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ENVIRONMENTAL CONSULTATION & REMEDIATION

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

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January 31, 2019

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APPENDIX

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 though 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:

$$V_s = \frac{K\,dh}{n_e\,dl}$$, 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 4.04×10^{-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 Section257.94(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 is 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

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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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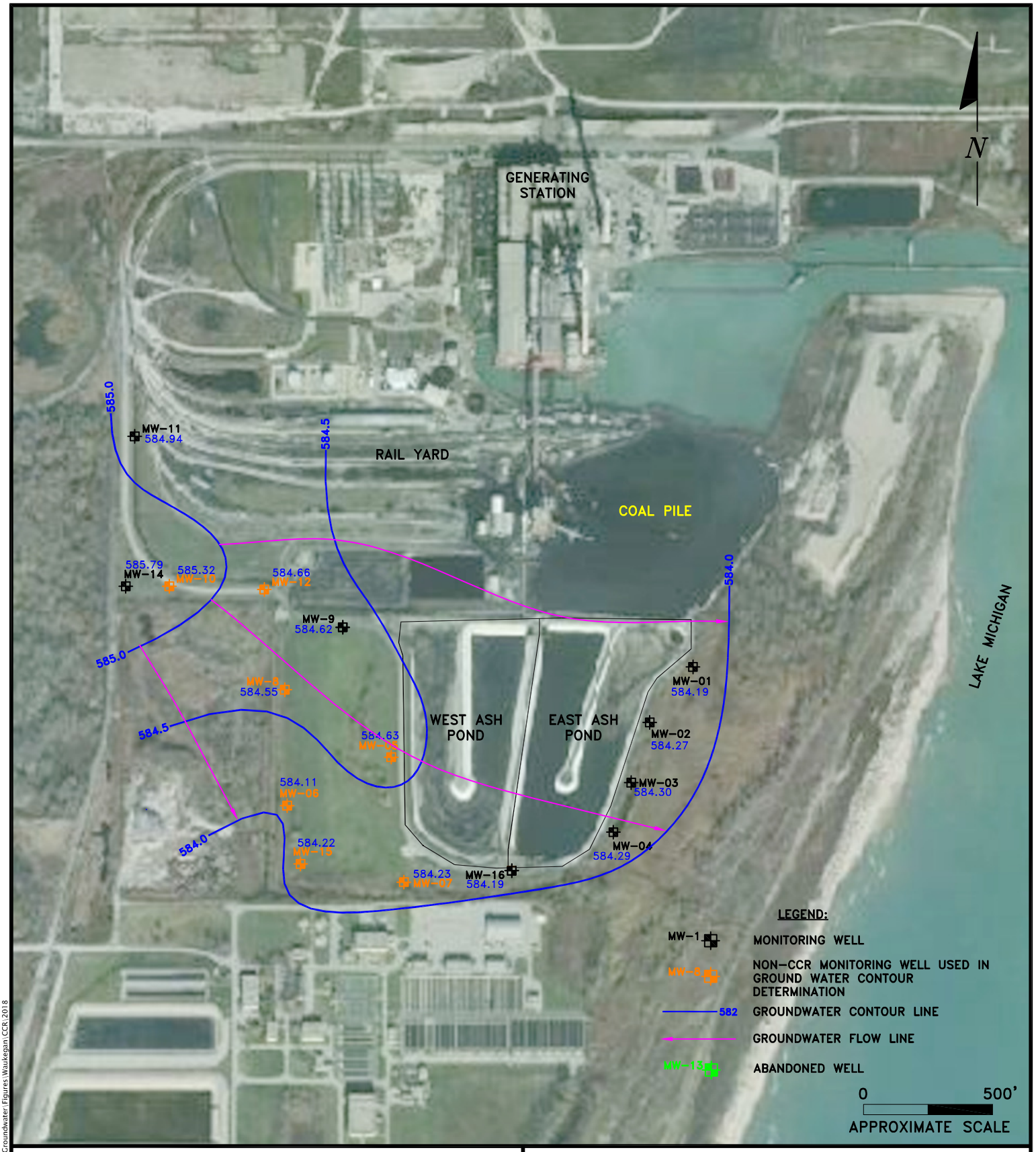

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GROUNDWATER CONTOUR MAP 05/2018

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

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

KPRG Project No. 12313.2 | FIGURE 2

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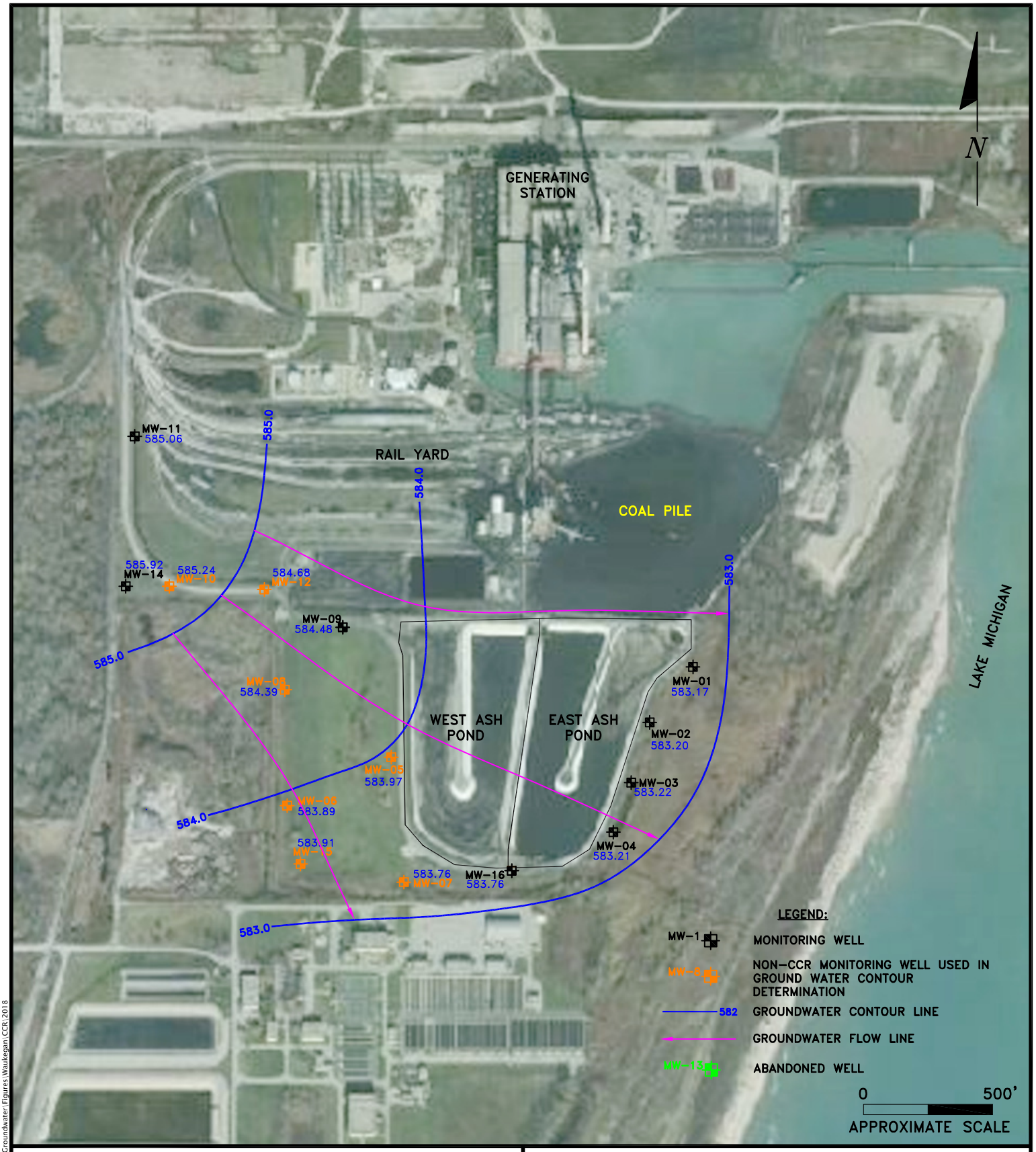

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GROUNDWATER CONTOUR MAP 11/2018

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

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

KPRG Project No. 12313.2 | FIGURE 3

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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_{avg} (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_{avg} - 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
	Pred. Limit*	**43.9**	**449**	**963**	**0.33**	**8.53-5.92**	**1214**	**3499**
	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
	Pred. Limit*	**6.83**	**206**	**333**	**4.9**	**7.91-6.14**	**255**	**1341**
	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
	Pred. Limit*	**1.85**	**274**	**389**	**0.35**	**7.89-6.31**	**266**	**1676**
	9/13/2017	**2.3**	180	190	0.15	7.20	**270**	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
	Pred. Limit	**1.83**	**227****	**345****	**4.9****	**7.70-6.43****	**233****	**1461****
	Pred. Limit*	**2.52**	**NC**	**NC**	**NC**	**11.7-10.03**	**411.6**	**NC**
	9/14/2017	**2.4**	71	47	0.24	**10.45**	***430***	770
	11/27/2017	**2.7**	84	43	0.11	**7.85**	**330**	840
	5/29/2018	**2.4**	54	58	0.33	**8.44**	**350**	610
	11/5/2018	**2.0**	38	43	0.25	**8.70**	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
	Pred. Limit	**1.83**	**227****	**345****	**4.9****	**7.70-6.43****	**233****	**1461****
	Pred. Limit*	**4.73**	**NC**	**NC**	**NC**	**9.38-7.16**	**386.6**	**NC**
	9/14/2017	**2.5**	87	54	0.4	**8.19**	**340**	780
	11/27/2017	**3.4**	69	57	0.6	7.34	200	570
	5/29/2018	**4.5**	160	43	0.4	***6.85***	***420***	990
	11/5/2018	**3.1**	77	59	0.61	**8.06**	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
	Pred. Limit	**1.83**	**227****	**345****	**4.9****	**7.70-6.43****	**233****	**1461****
	Pred. Limit*	**4.31**	**NC**	**NC**	**NC**	**9.26-7.25**	**378.9**	**NC**
	9/14/2017	**2.1**	86	57	0.26	7.53	**260**	680
	11/28/2017	**2.6**	69	63	0.56	***6.96***	120	500
	5/29/2018	**2.4**	67	61	0.38	***6.84***	190	480
	11/5/2018	**2.4**	54	54	0.50	**8.99**	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
	Pred. Limit	**1.83**	**227****	**345****	**4.9****	**7.70-6.43****	**233****	**1461****
	Pred. Limit*	**4.42**	**NC**	**NC**	**NC**	**8.26-6.15**	**647.3**	**NC**
	9/14/2017	**2.5**	180	45	0.28	7.04	**480**	1100
	11/28/2017	**2.3**	110	32	0.28	7.04	130	560
	5/30/2018	**3.0**	150	21	0.38	6.57	200	700
	11/6/2018	**2.5**	150	58	0.37	6.83	**240**	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
	Pred. Limit	**1.83**	**227****	**345****	**4.9****	**7.70-6.43****	**233****	**1461****
	Pred. Limit*	**10.94**	**NC**	**NC**	**NC**	**8.45-5.23**	**1206**	**NC**
	9/13/2017	**2.8**	190	55	0.61	7.33	**460**	970
	11/27/2017	**4.2**	140	58	0.71	7.16	**270**	760
	6/1/2018	**3**	**380**	130	0.32	6.53	**890**	**1900**
	8/22/2018 (R)	NA	190	NA	NA	NA	NA	1200
	11/6/2018	**3.9**	**380**	150	0.39	6.78	**550**	**1900**
	12/4/2018 (R)	NA	**320**	NA	NA	NA	NA	**1600**

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

Table of Contents

Case Narrative

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

TestAmerica Job ID: 500-146299-1

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 3.1º C, 3.4º C, 3.5º C, 3.7º C, 3.8º C and 4.1º 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

TestAmerica Job ID: 500-146299-1

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

TestAmerica Job ID: 500-146299-1

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

Client Sample Results

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

TestAmerica Job ID: 500-146299-1

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

TestAmerica Job ID: 500-146299-1

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

TestAmerica Job ID: 500-146299-1

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

TestAmerica Job ID: 500-146299-1

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

TestAmerica Job ID: 500-146299-1

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

TestAmerica Job ID: 500-146299-1

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

TestAmerica Job ID: 500-146299-1

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

TestAmerica Job ID: 500-146299-1

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

TestAmerica Job ID: 500-146299-1

Client Sample ID: Duplicate

Lab Sample ID: 500-146299-9

Date Collected: 05/29/18 00:00

Matrix: Water

Date Received: 06/01/18 14:50

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

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.
¤	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)

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

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 Cl- E	
500-146299-2	MW-02	Total/NA	Water	SM 4500 Cl- E	
500-146299-3	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-146299-4	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-146299-5	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-146299-6	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-146299-7	MW-14	Total/NA	Water	SM 4500 Cl- E	
500-146299-8	MW-16	Total/NA	Water	SM 4500 Cl- E	
500-146299-9	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-436386/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-436386/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- 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	

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	

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

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

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	RPD Limit
Sulfate	350		400	740		mg/L		96	75 - 125	5	20

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TestAmerica Chicag
2417 Bond St.
University Park, IL 60
708-534-5200
Fax. 708-534-5211

500-146299 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 # 500-146299

Package Sealed: Yes / No	Samples Sealed: Yes / No
Received on Ice: Yes / No	Samples Intact: Yes / No / N/A
Temperature °C of Cooler	3.1 / 3.5 / 3.4 / 3.7 / 4.1 / 3.8
Within Hold Time: Yes / No	Preserv. Indicated: Yes / No / N/A
pH Check OK: Yes / No	Res CL_2 Check OK: Yes / No / N/A
Sample Labels and COC Agree: Yes / No / COC not present	

Sampler Name: Ian John Howieson	**Company:** KPRG & Associates Inc.	**# / Cont.**	
		Volume	
Project Name: Quarterly Waukegan CCR	**TestAmerica Project Number:** 50011597	**Preserv.**	
Project Location: Waukegan, IL	**TAT** 15 Days	**Matrix**	**# of Cont**
Lab PM: Eric Lang			

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	6020A - Total Metals (B,Ca)	2540C - TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	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: IJH	COMPANY: KPRG	DATE: 6-1-18	TIME: 14:50	RECEIVED BY: Ellen Scott	COMPANY: TA-CHI	DATE: 6/1/18	TIME: 1450
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_2SO_4, Cool to 4°
3. HNO_3, 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:

__1__of__1__

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-146299-1

Login Number: 146299
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

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	

Accreditation/Certification Summary

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

TestAmerica Job ID: 500-146299-1

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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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

Table of Contents

Case Narrative

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

TestAmerica Job ID: 500-150402-1

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 2.6º 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

TestAmerica Job ID: 500-150402-1

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

TestAmerica Job ID: 500-150402-1

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

Client Sample Results

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

TestAmerica Job ID: 500-150402-1

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

Definitions/Glossary

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

TestAmerica Job ID: 500-150402-1

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.
¤	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)

QC Association Summary

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

TestAmerica Job ID: 500-150402-1

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	

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	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Calcium	190		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

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TestAmerica Chic
2417 Bond St.
University Park, IL 6
708-534-5200
Fax. 708-534-5211

500-150402 COC

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	Accounts Payable
Company:	KPRG and Associates, Inc	Company:	NRG Energy
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	112 Telly St
	Brookfield, WI 53005		New Roads, LA 70760
Phone:	262-781-0475	Phone:	713 465-4113
Email:	richardg@kprginc.com	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	
Within Hold Time: Yes / No	Preserv. Indicated: Yes / No / N/A
pH Check OK: Yes / No	Res CL_2 Check OK: Yes / No / N/A
Sample Labels and COC Agree: Yes / No	COC not present

12 qt.

Sampler Name: Ian John Howieson	**Company:** KPRG & Associates Inc.	# / Cont.	
		Volume	
Project Name: Quarterly Waukegan CCR	**TestAmerica Project Number:** 50011597	Preserv.	
Project Location: Waukegan, IL	**TAT** 15 Days		
Lab PM: Eric Lang			

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	6020A - Total CALCIUM	2540C - TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-16	8-22-18	14:43	W	2	X	X	—	—	—	
					W							
					W							
					W							
					W							
					W							
					W							
					W							
					W							

RELINQUISHED BY: IJH		COMPANY: KPRG	DATE: 8-23-18	TIME: 13:15	RECEIVED BY:	COMPANY: TALHT	DATE: 08/23/18 TIME: 1315
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_2SO_4, Cool to 4°
3. HNO_3, 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 X
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 Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

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	

Accreditation/Certification Summary

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

TestAmerica Job ID: 500-150402-1

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

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

Table of Contents

Case Narrative

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

TestAmerica Job ID: 500-154522-1

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.

Method Summary

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

TestAmerica Job ID: 500-154522-1

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

TestAmerica Job ID: 500-154522-1

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

Client Sample Results

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

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

TestAmerica Job ID: 500-154522-1

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

TestAmerica Job ID: 500-154522-1

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

TestAmerica Job ID: 500-154522-1

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

TestAmerica Job ID: 500-154522-1

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

TestAmerica Job ID: 500-154522-1

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

TestAmerica Job ID: 500-154522-1

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

TestAmerica Job ID: 500-154522-1

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: 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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

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

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 Cl- E	
500-154522-2	MW-02	Total/NA	Water	SM 4500 Cl- E	
500-154522-3	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-154522-4	MW-04	Total/NA	Water	SM 4500 Cl- E	

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	

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

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	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	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	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

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	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	RPD Limit
Chloride	42		50.0	86.1		mg/L		89	75 - 125	0	20

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

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

TestAmerica Job ID: 500-154522-1

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Ch
2417 Bond St.
University Park, Il
708-534-5200
Fax. 708-534-521 500-154522 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 # 500-154522

Package Sealed: Yes / No	Samples Sealed: Yes / No
Received on Ice: Yes / No	Samples Intact: Yes / No / N/A

Temperature °C of Cooler: -1.1 → 0.4

Within Hold Time: Yes / No	Preserv. Indicated: Yes / No / N/A
pH Check OK: Yes / No	Res CL_2 Check OK: Yes / No / N/A

Sample Labels and COC Agree: Yes / No / COC not present

Sampler Name: Ian John Howieson	**Company:** KPRG & Associates Inc.
Project Name: Quarterly Waukegan CCR	**TestAmerica Project Number:** 50011597
Project Location: Waukegan, IL	**TAT** 15 Days
Lab PM: Eric Lang	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	6020A - Total Metals (B,Ca)	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	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: IJH		COMPANY: KPRG	DATE: 11-8-18	TIME: 15:20	RECEIVED BY:	COMPANY: TA	DATE: 11/8/18	TIME: 1520
RELINQUISHED BY:		COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key		Container Key	Preservative Key
WW = Wastewater	SE = Sediment	1. Plastic	1. HCl, Cool to 4°
W = Water	SO = Solid	2. VOA Vial	2. H_2SO_4, Cool to 4°
S = Soil	DL = Drum Liquid	3. Sterile Plastic	3. HNO_3, Cool to 4°
SL = Sludge	DS = Drum Solid	4. Amber Glass	4. NaOH, Cool to 4°
MS = Miscellaneous	L = Leachate	5. Widemouth Glass	5. NaOH/Zn, Cool to 4°
OL = Oil	W = Wipe	6. Other _____	6. Cool to 4°
A = Air	O = _____		7. None

COMMENTS:

Date Received ____/____/____

Courier:

Hand Delivered ☐

Bill of Lading:

1 of 1

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-154522-1

Login Number: 154522
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

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	

Lab Chronicle

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 Cl- 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 Cl- 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 Cl- 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		

Lab Chronicle

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

TestAmerica Job ID: 500-154522-1

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

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 Cl- 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

Date Collected: 11/06/18 12:55
Date Received: 11/08/18 15:20

Lab Sample ID: 500-154522-5

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 17:36	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 Cl- 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

Date Collected: 11/06/18 14:08
Date Received: 11/08/18 15:20

Lab Sample ID: 500-154522-6

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 17:39	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 Cl- 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		

Lab Chronicle

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

TestAmerica Job ID: 500-154522-1

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

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 Cl- 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

Date Collected: 11/06/18 12:10
Date Received: 11/08/18 15:20

Lab Sample ID: 500-154522-8

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		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 Cl- 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

Date Collected: 11/05/18 00:00
Date Received: 11/08/18 15:20

Lab Sample ID: 500-154522-9

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 17:51	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 Cl- 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

Accreditation/Certification Summary

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

TestAmerica Job ID: 500-154522-1

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

TestAmerica

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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

Table of Contents

Case Narrative

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

TestAmerica Job ID: 500-155624-1

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.

Method Summary

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

TestAmerica Job ID: 500-155624-1

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

TestAmerica Job ID: 500-155624-1

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

Client Sample Results

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

TestAmerica Job ID: 500-155624-1

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

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.
¤	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)

QC Association Summary

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

TestAmerica Job ID: 500-155624-1

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	

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

TestAmerica Job ID: 500-155624-1

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	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

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

TestAmerica Job ID: 500-155624-1

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

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

500-155624 COC

Chain of Custody Record

Lab Job #: 500-155624

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler: 4.4

(optional) Report To	(optional) Bill To
Contact: Rich Gnat	Contact:
Company: KPRG & Associates Inc.	Company:
Address: 14665 W Lisbon Rd,	Address:
Address: Suite 1A, Brookfield, WI 53005	Address:
Phone: 262-781-0475	Phone:
Fax:	Fax:
E-Mail: richard.gnat@kprginc.com	PO#/Reference#

Client	Client Project #
KPRG & ASSOCIATES	12313.2
Project Name: WAUKEGAN CCR	
Project Location/State: WAUKEGAN, IL	Lab Project #
Sampler: Mitchel Dolan	Lab PM

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

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	3	8	Comments
							Parameter	6010A-Metals-Ca	2540C-TDS	
1		MW-16	12/4/18	1025	2	W		X	X	

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days X 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	Company	Date	Time	Received By	Company	Date	Time
MPD	KPRG	12/4/18	1400		TA	12-4-18	1400
	TA	12-4-18	1700		TA-CHL	12/5/18	1030

Lab Courier
Shipped Fed X
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 Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

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

TestAmerica Job ID: 500-155624-1

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 500-155624-1

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

Appendix B
Alternate Source Demonstration April 12, 2018

K P R G

ENVIRONMENTAL CONSULTATION & 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 though 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™ 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 concertation 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 concertation 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 EVALUATOIN 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 contemporal, 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 that 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

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CCR MONITORING WELL SITE MAP

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

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

KPRG Project No. 23517 | FIGURE 1

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

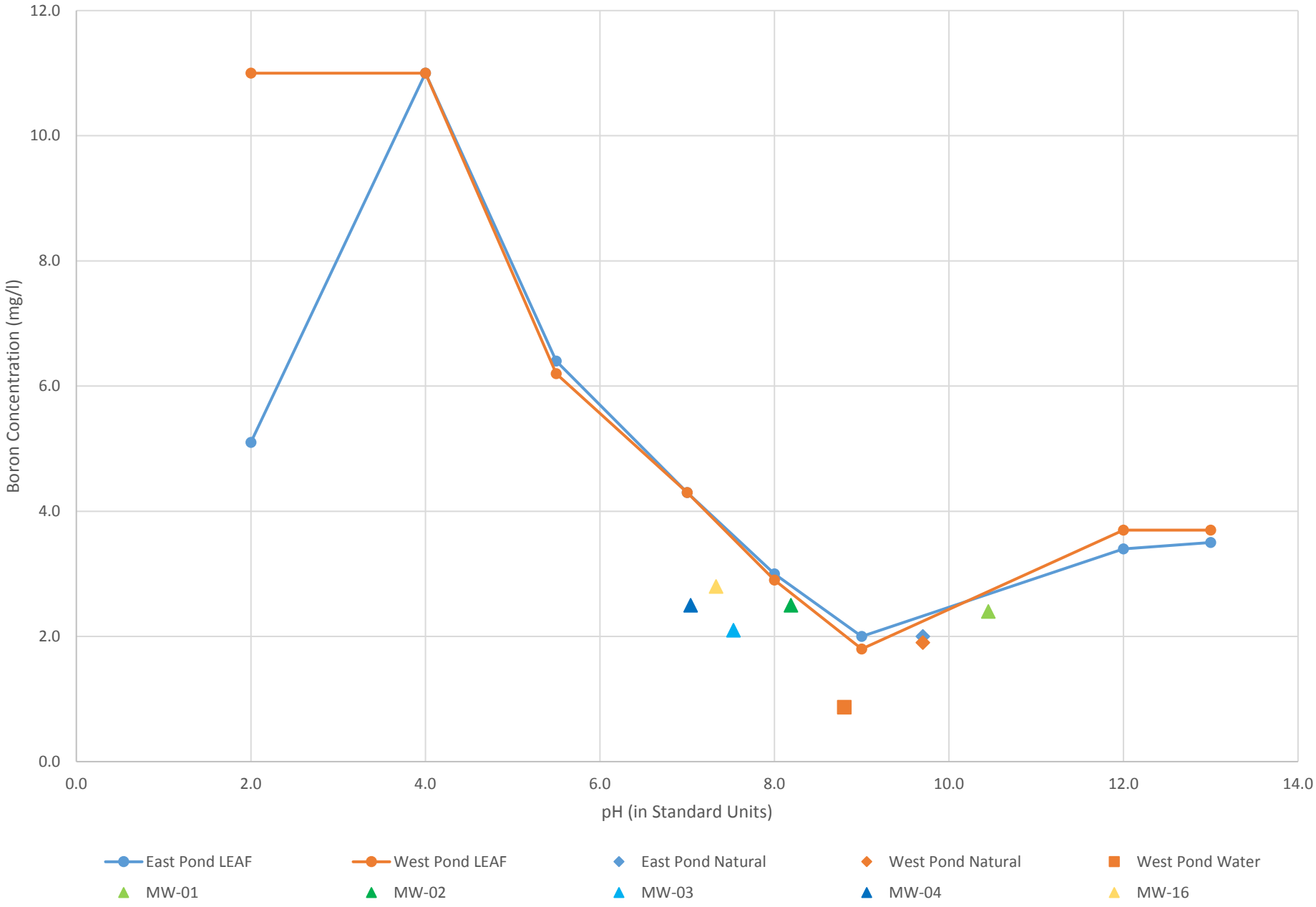


Figure 3. Sulfate Concentration vs. pH Value - Waukegan Station

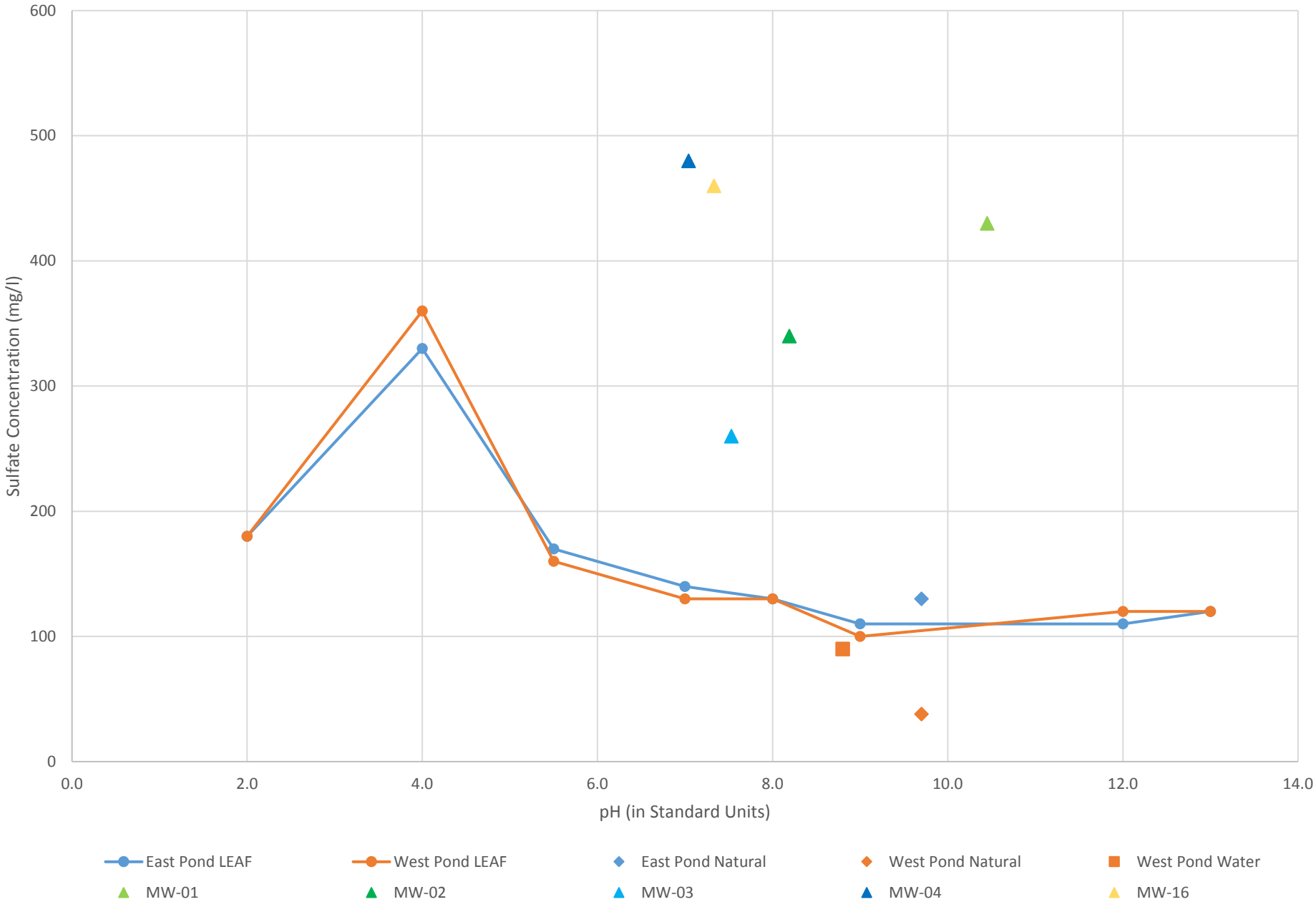


Figure 4. Calcium Concentration vs. pH Value - Waukegan Station

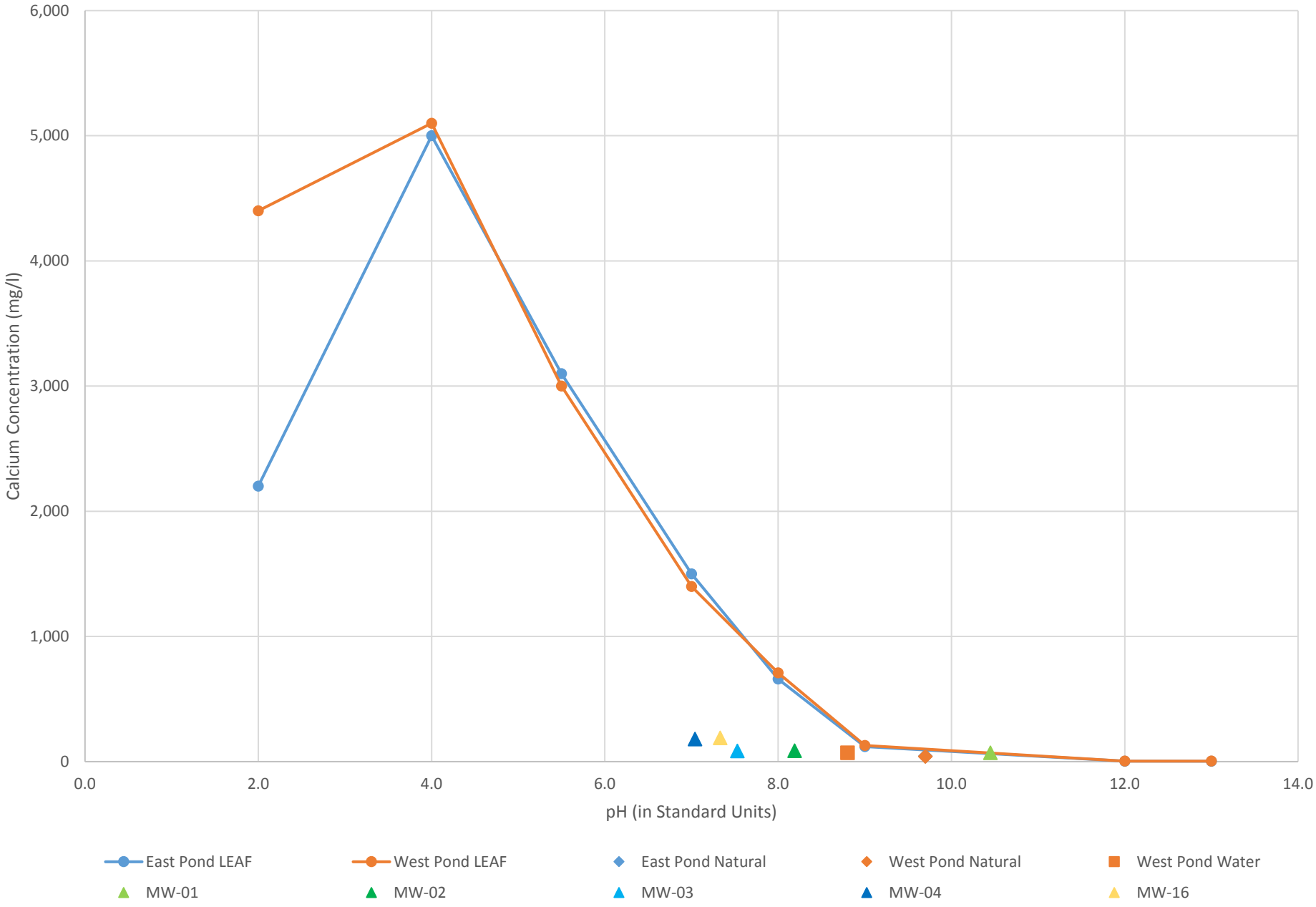


Figure 5. ORP Concentration vs. pH Value - Waukegan Station

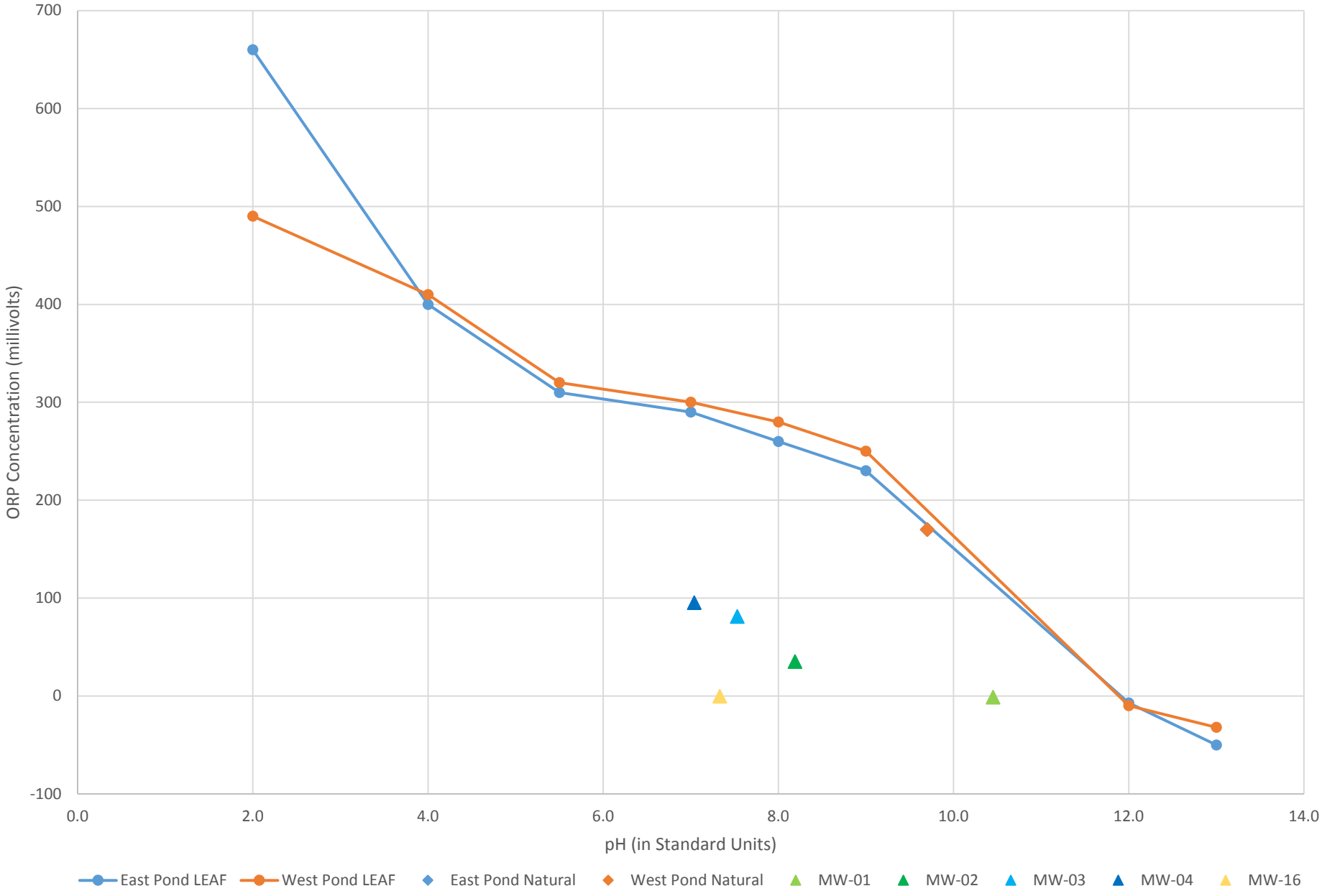


Figure 6. Specific Conductivity vs. pH Value - Waukegan Station

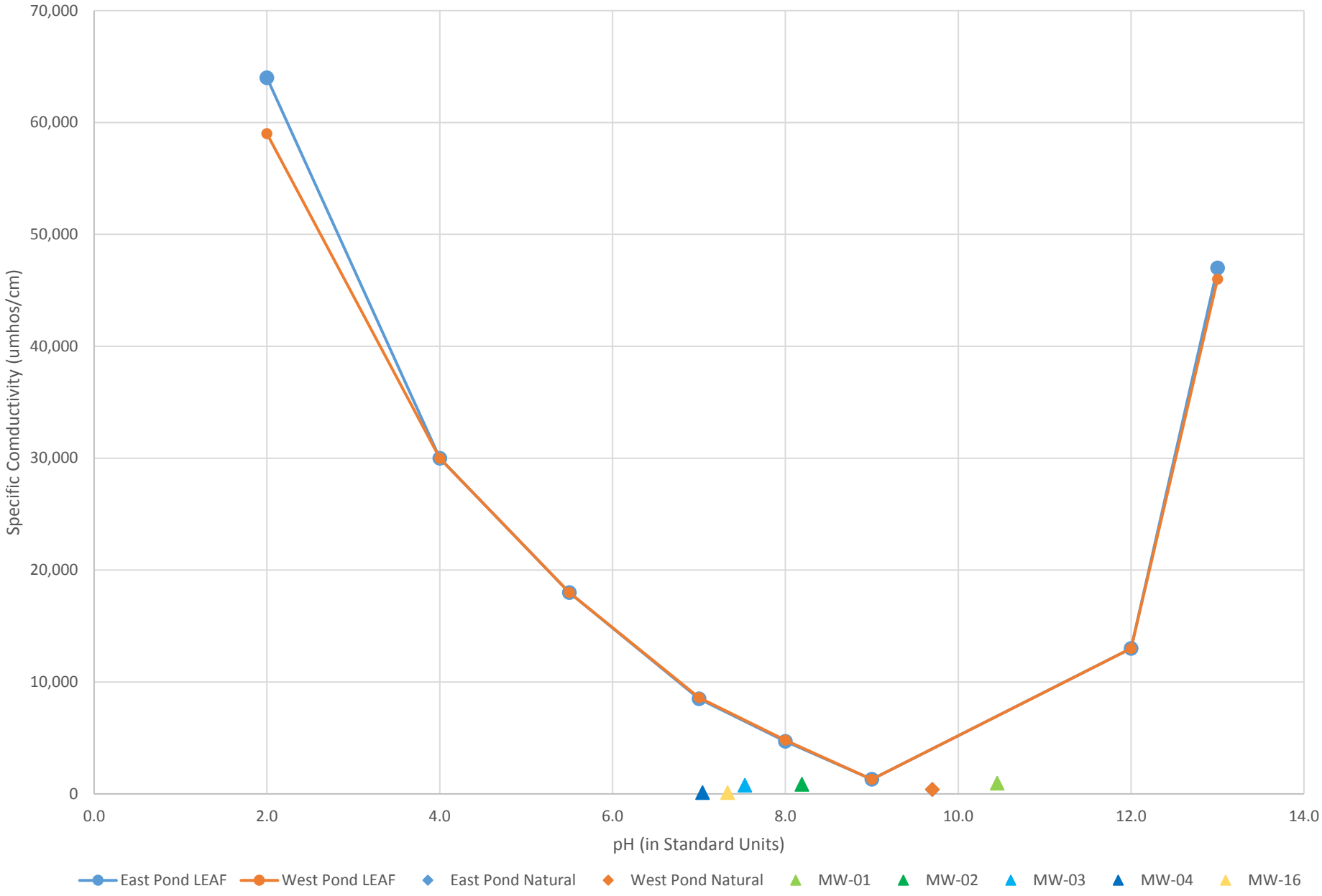


Figure 7. TDS Concentration vs. pH Value - Waukegan Station

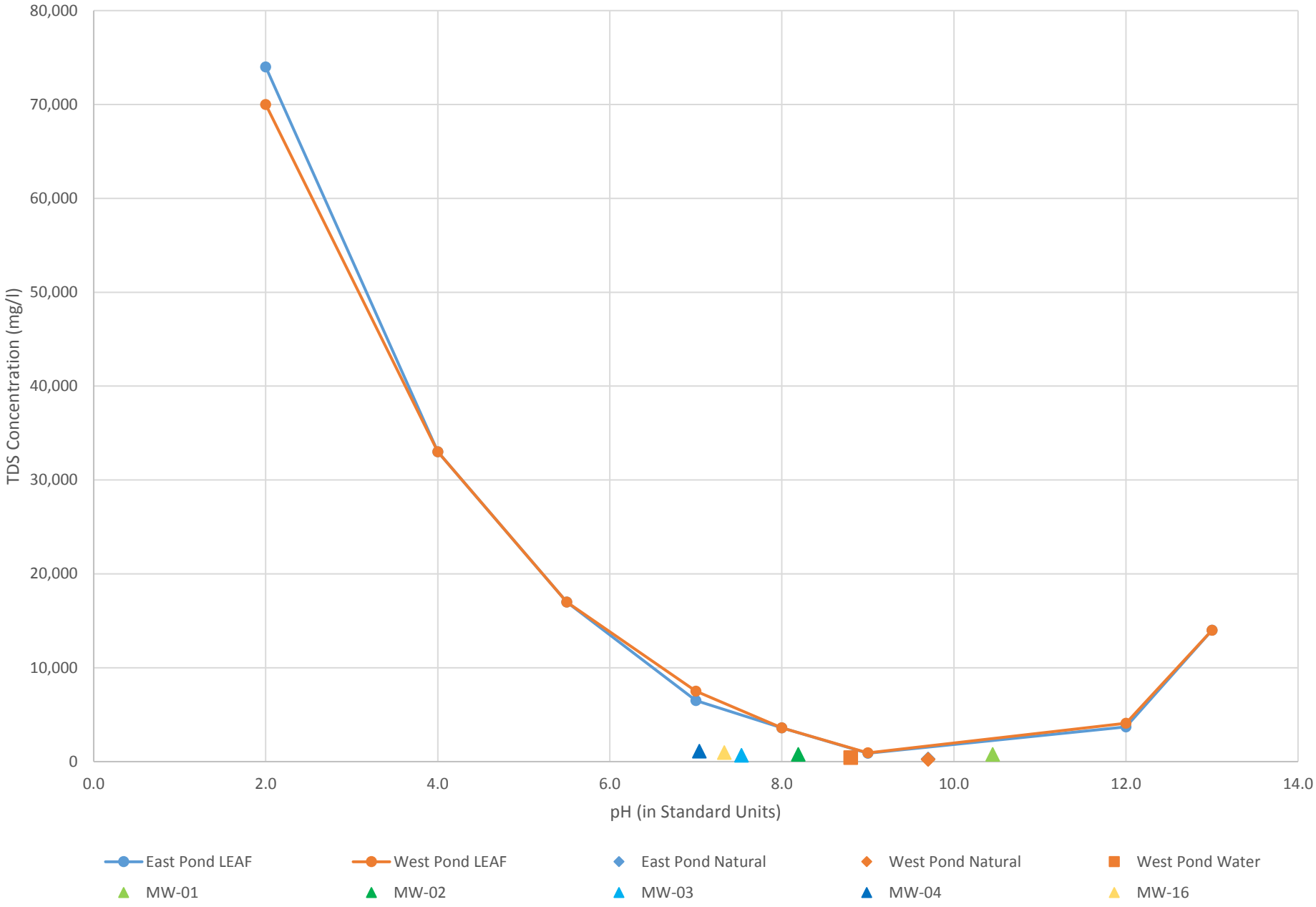
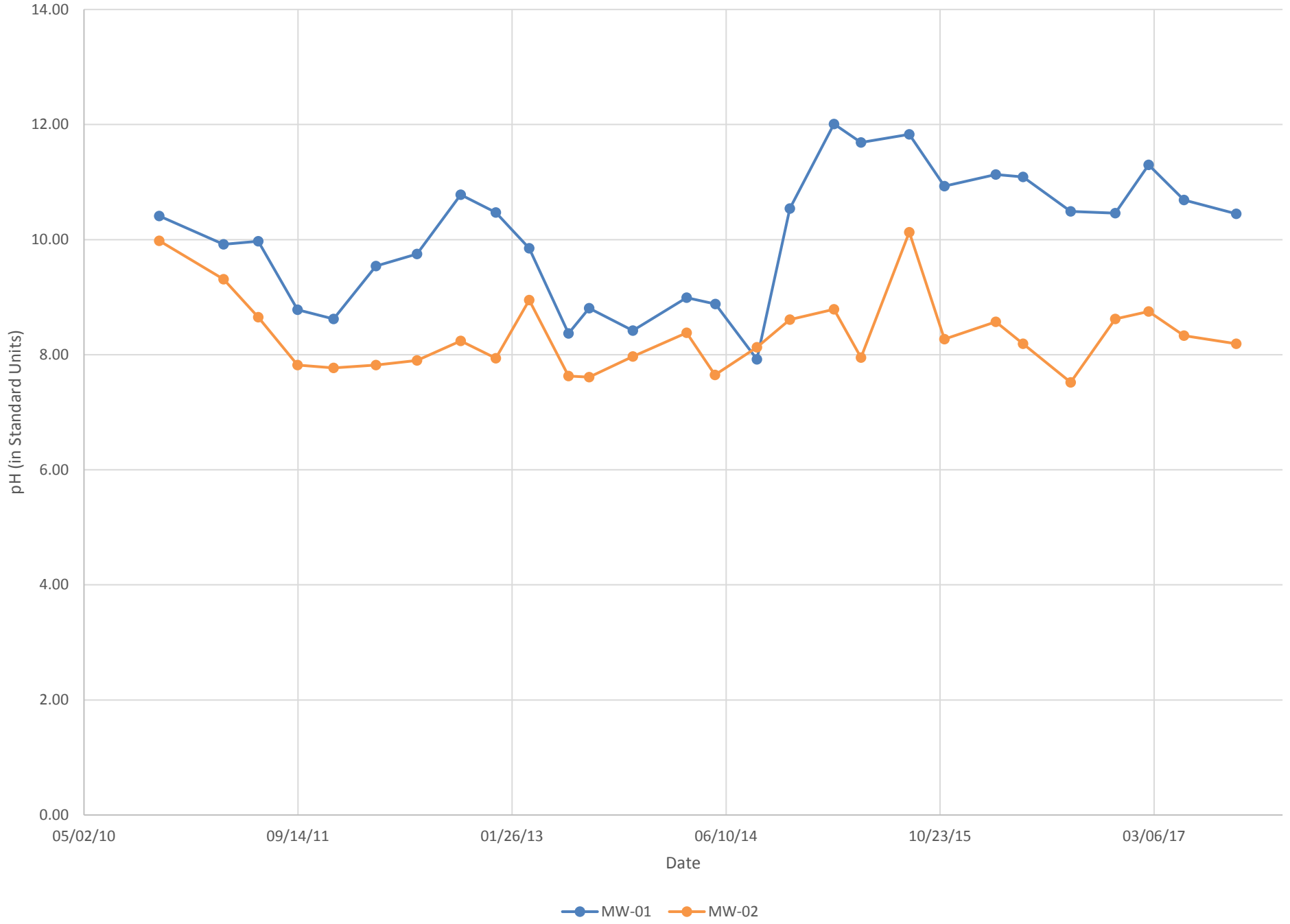


Figure 8. pH Value vs. Date - Waukegan Station



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		LEAF TEST TARGETED pH VALUES								
PARAMETER	UNITS	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		LEAF TEST TARGETED pH VALUES								
PARAMETER	UNITS	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 modofcations.

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
	Pred. Limit*	**43.9**	**449**	**963**	**0.33**	**8.53-5.92**	**1214**	**3499**
	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
	Pred. Limit*	**6.83**	**206**	**333**	**4.9**	**7.91-6.14**	**255**	**1341**
	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
	Pred. Limit*	**1.85**	**274**	**389**	**0.35**	**7.89-6.31**	**266**	**1676**
	9/13/2017	**2.3**	180	190	0.15	7.20	**270**	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	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
	Pred. Limit	**1.83**	**227****	**345****	**4.9****	**7.70-6.43****	**233****	**1461****
	9/14/2017	**2.4**	71	47	0.24	**10.45**	**430**	770
	11/27/2017	**2.7**	84	43	0.11	7.85	**330**	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.

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
	Pred. Limit	**1.83**	**227****	**345****	**4.9****	**7.70-6.43****	**233****	**1461****
	9/14/2017	**2.5**	87	54	0.4	**8.19**	**340**	780
	11/27/2017	**3.4**	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
	Pred. Limit	**1.83**	**227****	**345****	**4.9****	**7.70-6.43****	**233****	**1461****
	9/14/2017	**2.1**	86	57	0.26	7.53	**260**	680
	11/28/2017	**2.6**	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
	Pred. Limit	**1.83**	**227****	**345****	**4.9****	**7.70-6.43****	**233****	**1461****
	9/14/2017	**2.5**	180	45	0.28	7.04	**480**	1100
	11/28/2017	**2.3**	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
	Pred. Limit	**1.83**	**227****	**345****	**4.9****	**7.70-6.43****	**233****	**1461****
	9/13/2017	**2.8**	190	55	0.61	7.33	**460**	970
	11/27/2017	**4.2**	140	58	0.71	7.16	**270**	760

Notes:

* - Intrawell 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

Table of Contents

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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

Accreditation/Certification Summary

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

TestAmerica Job ID: 180-74229-1

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

TestAmerica Job ID: 180-74229-1

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

Lab Chronicle

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

Lab Chronicle

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

Lab Chronicle

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

Lab Chronicle

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

Lab Chronicle

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

Lab Chronicle

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

Lab Chronicle

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

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

Client Sample ID: WEST POND - PH 9.0

Lab Sample ID: 180-74229-16
Matrix: Solid
Date Collected: 01/17/18 10:37
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
Matrix: Solid
Date Collected: 01/17/18 10:37
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
Matrix: Solid
Date Collected: 01/17/18 10:37
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 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

Lab Chronicle

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

Lab Chronicle

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

Lab Chronicle

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 ID: EAST POND - PRETEST

Lab Sample ID: 180-74229-1
Matrix: Solid
Date Collected: 01/17/18 10:18
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
Matrix: Solid
Date Collected: 01/17/18 10:18
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
Matrix: Solid
Date Collected: 01/17/18 10:18
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

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 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 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 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 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 ID: WEST POND - PH 7.0

Lab Sample ID: 180-74229-18
Matrix: Solid
Date Collected: 01/17/18 10:37
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
Matrix: Solid
Date Collected: 01/17/18 10:37
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
Matrix: Solid
Date Collected: 01/17/18 10:37
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 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: 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

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

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

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

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

Method: EPA 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 180-236437/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 236828 — **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 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 236729 — **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 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 236828 — **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 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 236729 — **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 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 236828 — **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 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 236729 — **Prep Batch: 236440**

Analyte	Spike Added	LCSD Result	LCSD 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 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 236828 — **Prep Batch: 236440**

Analyte	Spike Added	LCSD Result	LCSD 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 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 237198 — **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

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	%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	%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	%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

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	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
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

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

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

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	RPD Limit
Total Dissolved Solids	14000		14200		mg/L		1	10

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	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	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		

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

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

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	

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

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	

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	

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

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	

QC Association Summary

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

TestAmerica Job ID: 180-74229-1

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	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact:
Company:
Address:
Address:
Phone:
Fax:
E-Mail:

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #:
Chain of Custody Number:
Page _____ of _____
Temperature °C of Cooler:

Client: KPRG & Assoc. | Client Project #: 23517
Project Name: NRG
Project Location/State: IL | Lab Project #:
Sampler: LR/MW | Lab PM:

Preservative: 8
Parameter: LEAF Method 1313

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

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	LEAF Method 1313	Comments
		East Pond	1/17/18	1018	2	SE	X	
		West Pond	1/17/18	1037	2	SE	X	

180-74229 Chain of Custody

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 [X] Disposal by Lab [ ] Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	KPRG	1/17/18	1325		TA	1-17-18	1325
	TA	1-17-18	1700		TA	1-18-18	12:20

Lab Courier
Shipped
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: LEAF Method 1313 CCR Appendix 3 → B, Ca, Cl, Fl, pH, SO4, TDS

Lab Comments:

TAL-4124-500 (1209)

2/27/2018


ORIGIN ID:RRLA
SHIPPING
TESTAMERICA
4125 N 124TH ST
BROOKFIELD, WI 53005
UNITED STATES US
SHIP DATE:
ACTWGT:
CAD:
TO SAMPLE RECEIPT
TESTAMERICA
301 ALPHA DR.
PITTSBURGH PA 15238
(412) 963-7058
REF:
DEPT:
180-74229 Waybill
FedEx
Express
- 18 JAN 10:30A
PRIORITY OVERNIGHT
TRK# 7125 4937 5482
0201
NA AGCA
°C
ncorrected temp
hermometer ID
Initials
WI-SR-001 effective 7/26/13

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 180-74229-1

Login Number: 74229
List Number: 1
Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

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

Table of Contents

Case Narrative

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

TestAmerica Job ID: 500-139827-1

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

TestAmerica Job ID: 500-139827-1

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

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

Client Sample Results

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

TestAmerica Job ID: 500-139827-1

Client Sample ID: West Pond
Date Collected: 01/17/18 10:31
Date Received: 01/18/18 10:41

Lab Sample ID: 500-139827-1
Matrix: Water

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

TestAmerica Job ID: 500-139827-1

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.
¤	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)

QC Association Summary

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

TestAmerica Job ID: 500-139827-1

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	

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

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

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

Chain of Custody Record

Lab Job #: 500-139827

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler: 1.9-73.4

(optional) Report To	(optional) Bill To
Contact:	Contact:
Company:	Company:
Address:	Address:
Address:	Address:
Phone:	Phone:
Fax:	Fax:
E-Mail:	PO#/Reference#

Client: KPRG & Assoc.	Client Project #: 23517	Preservative	3	8										
Project Name: NRG		Parameter	B, Ca	Cl, F, pH, SO4, TDS										
Project Location/State: IL	Lab Project #													
Sampler: LR/MW	Lab PM													

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix									Comments
1		West Pond	1/17/18	1031	2	W	X	X							

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

500-139827 COC

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	Company	Date	Time	Received By	Company	Date	Time
[signature]	KPRG	1/17/18	1325	[signature]	TA	1-17-18	1325
[signature]	TA	1-17-18	1700	[signature]	TALHS	01/18/18	0955

Lab Courier:
Shipped: FX Priority
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:

TAL-4124-500 (1209)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-139827-1

Login Number: 139827
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

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	

Accreditation/Certification Summary

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

TestAmerica Job ID: 500-139827-1

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

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
Antimony	0.006	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
Barium	2.0	0.0025	0.061	0.0025	0.036	0.0025	0.046	0.0025	0.066
Beryllium	0.004	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
Cadmium	0.005	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
Chromium	0.1	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
Copper	0.65	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
Fluoride	4.0	0.10	0.21	0.10	0.15	0.10	0.25	0.10	0.27
Iron	5.0	0.10	15	0.10	1.9	0.10	35	0.10	19
Lead	0.0075	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
Mercury	0.002	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
Nitrogen, Nitrate	10.0	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
Nitrogen, Nitrite	NA	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
Radium 228	20	0.443	0.805	0.531	0.703	0.474	ND	0.332	1.29
Selenium	0.05	0.0025	ND	0.0025	0.0041	0.0025	0.0071	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	250	700	500	1100	250	750	100	790
Thallium	0.002	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
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	0.020	0.0050	ND
Zinc	5.0	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
Temperature	NA	NA	14.8	NA	13.9	NA	14.6	NA	11.2
Conductivity	NA	NA	1.63	NA	2.20	NA	1.79	NA	1.48
Dissolved Oxygen	NA	NA	1.46	NA	5.90	NA	0.58	NA	1.44
ORP	NA	NA	-29.1	NA	-20.7	NA	-68.1	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	*24384*	30480	36576	*24384*	30480	36576
R16	$ALPHA_x$ (cm)	longitudinal dispersivity	2438.4	3048	3657.6	2438.4	3048	3657.6
R17	$ALPHA_y$ (cm)	transverse dispersivity	812.8	1016	1219.2	812.8	1016	1219.2
R18	$ALPHA_z$ (cm)	vertical dispersivity	121.92	152.4	182.88	121.92	152.4	182.88
	LAMBDA (1/d)	first order degradation constant*	*0*	*0*	*0*	*0*	*0*	*0*
R19	U (cm/d)	specific discharge	72.955	72.955	72.955	72.955	72.955	72.955
	K (cm/d)	hydraulic conductivity (site specific)	*10639.22688*	*10639.227*	*10639.227*	*10639.227*	*10639.2269*	*10639.2269*
	i (cm/cm)	hydraulic gradient (site specific), 11/27/17	*0.0024*	*0.0024*	*0.0024*	*0.0024*	*0.0024*	*0.0024*
	$THETA_t$ (cm^3/cm^3)	total soil porosity (site specific)	*0.35*	*0.35*	*0.35*	*0.35*	*0.35*	*0.35*
	$THETA_{as}$ (cm^3/cm^3)	volumetric air content (surface soil <1 m)	*0.14*	*0.14*	*0.14*	*0.14*	*0.14*	*0.14*
	$THETA_{ws}$ (cm^3/cm^3)	volumetric water content (surface soil <1 m)	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*
	S_w (cm)	source width perpendicular to gw flow dir in horiz plane-	*24384*	*24384*	*24384*	*24384*	*24384*	*24384*
	S_d (cm)	source width perpendicular to gw flow dir in vertical plane (default)	200	200	200	200	200	200
	$BETA_y$	R15 input	1.369	1.095	0.913	1.369	1.095	0.913
	$BETA_z$	R15 input	0.058	0.046	0.039	0.058	0.046	0.039
R15	C_x/C_{source}	steady-state attenuation along centerline of dissolve plume	6.19E-02	4.60E-02	3.50E-02	6.19E-02	4.60E-02	3.50E-02
	RHO_s (g/cm^3)	soil bulk density (default)	1.5	1.5	1.5	1.5	1.5	1.5
R20	k_s (cm^3/g)	soil water sorption coefficient	*1.1*	*1.1*	*1.1*	***0***	***0***	***0***
	K_{oc} (cm^3/g)	organic carbon partition coefficient	*0*	*0*	*0*	*0*	*0*	*0*
	f_{oc} (g/g)	organic carbon content of soil (subsurface default)	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*
	H'	Henry's Law constant	*0*	*0*	*0*	*0*	*0*	*0*
R24	U_{gw} (cm/yr)	groundwater Darcy velocity	9319.96	9319.96	9319.96	9319.96	9319.96	9319.96
	$DELTA_{gw}$ (cm)	gw mixing zone thickness (default)	200	200	200	200	200	200
	W (cm)	width of source area parallel to dir gw-	*15240*	*15240*	*15240*	*15240*	*15240*	*15240*
	I (cm/yr)	infiltration rate	30	30	30	30	30	30
R14	LF_{sw} (kg_{soil}/L_{water})	leaching factor	0.1614489	0.1614489	0.1614489	1.6413977	1.6413977	1.6413977
	C_{source} (mg/L)	greatest potential concentration of contaminant at source	*35*	*35*	*35*	*835*	*835*	*835*
	GW_{comp} (mg/L)	gw objective at compliance point (Class I)	*2*	*2*	*2*			
	GW_{comp} (mg/L)	gw objective at compliance point (Class II)	*2*	*2*	*2*			
R26	C_x (mg/L)	dissolved concentration along centerline at property boundary	2.17E+00	1.61E+00	1.23E+00	5.17E+01	3.84E+01	2.92E+01
	C_s (mg/kg)	Soil source concentration						
	X (feet)	Distance to POC	800	1000	1200	800	1000	1200