride, TDS and pH. The remaining three downgradient monitoring wells are screened within the silty clay unit and for the August 2017 sampling had potential SSIs of boron, sulfate, chloride, calcium, fluoride and TDS.

#### Boron

Relative to the noted potential boron SSIs at wells MW-08, MW-15 and MW-17 the range of boron concentrations was 1.2 to 2.2 mg/l. This is above the established background PL of 1 mg/l based on background data from well MW-01. The boron concentrations in local upgradient wells MW-11 and MW-12 ranged from 0.78 to 2.2 mg/l suggesting little to no change in the downgradient concentrations. The boron concentration in the Natural pH test sample for the ASB was 0.36 mg/l. Based on the distribution of boron concentrations, the elevated boron in downgradient monitoring wells is not likely to be associated with potential leakage from the ASB and therefore, reflect an alternate source particularly when considered in conjunction with the discussions below for the other SSI exceedances.

#### Sulfate

All downgradient monitoring wells had potential SSIs for sulfate with a PL based on side-gradient well MW-01 of 107 mg/l. The range of sulfate concentration in more local upgradient monitoring wells was 310 to 520 mg/l and in the ASB ash Natural pH test it was 87 mg/l. The downgradient monitoring well sulfate concentrations ranged from 300 to 640 mg/l. Based on the distribution of sulfate concentrations, the elevated sulfate in downgradient monitoring wells are not attributed to potential leakage from the ASB and therefore, are reflective of an alternate source.

#### Chloride

All downgradient monitoring wells had potential SSIs for chloride with a PL based on side-gradient well MW-01 of 136 mg/l. The range of chloride concentration in both local upgradient monitoring wells was 83 to 180 mg/l and in the ASB ash Natural pH test it was 6.5 mg/l. The downgradient monitoring well chloride concentrations ranged from 200 to 360 mg/l. Based on the distribution of chloride concentrations, the elevated chloride in downgradient monitoring wells are not attributed to potential leakage from the ASB and therefore, are reflective of an alternate source.

#### Calcium

Downgradient monitoring wells MW-08, MW-15 and MW-17 had potential SSIs for calcium with a PL based on side-gradient well MW-01 of 136 mg/l. The range of calcium concentration in more local upgradient monitoring wells was 130 to 140 mg/l and in the ASB ash Natural pH test it was 35 mg/l. The downgradient monitoring well calcium concentrations ranged from 150 to 190 mg/l. Based on the distribution of calcium concentrations, the elevated calcium in downgradient monitoring wells are not associated

with potential leakage from the ASB and therefore, are reflective of an alternate source.

#### Fluoride

All downgradient monitoring wells had potential SSIs for fluoride with a pooled PL (using data from wells MW-01 and MW-09) of 0.24 mg/l. The fluoride concentration in both of the local upgradient monitoring wells was 0.52 mg/l and in the ASB ash Natural pH test it was 0.21 mg/l. The downgradient monitoring well fluoride concentrations ranged from 0.47 to 0.64 mg/l. Based on the distribution of fluoride concentrations, the elevated fluoride in downgradient monitoring wells are not associated with potential leakage from the ASB and therefore, are reflective of an alternate source.

#### TDS

All downgradient monitoring wells had potential SSIs for TDS with a pooled PL (using data from wells MW-01 and MW-09) of 788 mg/l. The range of TDS concentration in just the local upgradient monitoring wells was 1,100 to 1,400 mg/l and in the ASB ash Natural pH test it was 200 mg/l. The downgradient monitoring well TDS concentrations ranged from 1,200 to 1,900 mg/l. Based on the distribution of fluoride concentrations, the elevated fluoride in downgradient monitoring wells are not associated with potential leakage from the ASB and therefore, are reflective of an alternate source.

#### pH

Downgradient monitoring well MW-18 had a potential SSI for pH with a pooled PL (using data from wells MW-01 and MW-09) of 7.73 to 6.63. The pH at local upgradient monitoring wells ranged from 7.23 to 7.34 and in the ASB ash Natural pH test it was 8.5. The pH at downgradient well MW-18 was 7.81. A pH of 7.81 is fairly neutral and within a general expected range of natural groundwater. In addition, based on the discussions provided above, there is no definitive indication from the other indicator parameters that there may be leakage from the ASB. Therefore, the slightly elevated pH at well location MW-18 is likely a natural anomaly..

### CONCLUSIONS/RECOMMENDATIONS

Based on the discussions provided above, it is not believed that the ASB is the source of downgradient monitoring well SSIs and that there is an alternate source(s) of impacts. However, the data relative to the ABB is not as definitive and when all the observations for boron, sulfate, fluoride and TDS relative to the ABB are combined, potential contribution of leachate from the ABB to the local downgradient groundwater impacts cannot be ruled out at this time, particularly when considering the identification of a tear in the liner at the end of August 2018 (which has subsequently been repaired). Since the monitoring well network for the ABB and the ASB are somewhat integrated, it is

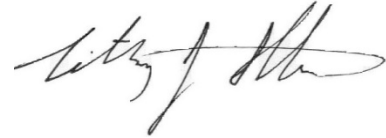
recommended that this site be shifted from detection monitoring into assessment monitoring in accordance with Section 257.95 of the CCR Rule.

If there are any questions, please contact me at 262-781-0475.

Sincerely,  
KPRG and Associates, Inc.



Richard R. Gnat, P.G.  
Principal



Timothy Stohner, P.E.  
Project Manager/Sr. Engineer

cc: David Bacher, NRG  
Mark Kelly, Midwest Generation  
Joseph Kotas, Midwest Generation

#### CERTIFICATION

In accordance with Section 257.94(e)(2) of the CCR Rule, I hereby certify based on a review of the information contained within this CCR Alternate Source Demonstration dated April 12, 2018, that the information contained in this report is accurate to the best of my knowledge.



Certified by:

Date: April 12, 2018

Timothy Stohner, P.E.  
Illinois Professional Engineer Registration No.: 062.057635  
KPRG and Associates, Inc.

**FIGURES**



ENVIRONMENTAL CONSULTATION & REMEDIATION

**K P R G**

KPRG and Associates, inc.

**ABB AND ASB CCR MONITORING  
WELL SITE MAP**

**POWERTON STATION  
PEKIN, ILLINOIS**

Scale: 1" = 350'

Date: April 11, 2018

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

KPRG Project No. 23517

FIGURE 1

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Figure 2. Boron Concentration vs. pH Value - Powerton Station

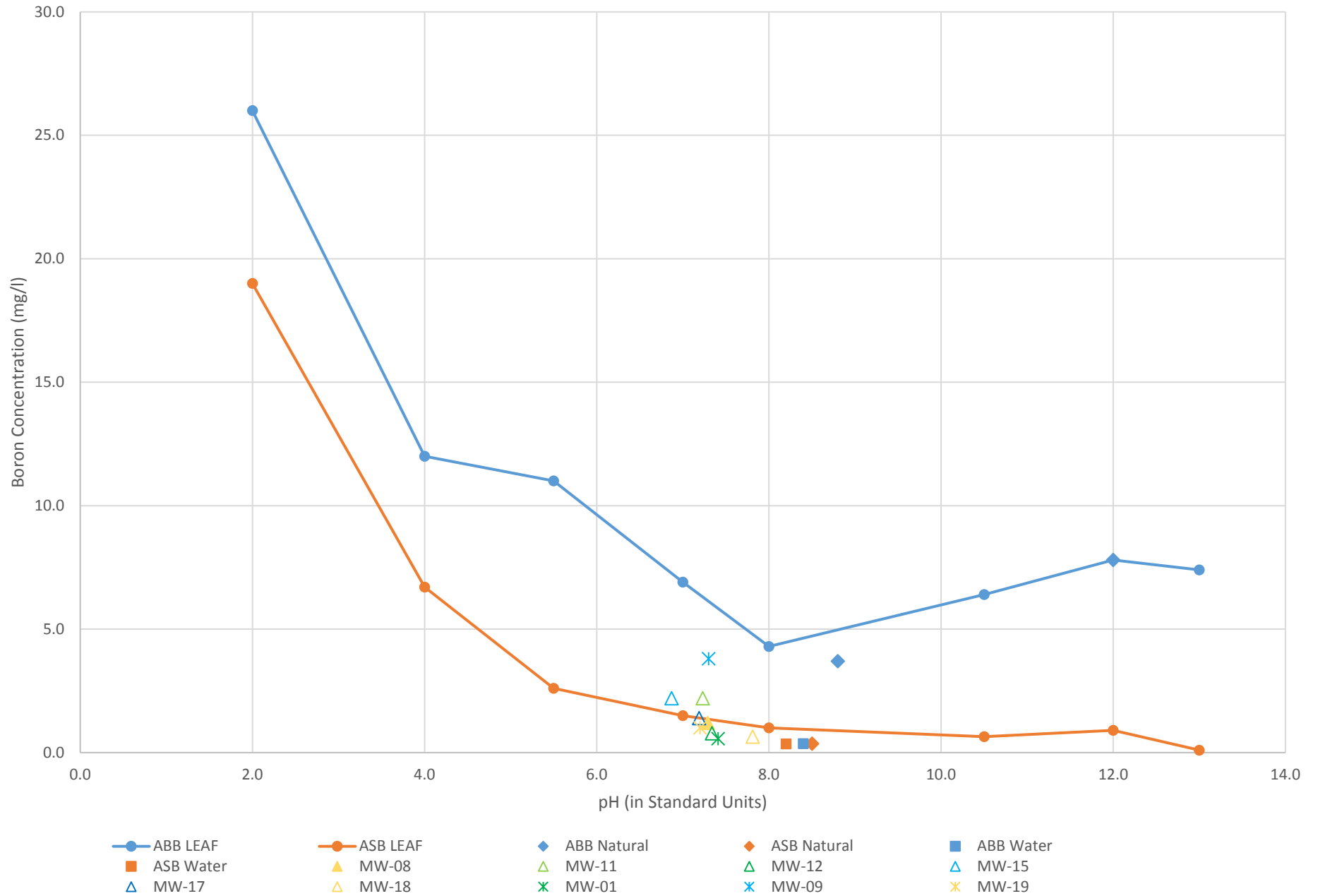


Figure 3. Sulfate Concentration vs. pH Value - Powerton Station

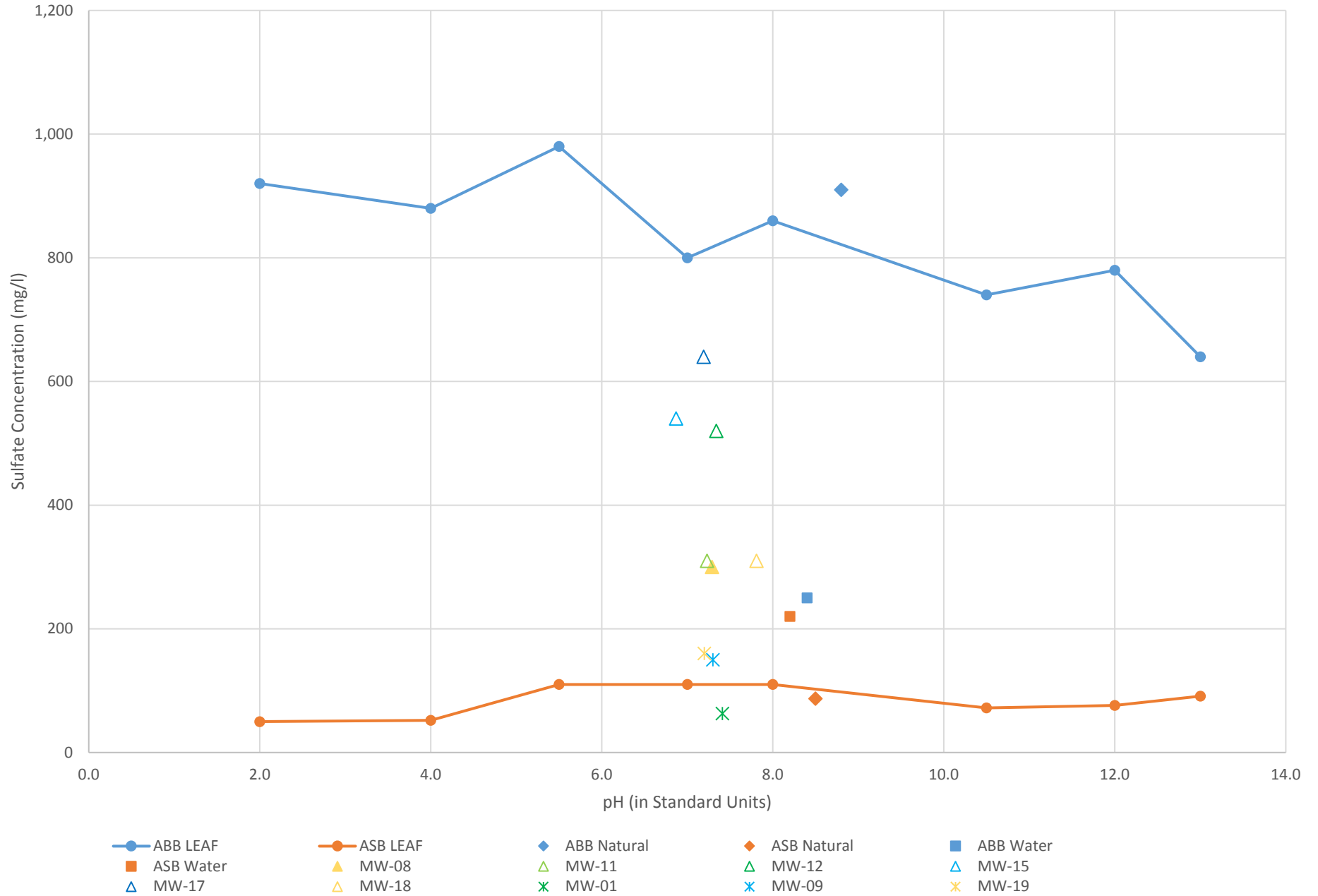




Figure 4. Chloride Concentration vs. pH Value - Powerton Station

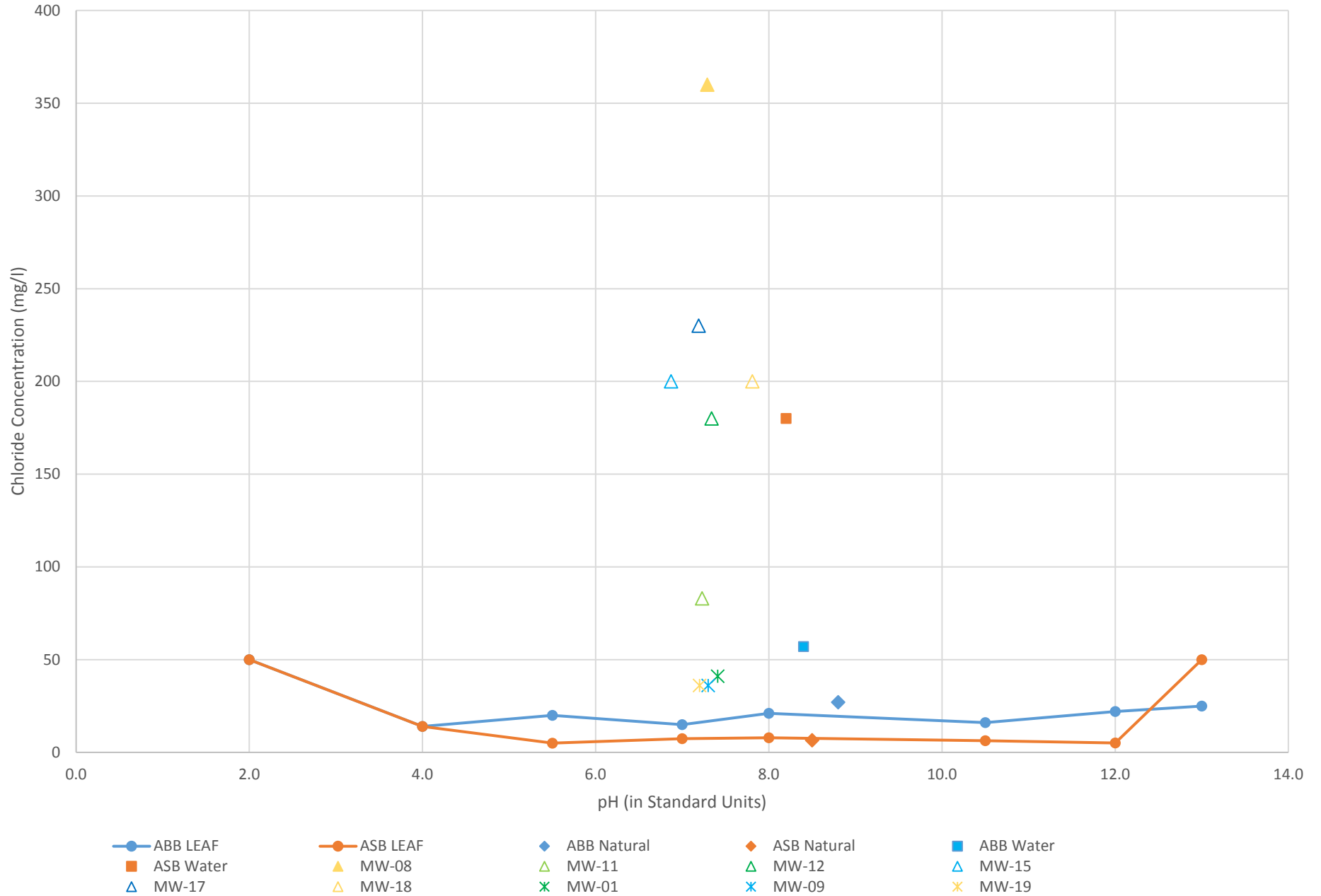




Figure 6. Calcium Concentration vs. pH Value - Powerton Station

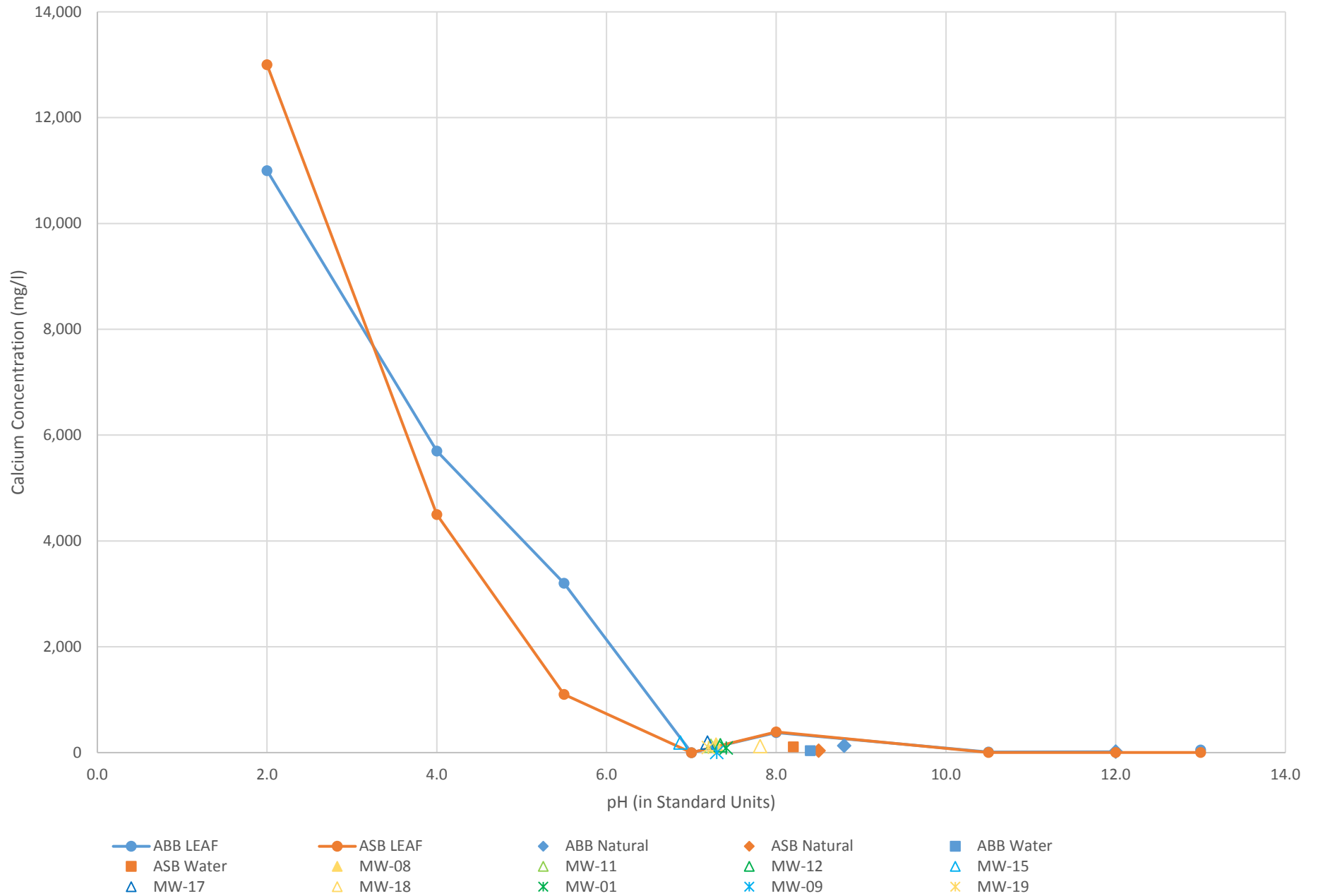


Figure 7. ORP Concentration vs. pH Value - Powerton Station

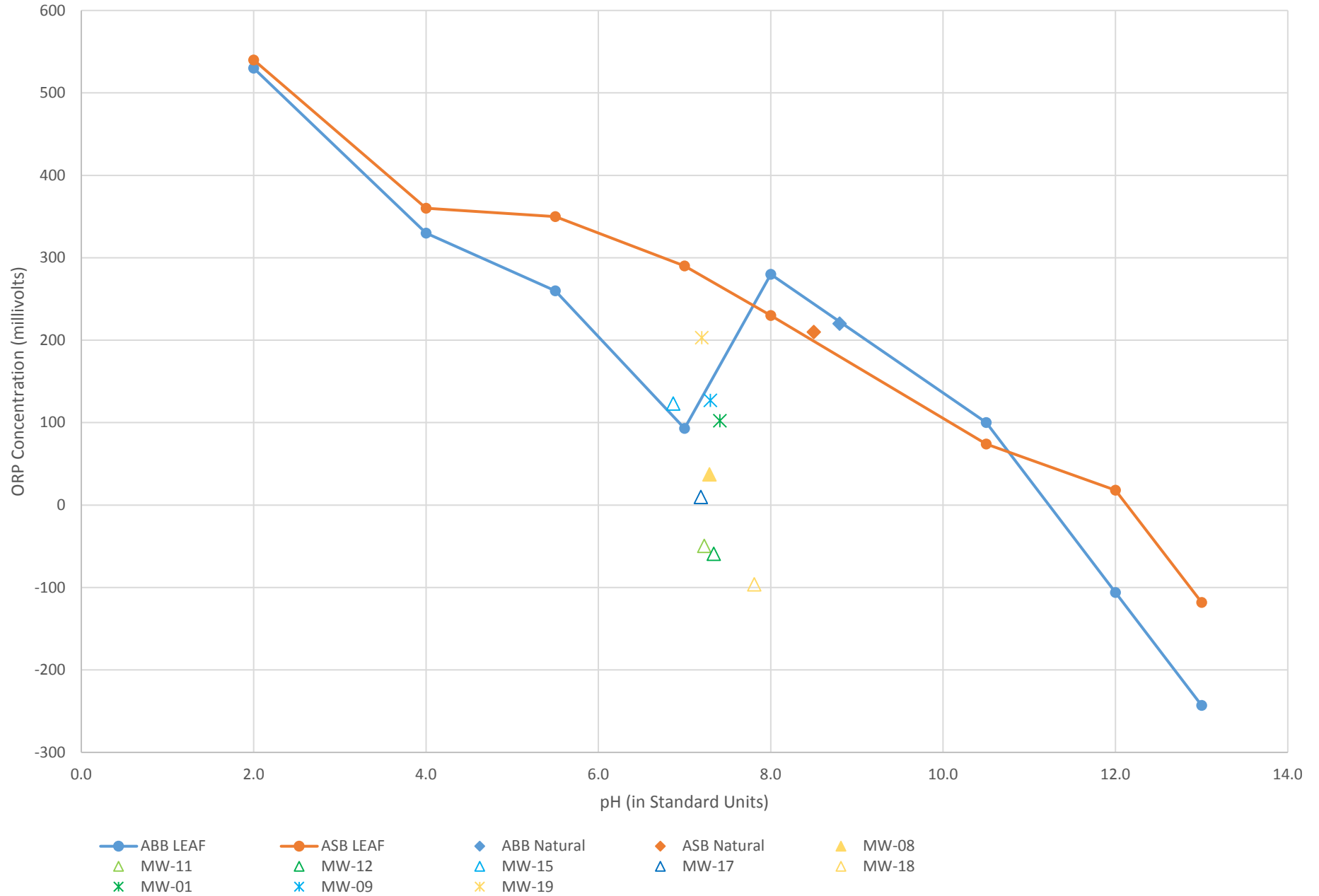


Figure 8. Specific Conductivity vs. pH Value - Powerton Station

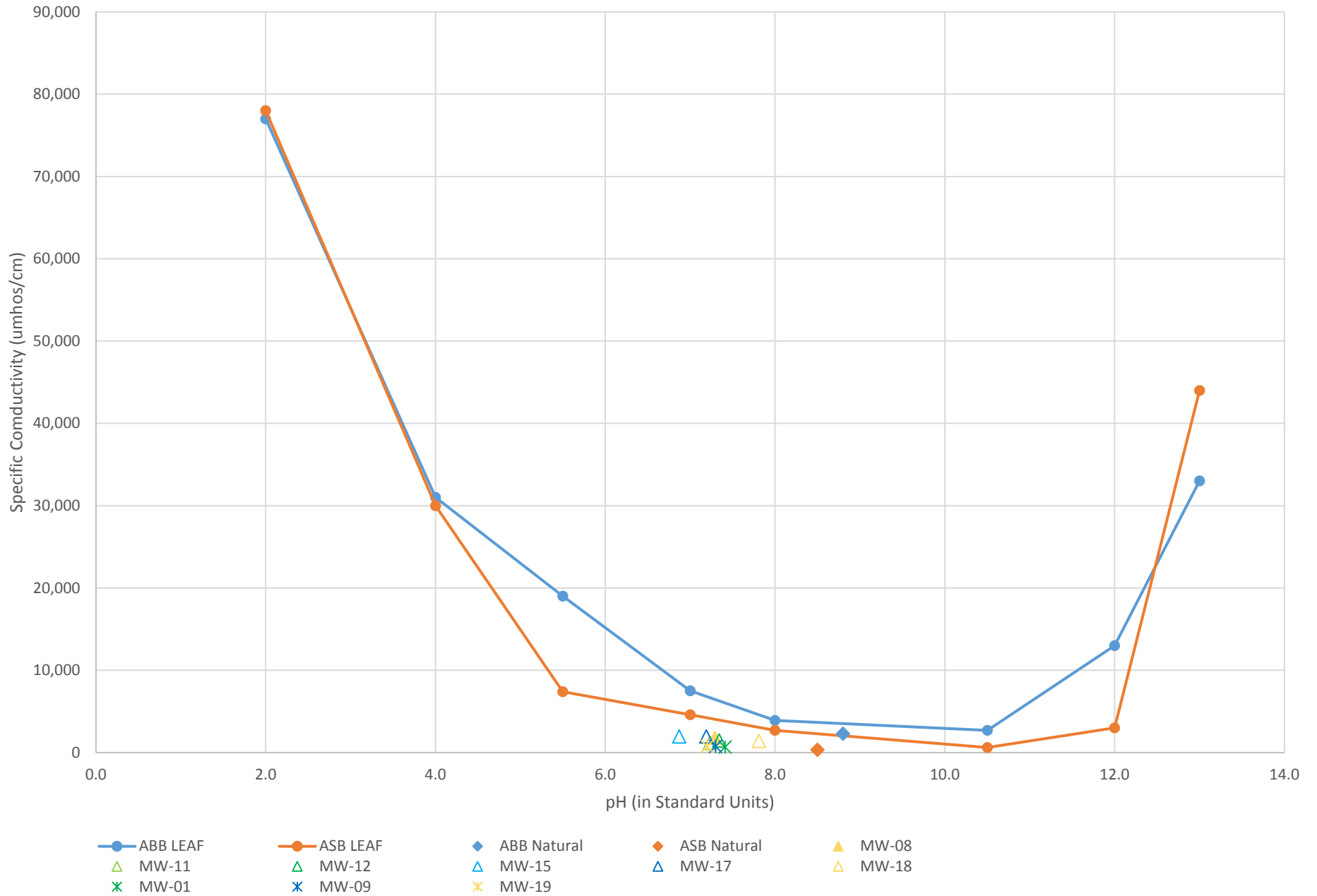
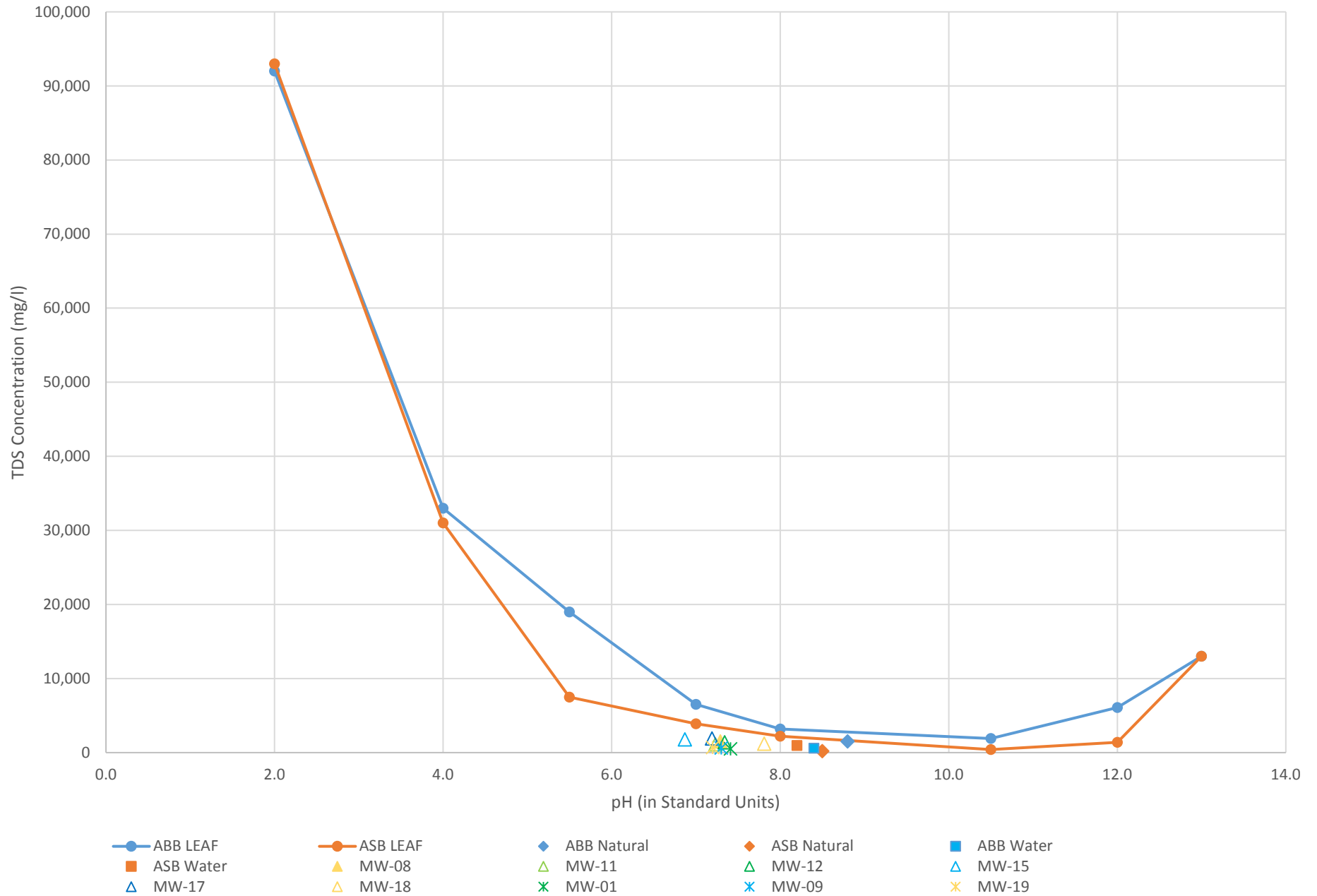


Figure 9. TDS Concentration vs. pH Value - Powerton Station



**TABLES**

Table 1. Pond Water Results - Midwest Generation Powerton Station, Pekin, Illinois

Sample:		Ash Bypass	Ash Surge
PARAMETER	UNITS	Basin (ABB) Water	Basin (ASB) Water
Boron	mg/L	0.36	0.35
Calcium	mg/L	36	110
Chloride	mg/L	57	180
Fluoride	mg/L	0.43	0.46
pH	SU	8.4	8.2
Sulfate	mg/L	250	220
TDS	mg/L	590	950

Notes: Units are as noted.  
TDS - Total Dissolved Solids



Table 2. LEAF Test Results from Ash Samples - Midwest Generation Powerton Station, Pekin, Illinois

Sample: ABB ASH		LEAF TEST TARGETED pH VALUES								
PARAMETER	UNITS	13.0	12.0	10.5	8.0	7.0	5.5	4.0	2.0	Natural*
Boron	mg/L	7.4	7.8	6.4	4.3	6.9	11	12	26	3.7
Calcium	mg/L	48	17	10	380	<0.5	3,200	5,700	11,000	130
Chloride	mg/L	<50	22	16	21	15	20	<25	<100	27
Fluoride	mg/L	12	6.4	11	1.7	<1.0	<1.0	15	26	2.8
ORP	millivolts	-243	-106	100	280	93	260	330	530	220
pH	SU	12.7	12.5	10.5	8.0	7.2	5.9	4.3	2.3	8.8
Spec Cond	umhos/cm	33,000	13,000	2,700	3,900	7,500	19,000	31,000	77,000	2,300
Sulfate	mg/L	640	780	740	860	800	980	880	920	910
TDS	mg/L	13,000	6,100	1,900	3,200	6,500	19,000	33,000	92,000	1,500

Sample: ASB ASH		LEAF TEST TARGETED pH VALUES								
PARAMETER	UNITS	13.0	12.0	10.5	8.0	7.0	5.5	4.0	2.0	Natural*
Boron	mg/L	0.10	0.90	0.65	1.0	1.5	2.6	6.7	19	0.36
Calcium	mg/L	3.0	1.3	2.6	390	<0.5	1,100	4,500	13,000	35
Chloride	mg/L	<50	5.1	6.3	7.9	7.4	<10	<25	<100	6.5
Fluoride	mg/L	<5.0	1.3	1.0	<0.25	<0.50	<1.0	<2.5	<10	0.21
ORP	millivolts	-118	18	74	230	290	350	360	540	210
pH	SU	12.7	11.9	10.3	7.6	6.7	5.2	3.8	2.8 H	8.5
Spec Cond	umhos/cm	44,000	3,000	620	2,700	4,600	7,400	30,000	78,000	340
Sulfate	mg/L	91	76	72	110	110	110	52	<100	87 F1
TDS	mg/L	13,000	1,400	410	2,200	3,900	7,500	31,000	93,000	200

Notes: Units are as noted.  
 ORP - Oxidation Reduction Potential  
 Spec Cond - Specific Conductivity  
 TDS - Total Dissolved Solids  
 Natural - pH of ash as measured in the laboratory prior to any pH test modifications.

H - Sample was prepped or analyzed beyond the specified holding time  
 F1 - MS and/or MSD Recovery is outside acceptable limits  
 ABB - Ash By-pass Basin  
 ASB - Ash Surge Basin

**ATTACHMENT 1**  
**Statistical Data Evaluation Tables – January 12, 2018**

Table 1. Detection Monitoring Appendix III Groundwater Analytical Results - 3rd Quarter 2017 and Resample - Midwest Generation, LLC, Powerton Station, Posh, IL.

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-01 (S) up-gradient	11/16/2015	1.0	98	44	0.17	7.07	93	530
	2/25/2016	0.2	110	42	0.16	7.23	54	460
	5/20/2016	0.34	100	44	0.17	6.95	65	430
	8/17/2016	0.27	78	39	0.25	7.16	50	530
	11/16/2016	0.18	97	39	0.21	7.22	32	500
	2/14/2017	0.18	120	55	0.17	7.30	60	550
	5/3/2017	0.19	86	66	0.16	7.41	45	460
	6/21/2017	0.18	85	58	0.18	7.60	47	540
	<b>Pred. Limit*</b>	<b>1.0</b>	<b>142</b>	<b>81</b>	<b>0.25</b>	<b>7.90-6.58</b>	<b>115</b>	<b>648</b>
	8/25/2017	0.56	86	41	0.18	7.41	63	490
11/8/2017	0.57	130	38	0.12	6.69	61	640	
MW-09 (S) up-gradient	11/18/2015	2.0	63	H 31	H 0.19	7.15	H 110	H 440
	2/25/2016	2.3	77	36	0.19	7.34	120	500
	5/19/2016	2.0	73	38	0.17	7.30	100	520
	8/17/2016	2.7	74	39	0.15	7.32	120	750
	11/17/2016	4.5	85	38	0.13	7.37	110	630
	2/15/2017	4.1	84	38	0.13	6.94	160	620
	5/3/2017	3.5	85	38	0.17	7.48	170	680
	6/21/2017	3.3	82	38	0.14	7.63	180	760
	<b>Pred. Limit*</b>	<b>6.19</b>	<b>103</b>	<b>39</b>	<b>0.24</b>	<b>7.99-6.64</b>	<b>236</b>	<b>1000</b>
	8/25/2017	3.8	85	36	0.14	7.3	150	630
11/8/2017	4	89	37	0.13	6.92	190	650	
MW-19 <sup>^</sup> (S) up-gradient	11/18/2016	3.8	89	38	0.13	7.34	120	670
	2/15/2017	4.7	88	37	0.13	7.50	180	630
	5/5/2017	3.3	88	38	0.14	7.51	160	640
	6/21/2017	2.3	110	35	0.12	7.30	170	690
	8/28/2017	3.5	97	36	0.16	7.20	160	700
	11/6/2017	4.5	86	35	0.17	7.26	190	640
MW-08 (CL) down-gradient	11/18/2015	1.5	160	H 170	H 0.44	7.61	H 470	H 1300
	2/25/2016	1.7	160	200	0.30	7.00	280	1100
	5/18/2016	1.7	160	140	0.34	7.67	300	1200
	8/17/2016	1.0	150	230	0.35	7.33	360	1400
	11/15/2016	1.2	140	290	0.33	6.90	230	1300
	2/16/2017	1.5	150	460	0.28	7.00	230	1500
	5/2/2017	0.55	140	300	0.33	7.30	320	1300
	6/21/2017	1.2	160	490	0.3	7.27	350	1700
	<b>Pred. Limit</b>	<b>1.0</b>	<b>136</b>	<b>77</b>	<b>0.24**</b>	<b>7.73-6.83**</b>	<b>107</b>	<b>788**</b>
	8/29/2017	<b>1.2</b>	<b>150</b>	<b>360</b>	<b>0.47</b>	7.29	<b>300</b>	<b>1500</b>
11/8/2017	0.68	130	<b>260</b>	<b>0.45</b>	7.27	<b>270</b>	<b>1200</b>	

Notes:

\* - Intrawell Prediction Limit. All others are interwell comparisons.

All units are in mg/l except pH is in standard units.

F1 - MS and/or MSD Recovery outside of limits.

Pred. Limit - Prediction Limit

H - Sample was prepped or analyzed beyond the specified holding time.

<sup>^</sup> - Recently installed upgradient well. Insufficient rounds of sampling for statistical evaluation at this time.

*Italics Date* - First round of Detection Monitoring and resample after statistical background establishment.

S - Sandy Unit  
CL - Silty Clay Unit

\*\* - Based on pooled background from MW-01/MW-09.

All others based on MW-01 as background.

Bold - Potential statistically significant increase.

V - Serial dilution exceeds control limits.

Table 1. Detection Monitoring Appendix III Groundwater Analytical Results - 3rd Quarter 2017 and Resample - Midwest Generation, LLC, Powerton Station, Posh, IL.

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-11 (S) down-gradient	11/18/2015	1.7	110	H 54	H 0.55	7.06	H 160	H 670
	2/26/2016	1.5	140	120	0.55	7.25	220	850
	5/20/2016	1.6	140	120	0.56	7.10	210	920
	8/17/2016	1.0	130	93	0.67	7.08	180	910
	11/17/2016	1.2	140	130	0.44	7.21	240	1100
	2/16/2017	1.6	140	110	0.40	6.62	260	910
	5/3/2017	1.3	160	160	0.42	7.36	440	1300
	6/22/2017	1.2	140	120	0.60	7.21	260	1000
	<b>Pred. Limit</b>	<b>1.0</b>	<b>136</b>	<b>77</b>	<b>0.24**</b>	<b>7.73-6.83**</b>	<b>107</b>	<b>788**</b>
	8/29/2017	<u>2.2</u>	130	<b>83</b>	<u>0.52</u>	7.23	<b>310</b>	<b>1100</b>
11/9/2017	<u>1.5</u>	<b>140</b>	<b>100</b>	<u>0.59</u>	6.96	<b>230</b>	<b>970</b>	
MW-12 (CL) down-gradient	11/19/2015	0.94	160	H 220	H 0.57	7.12	H 650	H 1400
	2/26/2016	0.42	130	200	0.40	7.96	530	1200
	5/20/2016	0.65	150	200	0.49	7.28	550	1400
	8/18/2016	0.69	170	200	0.49	7.06	620	1600
	11/18/2016	0.83	140	180	0.46	7.34	340	1300
	2/16/2017	0.48	140	190	0.37	7.54	630	1300
	5/3/2017	0.49	120	190	0.37	7.47	500	1200
	6/22/2017	0.5	130	190	0.48	7.36	580	1400
	<b>Pred. Limit</b>	<b>1.0</b>	<b>136</b>	<b>77</b>	<b>0.24**</b>	<b>7.73-6.83**</b>	<b>107</b>	<b>788**</b>
	8/29/2017	0.78	<b>140</b>	<b>180</b>	<u>0.52</u>	7.34	<b>520</b>	<b>1400</b>
11/10/2017	0.94	130	<b>170</b>	<u>0.48</u>	7.38	<b>370</b>	<b>1200</b>	
MW-15 (CL) down-gradient	11/18/2015	1.5	270	H 210	H 0.53	6.55	H 1400	H 2400
	2/25/2016	2.0	240	110	0.61	6.84	640	1700
	5/19/2016	2.7	320	240	0.53	6.83	1200	2800
	8/18/2016	1.5	200	F1 170	0.54	6.96	660	1900
	11/17/2016	1.3	120	180	0.47	6.91	560	1900
	2/17/2017	1.9	200	190	0.43	7.24	670	1700
	5/4/2017	1.5	180	190	0.57	7.35	670	1700
	6/21/2017	1.6	180	200	0.56	7.3	530	1600
	<b>Pred. Limit</b>	<b>1.0</b>	<b>136</b>	<b>77</b>	<b>0.24**</b>	<b>7.73-6.83**</b>	<b>107</b>	<b>788**</b>
	8/29/2017	<u>2.2</u>	<b>190</b>	<b>200</b>	<u>0.53</u>	6.87	<b>540</b>	<b>1800</b>
11/10/2017	<u>1.6</u>	<b>170</b>	<b>180</b>	<u>0.63</u>	7.09	<b>530</b>	<b>1500</b>	
MW-17 (CL) down-gradient	11/19/2015	1.6	210	H 230	H 0.43	7.11	H 850	H 1800
	2/22/2016	1.8	290	280	0.55	7.19	960	2100
	5/18/2016	1.4	200	230	0.64	7.02	700	1800
	8/15/2016	1.1	220	220	0.60	7.08	860	2100
	11/14/2016	1.5	200	210	0.56	7.26	560	2000
	2/13/2017	1.6	190	230	0.56	6.84	770	1600
	5/4/2017	1.2	170	210	0.61	7.29	720	1500
	6/22/2017	0.95	150	230	0.72	7.38	580	1600
	<b>Pred. Limit</b>	<b>1.0</b>	<b>136</b>	<b>77</b>	<b>0.24**</b>	<b>7.73-6.83**</b>	<b>107</b>	<b>788**</b>
	8/29/2017	<u>1.4</u>	<b>190</b>	<b>230</b>	<u>0.64</u>	7.19	<b>640</b>	<b>1900</b>
11/6/2017	<u>1.7</u>	<b>190</b>	<b>240</b>	<u>0.62</u>	7.27	<b>840</b>	<b>1800</b>	
MW-18 (S) down-gradient	11/19/2015	0.80	140	H 220	H 0.66	7.62	H 310	H 1200
	2/22/2016	0.76	150	220	0.68	7.06	310	1200
	5/18/2016	0.72	120	230	0.71	7.68	230	1200
	8/15/2016	0.67	130	210	0.64	7.52	330	1300
	11/18/2016	0.94	130	200	0.58	7.69	250	1300
	2/15/2017	0.56	140	190	0.50	7.81	340	1200
	5/5/2017	0.46	130	180	0.52	8.12	360	1100
	6/21/2017	0.53	120	190	0.51	8.1	320	1200
	<b>Pred. Limit</b>	<b>1.0</b>	<b>136</b>	<b>77</b>	<b>0.24**</b>	<b>7.73-6.83**</b>	<b>107</b>	<b>788**</b>
	8/28/2017	0.65	120	<b>200</b>	<u>0.53</u>	<b>7.81</b>	<b>310</b>	<b>1200</b>
11/6/2017	0.67	120	<b>190</b>	<u>0.57</u>	<b>7.74</b>	<b>400</b>	<b>1200</b>	

Notes:

\* - Intrawell Prediction Limit. All others are interwell comparisons.

All units are in mg/l except pH is in standard units.

F1 - MS and/or MSD Recovery outside of limits.

Pred. Limit - Prediction Limit

H - Sample was prepped or analyzed beyond the specified holding time.

^ - Recently installed upgradient well. Insufficient rounds of sampling for statistical evaluation at this time.

*Italics Date* - First round of Detection Monitoring and resample after statistical background establishment.

S - Sandy Unit

CL - Silty Clay Unit

\*\* - Based on pooled background from MW-01/MW-09.

All others based on MW-01 as background.

Bold - Potential statistically significant increase.

V - Serial dilution exceeds control limits.

**ATTACHMENT 2**  
**Analytical Data Packages**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-139619-1

Client Project/Site: Powerton CCR

For:

KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 2B

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

1/26/2018 2:21:05 PM

Richard Wright, Senior Project Manager

[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

Designee for

Eric Lang, Manager of Project Management

(708)534-5200

[eric.lang@testamericainc.com](mailto:eric.lang@testamericainc.com)

### LINKS

Review your project results through

**TotalAccess**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Case Narrative

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Job ID: 500-139619-1**

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative  
500-139619-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 1/12/2018 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.3° C.

**Metals**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Detection Summary

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-139619-1

Client Sample ID: ABB

Lab Sample ID: 500-139619-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.36		0.050		mg/L	1		6020A	Total
Calcium	36		0.20		mg/L	1		6020A	Recoverable Total
pH	8.4	HF	0.2		SU	1		9040C	Total/NA
Total Dissolved Solids	590		10		mg/L	1		SM 2540C	Total/NA
Chloride	57		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.43		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	250		50		mg/L	10		SM 4500 SO4 E	Total/NA

Client Sample ID: ASB

Lab Sample ID: 500-139619-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.35		0.050		mg/L	1		6020A	Total
Calcium	110		0.20		mg/L	1		6020A	Recoverable Total
pH	8.2	HF	0.2		SU	1		9040C	Total/NA
Total Dissolved Solids	950		10		mg/L	1		SM 2540C	Total/NA
Chloride	180		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.46		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	220		50		mg/L	10		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
9040C	pH	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater",  
 SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



# Sample Summary

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-139619-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-139619-1	ABB	Water	01/11/18 09:35	01/12/18 09:40
500-139619-2	ASB	Water	01/11/18 09:50	01/12/18 09:40

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**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

Page 232 of 311  
 TestAmerica Job ID: 500-139619-1

**Client Sample ID: ABB**

**Lab Sample ID: 500-139619-1**

**Date Collected: 01/11/18 09:35**

**Matrix: Water**

**Date Received: 01/12/18 09:40**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.36		0.050		mg/L		01/12/18 14:46	01/15/18 13:24	1
Calcium	36		0.20		mg/L		01/12/18 14:46	01/15/18 13:24	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.4	HF	0.2		SU			01/12/18 16:00	1
Total Dissolved Solids	590		10		mg/L			01/14/18 23:52	1
Chloride	57		2.0		mg/L			01/18/18 21:46	1
Fluoride	0.43		0.10		mg/L			01/25/18 11:33	1
Sulfate	250		50		mg/L			01/18/18 07:16	10



**Client Sample Results**

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

Page 233 of 311  
 TestAmerica Job ID: 500-139619-1

**Client Sample ID: ASB**

**Lab Sample ID: 500-139619-2**

**Date Collected: 01/11/18 09:50**

**Matrix: Water**

**Date Received: 01/12/18 09:40**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.35		0.050		mg/L		01/12/18 14:46	01/15/18 13:27	1
Calcium	110		0.20		mg/L		01/12/18 14:46	01/15/18 13:27	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.2	HF	0.2		SU			01/12/18 16:04	1
Total Dissolved Solids	950		10		mg/L			01/14/18 23:55	1
Chloride	180		10		mg/L			01/18/18 22:24	5
Fluoride	0.46		0.10		mg/L			01/25/18 11:36	1
Sulfate	220		50		mg/L			01/18/18 07:19	10



Definitions/Glossary

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Qualifiers**

**General Chemistry**

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

**Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Metals**

**Prep Batch: 416709**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139619-1	ABB	Total Recoverable	Water	3005A	
500-139619-2	ASB	Total Recoverable	Water	3005A	
MB 500-416709/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-416709/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

**Analysis Batch: 416965**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139619-1	ABB	Total Recoverable	Water	6020A	416709
500-139619-2	ASB	Total Recoverable	Water	6020A	416709
MB 500-416709/1-A	Method Blank	Total Recoverable	Water	6020A	416709
LCS 500-416709/2-A	Lab Control Sample	Total Recoverable	Water	6020A	416709

**General Chemistry**

**Analysis Batch: 416763**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139619-1	ABB	Total/NA	Water	SM 2540C	
500-139619-2	ASB	Total/NA	Water	SM 2540C	
MB 500-416763/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-416763/2	Lab Control Sample	Total/NA	Water	SM 2540C	

**Analysis Batch: 416975**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139619-1	ABB	Total/NA	Water	9040C	
500-139619-2	ASB	Total/NA	Water	9040C	
500-139619-1 DU	ABB	Total/NA	Water	9040C	
500-139619-2 DU	ASB	Total/NA	Water	9040C	

**Analysis Batch: 417213**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139619-1	ABB	Total/NA	Water	SM 4500 SO4 E	
500-139619-2	ASB	Total/NA	Water	SM 4500 SO4 E	
MB 500-417213/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-417213/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-139619-1 MS	ABB	Total/NA	Water	SM 4500 SO4 E	
500-139619-1 MSD	ABB	Total/NA	Water	SM 4500 SO4 E	

**Analysis Batch: 417327**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139619-1	ABB	Total/NA	Water	SM 4500 CI- E	
500-139619-2	ASB	Total/NA	Water	SM 4500 CI- E	
MB 500-417327/12	Method Blank	Total/NA	Water	SM 4500 CI- E	
LCS 500-417327/13	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	

**Analysis Batch: 418006**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139619-1	ABB	Total/NA	Water	SM 4500 F C	
500-139619-2	ASB	Total/NA	Water	SM 4500 F C	
MB 500-418006/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-418006/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

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TestAmerica Job ID: 500-139619-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-416709/1-A  
Matrix: Water  
Analysis Batch: 416965

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 416709

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		01/12/18 14:46	01/15/18 12:57	1
Calcium	<0.20		0.20		mg/L		01/12/18 14:46	01/15/18 12:57	1

Lab Sample ID: LCS 500-416709/2-A  
Matrix: Water  
Analysis Batch: 416965

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 416709

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.988		mg/L		99	80 - 120
Calcium	10.0	9.54		mg/L		95	80 - 120

Method: 9040C - pH

Lab Sample ID: 500-139619-1 DU  
Matrix: Water  
Analysis Batch: 416975

Client Sample ID: ABB  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.4	HF	8.4		SU		0.2	

Lab Sample ID: 500-139619-2 DU  
Matrix: Water  
Analysis Batch: 416975

Client Sample ID: ASB  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.2	HF	8.3		SU		0.4	

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-416763/1  
Matrix: Water  
Analysis Batch: 416763

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			01/14/18 22:56	1

Lab Sample ID: LCS 500-416763/2  
Matrix: Water  
Analysis Batch: 416763

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	278		mg/L		111	80 - 120



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-417327/12  
Matrix: Water  
Analysis Batch: 417327

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			01/18/18 21:40	1

Lab Sample ID: LCS 500-417327/13  
Matrix: Water  
Analysis Batch: 417327

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.3		mg/L		103	85 - 115

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-418006/3  
Matrix: Water  
Analysis Batch: 418006

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			01/25/18 11:20	1

Lab Sample ID: LCS 500-418006/4  
Matrix: Water  
Analysis Batch: 418006

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.1		mg/L		101	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-417213/3  
Matrix: Water  
Analysis Batch: 417213

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			01/18/18 07:10	1

Lab Sample ID: LCS 500-417213/4  
Matrix: Water  
Analysis Batch: 417213

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.6		mg/L		103	80 - 120

Lab Sample ID: 500-139619-1 MS  
Matrix: Water  
Analysis Batch: 417213

Client Sample ID: ABB  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	250		400	671		mg/L		106	75 - 125

QC Sample Results

Client: KPRG and Associates, Inc.  
 Project/Site: Powerton CCR

**Method: SM 4500 SO4 E - Sulfate, Total (Continued)**

Lab Sample ID: 500-139619-1 MSD  
 Matrix: Water  
 Analysis Batch: 417213

Client Sample ID: ABB  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	250		400	602		mg/L		89	75 - 125	11	20

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Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

TestAmerica Job ID: 500-139619-1

**Client Sample ID: ABB**

**Date Collected: 01/11/18 09:35**

**Date Received: 01/12/18 09:40**

**Lab Sample ID: 500-139619-1**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			416709	01/12/18 14:46	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	416965	01/15/18 13:24	FXG	TAL CHI
Total/NA	Analysis	9040C		1	416975	(Start) 01/12/18 16:00 (End) 01/12/18 16:02	SMO	TAL CHI
Total/NA	Analysis	SM 2540C		1	416763	01/14/18 23:52	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	417327	01/18/18 21:46	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	418006	01/25/18 11:33	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	417213	(Start) 01/18/18 07:16 (End) 01/18/18 07:17	CLB	TAL CHI

**Client Sample ID: ASB**

**Date Collected: 01/11/18 09:50**

**Date Received: 01/12/18 09:40**

**Lab Sample ID: 500-139619-2**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			416709	01/12/18 14:46	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	416965	01/15/18 13:27	FXG	TAL CHI
Total/NA	Analysis	9040C		1	416975	(Start) 01/12/18 16:04 (End) 01/12/18 16:06	SMO	TAL CHI
Total/NA	Analysis	SM 2540C		1	416763	01/14/18 23:55	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	417327	01/18/18 22:24	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	418006	01/25/18 11:36	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	417213	(Start) 01/18/18 07:19 (End) 01/18/18 07:20	CLB	TAL CHI

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Client: KPRG and Associates, Inc.  
Project/Site: Powerton CCR

**Laboratory: TestAmerica Chicago**

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-18

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Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference# \_\_\_\_\_

Page 311 of 311  
 Lab Job #: **500-139619**

Chain of Custody Number: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

Temperature °C of Cooler: **4.3**

Client		Client Project #		Preservative		Parameter															
KPRG & Assoc.		23517		3 8																	
Project Name		Project Location/State		Lab Project #		Lab PM															
NRG		IL																			
Sampler																					
LR/MW																					
Lab ID	MS/MSD	Sample ID	Sampling		# of Containers	Matrix	B, Ca	Cl, FL, PH, SO4, TDS													
			Date	Time																	
1		ABB	1/11/18	0935	2	W	X	X													
2		ASB	1/11/18	0950	2	W	X	X													



500-139619 COC

- Preservative Key
1. HCL, Cool to 4°
  2. H2SO4, Cool to 4°
  3. HNO3, Cool to 4°
  4. NaOH, Cool to 4°
  5. NaOH/Zn, Cool to 4°
  6. NaHSO4
  7. Cool to 4°
  8. None
  9. Other

Turnaround Time Required (Business Days)  
 \_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days \_\_\_ 10 Days \_\_\_ 15 Days \_\_\_ Other

Sample Disposal  
 Return to Client  Disposal by Lab  Archive for \_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Requested Due Date \_\_\_\_\_

Relinquished By: <i>[Signature]</i> Company: KPRG Date: 1/11/18 Time: 1630	Received By: <i>[Signature]</i> Company: TA Date: 1-11-18 Time: 430	Lab Courier: _____
Relinquished By: <i>[Signature]</i> Company: TA Date: 1-11-18 Time: 1700	Received By: <i>[Signature]</i> Company: TA Date: 01/2/18 Time: 0940	Shipped: <b>EX Priority</b>
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____	Hand Delivered: _____

- Matrix Key
- WW - Wastewater
  - W - Water
  - S - Soil
  - SL - Sludge
  - MS - Miscellaneous
  - OL - Oil
  - A - Air
  - SE - Sediment
  - SO - Soil
  - L - Leachate
  - WI - Wipe
  - DW - Drinking Water
  - O - Other

Client Comments: \_\_\_\_\_

Lab Comments: \_\_\_\_\_

**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 500-139619-1

**Login Number: 139619**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Scott, Sherri L**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pittsburgh

301 Alpha Drive

RIDC Park

Pittsburgh, PA 15238

Tel: (412)963-7058

TestAmerica Job ID: 180-74121-1

Client Project/Site: Midwest Generation

For:

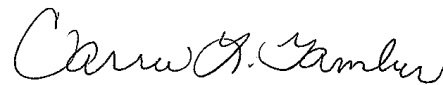
KPRG and Associates, Inc.

14665 West Lisbon Road,

Suite 2B

Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:

3/5/2018 1:48:28 PM

Carrie Gamber, Senior Project Manager

(412)963-2428

[carrie.gamber@testamericainc.com](mailto:carrie.gamber@testamericainc.com)



### LINKS

Review your project results through

Total Access

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Job ID: 180-74121-1****Laboratory: TestAmerica Pittsburgh**

Narrative

**CASE NARRATIVE****Client: KPRG and Associates, Inc.****Project: Midwest Generation****Report Number: 180-74121-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

**RECEIPT**

The samples were received on 01/12/2018; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.8 C.

**IC**

Several samples were diluted due to the nature of the sample matrix. Elevated reporting limits (RLs) were provided. The dilutions were dependent on conductivity pre-screen of the samples.

Sulfate failed the recovery criteria low for the MS/MSD of sample ASB - NATURAL (180-74121-22) in batch 180-236373.

**METALS**

The following sample were digested at a diluted level due to the nature of the sample matrix: ABB - PH 13.0 (180-74121-2), ABB - PH 12.0 (180-74121-3), ABB - PH 2.0 (180-74121-10). Elevated reporting limits (RLs) are provided.

Several samples were diluted due to the nature of the sample matrix and/or to bring the concentration of boron and calcium within the linear range. Elevated reporting limits (RLs) are provided.

**GENERAL CHEMISTRY**

Due to the matrix, the initial volumes used for several samples deviated from the standard procedure for TDS.

The Conductivity of the sample was greater than that of what the instrument could detect. The sample result was reported as >100000 umhos/cm (>100 MS) , since the method states that for conductivity the sample can not be diluted. B02 (180-74121-24).

The pH for the following sample was outside the instrument calibration range of pH 2 to pH 13 . The sample results was < 0 pH SU units therefore the result was reported as <1.00: B02 (180-74121-24).

Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**Qualifiers**

**HPLC/IC**

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

**General Chemistry**

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

**Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**Laboratory: TestAmerica Pittsburgh**

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200005	06-30-18

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte
SM 2510B		Solid	Specific Conductance
SM 2540C		Solid	Total Dissolved Solids

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
2540G		Solid	Percent Moisture
2540G		Solid	Percent Solids
SM 2580B		Solid	Oxidation Reduction Potential



Sample Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

Page 248 of 311  
 TestAmerica Job ID: 180-74121-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-74121-1	ABB - PRETEST	Solid	01/11/18 09:40	01/12/18 09:10
180-74121-2	ABB - PH 13.0	Solid	01/11/18 09:40	01/12/18 09:10
180-74121-3	ABB - PH 12.0	Solid	01/11/18 09:40	01/12/18 09:10
180-74121-4	ABB - PH 10.5	Solid	01/11/18 09:40	01/12/18 09:10
180-74121-6	ABB - PH 8.0	Solid	01/11/18 09:40	01/12/18 09:10
180-74121-7	ABB - PH 7.0	Solid	01/11/18 09:40	01/12/18 09:10
180-74121-8	ABB - PH 5.5	Solid	01/11/18 09:40	01/12/18 09:10
180-74121-9	ABB - PH 4.0	Solid	01/11/18 09:40	01/12/18 09:10
180-74121-10	ABB - PH 2.0	Solid	01/11/18 09:40	01/12/18 09:10
180-74121-11	ABB- NATURAL	Solid	01/11/18 09:40	01/12/18 09:10
180-74121-12	ASB - PRETEST	Solid	01/11/18 09:55	01/12/18 09:10
180-74121-13	ASB - PH 13.0	Solid	01/11/18 09:55	01/12/18 09:10
180-74121-14	ASB - PH 12.0	Solid	01/11/18 09:55	01/12/18 09:10
180-74121-15	ASB - PH 10.5	Solid	01/11/18 09:55	01/12/18 09:10
180-74121-17	ASB - PH 8.0	Solid	01/11/18 09:55	01/12/18 09:10
180-74121-18	ASB - PH 7.0	Solid	01/11/18 09:55	01/12/18 09:10
180-74121-19	ASB - PH 5.5	Solid	01/11/18 09:55	01/12/18 09:10
180-74121-20	ASB - PH 4.0	Solid	01/11/18 09:55	01/12/18 09:10
180-74121-21	ASB - PH 2.0	Solid	01/11/18 09:55	01/12/18 09:10
180-74121-22	ASB - NATURAL	Solid	01/11/18 09:55	01/12/18 09:10
180-74121-23	B01	Solid	01/11/18 00:00	01/12/18 09:10
180-74121-24	B02	Solid	01/11/18 00:00	01/12/18 09:10
180-74121-25	B03	Solid	01/11/18 00:00	01/12/18 09:10
180-74121-26	ABB - AIR DRIED	Solid	01/11/18 09:40	01/12/18 09:10
180-74121-27	ASB - AIR DRIED	Solid	01/11/18 09:55	01/12/18 09:10



Method Summary

Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
EPA 6020A	Metals (ICP/MS)	SW846	TAL PIT
2540G	SM 2540G	SM22	TAL PIT
EPA 9040C	pH	SW846	TAL PIT
SM 2510B	Conductivity, Specific Conductance	SM	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
SM 2580B	Reduction-Oxidation (REDOX) Potential	SM	TAL PIT

**Protocol References:**

- SM = "Standard Methods For The Examination Of Water And Wastewater",
- SM22 = SM22
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058



Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Client Sample ID: ABB - PRETEST**  
**Date Collected: 01/11/18 09:40**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74121-1**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			234952	01/24/18 06:29	CLL	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 13:38	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 13:44	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 13:50	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	400 mL	237733	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 12:32	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: ABB - PH 13.0**  
**Date Collected: 01/11/18 09:40**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74121-2**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			236553	02/09/18 20:54	CMR	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/10/18 00:22	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 03:15	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 12:01	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 11:39	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	4 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 11:37	MTW	TAL PIT
		Instrument ID: NOEQUIP								

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Client Sample ID: ABB - PH 12.0**

**Lab Sample ID: 180-74121-3**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		10			236732	02/13/18 06:23	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237198	02/15/18 22:06	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 13:47	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 13:26	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	10 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 13:25	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: ABB - PH 10.5**

**Lab Sample ID: 180-74121-4**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			42.3 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			237859	02/26/18 15:10	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			42.3 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			237859	02/26/18 15:26	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			42.3 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237590	02/21/18 01:08	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			42.3 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237713	02/22/18 04:12	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			42.3 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 12:27	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237752	02/16/18 12:33	MTW	TAL PIT
		Instrument ID: NOEQUIP								

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Client Sample ID: ABB - PH 10.5**

**Lab Sample ID: 180-74121-4**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			42.3 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2540C Instrument ID: NOEQUIP		1	50 mL	100 mL	237329	02/19/18 15:41	KXW	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2580B Instrument ID: NOEQUIP		1			237751	02/16/18 12:36	MTW	TAL PIT

**Client Sample ID: ABB - PH 8.0**

**Lab Sample ID: 180-74121-6**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A Instrument ID: CHIC2100A		2.5			236732	02/13/18 06:39	MJH	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A Instrument ID: CHIC2100A		25			236732	02/13/18 06:54	MJH	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A Instrument ID: M		1			237198	02/15/18 22:02	WTR	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			237380	02/12/18 13:41	MTW	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B Instrument ID: NOEQUIP		1			237425	02/12/18 13:21	MTW	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C Instrument ID: NOEQUIP		1	25 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B Instrument ID: NOEQUIP		1			237422	02/12/18 13:19	MTW	TAL PIT

**Client Sample ID: ABB - PH 7.0**

**Lab Sample ID: 180-74121-7**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			42.3 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A Instrument ID: CHICS2000		10			237859	02/26/18 08:41	MJH	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT



Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Client Sample ID: ABB - PH 7.0**

**Lab Sample ID: 180-74121-7**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 9056A		100			237859	02/26/18 10:34	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			42.3 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237942	02/24/18 17:22	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			42.3 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			238052	02/27/18 09:55	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			42.3 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237772	02/23/18 10:06	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237776	02/23/18 10:08	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	25 mL	100 mL	238055	02/27/18 15:07	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237774	02/23/18 10:06	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: ABB - PH 5.5**

**Lab Sample ID: 180-74121-8**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		10			236732	02/13/18 07:09	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			237323	02/16/18 20:24	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 13:53	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 13:31	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	10 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			42.3 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Client Sample ID: ABB - PH 5.5**

**Lab Sample ID: 180-74121-8**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2580B		1			237422	02/12/18 13:32	MTW	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: ABB - PH 4.0**

**Lab Sample ID: 180-74121-9**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		25			236377	02/08/18 19:08	MJH	TAL PIT
Instrument ID: CHIC2100A										
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			236828	02/13/18 03:19	WTR	TAL PIT
Instrument ID: M										
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 12:16	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 12:05	MTW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	5 mL	100 mL	236785	02/13/18 10:45	KXW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 11:58	MTW	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: ABB - PH 2.0**

**Lab Sample ID: 180-74121-10**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			42.3 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100	1 mL	1.0 mL	237598	02/22/18 11:00	MJH	TAL PIT
Instrument ID: CHICS2000										
Leach	Leach	1313			42.3 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			237942	02/24/18 17:11	WTR	TAL PIT
Instrument ID: A										
Leach	Leach	1313			42.3 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			238052	02/27/18 09:41	WTR	TAL PIT
Instrument ID: M										

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Client Sample ID: ABB - PH 2.0**

**Lab Sample ID: 180-74121-10**

**Date Collected: 01/11/18 09:40**

**Matrix: Solid**

**Date Received: 01/12/18 09:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			42.3 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			237531	02/19/18 10:25	MTW	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B Instrument ID: NOEQUIP		1			237553	02/19/18 10:30	MTW	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C Instrument ID: NOEQUIP		1	2 mL	100 mL	237940	02/26/18 14:33	KXW	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B Instrument ID: NOEQUIP		1			237550	02/19/18 10:27	MTW	TAL PIT

**Client Sample ID: ABB- NATURAL**

**Lab Sample ID: 180-74121-11**

**Date Collected: 01/11/18 09:40**

**Matrix: Solid**

**Date Received: 01/12/18 09:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A Instrument ID: CHICS2100B		1			236373	02/08/18 08:53	MJH	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A Instrument ID: CHICS2100B		10			236373	02/08/18 09:08	MJH	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A Instrument ID: A		1			236729	02/09/18 22:54	WTR	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A Instrument ID: M		1			236828	02/13/18 00:44	WTR	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			236465	02/07/18 12:19	MTW	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B Instrument ID: NOEQUIP		1			236475	02/07/18 12:09	MTW	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	236785	02/13/18 10:45	KXW	TAL PIT
Leach	Leach	1313			42.3 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B Instrument ID: NOEQUIP		1			236472	02/07/18 12:03	MTW	TAL PIT

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Client Sample ID: ASB - PRETEST**

**Lab Sample ID: 180-74121-12**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			234952	01/24/18 06:29	CLL	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 13:59	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:03	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:12	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:15	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	237733	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 12:43	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	237733	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 12:49	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237531	02/19/18 10:31	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: ASB - PH 13.0**

**Lab Sample ID: 180-74121-13**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			236553	02/09/18 21:26	CMR	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/10/18 00:27	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 03:24	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 11:52	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Client Sample ID: ASB - PH 13.0**

**Lab Sample ID: 180-74121-13**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2510B		1			236475	02/07/18 11:32	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	3 mL	100 mL	236825	02/13/18 15:26	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 11:29	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: ASB - PH 12.0**

**Lab Sample ID: 180-74121-14**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.4 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			237859	02/26/18 15:42	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.4 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237590	02/21/18 01:11	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			40.4 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237713	02/22/18 04:16	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.4 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 12:38	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237752	02/16/18 12:40	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	25 mL	100 mL	237329	02/19/18 15:41	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237751	02/16/18 12:44	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: ASB - PH 10.5**

**Lab Sample ID: 180-74121-15**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.4 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Client Sample ID: ASB - PH 10.5**

**Lab Sample ID: 180-74121-15**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 9056A		1	1 mL	1.0 mL	237598	02/22/18 13:55	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.4 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5	1 mL	1.0 mL	237598	02/22/18 14:11	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.4 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237537	02/21/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237821	02/23/18 11:37	RSK	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			40.4 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237537	02/21/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			238052	02/26/18 21:24	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.4 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237531	02/19/18 10:06	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237553	02/19/18 10:12	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	100 mL	100 mL	237940	02/26/18 14:33	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237550	02/19/18 10:06	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: ASB - PH 8.0**

**Lab Sample ID: 180-74121-17**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.4 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		2.5			236732	02/13/18 07:40	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Leach	Leach	1313			40.4 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237198	02/15/18 22:16	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.4 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:09	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 13:52	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Client Sample ID: ASB - PH 8.0**

**Lab Sample ID: 180-74121-17**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2540C		1	50 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 13:51	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: ASB - PH 7.0**

**Lab Sample ID: 180-74121-18**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.4 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		2.5			236732	02/13/18 10:28	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Leach	Leach	1313			40.4 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			236891	02/14/18 14:01	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.4 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237198	02/15/18 22:20	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.4 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:06	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 13:47	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	25 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 13:44	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: ASB - PH 5.5**

**Lab Sample ID: 180-74121-19**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.4 g	400 mL	238030	02/26/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		10			238212	03/01/18 08:38	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.4 g	400 mL	238030	02/26/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	238166	02/28/18 13:51	KA	TAL PIT

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Client Sample ID: ASB - PH 5.5**

**Lab Sample ID: 180-74121-19**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 6020A		10			238310	03/01/18 01:11	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.4 g	400 mL	238030	02/26/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			238129	02/28/18 09:00	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	238030	02/26/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			238130	02/28/18 09:00	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	238030	02/26/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	25 mL	100 mL	238132	02/28/18 10:41	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	238030	02/26/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			238131	02/28/18 09:00	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: ASB - PH 4.0**

**Lab Sample ID: 180-74121-20**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		25			236377	02/08/18 19:38	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			236828	02/13/18 03:29	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 11:46	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 11:29	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	5 mL	100 mL	236785	02/13/18 10:45	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 11:25	MTW	TAL PIT
		Instrument ID: NOEQUIP								



Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Client Sample ID: ASB - PH 2.0**

**Lab Sample ID: 180-74121-21**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.4 g	400 mL	237539	02/19/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100			237721	02/23/18 10:54	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			40.4 g	400 mL	237539	02/19/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237582	02/21/18 15:34	KA	TAL PIT
Leach	Analysis	EPA 6020A		50			237942	02/24/18 17:19	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			40.4 g	400 mL	237539	02/19/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237582	02/21/18 15:34	KA	TAL PIT
Leach	Analysis	EPA 6020A		50			238052	02/26/18 22:37	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.4 g	400 mL	237539	02/19/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237560	02/21/18 10:17	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	237539	02/19/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237563	02/21/18 10:17	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	237539	02/19/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	2 mL	100 mL	237940	02/26/18 14:33	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	237539	02/19/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237562	02/21/18 10:17	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: ASB - NATURAL**

**Lab Sample ID: 180-74121-22**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			236373	02/08/18 09:56	MJH	TAL PIT
		Instrument ID: CHICS2100B								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/09/18 22:57	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 01:01	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 12:23	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Client Sample ID: ASB - NATURAL**

**Lab Sample ID: 180-74121-22**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2510B		1			236475	02/07/18 12:12	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	100 mL	100 mL	236785	02/13/18 10:45	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			40.4 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 12:07	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: B01**

**Lab Sample ID: 180-74121-23**

Date Collected: 01/11/18 00:00

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			1.0 g	2000 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			236373	02/08/18 08:37	MJH	TAL PIT
		Instrument ID: CHICS2100B								
Leach	Leach	1313			1.0 g	2000 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/09/18 22:51	WTR	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			1.0 g	2000 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 00:39	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			1.0 g	2000 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 13:39	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			1.0 g	2000 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 13:54	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			1.0 g	2000 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	100 mL	100 mL	236785	02/13/18 10:45	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			1.0 g	2000 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 13:52	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: B02**

**Lab Sample ID: 180-74121-24**

Date Collected: 01/11/18 00:00

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			1.0 g	400 mL	237539	02/19/18 08:30	LWM	TAL PIT

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Client Sample ID: B02**

**Lab Sample ID: 180-74121-24**

Date Collected: 01/11/18 00:00

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 9056A		250			237721	02/23/18 11:25	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			1.0 g	400 mL	237539	02/19/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237582	02/21/18 15:34	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237821	02/23/18 12:33	RSK	TAL PIT
		Instrument ID: A								
Leach	Leach	1313			1.0 g	400 mL	237539	02/19/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237582	02/21/18 15:34	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			238052	02/26/18 22:42	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			1.0 g	400 mL	237539	02/19/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237560	02/21/18 10:23	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			1.0 g	400 mL	237539	02/19/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237563	02/21/18 10:21	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			1.0 g	400 mL	237539	02/19/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	1 mL	100 mL	237940	02/26/18 14:33	KXW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			1.0 g	400 mL	237539	02/19/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237562	02/21/18 10:23	MTW	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: B03**

**Lab Sample ID: 180-74121-25**

Date Collected: 01/11/18 00:00

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			1.0 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			236732	02/13/18 10:59	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Leach	Leach	1313			1.0 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100			236891	02/14/18 14:17	MJH	TAL PIT
		Instrument ID: CHICS2000								
Leach	Leach	1313			1.0 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237198	02/15/18 21:57	WTR	TAL PIT
		Instrument ID: M								
Leach	Leach	1313			1.0 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 15:47	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			1.0 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 15:44	MTW	TAL PIT
		Instrument ID: NOEQUIP								
Leach	Leach	1313			1.0 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Client Sample ID: B03**

**Lab Sample ID: 180-74121-25**

**Date Collected: 01/11/18 00:00**

**Matrix: Solid**

**Date Received: 01/12/18 09:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2540C		1	3 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
Instrument ID: NOEQUIP										
Leach	Leach	1313			1.0 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 15:47	MTW	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: ABB - AIR DRIED**

**Lab Sample ID: 180-74121-26**

**Date Collected: 01/11/18 09:40**

**Matrix: Solid**

**Date Received: 01/12/18 09:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			235778	02/01/18 13:28	RMA	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: ASB - AIR DRIED**

**Lab Sample ID: 180-74121-27**

**Date Collected: 01/11/18 09:55**

**Matrix: Solid**

**Date Received: 01/12/18 09:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			235778	02/01/18 13:28	RMA	TAL PIT
Instrument ID: NOEQUIP										

**Laboratory References:**

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

**Analyst References:**

Lab: TAL PIT

Batch Type: Leach

LWM = Larry Matko

Batch Type: Prep

KA = Kayla Kalamasz

Batch Type: Analysis

CLL = Cheryl Loheyde

CMR = Carl Reagle

KXW = Kaitlyn White

MJH = Matthew Hartman

MTW = Michael Wesoloski

RMA = Rachel Aguiar

RSK = Robert Kurtz

WTR = Bill Reinheimer

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74121-1

**Client Sample ID: ABB - PRETEST**

**Lab Sample ID: 180-74121-1**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	46.7		0.1		%			01/24/18 06:29	1
Percent Solids	53.3		0.1		%			01/24/18 06:29	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5		0.1		SU			02/12/18 13:38	1
pH	12.6		0.1		SU			02/12/18 13:44	1
pH	3.8		0.1		SU			02/12/18 13:50	1
pH	4.0		0.1		SU			02/16/18 12:32	1

**Client Sample ID: ABB - PH 13.0**

**Lab Sample ID: 180-74121-2**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<50		50		mg/L			02/09/18 20:54	50
Fluoride	12		5.0		mg/L			02/09/18 20:54	50
Sulfate	640		50		mg/L			02/09/18 20:54	50

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	7400		800		ug/L		02/08/18 11:28	02/13/18 03:15	1
Calcium	48000		5000		ug/L		02/08/18 11:28	02/10/18 00:22	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.7		0.1		SU			02/07/18 12:01	1
Specific Conductance	33000		1.0		umhos/cm			02/07/18 11:39	1
Total Dissolved Solids	13000		250		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	- 243		10		millivolts			02/07/18 11:37	1

**Client Sample ID: ABB - PH 12.0**

**Lab Sample ID: 180-74121-3**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22		10		mg/L			02/13/18 06:23	10
Fluoride	6.4		1.0		mg/L			02/13/18 06:23	10
Sulfate	780		10		mg/L			02/13/18 06:23	10

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	7800		800		ug/L		02/13/18 13:38	02/15/18 22:06	1
Calcium	17000		5000		ug/L		02/13/18 13:38	02/15/18 22:06	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.5		0.1		SU			02/12/18 13:47	1
Specific Conductance	13000		1.0		umhos/cm			02/12/18 13:26	1

TestAmerica Pittsburgh

**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74121-1

**Client Sample ID: ABB - PH 12.0**

Date Collected: 01/11/18 09:40

Date Received: 01/12/18 09:10

**Lab Sample ID: 180-74121-3**

Matrix: Solid

**General Chemistry - Leach (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6100		100		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	- 106		10		millivolts			02/12/18 13:25	1

**Client Sample ID: ABB - PH 10.5**

Date Collected: 01/11/18 09:40

Date Received: 01/12/18 09:10

**Lab Sample ID: 180-74121-4**

Matrix: Solid

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16		5.0		mg/L			02/26/18 15:10	5
Fluoride	11		0.50		mg/L			02/26/18 15:10	5
Sulfate	740		50		mg/L			02/26/18 15:26	50

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	6400		80		ug/L		02/19/18 13:03	02/22/18 04:12	1
Calcium	10000		500		ug/L		02/19/18 13:03	02/21/18 01:08	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	10.5		0.1		SU			02/16/18 12:27	1
Specific Conductance	2700		1.0		umhos/cm			02/16/18 12:33	1
Total Dissolved Solids	1900		20		mg/L			02/19/18 15:41	1
Oxidation Reduction Potential	100		10		millivolts			02/16/18 12:36	1

**Client Sample ID: ABB - PH 8.0**

Date Collected: 01/11/18 09:40

Date Received: 01/12/18 09:10

**Lab Sample ID: 180-74121-6**

Matrix: Solid

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21		2.5		mg/L			02/13/18 06:39	2.5
Fluoride	1.7		0.25		mg/L			02/13/18 06:39	2.5
Sulfate	860		25		mg/L			02/13/18 06:54	25

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4300		80		ug/L		02/13/18 13:38	02/15/18 22:02	1
Calcium	380000		500		ug/L		02/13/18 13:38	02/15/18 22:02	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.0		0.1		SU			02/12/18 13:41	1
Specific Conductance	3900		1.0		umhos/cm			02/12/18 13:21	1
Total Dissolved Solids	3200		40		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	280		10		millivolts			02/12/18 13:19	1

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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- 13

**Client Sample ID: ABB - PH 7.0**  
**Date Collected: 01/11/18 09:40**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74121-7**  
**Matrix: Solid**

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		10		mg/L			02/26/18 08:41	10
Fluoride	<1.0		1.0		mg/L			02/26/18 08:41	10
Sulfate	800		100		mg/L			02/26/18 10:34	100

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	6900		800		ug/L		02/23/18 12:01	02/27/18 09:55	10
Calcium	<500		500		ug/L		02/23/18 12:01	02/24/18 17:22	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.2		0.1		SU			02/23/18 10:06	1
Specific Conductance	7500		1.0		umhos/cm			02/23/18 10:08	1
Total Dissolved Solids	6500		40		mg/L			02/27/18 15:07	1
Oxidation Reduction Potential	93		10		millivolts			02/23/18 10:06	1

**Client Sample ID: ABB - PH 5.5**  
**Date Collected: 01/11/18 09:40**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74121-8**  
**Matrix: Solid**

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20		10		mg/L			02/13/18 07:09	10
Fluoride	<1.0		1.0		mg/L			02/13/18 07:09	10
Sulfate	980		10		mg/L			02/13/18 07:09	10

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	11000		800		ug/L		02/13/18 13:38	02/16/18 20:24	10
Calcium	3200000		5000		ug/L		02/13/18 13:38	02/16/18 20:24	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.9		0.1		SU			02/12/18 13:53	1
Specific Conductance	19000		1.0		umhos/cm			02/12/18 13:31	1
Total Dissolved Solids	19000		100		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	260		10		millivolts			02/12/18 13:32	1

**Client Sample ID: ABB - PH 4.0**  
**Date Collected: 01/11/18 09:40**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74121-9**  
**Matrix: Solid**

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<25		25		mg/L			02/08/18 19:08	25
Fluoride	15		2.5		mg/L			02/08/18 19:08	25
Sulfate	880		25		mg/L			02/08/18 19:08	25

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	12000		800		ug/L		02/08/18 11:28	02/13/18 03:19	10

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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**Client Sample ID: ABB - PH 4.0**

**Lab Sample ID: 180-74121-9**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 6020A - Metals (ICP/MS) - Leach (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	5700000		5000		ug/L		02/08/18 11:28	02/13/18 03:19	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	4.3		0.1		SU			02/07/18 12:16	1
Specific Conductance	31000		1.0		umhos/cm			02/07/18 12:05	1
Total Dissolved Solids	33000		200		mg/L			02/13/18 10:45	1
Oxidation Reduction Potential	330		10		millivolts			02/07/18 11:58	1

**Client Sample ID: ABB - PH 2.0**

**Lab Sample ID: 180-74121-10**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<100		100		mg/L			02/22/18 11:00	100
Fluoride	26		10		mg/L			02/22/18 11:00	100
Sulfate	920		100		mg/L			02/22/18 11:00	100

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	26000		8000		ug/L		02/23/18 12:01	02/27/18 09:41	10
Calcium	11000000		50000		ug/L		02/23/18 12:01	02/24/18 17:11	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	2.3		0.1		SU			02/19/18 10:25	1
Specific Conductance	77000		1.0		umhos/cm			02/19/18 10:30	1
Total Dissolved Solids	92000		500		mg/L			02/26/18 14:33	1
Oxidation Reduction Potential	530		10		millivolts			02/19/18 10:27	1

**Client Sample ID: ABB- NATURAL**

**Lab Sample ID: 180-74121-11**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27		1.0		mg/L			02/08/18 08:53	1
Fluoride	2.8		0.10		mg/L			02/08/18 08:53	1
Sulfate	910		10		mg/L			02/08/18 09:08	10

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3700		80		ug/L		02/08/18 11:22	02/13/18 00:44	1
Calcium	130000		500		ug/L		02/08/18 11:22	02/09/18 22:54	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.8		0.1		SU			02/07/18 12:19	1
Specific Conductance	2300		1.0		umhos/cm			02/07/18 12:09	1
Total Dissolved Solids	1500		10		mg/L			02/13/18 10:45	1



**Client Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Client Sample ID: ABB- NATURAL**

**Lab Sample ID: 180-74121-11**

Date Collected: 01/11/18 09:40

Matrix: Solid

Date Received: 01/12/18 09:10

**General Chemistry - Leach (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	220		10		millivolts			02/07/18 12:03	1

**Client Sample ID: ASB - PRETEST**

**Lab Sample ID: 180-74121-12**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	35.7		0.1		%			01/24/18 06:29	1
Percent Solids	64.3		0.1		%			01/24/18 06:29	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.8		0.1		SU			02/12/18 13:59	1
pH	3.8		0.1		SU			02/12/18 14:03	1
pH	3.9		0.1		SU			02/12/18 14:12	1
pH	12.6		0.1		SU			02/12/18 14:15	1
pH	12.4		0.1		SU			02/16/18 12:43	1
pH	3.5		0.1		SU			02/16/18 12:49	1
pH	3.1		0.1		SU			02/19/18 10:31	1

**Client Sample ID: ASB - PH 13.0**

**Lab Sample ID: 180-74121-13**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<50		50		mg/L			02/09/18 21:26	50
Fluoride	<5.0		5.0		mg/L			02/09/18 21:26	50
Sulfate	91		50		mg/L			02/09/18 21:26	50

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	100		80		ug/L		02/08/18 11:28	02/13/18 03:24	1
Calcium	3000		500		ug/L		02/08/18 11:28	02/10/18 00:27	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.7		0.1		SU			02/07/18 11:52	1
Specific Conductance	44000		1.0		umhos/cm			02/07/18 11:32	1
Total Dissolved Solids	13000		330		mg/L			02/13/18 15:26	1
Oxidation Reduction Potential	- 118		10		millivolts			02/07/18 11:29	1

**Client Sample ID: ASB- PH 12.0**

**Lab Sample ID: 180-74121-14**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.1		5.0		mg/L			02/26/18 15:42	5
Fluoride	1.3		0.50		mg/L			02/26/18 15:42	5

Client Sample Results

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**Client Sample ID: ASB- PH 12.0**

**Lab Sample ID: 180-74121-14**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	76		5.0		mg/L			02/26/18 15:42	5

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	900		80		ug/L		02/19/18 13:03	02/22/18 04:16	1
Calcium	1300		500		ug/L		02/19/18 13:03	02/21/18 01:11	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	11.9		0.1		SU			02/16/18 12:38	1
Specific Conductance	3000		1.0		umhos/cm			02/16/18 12:40	1
Total Dissolved Solids	1400		40		mg/L			02/19/18 15:41	1
Oxidation Reduction Potential	18		10		millivolts			02/16/18 12:44	1

**Client Sample ID: ASB - PH 10.5**

**Lab Sample ID: 180-74121-15**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.3		1.0		mg/L			02/22/18 13:55	1
Fluoride	1.0		0.10		mg/L			02/22/18 13:55	1
Sulfate	72		5.0		mg/L			02/22/18 14:11	5

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	650		80		ug/L		02/21/18 11:22	02/26/18 21:24	1
Calcium	2600		500		ug/L		02/21/18 11:22	02/23/18 11:37	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	10.3		0.1		SU			02/19/18 10:06	1
Specific Conductance	620		1.0		umhos/cm			02/19/18 10:12	1
Total Dissolved Solids	410		10		mg/L			02/26/18 14:33	1
Oxidation Reduction Potential	74		10		millivolts			02/19/18 10:06	1

**Client Sample ID: ASB - PH 8.0**

**Lab Sample ID: 180-74121-17**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.9		2.5		mg/L			02/13/18 07:40	2.5
Fluoride	<0.25		0.25		mg/L			02/13/18 07:40	2.5
Sulfate	110		2.5		mg/L			02/13/18 07:40	2.5

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1000		80		ug/L		02/13/18 13:38	02/15/18 22:16	1
Calcium	390000		500		ug/L		02/13/18 13:38	02/15/18 22:16	1

Client Sample Results

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**Client Sample ID: ASB - PH 8.0**

**Lab Sample ID: 180-74121-17**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6		0.1		SU			02/12/18 14:09	1
Specific Conductance	2700		1.0		umhos/cm			02/12/18 13:52	1
Total Dissolved Solids	2200		20		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	230		10		millivolts			02/12/18 13:51	1

**Client Sample ID: ASB - PH 7.0**

**Lab Sample ID: 180-74121-18**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.4		2.5		mg/L			02/13/18 10:28	2.5
Fluoride	<0.50		0.50		mg/L			02/14/18 14:01	5
Sulfate	110		2.5		mg/L			02/13/18 10:28	2.5

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1500		80		ug/L		02/13/18 13:38	02/15/18 22:20	1
Calcium	680000		500		ug/L		02/13/18 13:38	02/15/18 22:20	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.7		0.1		SU			02/12/18 14:06	1
Specific Conductance	4600		1.0		umhos/cm			02/12/18 13:47	1
Total Dissolved Solids	3900		40		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	290		10		millivolts			02/12/18 13:44	1

**Client Sample ID: ASB - PH 5.5**

**Lab Sample ID: 180-74121-19**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10		10		mg/L			03/01/18 08:38	10
Fluoride	<1.0		1.0		mg/L			03/01/18 08:38	10
Sulfate	110		10		mg/L			03/01/18 08:38	10

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2600		800		ug/L		02/28/18 13:51	03/01/18 01:11	10
Calcium	1100000		5000		ug/L		02/28/18 13:51	03/01/18 01:11	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.2		0.1		SU			02/28/18 09:00	1
Specific Conductance	7400		1.0		umhos/cm			02/28/18 09:00	1
Total Dissolved Solids	7500		40		mg/L			02/28/18 10:41	1
Oxidation Reduction Potential	350		10		millivolts			02/28/18 09:00	1

Client Sample Results

Client: KPRG and Associates, Inc.  
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**Client Sample ID: ASB - PH 4.0**

**Lab Sample ID: 180-74121-20**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<25		25		mg/L			02/08/18 19:38	25
Fluoride	<2.5		2.5		mg/L			02/08/18 19:38	25
Sulfate	52		25		mg/L			02/08/18 19:38	25

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	6700		800		ug/L		02/08/18 11:28	02/13/18 03:29	10
Calcium	4500000		5000		ug/L		02/08/18 11:28	02/13/18 03:29	10

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	3.8		0.1		SU			02/07/18 11:46	1
Specific Conductance	30000		1.0		umhos/cm			02/07/18 11:29	1
Total Dissolved Solids	31000		200		mg/L			02/13/18 10:45	1
Oxidation Reduction Potential	360		10		millivolts			02/07/18 11:25	1

**Client Sample ID: ASB - PH 2.0**

**Lab Sample ID: 180-74121-21**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<100		100		mg/L			02/23/18 10:54	100
Fluoride	<10		10		mg/L			02/23/18 10:54	100
Sulfate	<100		100		mg/L			02/23/18 10:54	100

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	19000		4000		ug/L		02/21/18 15:34	02/26/18 22:37	50
Calcium	13000000		25000		ug/L		02/21/18 15:34	02/24/18 17:19	50

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	2.8	H	0.1		SU			02/21/18 10:17	1
Specific Conductance	78000		1.0		umhos/cm			02/21/18 10:17	1
Total Dissolved Solids	93000		500		mg/L			02/26/18 14:33	1
Oxidation Reduction Potential	540		10		millivolts			02/21/18 10:17	1

**Client Sample ID: ASB - NATURAL**

**Lab Sample ID: 180-74121-22**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.5		1.0		mg/L			02/08/18 09:56	1
Fluoride	0.21		0.10		mg/L			02/08/18 09:56	1
Sulfate	87	F1	1.0		mg/L			02/08/18 09:56	1

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	360		80		ug/L		02/08/18 11:22	02/13/18 01:01	1

Client Sample Results

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**Client Sample ID: ASB - NATURAL**

**Lab Sample ID: 180-74121-22**

Date Collected: 01/11/18 09:55

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 6020A - Metals (ICP/MS) - Leach (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	35000		500		ug/L		02/08/18 11:22	02/09/18 22:57	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.5		0.1		SU			02/07/18 12:23	1
Specific Conductance	340		1.0		umhos/cm			02/07/18 12:12	1
Total Dissolved Solids	200		10		mg/L			02/13/18 10:45	1
Oxidation Reduction Potential	210		10		millivolts			02/07/18 12:07	1

**Client Sample ID: B01**

**Lab Sample ID: 180-74121-23**

Date Collected: 01/11/18 00:00

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/08/18 08:37	1
Fluoride	<0.10		0.10		mg/L			02/08/18 08:37	1
Sulfate	<1.0		1.0		mg/L			02/08/18 08:37	1

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/08/18 11:22	02/13/18 00:39	1
Calcium	<500		500		ug/L		02/08/18 11:22	02/09/18 22:51	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.9		0.1		SU			02/07/18 13:39	1
Specific Conductance	1.7		1.0		umhos/cm			02/07/18 13:54	1
Total Dissolved Solids	19		10		mg/L			02/13/18 10:45	1
Oxidation Reduction Potential	400		10		millivolts			02/07/18 13:52	1

**Client Sample ID: B02**

**Lab Sample ID: 180-74121-24**

Date Collected: 01/11/18 00:00

Matrix: Solid

Date Received: 01/12/18 09:10

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<250		250		mg/L			02/23/18 11:25	250
Fluoride	<25		25		mg/L			02/23/18 11:25	250
Sulfate	<250		250		mg/L			02/23/18 11:25	250

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/21/18 15:34	02/26/18 22:42	1
Calcium	1200		500		ug/L		02/21/18 15:34	02/23/18 12:33	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	<0.1	H	0.1		SU			02/21/18 10:23	1
Specific Conductance	> 100000		1.0		umhos/cm			02/21/18 10:21	1
Total Dissolved Solids	3400		1000		mg/L			02/26/18 14:33	1

Client Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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**Client Sample ID: B02**  
**Date Collected: 01/11/18 00:00**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74121-24**  
**Matrix: Solid**

**General Chemistry - Leach (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	580		10		millivolts			02/21/18 10:23	1

**Client Sample ID: B03**  
**Date Collected: 01/11/18 00:00**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74121-25**  
**Matrix: Solid**

**Method: EPA 9056A - Anions, Ion Chromatography - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<50		50		mg/L			02/13/18 10:59	50
Fluoride	<10		10		mg/L			02/14/18 14:17	100
Sulfate	<50		50		mg/L			02/13/18 10:59	50

**Method: EPA 6020A - Metals (ICP/MS) - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/13/18 13:38	02/15/18 21:57	1
Calcium	<500		500		ug/L		02/13/18 13:38	02/15/18 21:57	1

**General Chemistry - Leach**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.9		0.1		SU			02/12/18 15:47	1
Specific Conductance	41000		1.0		umhos/cm			02/12/18 15:44	1
Total Dissolved Solids	10000		330		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	- 22		10		millivolts			02/12/18 15:47	1

**Client Sample ID: ABB - AIR DRIED**  
**Date Collected: 01/11/18 09:40**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74121-26**  
**Matrix: Solid**

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.4		0.1		%			02/01/18 13:28	1
Percent Solids	94.6		0.1		%			02/01/18 13:28	1

**Client Sample ID: ASB - AIR DRIED**  
**Date Collected: 01/11/18 09:55**  
**Date Received: 01/12/18 09:10**

**Lab Sample ID: 180-74121-27**  
**Matrix: Solid**

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.1		0.1		%			02/01/18 13:28	1
Percent Solids	98.9		0.1		%			02/01/18 13:28	1

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74121-1

**Method: EPA 9056A - Anions, Ion Chromatography**

Lab Sample ID: MB 180-236373/6  
Matrix: Solid  
Analysis Batch: 236373

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/08/18 06:17	1
Fluoride	<0.10		0.10		mg/L			02/08/18 06:17	1
Sulfate	<1.0		1.0		mg/L			02/08/18 06:17	1

Lab Sample ID: LCS 180-236373/5  
Matrix: Solid  
Analysis Batch: 236373

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.0		mg/L		100	80 - 120
Fluoride	1.25	1.02		mg/L		82	80 - 120
Sulfate	25.0	24.0		mg/L		96	80 - 120

Lab Sample ID: MB 180-236377/17  
Matrix: Solid  
Analysis Batch: 236377

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/08/18 09:27	1
Fluoride	<0.10		0.10		mg/L			02/08/18 09:27	1
Sulfate	<1.0		1.0		mg/L			02/08/18 09:27	1

Lab Sample ID: LCS 180-236377/16  
Matrix: Solid  
Analysis Batch: 236377

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.0		mg/L		100	80 - 120
Fluoride	1.25	1.18		mg/L		94	80 - 120
Sulfate	25.0	24.1		mg/L		96	80 - 120

Lab Sample ID: MB 180-236553/16  
Matrix: Solid  
Analysis Batch: 236553

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/09/18 16:56	1
Fluoride	<0.10		0.10		mg/L			02/09/18 16:56	1
Sulfate	<1.0		1.0		mg/L			02/09/18 16:56	1

Lab Sample ID: LCS 180-236553/15  
Matrix: Solid  
Analysis Batch: 236553

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.9		mg/L		103	80 - 120
Fluoride	1.25	1.20		mg/L		96	80 - 120
Sulfate	25.0	22.0		mg/L		88	80 - 120

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74121-1

**Method: EPA 9056A - Anions, Ion Chromatography (Continued)**

Lab Sample ID: MB 180-236732/6  
Matrix: Solid  
Analysis Batch: 236732

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/13/18 05:33	1
Fluoride	<0.10		0.10		mg/L			02/13/18 05:33	1
Sulfate	<1.0		1.0		mg/L			02/13/18 05:33	1

Lab Sample ID: LCS 180-236732/5  
Matrix: Solid  
Analysis Batch: 236732

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.9		mg/L		103	80 - 120
Fluoride	1.25	1.25		mg/L		100	80 - 120
Sulfate	25.0	25.1		mg/L		100	80 - 120

Lab Sample ID: MB 180-236891/6  
Matrix: Solid  
Analysis Batch: 236891

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/14/18 11:05	1
Fluoride	<0.10		0.10		mg/L			02/14/18 11:05	1
Sulfate	<1.0		1.0		mg/L			02/14/18 11:05	1

Lab Sample ID: LCS 180-236891/5  
Matrix: Solid  
Analysis Batch: 236891

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.9		mg/L		104	80 - 120
Fluoride	2.50	2.58		mg/L		103	80 - 120
Sulfate	50.0	49.2		mg/L		98	80 - 120

Lab Sample ID: MB 180-237598/6  
Matrix: Solid  
Analysis Batch: 237598

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/22/18 08:13	1
Fluoride	<0.10		0.10		mg/L			02/22/18 08:13	1
Sulfate	<1.0		1.0		mg/L			02/22/18 08:13	1

Lab Sample ID: LCS 180-237598/5  
Matrix: Solid  
Analysis Batch: 237598

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.4		mg/L		102	80 - 120
Fluoride	1.25	1.20		mg/L		96	80 - 120
Sulfate	25.0	21.2		mg/L		85	80 - 120



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74121-1

**Method: EPA 9056A - Anions, Ion Chromatography (Continued)**

Lab Sample ID: MB 180-237721/6  
Matrix: Solid  
Analysis Batch: 237721

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/23/18 07:16	1
Fluoride	<0.10		0.10		mg/L			02/23/18 07:16	1
Sulfate	<1.0		1.0		mg/L			02/23/18 07:16	1

Lab Sample ID: LCS 180-237721/5  
Matrix: Solid  
Analysis Batch: 237721

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.0		mg/L		104	80 - 120
Fluoride	1.25	1.24		mg/L		100	80 - 120
Sulfate	25.0	21.9		mg/L		87	80 - 120

Lab Sample ID: MB 180-237859/6  
Matrix: Solid  
Analysis Batch: 237859

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/26/18 08:06	1
Fluoride	<0.10		0.10		mg/L			02/26/18 08:06	1
Sulfate	<1.0		1.0		mg/L			02/26/18 08:06	1

Lab Sample ID: LCS 180-237859/5  
Matrix: Solid  
Analysis Batch: 237859

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.4		mg/L		106	80 - 120
Fluoride	1.25	1.23		mg/L		99	80 - 120
Sulfate	25.0	22.5		mg/L		90	80 - 120

Lab Sample ID: MB 180-238212/6  
Matrix: Solid  
Analysis Batch: 238212

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			03/01/18 06:47	1
Fluoride	<0.10		0.10		mg/L			03/01/18 06:47	1
Sulfate	<1.0		1.0		mg/L			03/01/18 06:47	1

Lab Sample ID: LCS 180-238212/5  
Matrix: Solid  
Analysis Batch: 238212

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.6		mg/L		105	80 - 120
Fluoride	2.50	2.55		mg/L		102	80 - 120
Sulfate	50.0	49.8		mg/L		100	80 - 120

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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Method: EPA 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: 180-74121-22 MS  
Matrix: Solid  
Analysis Batch: 236373

Client Sample ID: ASB - NATURAL  
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	6.5		25.0	31.7		mg/L		101	80 - 120
Fluoride	0.21		1.25	1.44		mg/L		98	80 - 120
Sulfate	87	F1	25.0	107	F1	mg/L		78	80 - 120

Lab Sample ID: 180-74121-22 MSD  
Matrix: Solid  
Analysis Batch: 236373

Client Sample ID: ASB - NATURAL  
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	6.5		25.0	31.5		mg/L		100	80 - 120	0	15
Fluoride	0.21		1.25	1.44		mg/L		98	80 - 120	0	15
Sulfate	87	F1	25.0	106	F1	mg/L		76	80 - 120	1	15

Method: EPA 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-236437/1-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/08/18 11:22	02/09/18 22:43	1

Lab Sample ID: MB 180-236437/1-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/08/18 11:22	02/13/18 00:25	1

Lab Sample ID: LCS 180-236437/2-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	50000	53100		ug/L		106	80 - 120

Lab Sample ID: LCS 180-236437/2-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	1010		ug/L		101	80 - 120

Lab Sample ID: LCSD 180-236437/3-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	52500		ug/L		105	80 - 120	1	20

TestAmerica Pittsburgh

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

Method: EPA 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 180-236437/3-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 236437

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	1030		ug/L		103	80 - 120	2	20

Lab Sample ID: MB 180-236440/1-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/08/18 11:28	02/10/18 00:04	1

Lab Sample ID: MB 180-236440/1-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/08/18 11:28	02/13/18 02:47	1

Lab Sample ID: LCS 180-236440/2-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 236440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	50000	52800		ug/L		106	80 - 120

Lab Sample ID: LCS 180-236440/2-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 236440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	916		ug/L		92	80 - 120

Lab Sample ID: LCSD 180-236440/3-A  
Matrix: Solid  
Analysis Batch: 236729

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 236440

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	51500		ug/L		103	80 - 120	2	20

Lab Sample ID: LCSD 180-236440/3-A  
Matrix: Solid  
Analysis Batch: 236828

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 236440

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	917		ug/L		92	80 - 120	0	20

Lab Sample ID: MB 180-236807/1-A  
Matrix: Solid  
Analysis Batch: 237198

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236807

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/13/18 13:38	02/15/18 21:43	1

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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Method: EPA 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-236807/1-A  
Matrix: Solid  
Analysis Batch: 237198

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 236807

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/13/18 13:38	02/15/18 21:43	1

Lab Sample ID: LCS 180-236807/2-A  
Matrix: Solid  
Analysis Batch: 237198

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 236807

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1000	866		ug/L		87	80 - 120
Calcium	50000	46700		ug/L		93	80 - 120

Lab Sample ID: LCSD 180-236807/3-A  
Matrix: Solid  
Analysis Batch: 237198

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 236807

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Boron	1000	879		ug/L		88	80 - 120	1	20
Calcium	50000	46500		ug/L		93	80 - 120	1	20

Lab Sample ID: MB 180-237311/1-A  
Matrix: Solid  
Analysis Batch: 237590

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/19/18 13:03	02/21/18 00:31	1

Lab Sample ID: MB 180-237311/1-A  
Matrix: Solid  
Analysis Batch: 237713

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/19/18 13:03	02/22/18 03:08	1

Lab Sample ID: LCS 180-237311/2-A  
Matrix: Solid  
Analysis Batch: 237590

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	50000	48400		ug/L		97	80 - 120

Lab Sample ID: LCS 180-237311/2-A  
Matrix: Solid  
Analysis Batch: 237713

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1000	1010		ug/L		101	80 - 120

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

Method: EPA 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 180-237311/3-A  
Matrix: Solid  
Analysis Batch: 237590

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	48200		ug/L		96	80 - 120	0	20

Lab Sample ID: LCSD 180-237311/3-A  
Matrix: Solid  
Analysis Batch: 237713

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	1020		ug/L		102	80 - 120	0	20

Lab Sample ID: MB 180-237537/1-A  
Matrix: Solid  
Analysis Batch: 237821

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/21/18 11:22	02/23/18 11:29	1

Lab Sample ID: MB 180-237537/1-A  
Matrix: Solid  
Analysis Batch: 238052

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/21/18 11:22	02/26/18 21:10	1

Lab Sample ID: LCS 180-237537/2-A  
Matrix: Solid  
Analysis Batch: 237821

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	55300		ug/L		111	80 - 120		

Lab Sample ID: LCS 180-237537/2-A  
Matrix: Solid  
Analysis Batch: 238052

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	1010		ug/L		101	80 - 120		

Lab Sample ID: LCSD 180-237537/3-A  
Matrix: Solid  
Analysis Batch: 237821

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237537

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	55200		ug/L		110	80 - 120	0	20

Lab Sample ID: LCSD 180-237537/3-A  
Matrix: Solid  
Analysis Batch: 238052

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237537

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	1060		ug/L		106	80 - 120	5	20

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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Lab Sample ID: MB 180-237582/1-A  
Matrix: Solid  
Analysis Batch: 237821

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237582

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/21/18 15:34	02/23/18 12:07	1

Lab Sample ID: MB 180-237582/1-A  
Matrix: Solid  
Analysis Batch: 238052

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237582

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/21/18 15:34	02/26/18 22:14	1

Lab Sample ID: LCS 180-237582/2-A  
Matrix: Solid  
Analysis Batch: 237821

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237582

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec. Limits
Calcium	50000	54400		ug/L		109	80 - 120	

Lab Sample ID: LCS 180-237582/2-A  
Matrix: Solid  
Analysis Batch: 238052

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237582

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec. Limits
Boron	1000	992		ug/L		99	80 - 120	

Lab Sample ID: LCSD 180-237582/3-A  
Matrix: Solid  
Analysis Batch: 237821

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237582

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Calcium	50000	54900		ug/L		110	80 - 120	1	20

Lab Sample ID: LCSD 180-237582/3-A  
Matrix: Solid  
Analysis Batch: 238052

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237582

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Boron	1000	1000		ug/L		100	80 - 120	1	20

Lab Sample ID: MB 180-237767/1-A  
Matrix: Solid  
Analysis Batch: 237942

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/23/18 12:01	02/24/18 16:45	1

Lab Sample ID: MB 180-237767/1-A  
Matrix: Solid  
Analysis Batch: 238052

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 237767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/23/18 12:01	02/27/18 09:22	1

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

Method: EPA 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-237767/2-A  
Matrix: Solid  
Analysis Batch: 237942

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237767

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	50000	51800		ug/L		104	80 - 120

Lab Sample ID: LCS 180-237767/2-A  
Matrix: Solid  
Analysis Batch: 238052

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 237767

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1000	970		ug/L		97	80 - 120

Lab Sample ID: LCSD 180-237767/3-A  
Matrix: Solid  
Analysis Batch: 237942

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237767

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Calcium	50000	52100		ug/L		104	80 - 120	1	20

Lab Sample ID: LCSD 180-237767/3-A  
Matrix: Solid  
Analysis Batch: 238052

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 237767

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Boron	1000	1000		ug/L		100	80 - 120	3	20

Lab Sample ID: MB 180-238166/1-A  
Matrix: Solid  
Analysis Batch: 238310

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 238166

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/28/18 13:51	03/01/18 01:20	1
Calcium	<500		500		ug/L		02/28/18 13:51	03/01/18 01:20	1

Lab Sample ID: LCS 180-238166/2-A  
Matrix: Solid  
Analysis Batch: 238310

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 238166

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1000	1130		ug/L		113	80 - 120
Calcium	50000	48700		ug/L		97	80 - 120

Lab Sample ID: LCSD 180-238166/3-A  
Matrix: Solid  
Analysis Batch: 238310

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 238166

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Boron	1000	1100		ug/L		110	80 - 120	3	20
Calcium	50000	47900		ug/L		96	80 - 120	2	20

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Method: EPA 9040C - pH**

Lab Sample ID: LCS 180-236465/1  
Matrix: Solid  
Analysis Batch: 236465

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-236465/24  
Matrix: Solid  
Analysis Batch: 236465

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-236465/47  
Matrix: Solid  
Analysis Batch: 236465

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-237380/1  
Matrix: Solid  
Analysis Batch: 237380

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-237531/1  
Matrix: Solid  
Analysis Batch: 237531

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-237560/1  
Matrix: Solid  
Analysis Batch: 237560

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-237737/1  
Matrix: Solid  
Analysis Batch: 237737

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-237772/1  
Matrix: Solid  
Analysis Batch: 237772

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101





Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**QC Sample Results**

**Lab Sample ID: LCS 180-238129/1**  
**Matrix: Solid**  
**Analysis Batch: 238129**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

**Method: SM 2510B - Conductivity, Specific Conductance**

**Lab Sample ID: MB 180-236475/17**  
**Matrix: Solid**  
**Analysis Batch: 236475**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/07/18 11:58	1

**Lab Sample ID: MB 180-236475/2**  
**Matrix: Solid**  
**Analysis Batch: 236475**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/07/18 11:03	1

**Lab Sample ID: MB 180-236475/43**  
**Matrix: Solid**  
**Analysis Batch: 236475**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/07/18 13:32	1

**Lab Sample ID: LCS 180-236475/1**  
**Matrix: Solid**  
**Analysis Batch: 236475**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.1		umhos/cm		101	90 - 110

**Lab Sample ID: LCS 180-236475/16**  
**Matrix: Solid**  
**Analysis Batch: 236475**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.0		umhos/cm		101	90 - 110

**Lab Sample ID: LCS 180-236475/42**  
**Matrix: Solid**  
**Analysis Batch: 236475**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.1		umhos/cm		101	90 - 110

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

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TestAmerica Job ID: 180-74121-1

**Method: SM 2510B - Conductivity, Specific Conductance (Continued)**

Lab Sample ID: MB 180-237425/2  
Matrix: Solid  
Analysis Batch: 237425

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/12/18 10:05	1

Lab Sample ID: LCS 180-237425/1  
Matrix: Solid  
Analysis Batch: 237425

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.0		umhos/cm		101	90 - 110

Lab Sample ID: MB 180-237553/2  
Matrix: Solid  
Analysis Batch: 237553

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/19/18 10:06	1

Lab Sample ID: LCS 180-237553/1  
Matrix: Solid  
Analysis Batch: 237553

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	88.6		umhos/cm		105	90 - 110

Lab Sample ID: MB 180-237563/2  
Matrix: Solid  
Analysis Batch: 237563

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/21/18 10:04	1

Lab Sample ID: LCS 180-237563/1  
Matrix: Solid  
Analysis Batch: 237563

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	79.9		umhos/cm		95	90 - 110

Lab Sample ID: MB 180-237752/2  
Matrix: Solid  
Analysis Batch: 237752

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/16/18 08:07	1

Lab Sample ID: LCS 180-237752/1  
Matrix: Solid  
Analysis Batch: 237752

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.1		umhos/cm		101	90 - 110

TestAmerica Pittsburgh

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**QC Sample Results**

**Lab Sample ID: MB 180-237776/2**  
**Matrix: Solid**  
**Analysis Batch: 237776**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/23/18 10:04	1

**Lab Sample ID: LCS 180-237776/1**  
**Matrix: Solid**  
**Analysis Batch: 237776**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	88.5		umhos/cm		105	90 - 110

**Lab Sample ID: MB 180-238130/2**  
**Matrix: Solid**  
**Analysis Batch: 238130**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/28/18 09:00	1

**Lab Sample ID: LCS 180-238130/1**  
**Matrix: Solid**  
**Analysis Batch: 238130**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	89.5		umhos/cm		107	90 - 110

**Method: SM 2540C - Solids, Total Dissolved (TDS)**

**Lab Sample ID: MB 180-236785/2**  
**Matrix: Solid**  
**Analysis Batch: 236785**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/13/18 10:45	1

**Lab Sample ID: LCS 180-236785/1**  
**Matrix: Solid**  
**Analysis Batch: 236785**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	388		mg/L		114	80 - 120

**Lab Sample ID: MB 180-236825/2**  
**Matrix: Solid**  
**Analysis Batch: 236825**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/13/18 15:26	1

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

**Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)**

Lab Sample ID: LCS 180-236825/1  
Matrix: Solid  
Analysis Batch: 236825

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	364		mg/L		107	80 - 120

Lab Sample ID: MB 180-237078/2  
Matrix: Solid  
Analysis Batch: 237078

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/15/18 14:59	1

Lab Sample ID: LCS 180-237078/1  
Matrix: Solid  
Analysis Batch: 237078

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	342		mg/L		101	80 - 120

Lab Sample ID: MB 180-237329/2  
Matrix: Solid  
Analysis Batch: 237329

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/19/18 15:41	1

Lab Sample ID: LCS 180-237329/1  
Matrix: Solid  
Analysis Batch: 237329

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	330		mg/L		97	80 - 120

Lab Sample ID: MB 180-237940/2  
Matrix: Solid  
Analysis Batch: 237940

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/26/18 14:33	1

Lab Sample ID: LCS 180-237940/1  
Matrix: Solid  
Analysis Batch: 237940

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	338		mg/L		100	80 - 120

Lab Sample ID: MB 180-238055/2  
Matrix: Solid  
Analysis Batch: 238055

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/27/18 15:07	1



QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

Lab Sample ID: LCS 180-238055/1  
Matrix: Solid  
Analysis Batch: 238055

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	360		mg/L		106	80 - 120

Lab Sample ID: MB 180-238132/2  
Matrix: Solid  
Analysis Batch: 238132

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/28/18 10:41	1

Lab Sample ID: LCS 180-238132/1  
Matrix: Solid  
Analysis Batch: 238132

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	366		mg/L		108	80 - 120

Lab Sample ID: 180-74121-9 DU  
Matrix: Solid  
Analysis Batch: 236785

Client Sample ID: ABB - PH 4.0  
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	33000		32500		mg/L		1	10

Lab Sample ID: 180-74121-20 DU  
Matrix: Solid  
Analysis Batch: 236785

Client Sample ID: ASB - PH 4.0  
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	31000		31200		mg/L		2	10

Lab Sample ID: 180-74121-13 DU  
Matrix: Solid  
Analysis Batch: 236825

Client Sample ID: ASB - PH 13.0  
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	13000		13900		mg/L		4	10

Method: SM 2580B - Reduction-Oxidation (REDOX) Potential

Lab Sample ID: LCS 180-236472/1  
Matrix: Solid  
Analysis Batch: 236472

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	467		millivolts		98	90 - 110

QC Sample Results

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**Method: SM 2580B - Reduction-Oxidation (REDOX) Potential (Continued)**

Lab Sample ID: LCS 180-236472/13  
Matrix: Solid  
Analysis Batch: 236472

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	465		millivolts		98	90 - 110

Lab Sample ID: LCS 180-236472/36  
Matrix: Solid  
Analysis Batch: 236472

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	463		millivolts		97	90 - 110

Lab Sample ID: LCS 180-237422/1  
Matrix: Solid  
Analysis Batch: 237422

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	466		millivolts		98	90 - 110

Lab Sample ID: LCS 180-237550/1  
Matrix: Solid  
Analysis Batch: 237550

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	469		millivolts		99	90 - 110

Lab Sample ID: LCS 180-237562/1  
Matrix: Solid  
Analysis Batch: 237562

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	472		millivolts		99	90 - 110

Lab Sample ID: LCS 180-237751/1  
Matrix: Solid  
Analysis Batch: 237751

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	467		millivolts		98	90 - 110

Lab Sample ID: LCS 180-237774/1  
Matrix: Solid  
Analysis Batch: 237774

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	473		millivolts		100	90 - 110

Lab Sample ID: LCS 180-238131/1  
Matrix: Solid  
Analysis Batch: 238131

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	468		millivolts		99	90 - 110

TestAmerica Pittsburgh



**QC Sample Results**

Client: KPRG and Associates, Inc.  
Project/Site: Midwest Generation

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10**
- 11
- 12
- 13

Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**HPLC/IC**

**Leach Batch: 236165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-2	ABB - PH 13.0	Leach	Solid	1313	
180-74121-9	ABB - PH 4.0	Leach	Solid	1313	
180-74121-11	ABB- NATURAL	Leach	Solid	1313	
180-74121-13	ASB - PH 13.0	Leach	Solid	1313	
180-74121-20	ASB - PH 4.0	Leach	Solid	1313	
180-74121-22	ASB - NATURAL	Leach	Solid	1313	
180-74121-23	B01	Leach	Solid	1313	
180-74121-22 MS	ASB - NATURAL	Leach	Solid	1313	
180-74121-22 MSD	ASB - NATURAL	Leach	Solid	1313	

**Analysis Batch: 236373**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-11	ABB- NATURAL	Leach	Solid	EPA 9056A	236165
180-74121-11	ABB- NATURAL	Leach	Solid	EPA 9056A	236165
180-74121-22	ASB - NATURAL	Leach	Solid	EPA 9056A	236165
180-74121-23	B01	Leach	Solid	EPA 9056A	236165
MB 180-236373/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236373/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	
180-74121-22 MS	ASB - NATURAL	Leach	Solid	EPA 9056A	236165
180-74121-22 MSD	ASB - NATURAL	Leach	Solid	EPA 9056A	236165

**Analysis Batch: 236377**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-9	ABB - PH 4.0	Leach	Solid	EPA 9056A	236165
180-74121-20	ASB - PH 4.0	Leach	Solid	EPA 9056A	236165
MB 180-236377/17	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236377/16	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Analysis Batch: 236553**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-2	ABB - PH 13.0	Leach	Solid	EPA 9056A	236165
180-74121-13	ASB - PH 13.0	Leach	Solid	EPA 9056A	236165
MB 180-236553/16	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236553/15	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Leach Batch: 236722**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-3	ABB - PH 12.0	Leach	Solid	1313	
180-74121-6	ABB - PH 8.0	Leach	Solid	1313	
180-74121-8	ABB - PH 5.5	Leach	Solid	1313	
180-74121-17	ASB - PH 8.0	Leach	Solid	1313	
180-74121-18	ASB - PH 7.0	Leach	Solid	1313	
180-74121-25	B03	Leach	Solid	1313	

**Analysis Batch: 236732**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-3	ABB - PH 12.0	Leach	Solid	EPA 9056A	236722
180-74121-6	ABB - PH 8.0	Leach	Solid	EPA 9056A	236722
180-74121-6	ABB - PH 8.0	Leach	Solid	EPA 9056A	236722
180-74121-8	ABB - PH 5.5	Leach	Solid	EPA 9056A	236722
180-74121-17	ASB - PH 8.0	Leach	Solid	EPA 9056A	236722





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**HPLC/IC (Continued)**

**Analysis Batch: 236732 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-18	ASB - PH 7.0	Leach	Solid	EPA 9056A	236722
180-74121-25	B03	Leach	Solid	EPA 9056A	236722
MB 180-236732/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236732/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Analysis Batch: 236891**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-18	ASB - PH 7.0	Leach	Solid	EPA 9056A	236722
180-74121-25	B03	Leach	Solid	EPA 9056A	236722
MB 180-236891/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236891/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Leach Batch: 237165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-4	ABB - PH 10.5	Leach	Solid	1313	
180-74121-14	ASB- PH 12.0	Leach	Solid	1313	

**Leach Batch: 237381**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-10	ABB - PH 2.0	Leach	Solid	1313	
180-74121-15	ASB - PH 10.5	Leach	Solid	1313	

**Leach Batch: 237539**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-21	ASB - PH 2.0	Leach	Solid	1313	
180-74121-24	B02	Leach	Solid	1313	

**Analysis Batch: 237598**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-10	ABB - PH 2.0	Leach	Solid	EPA 9056A	237381
180-74121-15	ASB - PH 10.5	Leach	Solid	EPA 9056A	237381
180-74121-15	ASB - PH 10.5	Leach	Solid	EPA 9056A	237381
MB 180-237598/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-237598/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Analysis Batch: 237721**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-21	ASB - PH 2.0	Leach	Solid	EPA 9056A	237539
180-74121-24	B02	Leach	Solid	EPA 9056A	237539
MB 180-237721/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-237721/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Leach Batch: 237761**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-7	ABB - PH 7.0	Leach	Solid	1313	

**Analysis Batch: 237859**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-4	ABB - PH 10.5	Leach	Solid	EPA 9056A	237165
180-74121-4	ABB - PH 10.5	Leach	Solid	EPA 9056A	237165
180-74121-7	ABB - PH 7.0	Leach	Solid	EPA 9056A	237761

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**HPLC/IC (Continued)**

**Analysis Batch: 237859 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-7	ABB - PH 7.0	Leach	Solid	EPA 9056A	237761
180-74121-14	ASB - PH 12.0	Leach	Solid	EPA 9056A	237165
MB 180-237859/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-237859/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Leach Batch: 238030**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-19	ASB - PH 5.5	Leach	Solid	1313	

**Analysis Batch: 238212**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-19	ASB - PH 5.5	Leach	Solid	EPA 9056A	238030
MB 180-238212/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-238212/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

**Metals**

**Leach Batch: 236165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-2	ABB - PH 13.0	Leach	Solid	1313	
180-74121-9	ABB - PH 4.0	Leach	Solid	1313	
180-74121-11	ABB - NATURAL	Leach	Solid	1313	
180-74121-13	ASB - PH 13.0	Leach	Solid	1313	
180-74121-20	ASB - PH 4.0	Leach	Solid	1313	
180-74121-22	ASB - NATURAL	Leach	Solid	1313	
180-74121-23	B01	Leach	Solid	1313	

**Prep Batch: 236437**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-11	ABB - NATURAL	Leach	Solid	3010A	236165
180-74121-22	ASB - NATURAL	Leach	Solid	3010A	236165
180-74121-23	B01	Leach	Solid	3010A	236165
MB 180-236437/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-236437/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-236437/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Prep Batch: 236440**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-2	ABB - PH 13.0	Leach	Solid	3010A	236165
180-74121-9	ABB - PH 4.0	Leach	Solid	3010A	236165
180-74121-13	ASB - PH 13.0	Leach	Solid	3010A	236165
180-74121-20	ASB - PH 4.0	Leach	Solid	3010A	236165
MB 180-236440/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-236440/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-236440/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Leach Batch: 236722**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-3	ABB - PH 12.0	Leach	Solid	1313	
180-74121-6	ABB - PH 8.0	Leach	Solid	1313	



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**Metals (Continued)**

**Leach Batch: 236722 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-8	ABB - PH 5.5	Leach	Solid	1313	
180-74121-17	ASB - PH 8.0	Leach	Solid	1313	
180-74121-18	ASB - PH 7.0	Leach	Solid	1313	
180-74121-25	B03	Leach	Solid	1313	

**Analysis Batch: 236729**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-2	ABB - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74121-11	ABB- NATURAL	Leach	Solid	EPA 6020A	236437
180-74121-13	ASB - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74121-22	ASB - NATURAL	Leach	Solid	EPA 6020A	236437
180-74121-23	B01	Leach	Solid	EPA 6020A	236437
MB 180-236437/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236437
MB 180-236440/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236440
LCS 180-236437/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236437
LCS 180-236440/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236440
LCSD 180-236437/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236437
LCSD 180-236440/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236440

**Prep Batch: 236807**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-3	ABB - PH 12.0	Leach	Solid	3010A	236722
180-74121-6	ABB - PH 8.0	Leach	Solid	3010A	236722
180-74121-8	ABB - PH 5.5	Leach	Solid	3010A	236722
180-74121-17	ASB - PH 8.0	Leach	Solid	3010A	236722
180-74121-18	ASB - PH 7.0	Leach	Solid	3010A	236722
180-74121-25	B03	Leach	Solid	3010A	236722
MB 180-236807/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-236807/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-236807/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Analysis Batch: 236828**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-2	ABB - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74121-9	ABB - PH 4.0	Leach	Solid	EPA 6020A	236440
180-74121-11	ABB- NATURAL	Leach	Solid	EPA 6020A	236437
180-74121-13	ASB - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74121-20	ASB - PH 4.0	Leach	Solid	EPA 6020A	236440
180-74121-22	ASB - NATURAL	Leach	Solid	EPA 6020A	236437
180-74121-23	B01	Leach	Solid	EPA 6020A	236437
MB 180-236437/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236437
MB 180-236440/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236440
LCS 180-236437/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236437
LCS 180-236440/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236440
LCSD 180-236437/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236437
LCSD 180-236440/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236440

**Leach Batch: 237165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-4	ABB - PH 10.5	Leach	Solid	1313	
180-74121-14	ASB- PH 12.0	Leach	Solid	1313	



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**Analysis Batch: 237198**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-3	ABB - PH 12.0	Leach	Solid	EPA 6020A	236807
180-74121-6	ABB - PH 8.0	Leach	Solid	EPA 6020A	236807
180-74121-17	ASB - PH 8.0	Leach	Solid	EPA 6020A	236807
180-74121-18	ASB - PH 7.0	Leach	Solid	EPA 6020A	236807
180-74121-25	B03	Leach	Solid	EPA 6020A	236807
MB 180-236807/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236807
LCS 180-236807/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236807
LCSD 180-236807/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236807

**Prep Batch: 237311**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-4	ABB - PH 10.5	Leach	Solid	3010A	237165
180-74121-14	ASB - PH 12.0	Leach	Solid	3010A	237165
MB 180-237311/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-237311/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-237311/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Analysis Batch: 237323**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-8	ABB - PH 5.5	Leach	Solid	EPA 6020A	236807

**Leach Batch: 237381**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-10	ABB - PH 2.0	Leach	Solid	1313	
180-74121-15	ASB - PH 10.5	Leach	Solid	1313	

**Prep Batch: 237537**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-15	ASB - PH 10.5	Leach	Solid	3010A	237381
MB 180-237537/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-237537/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-237537/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Leach Batch: 237539**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-21	ASB - PH 2.0	Leach	Solid	1313	
180-74121-24	B02	Leach	Solid	1313	

**Prep Batch: 237582**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-21	ASB - PH 2.0	Leach	Solid	3010A	237539
180-74121-24	B02	Leach	Solid	3010A	237539
MB 180-237582/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-237582/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-237582/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Analysis Batch: 237590**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-4	ABB - PH 10.5	Leach	Solid	EPA 6020A	237311
180-74121-14	ASB - PH 12.0	Leach	Solid	EPA 6020A	237311
MB 180-237311/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237311
LCS 180-237311/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237311
LCSD 180-237311/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237311



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**Analysis Batch: 237713**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-4	ABB - PH 10.5	Leach	Solid	EPA 6020A	237311
180-74121-14	ASB- PH 12.0	Leach	Solid	EPA 6020A	237311
MB 180-237311/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237311
LCS 180-237311/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237311
LCSD 180-237311/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237311

**Leach Batch: 237761**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-7	ABB - PH 7.0	Leach	Solid	1313	

**Prep Batch: 237767**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-7	ABB - PH 7.0	Leach	Solid	3010A	237761
180-74121-10	ABB - PH 2.0	Leach	Solid	3010A	237381
MB 180-237767/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-237767/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-237767/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Analysis Batch: 237821**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-15	ASB - PH 10.5	Leach	Solid	EPA 6020A	237537
180-74121-24	B02	Leach	Solid	EPA 6020A	237582
MB 180-237537/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237537
MB 180-237582/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237582
LCS 180-237537/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237537
LCS 180-237582/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237582
LCSD 180-237537/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237537
LCSD 180-237582/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237582

**Analysis Batch: 237942**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-7	ABB - PH 7.0	Leach	Solid	EPA 6020A	237767
180-74121-10	ABB - PH 2.0	Leach	Solid	EPA 6020A	237767
180-74121-21	ASB - PH 2.0	Leach	Solid	EPA 6020A	237582
MB 180-237767/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237767
LCS 180-237767/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237767
LCSD 180-237767/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237767

**Leach Batch: 238030**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-19	ASB - PH 5.5	Leach	Solid	1313	

**Analysis Batch: 238052**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-7	ABB - PH 7.0	Leach	Solid	EPA 6020A	237767
180-74121-10	ABB - PH 2.0	Leach	Solid	EPA 6020A	237767
180-74121-15	ASB - PH 10.5	Leach	Solid	EPA 6020A	237537
180-74121-21	ASB - PH 2.0	Leach	Solid	EPA 6020A	237582
180-74121-24	B02	Leach	Solid	EPA 6020A	237582
MB 180-237537/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237537
MB 180-237582/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237582
MB 180-237767/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237767
LCS 180-237537/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237537



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**Metals (Continued)**

**Analysis Batch: 238052 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-237582/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237582
LCS 180-237767/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237767
LCSD 180-237537/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237537
LCSD 180-237582/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237582
LCSD 180-237767/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237767

**Prep Batch: 238166**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-19	ASB - PH 5.5	Leach	Solid	3010A	238030
MB 180-238166/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-238166/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-238166/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

**Analysis Batch: 238310**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-19	ASB - PH 5.5	Leach	Solid	EPA 6020A	238166
MB 180-238166/1-A	Method Blank	Total/NA	Solid	EPA 6020A	238166
LCS 180-238166/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	238166
LCSD 180-238166/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	238166

**General Chemistry**

**Analysis Batch: 234952**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-1	ABB - PRETEST	Total/NA	Solid	2540G	
180-74121-12	ASB - PRETEST	Total/NA	Solid	2540G	

**Analysis Batch: 235778**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-26	ABB - AIR DRIED	Total/NA	Solid	2540G	
180-74121-27	ASB - AIR DRIED	Total/NA	Solid	2540G	

**Leach Batch: 236165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-2	ABB - PH 13.0	Leach	Solid	1313	
180-74121-9	ABB - PH 4.0	Leach	Solid	1313	
180-74121-11	ABB- NATURAL	Leach	Solid	1313	
180-74121-13	ASB - PH 13.0	Leach	Solid	1313	
180-74121-20	ASB - PH 4.0	Leach	Solid	1313	
180-74121-22	ASB - NATURAL	Leach	Solid	1313	
180-74121-23	B01	Leach	Solid	1313	
180-74121-9 DU	ABB - PH 4.0	Leach	Solid	1313	
180-74121-13 DU	ASB - PH 13.0	Leach	Solid	1313	
180-74121-20 DU	ASB - PH 4.0	Leach	Solid	1313	

**Analysis Batch: 236465**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-2	ABB - PH 13.0	Leach	Solid	EPA 9040C	236165
180-74121-9	ABB - PH 4.0	Leach	Solid	EPA 9040C	236165
180-74121-11	ABB- NATURAL	Leach	Solid	EPA 9040C	236165



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**General Chemistry (Continued)**

**Analysis Batch: 236465 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-13	ASB - PH 13.0	Leach	Solid	EPA 9040C	236165
180-74121-20	ASB - PH 4.0	Leach	Solid	EPA 9040C	236165
180-74121-22	ASB - NATURAL	Leach	Solid	EPA 9040C	236165
180-74121-23	B01	Leach	Solid	EPA 9040C	236165
LCS 180-236465/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	
LCS 180-236465/24	Lab Control Sample	Total/NA	Solid	EPA 9040C	
LCS 180-236465/47	Lab Control Sample	Total/NA	Solid	EPA 9040C	

**Analysis Batch: 236472**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-2	ABB - PH 13.0	Leach	Solid	SM 2580B	236165
180-74121-9	ABB - PH 4.0	Leach	Solid	SM 2580B	236165
180-74121-11	ABB- NATURAL	Leach	Solid	SM 2580B	236165
180-74121-13	ASB - PH 13.0	Leach	Solid	SM 2580B	236165
180-74121-20	ASB - PH 4.0	Leach	Solid	SM 2580B	236165
180-74121-22	ASB - NATURAL	Leach	Solid	SM 2580B	236165
180-74121-23	B01	Leach	Solid	SM 2580B	236165
LCS 180-236472/1	Lab Control Sample	Total/NA	Solid	SM 2580B	
LCS 180-236472/13	Lab Control Sample	Total/NA	Solid	SM 2580B	
LCS 180-236472/36	Lab Control Sample	Total/NA	Solid	SM 2580B	

**Analysis Batch: 236475**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-2	ABB - PH 13.0	Leach	Solid	SM 2510B	236165
180-74121-9	ABB - PH 4.0	Leach	Solid	SM 2510B	236165
180-74121-11	ABB- NATURAL	Leach	Solid	SM 2510B	236165
180-74121-13	ASB - PH 13.0	Leach	Solid	SM 2510B	236165
180-74121-20	ASB - PH 4.0	Leach	Solid	SM 2510B	236165
180-74121-22	ASB - NATURAL	Leach	Solid	SM 2510B	236165
180-74121-23	B01	Leach	Solid	SM 2510B	236165
MB 180-236475/17	Method Blank	Total/NA	Solid	SM 2510B	
MB 180-236475/2	Method Blank	Total/NA	Solid	SM 2510B	
MB 180-236475/43	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-236475/1	Lab Control Sample	Total/NA	Solid	SM 2510B	
LCS 180-236475/16	Lab Control Sample	Total/NA	Solid	SM 2510B	
LCS 180-236475/42	Lab Control Sample	Total/NA	Solid	SM 2510B	

**Leach Batch: 236722**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-3	ABB - PH 12.0	Leach	Solid	1313	
180-74121-6	ABB - PH 8.0	Leach	Solid	1313	
180-74121-8	ABB - PH 5.5	Leach	Solid	1313	
180-74121-17	ASB - PH 8.0	Leach	Solid	1313	
180-74121-18	ASB - PH 7.0	Leach	Solid	1313	
180-74121-25	B03	Leach	Solid	1313	

**Analysis Batch: 236785**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-9	ABB - PH 4.0	Leach	Solid	SM 2540C	236165
180-74121-11	ABB- NATURAL	Leach	Solid	SM 2540C	236165
180-74121-20	ASB - PH 4.0	Leach	Solid	SM 2540C	236165



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**General Chemistry (Continued)**

**Analysis Batch: 236785 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-22	ASB - NATURAL	Leach	Solid	SM 2540C	236165
180-74121-23	B01	Leach	Solid	SM 2540C	236165
MB 180-236785/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-236785/1	Lab Control Sample	Total/NA	Solid	SM 2540C	
180-74121-9 DU	ABB - PH 4.0	Leach	Solid	SM 2540C	236165
180-74121-20 DU	ASB - PH 4.0	Leach	Solid	SM 2540C	236165

**Analysis Batch: 236825**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-13	ASB - PH 13.0	Leach	Solid	SM 2540C	236165
MB 180-236825/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-236825/1	Lab Control Sample	Total/NA	Solid	SM 2540C	
180-74121-13 DU	ASB - PH 13.0	Leach	Solid	SM 2540C	236165

**Analysis Batch: 237078**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-2	ABB - PH 13.0	Leach	Solid	SM 2540C	236165
180-74121-3	ABB - PH 12.0	Leach	Solid	SM 2540C	236722
180-74121-6	ABB - PH 8.0	Leach	Solid	SM 2540C	236722
180-74121-8	ABB - PH 5.5	Leach	Solid	SM 2540C	236722
180-74121-17	ASB - PH 8.0	Leach	Solid	SM 2540C	236722
180-74121-18	ASB - PH 7.0	Leach	Solid	SM 2540C	236722
180-74121-25	B03	Leach	Solid	SM 2540C	236722
MB 180-237078/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-237078/1	Lab Control Sample	Total/NA	Solid	SM 2540C	

**Leach Batch: 237107**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-1	ABB - PRETEST	Leach	Solid	1313	
180-74121-1	ABB - PRETEST	Leach	Solid	1313	
180-74121-1	ABB - PRETEST	Leach	Solid	1313	
180-74121-12	ASB - PRETEST	Leach	Solid	1313	
180-74121-12	ASB - PRETEST	Leach	Solid	1313	
180-74121-12	ASB - PRETEST	Leach	Solid	1313	
180-74121-12	ASB - PRETEST	Leach	Solid	1313	

**Leach Batch: 237165**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-4	ABB - PH 10.5	Leach	Solid	1313	
180-74121-14	ASB- PH 12.0	Leach	Solid	1313	

**Analysis Batch: 237329**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-4	ABB - PH 10.5	Leach	Solid	SM 2540C	237165
180-74121-14	ASB- PH 12.0	Leach	Solid	SM 2540C	237165
MB 180-237329/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-237329/1	Lab Control Sample	Total/NA	Solid	SM 2540C	

**Analysis Batch: 237380**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-1	ABB - PRETEST	Leach	Solid	EPA 9040C	237107





Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**General Chemistry (Continued)**

**Analysis Batch: 237380 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-1	ABB - PRETEST	Leach	Solid	EPA 9040C	237107
180-74121-1	ABB - PRETEST	Leach	Solid	EPA 9040C	237107
180-74121-3	ABB - PH 12.0	Leach	Solid	EPA 9040C	236722
180-74121-6	ABB - PH 8.0	Leach	Solid	EPA 9040C	236722
180-74121-8	ABB - PH 5.5	Leach	Solid	EPA 9040C	236722
180-74121-12	ASB - PRETEST	Leach	Solid	EPA 9040C	237107
180-74121-12	ASB - PRETEST	Leach	Solid	EPA 9040C	237107
180-74121-12	ASB - PRETEST	Leach	Solid	EPA 9040C	237107
180-74121-12	ASB - PRETEST	Leach	Solid	EPA 9040C	237107
180-74121-17	ASB - PH 8.0	Leach	Solid	EPA 9040C	236722
180-74121-18	ASB - PH 7.0	Leach	Solid	EPA 9040C	236722
180-74121-25	B03	Leach	Solid	EPA 9040C	236722
LCS 180-237380/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	

**Leach Batch: 237381**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-10	ABB - PH 2.0	Leach	Solid	1313	
180-74121-12	ASB - PRETEST	Leach	Solid	1313	
180-74121-15	ASB - PH 10.5	Leach	Solid	1313	

**Analysis Batch: 237422**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-3	ABB - PH 12.0	Leach	Solid	SM 2580B	236722
180-74121-6	ABB - PH 8.0	Leach	Solid	SM 2580B	236722
180-74121-8	ABB - PH 5.5	Leach	Solid	SM 2580B	236722
180-74121-17	ASB - PH 8.0	Leach	Solid	SM 2580B	236722
180-74121-18	ASB - PH 7.0	Leach	Solid	SM 2580B	236722
180-74121-25	B03	Leach	Solid	SM 2580B	236722
LCS 180-237422/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

**Analysis Batch: 237425**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-3	ABB - PH 12.0	Leach	Solid	SM 2510B	236722
180-74121-6	ABB - PH 8.0	Leach	Solid	SM 2510B	236722
180-74121-8	ABB - PH 5.5	Leach	Solid	SM 2510B	236722
180-74121-17	ASB - PH 8.0	Leach	Solid	SM 2510B	236722
180-74121-18	ASB - PH 7.0	Leach	Solid	SM 2510B	236722
180-74121-25	B03	Leach	Solid	SM 2510B	236722
MB 180-237425/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-237425/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

**Analysis Batch: 237531**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-10	ABB - PH 2.0	Leach	Solid	EPA 9040C	237381
180-74121-12	ASB - PRETEST	Leach	Solid	EPA 9040C	237381
180-74121-15	ASB - PH 10.5	Leach	Solid	EPA 9040C	237381
LCS 180-237531/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	

**Leach Batch: 237539**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-21	ASB - PH 2.0	Leach	Solid	1313	



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**General Chemistry (Continued)**

**Leach Batch: 237539 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-24	B02	Leach	Solid	1313	

**Analysis Batch: 237550**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-10	ABB - PH 2.0	Leach	Solid	SM 2580B	237381
180-74121-15	ASB - PH 10.5	Leach	Solid	SM 2580B	237381
LCS 180-237550/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

**Analysis Batch: 237553**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-10	ABB - PH 2.0	Leach	Solid	SM 2510B	237381
180-74121-15	ASB - PH 10.5	Leach	Solid	SM 2510B	237381
MB 180-237553/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-237553/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

**Analysis Batch: 237560**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-21	ASB - PH 2.0	Leach	Solid	EPA 9040C	237539
180-74121-24	B02	Leach	Solid	EPA 9040C	237539
LCS 180-237560/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	

**Analysis Batch: 237562**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-21	ASB - PH 2.0	Leach	Solid	SM 2580B	237539
180-74121-24	B02	Leach	Solid	SM 2580B	237539
LCS 180-237562/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

**Analysis Batch: 237563**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-21	ASB - PH 2.0	Leach	Solid	SM 2510B	237539
180-74121-24	B02	Leach	Solid	SM 2510B	237539
MB 180-237563/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-237563/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

**Leach Batch: 237733**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-1	ABB - PRETEST	Leach	Solid	1313	
180-74121-12	ASB - PRETEST	Leach	Solid	1313	
180-74121-12	ASB - PRETEST	Leach	Solid	1313	

**Analysis Batch: 237737**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-1	ABB - PRETEST	Leach	Solid	EPA 9040C	237733
180-74121-4	ABB - PH 10.5	Leach	Solid	EPA 9040C	237165
180-74121-12	ASB - PRETEST	Leach	Solid	EPA 9040C	237733
180-74121-12	ASB - PRETEST	Leach	Solid	EPA 9040C	237733
180-74121-14	ASB - PH 12.0	Leach	Solid	EPA 9040C	237165
LCS 180-237737/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

**General Chemistry (Continued)**

**Analysis Batch: 237751**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-4	ABB - PH 10.5	Leach	Solid	SM 2580B	237165
180-74121-14	ASB - PH 12.0	Leach	Solid	SM 2580B	237165
LCS 180-237751/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

**Analysis Batch: 237752**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-4	ABB - PH 10.5	Leach	Solid	SM 2510B	237165
180-74121-14	ASB - PH 12.0	Leach	Solid	SM 2510B	237165
MB 180-237752/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-237752/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

**Leach Batch: 237761**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-7	ABB - PH 7.0	Leach	Solid	1313	

**Analysis Batch: 237772**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-7	ABB - PH 7.0	Leach	Solid	EPA 9040C	237761
LCS 180-237772/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	

**Analysis Batch: 237774**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-7	ABB - PH 7.0	Leach	Solid	SM 2580B	237761
LCS 180-237774/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

**Analysis Batch: 237776**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-7	ABB - PH 7.0	Leach	Solid	SM 2510B	237761
MB 180-237776/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-237776/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

**Analysis Batch: 237940**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-10	ABB - PH 2.0	Leach	Solid	SM 2540C	237381
180-74121-15	ASB - PH 10.5	Leach	Solid	SM 2540C	237381
180-74121-21	ASB - PH 2.0	Leach	Solid	SM 2540C	237539
180-74121-24	B02	Leach	Solid	SM 2540C	237539
MB 180-237940/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-237940/1	Lab Control Sample	Total/NA	Solid	SM 2540C	

**Leach Batch: 238030**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-19	ASB - PH 5.5	Leach	Solid	1313	

**Analysis Batch: 238055**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-7	ABB - PH 7.0	Leach	Solid	SM 2540C	237761
MB 180-238055/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-238055/1	Lab Control Sample	Total/NA	Solid	SM 2540C	



Client: KPRG and Associates, Inc.  
 Project/Site: Midwest Generation

TestAmerica Job ID: 180-74121-1

**General Chemistry (Continued)**

**Analysis Batch: 238129**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-19	ASB - PH 5.5	Leach	Solid	EPA 9040C	238030
LCS 180-238129/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	

**Analysis Batch: 238130**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-19	ASB - PH 5.5	Leach	Solid	SM 2510B	238030
MB 180-238130/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-238130/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

**Analysis Batch: 238131**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-19	ASB - PH 5.5	Leach	Solid	SM 2580B	238030
LCS 180-238131/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

**Analysis Batch: 238132**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74121-19	ASB - PH 5.5	Leach	Solid	SM 2540C	238030
MB 180-238132/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-238132/1	Lab Control Sample	Total/NA	Solid	SM 2540C	



Report To \_\_\_\_\_ (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To \_\_\_\_\_ (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference# \_\_\_\_\_

Chain of Custody Record  
 Lab Job #: \_\_\_\_\_  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: \_\_\_\_\_

Lab ID	MS/MSD	Sample ID	Sampling		Matrix	# of Containers	Preservative	Parameter	Comments
			Date	Time					
		ABB	1/11/18	0940	2 SE	2	SEAL		
		ASB	1/11/18	0955	2 SE	2	SEAL		



- Preservative Key
- HCL, Cool to 4°
  - H2SO4, Cool to 4°
  - HNO3, Cool to 4°
  - NaOH, Cool to 4°
  - NaOH/Zn, Cool to 4°
  - NaHSO4
  - Cool to 4°
  - None
  - Other

Turnaround Time Required (Business Days)  
 Requested Due Date: \_\_\_\_\_ 1 Day \_\_\_\_\_ 2 Days \_\_\_\_\_ 5 Days \_\_\_\_\_ 7 Days \_\_\_\_\_ 10 Days \_\_\_\_\_ 15 Days \_\_\_\_\_ Other \_\_\_\_\_

Sample Disposal:  Return to Client  Disposal by Lab (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: *[Signature]* Company: **KPRG** Date: **1/11/18** Time: **1630**

Relinquished By: *[Signature]* Company: **TA** Date: **1/11/18** Time: **1645**

Relinquished By: *[Signature]* Company: **TA** Date: **1/11/18** Time: **1645**

Received By: *[Signature]* Company: **TA** Date: **1-11-18** Time: **430**

Received By: *[Signature]* Company: **TA** Date: **1/2/18** Time: **0710**

Received By: \_\_\_\_\_ Company: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Lab Courier: \_\_\_\_\_ Shipped: \_\_\_\_\_ Hand Delivered: \_\_\_\_\_

Lab Comments:  
 LEAF Method 1313 CCR Appendix 3  
 → B, Ca, Cl, FL, PH, Sulfate, TDS

- Matrix Key
- WW - Wastewater
  - W - Water
  - S - Soil
  - SL - Sludge
  - MS - Miscellaneous
  - OL - Oil
  - A - Air
  - SE - Sediment
  - SO - Soil
  - L - Leachate
  - WI - Wipe
  - DW - Drinking Water
  - O - Other



- 1
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- 3
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- 8
- 9
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- 11
- 12
- 13

ORIGIN ID: WMLA  
 SHIPPING  
 TESTAMERICA  
 4125 N 124TH ST  
 BROOKFIELD, WI 53005  
 UNITED STATES US

SHIP DATE: 11/12/18  
 ACTWGT: 41.65  
 CAD: 525155/CA

BILL RECIPIENT

10 **SAMPLE RECEIPT**  
**TESTAMERICA**  
**301 ALPHA DR.**

**PITTSBURGH PA 15238**



TRK# 7125 4937 5449  
 0201

FRI - 12 JAN  
 PRIORITY OVERNIGHT

02/18 **NA AGCA**

15238  
 PA-US PIT

Uncorrected temp  
 Thermometer ID

1.3 / 0.8 °C  
 11

CE -0.5 Initials JS

PY-WI-SR-001 effective 7/26/13

**Login Sample Receipt Checklist**

Client: KPRG and Associates, Inc.

Job Number: 180-74121-1

**Login Number: 74121**

**List Source: TestAmerica Pittsburgh**

**List Number: 1**

**Creator: Neri, Tom**

Question	Answer	Comment
Radioactivity wasn't checked or is < /= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is < 6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



**ATTACHMENT 3**  
**Analytical Model Calculations**



**SITE NAME:** Powerton Station  
**ADDRESS:** 13082 E Manito Rd.  
 Pekin, IL 61554  
**LPC NUMBER:**  
**LOCATION:** Ash Pond Well

**RISK-BASED CORRECTIVE ACTION (RBCA) GROUNDWATER COMPONENT OF THE GROUNDWATER  
 INGESTION EXPOSURE ROUTE TIER 2 EVALUATION**

**CONTAMINANT:**

			Boron-525 silt clay	Boron-525 sand	Sulfate-525 SC	Sulfate-525 sand
		dist along centerline of plume in gw flow dir to N property boundary				
	X (cm)		16002	16002	16002	16002
R16	ALPHA <sub>x</sub> (cm)	longitudinal dispersivity	1600.2	1600.2	1600.2	1600.2
R17	ALPHA <sub>y</sub> (cm)	transverse dispersivity	533.4	533.4	533.4	533.4
R18	ALPHA <sub>z</sub> (cm)	vertical dispersivity	80.01	80.01	80.01	80.01
	LAMBDA (1/d)	first order degradation constant*	0	0	0	0
R19	U (cm/d)	specific discharge	0.058	450.075	0.058	450.075
	K (cm/d)	hydraulic conductivity (site specific)	0.863778816	10033.52832	0.863778816	10033.52832
	i (cm/cm)	hydraulic gradient (site specific), 11/8/17	0.0267	0.0157	0.0267	0.0157
	THETA <sub>t</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	total soil porosity (site specific)	0.4	0.35	0.4	0.35
	THETA <sub>as</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	volumetric air content (surface soil <1 m)	0.14	0.14	0.14	0.14
	THETA <sub>ws</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	volumetric water content (surface soil <1 m)	0.18	0.18	0.18	0.18
	S <sub>w</sub> (cm)	source width perpendicular to gw flow dir in horiz plane-	5334	5334	5334	5334
	S <sub>g</sub> (cm)	source width perpendicular to gw flow dir in vertical plane (default)	200	200	200	200
	BETA <sub>y</sub>	R15 input	0.456	0.456	0.456	0.456
	BETA <sub>z</sub>	R15 input	0.088	0.088	0.088	0.088
R15	C <sub>x</sub> /C <sub>source</sub>	steady-state attenuation along centerline of dissolve plume	4.79E-02	4.79E-02	4.79E-02	4.79E-02
	RHO <sub>s</sub> (g/cm <sup>3</sup> )	soil bulk density (default)	1.5	1.5	1.5	1.5
R20	k <sub>s</sub> (cm <sup>3</sup> /g)	soil water sorption coefficient	1.1	1.1	1.1	1.1
	K <sub>oc</sub> (cm <sup>3</sup> /g)	organic carbon partition coefficient	0	0	0	0
	f <sub>oc</sub> (g/g)	organic carbon content of soil (subsurface default)	0.002	0.002	0.002	0.002
	H <sup>i</sup>	Henry's Law constant	0	0	0	0
R24	U <sub>gw</sub> (cm/yr)	groundwater Darcy velocity	8.42	57497.13	8.42	57497.13
	DELTA <sub>gw</sub> (cm)	gw mixing zone thickness (default)	200	200	200	200
	W (cm)	width of source area parallel to dir gw-	3048	3048	3048	3048
	I (cm/yr)	infiltration rate	30	30	30	30
R14	LF <sub>sw</sub> (kg <sub>soil</sub> /L <sub>water</sub> )	leaching factor	0.8048532	0.0064664	0.8048532	0.0064664
	C <sub>source</sub> (mg/L)	greatest potential concentration of contaminant at source	3.65	3.65	155	155
	GW <sub>comp</sub> (mg/L)	gw objective at compliance point (Class I)	2	2		
	GW <sub>comp</sub> (mg/L)	gw objective at compliance point (Class II)	2	2		
R26	C <sub>x</sub> (mg/L)	dissolved concentration along centerline at property boundary	1.7477E-01	1.7477E-01	7.4216E+00	7.4216E+00
	C <sub>s</sub> (mg/kg)	Soil source concentration				
	X (feet)	Distance to POC	525	525	525	525

**ATTACHMENT 4**  
**Photo-documentation of Repaired Tear in the Ash By-Pass  
Basin**

