BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:	)	
STANDARD FOR THE DISPOSAL OF COAL COMBUSTION RESIDUALS IN SURFACE IMPOUNDMENTS: PROPOSED NEW 35 ILL. ADMIN. CODE 845	)	R 2020-019 (Rulemaking – Land)

NOTICE OF ELECTRONIC FILING

To: Attached Service List

PLEASE TAKE NOTICE that on October 14, 2020, I electronically filed with the Clerk of the Illinois Pollution Control Board ("Board") the public comment, **CCR Compliance Annual Groundwater Monitoring and Corrective Action Report — 2019 for Powerton**, copies of which are served on you along with this notice.

Dated: October 14, 2020

Respectfully Submitted,

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ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

CCR COMPLIANCE
ANNUAL GROUNDWATER MONITORING and CORRECTIVE ACTION REPORT – 2019
ASH BY-PASS BASIN AND ASH SURGE BASIN

Midwest Generation, LLC
Powerton Station
13082 E. Manito Rd.
Pekin, IL 61554

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14665 West Lisbon Road, Suite 1A
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January 31, 2020

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1.0 INTRODUCTION

Based on the results of the statistical evaluation summary completed in December 2018, an Alternate Source Demonstration (ASD) was performed for Ash Surge Basin (ASB) and Ash By-pass Basin (ABB) detected Appendix IV parameters that exceeded established Groundwater Protection Standards (GWPSs). The ASD was completed on March 25, 2019, in accordance with 40 CFR 257.95(g)(3)(ii) and concluded that noted parameters above the GWPS are associated with other potential alternate sources and not a release from the regulated units.

The Assessment Monitoring requirements in accordance with the Federal Register, Environmental Protection Agency, 40 CFR Parts 257.95, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule dated April 17, 2015 (CCR Rule) have been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Powerton Generating Station. The wells sampled were selected to meet the monitoring requirements of the CCR Rule for the ASB and the ABB. The monitoring well network around these ponds consists of monitoring wells (MW-01 [upgradient], MW-08, MW-09 [upgradient], MW-11, MW-12, MW-15, MW-17, MW-18 and MW-19 [upgradient]) as shown on Figure 1.

With the vacating of Section 257.100(b) through (d) in October 2016, the inactive Former Ash Basin (FAB), which is being planned for closure, was added to the CCR units that would require monitoring under the CCR Rule. Wells MW-02 through MW-05 and MW-10 were added to the CCR sampling program specifically for the FAB and are not part of the monitoring program for the Ash Surge Basin and Ash By-pass Basin. The FAB monitoring results are discussed under separate cover.

This annual report covers the work performed relative to CCR groundwater monitoring for the 2019 calendar year for the ASB and ABB. It does not duplicate information or activities previously reported for 2018. It is prepared in accordance with Section 257.90(e)(1-5) and summarizes the sampling procedures used, provides an evaluation of groundwater flow conditions, summarizes the analytical data generated, and summarizes the results of an alternate source demonstration completed at the site.

2.0 FIELD PROCEDURES AND GROUNDWATER FLOW EVALUATION

2.1 Field Procedures

As previously noted, the CCR groundwater monitoring network around the ASB and ABB consists of monitoring wells (MW-01 [upgradient], MW-08, MW-09 [upgradient], MW-11, MW-12, MW-15, MW-17, MW-18 and MW-19 [upgradient]) as shown on Figure 1. As part of sampling procedures, the integrity of all monitoring wells was inspected and water levels obtained using an electronic water level meter (see summary of water level discussion below). All wells were found in generally good condition.

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

2.2 Groundwater Flow Evaluation

Water level data measurements were obtained from monitoring wells during each round of groundwater sampling. A complete round of water levels was collected prior to initiating sampling, and the water level data are summarized in Table 1. It is noted that water levels were also concurrently measured at other monitoring well locations in the area that are not part of the CCR monitoring network for the ASB and ABB. The full set of water levels were used to generate a groundwater flow map for each sampling event. It is also noted that CCR monitoring wells MW-08, MW-12, MW-15 and MW-17 are screened within a shallow, localized, saturated clay/silt unit which is underlain by a more extensive sand unit. The remaining monitoring wells, have deeper screens, within the more extensive sand unit. The water levels from wells screened in the clay/silt unit and the water levels from monitoring wells screened within the sand unit were evaluated separately and used to generate groundwater flow maps for each unit. These maps are provided on Figures 2 through 5.

In accordance with general groundwater sampling requirements under Section 257.93(c), Table 2 provides a summary of the flow direction and an estimated rate of groundwater flow for each sampling event. The flow rate was calculated using the following equation:

$$V_s = \frac{K dh}{n_e dl}$$, 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 conductivities of 3.28 x 10^{-7} ft/sec (silt/clay unit) in Table 2 was estimated from literature (Freeze and Cherry, 1979). The hydraulic conductivity of 3.81 x 10^{-3} (sandy unit) used in Table 2 was obtained from the Hydrogeologic Assessment Report dated February 2011 and prepared by Patrick Engineering. The estimated effective porosities of the silt/clay materials (0.40) and of the sandy materials (0.35) were obtained from literature (Applied Hydrogeology, Fetter, 1980). The second 2019 semi-annual sampling event showed a decrease in gradient for the sand unit when compared to previous sampling events.

3.0 ANALYTICAL DATA AND STATUS OF EVALUATIONS

3.1 Sampling Summary

The groundwater sampling summary from 2019 is provided in Table 3, in accordance with 257.90 (e)(3).

3.2 Data Summary

In accordance with assessment monitoring requirements, a complete round of CCR well groundwater samples were collected in April/May and November 2019. Wells were analyzed for both Appendix III and previously detected Appendix IV parameters.

Confirmatory resampling events were limited to any potential statistically significant increases (SSI) for specific parameters at specific wells for parameters that were not covered in the ASD. The second 2019 semi-annual sampling data indicated Appendix IV parameters lead and cobalt above the established GWPSs at well location MW-01. Confirmatory resampling on December 26. 2019 showed both parameters below the established GWPSs, which is consistent with previous sampling events.

The analytical data from the ABB and ASB assessment monitoring groundwater sampling for Appendix III and IV parameters are provided in Tables 4 and 5, respectively. Table 4 includes Prediction Limits (PLs) for Appendix III parameters and Table 5 includes Groundwater Protection Standards (GWPS) for detected Appendix IV compounds. Both tables include the sample dates and whether the specific well is considered upgradient or downgradient relative to groundwater flow and the regulated unit(s). All duplicate values were within an acceptable range. The analytical data packages from these sampling events are provided in Appendix A.

3.3 Current Status

The ASB and ABB were transitioned from detection monitoring to assessment monitoring in April, 2018 and currently remain in assessment monitoring.

4.0 OTHER REQUIRED SUBMITTALS

4.1 Alternate Source Demonstration

An ASD for detected Appendix IV parameters above established GWPSs was completed on March 25, 2019 in accordance with Section 257.95(g)(3)(ii) for the Powerton Generating Station ASB and ABB. As required under section 257.95(g)(3)(ii) a full copy of the ASD is provided in Appendix B. Ash and water samples were collected from each of the two ponds (ASB and ABB) and analyzed using the Leaching Environmental Assessment Framework (LEAF) method to determine whether the noted detections above GWPSs may be associated with an actual release from the regulated unit(s) or if another potential historical source in the vicinity of the ash ponds may be affecting the local groundwater quality.

It was concluded that the ASB and ABB are not the source of downgradient monitoring well detections above established GWPSs and that there is an alternate source(s) of impacts.

5.0 SUMMARY/CONCLUSIONS AND RECOMMENDATIONS

The assessment monitoring requirements in accordance with the CCR rule are being successfully met. Groundwater monitoring wells that had analytical results showing parameter concentrations above established PLs or GWPSs were resampled to minimize potential for a false positive. An ASD for detected Appendix IV parameters above established GWPSs was completed and determined that the ASB and ABB are not the source of downgradient monitoring well detections above established GWPSs and that there is an alternate source(s) of impacts. The most recent semi-annual detection monitoring results for well MW-01 indicated a possible SSI for lead and cobalt. The confirmatory resample showed both parameters below the GWPSs. At this time it is recommended that the station remain in routine assessment monitoring.

6.0 REFERENCES

- Federal Register, Environmental Protection Agency, 40 CFR Parts 257 and 261, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule. Vol. 80, No. 74, Friday April 17, 2015.

- Patrick Engineering, Inc., Hydrogeologic Assessment Report – Powerton Generating Station, Pekin, IL. February 2011.

- KPRG and Associates, Inc., CCR Compliance Annual Groundwater Monitoring and Corrective Action Report - 2017 Ash By-Pass Basin and Ash-Surge Basin, Midwest Generation, LLC Powerton Generating Station. January 31, 2018.

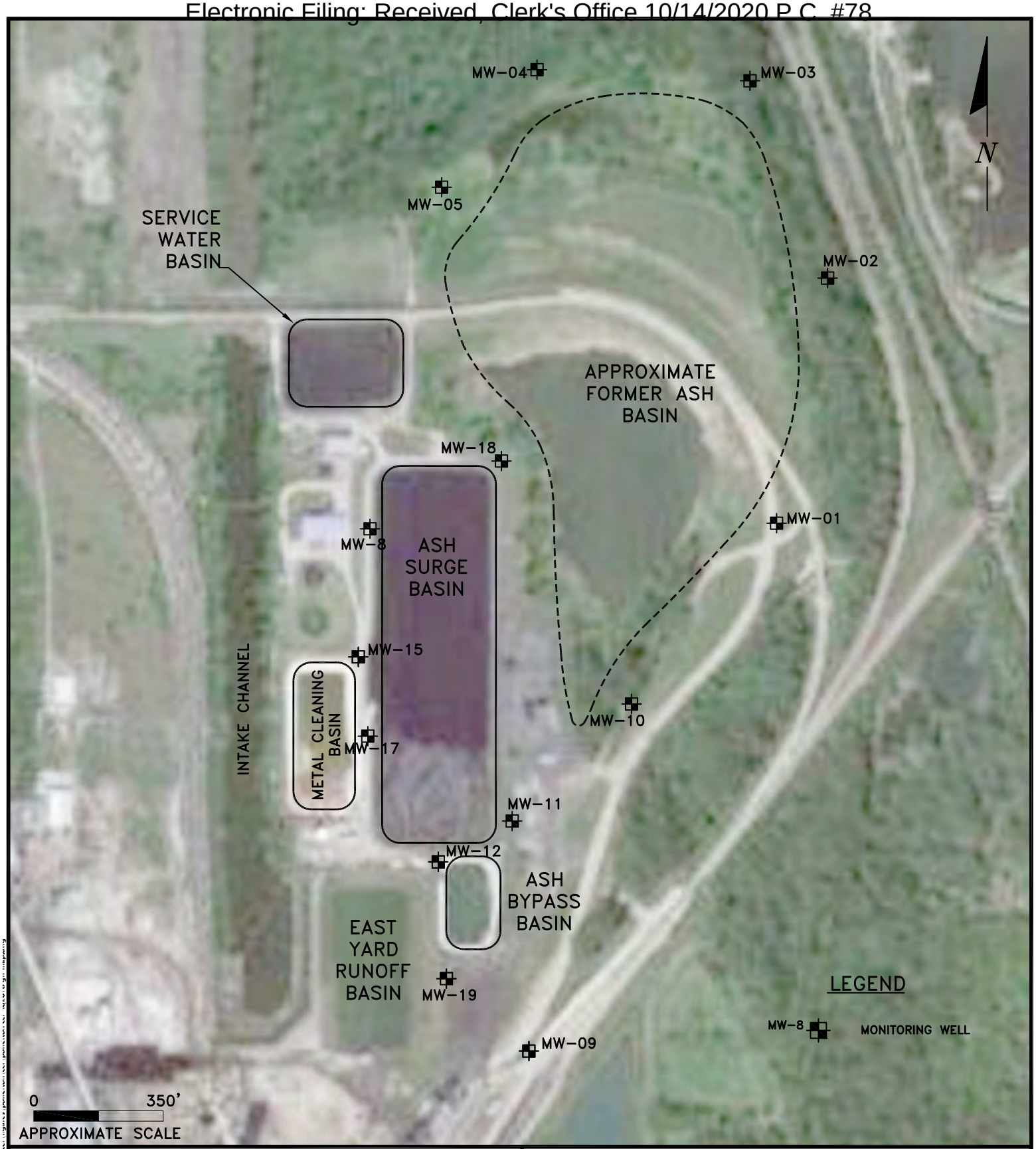
- KPRG and Associates, Inc., CCR Compliance Annual Groundwater Monitoring and Corrective Action Report - 2018 Ash By-Pass Basin and Ash-Surge Basin, Midwest Generation, LLC Powerton Generating Station. January 31, 2019.

- KPRG and Associates, Inc., Alternate Source Demonstration CCR Groundwater Monitoring Powerton Generating Station – Appendix IV Parameters. March 25, 2019.

- C.W. Fetter, Jr., Applied Hydrogeology. Charles E. Merrill Publishing Co., 1980.

- R.A. Freeze and J.A. Cherry, Groundwater. Prentice-Hall, Inc. Publishing Co., 1979

FIGURES



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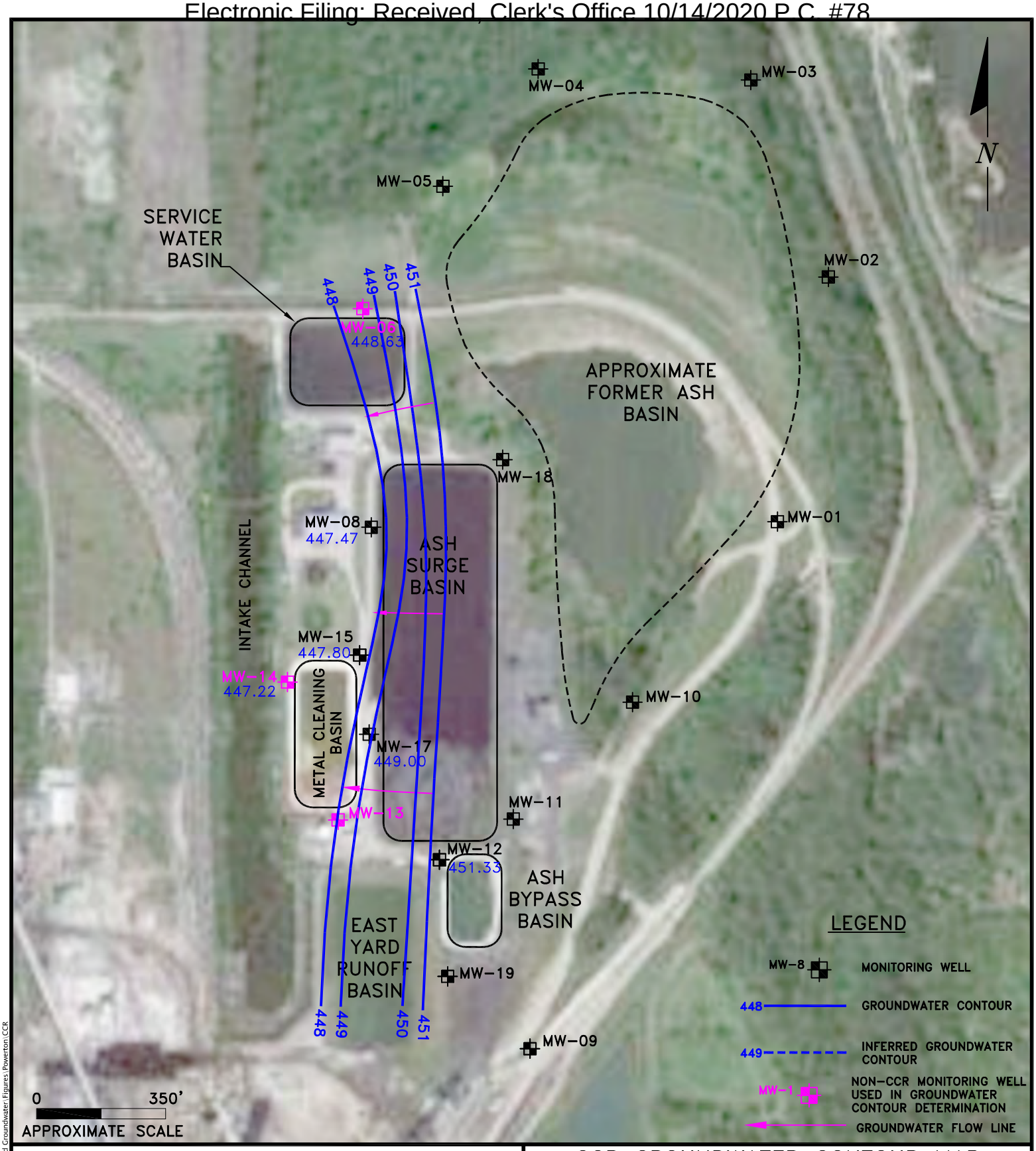
CCR MONITORING WELL SITE MAP

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 350' | Date: December 19, 2018

KPRG Project No. 12313.1 | FIGURE 1



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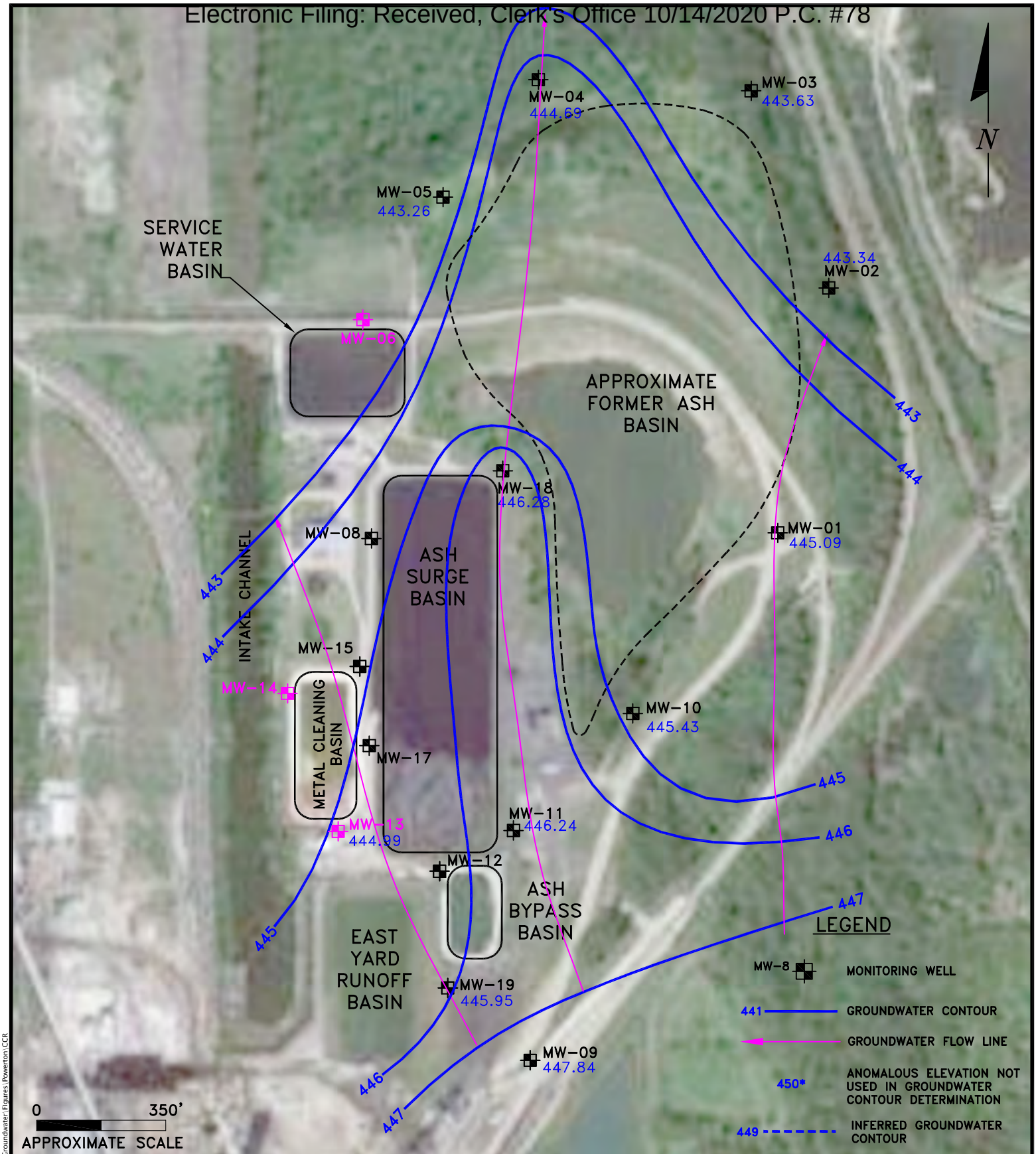
CCR GROUNDWATER CONTOUR MAP FOR SILT/CLAY UNIT 05/2019

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 350' | Date: June 28, 2019

KPRG Project No. 12313.1 | FIGURE 2



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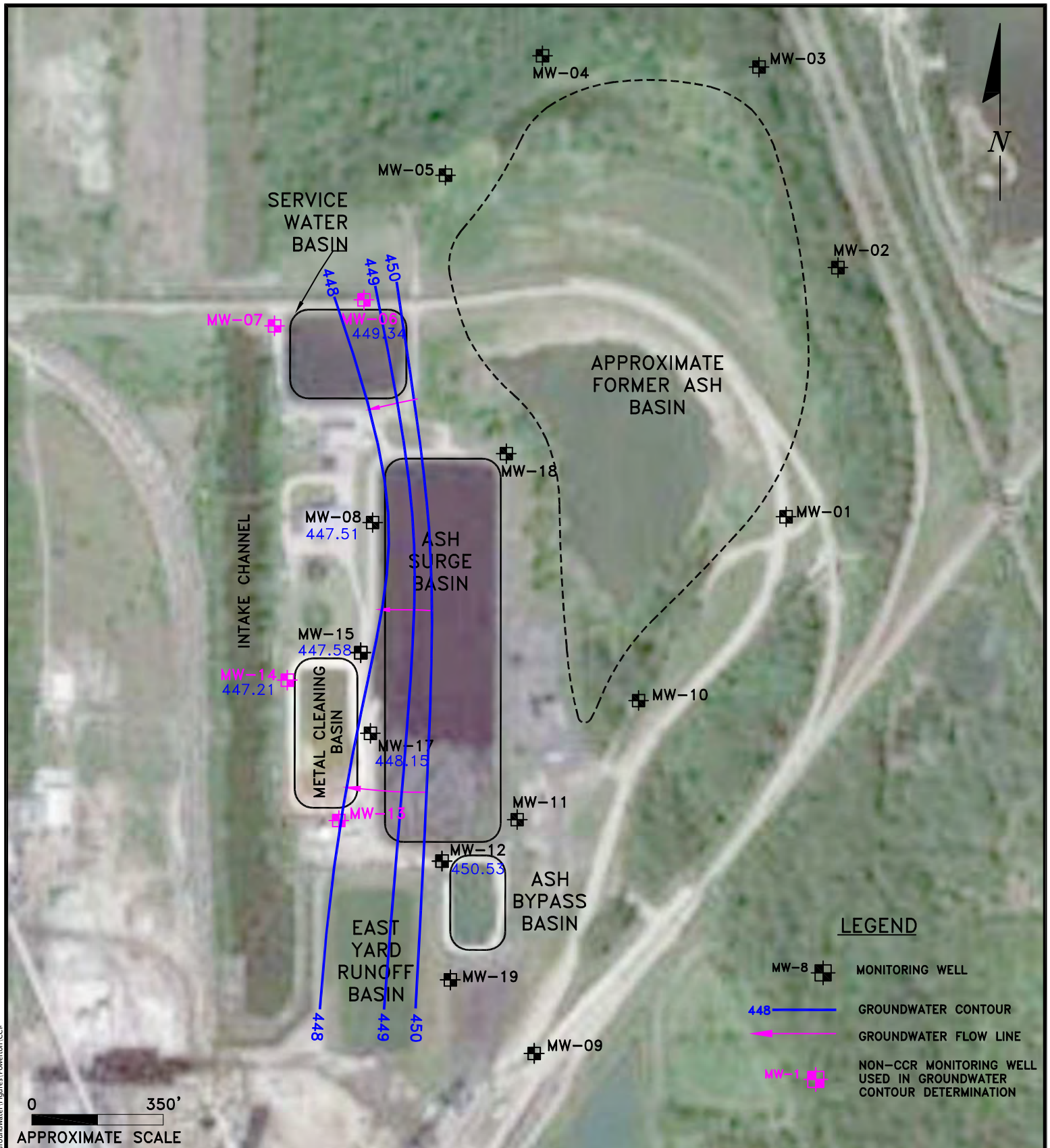
CCR GROUNDWATER CONTOUR MAP FOR GRAVELLY SAND UNIT 05/2019

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 350' | Date: June 28, 2019

KPRG Project No. 12313.1 | FIGURE 3



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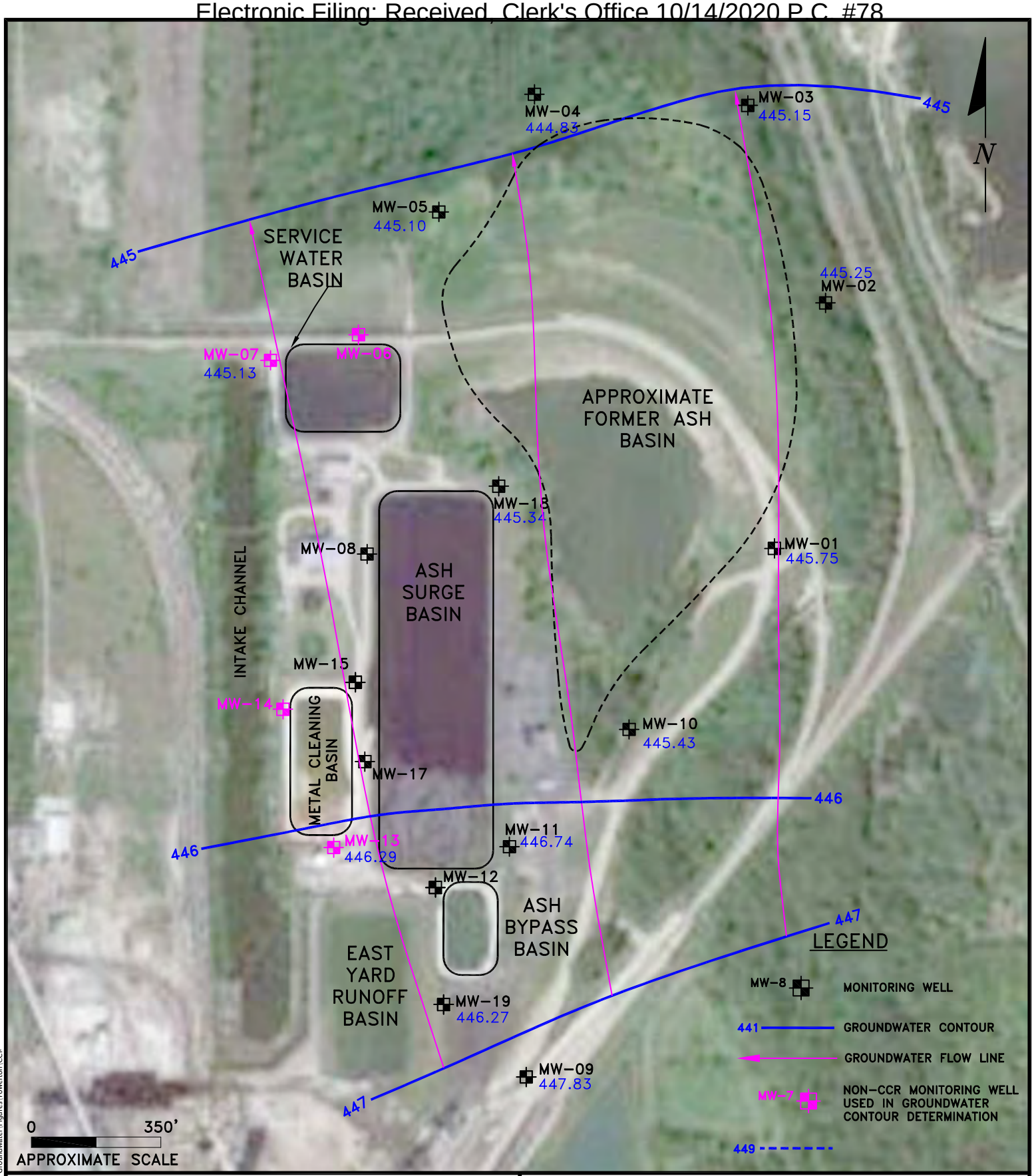
CCR GROUNDWATER CONTOUR MAP FOR SILT/CLAY UNIT 11/2019

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 350' | Date: December 19, 2019

KPRG Project No. 12313.1 | FIGURE 4



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CCR GROUNDWATER CONTOUR MAP FOR GRAVELLY SAND UNIT 11/2019

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 350' | Date: December 19, 2019

KPRG Project No. 12313.1 | FIGURE 5

TABLES

Table 1 Groundwater Elevations - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well ID	Date	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
MW-01	11/16/2015	465.24	26.04	439.20
	2/22/2016	465.24	21.90	443.34
	5/16/2016	465.24	21.83	443.41
	8/15/2016	465.24	23.89	441.35
	11/14/2016	465.24	23.38	441.86
	2/13/2017	465.24	21.71	443.53
	5/1/2017	465.24	18.87	446.37
	6/20/2017	465.24	21.54	443.70
	8/25/2017	465.24	24.70	440.54
	11/8/2017	465.24	24.92	440.32
	5/17/2018	465.24	22.66	442.58
	8/8/2018	465.24	26.05	439.19
	10/30/2018	465.24	24.69	440.55
	4/29/2019	465.24	20.15	445.09
	11/11/2019	465.24	19.49	445.75
MW-08	11/16/2015	471.75	26.06	445.69
	2/22/2016	471.75	23.99	447.76
	5/16/2016	471.75	25.48	446.27
	8/15/2016	471.75	23.61	448.14
	11/14/2016	471.75	24.31	447.44
	2/13/2017	471.75	23.97	447.78
	5/1/2017	471.75	23.28	448.47
	6/20/2017	471.75	23.31	448.44
	8/29/2017	471.75	24.52	447.23
	11/8/2017	471.75	25.27	446.48
	5/17/2018	471.75	24.36	447.39
	8/8/2018	471.75	24.04	447.71
	10/31/2018	471.75	24.92	446.83
	4/29/2019	471.75	24.28	447.47
	11/11/2019	471.75	24.24	447.51
MW-09	11/16/2015	469.14	26.07	443.07
	2/22/2016	469.14	22.83	446.31
	5/16/2016	469.14	23.06	446.08
	8/15/2016	469.14	24.50	444.64
	11/14/2016	469.14	24.33	444.81
	2/13/2017	469.14	23.43	445.71
	5/1/2017	469.14	20.77	448.37
	6/20/2017	469.14	22.15	446.99
	8/25/2017	469.14	24.79	444.35
	11/8/2017	469.14	25.74	443.40
	5/16/2018	469.14	23.89	445.25
	8/8/2018	469.14	25.49	443.65
	11/1/2018	469.14	26.02	443.12
	4/29/2019	469.14	21.30	447.84
	11/11/2019	469.14	21.31	447.83
MW-11	11/16/2015	471.62	31.67	439.95
	2/22/2016	471.62	28.34	443.28
	5/16/2016	471.62	27.11	444.51
	8/15/2016	471.62	29.64	441.98
	11/14/2016	471.62	29.19	442.43
	2/13/2017	471.62	27.49	444.13
	5/1/2017	471.62	24.34	447.28
	6/20/2017	471.62	26.94	444.68
	8/29/2017	471.62	30.42	441.20
	11/9/2017	471.62	30.27	441.35
	5/16/2018	471.62	28.58	443.04
	8/9/2018	471.62	31.04	440.58
	11/1/2018	471.62	30.82	440.80
	4/29/2019	471.62	25.38	446.24
	11/11/2019	471.62	24.88	446.74

Table 1 Groundwater Elevations - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well ID	Date	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
MW-12	11/16/2015	473.38	24.48	448.90
	2/22/2016	473.38	21.41	451.97
	5/16/2016	473.38	22.94	450.44
	8/15/2016	473.38	23.85	449.53
	11/14/2016	473.38	23.89	449.49
	2/13/2017	473.38	21.93	451.45
	5/1/2017	473.38	22.26	451.12
	6/20/2017	473.38	22.76	450.62
	8/26/2017	473.38	23.92	449.46
	11/10/2017	473.38	24.29	449.09
	5/16/2018	473.38	22.46	450.92
	8/9/2018	473.38	23.78	449.60
	11/1/2018	473.38	23.74	449.64
	4/29/2019	473.38	22.05	451.33
	11/11/2019	473.38	22.85	450.53
MW-15	11/16/2015	471.37	25.33	446.04
	2/22/2016	471.37	22.91	448.46
	5/16/2016	471.37	24.71	446.66
	8/15/2016	471.37	23.45	447.92
	11/14/2016	471.37	23.94	447.43
	2/13/2017	471.37	23.73	447.64
	5/1/2017	471.37	23.27	448.10
	6/20/2017	471.37	22.86	448.51
	8/29/2017	471.37	23.13	448.24
	11/10/2017	471.37	25.13	446.24
	5/17/2018	471.37	23.85	447.52
	8/9/2018	471.37	23.96	447.41
	10/31/2018	471.37	24.55	446.82
	4/29/2019	471.37	23.57	447.80
	11/11/2019	471.37	23.79	447.58
MW-17	11/16/2015	467.75	26.92	440.83
	2/22/2016	467.75	19.86	447.89
	5/16/2016	467.75	20.42	447.33
	8/15/2016	467.75	21.61	446.14
	11/14/2016	467.75	21.39	446.36
	2/13/2017	467.75	19.66	448.09
	5/1/2017	467.75	18.78	448.97
	6/20/2017	467.75	19.42	448.33
	8/29/2017	467.75	22.68	445.07
	11/6/2017	467.75	24.66	443.09
	5/14/2018	467.75	19.79	447.96
	8/6/2018	467.75	21.03	446.72
	10/29/2018	467.75	21.98	445.77
	4/29/2019	467.75	18.75	449.00
	11/11/2019	467.75	19.60	448.15
MW-18	11/16/2015	469.28	28.42	440.86
	2/22/2016	469.28	27.96	441.32
	5/16/2016	469.28	25.57	443.71
	8/15/2016	469.28	27.86	441.42
	11/14/2016	469.28	27.39	441.89
	2/13/2017	469.28	25.06	444.22
	5/1/2017	469.28	22.49	446.79
	6/20/2017	469.28	24.97	444.31
	8/28/2017	469.28	27.30	441.98
	11/6/2017	469.28	26.33	442.95
	5/14/2018	469.28	24.65	444.63
	8/6/2018	469.28	25.67	443.61
	10/29/2018	469.28	25.79	443.49
	4/29/2019	469.28	23.00	446.28
	11/11/2019	469.28	23.94	445.34
MW-19	11/14/2016	465.07	22.65	442.42
	2/13/2017	465.07	21.27	443.80
	5/1/2017	465.07	18.39	446.68
	6/20/2017	465.07	20.44	444.63
	8/28/2017	465.07	23.60	441.47
	11/9/2017	465.07	23.80	441.27
	5/14/2018	465.07	22.08	442.99
	8/6/2018	465.07	24.14	440.93
	10/29/2018	465.07	24.31	440.76
	4/29/2019	465.07	19.12	445.95
	11/11/2019	465.07	18.80	446.27

MSL - Mean Sea Level
TOC - Top of Casing

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

DATE	Screened Unit	Groundwater Flow Direction	K_{avg} (ft/sec)*	Average Hydraulic Gradient (ft/ft)	Porosity (unitless)**	Estimated Seepage Velocity (ft/day)
11/16/2015	Silt/clay	Westerly	3 280E-07	0 0093	0 4	0 001
11/16/2015	Sandy	North-Northwest	3 810E-03	0 0026	0 35	2 40
2/22/2016	Silt/clay	Westerly	3 280E-07	0 0098	0 4	0 001
2/22/2016	Sandy	North-Northwest	3 810E-03	0 0030	0 35	2 82
5/16/2016	Silt/clay	Westerly	3 280E-07	0 0124	0 4	0 001
5/16/2016	Sandy	North-Northwest	3 810E-03	0 0021	0 35	1 98
8/15/2016	Silt/clay	Westerly	3 280E-07	0 0093	0 4	0 001
8/15/2016	Sandy	North-Northwest	3 810E-03	0 0014	0 35	1 32
11/14/2016	Silt/clay	Westerly	3 280E-07	0 0083	0 4	0 001
11/14/2016	Sandy	North-Northwest	3 810E-03	0 0014	0 35	1 32
2/13/2017	Silt/clay	Westerly	3 280E-07	0 0091	0 4	0 001
2/13/2017	Sandy	Northeasterly - Northwesterly	3 810E-03	0 0049	0 35	4 61
5/1/2017	Silt/clay	Westerly	3 280E-07	0 0100	0 4	0 001
5/1/2017	Sandy	Northeasterly - Northwesterly	3 810E-03	0 0021	0 35	1 98
6/20/2017	Silt/clay	Westerly	3 280E-07	0 0088	0 4	0 001
6/20/2017	Sandy	Northeasterly - Northwesterly	3 810E-03	0 0057	0 35	5 36
8/25/2017	Silt/clay	Westerly	3 280E-07	0 0214	0 4	0 002
8/25/2017	Sandy	North-Northwest	3 810E-03	0 0174	0 35	16 37
11/8/2017	Silt/clay	Westerly	3 280E-07	0 0267	0 4	0 002
11/8/2017	Sandy	North-Northwest	3 810E-03	0 0157	0 35	14 77
5/17/2018	Silt/clay	Westerly	3 280E-07	0 0070	0 4	0 0005
5/17/2018	Sandy	North-Northwest	3 810E-03	0 0042	0 35	3 95
8/7/2018	Silt/clay	Westerly	3 280E-07	0 0263	0 4	0 002
8/7/2018	Sandy	North-Northwest	3 810E-03	0 0037	0 35	3 48
4/29/2019	Silt/clay	Westerly	3 280E-07	0 0129	0 4	0 0009
4/29/2019	Sandy	North-Northwest	3 810E-03	0 0022	0 35	2 07
11/11/2019	Silt/clay	Westerly	3 280E-07	0 0114	0 4	0 0008
11/11/2019	Sandy	North-Northwest	3 810E-03	0 0008	0 35	0 75

* K_{avg} - Average hydraulic conductivity for sandy unit (feet/second) from Hydrogeologic Assessment Report, Patrick Engineering, February 2011
Average hydraulic conductivity for silt/clay unit (feet/second) from Groundwater, Freeze and Cherry, 1979
** - Porosity estimates from Applied Hydrogeology, Fetter, 1980

Table 3. CCR Groundwater Sample Collection Summary for 2019 - Powerton Generating Station Ash Bypass Basin & Ash Surge Basin

Well ID	Number of Groundwater Sampling Events	Dates of Groundwater Sampling Events	Detection Monitoring (D) versus Assessment Monitoring (A)
MW-01 (Upgradient)	2	4/30/2019	A
		11/13/2019	A
MW-09 (Upgradient)	2	5/1/2019	A
		11/14/2019	A
MW-19 (Upgradient)	2	5/2/2019	A
		11/13/2019	A
MW-08 (Downgradient)	2	5/1/2019	A
		11/13/2019	A
MW-11 (Downgradient)	2	5/1/2019	A
		11/14/2019	A
MW-12 (Downgradient)	2	5/1/2019	A
		11/14/2019	A
MW-15 (Downgradient)	2	5/2/2019	A
		11/14/2019	A
MW-17 (Downgradient)	2	4/29/2019	A
		11/13/2019	A
MW-18 (Downgradient)	2	4/29/2019	A
		11/13/2019	A

Table 4 ASB/ABB Assessment Monitoring - Appendix III Groundwater Analytical Results through 2019 - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-01 (S) up-gradient	11/16/2015	1 0	98	44	0 17	7 07	93	530
	2/25/2016	0 2	110	42	0 16	7 23	54	460
	5/20/2016	0 34	100	44	0 17	6 95	65	430
	8/17/2016	0 27	78	39	0 25	7 16	50	530
	11/16/2016	0 18	97	39	0 21	7 22	32	500
	2/14/2017	0 18	120	55	0 17	7 30	60	550
	5/3/2017	0 19	86	66	0 16	7 41	45	460
	6/21/2017	0 18	85	58	0 18	7 60	47	540
	Pred. Limit*	**1.0**	**142**	**81**	**0.25**	**7.90-6.58**	**115**	**648**
	8/25/2017	0 56	86	41	0 18	7 41	63	490
	11/8/2017	0 57	130	38	0 12	6 69	61	640
	5/17/2018	0 15	88	50	0 12	6 7	48	540
	8/8/2018	0 14	86	48	0 13	6 8	43	430
	4/30/2019	0 07	78	54	0 17	7 2	27	450
	11/13/2019	0 52	95	47	0 18	7 51	41	390
MW-09 (S) up-gradient	11/18/2015	2 0	63	H 31	H 0 19	7 15	H 110	H 440
	2/25/2016	2 3	77	36	0 19	7 34	120	500
	5/19/2016	2 0	73	38	0 17	7 30	100	520
	8/17/2016	2 7	74	39	0 15	7 32	120	750
	11/17/2016	4 5	85	38	0 13	7 37	110	630
	2/15/2017	4 1	84	38	0 13	6 94	160	620
	5/3/2017	3 5	85	38	0 17	7 48	170	680
	6/21/2017	3 3	82	38	0 14	7 63	180	760
	Pred. Limit*	**6.19**	**103**	**39**	**0.24**	**7.99-6.64**	**236**	**1000**
	8/25/2017	3 8	85	36	0 14	7 30	150	630
	11/8/2017	4	89	37	0 13	6 92	190	650
	5/16/2018	4 1	89	36	0 15	7 83	180	550
	8/8/2018	4 3	86	39	0 14	7 31	180	690
	5/1/2019	4 6	79	37	0 17	7 11	170	640
	11/14/2019	2 5	85	36	0 18	7 49	82	500
MW-19 (S) up-gradient	11/18/2016	3 8	89	38	0 13	7 34	120	670
	2/15/2017	4 7	88	37	0 13	7 50	180	630
	5/5/2017	3 3	88	38	0 14	7 51	160	640
	6/21/2017	2 3	110	35	0 12	7 30	170	690
	8/28/2017	3 5	97	36	0 16	7 20	160	700
	11/6/2017	4 5	86	35	0 17	7 26	190	640
	5/14/2018	4 1	96	35	0 16	7 92	180	820
	8/6/2018	3 8	100	37	0 13	7 57	170	720
	Pred. Limit*	**6.2**	**121**	**41**	**0.20**	**8.20-6.70**	**236**	**890**
	5/2/2019	3 7	100	39	0 13	6 86	160	700
	11/13/2019	2 5	130	**53**	0 15	7 51	140	740
MW-08 (CL) down-gradient	11/18/2015	1 5	160	H 170	H 0 44	7 61	H 470	H 1300
	2/25/2016	1 7	160	200	0 30	7 00	280	1100
	5/18/2016	1 7	160	140	0 34	7 67	300	1200
	8/17/2016	1 0	150	230	0 35	7 33	360	1400
	11/15/2016	1 2	140	290	0 33	6 90	230	1300
	2/16/2017	1 5	150	460	0 28	7 00	230	1500
	5/2/2017	0 55	140	300	0 33	7 30	320	1300
	6/21/2017	1 2	160	490	0 30	7 27	350	1700
	Pred. Limit	**1.0**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/29/2017	**1.2**	**150**	**360**	**0.47**	7 29	**300**	**1500**
	11/8/2017	0 68	130	**260**	**0.45**	7 27	**270**	**1200**
	5/17/2018	**1.2**	130	**200**	**0.37**	6 79	**170**	**1000**
	8/8/2018	**1.1**	140	**270**	**0.32**	6 93	**190**	**1200**
	5/1/2019	0 54	95	73	**0.35**	7 60	85	600
	11/13/2019	0 98	110	**92**	**0.33**	7 66	**110**	640

Notes All units are in mg/l except pH is in standard units.
Pred. Limit - Prediction Limit
(S) - Sandy Unit
(CL) - Silty Clay Unit
* - Intrawell Prediction Limit. All others are interwell comparisons.
** - Based on pooled background from MW-01/MW-09. All others based on MW-01 as background.
Italics Date - Detection Monitoring and resample after statistical background establishment.

Bold - Potential statistically significant increase.
F1 - MS and/or MSD Recovery outside of limits.
H - Sample was prepped or analyzed beyond the specified holding time.
V- Serial dilution exceeds control limits.

Table 4 ASB/ABB Assessment Monitoring - Appendix III Groundwater Analytical Results through 2019 - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-11 (S) down-gradient	11/18/2015	1 7	110	H 54	H 0 55	7 06	H 160	H 670
	2/26/2016	1 5	140	120	0 55	7 25	220	850
	5/20/2016	1 6	140	120	0 56	7 10	210	920
	8/17/2016	1 0	130	93	0 67	7 08	180	910
	11/17/2016	1 2	140	130	0 44	7 21	240	1100
	2/16/2017	1 6	140	110	0 40	6 62	260	910
	5/3/2017	1 3	160	160	0 42	7 36	440	1300
	6/22/2017	1 2	140	120	0 60	7 21	260	1000
	Pred. Limit	**1.0**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/29/2017	**2.2**	130	**83**	**0.52**	7 23	**310**	**1100**
	11/9/2017	**1.5**	**140**	**100**	**0.59**	6 96	**230**	**970**
	5/16/2018	**2.0**	**140**	**88**	**0.61**	**7.89**	**270**	**1000**
	8/9/2018	**1.4**	**160**	**120**	**0.65**	7 24	**220**	**1000**
	5/1/2019	**2.3**	**110**	**60**	**0.62**	7 08	**200**	**730**
	11/14/2019	**1.8**	120	**83**	**0.55**	7 43	**150**	**890**
MW-12 (CL) down-gradient	11/19/2015	0 94	160	H 220	H 0 57	7 12	H 650	H 1400
	2/26/2016	0 42	130	200	0 40	7 96	530	1200
	5/20/2016	0 65	150	200	0 49	7 28	550	1400
	8/18/2016	0 69	170	200	0 49	7 06	620	1600
	11/18/2016	0 83	140	180	0 46	7 34	340	1300
	2/16/2017	0 48	140	190	0 37	7 54	630	1300
	5/3/2017	0 49	120	190	0 37	7 47	500	1200
	6/22/2017	0 50	130	190	0 48	7 36	580	1400
	Pred. Limit	**1.0**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/29/2017	0 78	**140**	**180**	**0.52**	7 34	**520**	**1400**
	11/10/2017	0 94	**130**	**170**	**0.48**	7 38	**370**	**1200**
	5/16/2018	0 46	**100**	**180**	**0.47**	**8.12**	**720**	**1500**
	8/9/2018	0 61	**120**	**190**	**0.44**	7 42	**480**	**1300**
	5/1/2019	0 4	**100**	**170**	**0.38**	7 68	**330**	**1000**
	11/14/2019	0 74	120	**160**	**0.45**	7 61	**280**	**1100**
MW-15 (CL) down-gradient	11/18/2015	1 5	270	H 210	H 0 53	6 55	H 1400	H 2400
	2/25/2016	2 0	240	110	0 61	6 84	640	1700
	5/19/2016	2 7	320	240	0 53	6 83	1200	2800
	8/18/2016	1 5	200	F1 170	0 54	6 96	660	1900
	11/17/2016	1 3	120	180	0 47	6 91	560	1900
	2/17/2017	1 9	200	190	0 43	7 24	670	1700
	5/4/2017	1 5	180	190	0 57	7 35	670	1700
	6/21/2017	1 6	180	200	0 56	7 30	530	1600
	Pred. Limit	**1.0**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/29/2017	**2.2**	**190**	**200**	**0.53**	6 87	**540**	**1800**
	11/10/2017	**1.6**	**170**	**180**	**0.63**	7 09	**530**	**1500**
	5/17/2018	**2.3**	**200**	**160**	**0.5**	**6.75**	**680**	**1800**
	8/9/2018	**2.3**	**200**	**200**	**0.48**	7 06	**520**	**1700**
	5/2/2019	**1.5**	**180**	**200**	**0.52**	6 89	**420**	**1500**
	11/14/2019	**1.8**	**170**	**170**	**0.5**	7 24	**260**	**1300**
MW-17 (CL) down-gradient	11/19/2015	1 6	210	H 230	H 0 43	7 11	H 850	H 1800
	2/22/2016	1 8	290	280	0 55	7 19	960	2100
	5/18/2016	1 4	200	230	0 64	7 02	700	1800
	8/15/2016	1 1	220	220	0 60	7 08	860	2100
	11/14/2016	1 5	200	210	0 56	7 26	560	2000
	2/13/2017	1 6	190	230	0 56	6 84	770	1600
	5/4/2017	1 2	170	210	0 61	7 29	720	1500
	6/22/2017	0 95	150	230	0 72	7 38	580	1600
	Pred. Limit	**1.0**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/29/2017	**1.4**	**190**	**230**	**0.64**	7 19	**640**	**1900**
	11/6/2017	**1.7**	**190**	**240**	**0.62**	7 27	**840**	**1800**
	5/14/2018	**1.6**	**170**	**220**	**0.6**	**7.79**	**800**	**1700**
	8/6/2018	**1.3**	**170**	**230**	**0.6**	7 12	**620**	**1600**
	4/29/2019	0 98	**150**	**190**	**0.66**	7 25	**660**	**1500**
	11/13/2019	1 9	**230**	**600**	**0.55**	7 16	**730**	**2300**
MW-18 (S) down-gradient	11/19/2015	0 80	140	H 220	H 0 66	7 62	H 310	H 1200
	2/22/2016	0 76	150	220	0 68	7 06	310	1200
	5/18/2016	0 72	120	230	0 71	7 68	230	1200
	8/15/2016	0 67	130	210	0 64	7 52	330	1300
	11/18/2016	0 94	130	200	0 58	7 69	250	1300
	2/15/2017	0 56	140	190	0 50	7 81	340	1200
	5/5/2017	0 46	130	180	0 52	8 12	360	1100
	6/21/2017	0 53	120	190	0 51	8 10	320	1200
	Pred. Limit	**1.00**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/28/2017	0 65	120	**200**	**0.53**	**7.81**	**310**	**1200**
	11/6/2017	0 67	120	**190**	**0.57**	**7.74**	**400**	**1200**
	5/14/2018	0 57	130	**180**	**0.59**	**8.27**	**440**	**1200**
	8/6/2018	0 58	120	**230**	**0.57**	**7.88**	**270**	**1100**
	4/29/2019	0 54	120	**180**	**0.61**	**7.77**	**170**	**1000**
	11/13/2019	0 79	130	**180**	**0.56**	**8.26**	**210**	**1100**

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Pred. Limit - Prediction Limit
(S) - Sandy Unit
(CL) - Silty Clay Unit
* - Intrawell Prediction Limit. All others are interwell comparisons.
** - Based on pooled background from MW-01/MW-09. All others based on MW-01 as background.
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Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-01 (S) up-gradient	11/16/2015	1 0	98	44	0 17	7 07	93	530
	2/25/2016	0 2	110	42	0 16	7 23	54	460
	5/20/2016	0 34	100	44	0 17	6 95	65	430
	8/17/2016	0 27	78	39	0 25	7 16	50	530
	11/16/2016	0 18	97	39	0 21	7 22	32	500
	2/14/2017	0 18	120	55	0 17	7 30	60	550
	5/3/2017	0 19	86	66	0 16	7 41	45	460
	6/21/2017	0 18	85	58	0 18	7 60	47	540
	Pred. Limit*	**1.0**	**142**	**81**	**0.25**	**7.90-6.58**	**115**	**648**
	8/25/2017	0 56	86	41	0 18	7 41	63	490
	11/8/2017	0 57	130	38	0 12	6 69	61	640
	5/17/2018	0 15	88	50	0 12	6 7	48	540
	8/8/2018	0 14	86	48	0 13	6 8	43	430
	4/30/2019	0 07	78	54	0 17	7 2	27	450
	11/13/2019	0 52	95	47	0 18	7 51	41	390
MW-09 (S) up-gradient	11/18/2015	2 0	63	H 31	H 0 19	7 15	H 110	H 440
	2/25/2016	2 3	77	36	0 19	7 34	120	500
	5/19/2016	2 0	73	38	0 17	7 30	100	520
	8/17/2016	2 7	74	39	0 15	7 32	120	750
	11/17/2016	4 5	85	38	0 13	7 37	110	630
	2/15/2017	4 1	84	38	0 13	6 94	160	620
	5/3/2017	3 5	85	38	0 17	7 48	170	680
	6/21/2017	3 3	82	38	0 14	7 63	180	760
	Pred. Limit*	**6.19**	**103**	**39**	**0.24**	**7.99-6.64**	**236**	**1000**
	8/25/2017	3 8	85	36	0 14	7 30	150	630
	11/8/2017	4	89	37	0 13	6 92	190	650
	5/16/2018	4 1	89	36	0 15	7 83	180	550
	8/8/2018	4 3	86	39	0 14	7 31	180	690
	5/1/2019	4 6	79	37	0 17	7 11	170	640
	11/14/2019	2 5	85	36	0 18	7 49	82	500
MW-19 (S) up-gradient	11/18/2016	3 8	89	38	0 13	7 34	120	670
	2/15/2017	4 7	88	37	0 13	7 50	180	630
	5/5/2017	3 3	88	38	0 14	7 51	160	640
	6/21/2017	2 3	110	35	0 12	7 30	170	690
	8/28/2017	3 5	97	36	0 16	7 20	160	700
	11/6/2017	4 5	86	35	0 17	7 26	190	640
	5/14/2018	4 1	96	35	0 16	7 92	180	820
	8/6/2018	3 8	100	37	0 13	7 57	170	720
	Pred. Limit*	**6.2**	**121**	**41**	**0.20**	**8.20-6.70**	**236**	**890**
	5/2/2019	3 7	100	39	0 13	6 86	160	700
	11/13/2019	2 5	130	**53**	0 15	7 51	140	740
MW-08 (CL) down-gradient	11/18/2015	1 5	160	H 170	H 0 44	7 61	H 470	H 1300
	2/25/2016	1 7	160	200	0 30	7 00	280	1100
	5/18/2016	1 7	160	140	0 34	7 67	300	1200
	8/17/2016	1 0	150	230	0 35	7 33	360	1400
	11/15/2016	1 2	140	290	0 33	6 90	230	1300
	2/16/2017	1 5	150	460	0 28	7 00	230	1500
	5/2/2017	0 55	140	300	0 33	7 30	320	1300
	6/21/2017	1 2	160	490	0 30	7 27	350	1700
	Pred. Limit	**1.0**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/29/2017	**1.2**	**150**	**360**	**0.47**	7 29	**300**	**1500**
	11/8/2017	0 68	130	**260**	**0.45**	7 27	**270**	**1200**
	5/17/2018	**1.2**	130	**200**	**0.37**	6 79	**170**	**1000**
	8/8/2018	**1.1**	140	**270**	**0.32**	6 93	**190**	**1200**
	5/1/2019	0 54	95	73	**0.35**	7 60	85	600
	11/13/2019	0 98	110	**92**	**0.33**	7 66	**110**	640

Notes All units are in mg/l except pH is in standard units.
Pred. Limit - Prediction Limit
(S) - Sandy Unit
(CL) - Silty Clay Unit
* - Intrawell Prediction Limit. All others are interwell comparisons.
** - Based on pooled background from MW-01/MW-09. All others based on MW-01 as background.
Italics Date - Detection Monitoring and resample after statistical background establishment.

Bold - Potential statistically significant increase.
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Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-11 (S) down-gradient	11/18/2015	1 7	110	H 54	H 0 55	7 06	H 160	H 670
	2/26/2016	1 5	140	120	0 55	7 25	220	850
	5/20/2016	1 6	140	120	0 56	7 10	210	920
	8/17/2016	1 0	130	93	0 67	7 08	180	910
	11/17/2016	1 2	140	130	0 44	7 21	240	1100
	2/16/2017	1 6	140	110	0 40	6 62	260	910
	5/3/2017	1 3	160	160	0 42	7 36	440	1300
	6/22/2017	1 2	140	120	0 60	7 21	260	1000
	Pred. Limit	**1.0**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/29/2017	**2.2**	130	**83**	**0.52**	7 23	**310**	**1100**
	11/9/2017	**1.5**	**140**	**100**	**0.59**	6 96	**230**	**970**
	5/16/2018	**2.0**	**140**	**88**	**0.61**	**7.89**	**270**	**1000**
	8/9/2018	**1.4**	**160**	**120**	**0.65**	7 24	**220**	**1000**
	5/1/2019	**2.3**	**110**	**60**	**0.62**	7 08	**200**	**730**
	11/14/2019	**1.8**	120	**83**	**0.55**	7 43	**150**	**890**
MW-12 (CL) down-gradient	11/19/2015	0 94	160	H 220	H 0 57	7 12	H 650	H 1400
	2/26/2016	0 42	130	200	0 40	7 96	530	1200
	5/20/2016	0 65	150	200	0 49	7 28	550	1400
	8/18/2016	0 69	170	200	0 49	7 06	620	1600
	11/18/2016	0 83	140	180	0 46	7 34	340	1300
	2/16/2017	0 48	140	190	0 37	7 54	630	1300
	5/3/2017	0 49	120	190	0 37	7 47	500	1200
	6/22/2017	0 50	130	190	0 48	7 36	580	1400
	Pred. Limit	**1.0**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/29/2017	0 78	**140**	**180**	**0.52**	7 34	**520**	**1400**
	11/10/2017	0 94	**130**	**170**	**0.48**	7 38	**370**	**1200**
	5/16/2018	0 46	**100**	**180**	**0.47**	**8.12**	**720**	**1500**
	8/9/2018	0 61	**120**	**190**	**0.44**	7 42	**480**	**1300**
	5/1/2019	0 4	**100**	**170**	**0.38**	7 68	**330**	**1000**
	11/14/2019	0 74	120	**160**	**0.45**	7 61	**280**	**1100**
MW-15 (CL) down-gradient	11/18/2015	1 5	270	H 210	H 0 53	6 55	H 1400	H 2400
	2/25/2016	2 0	240	110	0 61	6 84	640	1700
	5/19/2016	2 7	320	240	0 53	6 83	1200	2800
	8/18/2016	1 5	200	F1 170	0 54	6 96	660	1900
	11/17/2016	1 3	120	180	0 47	6 91	560	1900
	2/17/2017	1 9	200	190	0 43	7 24	670	1700
	5/4/2017	1 5	180	190	0 57	7 35	670	1700
	6/21/2017	1 6	180	200	0 56	7 30	530	1600
	Pred. Limit	**1.0**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/29/2017	**2.2**	**190**	**200**	**0.53**	6 87	**540**	**1800**
	11/10/2017	**1.6**	**170**	**180**	**0.63**	7 09	**530**	**1500**
	5/17/2018	**2.3**	**200**	**160**	**0.5**	**6.75**	**680**	**1800**
	8/9/2018	**2.3**	**200**	**200**	**0.48**	7 06	**520**	**1700**
	5/2/2019	**1.5**	**180**	**200**	**0.52**	6 89	**420**	**1500**
	11/14/2019	**1.8**	**170**	**170**	**0.5**	7 24	**260**	**1300**
MW-17 (CL) down-gradient	11/19/2015	1 6	210	H 230	H 0 43	7 11	H 850	H 1800
	2/22/2016	1 8	290	280	0 55	7 19	960	2100
	5/18/2016	1 4	200	230	0 64	7 02	700	1800
	8/15/2016	1 1	220	220	0 60	7 08	860	2100
	11/14/2016	1 5	200	210	0 56	7 26	560	2000
	2/13/2017	1 6	190	230	0 56	6 84	770	1600
	5/4/2017	1 2	170	210	0 61	7 29	720	1500
	6/22/2017	0 95	150	230	0 72	7 38	580	1600
	Pred. Limit	**1.0**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/29/2017	**1.4**	**190**	**230**	**0.64**	7 19	**640**	**1900**
	11/6/2017	**1.7**	**190**	**240**	**0.62**	7 27	**840**	**1800**
	5/14/2018	**1.6**	**170**	**220**	**0.6**	**7.79**	**800**	**1700**
	8/6/2018	**1.3**	**170**	**230**	**0.6**	7 12	**620**	**1600**
	4/29/2019	0 98	**150**	**190**	**0.66**	7 25	**660**	**1500**
	11/13/2019	1 9	**230**	**600**	**0.55**	7 16	**730**	**2300**
MW-18 (S) down-gradient	11/19/2015	0 80	140	H 220	H 0 66	7 62	H 310	H 1200
	2/22/2016	0 76	150	220	0 68	7 06	310	1200
	5/18/2016	0 72	120	230	0 71	7 68	230	1200
	8/15/2016	0 67	130	210	0 64	7 52	330	1300
	11/18/2016	0 94	130	200	0 58	7 69	250	1300
	2/15/2017	0 56	140	190	0 50	7 81	340	1200
	5/5/2017	0 46	130	180	0 52	8 12	360	1100
	6/21/2017	0 53	120	190	0 51	8 10	320	1200
	Pred. Limit	**1.00**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/28/2017	0 65	120	**200**	**0.53**	**7.81**	**310**	**1200**
	11/6/2017	0 67	120	**190**	**0.57**	**7.74**	**400**	**1200**
	5/14/2018	0 57	130	**180**	**0.59**	**8.27**	**440**	**1200**
	8/6/2018	0 58	120	**230**	**0.57**	**7.88**	**270**	**1100**
	4/29/2019	0 54	120	**180**	**0.61**	**7.77**	**170**	**1000**
	11/13/2019	0 79	130	**180**	**0.56**	**8.26**	**210**	**1100**

Notes All units are in mg/l except pH is in standard units.
Pred. Limit - Prediction Limit
(S) - Sandy Unit
(CL) - Silty Clay Unit
* - Intrawell Prediction Limit. All others are interwell comparisons.
** - Based on pooled background from MW-01/MW-09. All others based on MW-01 as background.
Italics Date - Detection Monitoring and resample after statistical background establishment.

Bold - Potential statistically significant increase.
F1 - MS and/or MSD Recovery outside of limits.
H - Sample was prepped or analyzed beyond the specified holding time.
V- Serial dilution exceeds control limits.

Appendix A
Analytical Data Packages from 2019 Assessment Monitoring

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-162824-1
Client Project/Site: Powerton CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
5/22/2019 9:30:12 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: Powerton CCR

Job ID: 500-162824-1

Job ID: 500-162824-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-162824-1

Comments
No additional comments.

Receipt
The samples were received on 5/4/2019 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.3º C, 3.7º C, 4.7º C and 5.3º C.

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

General Chemistry
Method(s) 375.4, SM 4500 SO4 E: Due to the concentration of sulfates in the parent sample, the MS/MSD was diluted after the spike. The spike amount was adjusted by the dilution factor.

(500-162824-F-13 MS) and (500-162824-F-13 MSD)

Method(s) 375.4, SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-440971 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 375.4, SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-03 (500-162824-3), MW-05 (500-162824-5), MW-09 (500-162824-7), MW-11 (500-162824-9), MW-12 (500-162824-10), MW-15 (500-162824-11), MW-17 (500-162824-12), MW-18 (500-162824-13), MW-19 (500-162824-14), Duplicate (500-162824-15), (500-162824-F-13 MS) and (500-162824-F-13 MSD). Elevated reporting limits (RLs) are provided.

Method(s) 375.4, SM 4500 SO4 E: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-08 (500-162824-6). Elevated reporting limits (RLs) are provided.

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

Detection Summary

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

Job ID: 500-162824-1

Client Sample ID: MW-01 — Lab Sample ID: 500-162824-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0014		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.039		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.070		0.050		mg/L	1		6020A	Total Recoverable
Calcium	78		0.20		mg/L	1		6020A	Total Recoverable
Lead	0.0017		0.00050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	450		10		mg/L	1		SM 2540C	Total/NA
Chloride	54		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.17		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	27		5.0		mg/L	1		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-02 — Lab Sample ID: 500-162824-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0013		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.048		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.12		0.050		mg/L	1		6020A	Total Recoverable
Calcium	79		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	440		10		mg/L	1		SM 2540C	Total/NA
Chloride	48		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.16		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	30		5.0		mg/L	1		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-03 — Lab Sample ID: 500-162824-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.060		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.28		0.050		mg/L	1		6020A	Total Recoverable
Calcium	74		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	390		10		mg/L	1		SM 2540C	Total/NA
Chloride	49		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.22		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	38		10		mg/L	2		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-04 — Lab Sample ID: 500-162824-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.026		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.36		0.050		mg/L	1		6020A	Total Recoverable
Calcium	74		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	380		10		mg/L	1		SM 2540C	Total/NA
Chloride	48		2.0		mg/L	1		SM 4500 Cl- E	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

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

Job ID: 500-162824-1

Client Sample ID: MW-04 (Continued) — Lab Sample ID: 500-162824-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.25		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	35		5.0		mg/L	1		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-05 — Lab Sample ID: 500-162824-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.041		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.56		0.050		mg/L	1		6020A	Total Recoverable
Calcium	84		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.0061		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	590		10		mg/L	1		SM 2540C	Total/NA
Chloride	73		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.36		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	120		25		mg/L	5		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-08 — Lab Sample ID: 500-162824-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.021		0.010		mg/L	1		6010C	Total Recoverable
Arsenic	0.0018		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.068		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.54		0.050		mg/L	1		6020A	Total Recoverable
Calcium	95		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.0069		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	600		10		mg/L	1		SM 2540C	Total/NA
Chloride	73		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.35		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	85		25		mg/L	5		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-09 — Lab Sample ID: 500-162824-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.038		0.0025		mg/L	1		6020A	Total Recoverable
Boron	4.6		0.50		mg/L	10		6020A	Total Recoverable
Calcium	79		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.031		0.0050		mg/L	1		6020A	Total Recoverable
Selenium	0.0036		0.0025		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	640		10		mg/L	1		SM 2540C	Total/NA
Chloride	37		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.17		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	170		25		mg/L	5		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

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

Job ID: 500-162824-1

Client Sample ID: MW-10 — Lab Sample ID: 500-162824-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0023		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.27		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.35		0.050		mg/L	1		6020A	Total Recoverable
Calcium	92		0.20		mg/L	1		6020A	Total Recoverable
Cobalt	0.011		0.0010		mg/L	1		6020A	Total Recoverable
Lead	0.0028		0.00050		mg/L	1		6020A	Total Recoverable
Selenium	0.0037		0.0025		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	470		10		mg/L	1		SM 2540C	Total/NA
Chloride	50		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.22		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	30		5.0		mg/L	1		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-11 — Lab Sample ID: 500-162824-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.11		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.60		0.0025		mg/L	1		6020A	Total Recoverable
Boron	2.3		0.25		mg/L	5		6020A	Total Recoverable
Calcium	110		0.20		mg/L	1		6020A	Total Recoverable
Cobalt	0.0026		0.0010		mg/L	1		6020A	Total Recoverable
Lead	0.0011		0.00050		mg/L	1		6020A	Total Recoverable
Molybdenum	0.014		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	730		10		mg/L	1		SM 2540C	Total/NA
Chloride	60		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.62		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	200		50		mg/L	10		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-12 — Lab Sample ID: 500-162824-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.014		0.010		mg/L	1		6010C	Total Recoverable
Arsenic	0.041		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.13		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.40		0.050		mg/L	1		6020A	Total Recoverable
Cadmium	0.00054		0.00050		mg/L	1		6020A	Total Recoverable
Calcium	100		0.20		mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

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

Job ID: 500-162824-1

Client Sample ID: MW-12 (Continued) — Lab Sample ID: 500-162824-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.0012		0.00050		mg/L	1		6020A	Total Recoverable
Molybdenum	0.011		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1000		10		mg/L	1		SM 2540C	Total/NA
Chloride	170		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.38		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	330		50		mg/L	10		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-15 — Lab Sample ID: 500-162824-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.027		0.010		mg/L	1		6010C	Total Recoverable
Arsenic	0.0045		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.052		0.0025		mg/L	1		6020A	Total Recoverable
Boron	1.5		0.25		mg/L	5		6020A	Total Recoverable
Calcium	180		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.023		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1500		10		mg/L	1		SM 2540C	Total/NA
Chloride	200		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.52		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	420		150		mg/L	30		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-17 — Lab Sample ID: 500-162824-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.015		0.010		mg/L	1		6010C	Total Recoverable
Arsenic	0.042		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.040		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.98		0.050		mg/L	1		6020A	Total Recoverable
Cadmium	0.00052		0.00050		mg/L	1		6020A	Total Recoverable
Calcium	150		0.20		mg/L	1		6020A	Total Recoverable
Lead	0.00069		0.00050		mg/L	1		6020A	Total Recoverable
Molybdenum	0.060		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1500		10		mg/L	1		SM 2540C	Total/NA
Chloride	190		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.66		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	660		150		mg/L	30		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

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

Job ID: 500-162824-1

Client Sample ID: MW-18 — Lab Sample ID: 500-162824-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.013		0.010		mg/L	1		6010C	Total Recoverable
Barium	0.12		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.54		0.050		mg/L	1		6020A	Total Recoverable
Calcium	120		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1000		10		mg/L	1		SM 2540C	Total/NA
Chloride	180		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.61		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	170		25		mg/L	5		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-19 — Lab Sample ID: 500-162824-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.076		0.0025		mg/L	1		6020A	Total Recoverable
Boron	3.7		0.50		mg/L	10		6020A	Total Recoverable
Calcium	100		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.031		0.0050		mg/L	1		6020A	Total Recoverable
Selenium	0.0035		0.0025		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	700		10		mg/L	1		SM 2540C	Total/NA
Chloride	39		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.13		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	160		25		mg/L	5		SM 4500 SO4 E	Total/NA

Client Sample ID: Duplicate — Lab Sample ID: 500-162824-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.024		0.010		mg/L	1		6010C	Total Recoverable
Arsenic	0.0021		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.052		0.0025		mg/L	1		6020A	Total Recoverable
Boron	1.6		0.25		mg/L	5		6020A	Total Recoverable
Calcium	190		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.024		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1500		10		mg/L	1		SM 2540C	Total/NA
Chloride	200		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.53		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	470		100		mg/L	20		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

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

Job ID: 500-162824-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI
7470A	Preparation, Mercury	SW846	TAL CHI

Protocol References:

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

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

Laboratory References:

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

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

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

Job ID: 500-162824-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Assest ID
500-162824-1	MW-01	Water	04/30/19 13:25	05/04/19 09:30	
500-162824-2	MW-02	Water	04/30/19 09:45	05/04/19 09:30	
500-162824-3	MW-03	Water	04/30/19 10:50	05/04/19 09:30	
500-162824-4	MW-04	Water	04/30/19 11:40	05/04/19 09:30	
500-162824-5	MW-05	Water	04/30/19 12:30	05/04/19 09:30	
500-162824-6	MW-08	Water	05/01/19 15:35	05/04/19 09:30	
500-162824-7	MW-09	Water	05/01/19 13:15	05/04/19 09:30	
500-162824-8	MW-10	Water	05/01/19 09:30	05/04/19 09:30	
500-162824-9	MW-11	Water	05/01/19 10:25	05/04/19 09:30	
500-162824-10	MW-12	Water	05/01/19 11:55	05/04/19 09:30	
500-162824-11	MW-15	Water	05/02/19 12:15	05/04/19 09:30	
500-162824-12	MW-17	Water	04/29/19 15:20	05/04/19 09:30	
500-162824-13	MW-18	Water	04/29/19 14:25	05/04/19 09:30	
500-162824-14	MW-19	Water	05/02/19 10:30	05/04/19 09:30	
500-162824-15	Duplicate	Water	04/29/19 00:00	05/04/19 09:30	

Client Sample Results

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

Job ID: 500-162824-1

Client Sample ID: MW-01

Date Collected: 04/30/19 13:25
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-1

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/07/19 08:14	05/07/19 18:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 02:37	1
Arsenic	**0.0014**		0.0010		mg/L		05/07/19 08:14	05/10/19 02:37	1
Barium	**0.039**		0.0025		mg/L		05/07/19 08:14	05/10/19 02:37	1
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 18:00	1
Boron	**0.070**		0.050		mg/L		05/07/19 08:14	05/10/19 18:00	1
Cadmium	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 02:37	1
Calcium	**78**		0.20		mg/L		05/07/19 08:14	05/10/19 02:37	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 02:37	1
Cobalt	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 02:37	1
Lead	**0.0017**		0.00050		mg/L		05/07/19 08:14	05/10/19 18:00	1
Molybdenum	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 02:37	1
Selenium	<0.0025		0.0025		mg/L		05/07/19 08:14	05/10/19 02:37	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 02:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**450**		10		mg/L			05/06/19 02:06	1
Chloride	**54**		2.0		mg/L			05/11/19 09:12	1
Fluoride	**0.17**		0.10		mg/L			05/11/19 13:06	1
Sulfate	**27**		5.0		mg/L			05/14/19 12:33	1

Client Sample Results

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

Job ID: 500-162824-1

Client Sample ID: MW-02

Date Collected: 04/30/19 09:45
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-2

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/07/19 08:14	05/07/19 18:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 03:06	1
Arsenic	**0.0013**		0.0010		mg/L		05/07/19 08:14	05/10/19 03:06	1
Barium	**0.048**		0.0025		mg/L		05/07/19 08:14	05/10/19 03:06	1
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 18:30	1
Boron	**0.12**		0.050		mg/L		05/07/19 08:14	05/10/19 18:30	1
Cadmium	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 03:06	1
Calcium	**79**		0.20		mg/L		05/07/19 08:14	05/10/19 03:06	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 03:06	1
Cobalt	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 03:06	1
Lead	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 18:30	1
Molybdenum	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 03:06	1
Selenium	<0.0025		0.0025		mg/L		05/07/19 08:14	05/10/19 03:06	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 03:06	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**440**		10		mg/L			05/06/19 02:12	1
Chloride	**48**		2.0		mg/L			05/11/19 09:12	1
Fluoride	**0.16**		0.10		mg/L			05/13/19 20:22	1
Sulfate	**30**		5.0		mg/L			05/14/19 12:33	1

Client Sample Results

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

Job ID: 500-162824-1

Client Sample ID: MW-03

Date Collected: 04/30/19 10:50
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-3

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/07/19 08:14	05/07/19 18:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 03:10	1
Arsenic	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 03:10	1
Barium	**0.060**		0.0025		mg/L		05/07/19 08:14	05/10/19 03:10	1
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 18:34	1
Boron	**0.28**		0.050		mg/L		05/07/19 08:14	05/10/19 18:34	1
Cadmium	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 03:10	1
Calcium	**74**		0.20		mg/L		05/07/19 08:14	05/10/19 03:10	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 03:10	1
Cobalt	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 03:10	1
Lead	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 18:34	1
Molybdenum	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 03:10	1
Selenium	<0.0025		0.0025		mg/L		05/07/19 08:14	05/10/19 03:10	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 03:10	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**390**		10		mg/L			05/06/19 02:14	1
Chloride	**49**		2.0		mg/L			05/17/19 22:02	1
Fluoride	**0.22**		0.10		mg/L			05/13/19 20:25	1
Sulfate	**38**		10		mg/L			05/14/19 13:57	2

Client Sample Results

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

Job ID: 500-162824-1

Client Sample ID: MW-04

Date Collected: 04/30/19 11:40
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-4

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/07/19 08:14	05/07/19 19:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 03:14	1
Arsenic	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 03:14	1
Barium	**0.026**		0.0025		mg/L		05/07/19 08:14	05/10/19 03:14	1
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 18:38	1
Boron	**0.36**		0.050		mg/L		05/07/19 08:14	05/10/19 18:38	1
Cadmium	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 03:14	1
Calcium	**74**		0.20		mg/L		05/07/19 08:14	05/10/19 03:14	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 03:14	1
Cobalt	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 03:14	1
Lead	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 18:38	1
Molybdenum	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 03:14	1
Selenium	<0.0025		0.0025		mg/L		05/07/19 08:14	05/10/19 03:14	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 03:14	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**380**		10		mg/L			05/06/19 02:17	1
Chloride	**48**		2.0		mg/L			05/17/19 22:03	1
Fluoride	**0.25**		0.10		mg/L			05/13/19 20:28	1
Sulfate	**35**		5.0		mg/L			05/14/19 12:40	1

Client Sample Results

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

Job ID: 500-162824-1

Client Sample ID: MW-05

Date Collected: 04/30/19 12:30
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-5

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/07/19 08:14	05/07/19 19:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 03:19	1
Arsenic	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 03:19	1
Barium	**0.041**		0.0025		mg/L		05/07/19 08:14	05/10/19 03:19	1
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 18:42	1
Boron	**0.56**		0.050		mg/L		05/07/19 08:14	05/10/19 18:42	1
Cadmium	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 03:19	1
Calcium	**84**		0.20		mg/L		05/07/19 08:14	05/10/19 03:19	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 03:19	1
Cobalt	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 03:19	1
Lead	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 18:42	1
Molybdenum	**0.0061**		0.0050		mg/L		05/07/19 08:14	05/10/19 03:19	1
Selenium	<0.0025		0.0025		mg/L		05/07/19 08:14	05/10/19 03:19	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 03:19	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**590**		10		mg/L			05/06/19 02:19	1
Chloride	**73**		2.0		mg/L			05/17/19 22:06	1
Fluoride	**0.36**		0.10		mg/L			05/13/19 20:31	1
Sulfate	**120**		25		mg/L			05/14/19 13:57	5

Client Sample Results

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

Job ID: 500-162824-1

Client Sample ID: MW-08

Date Collected: 05/01/19 15:35
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-6

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.021**		0.010		mg/L		05/07/19 08:14	05/07/19 19:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 03:23	1
Arsenic	**0.0018**		0.0010		mg/L		05/07/19 08:14	05/10/19 03:23	1
Barium	**0.068**		0.0025		mg/L		05/07/19 08:14	05/10/19 03:23	1
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 18:45	1
Boron	**0.54**		0.050		mg/L		05/07/19 08:14	05/10/19 18:45	1
Cadmium	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 03:23	1
Calcium	**95**		0.20		mg/L		05/07/19 08:14	05/10/19 03:23	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 03:23	1
Cobalt	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 03:23	1
Lead	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 18:45	1
Molybdenum	**0.0069**		0.0050		mg/L		05/07/19 08:14	05/10/19 03:23	1
Selenium	<0.0025		0.0025		mg/L		05/07/19 08:14	05/10/19 03:23	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 03:23	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**600**		10		mg/L			05/06/19 02:22	1
Chloride	**73**		2.0		mg/L			05/17/19 22:06	1
Fluoride	**0.35**		0.10		mg/L			05/13/19 20:34	1
Sulfate	**85**		25		mg/L			05/16/19 11:37	5

Client Sample Results

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

Job ID: 500-162824-1

Client Sample ID: MW-09

Date Collected: 05/01/19 13:15
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-7

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/07/19 08:14	05/07/19 19:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 03:27	1
Arsenic	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 03:27	1
Barium	**0.038**		0.0025		mg/L		05/07/19 08:14	05/10/19 03:27	1
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 19:42	1
Boron	**4.6**		0.50		mg/L		05/07/19 08:14	05/10/19 18:49	10
Cadmium	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 03:27	1
Calcium	**79**		0.20		mg/L		05/07/19 08:14	05/10/19 03:27	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 03:27	1
Cobalt	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 03:27	1
Lead	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 19:42	1
Molybdenum	**0.031**		0.0050		mg/L		05/07/19 08:14	05/10/19 03:27	1
Selenium	**0.0036**		0.0025		mg/L		05/07/19 08:14	05/10/19 03:27	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 03:27	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**640**		10		mg/L			05/06/19 02:25	1
Chloride	**37**		2.0		mg/L			05/17/19 20:32	1
Fluoride	**0.17**		0.10		mg/L			05/13/19 20:38	1
Sulfate	**170**		25		mg/L			05/14/19 14:02	5

Client Sample Results

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

Job ID: 500-162824-1

Client Sample ID: MW-10

Date Collected: 05/01/19 09:30
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-8

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/07/19 08:14	05/07/19 19:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 03:39	1
Arsenic	**0.0023**		0.0010		mg/L		05/07/19 08:14	05/10/19 03:39	1
Barium	**0.27**		0.0025		mg/L		05/07/19 08:14	05/10/19 03:39	1
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 19:00	1
Boron	**0.35**		0.050		mg/L		05/07/19 08:14	05/10/19 19:00	1
Cadmium	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 03:39	1
Calcium	**92**		0.20		mg/L		05/07/19 08:14	05/10/19 03:39	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 03:39	1
Cobalt	**0.011**		0.0010		mg/L		05/07/19 08:14	05/10/19 03:39	1
Lead	**0.0028**		0.00050		mg/L		05/07/19 08:14	05/10/19 19:00	1
Molybdenum	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 03:39	1
Selenium	**0.0037**		0.0025		mg/L		05/07/19 08:14	05/10/19 03:39	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 03:39	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**470**		10		mg/L			05/06/19 02:27	1
Chloride	**50**		2.0		mg/L			05/17/19 20:32	1
Fluoride	**0.22**		0.10		mg/L			05/13/19 20:41	1
Sulfate	**30**		5.0		mg/L			05/14/19 12:40	1

Client Sample Results

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

Job ID: 500-162824-1

Client Sample ID: MW-11

Date Collected: 05/01/19 10:25
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-9

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/07/19 08:14	05/07/19 19:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 03:44	1
Arsenic	**0.11**		0.0010		mg/L		05/07/19 08:14	05/10/19 03:44	1
Barium	**0.60**		0.0025		mg/L		05/07/19 08:14	05/10/19 03:44	1
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 19:46	1
Boron	**2.3**		0.25		mg/L		05/07/19 08:14	05/10/19 19:04	5
Cadmium	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 03:44	1
Calcium	**110**		0.20		mg/L		05/07/19 08:14	05/10/19 03:44	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 03:44	1
Cobalt	**0.0026**		0.0010		mg/L		05/07/19 08:14	05/10/19 03:44	1
Lead	**0.0011**		0.00050		mg/L		05/07/19 08:14	05/10/19 19:46	1
Molybdenum	**0.014**		0.0050		mg/L		05/07/19 08:14	05/10/19 03:44	1
Selenium	<0.0025		0.0025		mg/L		05/07/19 08:14	05/10/19 03:44	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 03:44	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**730**		10		mg/L			05/06/19 02:30	1
Chloride	**60**		2.0		mg/L			05/17/19 20:33	1
Fluoride	**0.62**		0.10		mg/L			05/13/19 20:45	1
Sulfate	**200**		50		mg/L			05/14/19 14:06	10

Client Sample Results

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

Job ID: 500-162824-1

Client Sample ID: MW-12

Date Collected: 05/01/19 11:55
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-10

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.014**		0.010		mg/L		05/07/19 08:14	05/07/19 19:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 03:48	1
Arsenic	**0.041**		0.0010		mg/L		05/07/19 08:14	05/10/19 03:48	1
Barium	**0.13**		0.0025		mg/L		05/07/19 08:14	05/10/19 03:48	1
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 19:08	1
Boron	**0.40**		0.050		mg/L		05/07/19 08:14	05/10/19 19:08	1
Cadmium	**0.00054**		0.00050		mg/L		05/07/19 08:14	05/10/19 03:48	1
Calcium	**100**		0.20		mg/L		05/07/19 08:14	05/10/19 03:48	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 03:48	1
Cobalt	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 03:48	1
Lead	**0.0012**		0.00050		mg/L		05/07/19 08:14	05/10/19 19:08	1
Molybdenum	**0.011**		0.0050		mg/L		05/07/19 08:14	05/10/19 03:48	1
Selenium	<0.0025		0.0025		mg/L		05/07/19 08:14	05/10/19 03:48	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 03:48	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1000**		10		mg/L			05/06/19 02:32	1
Chloride	**170**		10		mg/L			05/17/19 20:57	5
Fluoride	**0.38**		0.10		mg/L			05/13/19 20:57	1
Sulfate	**330**		50		mg/L			05/14/19 14:06	10

Client Sample Results

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

Job ID: 500-162824-1

Client Sample ID: MW-15

Date Collected: 05/02/19 12:15
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-11

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.027**		0.010		mg/L		05/07/19 08:14	05/07/19 19:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 03:52	1
Arsenic	**0.0045**		0.0010		mg/L		05/07/19 08:14	05/10/19 03:52	1
Barium	**0.052**		0.0025		mg/L		05/07/19 08:14	05/10/19 03:52	1
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 19:49	1
Boron	**1.5**		0.25		mg/L		05/07/19 08:14	05/10/19 19:12	5
Cadmium	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 03:52	1
Calcium	**180**		0.20		mg/L		05/07/19 08:14	05/10/19 03:52	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 03:52	1
Cobalt	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 03:52	1
Lead	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 19:49	1
Molybdenum	**0.023**		0.0050		mg/L		05/07/19 08:14	05/10/19 03:52	1
Selenium	<0.0025		0.0025		mg/L		05/07/19 08:14	05/10/19 03:52	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 03:52	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1500**		10		mg/L			05/06/19 02:35	1
Chloride	**200**		10		mg/L			05/17/19 22:57	5
Fluoride	**0.52**		0.10		mg/L			05/13/19 21:00	1
Sulfate	**420**		150		mg/L			05/14/19 17:14	30

Client Sample Results

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

Job ID: 500-162824-1

Client Sample ID: MW-17

Date Collected: 04/29/19 15:20
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-12

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.015**		0.010		mg/L		05/07/19 08:14	05/07/19 19:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 03:56	1
Arsenic	**0.042**		0.0010		mg/L		05/07/19 08:14	05/10/19 03:56	1
Barium	**0.040**		0.0025		mg/L		05/07/19 08:14	05/10/19 03:56	1
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 19:16	1
Boron	**0.98**		0.050		mg/L		05/07/19 08:14	05/10/19 19:16	1
Cadmium	**0.00052**		0.00050		mg/L		05/07/19 08:14	05/10/19 03:56	1
Calcium	**150**		0.20		mg/L		05/07/19 08:14	05/10/19 03:56	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 03:56	1
Cobalt	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 03:56	1
Lead	**0.00069**		0.00050		mg/L		05/07/19 08:14	05/10/19 19:16	1
Molybdenum	**0.060**		0.0050		mg/L		05/07/19 08:14	05/10/19 03:56	1
Selenium	<0.0025		0.0025		mg/L		05/07/19 08:14	05/10/19 03:56	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 03:56	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1500**		10		mg/L			05/06/19 02:37	1
Chloride	**190**		10		mg/L			05/17/19 22:57	5
Fluoride	**0.66**		0.10		mg/L			05/13/19 21:04	1
Sulfate	**660**		150		mg/L			05/15/19 10:19	30

Client Sample Results

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

Job ID: 500-162824-1

Client Sample ID: MW-18

Date Collected: 04/29/19 14:25
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-13

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.013**		0.010		mg/L		05/07/19 08:14	05/07/19 19:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 04:00	1
Arsenic	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 04:00	1
Barium	**0.12**		0.0025		mg/L		05/07/19 08:14	05/10/19 04:00	1
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 19:19	1
Boron	**0.54**		0.050		mg/L		05/07/19 08:14	05/10/19 19:19	1
Cadmium	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 04:00	1
Calcium	**120**		0.20		mg/L		05/07/19 08:14	05/10/19 04:00	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 04:00	1
Cobalt	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 04:00	1
Lead	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 19:19	1
Molybdenum	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 04:00	1
Selenium	<0.0025		0.0025		mg/L		05/07/19 08:14	05/10/19 04:00	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 04:00	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1000**		10		mg/L			05/06/19 02:40	1
Chloride	**180**		10		mg/L			05/17/19 20:56	5
Fluoride	**0.61**		0.10		mg/L			05/13/19 21:07	1
Sulfate	**170**		25		mg/L			05/14/19 14:02	5

Client Sample Results

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

Job ID: 500-162824-1

Client Sample ID: MW-19

Date Collected: 05/02/19 10:30
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-14

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/07/19 08:14	05/07/19 19:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 04:04	1
Arsenic	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 04:04	1
Barium	**0.076**		0.0025		mg/L		05/07/19 08:14	05/10/19 04:04	1
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 19:53	1
Boron	**3.7**		0.50		mg/L		05/07/19 08:14	05/10/19 19:23	10
Cadmium	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 04:04	1
Calcium	**100**		0.20		mg/L		05/07/19 08:14	05/10/19 04:04	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 04:04	1
Cobalt	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 04:04	1
Lead	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 19:53	1
Molybdenum	**0.031**		0.0050		mg/L		05/07/19 08:14	05/10/19 04:04	1
Selenium	**0.0035**		0.0025		mg/L		05/07/19 08:14	05/10/19 04:04	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 04:04	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**700**		10		mg/L			05/06/19 02:43	1
Chloride	**39**		2.0		mg/L			05/17/19 20:27	1
Fluoride	**0.13**		0.10		mg/L			05/13/19 21:10	1
Sulfate	**160**		25		mg/L			05/14/19 14:06	5

Client Sample Results

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

Job ID: 500-162824-1

Client Sample ID: Duplicate

Date Collected: 04/29/19 00:00
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-15

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.024**		0.010		mg/L		05/07/19 08:14	05/07/19 19:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 04:08	1
Arsenic	**0.0021**		0.0010		mg/L		05/07/19 08:14	05/10/19 04:08	1
Barium	**0.052**		0.0025		mg/L		05/07/19 08:14	05/10/19 04:08	1
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 19:57	1
Boron	**1.6**		0.25		mg/L		05/07/19 08:14	05/10/19 19:27	5
Cadmium	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 04:08	1
Calcium	**190**		0.20		mg/L		05/07/19 08:14	05/10/19 04:08	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 04:08	1
Cobalt	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 04:08	1
Lead	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 19:57	1
Molybdenum	**0.024**		0.0050		mg/L		05/07/19 08:14	05/10/19 04:08	1
Selenium	<0.0025		0.0025		mg/L		05/07/19 08:14	05/10/19 04:08	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 04:08	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1500**		10		mg/L			05/06/19 02:45	1
Chloride	**200**		10		mg/L			05/17/19 20:56	5
Fluoride	**0.53**		0.10		mg/L			05/13/19 21:12	1
Sulfate	**470**		100		mg/L			05/15/19 10:19	20

Definitions/Glossary

Client: KPRG and Associates, Inc. Job ID: 500-162824-1
Project/Site: Powerton CCR

Qualifiers

Metals

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

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: Powerton CCR

Job ID: 500-162824-1

Metals

Prep Batch: 483975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-1	MW-01	Total Recoverable	Water	3005A	
500-162824-2	MW-02	Total Recoverable	Water	3005A	
500-162824-3	MW-03	Total Recoverable	Water	3005A	
500-162824-4	MW-04	Total Recoverable	Water	3005A	
500-162824-5	MW-05	Total Recoverable	Water	3005A	
500-162824-6	MW-08	Total Recoverable	Water	3005A	
500-162824-7	MW-09	Total Recoverable	Water	3005A	
500-162824-8	MW-10	Total Recoverable	Water	3005A	
500-162824-9	MW-11	Total Recoverable	Water	3005A	
500-162824-10	MW-12	Total Recoverable	Water	3005A	
500-162824-11	MW-15	Total Recoverable	Water	3005A	
500-162824-12	MW-17	Total Recoverable	Water	3005A	
500-162824-13	MW-18	Total Recoverable	Water	3005A	
500-162824-14	MW-19	Total Recoverable	Water	3005A	
500-162824-15	Duplicate	Total Recoverable	Water	3005A	
MB 500-483975/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-483975/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-162824-1 MS	MW-01	Total Recoverable	Water	3005A	
500-162824-1 MSD	MW-01	Total Recoverable	Water	3005A	
500-162824-1 DU	MW-01	Total Recoverable	Water	3005A	

Analysis Batch: 484171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-1	MW-01	Total Recoverable	Water	6010C	483975
500-162824-2	MW-02	Total Recoverable	Water	6010C	483975
500-162824-3	MW-03	Total Recoverable	Water	6010C	483975
500-162824-4	MW-04	Total Recoverable	Water	6010C	483975
500-162824-5	MW-05	Total Recoverable	Water	6010C	483975
500-162824-6	MW-08	Total Recoverable	Water	6010C	483975
500-162824-7	MW-09	Total Recoverable	Water	6010C	483975
500-162824-8	MW-10	Total Recoverable	Water	6010C	483975
500-162824-9	MW-11	Total Recoverable	Water	6010C	483975
500-162824-10	MW-12	Total Recoverable	Water	6010C	483975
500-162824-11	MW-15	Total Recoverable	Water	6010C	483975
500-162824-12	MW-17	Total Recoverable	Water	6010C	483975
500-162824-13	MW-18	Total Recoverable	Water	6010C	483975
500-162824-14	MW-19	Total Recoverable	Water	6010C	483975
500-162824-15	Duplicate	Total Recoverable	Water	6010C	483975
MB 500-483975/1-A	Method Blank	Total Recoverable	Water	6010C	483975
LCS 500-483975/2-A	Lab Control Sample	Total Recoverable	Water	6010C	483975
500-162824-1 MS	MW-01	Total Recoverable	Water	6010C	483975
500-162824-1 MSD	MW-01	Total Recoverable	Water	6010C	483975
500-162824-1 DU	MW-01	Total Recoverable	Water	6010C	483975

Analysis Batch: 484720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-1	MW-01	Total Recoverable	Water	6020A	483975
500-162824-2	MW-02	Total Recoverable	Water	6020A	483975
500-162824-3	MW-03	Total Recoverable	Water	6020A	483975
500-162824-4	MW-04	Total Recoverable	Water	6020A	483975
500-162824-5	MW-05	Total Recoverable	Water	6020A	483975

QC Association Summary

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

Job ID: 500-162824-1

Metals (Continued)

Analysis Batch: 484720 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-6	MW-08	Total Recoverable	Water	6020A	483975
500-162824-7	MW-09	Total Recoverable	Water	6020A	483975
500-162824-8	MW-10	Total Recoverable	Water	6020A	483975
500-162824-9	MW-11	Total Recoverable	Water	6020A	483975
500-162824-10	MW-12	Total Recoverable	Water	6020A	483975
500-162824-11	MW-15	Total Recoverable	Water	6020A	483975
500-162824-12	MW-17	Total Recoverable	Water	6020A	483975
500-162824-13	MW-18	Total Recoverable	Water	6020A	483975
500-162824-14	MW-19	Total Recoverable	Water	6020A	483975
500-162824-15	Duplicate	Total Recoverable	Water	6020A	483975
MB 500-483975/1-A	Method Blank	Total Recoverable	Water	6020A	483975
LCS 500-483975/2-A	Lab Control Sample	Total Recoverable	Water	6020A	483975
500-162824-1 MS	MW-01	Total Recoverable	Water	6020A	483975
500-162824-1 MSD	MW-01	Total Recoverable	Water	6020A	483975
500-162824-1 DU	MW-01	Total Recoverable	Water	6020A	483975

Analysis Batch: 484965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-1	MW-01	Total Recoverable	Water	6020A	483975
500-162824-2	MW-02	Total Recoverable	Water	6020A	483975
500-162824-3	MW-03	Total Recoverable	Water	6020A	483975
500-162824-4	MW-04	Total Recoverable	Water	6020A	483975
500-162824-5	MW-05	Total Recoverable	Water	6020A	483975
500-162824-6	MW-08	Total Recoverable	Water	6020A	483975
500-162824-7	MW-09	Total Recoverable	Water	6020A	483975
500-162824-7	MW-09	Total Recoverable	Water	6020A	483975
500-162824-8	MW-10	Total Recoverable	Water	6020A	483975
500-162824-9	MW-11	Total Recoverable	Water	6020A	483975
500-162824-9	MW-11	Total Recoverable	Water	6020A	483975
500-162824-10	MW-12	Total Recoverable	Water	6020A	483975
500-162824-11	MW-15	Total Recoverable	Water	6020A	483975
500-162824-11	MW-15	Total Recoverable	Water	6020A	483975
500-162824-12	MW-17	Total Recoverable	Water	6020A	483975
500-162824-13	MW-18	Total Recoverable	Water	6020A	483975
500-162824-14	MW-19	Total Recoverable	Water	6020A	483975
500-162824-14	MW-19	Total Recoverable	Water	6020A	483975
500-162824-15	Duplicate	Total Recoverable	Water	6020A	483975
500-162824-15	Duplicate	Total Recoverable	Water	6020A	483975
MB 500-483975/1-A	Method Blank	Total Recoverable	Water	6020A	483975
LCS 500-483975/2-A	Lab Control Sample	Total Recoverable	Water	6020A	483975
500-162824-1 MS	MW-01	Total Recoverable	Water	6020A	483975
500-162824-1 MSD	MW-01	Total Recoverable	Water	6020A	483975
500-162824-1 DU	MW-01	Total Recoverable	Water	6020A	483975

Prep Batch: 485450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-1	MW-01	Total/NA	Water	7470A	
500-162824-2	MW-02	Total/NA	Water	7470A	
500-162824-3	MW-03	Total/NA	Water	7470A	
500-162824-4	MW-04	Total/NA	Water	7470A	
500-162824-5	MW-05	Total/NA	Water	7470A	

QC Association Summary

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

Job ID: 500-162824-1

Metals (Continued)

Prep Batch: 485450 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-6	MW-08	Total/NA	Water	7470A	
500-162824-7	MW-09	Total/NA	Water	7470A	
500-162824-8	MW-10	Total/NA	Water	7470A	
500-162824-9	MW-11	Total/NA	Water	7470A	
500-162824-10	MW-12	Total/NA	Water	7470A	
500-162824-11	MW-15	Total/NA	Water	7470A	
500-162824-12	MW-17	Total/NA	Water	7470A	
500-162824-13	MW-18	Total/NA	Water	7470A	
500-162824-14	MW-19	Total/NA	Water	7470A	
500-162824-15	Duplicate	Total/NA	Water	7470A	
MB 500-485450/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-485450/13-A	Lab Control Sample	Total/NA	Water	7470A	
500-162824-6 MS	MW-08	Total/NA	Water	7470A	
500-162824-6 MSD	MW-08	Total/NA	Water	7470A	
500-162824-6 DU	MW-08	Total/NA	Water	7470A	

Analysis Batch: 485704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-1	MW-01	Total/NA	Water	7470A	485450
500-162824-2	MW-02	Total/NA	Water	7470A	485450
500-162824-3	MW-03	Total/NA	Water	7470A	485450
500-162824-4	MW-04	Total/NA	Water	7470A	485450
500-162824-5	MW-05	Total/NA	Water	7470A	485450
500-162824-6	MW-08	Total/NA	Water	7470A	485450
500-162824-7	MW-09	Total/NA	Water	7470A	485450
500-162824-8	MW-10	Total/NA	Water	7470A	485450
500-162824-9	MW-11	Total/NA	Water	7470A	485450
500-162824-10	MW-12	Total/NA	Water	7470A	485450
500-162824-11	MW-15	Total/NA	Water	7470A	485450
500-162824-12	MW-17	Total/NA	Water	7470A	485450
500-162824-13	MW-18	Total/NA	Water	7470A	485450
500-162824-14	MW-19	Total/NA	Water	7470A	485450
500-162824-15	Duplicate	Total/NA	Water	7470A	485450
MB 500-485450/12-A	Method Blank	Total/NA	Water	7470A	485450
LCS 500-485450/13-A	Lab Control Sample	Total/NA	Water	7470A	485450
500-162824-6 MS	MW-08	Total/NA	Water	7470A	485450
500-162824-6 MSD	MW-08	Total/NA	Water	7470A	485450
500-162824-6 DU	MW-08	Total/NA	Water	7470A	485450

General Chemistry

Analysis Batch: 440971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-1	MW-01	Total/NA	Water	SM 4500 SO4 E	
500-162824-2	MW-02	Total/NA	Water	SM 4500 SO4 E	
500-162824-3	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-162824-4	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-162824-5	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-162824-7	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-162824-8	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-162824-9	MW-11	Total/NA	Water	SM 4500 SO4 E	

QC Association Summary

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

Job ID: 500-162824-1

General Chemistry (Continued)

Analysis Batch: 440971 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-10	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-162824-11	MW-15	Total/NA	Water	SM 4500 SO4 E	
500-162824-12	MW-17	Total/NA	Water	SM 4500 SO4 E	
500-162824-13	MW-18	Total/NA	Water	SM 4500 SO4 E	
500-162824-14	MW-19	Total/NA	Water	SM 4500 SO4 E	
500-162824-15	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 400-440971/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-440971/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-440971/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-162824-13 MS	MW-18	Total/NA	Water	SM 4500 SO4 E	
500-162824-13 MSD	MW-18	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 441150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-6	MW-08	Total/NA	Water	SM 4500 SO4 E	
MB 400-441150/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-441150/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-441150/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 483709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-1	MW-01	Total/NA	Water	SM 2540C	
500-162824-2	MW-02	Total/NA	Water	SM 2540C	
500-162824-3	MW-03	Total/NA	Water	SM 2540C	
500-162824-4	MW-04	Total/NA	Water	SM 2540C	
500-162824-5	MW-05	Total/NA	Water	SM 2540C	
500-162824-6	MW-08	Total/NA	Water	SM 2540C	
500-162824-7	MW-09	Total/NA	Water	SM 2540C	
500-162824-8	MW-10	Total/NA	Water	SM 2540C	
500-162824-9	MW-11	Total/NA	Water	SM 2540C	
500-162824-10	MW-12	Total/NA	Water	SM 2540C	
500-162824-11	MW-15	Total/NA	Water	SM 2540C	
500-162824-12	MW-17	Total/NA	Water	SM 2540C	
500-162824-13	MW-18	Total/NA	Water	SM 2540C	
500-162824-14	MW-19	Total/NA	Water	SM 2540C	
500-162824-15	Duplicate	Total/NA	Water	SM 2540C	
MB 500-483709/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-483709/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-162824-1 DU	MW-01	Total/NA	Water	SM 2540C	

Analysis Batch: 484846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-1	MW-01	Total/NA	Water	SM 4500 Cl- E	
500-162824-2	MW-02	Total/NA	Water	SM 4500 Cl- E	
MB 500-484846/83	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-484846/84	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 485004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-1	MW-01	Total/NA	Water	SM 4500 F C	
MB 500-485004/31	Method Blank	Total/NA	Water	SM 4500 F C	

QC Association Summary

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

Job ID: 500-162824-1

General Chemistry (Continued)

Analysis Batch: 485004 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-485004/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 485172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-2	MW-02	Total/NA	Water	SM 4500 F C	
500-162824-3	MW-03	Total/NA	Water	SM 4500 F C	
500-162824-4	MW-04	Total/NA	Water	SM 4500 F C	
500-162824-5	MW-05	Total/NA	Water	SM 4500 F C	
500-162824-6	MW-08	Total/NA	Water	SM 4500 F C	
500-162824-7	MW-09	Total/NA	Water	SM 4500 F C	
500-162824-8	MW-10	Total/NA	Water	SM 4500 F C	
500-162824-9	MW-11	Total/NA	Water	SM 4500 F C	
500-162824-10	MW-12	Total/NA	Water	SM 4500 F C	
500-162824-11	MW-15	Total/NA	Water	SM 4500 F C	
500-162824-12	MW-17	Total/NA	Water	SM 4500 F C	
500-162824-13	MW-18	Total/NA	Water	SM 4500 F C	
500-162824-14	MW-19	Total/NA	Water	SM 4500 F C	
500-162824-15	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-485172/31	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-485172/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 485974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-7	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-162824-8	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-162824-9	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-162824-10	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-162824-13	MW-18	Total/NA	Water	SM 4500 Cl- E	
500-162824-14	MW-19	Total/NA	Water	SM 4500 Cl- E	
500-162824-15	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-485974/4	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-485974/5	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 485996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-3	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-162824-4	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-162824-5	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-162824-6	MW-08	Total/NA	Water	SM 4500 Cl- E	
500-162824-11	MW-15	Total/NA	Water	SM 4500 Cl- E	
500-162824-12	MW-17	Total/NA	Water	SM 4500 Cl- E	
MB 500-485996/9	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-485996/10	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-162824-4 MS	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-162824-4 MSD	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-162824-12 MS	MW-17	Total/NA	Water	SM 4500 Cl- E	
500-162824-12 MSD	MW-17	Total/NA	Water	SM 4500 Cl- E	

QC Sample Results

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

Job ID: 500-162824-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-483975/1-A
Matrix: Water
Analysis Batch: 484171

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 483975

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/07/19 08:14	05/07/19 18:13	1

Lab Sample ID: LCS 500-483975/2-A
Matrix: Water
Analysis Batch: 484171

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 483975

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.544		mg/L		109	80 - 120

Lab Sample ID: 500-162824-1 MS
Matrix: Water
Analysis Batch: 484171

Client Sample ID: MW-01
Prep Type: Total Recoverable
Prep Batch: 483975

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	<0.010		0.500	0.554		mg/L		111	75 - 125

Lab Sample ID: 500-162824-1 MSD
Matrix: Water
Analysis Batch: 484171

Client Sample ID: MW-01
Prep Type: Total Recoverable
Prep Batch: 483975

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	<0.010		0.500	0.557		mg/L		111	75 - 125	1	20

Lab Sample ID: 500-162824-1 DU
Matrix: Water
Analysis Batch: 484171

Client Sample ID: MW-01
Prep Type: Total Recoverable
Prep Batch: 483975

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lithium	<0.010		<0.010		mg/L		NC	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-483975/1-A
Matrix: Water
Analysis Batch: 484720

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 483975

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/07/19 08:14	05/10/19 02:29	1
Arsenic	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 02:29	1
Barium	<0.0025		0.0025		mg/L		05/07/19 08:14	05/10/19 02:29	1
Cadmium	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 02:29	1
Calcium	<0.20		0.20		mg/L		05/07/19 08:14	05/10/19 02:29	1
Chromium	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 02:29	1
Cobalt	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 02:29	1
Molybdenum	<0.0050		0.0050		mg/L		05/07/19 08:14	05/10/19 02:29	1
Selenium	<0.0025		0.0025		mg/L		05/07/19 08:14	05/10/19 02:29	1
Thallium	<0.0020		0.0020		mg/L		05/07/19 08:14	05/10/19 02:29	1

QC Sample Results

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

Job ID: 500-162824-1

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

Lab Sample ID: MB 500-483975/1-A
Matrix: Water
Analysis Batch: 484965

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 483975

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		05/07/19 08:14	05/10/19 17:53	1
Boron	<0.050		0.050		mg/L		05/07/19 08:14	05/10/19 17:53	1
Lead	<0.00050		0.00050		mg/L		05/07/19 08:14	05/10/19 17:53	1

Lab Sample ID: LCS 500-483975/2-A
Matrix: Water
Analysis Batch: 484720

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 483975

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.504		mg/L		101	80 - 120
Arsenic	0.100	0.0997		mg/L		100	80 - 120
Barium	2.00	2.02		mg/L		101	80 - 120
Cadmium	0.0500	0.0516		mg/L		103	80 - 120
Calcium	10.0	10.0		mg/L		100	80 - 120
Chromium	0.200	0.195		mg/L		98	80 - 120
Cobalt	0.500	0.498		mg/L		100	80 - 120
Molybdenum	1.00	0.978		mg/L		98	80 - 120
Selenium	0.100	0.0994		mg/L		99	80 - 120
Thallium	0.100	0.0964		mg/L		96	80 - 120

Lab Sample ID: LCS 500-483975/2-A
Matrix: Water
Analysis Batch: 484965

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 483975

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.0500	0.0520		mg/L		104	80 - 120
Boron	1.00	0.983		mg/L		98	80 - 120
Lead	0.100	0.105		mg/L		105	80 - 120

Lab Sample ID: 500-162824-1 MS
Matrix: Water
Analysis Batch: 484720

Client Sample ID: MW-01
Prep Type: Total Recoverable
Prep Batch: 483975

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.486		mg/L		97	75 - 125
Arsenic	0.0014		0.100	0.0971		mg/L		96	75 - 125
Barium	0.039		2.00	2.02		mg/L		99	75 - 125
Cadmium	<0.00050		0.0500	0.0496		mg/L		99	75 - 125
Calcium	78		10.0	87.8	4	mg/L		93	75 - 125
Chromium	<0.0050		0.200	0.192		mg/L		95	75 - 125
Cobalt	<0.0010		0.500	0.475		mg/L		95	75 - 125
Molybdenum	<0.0050		1.00	0.930		mg/L		93	75 - 125
Selenium	<0.0025		0.100	0.0958		mg/L		96	75 - 125
Thallium	<0.0020		0.100	0.0934		mg/L		93	75 - 125

QC Sample Results

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

Job ID: 500-162824-1

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

Lab Sample ID: 500-162824-1 MS
Matrix: Water
Analysis Batch: 484965

Client Sample ID: MW-01
Prep Type: Total Recoverable
Prep Batch: 483975

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	<0.0010		0.0500	0.0467		mg/L		93	75 - 125
Boron	0.070		1.00	0.965		mg/L		90	75 - 125
Lead	0.0017		0.100	0.102		mg/L		100	75 - 125

Lab Sample ID: 500-162824-1 MSD
Matrix: Water
Analysis Batch: 484720

Client Sample ID: MW-01
Prep Type: Total Recoverable
Prep Batch: 483975

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.485		mg/L		97	75 - 125	0	20
Arsenic	0.0014		0.100	0.0931		mg/L		92	75 - 125	4	20
Barium	0.039		2.00	1.97		mg/L		97	75 - 125	2	20
Cadmium	<0.00050		0.0500	0.0494		mg/L		99	75 - 125	0	20
Calcium	78		10.0	85.4	4	mg/L		70	75 - 125	3	20
Chromium	<0.0050		0.200	0.186		mg/L		92	75 - 125	3	20
Cobalt	<0.0010		0.500	0.459		mg/L		92	75 - 125	4	20
Molybdenum	<0.0050		1.00	0.914		mg/L		91	75 - 125	2	20
Selenium	<0.0025		0.100	0.0924		mg/L		92	75 - 125	4	20
Thallium	<0.0020		0.100	0.0910		mg/L		91	75 - 125	3	20

Lab Sample ID: 500-162824-1 MSD
Matrix: Water
Analysis Batch: 484965

Client Sample ID: MW-01
Prep Type: Total Recoverable
Prep Batch: 483975

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	<0.0010		0.0500	0.0476		mg/L		95	75 - 125	2	20
Boron	0.070		1.00	0.976		mg/L		91	75 - 125	1	20
Lead	0.0017		0.100	0.103		mg/L		101	75 - 125	1	20

Lab Sample ID: 500-162824-1 DU
Matrix: Water
Analysis Batch: 484720

Client Sample ID: MW-01
Prep Type: Total Recoverable
Prep Batch: 483975

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030		<0.0030		mg/L		NC	20
Arsenic	0.0014		0.00143		mg/L		5	20
Barium	0.039		0.0380		mg/L		3	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Calcium	78		76.5		mg/L		3	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Molybdenum	<0.0050		<0.0050		mg/L		NC	20
Selenium	<0.0025		<0.0025		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20

QC Sample Results

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

Job ID: 500-162824-1

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

Lab Sample ID: 500-162824-1 DU
Matrix: Water
Analysis Batch: 484965

Client Sample ID: MW-01
Prep Type: Total Recoverable
Prep Batch: 483975

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Boron	0.070		0.0576		mg/L		19	20
Lead	0.0017		0.00164		mg/L		4	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-485450/12-A
Matrix: Water
Analysis Batch: 485704

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 485450

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/15/19 10:20	05/16/19 08:09	1

Lab Sample ID: LCS 500-485450/13-A
Matrix: Water
Analysis Batch: 485704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 485450

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00200		mg/L		100	80 - 120

Lab Sample ID: 500-162824-6 MS
Matrix: Water
Analysis Batch: 485704

Client Sample ID: MW-08
Prep Type: Total/NA
Prep Batch: 485450

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020		0.00100	0.00101		mg/L		101	75 - 125

Lab Sample ID: 500-162824-6 MSD
Matrix: Water
Analysis Batch: 485704

Client Sample ID: MW-08
Prep Type: Total/NA
Prep Batch: 485450

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00020		0.00100	0.000965		mg/L		96	75 - 125	4	20

Lab Sample ID: 500-162824-6 DU
Matrix: Water
Analysis Batch: 485704

Client Sample ID: MW-08
Prep Type: Total/NA
Prep Batch: 485450

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

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

Lab Sample ID: MB 500-483709/1
Matrix: Water
Analysis Batch: 483709

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/06/19 01:54	1

QC Sample Results

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

Job ID: 500-162824-1

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

Lab Sample ID: LCS 500-483709/2
Matrix: Water
Analysis Batch: 483709

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	274		mg/L		110	80 - 120

Lab Sample ID: 500-162824-1 DU
Matrix: Water
Analysis Batch: 483709

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	450		434		mg/L		3	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-484846/83
Matrix: Water
Analysis Batch: 484846

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/11/19 08:50	1

Lab Sample ID: LCS 500-484846/84
Matrix: Water
Analysis Batch: 484846

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	50.7		mg/L		101	85 - 115

Lab Sample ID: MB 500-485974/4
Matrix: Water
Analysis Batch: 485974

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/17/19 20:11	1

Lab Sample ID: LCS 500-485974/5
Matrix: Water
Analysis Batch: 485974

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	50.4		mg/L		101	85 - 115

Lab Sample ID: MB 500-485996/9
Matrix: Water
Analysis Batch: 485996

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/17/19 21:52	1

QC Sample Results

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

Job ID: 500-162824-1

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

Lab Sample ID: LCS 500-485996/10
Matrix: Water
Analysis Batch: 485996

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		

Lab Sample ID: 500-162824-4 MS
Matrix: Water
Analysis Batch: 485996

Client Sample ID: MW-04
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	48		50.0	90.2		mg/L		84	75 - 125		

Lab Sample ID: 500-162824-4 MSD
Matrix: Water
Analysis Batch: 485996

Client Sample ID: MW-04
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	48		50.0	93.7		mg/L		91	75 - 125	4	20

Lab Sample ID: 500-162824-12 MS
Matrix: Water
Analysis Batch: 485996

Client Sample ID: MW-17
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	190		50.0	228		mg/L		83	75 - 125		

Lab Sample ID: 500-162824-12 MSD
Matrix: Water
Analysis Batch: 485996

Client Sample ID: MW-17
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	190		50.0	226		mg/L		77	75 - 125	1	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-485004/31
Matrix: Water
Analysis Batch: 485004

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			05/11/19 12:57	1

Lab Sample ID: LCS 500-485004/32
Matrix: Water
Analysis Batch: 485004

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	10.5		mg/L		105	80 - 120		

QC Sample Results

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

Job ID: 500-162824-1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: MB 500-485172/31
Matrix: Water
Analysis Batch: 485172

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			05/13/19 19:45	1

Lab Sample ID: LCS 500-485172/32
Matrix: Water
Analysis Batch: 485172

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.4		mg/L		104	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-440971/6
Matrix: Water
Analysis Batch: 440971

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/14/19 12:26	1

Lab Sample ID: LCS 400-440971/7
Matrix: Water
Analysis Batch: 440971

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	14.4		mg/L		96	90 - 110

Lab Sample ID: MRL 400-440971/3
Matrix: Water
Analysis Batch: 440971

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	<5.0		mg/L		87	50 - 150

Lab Sample ID: 500-162824-13 MS
Matrix: Water
Analysis Batch: 440971

Client Sample ID: MW-18
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	170		10.0	173	4	mg/L		20	77 - 128

Lab Sample ID: 500-162824-13 MSD
Matrix: Water
Analysis Batch: 440971

Client Sample ID: MW-18
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	170		10.0	172	4	mg/L		12	77 - 128	0	5

QC Sample Results

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

Job ID: 500-162824-1

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

Lab Sample ID: MB 400-441150/6
Matrix: Water
Analysis Batch: 441150

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/16/19 11:01	1

Lab Sample ID: LCS 400-441150/7
Matrix: Water
Analysis Batch: 441150

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	14.3		mg/L		95	90 - 110		

Lab Sample ID: MRL 400-441150/3
Matrix: Water
Analysis Batch: 441150

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	<5.0		mg/L		95	50 - 150		

Lab Chronicle

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

Job ID: 500-162824-1

Client Sample ID: MW-01

Date Collected: 04/30/19 13:25
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6010C		1	484171	05/07/19 18:33	EEN	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 18:00	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 02:37	FXG	TAL CHI
Total/NA	Prep	7470A			485450	05/15/19 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	485704	05/16/19 08:22	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	483709	05/06/19 02:06	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	484846	05/11/19 09:12	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485004	05/11/19 13:06	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		1	440971	05/14/19 12:33	RRC	TAL PEN

Client Sample ID: MW-02

Date Collected: 04/30/19 09:45
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6010C		1	484171	05/07/19 18:53	EEN	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 18:30	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 03:06	FXG	TAL CHI
Total/NA	Prep	7470A			485450	05/15/19 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	485704	05/16/19 08:28	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	483709	05/06/19 02:12	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	484846	05/11/19 09:12	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485172	05/13/19 20:22	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		1	440971	05/14/19 12:33	RRC	TAL PEN

Client Sample ID: MW-03

Date Collected: 04/30/19 10:50
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6010C		1	484171	05/07/19 18:57	EEN	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 18:34	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 03:10	FXG	TAL CHI
Total/NA	Prep	7470A			485450	05/15/19 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	485704	05/16/19 08:29	MJG	TAL CHI

Lab Chronicle

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

Job ID: 500-162824-1

Client Sample ID: MW-03

Lab Sample ID: 500-162824-3
Matrix: Water
Date Collected: 04/30/19 10:50
Date Received: 05/04/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	483709	05/06/19 02:14	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	485996	05/17/19 22:02	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485172	05/13/19 20:25	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		2	440971	05/14/19 13:57	RRC	TAL PEN

Client Sample ID: MW-04

Lab Sample ID: 500-162824-4
Matrix: Water
Date Collected: 04/30/19 11:40
Date Received: 05/04/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6010C		1	484171	05/07/19 19:01	EEN	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 18:38	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 03:14	FXG	TAL CHI
Total/NA	Prep	7470A			485450	05/15/19 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	485704	05/16/19 08:31	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	483709	05/06/19 02:17	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	485996	05/17/19 22:03	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485172	05/13/19 20:28	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		1	440971	05/14/19 12:40	RRC	TAL PEN

Client Sample ID: MW-05

Lab Sample ID: 500-162824-5
Matrix: Water
Date Collected: 04/30/19 12:30
Date Received: 05/04/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6010C		1	484171	05/07/19 19:05	EEN	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 18:42	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 03:19	FXG	TAL CHI
Total/NA	Prep	7470A			485450	05/15/19 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	485704	05/16/19 08:32	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	483709	05/06/19 02:19	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	485996	05/17/19 22:06	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485172	05/13/19 20:31	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	440971	05/14/19 13:57	RRC	TAL PEN

Lab Chronicle

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

Job ID: 500-162824-1

Client Sample ID: MW-08

Date Collected: 05/01/19 15:35
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6010C		1	484171	05/07/19 19:09	EEN	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 18:45	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 03:23	FXG	TAL CHI
Total/NA	Prep	7470A			485450	05/15/19 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	485704	05/16/19 08:34	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	483709	05/06/19 02:22	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	485996	05/17/19 22:06	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485172	05/13/19 20:34	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	441150	05/16/19 11:37	RRC	TAL PEN

Client Sample ID: MW-09

Date Collected: 05/01/19 13:15
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6010C		1	484171	05/07/19 19:21	EEN	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		10	484965	05/10/19 18:49	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 19:42	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 03:27	FXG	TAL CHI
Total/NA	Prep	7470A			485450	05/15/19 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	485704	05/16/19 08:40	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	483709	05/06/19 02:25	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	485974	05/17/19 20:32	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485172	05/13/19 20:38	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	440971	05/14/19 14:02	RRC	TAL PEN

Client Sample ID: MW-10

Date Collected: 05/01/19 09:30
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6010C		1	484171	05/07/19 19:25	EEN	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 19:00	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 03:39	FXG	TAL CHI

Lab Chronicle

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

Job ID: 500-162824-1

Client Sample ID: MW-10
Date Collected: 05/01/19 09:30
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			485450	05/15/19 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	485704	05/16/19 08:42	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	483709	05/06/19 02:27	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	485974	05/17/19 20:32	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485172	05/13/19 20:41	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		1	440971	05/14/19 12:40	RRC	TAL PEN

Client Sample ID: MW-11
Date Collected: 05/01/19 10:25
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6010C		1	484171	05/07/19 19:29	EEN	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	484965	05/10/19 19:04	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 19:46	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 03:44	FXG	TAL CHI
Total/NA	Prep	7470A			485450	05/15/19 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	485704	05/16/19 08:48	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	483709	05/06/19 02:30	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	485974	05/17/19 20:33	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485172	05/13/19 20:45	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	440971	05/14/19 14:06	RRC	TAL PEN

Client Sample ID: MW-12
Date Collected: 05/01/19 11:55
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6010C		1	484171	05/07/19 19:33	EEN	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 19:08	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 03:48	FXG	TAL CHI
Total/NA	Prep	7470A			485450	05/15/19 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	485704	05/16/19 08:49	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	483709	05/06/19 02:32	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	485974	05/17/19 20:57	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485172	05/13/19 20:57	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	440971	05/14/19 14:06	RRC	TAL PEN

Lab Chronicle

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

Job ID: 500-162824-1

Client Sample ID: MW-15

Date Collected: 05/02/19 12:15
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6010C		1	484171	05/07/19 19:37	EEN	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	484965	05/10/19 19:12	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 19:49	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 03:52	FXG	TAL CHI
Total/NA	Prep	7470A			485450	05/15/19 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	485704	05/16/19 08:51	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	483709	05/06/19 02:35	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	485996	05/17/19 22:57	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485172	05/13/19 21:00	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		30	440971	05/14/19 17:14	RRC	TAL PEN

Client Sample ID: MW-17

Date Collected: 04/29/19 15:20
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6010C		1	484171	05/07/19 19:42	EEN	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 19:16	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 03:56	FXG	TAL CHI
Total/NA	Prep	7470A			485450	05/15/19 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	485704	05/16/19 08:52	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	483709	05/06/19 02:37	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	485996	05/17/19 22:57	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485172	05/13/19 21:04	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		30	440971	05/15/19 10:19	RRC	TAL PEN

Client Sample ID: MW-18

Date Collected: 04/29/19 14:25
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6010C		1	484171	05/07/19 19:46	EEN	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 19:19	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 04:00	FXG	TAL CHI

Lab Chronicle

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

Job ID: 500-162824-1

Client Sample ID: MW-18
Date Collected: 04/29/19 14:25
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			485450	05/15/19 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	485704	05/16/19 08:54	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	483709	05/06/19 02:40	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	485974	05/17/19 20:56	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485172	05/13/19 21:07	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	440971	05/14/19 14:02	RRC	TAL PEN

Client Sample ID: MW-19
Date Collected: 05/02/19 10:30
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6010C		1	484171	05/07/19 19:50	EEN	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		10	484965	05/10/19 19:23	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 19:53	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 04:04	FXG	TAL CHI
Total/NA	Prep	7470A			485450	05/15/19 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	485704	05/16/19 08:55	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	483709	05/06/19 02:43	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	485974	05/17/19 20:27	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485172	05/13/19 21:10	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	440971	05/14/19 14:06	RRC	TAL PEN

Client Sample ID: Duplicate
Date Collected: 04/29/19 00:00
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6010C		1	484171	05/07/19 19:54	EEN	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	484965	05/10/19 19:27	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 19:57	FXG	TAL CHI
Total Recoverable	Prep	3005A			483975	05/07/19 08:14	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 04:08	FXG	TAL CHI
Total/NA	Prep	7470A			485450	05/15/19 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	485704	05/16/19 08:57	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	483709	05/06/19 02:45	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	485974	05/17/19 20:56	EAT	TAL CHI

Lab Chronicle

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

Job ID: 500-162824-1

Client Sample ID: Duplicate

Date Collected: 04/29/19 00:00
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	485172	05/13/19 21:12	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	440971	05/15/19 10:19	RRC	TAL PEN

Laboratory References:

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

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

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

Job ID: 500-162824-1

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	05-30-19 *

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL
Phone: 708.534.5200 Fax: 708.5

500-162824 COC

Chain of Custody Record

Lab Job #: 500-162824

Chain of Custody Number:

Page 1 of 2

Temperature °C of Cooler: 3.7, 4.7, 2.3 5.3

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

Client: KPRG and Assoc.	Client Project #: 12313.1
Project Name: NRG Powerton CCR	
Project Location/State: Pekin, IL	Lab Project #:
Sampler: Mitchel Dolan	Lab PM: Eric Lang

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	3							Comments
							Parameter	Total Metals	Cl, Fl, SO4, TDS	Rad 226/228							
1		MW-01	4/30	1325	5	W		X	X	X							
2		MW-02	4/30	0945													
3		MW-03	4/30	1050													
4		MW-04	4/30	1140													
5		MW-05	4/30	1230													
6		MW-08	5/1	1535													
7		MW-09	5/1	1315													
8		MW-10	5/1	0930													
9		MW-11	5/1	1025													
10		MW-12	5/1	1155	↓	↓		↓	↓	↓							

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	5/2/2019	1700	FEDEX		5/2/2019	1700
				Neil Fioravanti	TACHE	05/04/19	0930

Lab Courier
Shipped FX SATURDAY
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)

5/22/2019

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 #: 500-16282-4

Chain of Custody Number:

Page 2 of 2

Temperature °C of Cooler: 3.7, 4.7, 2.3, 5.3

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

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

Client: KPRG and Assoc. | Client Project #: 12313.1
Project Name: IVRG Powerton CCR
Project Location/State: Pekin, IL | Lab Project #:
Sampler: Mitchel Dolan | Lab PM: Eric Lang

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	3							Comments
							Parameter	Total Metals	Cl, Fl, SO4, TDS	Rad 226/228							
11		MW-15	5/2	1215	5	W											
12		MW-17	4/29	1520													
13		MW-18	4/29	1425													
14		MW-19	5/2	1030													
15		DUPLICATE	—	—													

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	5/2/2019	1700	FEDEX		5/2/2019	1700
				[signature]	TMHE	05/04/19	0930

Lab Courier
Shipped F/SATurday
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 (1309)

5/22/2019

ORIGIN ID:PIAA (262) 622-1143
KPRG
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 02MAY19
ACTWGT: 61.40 LB
CAD: 006894780/SSFE2002
DIMS: 24x14x14 IN
BILL THIRD PARTY

TO ERIC LANG
TEST AMERICA
2417 BOND ST
UNIVERSITY PARK IL 60484

500-162824 Waybill

(000) 000-0000 REF:
INV:
PO: DEPT:

FedEx Express
E
REL# 3765346
J19101061019V

SATURDAY 4:30P
** 2DAY **

8 of 9
MPS# 0263 7870 1648 7850
Mstr# 7870 1648 7780
0201

60484
IL-US ORD

SO JOTA

ORIGIN ID:PIAA (262) 622-1143
KPRG
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 02MAY19
ACTWGT: 64.10 LB
CAD: 006894 SSFE2002
DIMS: 24

TO ERIC LANG
TEST AMERICA
2417 BOND ST
UNIVERSITY PARK

(000) 000-0000 REF:
INV:
PO: DEPT:

FedEx Express
E
REL# 3765346

SATURDAY 4:30P
** 2DAY **

1 of 9
TRK# 0201 7870 1648 7780
MASTER

60484
IL-US ORD

SO JOTA

ORIGIN ID:PIAA (262) 622-1143
KPRG
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 02MAY19
ACTWGT: 57.90 LB
CAD: 006994780/SSFE2002
DIMS: 24x14x14 IN
BILL THIRD PARTY

TO ERIC LANG
TEST AMERICA
2417 BOND ST

UNIVERSITY PARK IL 60484
(000) 000-0000 REF:
INV:
PO: DEPT:

FedEx Express

E

REL# 3765346

6 of 9

SATURDAY 4:30P
** 2DAY **

MPS# 0263 7870 1648 7838
Mstr# 7870 1648 7780 0201

SO JOTA

60484
IL-US ORD

ORIGIN ID:PIAA (262) 622-1143
KPRG
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 02MAY19
ACTWGT: 60.00 LB
CAD: 006994780/SSFE2002
DIMS: 24x14x14 IN
BILL THIRD PARTY

TO ERIC LANG
TEST AMERICA
2417 BOND ST

UNIVERSITY PARK IL 60484
(000) 000-0000 REF:
INV:
PO: DEPT:

FedEx Express

E

REL# 3765346

5 of 9

SATURDAY 4:30P
** 2DAY **

MPS# 0263 7870 1648 7827
Mstr# 7870 1648 7780 0201

SO JOTA

60484
IL-US ORD

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-120630.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-162824-1
Address: 3355 McLemore Drive,	Due Date Requested: 5/17/2019			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Powerton CCR	Project #: 50011612			
Site: MWG - Powerton	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-01 (500-162824-1)	4/30/19	13:25 Central		Water			X	1	
MW-02 (500-162824-2)	4/30/19	09:45 Central		Water			X	1	
MW-03 (500-162824-3)	4/30/19	10:50 Central		Water			X	1	
MW-04 (500-162824-4)	4/30/19	11:40 Central		Water			X	1	
MW-05 (500-162824-5)	4/30/19	12:30 Central		Water			X	1	
MW-08 (500-162824-6)	5/1/19	15:35 Central		Water			X	1	
MW-09 (500-162824-7)	5/1/19	13:15 Central		Water			X	1	
MW-10 (500-162824-8)	5/1/19	09:30 Central		Water			X	1	
MW-11 (500-162824-9)	5/1/19	10:25 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	5/6/19 1500	TA	Kathy R Auer	5-7-19 851	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.9°IR7

Ver: 01/16/2019

5/22/2019

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-120630.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-162824-1
Address: 3355 McLemore Drive,	Due Date Requested: 5/17/2019			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Powerton CCR	Project #: 50011612			
Site: MWG - Powerton	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-12 (500-162824-10)	5/1/19	11:55 Central		Water			X	1	
MW-15 (500-162824-11)	5/2/19	12:15 Central		Water			X	1	
MW-17 (500-162824-12)	4/29/19	15:20 Central		Water			X	1	
MW-18 (500-162824-13)	4/29/19	14:25 Central		Water			X	1	
MW-19 (500-162824-14)	5/2/19	10:30 Central		Water			X	1	
Duplicate (500-162824-15)	4/29/19	Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	5/6/19 1500	TA	Kathy R Auer	5-7-19 851	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.4°C IR7

Ver: 01/16/2019

5/22/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-162824-1

Login Number: 162824
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins 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	3.7,4.7,5.3,2.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-162824-1

Login Number: 162824
List Number: 2
Creator: Avery, Kathy R

List Source: Eurofins TestAmerica, Pensacola
List Creation: 05/07/19 05:40 PM

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.	N/A	Not Present
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	0.9°C IR 7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-162824-2
Client Project/Site: Powerton CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
8/15/2019 1:57:27 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: Powerton CCR

Job ID: 500-162824-2

Job ID: 500-162824-2

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-162824-2

Comments
No additional comments.

Receipt
The samples were received on 5/4/2019 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.3º C, 3.7º C, 4.7º C and 5.3º C.

RAD
Method(s) 904.0, 9320: Ra-228 Prep Batch 160-430397
The Ra-228 recovery in the LCS was slightly low (72) outside QC limits (75%-125%) indicating a potential slight low bias to the sample results. The barium recovery in the LCS (107%) and the Replicate Error Ratio (RER) were within limits demonstrating acceptable method performance.
MW-01 (500-162824-1), MW-02 (500-162824-2), MW-03 (500-162824-3), MW-04 (500-162824-4), MW-05 (500-162824-5), MW-08 (500-162824-6), MW-09 (500-162824-7), MW-10 (500-162824-8), MW-11 (500-162824-9), (LCS 160-430397/1-A), (MB 160-430397/23-A) and (500-162824-C-1-B DU)

Method(s) PrecSep_0: Radium 228 Prep Batch 160-430139
The following samples had yellow discoloration:MW-12 (500-162824-10), MW-17 (500-162824-12) and MW-18 (500-162824-13). Sample 500-162824-C-10 had brown solids.

Method(s) PrecSep_0: Radium 228 Prep Batch 160-430397
The following samples were prepared at a reduced aliquot due to cloudy discoloration: MW-10 (500-162824-8) and MW-11 (500-162824-9).

Method(s) PrecSep-21: Radium 226 Prep Batch 160-430133
The following samples had white discoloration:MW-12 (500-162824-10), MW-17 (500-162824-12) and MW-18 (500-162824-13). Sample 500-162824-C-10 had brown solids.

Method(s) PrecSep-21: Radium 226 Prep Batch 160-430235
The following samples were prepared at a reduced aliquot due to cloudy discoloration: MW-10 (500-162824-8) and MW-11 (500-162824-9).

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

Method Summary

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

Job ID: 500-162824-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

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

Job ID: 500-162824-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-162824-1	MW-01	Water	04/30/19 13:25	05/04/19 09:30	
500-162824-2	MW-02	Water	04/30/19 09:45	05/04/19 09:30	
500-162824-3	MW-03	Water	04/30/19 10:50	05/04/19 09:30	
500-162824-4	MW-04	Water	04/30/19 11:40	05/04/19 09:30	
500-162824-5	MW-05	Water	04/30/19 12:30	05/04/19 09:30	
500-162824-6	MW-08	Water	05/01/19 15:35	05/04/19 09:30	
500-162824-7	MW-09	Water	05/01/19 13:15	05/04/19 09:30	
500-162824-8	MW-10	Water	05/01/19 09:30	05/04/19 09:30	
500-162824-9	MW-11	Water	05/01/19 10:25	05/04/19 09:30	
500-162824-10	MW-12	Water	05/01/19 11:55	05/04/19 09:30	
500-162824-11	MW-15	Water	05/02/19 12:15	05/04/19 09:30	
500-162824-12	MW-17	Water	04/29/19 15:20	05/04/19 09:30	
500-162824-13	MW-18	Water	04/29/19 14:25	05/04/19 09:30	
500-162824-14	MW-19	Water	05/02/19 10:30	05/04/19 09:30	
500-162824-15	Duplicate	Water	04/29/19 00:00	05/04/19 09:30	

Client Sample Results

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

Job ID: 500-162824-2

Client Sample ID: MW-01

Date Collected: 04/30/19 13:25
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-1

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0249	U	0.0545	0.0545	1.00	0.121	pCi/L	05/30/19 10:35	08/13/19 21:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.1*		*40 - 110*	*05/30/19 10:35*	*08/13/19 21:10*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.000	U *	0.369	0.369	1.00	0.656	pCi/L	05/31/19 10:52	07/23/19 14:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.1*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:24*	*1*
Y Carrier	*75.5*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:24*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0249	U	0.373	0.373	5.00	0.656	pCi/L		08/15/19 09:45	1

Client Sample Results

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

Job ID: 500-162824-2

Client Sample ID: MW-02

Date Collected: 04/30/19 09:45
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0445	U	0.0705	0.0707	1.00	0.121	pCi/L	05/30/19 10:35	08/13/19 21:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.5*		*40 - 110*	*05/30/19 10:35*	*08/13/19 21:10*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.171	U *	0.262	0.262	1.00	0.441	pCi/L	05/31/19 10:52	07/23/19 14:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.5*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:25*	*1*
Y Carrier	*76.6*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:25*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.215	U	0.271	0.271	5.00	0.441	pCi/L		08/15/19 09:45	1

Client Sample Results

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

Job ID: 500-162824-2

Client Sample ID: MW-03

Date Collected: 04/30/19 10:50
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0298	U	0.0613	0.0613	1.00	0.111	pCi/L	05/30/19 10:35	08/13/19 21:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.0*		*40 - 110*	*05/30/19 10:35*	*08/13/19 21:11*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0589	U *	0.366	0.366	1.00	0.668	pCi/L	05/31/19 10:52	07/23/19 14:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.0*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:25*	*1*
Y Carrier	*73.3*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:25*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0291	U	0.371	0.371	5.00	0.668	pCi/L		08/15/19 09:45	1

Client Sample Results

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

Job ID: 500-162824-2

Client Sample ID: MW-04

Date Collected: 04/30/19 11:40
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0600	U	0.0531	0.0534	1.00	0.130	pCi/L	05/30/19 10:35	08/14/19 06:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.6*		*40 - 110*	*05/30/19 10:35*	*08/14/19 06:57*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.260	U *	0.408	0.409	1.00	0.684	pCi/L	05/31/19 10:52	07/23/19 14:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.6*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:29*	*1*
Y Carrier	*80.4*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:29*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.200	U	0.411	0.412	5.00	0.684	pCi/L		08/15/19 09:45	1

Client Sample Results

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

Job ID: 500-162824-2

Client Sample ID: MW-05

Date Collected: 04/30/19 12:30
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.115	U	0.0338	0.0354	1.00	0.136	pCi/L	05/30/19 10:35	08/13/19 21:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.7*		*40 - 110*	*05/30/19 10:35*	*08/13/19 21:11*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.325	U *	0.427	0.428	1.00	0.709	pCi/L	05/31/19 10:52	07/23/19 14:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.7*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:29*	*1*
Y Carrier	*77.8*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:29*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.209	U	0.428	0.429	5.00	0.709	pCi/L		08/15/19 09:45	1

Client Sample Results

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

Job ID: 500-162824-2

Client Sample ID: MW-08

Date Collected: 05/01/19 15:35
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-6

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0735	U	0.0635	0.0638	1.00	0.0942	pCi/L	05/30/19 10:35	08/13/19 21:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.1*		*40 - 110*	*05/30/19 10:35*	*08/13/19 21:11*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.819**	*	0.427	0.433	1.00	0.639	pCi/L	05/31/19 10:52	07/23/19 14:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.1*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:29*	*1*
Y Carrier	*74.4*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:29*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.892**		0.432	0.438	5.00	0.639	pCi/L		08/15/19 09:45	1

Client Sample Results

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

Job ID: 500-162824-2

Client Sample ID: MW-09

Date Collected: 05/01/19 13:15
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-7

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0249	U	0.0422	0.0422	1.00	0.108	pCi/L	05/30/19 10:35	08/13/19 21:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.0*		*40 - 110*	*05/30/19 10:35*	*08/13/19 21:11*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.606	U *	0.422	0.426	1.00	0.660	pCi/L	05/31/19 10:52	07/23/19 14:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.0*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:29*	*1*
Y Carrier	*78.1*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:29*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.581	U	0.424	0.428	5.00	0.660	pCi/L		08/15/19 09:45	1

Client Sample Results

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

Job ID: 500-162824-2

Client Sample ID: MW-10

Date Collected: 05/01/19 09:30
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-8

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.491		0.142	0.148	1.00	0.131	pCi/L	05/30/19 10:35	08/13/19 21:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.1*		*40 - 110*	*05/30/19 10:35*	*08/13/19 21:11*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.834	*	0.468	0.474	1.00	0.706	pCi/L	05/31/19 10:52	07/23/19 14:32	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.1*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:32*	*1*
Y Carrier	*74.0*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:32*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.33		0.489	0.497	5.00	0.706	pCi/L		08/15/19 09:45	1

Client Sample Results

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

Job ID: 500-162824-2

Client Sample ID: MW-11

Date Collected: 05/01/19 10:25
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-9

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.679		0.171	0.182	1.00	0.137	pCi/L	05/30/19 10:35	08/13/19 21:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.0*		*40 - 110*	*05/30/19 10:35*	*08/13/19 21:11*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.906	*	0.490	0.497	1.00	0.733	pCi/L	05/31/19 10:52	07/23/19 14:32	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.0*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:32*	*1*
Y Carrier	*76.3*		*40 - 110*	*05/31/19 10:52*	*07/23/19 14:32*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.59		0.519	0.529	5.00	0.733	pCi/L		08/15/19 09:45	1

Client Sample Results

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

Job ID: 500-162824-2

Client Sample ID: MW-12

Date Collected: 05/01/19 11:55
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-10

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.309**		0.0978	0.102	1.00	0.0781	pCi/L	05/29/19 11:23	08/03/19 12:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.7*		*40 - 110*	*05/29/19 11:23*	*08/03/19 12:56*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.358	U	0.277	0.279	1.00	0.439	pCi/L	05/29/19 12:41	07/17/19 08:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.7*		*40 - 110*	*05/29/19 12:41*	*07/17/19 08:46*	*1*
Y Carrier	*86.4*		*40 - 110*	*05/29/19 12:41*	*07/17/19 08:46*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.666**		0.294	0.297	5.00	0.439	pCi/L		08/06/19 11:03	1

Client Sample Results

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

Job ID: 500-162824-2

Client Sample ID: MW-15

Date Collected: 05/02/19 12:15
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-11

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0738	U	0.0681	0.0684	1.00	0.105	pCi/L	05/29/19 11:23	08/03/19 12:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.1*		*40 - 110*	*05/29/19 11:23*	*08/03/19 12:56*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.204	U	0.256	0.257	1.00	0.424	pCi/L	05/29/19 12:41	07/17/19 08:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.1*		*40 - 110*	*05/29/19 12:41*	*07/17/19 08:46*	*1*
Y Carrier	*88.6*		*40 - 110*	*05/29/19 12:41*	*07/17/19 08:46*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.278	U	0.265	0.266	5.00	0.424	pCi/L		08/06/19 11:03	1

Client Sample Results

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

Job ID: 500-162824-2

Client Sample ID: MW-17

Date Collected: 04/29/19 15:20
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-12

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.120**		0.0667	0.0675	1.00	0.0798	pCi/L	05/29/19 11:23	08/03/19 13:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.8*		*40 - 110*	*05/29/19 11:23*	*08/03/19 13:00*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.397	U	0.265	0.267	1.00	0.411	pCi/L	05/29/19 12:41	07/17/19 08:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.8*		*40 - 110*	*05/29/19 12:41*	*07/17/19 08:47*	*1*
Y Carrier	*89.7*		*40 - 110*	*05/29/19 12:41*	*07/17/19 08:47*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.517**		0.273	0.275	5.00	0.411	pCi/L		08/06/19 11:03	1

Client Sample Results

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

Job ID: 500-162824-2

Client Sample ID: MW-18

Date Collected: 04/29/19 14:25
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-13

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.220		0.0987	0.101	1.00	0.112	pCi/L	05/29/19 11:23	08/03/19 13:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.4*		*40 - 110*	*05/29/19 11:23*	*08/03/19 13:00*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.122	U	0.261	0.261	1.00	0.445	pCi/L	05/29/19 12:41	07/17/19 08:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.4*		*40 - 110*	*05/29/19 12:41*	*07/17/19 08:47*	*1*
Y Carrier	*89.7*		*40 - 110*	*05/29/19 12:41*	*07/17/19 08:47*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.342	U	0.279	0.280	5.00	0.445	pCi/L		08/06/19 11:03	1

Client Sample Results

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

Job ID: 500-162824-2

Client Sample ID: MW-19

Date Collected: 05/02/19 10:30
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-14

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.129		0.0694	0.0704	1.00	0.0795	pCi/L	05/29/19 11:23	08/03/19 14:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.7*		*40 - 110*	*05/29/19 11:23*	*08/03/19 14:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.175	U	0.257	0.257	1.00	0.431	pCi/L	05/29/19 12:41	07/17/19 08:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.7*		*40 - 110*	*05/29/19 12:41*	*07/17/19 08:47*	*1*
Y Carrier	*88.2*		*40 - 110*	*05/29/19 12:41*	*07/17/19 08:47*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.304	U	0.266	0.266	5.00	0.431	pCi/L		08/06/19 11:03	1

Client Sample Results

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

Job ID: 500-162824-2

Client Sample ID: Duplicate

Date Collected: 04/29/19 00:00
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.165		0.0830	0.0843	1.00	0.103	pCi/L	05/29/19 11:23	08/03/19 14:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.7*		*40 - 110*	*05/29/19 11:23*	*08/03/19 14:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.134	U	0.230	0.230	1.00	0.390	pCi/L	05/29/19 12:41	07/17/19 08:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.7*		*40 - 110*	*05/29/19 12:41*	*07/17/19 08:47*	*1*
Y Carrier	*87.9*		*40 - 110*	*05/29/19 12:41*	*07/17/19 08:47*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.298	U	0.245	0.245	5.00	0.390	pCi/L		08/06/19 11:04	1

Definitions/Glossary

Client: KPRG and Associates, Inc. Job ID: 500-162824-2
Project/Site: Powerton CCR

Qualifiers

Rad

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
U	Result is less than the sample detection limit.

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: Powerton CCR

Job ID: 500-162824-2

Rad

Prep Batch: 430133

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-10	MW-12	Total/NA	Water	PrecSep-21	
500-162824-11	MW-15	Total/NA	Water	PrecSep-21	
500-162824-12	MW-17	Total/NA	Water	PrecSep-21	
500-162824-13	MW-18	Total/NA	Water	PrecSep-21	
500-162824-14	MW-19	Total/NA	Water	PrecSep-21	
500-162824-15	Duplicate	Total/NA	Water	PrecSep-21	
MB 160-430133/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-430133/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 430139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-10	MW-12	Total/NA	Water	PrecSep_0	
500-162824-11	MW-15	Total/NA	Water	PrecSep_0	
500-162824-12	MW-17	Total/NA	Water	PrecSep_0	
500-162824-13	MW-18	Total/NA	Water	PrecSep_0	
500-162824-14	MW-19	Total/NA	Water	PrecSep_0	
500-162824-15	Duplicate	Total/NA	Water	PrecSep_0	
MB 160-430139/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-430139/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 430235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-1	MW-01	Total/NA	Water	PrecSep-21	
500-162824-2	MW-02	Total/NA	Water	PrecSep-21	
500-162824-3	MW-03	Total/NA	Water	PrecSep-21	
500-162824-4	MW-04	Total/NA	Water	PrecSep-21	
500-162824-5	MW-05	Total/NA	Water	PrecSep-21	
500-162824-6	MW-08	Total/NA	Water	PrecSep-21	
500-162824-7	MW-09	Total/NA	Water	PrecSep-21	
500-162824-8	MW-10	Total/NA	Water	PrecSep-21	
500-162824-9	MW-11	Total/NA	Water	PrecSep-21	
MB 160-430235/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-430235/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
500-162824-1 DU	MW-01	Total/NA	Water	PrecSep-21	

Prep Batch: 430397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162824-1	MW-01	Total/NA	Water	PrecSep_0	
500-162824-2	MW-02	Total/NA	Water	PrecSep_0	
500-162824-3	MW-03	Total/NA	Water	PrecSep_0	
500-162824-4	MW-04	Total/NA	Water	PrecSep_0	
500-162824-5	MW-05	Total/NA	Water	PrecSep_0	
500-162824-6	MW-08	Total/NA	Water	PrecSep_0	
500-162824-7	MW-09	Total/NA	Water	PrecSep_0	
500-162824-8	MW-10	Total/NA	Water	PrecSep_0	
500-162824-9	MW-11	Total/NA	Water	PrecSep_0	
MB 160-430397/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-430397/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
500-162824-1 DU	MW-01	Total/NA	Water	PrecSep_0	

QC Sample Results

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

Job ID: 500-162824-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-430133/23-A
Matrix: Water
Analysis Batch: 438092

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 430133

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.03041	U	0.0531	0.0531	1.00	0.120	pCi/L	05/29/19 11:23	08/04/19 21:19	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*05/29/19 11:23*	*08/04/19 21:19*	*1*

Lab Sample ID: LCS 160-430133/1-A
Matrix: Water
Analysis Batch: 437770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 430133

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	8.842		0.939	1.00	0.103	pCi/L	78	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*103*		*40 - 110*

Lab Sample ID: MB 160-430235/23-A
Matrix: Water
Analysis Batch: 439426

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 430235

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.005455	U	0.0525	0.0525	1.00	0.107	pCi/L	05/30/19 10:35	08/13/19 23:00	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.9*		*40 - 110*	*05/30/19 10:35*	*08/13/19 23:00*	*1*

Lab Sample ID: LCS 160-430235/1-A
Matrix: Water
Analysis Batch: 439308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 430235

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	8.579		0.902	1.00	0.103	pCi/L	76	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*

Lab Sample ID: 500-162824-1 DU
Matrix: Water
Analysis Batch: 439426

Client Sample ID: MW-01
Prep Type: Total/NA
Prep Batch: 430235

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	-0.0249	U		0.02744	U	0.0559	1.00	0.100	pCi/L			0.47	1

QC Sample Results

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

Job ID: 500-162824-2

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: 500-162824-1 DU
Matrix: Water
Analysis Batch: 439426

Client Sample ID: MW-01
Prep Type: Total/NA
Prep Batch: 430235

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	88.7		40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-430139/23-A
Matrix: Water
Analysis Batch: 435082

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 430139

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3048	U	0.265	0.267	1.00	0.426	pCi/L	05/29/19 12:41	07/17/19 08:57	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110	05/29/19 12:41	07/17/19 08:57	1
Y Carrier	82.6		40 - 110	05/29/19 12:41	07/17/19 08:57	1

Lab Sample ID: LCS 160-430139/1-A
Matrix: Water
Analysis Batch: 435081

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 430139

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.02	8.352		0.988	1.00	0.440	pCi/L	93	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	103		40 - 110
Y Carrier	87.1		40 - 110

Lab Sample ID: MB 160-430397/23-A
Matrix: Water
Analysis Batch: 435974

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 430397

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.03968	U	0.302	0.302	1.00	0.553	pCi/L	05/31/19 10:52	07/23/19 14:34	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	98.9		40 - 110	05/31/19 10:52	07/23/19 14:34	1
Y Carrier	62.8		40 - 110	05/31/19 10:52	07/23/19 14:34	1

Lab Sample ID: LCS 160-430397/1-A
Matrix: Water
Analysis Batch: 436112

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 430397

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.00	6.483	*	0.923	1.00	0.554	pCi/L	72	75 - 125		

QC Sample Results

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

Job ID: 500-162824-2

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-430397/1-A
Matrix: Water
Analysis Batch: 436112

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 430397

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	95.2		40 - 110
Y Carrier	65.8		40 - 110

Lab Sample ID: 500-162824-1 DU
Matrix: Water
Analysis Batch: 436112

Client Sample ID: MW-01
Prep Type: Total/NA
Prep Batch: 430397

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.000	U *		-0.07644	U *	0.300	1.00	0.550	pCi/L			0.11	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	88.7		40 - 110
Y Carrier	75.5		40 - 110

Lab Chronicle

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

Job ID: 500-162824-2

Client Sample ID: MW-01
Date Collected: 04/30/19 13:25
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			430235	05/30/19 10:35	ORM	TAL SL
Total/NA	Analysis	903.0		1	439426	08/13/19 21:10	CDR	TAL SL
Total/NA	Prep	PrecSep_0			430397	05/31/19 10:52	ORM	TAL SL
Total/NA	Analysis	904.0		1	436112	07/23/19 14:24	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	439616	08/15/19 09:45	SMP	TAL SL

Client Sample ID: MW-02
Date Collected: 04/30/19 09:45
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			430235	05/30/19 10:35	ORM	TAL SL
Total/NA	Analysis	903.0		1	439426	08/13/19 21:10	CDR	TAL SL
Total/NA	Prep	PrecSep_0			430397	05/31/19 10:52	ORM	TAL SL
Total/NA	Analysis	904.0		1	436112	07/23/19 14:25	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	439616	08/15/19 09:45	SMP	TAL SL

Client Sample ID: MW-03
Date Collected: 04/30/19 10:50
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			430235	05/30/19 10:35	ORM	TAL SL
Total/NA	Analysis	903.0		1	439426	08/13/19 21:11	CDR	TAL SL
Total/NA	Prep	PrecSep_0			430397	05/31/19 10:52	ORM	TAL SL
Total/NA	Analysis	904.0		1	436112	07/23/19 14:25	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	439616	08/15/19 09:45	SMP	TAL SL

Client Sample ID: MW-04
Date Collected: 04/30/19 11:40
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			430235	05/30/19 10:35	ORM	TAL SL
Total/NA	Analysis	903.0		1	439521	08/14/19 06:57	KLS	TAL SL
Total/NA	Prep	PrecSep_0			430397	05/31/19 10:52	ORM	TAL SL
Total/NA	Analysis	904.0		1	436097	07/23/19 14:29	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	439616	08/15/19 09:45	SMP	TAL SL

Lab Chronicle

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

Job ID: 500-162824-2

Client Sample ID: MW-05
Date Collected: 04/30/19 12:30
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			430235	05/30/19 10:35	ORM	TAL SL
Total/NA	Analysis	903.0		1	439426	08/13/19 21:11	CDR	TAL SL
Total/NA	Prep	PrecSep_0			430397	05/31/19 10:52	ORM	TAL SL
Total/NA	Analysis	904.0		1	436097	07/23/19 14:29	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	439616	08/15/19 09:45	SMP	TAL SL

Client Sample ID: MW-08
Date Collected: 05/01/19 15:35
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			430235	05/30/19 10:35	ORM	TAL SL
Total/NA	Analysis	903.0		1	439426	08/13/19 21:11	CDR	TAL SL
Total/NA	Prep	PrecSep_0			430397	05/31/19 10:52	ORM	TAL SL
Total/NA	Analysis	904.0		1	436097	07/23/19 14:29	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	439616	08/15/19 09:45	SMP	TAL SL

Client Sample ID: MW-09
Date Collected: 05/01/19 13:15
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			430235	05/30/19 10:35	ORM	TAL SL
Total/NA	Analysis	903.0		1	439426	08/13/19 21:11	CDR	TAL SL
Total/NA	Prep	PrecSep_0			430397	05/31/19 10:52	ORM	TAL SL
Total/NA	Analysis	904.0		1	436097	07/23/19 14:29	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	439616	08/15/19 09:45	SMP	TAL SL

Client Sample ID: MW-10
Date Collected: 05/01/19 09:30
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			430235	05/30/19 10:35	ORM	TAL SL
Total/NA	Analysis	903.0		1	439426	08/13/19 21:11	CDR	TAL SL
Total/NA	Prep	PrecSep_0			430397	05/31/19 10:52	ORM	TAL SL
Total/NA	Analysis	904.0		1	435974	07/23/19 14:32	AMJ	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	439616	08/15/19 09:45	SMP	TAL SL

Lab Chronicle

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

Job ID: 500-162824-2

Client Sample ID: MW-11
Date Collected: 05/01/19 10:25
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			430235	05/30/19 10:35	ORM	TAL SL
Total/NA	Analysis	903.0		1	439426	08/13/19 21:11	CDR	TAL SL
Total/NA	Prep	PrecSep_0			430397	05/31/19 10:52	ORM	TAL SL
Total/NA	Analysis	904.0		1	435974	07/23/19 14:32	AMJ	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	439616	08/15/19 09:45	SMP	TAL SL

Client Sample ID: MW-12
Date Collected: 05/01/19 11:55
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			430133	05/29/19 11:23	ORM	TAL SL
Total/NA	Analysis	903.0		1	437844	08/03/19 12:56	KLS	TAL SL
Total/NA	Prep	PrecSep_0			430139	05/29/19 12:41	ORM	TAL SL
Total/NA	Analysis	904.0		1	435081	07/17/19 08:46	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	438275	08/06/19 11:03	SMP	TAL SL

Client Sample ID: MW-15
Date Collected: 05/02/19 12:15
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			430133	05/29/19 11:23	ORM	TAL SL
Total/NA	Analysis	903.0		1	437844	08/03/19 12:56	KLS	TAL SL
Total/NA	Prep	PrecSep_0			430139	05/29/19 12:41	ORM	TAL SL
Total/NA	Analysis	904.0		1	435081	07/17/19 08:46	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	438275	08/06/19 11:03	SMP	TAL SL

Client Sample ID: MW-17
Date Collected: 04/29/19 15:20
Date Received: 05/04/19 09:30

Lab Sample ID: 500-162824-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			430133	05/29/19 11:23	ORM	TAL SL
Total/NA	Analysis	903.0		1	437902	08/03/19 13:00	KLS	TAL SL
Total/NA	Prep	PrecSep_0			430139	05/29/19 12:41	ORM	TAL SL
Total/NA	Analysis	904.0		1	435081	07/17/19 08:47	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	438275	08/06/19 11:03	SMP	TAL SL

Lab Chronicle

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

Job ID: 500-162824-2

Client Sample ID: MW-18

Lab Sample ID: 500-162824-13

Date Collected: 04/29/19 14:25
Matrix: Water
Date Received: 05/04/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			430133	05/29/19 11:23	ORM	TAL SL
Total/NA	Analysis	903.0		1	437902	08/03/19 13:00	KLS	TAL SL
Total/NA	Prep	PrecSep_0			430139	05/29/19 12:41	ORM	TAL SL
Total/NA	Analysis	904.0		1	435081	07/17/19 08:47	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	438275	08/06/19 11:03	SMP	TAL SL

Client Sample ID: MW-19

Lab Sample ID: 500-162824-14

Date Collected: 05/02/19 10:30
Matrix: Water
Date Received: 05/04/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			430133	05/29/19 11:23	ORM	TAL SL
Total/NA	Analysis	903.0		1	437844	08/03/19 14:52	KLS	TAL SL
Total/NA	Prep	PrecSep_0			430139	05/29/19 12:41	ORM	TAL SL
Total/NA	Analysis	904.0		1	435081	07/17/19 08:47	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	438275	08/06/19 11:03	SMP	TAL SL

Client Sample ID: Duplicate

Lab Sample ID: 500-162824-15

Date Collected: 04/29/19 00:00
Matrix: Water
Date Received: 05/04/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			430133	05/29/19 11:23	ORM	TAL SL
Total/NA	Analysis	903.0		1	437844	08/03/19 14:52	KLS	TAL SL
Total/NA	Prep	PrecSep_0			430139	05/29/19 12:41	ORM	TAL SL
Total/NA	Analysis	904.0		1	435081	07/17/19 08:47	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	438275	08/06/19 11:04	SMP	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: KPRG and Associates, Inc.
Job ID: 500-162824-2
Project/Site: Powerton CCR

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-20

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200023	11-30-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
903.0	PrecSep-21	Water	Radium-226
904.0	PrecSep_0	Water	Radium-228
Ra226_Ra228		Water	Combined Radium 226 + 228

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL
Phone: 708.534.5200 Fax: 708.5

500-162824 COC

Chain of Custody Record

Lab Job #: 500-162824

Chain of Custody Number:

Page 1 of 2

Temperature °C of Cooler: 3.7, 4.7, 2.3 5.3

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

Client: KPRG and Assoc.	Client Project #: 12313.1
Project Name: NRG Powerton CCR	
Project Location/State: Pekin, IL	Lab Project #:
Sampler: Mitchel Dolan	Lab PM: Eric Lang

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	3							Comments
							Parameter	Total Metals	Cl, Fl, SO4, TDS	Rad 226/228							
1		MW-01	4/30	1325	5	W		X	X	X							
2		MW-02	4/30	0945													
3		MW-03	4/30	1050													
4		MW-04	4/30	1140													
5		MW-05	4/30	1230													
6		MW-08	5/1	1535													
7		MW-09	5/1	1315													
8		MW-10	5/1	0930													
9		MW-11	5/1	1025													
10		MW-12	5/1	1155													

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	5/2/2019	1700	FEDEX		5/2/2019	1700
				Neil Fioravanti	TACHE	05/04/19	0930

Lab Courier
Shipped FX SATurday
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)

8/15/2019

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

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

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

Chain of Custody Record

Lab Job #: 500-16284
Chain of Custody Number:
Page 2 of 2
Temperature °C of Cooler: 3.7A.7, 23, 5-3

Client	Client Project #	Preservative	3	8	3
KPRG and Assoc.	12313.1				
Project Name: IVRG Powerton CCR		Parameter	Total Metals	Cl, Fl, SO4, TDS	Rad 226/228
Project Location/State: Pekin, IL	Lab Project #				
Sampler: Mitchel Dolan	Lab PM: Eric Lang				

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	Comments
11		MW-15	5/2	1215	5	W	
12		MW-17	4/29	1520			
13		MW-18	4/29	1425			
14		MW-19	5/2	1030			
15		DUPLICATE	—	—			

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	5/2/2019	1700	FEDEX		5/2/2019	1700
				[signature] Fierawanti	THETA	05/04/19	0930

Lab Courier
Shipped FX SATurday
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)

ORIGIN ID:PIAA (262) 622-1143
KPRG
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 02MAY19
ACTWGT: 61.40 LB
CAD: 006894780/SSFE2002
DIMS: 24x14x14 IN
BILL THIRD PARTY

TO **ERIC LANG**
TEST AMERICA
2417 BOND ST

UNIVERSITY PARK IL 60484

500-162824 Waybill

(000) 000-0000 REF:
INV:
PO: DEPT:

FedEx Express **E**

REL# 3765346

J191019010701A

Part # 156297

EXP 11/19

8 of 9

MPS# 0263 **7870 1648 7850**

Mstr# 7870 1648 7780 0201

SATURDAY 4:30P
**** 2DAY ****

60484
IL-US **ORD**

S0 JOTA

ORIGIN ID:PIAA (262) 622-1143
KPRG
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 02MAY19
ACTWGT: 64.10 LB
CAD: 006894 SSFE2002
DIMS: 24 IN
BI

TO **ERIC LANG**
TEST AMERICA
2417 BOND ST

UNIVERSITY PARK

(000) 000-0000 REF:
INV:
PO: DEPT:

RT 717
ST 11
5
16:30
A
7780
05.04

FedEx Express **E**

REL# 3765346

J191019010701A

Part # 156297

EXP 11/19

1 of 9

TRK# 0201 **7870 1648 7780**

MASTER

SATURDAY 4:30P
**** 2DAY ****

60484
IL-US **ORD**

S0 JOTA

Std TC-1, Page 1 of 1

ORIGIN ID:PIAA (262) 622-1143
KPRG
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

ACTWGT: 57.90 LB
CAD: 006994780/SSFE2002
DIMS: 24x14x14 IN
BILL THIRD PARTY

TO ERIC LANG
TEST AMERICA
2417 BOND ST

UNIVERSITY PARK IL 60484
(000) 000-0000 REF:
INV:
PO: DEPT:

FedEx Express

E

REL# 3765346

SATURDAY 4:30P
** 2DAY **

6 of 9
MPS# 7870 1648 7838
0263
Mstr# 7870 1648 7780 0201

SO JOTA

60484
IL-US ORD

ORIGIN ID:PIAA (262) 622-1143
KPRG
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 02MAY19
ACTWGT: 60.00 LB
CAD: 006994780/SSFE2002
DIMS: 24x14x14 IN
BILL THIRD PARTY

TO ERIC LANG
TEST AMERICA
2417 BOND ST

UNIVERSITY PARK IL 60484
(000) 000-0000 REF:
INV:
PO: DEPT:

FedEx Express

E

REL# 3765346

SATURDAY 4:30P
** 2DAY **

5 of 9
MPS# 7870 1648 7827
0263
Mstr# 7870 1648 7780 0201

SO JOTA

60484
IL-US ORD

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-120636.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-162824-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 6/4/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Powerton CCR	Project #: 50011612			
Site: MWG - Powerton	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-12 (500-162824-10)	5/1/19	11:55 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-15 (500-162824-11)	5/2/19	12:15 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-17 (500-162824-12)	4/29/19	15:20 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-18 (500-162824-13)	4/29/19	14:25 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-19 (500-162824-14)	5/2/19	10:30 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
Duplicate (500-162824-15)	4/29/19	Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs

500-162824 Chain of Custody

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by:	Date/Time: 5/6/19 1500	Company TA	Received by:		Date/Time: 5-7-19 09:00	Company TA SLC	
Relinquished by:	Date/Time:	Company	Received by:		Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:		Date/Time:	Company	
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:				

Ver: 01/16/2019

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-120636.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-162824-2
Address: 13715 Rider Trail North,	Due Date Requested: 6/4/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Powerton CCR	Project #: 50011612			
Site: MWG - Powerton	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-01 (500-162824-1)	4/30/19	13:25 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-02 (500-162824-2)	4/30/19	09:45 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-03 (500-162824-3)	4/30/19	10:50 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-04 (500-162824-4)	4/30/19	11:40 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-05 (500-162824-5)	4/30/19	12:30 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-08 (500-162824-6)	5/1/19	15:35 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-09 (500-162824-7)	5/1/19	13:15 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-10 (500-162824-8)	5/1/19	09:30 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-11 (500-162824-9)	5/1/19	10:25 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time: 5/6/19 1508	Company TA	Received by: NLK	Date/Time: 5-7-19 0510	Company TA SLC
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

8/15/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-162824-2

Login Number: 162824
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins 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	3.7,4.7,5.3,2.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-162824-2

Login Number: 162824
List Number: 3
Creator: Hellm, Michael

List Source: Eurofins TestAmerica, St. Louis
List Creation: 05/09/19 11:00 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	18.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

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

Job ID: 500-162824-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits) Ba Carrier (40-110)
500-162824-1	MW-01	79.1
500-162824-1 DU	MW-01	88.7
500-162824-2	MW-02	91.5
500-162824-3	MW-03	74.0
500-162824-4	MW-04	83.6
500-162824-5	MW-05	73.7
500-162824-6	MW-08	83.1
500-162824-7	MW-09	76.0
500-162824-8	MW-10	94.1
500-162824-9	MW-11	89.0
500-162824-10	MW-12	88.7
500-162824-11	MW-15	88.1
500-162824-12	MW-17	89.8
500-162824-13	MW-18	88.4
500-162824-14	MW-19	86.7
500-162824-15	Duplicate	90.7
LCS 160-430133/1-A	Lab Control Sample	103
LCS 160-430235/1-A	Lab Control Sample	95.2
MB 160-430133/23-A	Method Blank	102
MB 160-430235/23-A	Method Blank	98.9

Tracer/Carrier Legend

Ba Carrier = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits) Ba Carrier (40-110)	Y Carrier (40-110)
500-162824-1	MW-01	79.1	75.5
500-162824-1 DU	MW-01	88.7	75.5
500-162824-2	MW-02	91.5	76.6
500-162824-3	MW-03	74.0	73.3
500-162824-4	MW-04	83.6	80.4
500-162824-5	MW-05	73.7	77.8
500-162824-6	MW-08	83.1	74.4
500-162824-7	MW-09	76.0	78.1
500-162824-8	MW-10	94.1	74.0
500-162824-9	MW-11	89.0	76.3
500-162824-10	MW-12	88.7	86.4
500-162824-11	MW-15	88.1	88.6
500-162824-12	MW-17	89.8	89.7
500-162824-13	MW-18	88.4	89.7
500-162824-14	MW-19	86.7	88.2
500-162824-15	Duplicate	90.7	87.9
LCS 160-430139/1-A	Lab Control Sample	103	87.1
LCS 160-430397/1-A	Lab Control Sample	95.2	65.8
MB 160-430139/23-A	Method Blank	102	82.6
MB 160-430397/23-A	Method Blank	98.9	62.8

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Job ID: 500-162824-2
Project/Site: Powerton CCR

Tracer/Carrier Legend

Ba Carrier = Ba Carrier
Y Carrier = Y Carrier

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-173472-1
Client Project/Site: Powerton CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
12/5/2019 10:30:05 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: Powerton CCR

Job ID: 500-173472-1

Job ID: 500-173472-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-173472-1

Comments
No additional comments.

Receipt
The samples were received on 11/14/2019 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 1.3º C, 1.7º C, 3.3º C and 3.9º 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 above or in the Definitions/Glossary page.

Detection Summary

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

Job ID: 500-173472-1

Client Sample ID: MW-01 — Lab Sample ID: 500-173472-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.012		0.010		mg/L	1		6010C	Total Recoverable
Arsenic	0.029		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.091		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.52		0.050		mg/L	1		6020A	Total Recoverable
Cadmium	0.00085		0.00050		mg/L	1		6020A	Total Recoverable
Calcium	95		0.20		mg/L	1		6020A	Total Recoverable
Chromium	0.025		0.0050		mg/L	1		6020A	Total Recoverable
Cobalt	0.016		0.0010		mg/L	1		6020A	Total Recoverable
Lead	0.034		0.00050		mg/L	1		6020A	Total Recoverable
Molybdenum	0.0079		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	390		10		mg/L	1		SM 2540C	Total/NA
Chloride	47		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.18		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	41		10		mg/L	2		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-08 — Lab Sample ID: 500-173472-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.022		0.010		mg/L	1		6010C	Total Recoverable
Arsenic	0.0025		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.087		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.98		0.25		mg/L	5		6020A	Total Recoverable
Calcium	110		0.20		mg/L	1		6020A	Total Recoverable
Lead	0.00094		0.00050		mg/L	1		6020A	Total Recoverable
Molybdenum	0.013		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	640		10		mg/L	1		SM 2540C	Total/NA
Chloride	92		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.33		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	110		25		mg/L	5		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-18 — Lab Sample ID: 500-173472-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.014		0.010		mg/L	1		6010C	Total Recoverable
Arsenic	0.0013		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.12		0.0025		mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

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

Job ID: 500-173472-1

Client Sample ID: MW-18 (Continued)

Lab Sample ID: 500-173472-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.79		0.25		mg/L	5		6020A	Total Recoverable
Calcium	130		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1100		10		mg/L	1		SM 2540C	Total/NA
Chloride	180		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.56		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	210		50		mg/L	10		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-19

Lab Sample ID: 500-173472-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0014		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.10		0.0025		mg/L	1		6020A	Total Recoverable
Boron	2.5		0.50		mg/L	10		6020A	Total Recoverable
Calcium	130		0.20		mg/L	1		6020A	Total Recoverable
Lead	0.00056		0.00050		mg/L	1		6020A	Total Recoverable
Molybdenum	0.036		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	740		10		mg/L	1		SM 2540C	Total/NA
Chloride	53		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.15		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	140		25		mg/L	5		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-17

Lab Sample ID: 500-173472-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.021		0.010		mg/L	1		6010C	Total Recoverable
Arsenic	0.088		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.10		0.0025		mg/L	1		6020A	Total Recoverable
Boron	1.9		0.50		mg/L	10		6020A	Total Recoverable
Cadmium	0.0015		0.00050		mg/L	1		6020A	Total Recoverable
Calcium	230		0.20		mg/L	1		6020A	Total Recoverable
Cobalt	0.0011		0.0010		mg/L	1		6020A	Total Recoverable
Lead	0.00093		0.00050		mg/L	1		6020A	Total Recoverable
Molybdenum	0.058		0.0050		mg/L	1		6020A	Total Recoverable
Thallium	0.0029		0.0020		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	2300		10		mg/L	1		SM 2540C	Total/NA
Chloride	600		50		mg/L	25		SM 4500 Cl- E	Total/NA
Fluoride	0.55		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	730		150		mg/L	30		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

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

Job ID: 500-173472-1

Client Sample ID: Duplicate — Lab Sample ID: 500-173472-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.013		0.010		mg/L	1		6010C	Total Recoverable
Arsenic	0.0012		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.12		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.74		0.25		mg/L	5		6020A	Total Recoverable
Calcium	130		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1000		10		mg/L	1		SM 2540C	Total/NA
Chloride	180		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.58		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	210		50		mg/L	10		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-09 — Lab Sample ID: 500-173472-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0056		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.057		0.0025		mg/L	1		6020A	Total Recoverable
Boron	2.5		0.50		mg/L	10		6020A	Total Recoverable
Calcium	85		0.20		mg/L	1		6020A	Total Recoverable
Cobalt	0.0032		0.0010		mg/L	1		6020A	Total Recoverable
Lead	0.00076		0.00050		mg/L	1		6020A	Total Recoverable
Molybdenum	0.026		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	500		10		mg/L	1		SM 2540C	Total/NA
Chloride	36		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.18		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	82		25		mg/L	5		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-11 — Lab Sample ID: 500-173472-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.14		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.72		0.0025		mg/L	1		6020A	Total Recoverable
Boron	1.8		0.25		mg/L	5		6020A	Total Recoverable
Calcium	120		0.20		mg/L	1		6020A	Total Recoverable
Cobalt	0.0041		0.0010		mg/L	1		6020A	Total Recoverable
Lead	0.0021		0.00050		mg/L	1		6020A	Total Recoverable
Molybdenum	0.020		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	890		10		mg/L	1		SM 2540C	Total/NA
Chloride	83		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.55		0.10		mg/L	1		SM 4500 F C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

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

Job ID: 500-173472-1

Client Sample ID: MW-11 (Continued)

Lab Sample ID: 500-173472-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	150		25		mg/L	5		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-12

Lab Sample ID: 500-173472-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.014		0.010		mg/L	1		6010C	Total Recoverable
Arsenic	0.026		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.072		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.74		0.050		mg/L	1		6020A	Total Recoverable
Calcium	120		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.027		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1100		10		mg/L	1		SM 2540C	Total/NA
Chloride	160		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.45		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	280		50		mg/L	10		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-15

Lab Sample ID: 500-173472-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.029		0.010		mg/L	1		6010C	Total Recoverable
Arsenic	0.0044		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.053		0.0025		mg/L	1		6020A	Total Recoverable
Boron	1.8		0.25		mg/L	5		6020A	Total Recoverable
Calcium	170		0.20		mg/L	1		6020A	Total Recoverable
Molybdenum	0.025		0.0050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1300		10		mg/L	1		SM 2540C	Total/NA
Chloride	170		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.50		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	260		50		mg/L	10		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

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

Job ID: 500-173472-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI
7470A	Preparation, Mercury	SW846	TAL CHI

Protocol References:

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

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

Laboratory References:

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

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

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

Job ID: 500-173472-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-173472-1	MW-01	Water	11/13/19 11:20	11/14/19 09:40	
500-173472-2	MW-08	Water	11/13/19 12:30	11/14/19 09:40	
500-173472-3	MW-18	Water	11/13/19 13:50	11/14/19 09:40	
500-173472-4	MW-19	Water	11/13/19 14:42	11/14/19 09:40	
500-173472-5	MW-17	Water	11/13/19 15:11	11/14/19 09:40	
500-173472-6	Duplicate	Water	11/13/19 00:00	11/14/19 09:40	
500-173472-7	MW-09	Water	11/14/19 08:32	11/15/19 08:55	
500-173472-8	MW-11	Water	11/14/19 09:30	11/15/19 08:55	
500-173472-9	MW-12	Water	11/14/19 10:17	11/15/19 08:55	
500-173472-10	MW-15	Water	11/14/19 11:53	11/15/19 08:55	

Client Sample Results

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

Job ID: 500-173472-1

Client Sample ID: MW-01

Date Collected: 11/13/19 11:20
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-1

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.012**		0.010		mg/L		11/26/19 17:10	11/27/19 08:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/26/19 17:10	11/27/19 22:06	1
Arsenic	**0.029**		0.0010		mg/L		11/26/19 17:10	11/27/19 22:06	1
Barium	**0.091**		0.0025		mg/L		11/26/19 17:10	11/27/19 22:06	1
Beryllium	<0.0010		0.0010		mg/L		11/26/19 17:10	11/27/19 22:06	1
Boron	**0.52**		0.050		mg/L		11/26/19 17:10	11/29/19 13:04	1
Cadmium	**0.00085**		0.00050		mg/L		11/26/19 17:10	11/27/19 22:06	1
Calcium	**95**		0.20		mg/L		11/26/19 17:10	11/27/19 22:06	1
Chromium	**0.025**		0.0050		mg/L		11/26/19 17:10	11/27/19 22:06	1
Cobalt	**0.016**		0.0010		mg/L		11/26/19 17:10	11/27/19 22:06	1
Lead	**0.034**		0.00050		mg/L		11/26/19 17:10	11/27/19 22:06	1
Molybdenum	**0.0079**		0.0050		mg/L		11/26/19 17:10	11/27/19 22:06	1
Selenium	<0.0025		0.0025		mg/L		11/26/19 17:10	11/27/19 22:06	1
Thallium	<0.0020		0.0020		mg/L		11/26/19 17:10	11/27/19 22:06	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/20/19 09:25	11/21/19 09:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**390**		10		mg/L			11/19/19 22:52	1
Chloride	**47**		2.0		mg/L			11/25/19 10:49	1
Fluoride	**0.18**		0.10		mg/L			11/26/19 19:38	1
Sulfate	**41**		10		mg/L			11/26/19 13:09	2

Client Sample Results

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

Job ID: 500-173472-1

Client Sample ID: MW-08

Date Collected: 11/13/19 12:30
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-2

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.022**		0.010		mg/L		11/26/19 17:10	11/27/19 08:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/26/19 17:10	11/27/19 22:10	1
Arsenic	**0.0025**		0.0010		mg/L		11/26/19 17:10	11/27/19 22:10	1
Barium	**0.087**		0.0025		mg/L		11/26/19 17:10	11/27/19 22:10	1
Beryllium	<0.0010		0.0010		mg/L		11/26/19 17:10	11/27/19 22:10	1
Boron	**0.98**		0.25		mg/L		11/26/19 17:10	11/29/19 13:08	5
Cadmium	<0.00050		0.00050		mg/L		11/26/19 17:10	11/27/19 22:10	1
Calcium	**110**		0.20		mg/L		11/26/19 17:10	11/27/19 22:10	1
Chromium	<0.0050		0.0050		mg/L		11/26/19 17:10	11/27/19 22:10	1
Cobalt	<0.0010		0.0010		mg/L		11/26/19 17:10	11/27/19 22:10	1
Lead	**0.00094**		0.00050		mg/L		11/26/19 17:10	11/27/19 22:10	1
Molybdenum	**0.013**		0.0050		mg/L		11/26/19 17:10	11/27/19 22:10	1
Selenium	<0.0025		0.0025		mg/L		11/26/19 17:10	11/27/19 22:10	1
Thallium	<0.0020		0.0020		mg/L		11/26/19 17:10	11/27/19 22:10	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/20/19 09:25	11/21/19 09:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**640**		10		mg/L			11/19/19 22:55	1
Chloride	**92**		10		mg/L			11/25/19 11:57	5
Fluoride	**0.33**		0.10		mg/L			11/26/19 19:42	1
Sulfate	**110**		25		mg/L			11/26/19 13:09	5

Client Sample Results

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

Job ID: 500-173472-1

Client Sample ID: MW-18

Date Collected: 11/13/19 13:50
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-3

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.014**		0.010		mg/L		11/26/19 17:10	11/27/19 08:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/26/19 17:10	11/27/19 22:13	1
Arsenic	**0.0013**		0.0010		mg/L		11/26/19 17:10	11/27/19 22:13	1
Barium	**0.12**		0.0025		mg/L		11/26/19 17:10	11/27/19 22:13	1
Beryllium	<0.0010		0.0010		mg/L		11/26/19 17:10	11/27/19 22:13	1
Boron	**0.79**		0.25		mg/L		11/26/19 17:10	11/29/19 13:12	5
Cadmium	<0.00050		0.00050		mg/L		11/26/19 17:10	11/27/19 22:13	1
Calcium	**130**		0.20		mg/L		11/26/19 17:10	11/27/19 22:13	1
Chromium	<0.0050		0.0050		mg/L		11/26/19 17:10	11/27/19 22:13	1
Cobalt	<0.0010		0.0010		mg/L		11/26/19 17:10	11/27/19 22:13	1
Lead	<0.00050		0.00050		mg/L		11/26/19 17:10	11/27/19 22:13	1
Molybdenum	<0.0050		0.0050		mg/L		11/26/19 17:10	11/27/19 22:13	1
Selenium	<0.0025		0.0025		mg/L		11/26/19 17:10	11/27/19 22:13	1
Thallium	<0.0020		0.0020		mg/L		11/26/19 17:10	11/27/19 22:13	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/20/19 09:25	11/21/19 09:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1100**		10		mg/L			11/20/19 23:41	1
Chloride	**180**		10		mg/L			11/25/19 11:58	5
Fluoride	**0.56**		0.10		mg/L			11/26/19 19:49	1
Sulfate	**210**		50		mg/L			11/26/19 13:13	10

Client Sample Results

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

Job ID: 500-173472-1

Client Sample ID: MW-19

Date Collected: 11/13/19 14:42
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-4

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		11/26/19 17:10	11/27/19 08:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/26/19 17:10	11/27/19 22:17	1
Arsenic	**0.0014**		0.0010		mg/L		11/26/19 17:10	11/27/19 22:17	1
Barium	**0.10**		0.0025		mg/L		11/26/19 17:10	11/27/19 22:17	1
Beryllium	<0.0010		0.0010		mg/L		11/26/19 17:10	11/27/19 22:17	1
Boron	**2.5**		0.50		mg/L		11/26/19 17:10	11/29/19 13:16	10
Cadmium	<0.00050		0.00050		mg/L		11/26/19 17:10	11/27/19 22:17	1
Calcium	**130**		0.20		mg/L		11/26/19 17:10	11/27/19 22:17	1
Chromium	<0.0050		0.0050		mg/L		11/26/19 17:10	11/27/19 22:17	1
Cobalt	<0.0010		0.0010		mg/L		11/26/19 17:10	11/27/19 22:17	1
Lead	**0.00056**		0.00050		mg/L		11/26/19 17:10	11/27/19 22:17	1
Molybdenum	**0.036**		0.0050		mg/L		11/26/19 17:10	11/27/19 22:17	1
Selenium	<0.0025		0.0025		mg/L		11/26/19 17:10	11/27/19 22:17	1
Thallium	<0.0020		0.0020		mg/L		11/26/19 17:10	11/27/19 22:17	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/20/19 09:25	11/21/19 09:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**740**		10		mg/L			11/20/19 23:43	1
Chloride	**53**		2.0		mg/L			11/25/19 11:59	1
Fluoride	**0.15**		0.10		mg/L			11/26/19 19:52	1
Sulfate	**140**		25		mg/L			11/26/19 13:13	5

Client Sample Results

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

Job ID: 500-173472-1

Client Sample ID: MW-17

Date Collected: 11/13/19 15:11
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-5

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.021**		0.010		mg/L		11/26/19 17:10	11/27/19 09:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/26/19 17:10	11/27/19 22:21	1
Arsenic	**0.088**		0.0010		mg/L		11/26/19 17:10	11/27/19 22:21	1
Barium	**0.10**		0.0025		mg/L		11/26/19 17:10	11/27/19 22:21	1
Beryllium	<0.0010		0.0010		mg/L		11/26/19 17:10	11/27/19 22:21	1
Boron	**1.9**		0.50		mg/L		11/26/19 17:10	11/29/19 13:19	10
Cadmium	**0.0015**		0.00050		mg/L		11/26/19 17:10	11/27/19 22:21	1
Calcium	**230**		0.20		mg/L		11/26/19 17:10	11/27/19 22:21	1
Chromium	<0.0050		0.0050		mg/L		11/26/19 17:10	11/27/19 22:21	1
Cobalt	**0.0011**		0.0010		mg/L		11/26/19 17:10	11/27/19 22:21	1
Lead	**0.00093**		0.00050		mg/L		11/26/19 17:10	11/27/19 22:21	1
Molybdenum	**0.058**		0.0050		mg/L		11/26/19 17:10	11/27/19 22:21	1
Selenium	<0.0025		0.0025		mg/L		11/26/19 17:10	11/27/19 22:21	1
Thallium	**0.0029**		0.0020		mg/L		11/26/19 17:10	11/27/19 22:21	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/20/19 09:25	11/21/19 09:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**2300**		10		mg/L			11/20/19 23:46	1
Chloride	**600**		50		mg/L			11/25/19 12:02	25
Fluoride	**0.55**		0.10		mg/L			11/26/19 20:10	1
Sulfate	**730**		150		mg/L			11/26/19 13:13	30

Client Sample Results

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

Job ID: 500-173472-1

Client Sample ID: Duplicate

Date Collected: 11/13/19 00:00
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-6

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.013**		0.010		mg/L		11/26/19 17:10	11/27/19 09:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/26/19 17:10	11/27/19 22:25	1
Arsenic	**0.0012**		0.0010		mg/L		11/26/19 17:10	11/27/19 22:25	1
Barium	**0.12**		0.0025		mg/L		11/26/19 17:10	11/27/19 22:25	1
Beryllium	<0.0010		0.0010		mg/L		11/26/19 17:10	11/27/19 22:25	1
Boron	**0.74**		0.25		mg/L		11/26/19 17:10	11/29/19 13:23	5
Cadmium	<0.00050		0.00050		mg/L		11/26/19 17:10	11/27/19 22:25	1
Calcium	**130**		0.20		mg/L		11/26/19 17:10	11/27/19 22:25	1
Chromium	<0.0050		0.0050		mg/L		11/26/19 17:10	11/27/19 22:25	1
Cobalt	<0.0010		0.0010		mg/L		11/26/19 17:10	11/27/19 22:25	1
Lead	<0.00050		0.00050		mg/L		11/26/19 17:10	11/27/19 22:25	1
Molybdenum	<0.0050		0.0050		mg/L		11/26/19 17:10	11/27/19 22:25	1
Selenium	<0.0025		0.0025		mg/L		11/26/19 17:10	11/27/19 22:25	1
Thallium	<0.0020		0.0020		mg/L		11/26/19 17:10	11/27/19 22:25	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/20/19 09:25	11/21/19 10:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1000**		10		mg/L			11/20/19 23:48	1
Chloride	**180**		10		mg/L			11/25/19 12:03	5
Fluoride	**0.58**		0.10		mg/L			11/26/19 20:19	1
Sulfate	**210**		50		mg/L			11/26/19 13:13	10

Client Sample Results

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

Job ID: 500-173472-1

Client Sample ID: MW-09

Date Collected: 11/14/19 08:32
Date Received: 11/15/19 08:55

Lab Sample ID: 500-173472-7

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		12/03/19 17:10	12/04/19 13:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/26/19 17:06	11/27/19 20:50	1
Arsenic	**0.0056**		0.0010		mg/L		11/26/19 17:06	11/27/19 20:50	1
Barium	**0.057**		0.0025		mg/L		11/26/19 17:06	11/27/19 20:50	1
Beryllium	<0.0010		0.0010		mg/L		11/26/19 17:06	11/27/19 20:50	1
Boron	**2.5**		0.50		mg/L		11/26/19 17:06	11/29/19 12:28	10
Cadmium	<0.00050		0.00050		mg/L		11/26/19 17:06	11/27/19 20:50	1
Calcium	**85**		0.20		mg/L		11/26/19 17:06	11/27/19 20:50	1
Chromium	<0.0050		0.0050		mg/L		11/26/19 17:06	11/27/19 20:50	1
Cobalt	**0.0032**		0.0010		mg/L		11/26/19 17:06	11/27/19 20:50	1
Lead	**0.00076**		0.00050		mg/L		11/26/19 17:06	11/27/19 20:50	1
Molybdenum	**0.026**		0.0050		mg/L		11/26/19 17:06	11/27/19 20:50	1
Selenium	<0.0025		0.0025		mg/L		11/26/19 17:06	11/27/19 20:50	1
Thallium	<0.0020		0.0020		mg/L		11/26/19 17:06	11/27/19 20:50	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/20/19 09:25	11/21/19 09:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**500**		10		mg/L			11/21/19 05:28	1
Chloride	**36**		2.0		mg/L			11/25/19 12:04	1
Fluoride	**0.18**		0.10		mg/L			11/26/19 20:34	1
Sulfate	**82**		25		mg/L			11/26/19 21:34	5

Client Sample Results

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

Job ID: 500-173472-1

Client Sample ID: MW-11

Date Collected: 11/14/19 09:30
Date Received: 11/15/19 08:55

Lab Sample ID: 500-173472-8

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		12/03/19 17:10	12/04/19 13:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/26/19 17:06	11/27/19 20:54	1
Arsenic	**0.14**		0.0010		mg/L		11/26/19 17:06	11/27/19 20:54	1
Barium	**0.72**		0.0025		mg/L		11/26/19 17:06	11/27/19 20:54	1
Beryllium	<0.0010		0.0010		mg/L		11/26/19 17:06	11/27/19 20:54	1
Boron	**1.8**		0.25		mg/L		11/26/19 17:06	11/29/19 12:32	5
Cadmium	<0.00050		0.00050		mg/L		11/26/19 17:06	11/27/19 20:54	1
Calcium	**120**		0.20		mg/L		11/26/19 17:06	11/27/19 20:54	1
Chromium	<0.0050		0.0050		mg/L		11/26/19 17:06	11/27/19 20:54	1
Cobalt	**0.0041**		0.0010		mg/L		11/26/19 17:06	11/27/19 20:54	1
Lead	**0.0021**		0.00050		mg/L		11/26/19 17:06	11/27/19 20:54	1
Molybdenum	**0.020**		0.0050		mg/L		11/26/19 17:06	11/27/19 20:54	1
Selenium	<0.0025		0.0025		mg/L		11/26/19 17:06	11/27/19 20:54	1
Thallium	<0.0020		0.0020		mg/L		11/26/19 17:06	11/27/19 20:54	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/20/19 09:25	11/21/19 09:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**890**		10		mg/L			11/21/19 05:30	1
Chloride	**83**		10		mg/L			11/25/19 12:05	5
Fluoride	**0.55**		0.10		mg/L			11/26/19 20:37	1
Sulfate	**150**		25		mg/L			11/26/19 21:34	5

Client Sample Results

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

Job ID: 500-173472-1

Client Sample ID: MW-12

Date Collected: 11/14/19 10:17
Date Received: 11/15/19 08:55

Lab Sample ID: 500-173472-9

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.014**		0.010		mg/L		12/03/19 17:10	12/04/19 13:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/26/19 17:06	11/27/19 20:58	1
Arsenic	**0.026**		0.0010		mg/L		11/26/19 17:06	11/27/19 20:58	1
Barium	**0.072**		0.0025		mg/L		11/26/19 17:06	11/27/19 20:58	1
Beryllium	<0.0010		0.0010		mg/L		11/26/19 17:06	11/27/19 20:58	1
Boron	**0.74**		0.050		mg/L		11/26/19 17:06	11/29/19 12:49	1
Cadmium	<0.00050		0.00050		mg/L		11/26/19 17:06	11/27/19 20:58	1
Calcium	**120**		0.20		mg/L		11/26/19 17:06	11/27/19 20:58	1
Chromium	<0.0050		0.0050		mg/L		11/26/19 17:06	11/27/19 20:58	1
Cobalt	<0.0010		0.0010		mg/L		11/26/19 17:06	11/27/19 20:58	1
Lead	<0.00050		0.00050		mg/L		11/26/19 17:06	11/27/19 20:58	1
Molybdenum	**0.027**		0.0050		mg/L		11/26/19 17:06	11/27/19 20:58	1
Selenium	<0.0025		0.0025		mg/L		11/26/19 17:06	11/27/19 20:58	1
Thallium	<0.0020		0.0020		mg/L		11/26/19 17:06	11/27/19 20:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/20/19 09:25	11/21/19 09:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1100**		10		mg/L			11/21/19 05:33	1
Chloride	**160**		10		mg/L			11/25/19 12:06	5
Fluoride	**0.45**		0.10		mg/L			11/26/19 20:42	1
Sulfate	**280**		50		mg/L			11/26/19 23:19	10

Client Sample Results

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

Job ID: 500-173472-1

Client Sample ID: MW-15

Date Collected: 11/14/19 11:53
Date Received: 11/15/19 08:55

Lab Sample ID: 500-173472-10

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.029**		0.010		mg/L		12/03/19 17:10	12/04/19 13:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/26/19 17:06	11/27/19 21:02	1
Arsenic	**0.0044**		0.0010		mg/L		11/26/19 17:06	11/27/19 21:02	1
Barium	**0.053**		0.0025		mg/L		11/26/19 17:06	11/27/19 21:02	1
Beryllium	<0.0010		0.0010		mg/L		11/26/19 17:06	11/27/19 21:02	1
Boron	**1.8**		0.25		mg/L		11/26/19 17:06	11/29/19 12:53	5
Cadmium	<0.00050		0.00050		mg/L		11/26/19 17:06	11/27/19 21:02	1
Calcium	**170**		0.20		mg/L		11/26/19 17:06	11/27/19 21:02	1
Chromium	<0.0050		0.0050		mg/L		11/26/19 17:06	11/27/19 21:02	1
Cobalt	<0.0010		0.0010		mg/L		11/26/19 17:06	11/27/19 21:02	1
Lead	<0.00050		0.00050		mg/L		11/26/19 17:06	11/27/19 21:02	1
Molybdenum	**0.025**		0.0050		mg/L		11/26/19 17:06	11/27/19 21:02	1
Selenium	<0.0025		0.0025		mg/L		11/26/19 17:06	11/27/19 21:02	1
Thallium	<0.0020		0.0020		mg/L		11/26/19 17:06	11/27/19 21:02	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/20/19 09:25	11/21/19 09:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1300**		10		mg/L			11/21/19 05:35	1
Chloride	**170**		10		mg/L			11/25/19 12:06	5
Fluoride	**0.50**		0.10		mg/L			11/26/19 20:46	1
Sulfate	**260**		50		mg/L			11/26/19 23:19	10

Definitions/Glossary

Client: KPRG and Associates, Inc. Job ID: 500-173472-1
Project/Site: Powerton CCR

Qualifiers

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: Powerton CCR

Job ID: 500-173472-1

Metals

Prep Batch: 516379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-7	MW-09	Total/NA	Water	7470A	
500-173472-8	MW-11	Total/NA	Water	7470A	
500-173472-9	MW-12	Total/NA	Water	7470A	
500-173472-10	MW-15	Total/NA	Water	7470A	
MB 500-516379/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-516379/13-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 516382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-1	MW-01	Total/NA	Water	7470A	
500-173472-2	MW-08	Total/NA	Water	7470A	
500-173472-3	MW-18	Total/NA	Water	7470A	
500-173472-4	MW-19	Total/NA	Water	7470A	
500-173472-5	MW-17	Total/NA	Water	7470A	
500-173472-6	Duplicate	Total/NA	Water	7470A	
MB 500-516382/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-516382/13-A	Lab Control Sample	Total/NA	Water	7470A	
500-173472-5 MS	MW-17	Total/NA	Water	7470A	
500-173472-5 MSD	MW-17	Total/NA	Water	7470A	
500-173472-5 DU	MW-17	Total/NA	Water	7470A	

Analysis Batch: 516627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-1	MW-01	Total/NA	Water	7470A	516382
500-173472-2	MW-08	Total/NA	Water	7470A	516382
500-173472-3	MW-18	Total/NA	Water	7470A	516382
500-173472-4	MW-19	Total/NA	Water	7470A	516382
500-173472-5	MW-17	Total/NA	Water	7470A	516382
500-173472-6	Duplicate	Total/NA	Water	7470A	516382
500-173472-7	MW-09	Total/NA	Water	7470A	516379
500-173472-8	MW-11	Total/NA	Water	7470A	516379
500-173472-9	MW-12	Total/NA	Water	7470A	516379
500-173472-10	MW-15	Total/NA	Water	7470A	516379
MB 500-516379/12-A	Method Blank	Total/NA	Water	7470A	516379
MB 500-516382/12-A	Method Blank	Total/NA	Water	7470A	516382
LCS 500-516379/13-A	Lab Control Sample	Total/NA	Water	7470A	516379
LCS 500-516382/13-A	Lab Control Sample	Total/NA	Water	7470A	516382
500-173472-5 MS	MW-17	Total/NA	Water	7470A	516382
500-173472-5 MSD	MW-17	Total/NA	Water	7470A	516382
500-173472-5 DU	MW-17	Total/NA	Water	7470A	516382

Prep Batch: 517477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-7	MW-09	Total Recoverable	Water	3005A	
500-173472-8	MW-11	Total Recoverable	Water	3005A	
500-173472-9	MW-12	Total Recoverable	Water	3005A	
500-173472-10	MW-15	Total Recoverable	Water	3005A	
MB 500-517477/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-517477/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

QC Association Summary

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

Job ID: 500-173472-1

Metals

Prep Batch: 517478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-1	MW-01	Total Recoverable	Water	3005A	
500-173472-2	MW-08	Total Recoverable	Water	3005A	
500-173472-3	MW-18	Total Recoverable	Water	3005A	
500-173472-4	MW-19	Total Recoverable	Water	3005A	
500-173472-5	MW-17	Total Recoverable	Water	3005A	
500-173472-6	Duplicate	Total Recoverable	Water	3005A	
MB 500-517478/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-517478/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 517624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-1	MW-01	Total Recoverable	Water	6010C	517478
500-173472-2	MW-08	Total Recoverable	Water	6010C	517478
500-173472-3	MW-18	Total Recoverable	Water	6010C	517478
500-173472-4	MW-19	Total Recoverable	Water	6010C	517478
500-173472-5	MW-17	Total Recoverable	Water	6010C	517478
500-173472-6	Duplicate	Total Recoverable	Water	6010C	517478
MB 500-517478/1-A	Method Blank	Total Recoverable	Water	6010C	517478
LCS 500-517478/2-A	Lab Control Sample	Total Recoverable	Water	6010C	517478

Analysis Batch: 517825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-1	MW-01	Total Recoverable	Water	6020A	517478
500-173472-2	MW-08	Total Recoverable	Water	6020A	517478
500-173472-3	MW-18	Total Recoverable	Water	6020A	517478
500-173472-4	MW-19	Total Recoverable	Water	6020A	517478
500-173472-5	MW-17	Total Recoverable	Water	6020A	517478
500-173472-6	Duplicate	Total Recoverable	Water	6020A	517478
500-173472-7	MW-09	Total Recoverable	Water	6020A	517477
500-173472-8	MW-11	Total Recoverable	Water	6020A	517477
500-173472-9	MW-12	Total Recoverable	Water	6020A	517477
500-173472-10	MW-15	Total Recoverable	Water	6020A	517477
MB 500-517477/1-A	Method Blank	Total Recoverable	Water	6020A	517477
MB 500-517478/1-A	Method Blank	Total Recoverable	Water	6020A	517478
LCS 500-517477/2-A	Lab Control Sample	Total Recoverable	Water	6020A	517477
LCS 500-517478/2-A	Lab Control Sample	Total Recoverable	Water	6020A	517478

Analysis Batch: 517918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-1	MW-01	Total Recoverable	Water	6020A	517478
500-173472-2	MW-08	Total Recoverable	Water	6020A	517478
500-173472-3	MW-18	Total Recoverable	Water	6020A	517478
500-173472-4	MW-19	Total Recoverable	Water	6020A	517478
500-173472-5	MW-17	Total Recoverable	Water	6020A	517478
500-173472-6	Duplicate	Total Recoverable	Water	6020A	517478
500-173472-7	MW-09	Total Recoverable	Water	6020A	517477
500-173472-8	MW-11	Total Recoverable	Water	6020A	517477
500-173472-9	MW-12	Total Recoverable	Water	6020A	517477
500-173472-10	MW-15	Total Recoverable	Water	6020A	517477
MB 500-517477/1-A	Method Blank	Total Recoverable	Water	6020A	517477
MB 500-517478/1-A	Method Blank	Total Recoverable	Water	6020A	517478

QC Association Summary

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

Job ID: 500-173472-1

Metals (Continued)

Analysis Batch: 517918 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-517477/2-A	Lab Control Sample	Total Recoverable	Water	6020A	517477
LCS 500-517478/2-A	Lab Control Sample	Total Recoverable	Water	6020A	517478

Prep Batch: 518505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-7	MW-09	Total Recoverable	Water	3005A	
500-173472-8	MW-11	Total Recoverable	Water	3005A	
500-173472-9	MW-12	Total Recoverable	Water	3005A	
500-173472-10	MW-15	Total Recoverable	Water	3005A	
MB 500-518505/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-518505/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 518695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-7	MW-09	Total Recoverable	Water	6010C	518505
500-173472-8	MW-11	Total Recoverable	Water	6010C	518505
500-173472-9	MW-12	Total Recoverable	Water	6010C	518505
500-173472-10	MW-15	Total Recoverable	Water	6010C	518505
MB 500-518505/1-A	Method Blank	Total Recoverable	Water	6010C	518505
LCS 500-518505/2-A	Lab Control Sample	Total Recoverable	Water	6010C	518505

General Chemistry

Analysis Batch: 467607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-1	MW-01	Total/NA	Water	SM 4500 SO4 E	
500-173472-2	MW-08	Total/NA	Water	SM 4500 SO4 E	
500-173472-3	MW-18	Total/NA	Water	SM 4500 SO4 E	
500-173472-4	MW-19	Total/NA	Water	SM 4500 SO4 E	
500-173472-5	MW-17	Total/NA	Water	SM 4500 SO4 E	
500-173472-6	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 400-467607/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-467607/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-467607/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-173472-2 MS	MW-08	Total/NA	Water	SM 4500 SO4 E	
500-173472-2 MSD	MW-08	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 467673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-7	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-173472-8	MW-11	Total/NA	Water	SM 4500 SO4 E	
MB 400-467673/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-467673/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-467673/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 467674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-9	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-173472-10	MW-15	Total/NA	Water	SM 4500 SO4 E	
MB 400-467674/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-467674/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

QC Association Summary

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

Job ID: 500-173472-1

General Chemistry (Continued)

Analysis Batch: 467674 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 400-467674/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-173472-9 MS	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-173472-9 MSD	MW-12	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 516292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-1	MW-01	Total/NA	Water	SM 2540C	
500-173472-2	MW-08	Total/NA	Water	SM 2540C	
MB 500-516292/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-516292/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 516510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-3	MW-18	Total/NA	Water	SM 2540C	
500-173472-4	MW-19	Total/NA	Water	SM 2540C	
500-173472-5	MW-17	Total/NA	Water	SM 2540C	
500-173472-6	Duplicate	Total/NA	Water	SM 2540C	
MB 500-516510/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-516510/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 516512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-7	MW-09	Total/NA	Water	SM 2540C	
500-173472-8	MW-11	Total/NA	Water	SM 2540C	
500-173472-9	MW-12	Total/NA	Water	SM 2540C	
500-173472-10	MW-15	Total/NA	Water	SM 2540C	
MB 500-516512/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-516512/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 517228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-1	MW-01	Total/NA	Water	SM 4500 Cl- E	
500-173472-2	MW-08	Total/NA	Water	SM 4500 Cl- E	
500-173472-3	MW-18	Total/NA	Water	SM 4500 Cl- E	
500-173472-4	MW-19	Total/NA	Water	SM 4500 Cl- E	
500-173472-5	MW-17	Total/NA	Water	SM 4500 Cl- E	
500-173472-6	Duplicate	Total/NA	Water	SM 4500 Cl- E	
500-173472-7	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-173472-8	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-173472-9	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-173472-10	MW-15	Total/NA	Water	SM 4500 Cl- E	
MB 500-517228/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-517228/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-173472-1 MS	MW-01	Total/NA	Water	SM 4500 Cl- E	
500-173472-1 MSD	MW-01	Total/NA	Water	SM 4500 Cl- E	
500-173472-4 MS	MW-19	Total/NA	Water	SM 4500 Cl- E	
500-173472-4 MSD	MW-19	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 517561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-1	MW-01	Total/NA	Water	SM 4500 F C	

QC Association Summary

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

Job ID: 500-173472-1

General Chemistry (Continued)

Analysis Batch: 517561 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-2	MW-08	Total/NA	Water	SM 4500 F C	
500-173472-3	MW-18	Total/NA	Water	SM 4500 F C	
500-173472-4	MW-19	Total/NA	Water	SM 4500 F C	
500-173472-5	MW-17	Total/NA	Water	SM 4500 F C	
500-173472-6	Duplicate	Total/NA	Water	SM 4500 F C	
500-173472-7	MW-09	Total/NA	Water	SM 4500 F C	
500-173472-8	MW-11	Total/NA	Water	SM 4500 F C	
500-173472-9	MW-12	Total/NA	Water	SM 4500 F C	
500-173472-10	MW-15	Total/NA	Water	SM 4500 F C	
MB 500-517561/3	Method Blank	Total/NA	Water	SM 4500 F C	
MB 500-517561/31	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-517561/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCS 500-517561/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-173472-5 MS	MW-17	Total/NA	Water	SM 4500 F C	
500-173472-5 MSD	MW-17	Total/NA	Water	SM 4500 F C	

QC Sample Results

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

Job ID: 500-173472-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-517478/1-A
Matrix: Water
Analysis Batch: 517624

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 517478

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		11/26/19 17:10	11/27/19 08:37	1

Lab Sample ID: LCS 500-517478/2-A
Matrix: Water
Analysis Batch: 517624

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 517478

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.522		mg/L		104	80 - 120

Lab Sample ID: MB 500-518505/1-A
Matrix: Water
Analysis Batch: 518695

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 518505

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		12/03/19 17:10	12/04/19 12:49	1

Lab Sample ID: LCS 500-518505/2-A
Matrix: Water
Analysis Batch: 518695

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 518505

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.100	0.112		mg/L		112	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-517477/1-A
Matrix: Water
Analysis Batch: 517825

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 517477

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/26/19 17:06	11/27/19 20:13	1
Arsenic	<0.0010		0.0010		mg/L		11/26/19 17:06	11/27/19 20:13	1
Barium	<0.0025		0.0025		mg/L		11/26/19 17:06	11/27/19 20:13	1
Beryllium	<0.0010		0.0010		mg/L		11/26/19 17:06	11/27/19 20:13	1
Cadmium	<0.00050		0.00050		mg/L		11/26/19 17:06	11/27/19 20:13	1
Calcium	<0.20		0.20		mg/L		11/26/19 17:06	11/27/19 20:13	1
Chromium	<0.0050		0.0050		mg/L		11/26/19 17:06	11/27/19 20:13	1
Cobalt	<0.0010		0.0010		mg/L		11/26/19 17:06	11/27/19 20:13	1
Lead	<0.00050		0.00050		mg/L		11/26/19 17:06	11/27/19 20:13	1
Molybdenum	<0.0050		0.0050		mg/L		11/26/19 17:06	11/27/19 20:13	1
Selenium	<0.0025		0.0025		mg/L		11/26/19 17:06	11/27/19 20:13	1
Thallium	<0.0020		0.0020		mg/L		11/26/19 17:06	11/27/19 20:13	1

Lab Sample ID: MB 500-517477/1-A
Matrix: Water
Analysis Batch: 517918

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 517477

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		11/26/19 17:06	11/29/19 11:58	1

QC Sample Results

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

Job ID: 500-173472-1

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

Lab Sample ID: LCS 500-517477/2-A
Matrix: Water
Analysis Batch: 517825

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 517477

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.499		mg/L		100	80 - 120
Arsenic	0.100	0.0939		mg/L		94	80 - 120
Barium	0.500	0.493		mg/L		99	80 - 120
Beryllium	0.0500	0.0496		mg/L		99	80 - 120
Cadmium	0.0500	0.0492		mg/L		98	80 - 120
Calcium	10.0	8.95		mg/L		89	80 - 120
Chromium	0.200	0.206		mg/L		103	80 - 120
Cobalt	0.500	0.526		mg/L		105	80 - 120
Lead	0.100	0.108		mg/L		108	80 - 120
Molybdenum	1.00	0.931		mg/L		93	80 - 120
Selenium	0.100	0.104		mg/L		104	80 - 120
Thallium	0.100	0.108		mg/L		108	80 - 120

Lab Sample ID: LCS 500-517477/2-A
Matrix: Water
Analysis Batch: 517918

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 517477

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.05		mg/L		105	80 - 120

Lab Sample ID: MB 500-517478/1-A
Matrix: Water
Analysis Batch: 517825

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 517478

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/26/19 17:10	11/27/19 21:17	1
Arsenic	<0.0010		0.0010		mg/L		11/26/19 17:10	11/27/19 21:17	1
Barium	<0.0025		0.0025		mg/L		11/26/19 17:10	11/27/19 21:17	1
Beryllium	<0.0010		0.0010		mg/L		11/26/19 17:10	11/27/19 21:17	1
Cadmium	<0.00050		0.00050		mg/L		11/26/19 17:10	11/27/19 21:17	1
Calcium	<0.20		0.20		mg/L		11/26/19 17:10	11/27/19 21:17	1
Chromium	<0.0050		0.0050		mg/L		11/26/19 17:10	11/27/19 21:17	1
Cobalt	<0.0010		0.0010		mg/L		11/26/19 17:10	11/27/19 21:17	1
Lead	<0.00050		0.00050		mg/L		11/26/19 17:10	11/27/19 21:17	1
Molybdenum	<0.0050		0.0050		mg/L		11/26/19 17:10	11/27/19 21:17	1
Selenium	<0.0025		0.0025		mg/L		11/26/19 17:10	11/27/19 21:17	1
Thallium	<0.0020		0.0020		mg/L		11/26/19 17:10	11/27/19 21:17	1

Lab Sample ID: MB 500-517478/1-A
Matrix: Water
Analysis Batch: 517918

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 517478

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		11/26/19 17:10	11/29/19 12:57	1

QC Sample Results

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

Job ID: 500-173472-1

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

Lab Sample ID: LCS 500-517478/2-A
Matrix: Water
Analysis Batch: 517825

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 517478

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.529		mg/L		106	80 - 120
Arsenic	0.100	0.101		mg/L		101	80 - 120
Barium	2.00	2.11		mg/L		106	80 - 120
Beryllium	0.0500	0.0517		mg/L		103	80 - 120
Cadmium	0.0500	0.0509		mg/L		102	80 - 120
Calcium	10.0	9.17		mg/L		92	80 - 120
Chromium	0.200	0.205		mg/L		103	80 - 120
Cobalt	0.500	0.533		mg/L		107	80 - 120
Lead	0.100	0.109		mg/L		109	80 - 120
Molybdenum	1.00	0.975		mg/L		98	80 - 120
Selenium	0.100	0.104		mg/L		104	80 - 120
Thallium	0.100	0.107		mg/L		107	80 - 120

Lab Sample ID: LCS 500-517478/2-A
Matrix: Water
Analysis Batch: 517918

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 517478

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.11		mg/L		111	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-516379/12-A
Matrix: Water
Analysis Batch: 516627

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 516379

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/20/19 09:25	11/21/19 08:37	1

Lab Sample ID: LCS 500-516379/13-A
Matrix: Water
Analysis Batch: 516627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 516379

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00183		mg/L		92	80 - 120

Lab Sample ID: MB 500-516382/12-A
Matrix: Water
Analysis Batch: 516627

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 516382

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/20/19 09:25	11/21/19 09:34	1

Lab Sample ID: LCS 500-516382/13-A
Matrix: Water
Analysis Batch: 516627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 516382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00196		mg/L		98	80 - 120

QC Sample Results

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

Job ID: 500-173472-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 500-173472-5 MS
Matrix: Water
Analysis Batch: 516627

Client Sample ID: MW-17
Prep Type: Total/NA
Prep Batch: 516382

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020		0.00100	0.00110		mg/L		110	75 - 125

Lab Sample ID: 500-173472-5 MSD
Matrix: Water
Analysis Batch: 516627

Client Sample ID: MW-17
Prep Type: Total/NA
Prep Batch: 516382

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00020		0.00100	0.00110		mg/L		110	75 - 125	0	20

Lab Sample ID: 500-173472-5 DU
Matrix: Water
Analysis Batch: 516627

Client Sample ID: MW-17
Prep Type: Total/NA
Prep Batch: 516382

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

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

Lab Sample ID: MB 500-516292/1
Matrix: Water
Analysis Batch: 516292

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			11/19/19 21:56	1

Lab Sample ID: LCS 500-516292/2
Matrix: Water
Analysis Batch: 516292

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	264		mg/L		106	80 - 120

Lab Sample ID: MB 500-516510/1
Matrix: Water
Analysis Batch: 516510

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			11/20/19 23:05	1

Lab Sample ID: LCS 500-516510/2
Matrix: Water
Analysis Batch: 516510

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	266		mg/L		106	80 - 120

QC Sample Results

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

Job ID: 500-173472-1

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

Lab Sample ID: MB 500-516512/1
Matrix: Water
Analysis Batch: 516512

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			11/21/19 04:57	1

Lab Sample ID: LCS 500-516512/2
Matrix: Water
Analysis Batch: 516512

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	276		mg/L		110	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-517228/12
Matrix: Water
Analysis Batch: 517228

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			11/25/19 10:46	1

Lab Sample ID: LCS 500-517228/13
Matrix: Water
Analysis Batch: 517228

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	49.1		mg/L		98	85 - 115

Lab Sample ID: 500-173472-1 MS
Matrix: Water
Analysis Batch: 517228

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
Chloride	47		50.0	90.5		mg/L		86	75 - 125

Lab Sample ID: 500-173472-1 MSD
Matrix: Water
Analysis Batch: 517228

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
Chloride	47		50.0	89.9		mg/L		85	75 - 125	1	20

Lab Sample ID: 500-173472-4 MS
Matrix: Water
Analysis Batch: 517228

Client Sample ID: MW-19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	53		50.0	91.0		mg/L		77	75 - 125

QC Sample Results

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

Job ID: 500-173472-1

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

Lab Sample ID: 500-173472-4 MSD
Matrix: Water
Analysis Batch: 517228

Client Sample ID: MW-19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	53		50.0	96.4		mg/L		88	75 - 125	6	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-517561/3
Matrix: Water
Analysis Batch: 517561

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			11/26/19 17:54	1

Lab Sample ID: MB 500-517561/31
Matrix: Water
Analysis Batch: 517561

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			11/26/19 19:56	1

Lab Sample ID: LCS 500-517561/32
Matrix: Water
Analysis Batch: 517561

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	20.0	21.4		mg/L		107	80 - 120

Lab Sample ID: LCS 500-517561/4
Matrix: Water
Analysis Batch: 517561

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	20.0	21.2		mg/L		106	80 - 120

Lab Sample ID: 500-173472-5 MS
Matrix: Water
Analysis Batch: 517561

Client Sample ID: MW-17
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.55		5.00	5.49		mg/L		99	75 - 125

Lab Sample ID: 500-173472-5 MSD
Matrix: Water
Analysis Batch: 517561

Client Sample ID: MW-17
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.55		5.00	5.57		mg/L		100	75 - 125	1	20

QC Sample Results

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

Job ID: 500-173472-1

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-467607/6
Matrix: Water
Analysis Batch: 467607

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			11/26/19 12:34	1

Lab Sample ID: LCS 400-467607/7
Matrix: Water
Analysis Batch: 467607

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	15.8		mg/L		105	90 - 110

Lab Sample ID: MRL 400-467607/3
Matrix: Water
Analysis Batch: 467607

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.62		mg/L		112	50 - 150

Lab Sample ID: 500-173472-2 MS
Matrix: Water
Analysis Batch: 467607

Client Sample ID: MW-08
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	110		10.0	113	4	mg/L		62	77 - 128

Lab Sample ID: 500-173472-2 MSD
Matrix: Water
Analysis Batch: 467607

Client Sample ID: MW-08
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	110		10.0	112	4	mg/L		49	77 - 128	1	5

Lab Sample ID: MB 400-467673/6
Matrix: Water
Analysis Batch: 467673

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			11/26/19 20:53	1

Lab Sample ID: LCS 400-467673/7
Matrix: Water
Analysis Batch: 467673

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	15.9		mg/L		106	90 - 110

Lab Sample ID: MRL 400-467673/3
Matrix: Water
Analysis Batch: 467673

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.62		mg/L		112	50 - 150

QC Sample Results

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

Job ID: 500-173472-1

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-467674/6
Matrix: Water
Analysis Batch: 467674

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			11/26/19 22:53	1

Lab Sample ID: LCS 400-467674/7
Matrix: Water
Analysis Batch: 467674

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	14.9		mg/L		100	90 - 110		

Lab Sample ID: MRL 400-467674/3
Matrix: Water
Analysis Batch: 467674

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	5.31		mg/L		106	50 - 150		

Lab Sample ID: 500-173472-9 MS
Matrix: Water
Analysis Batch: 467674

Client Sample ID: MW-12
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	280		10.0	281	4	mg/L		0.5	77 - 128		

Lab Sample ID: 500-173472-9 MSD
Matrix: Water
Analysis Batch: 467674

Client Sample ID: MW-12
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	280		10.0	281	4	mg/L		1	77 - 128	0	5

Lab Chronicle

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

Job ID: 500-173472-1

Client Sample ID: MW-01

Date Collected: 11/13/19 11:20
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	517624	11/27/19 08:45	JEF	TAL CHI
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	517825	11/27/19 22:06	FXG	TAL CHI
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	517918	11/29/19 13:04	FXG	TAL CHI
Total/NA	Prep	7470A			516382	11/20/19 09:25	MJG	TAL CHI
Total/NA	Analysis	7470A		1	516627	11/21/19 09:51	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	516292	11/19/19 22:52	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	517228	11/25/19 10:49	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	517561	11/26/19 19:38	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		2	467607	11/26/19 13:09	RRC	TAL PEN

Client Sample ID: MW-08

Date Collected: 11/13/19 12:30
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	517624	11/27/19 08:50	JEF	TAL CHI
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	517825	11/27/19 22:10	FXG	TAL CHI
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	517918	11/29/19 13:08	FXG	TAL CHI
Total/NA	Prep	7470A			516382	11/20/19 09:25	MJG	TAL CHI
Total/NA	Analysis	7470A		1	516627	11/21/19 09:53	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	516292	11/19/19 22:55	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	517228	11/25/19 11:57	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	517561	11/26/19 19:42	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	467607	11/26/19 13:09	RRC	TAL PEN

Client Sample ID: MW-18

Date Collected: 11/13/19 13:50
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	517624	11/27/19 08:54	JEF	TAL CHI
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	517825	11/27/19 22:13	FXG	TAL CHI
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	517918	11/29/19 13:12	FXG	TAL CHI
Total/NA	Prep	7470A			516382	11/20/19 09:25	MJG	TAL CHI
Total/NA	Analysis	7470A		1	516627	11/21/19 09:55	MJG	TAL CHI

Lab Chronicle

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

Job ID: 500-173472-1

Client Sample ID: MW-18
Date Collected: 11/13/19 13:50
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	516510	11/20/19 23:41	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	517228	11/25/19 11:58	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	517561	11/26/19 19:49	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	467607	11/26/19 13:13	RRC	TAL PEN

Client Sample ID: MW-19
Date Collected: 11/13/19 14:42
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	517624	11/27/19 08:59	JEF	TAL CHI
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	517825	11/27/19 22:17	FXG	TAL CHI
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	517918	11/29/19 13:16	FXG	TAL CHI
Total/NA	Prep	7470A			516382	11/20/19 09:25	MJG	TAL CHI
Total/NA	Analysis	7470A		1	516627	11/21/19 09:56	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	516510	11/20/19 23:43	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	517228	11/25/19 11:59	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	517561	11/26/19 19:52	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	467607	11/26/19 13:13	RRC	TAL PEN

Client Sample ID: MW-17
Date Collected: 11/13/19 15:11
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	517624	11/27/19 09:03	JEF	TAL CHI
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	517825	11/27/19 22:21	FXG	TAL CHI
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	517918	11/29/19 13:19	FXG	TAL CHI
Total/NA	Prep	7470A			516382	11/20/19 09:25	MJG	TAL CHI
Total/NA	Analysis	7470A		1	516627	11/21/19 09:58	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	516510	11/20/19 23:46	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		25	517228	11/25/19 12:02	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	517561	11/26/19 20:10	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		30	467607	11/26/19 13:13	RRC	TAL PEN

Lab Chronicle

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

Job ID: 500-173472-1

Client Sample ID: Duplicate

Lab Sample ID: 500-173472-6
Matrix: Water
Date Collected: 11/13/19 00:00
Date Received: 11/14/19 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	517624	11/27/19 09:08	JEF	TAL CHI
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	517825	11/27/19 22:25	FXG	TAL CHI
Total Recoverable	Prep	3005A			517478	11/26/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	517918	11/29/19 13:23	FXG	TAL CHI
Total/NA	Prep	7470A			516382	11/20/19 09:25	MJG	TAL CHI
Total/NA	Analysis	7470A		1	516627	11/21/19 10:09	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	516510	11/20/19 23:48	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	517228	11/25/19 12:03	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	517561	11/26/19 20:19	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	467607	11/26/19 13:13	RRC	TAL PEN

Client Sample ID: MW-09

Lab Sample ID: 500-173472-7
Matrix: Water
Date Collected: 11/14/19 08:32
Date Received: 11/15/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			518505	12/03/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	518695	12/04/19 13:07	JEF	TAL CHI
Total Recoverable	Prep	3005A			517477	11/26/19 17:06	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	517825	11/27/19 20:50	FXG	TAL CHI
Total Recoverable	Prep	3005A			517477	11/26/19 17:06	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	517918	11/29/19 12:28	FXG	TAL CHI
Total/NA	Prep	7470A			516379	11/20/19 09:25	MJG	TAL CHI
Total/NA	Analysis	7470A		1	516627	11/21/19 09:28	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	516512	11/21/19 05:28	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	517228	11/25/19 12:04	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	517561	11/26/19 20:34	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	467673	11/26/19 21:34	RRC	TAL PEN

Client Sample ID: MW-11

Lab Sample ID: 500-173472-8
Matrix: Water
Date Collected: 11/14/19 09:30
Date Received: 11/15/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			518505	12/03/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	518695	12/04/19 13:11	JEF	TAL CHI
Total Recoverable	Prep	3005A			517477	11/26/19 17:06	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	517825	11/27/19 20:54	FXG	TAL CHI
Total Recoverable	Prep	3005A			517477	11/26/19 17:06	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	517918	11/29/19 12:32	FXG	TAL CHI
Total/NA	Prep	7470A			516379	11/20/19 09:25	MJG	TAL CHI
Total/NA	Analysis	7470A		1	516627	11/21/19 09:30	MJG	TAL CHI

Lab Chronicle

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

Job ID: 500-173472-1

Client Sample ID: MW-11

Date Collected: 11/14/19 09:30
Date Received: 11/15/19 08:55

Lab Sample ID: 500-173472-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	516512	11/21/19 05:30	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	517228	11/25/19 12:05	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	517561	11/26/19 20:37	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	467673	11/26/19 21:34	RRC	TAL PEN

Client Sample ID: MW-12

Date Collected: 11/14/19 10:17
Date Received: 11/15/19 08:55

Lab Sample ID: 500-173472-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			518505	12/03/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	518695	12/04/19 13:16	JEF	TAL CHI
Total Recoverable	Prep	3005A			517477	11/26/19 17:06	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	517825	11/27/19 20:58	FXG	TAL CHI
Total Recoverable	Prep	3005A			517477	11/26/19 17:06	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	517918	11/29/19 12:49	FXG	TAL CHI
Total/NA	Prep	7470A			516379	11/20/19 09:25	MJG	TAL CHI
Total/NA	Analysis	7470A		1	516627	11/21/19 09:31	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	516512	11/21/19 05:33	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	517228	11/25/19 12:06	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	517561	11/26/19 20:42	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	467674	11/26/19 23:19	RRC	TAL PEN

Client Sample ID: MW-15

Date Collected: 11/14/19 11:53
Date Received: 11/15/19 08:55

Lab Sample ID: 500-173472-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			518505	12/03/19 17:10	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	518695	12/04/19 13:20	JEF	TAL CHI
Total Recoverable	Prep	3005A			517477	11/26/19 17:06	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	517825	11/27/19 21:02	FXG	TAL CHI
Total Recoverable	Prep	3005A			517477	11/26/19 17:06	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	517918	11/29/19 12:53	FXG	TAL CHI
Total/NA	Prep	7470A			516379	11/20/19 09:25	MJG	TAL CHI
Total/NA	Analysis	7470A		1	516627	11/21/19 09:33	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	516512	11/21/19 05:35	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	517228	11/25/19 12:06	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	517561	11/26/19 20:46	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	467674	11/26/19 23:19	RRC	TAL PEN

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200
TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

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

Job ID: 500-173472-1

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	100201	04-30-20

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
Arkansas DEQ	State	88-0689	09-01-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kansas	NELAP	E-10253	08-16-20
Kentucky (UST)	State	53	06-30-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Louisiana (DW)	State	<cert No.>	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State	314	12-31-19
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-20
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State	96026002	06-30-20
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-20
US Fish & Wildlife	Federal	LE058448-0	07-31-20
US Fish & Wildlife	US Federal Programs	LE058448	06-07-20
USDA	Federal	P330-18-00148	05-17-21
USDA	US Federal Programs	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-20
Washington	State	C915	05-15-20
West Virginia DEP	State	136	06-30-20

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 #: 500-173472

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler: 33, 3.9 (Corr 1.7)

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

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

500-173472 COC

Client	Client Project #
KPRG	12313.1
Project Name: Powerton CCR	
Project Location/State: Pekin, IL	Lab Project #
Sampler: Mitchel Dolan	Lab PM

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative: 3	8	8	3	Comments
							Parameter: Total Metals	Sulfate	TDS, Cl, Fl	Rad 226/228	
1		MW-01	11/13/19	1120	6	GW	X	X	X	X	
2		MW-08		1230							
3		MW-18		1350							
4		MW-19		1442							
5		MW-17		1511							
6		Duplicate		—							

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
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	11/13/19	1630	FEDEX		11/13/19	1630
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

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

Lab Comments:

TAL-4124-500 (1209)

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 #: 500-173472

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler:

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

Bill To (optional)
Contact:
Company:
Address:
Address:
Phone: 500-173472 COC
Fax:
PO#/Reference#

Client	Client Project #
KPRG	12313.1
Project Name: Powerton CCR	
Project Location/State: Pekin IL	Lab Project #
Sampler: Michael Dolan	Lab PM: Erin Lang

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	3	8	8	5						Comments
							Parameter	Total Metals	Sulfate	TDS, Cl, Fl	Rad 226/228						
1		MW-09	11/14/19	0832	6	GW		X	X	X	X						
2		MW-11		0930													
3		MW-12		1017													
4		MW-15		1153	2												

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
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	11/14/19	1400	FEDEX		11/14/19	1400
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
				[signature]	TA	11-5-19	0855
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped
Hand Delivered

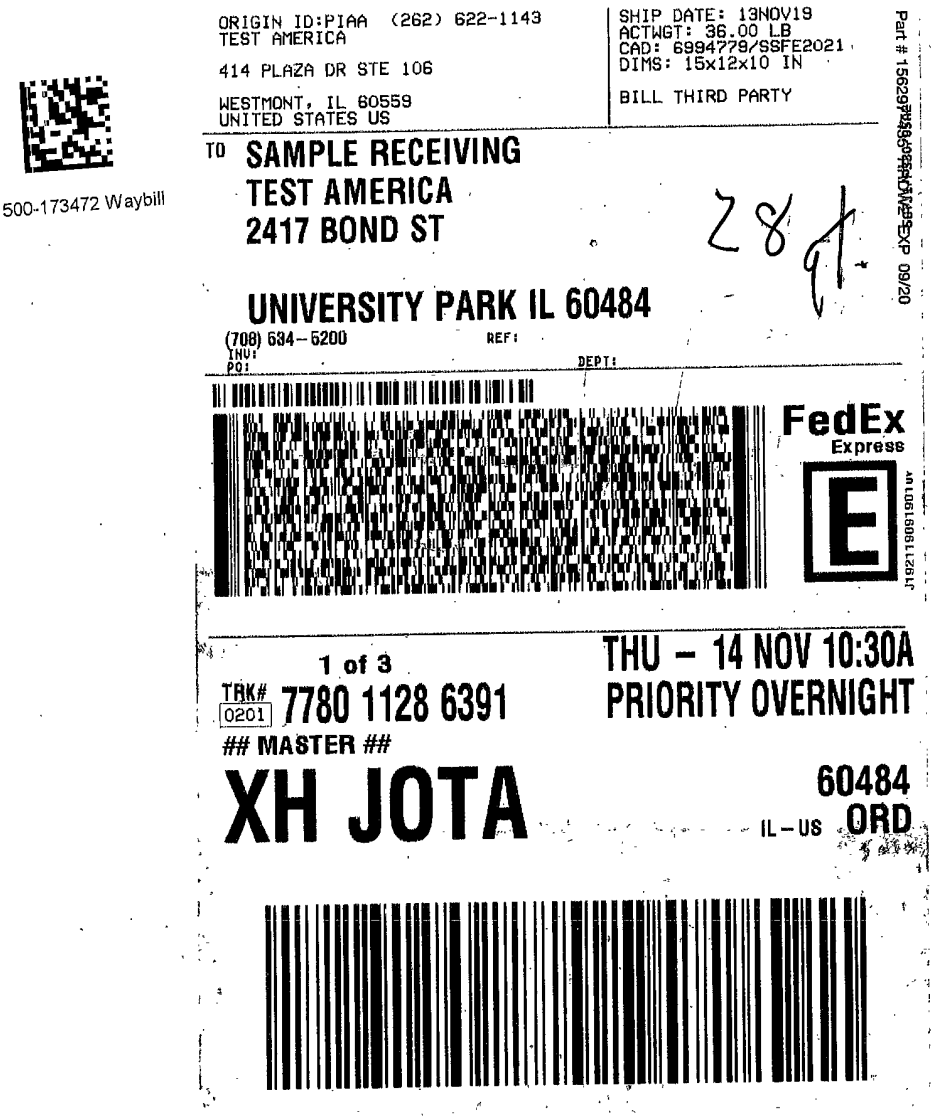
Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TAL-4124-500 (1209)

500-173472 Waybill


ORIGIN ID:PIAA (262) 622-1143
TEST AMERICA

414 PLAZA DR STE 106

WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 13NOV19
ACTWGT: 36.00 LB
CAD: 6994779/SSFE2021
DIMS: 15x12x10 IN

BILL THIRD PARTY

TO SAMPLE RECEIVING
TEST AMERICA
2417 BOND ST

UNIVERSITY PARK IL 60484

(708) 634-5200

REF:

INV:

PO:

DEPT:

FedEx
Express

1 of 3

TRK# 0201 7780 1128 6391

MASTER

XH JOTA

THU - 14 NOV 10:30A
PRIORITY OVERNIGHT

60484
IL-US ORD

ORIGIN ID:PIAA (262) 622-1143
TEST AMERICA

414 PLAZA DR STE 106

WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 13NOV19
ACTWGT: 45.00 LB
CAD: 6994779/SSFE2021
DIMS: 24x18x12 IN

BILL THIRD PARTY

TO SAMPLE RECEIVING
TEST AMERICA
2417 BOND ST

UNIVERSITY PARK IL 60484
(708) 534-6200
INV:
PO:
REF:
DEPT:

RT 519 5 10:30
ST 16

48 qt.

FedEx Express

3 of 3
MPS# 0263 7780 1128 6417
Mstr# 7780 1128 6391

0201

THU - 14 NOV 10:30A
PRIORITY OVERNIGHT

XH JOTA

60484
IL-US ORD

ORIGIN ID:PIAA (262) 622-1143
TEST AMERICA

414 PLAZA DR STE 106

WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 13NOV19
ACTWGT: 65.00 LB
CAD: 6994779/SSFE2021
DIMS: 24x18x12 IN

BILL THIRD PARTY

TO SAMPLE RECEIVING
TEST AMERICA
2417 BOND ST

500-173472

48 qt.

UNIVERSITY PARK IL 60484
(708) 634-6200
INV:
PO:
REF:
DEPT:

FedE
Expre

2 of 3
MPS# 0263 7780 1128 6406
Mstr# 7780 1128 6391

0201

THU - 14 NOV
PRIORITY

5 10:30
RT 519
ST 16

XH JOTA


ORIGIN ID:PIAA (262) 622-1143
TEST AMERICA
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

ST 21

18x12 IN

TO SAMPLE RECEIVING
TEST AMERICA
2417 BOND ST

UNIVERSITY PARK IL 60484
(708) 634-6200
INV:
PO:
REF:
DEPT:

500-173472 Waybill

FedEx Express

4 of 4
MPS# 0263 780 3439 9763
Mstr# 780 3439 9730

FRI - 15 NOV 3:00P
STANDARD OVERNIGHT

0201

XH JOTA

60484
IL-US ORD

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-128618.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-173472-1
Address: 13715 Rider Trail North,	Due Date Requested: 11/26/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Powerton CCR	Project #: 50011612			
Site: MWG - Powerton	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-01 (500-173472-1)	11/13/19	11:20 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-08 (500-173472-2)	11/13/19	12:30 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-18 (500-173472-3)	11/13/19	13:50 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-19 (500-173472-4)	11/13/19	14:42 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-17 (500-173472-5)	11/13/19	15:11 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
Duplicate (500-173472-6)	11/13/19	Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 11/14/19 1600	Company TA	Received by:	Date/Time: 11/15/19 08:55	Company TASTL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-128687.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-173472-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 11/27/2019			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Powerton CCR	Project #: 50011612			
Site: MWG - Powerton	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-01 (500-173472-1)	11/13/19	11:20 Central		Water			X	1	
MW-08 (500-173472-2)	11/13/19	12:30 Central		Water			X	1	
MW-18 (500-173472-3)	11/13/19	13:50 Central		Water			X	1	
MW-19 (500-173472-4)	11/13/19	14:42 Central		Water			X	1	
MW-17 (500-173472-5)	11/13/19	15:11 Central		Water			X	1	
Duplicate (500-173472-6)	11/13/19	Central		Water			X	1	
MW-09 (500-173472-7)	11/14/19	08:32 Central		Water			X	1	
MW-11 (500-173472-8)	11/14/19	09:30 Central		Water			X	1	
MW-12 (500-173472-9)	11/14/19	10:17 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 11/18/19 1500	Company: TA	Received by: [illegible]	Date/Time: 11-19-19 906	Company: TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.3C IR7

Ver: 01/16/2019

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-128687.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-173472-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 11/27/2019			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Powerton CCR	Project #: 50011612			
Site: MWG - Powerton	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-15 (500-173472-10)	11/14/19	11:53 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	11/18/19 1500	TA	[signature]	11.19.19 900	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.3°C IR7

Ver: 01/16/2019

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

0.3°C Cus IR7

ORIGIN ID:JOTA (708) 534-5200
SAMPLE LOGIN
TESTAMERICA LABS
2417 BOND ST

UNIVERSITY PARK, IL 60484
UNITED STATES US

SHIP DATE: 18NOV19
ACTWGT: 23.00 LB MAN
CAD: 33264/CAFE3211

BILL RECIPIENT

TO SAMPLE RECEIVING
TESTAMERICA PENSACOLA
3355 MCLEMORE DR.

PENSACOLA FL 32514
(850) 474-1001
REF: 173472 SS

FedEx Express

TRK# 0201 4059 7183 8407

TUE - 19 NOV 10:30A
PRIORITY OVERNIGHT

XH PNSA

32514
FL-US BFM

SIGNATURE
DATE

eurofins | Environ TestAm

Custody Seal

956823

Part # 159469-434 RIT EXP 07/20

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-173472-1

Login Number: 173472
List Number: 1
Creator: James, Jeff A

List Source: Eurofins 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	3.3,3.9,1.7, 1.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-173472-1

Login Number: 173472
List Number: 4
Creator: Brown, Nathan

List Source: Eurofins TestAmerica, Pensacola
List Creation: 11/19/19 05:18 PM

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.	N/A	
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	0.3°C IR7
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	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-173472-2
Client Project/Site: Powerton CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
12/11/2019 2:52:36 PM
Therese Hargraves, Project Manager I
(708)793-3461
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Designee for

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

Table of Contents

Job ID: 500-173472-2

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-173472-2

Comments
No additional comments.

Receipt
The samples were received on 11/14/2019 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 1.3º C, 1.7º C, 3.3º C and 3.9º C.

RAD
Method 903.0: Radium-226 Prep Batch 160-450986
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

MW-01 (500-173472-1), MW-08 (500-173472-2), MW-18 (500-173472-3), MW-19 (500-173472-4), MW-17 (500-173472-5), Duplicate (500-173472-6), MW-09 (500-173472-7), MW-11 (500-173472-8), MW-12 (500-173472-9), MW-15 (500-173472-10), (LCS 160-450986/1-A), (MB 160-450986/21-A), (440-254611-T-1-A) and (440-254611-U-1-A DU)

Method 904.0: Radium-228 Prep Batch 160-450991

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
MW-01 (500-173472-1), MW-08 (500-173472-2), MW-18 (500-173472-3), MW-19 (500-173472-4), MW-17 (500-173472-5), Duplicate (500-173472-6), MW-09 (500-173472-7), MW-11 (500-173472-8), MW-12 (500-173472-9), MW-15 (500-173472-10), (LCS 160-450991/1-A), (MB 160-450991/21-A), (440-254611-T-1-B) and (440-254611-U-1-B DU)

Method PrecSep_0: Radium 228 Prep Batch 160-450991:

This observation narrative is for the following samples:MW-08 (500-173472-2), MW-18 (500-173472-3), MW-17 (500-173472-5), MW-09 (500-173472-7) and MW-11 (500-173472-8). Samples 500-173472-2, 3, 5, and 7 had light yellow discoloration with tiny particles. Sample 500-173472-1 was reduced due to sediment and cloudy yellow discoloration. Sample 500-173472-8 was reduced due to sediment and pale yellow discoloration. Sample 440-254626-1 was reduced due to insufficient volume.

Method PrecSep-21: Radium 226 Prep Batch 160-450986:

This observation narrative is for the following samples:MW-01 (500-173472-1), MW-08 (500-173472-2), MW-18 (500-173472-3), MW-17 (500-173472-5), Duplicate (500-173472-6), MW-09 (500-173472-7) and MW-11 (500-173472-8). Samples 500-173472-2, 3, 5, and 7 had light yellow discoloration with tiny particles. Sample 500-173472-1 was reduced due to sediment and cloudy yellow discoloration. Sample 500-173472-8 was reduced due to sediment and pale yellow discoloration. Sample 440-254626-1 was reduced due to insufficient volume.

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

Method Summary

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

Job ID: 500-173472-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

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

Job ID: 500-173472-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-173472-1	MW-01	Water	11/13/19 11:20	11/14/19 09:40	
500-173472-2	MW-08	Water	11/13/19 12:30	11/14/19 09:40	
500-173472-3	MW-18	Water	11/13/19 13:50	11/14/19 09:40	
500-173472-4	MW-19	Water	11/13/19 14:42	11/14/19 09:40	
500-173472-5	MW-17	Water	11/13/19 15:11	11/14/19 09:40	
500-173472-6	Duplicate	Water	11/13/19 00:00	11/14/19 09:40	
500-173472-7	MW-09	Water	11/14/19 08:32	11/15/19 08:55	
500-173472-8	MW-11	Water	11/14/19 09:30	11/15/19 08:55	
500-173472-9	MW-12	Water	11/14/19 10:17	11/15/19 08:55	
500-173472-10	MW-15	Water	11/14/19 11:53	11/15/19 08:55	

Client Sample Results

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

Job ID: 500-173472-2

Client Sample ID: MW-01

Date Collected: 11/13/19 11:20
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-1

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.314**		0.180	0.182	1.00	0.243	pCi/L	11/18/19 17:31	12/10/19 05:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.0*		*40 - 110*	*11/18/19 17:31*	*12/10/19 05:41*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.569	U	0.491	0.494	1.00	0.779	pCi/L	11/18/19 18:54	11/22/19 13:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.0*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:18*	*1*
Y Carrier	*79.3*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:18*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.884**		0.523	0.526	5.00	0.779	pCi/L		12/11/19 08:45	1

Client Sample ID: MW-08

Date Collected: 11/13/19 12:30
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.116		0.0701	0.0708	1.00	0.0923	pCi/L	11/18/19 17:31	12/10/19 05:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.1*		*40 - 110*	*11/18/19 17:31*	*12/10/19 05:41*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0773	U	0.286	0.286	1.00	0.498	pCi/L	11/18/19 18:54	11/22/19 13:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.1*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:19*	*1*
Y Carrier	*77.4*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:19*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.193	U	0.294	0.295	5.00	0.498	pCi/L		12/11/19 08:45	1

Client Sample ID: MW-18

Date Collected: 11/13/19 13:50
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.233**		0.107	0.109	1.00	0.130	pCi/L	11/18/19 17:31	12/10/19 05:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.9*		*40 - 110*	*11/18/19 17:31*	*12/10/19 05:41*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0795	U	0.280	0.280	1.00	0.490	pCi/L	11/18/19 18:54	11/22/19 13:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.9*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:19*	*1*
Y Carrier	*78.1*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:19*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.313	U	0.300	0.300	5.00	0.490	pCi/L		12/11/19 08:45	1

Client Sample ID: MW-19

Date Collected: 11/13/19 14:42
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.114		0.0800	0.0806	1.00	0.113	pCi/L	11/18/19 17:31	12/10/19 05:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.9*		*40 - 110*	*11/18/19 17:31*	*12/10/19 05:41*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.277	U	0.276	0.277	1.00	0.447	pCi/L	11/18/19 18:54	11/22/19 13:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.9*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:19*	*1*
Y Carrier	*80.0*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:19*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.391	U	0.287	0.288	5.00	0.447	pCi/L		12/11/19 08:45	1

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

Job ID: 500-173472-2

Client Sample ID: MW-17

Date Collected: 11/13/19 15:11
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.346**		0.112	0.117	1.00	0.114	pCi/L	11/18/19 17:31	12/10/19 05:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.7*		*40 - 110*	*11/18/19 17:31*	*12/10/19 05:41*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.297	U	0.305	0.306	1.00	0.496	pCi/L	11/18/19 18:54	11/22/19 13:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.7*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:19*	*1*
Y Carrier	*75.1*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:19*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.643**		0.325	0.328	5.00	0.496	pCi/L		12/11/19 08:45	1

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

Job ID: 500-173472-2

Client Sample ID: Duplicate

Date Collected: 11/13/19 00:00
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-6

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0767	U	0.0778	0.0781	1.00	0.124	pCi/L	11/18/19 17:31	12/10/19 05:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.9*		*40 - 110*	*11/18/19 17:31*	*12/10/19 05:41*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.381	U	0.264	0.266	1.00	0.409	pCi/L	11/18/19 18:54	11/22/19 13:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.9*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:19*	*1*
Y Carrier	*77.0*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:19*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.458**		0.275	0.277	5.00	0.409	pCi/L		12/11/19 08:45	1

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

Job ID: 500-173472-2

Client Sample ID: MW-09

Date Collected: 11/14/19 08:32
Date Received: 11/15/19 08:55

Lab Sample ID: 500-173472-7

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.113	U	0.0794	0.0800	1.00	0.114	pCi/L	11/18/19 17:31	12/10/19 05:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.0*		*40 - 110*	*11/18/19 17:31*	*12/10/19 05:41*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.302	U	0.283	0.285	1.00	0.457	pCi/L	11/18/19 18:54	11/22/19 13:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.0*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:19*	*1*
Y Carrier	*76.3*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:19*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.415	U	0.294	0.296	5.00	0.457	pCi/L		12/11/19 08:45	1

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

Job ID: 500-173472-2

Client Sample ID: MW-11

Date Collected: 11/14/19 09:30
Date Received: 11/15/19 08:55

Lab Sample ID: 500-173472-8

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.05		0.207	0.228	1.00	0.165	pCi/L	11/18/19 17:31	12/10/19 05:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.7*		*40 - 110*	*11/18/19 17:31*	*12/10/19 05:41*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.59		0.529	0.549	1.00	0.731	pCi/L	11/18/19 18:54	11/22/19 13:20	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.7*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:20*	*1*
Y Carrier	*75.5*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:20*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.64		0.568	0.594	5.00	0.731	pCi/L		12/11/19 08:45	1

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

Job ID: 500-173472-2

Client Sample ID: MW-12

Date Collected: 11/14/19 10:17
Date Received: 11/15/19 08:55

Lab Sample ID: 500-173472-9

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0821	U	0.0891	0.0894	1.00	0.144	pCi/L	11/18/19 17:31	12/10/19 05:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.7*		*40 - 110*	*11/18/19 17:31*	*12/10/19 05:41*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.486	U	0.347	0.350	1.00	0.543	pCi/L	11/18/19 18:54	11/22/19 13:20	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.7*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:20*	*1*
Y Carrier	*75.9*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:20*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.568**		0.358	0.361	5.00	0.543	pCi/L		12/11/19 08:45	1

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

Job ID: 500-173472-2

Client Sample ID: MW-15

Date Collected: 11/14/19 11:53
Date Received: 11/15/19 08:55

Lab Sample ID: 500-173472-10

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0937	U	0.0715	0.0720	1.00	0.104	pCi/L	11/18/19 17:31	12/10/19 07:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.2*		*40 - 110*	*11/18/19 17:31*	*12/10/19 07:50*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0442	U	0.268	0.268	1.00	0.475	pCi/L	11/18/19 18:54	11/22/19 13:20	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.2*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:20*	*1*
Y Carrier	*75.1*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:20*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.138	U	0.277	0.278	5.00	0.475	pCi/L		12/11/19 08:45	1

Definitions/Glossary

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

Job ID: 500-173472-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Rad

Prep Batch: 450986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-1	MW-01	Total/NA	Water	PrecSep-21	
500-173472-2	MW-08	Total/NA	Water	PrecSep-21	
500-173472-3	MW-18	Total/NA	Water	PrecSep-21	
500-173472-4	MW-19	Total/NA	Water	PrecSep-21	
500-173472-5	MW-17	Total/NA	Water	PrecSep-21	
500-173472-6	Duplicate	Total/NA	Water	PrecSep-21	
500-173472-7	MW-09	Total/NA	Water	PrecSep-21	
500-173472-8	MW-11	Total/NA	Water	PrecSep-21	
500-173472-9	MW-12	Total/NA	Water	PrecSep-21	
500-173472-10	MW-15	Total/NA	Water	PrecSep-21	
MB 160-450986/21-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-450986/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 450991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173472-1	MW-01	Total/NA	Water	PrecSep_0	
500-173472-2	MW-08	Total/NA	Water	PrecSep_0	
500-173472-3	MW-18	Total/NA	Water	PrecSep_0	
500-173472-4	MW-19	Total/NA	Water	PrecSep_0	
500-173472-5	MW-17	Total/NA	Water	PrecSep_0	
500-173472-6	Duplicate	Total/NA	Water	PrecSep_0	
500-173472-7	MW-09	Total/NA	Water	PrecSep_0	
500-173472-8	MW-11	Total/NA	Water	PrecSep_0	
500-173472-9	MW-12	Total/NA	Water	PrecSep_0	
500-173472-10	MW-15	Total/NA	Water	PrecSep_0	
MB 160-450991/21-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-450991/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-450986/21-A
Matrix: Water
Analysis Batch: 453777

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450986

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.01935	U	0.0610	0.0610	1.00	0.112	pCi/L	11/18/19 17:40	12/10/19 07:50	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.2*		*40 - 110*	*11/18/19 17:40*	*12/10/19 07:50*	*1*

Lab Sample ID: LCS 160-450986/1-A
Matrix: Water
Analysis Batch: 453777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450986

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	10.72		1.10	1.00	0.0992	pCi/L	94	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*92.8*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-450991/21-A
Matrix: Water
Analysis Batch: 451601

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450991

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.08470	U	0.248	0.249	1.00	0.431	pCi/L	11/18/19 18:54	11/22/19 13:20	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.2*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:20*	*1*
Y Carrier	*78.9*		*40 - 110*	*11/18/19 18:54*	*11/22/19 13:20*	*1*

Lab Sample ID: LCS 160-450991/1-A
Matrix: Water
Analysis Batch: 451695

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450991

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.37	10.48		1.26	1.00	0.573	pCi/L	112	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*92.8*		*40 - 110*
Y Carrier	*76.3*		*40 - 110*

Lab Chronicle

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

Job ID: 500-173472-2

Client Sample ID: MW-01
Date Collected: 11/13/19 11:20
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			450986	11/18/19 17:31	ORM	TAL SL
Total/NA	Analysis	903.0		1	453777	12/10/19 05:41	KLS	TAL SL
Total/NA	Prep	PrecSep_0			450991	11/18/19 18:54	ORM	TAL SL
Total/NA	Analysis	904.0		1	451601	11/22/19 13:18	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	453917	12/11/19 08:45	SMP	TAL SL

Client Sample ID: MW-08
Date Collected: 11/13/19 12:30
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			450986	11/18/19 17:31	ORM	TAL SL
Total/NA	Analysis	903.0		1	453777	12/10/19 05:41	KLS	TAL SL
Total/NA	Prep	PrecSep_0			450991	11/18/19 18:54	ORM	TAL SL
Total/NA	Analysis	904.0		1	451601	11/22/19 13:19	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	453917	12/11/19 08:45	SMP	TAL SL

Client Sample ID: MW-18
Date Collected: 11/13/19 13:50
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			450986	11/18/19 17:31	ORM	TAL SL
Total/NA	Analysis	903.0		1	453777	12/10/19 05:41	KLS	TAL SL
Total/NA	Prep	PrecSep_0			450991	11/18/19 18:54	ORM	TAL SL
Total/NA	Analysis	904.0		1	451601	11/22/19 13:19	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	453917	12/11/19 08:45	SMP	TAL SL

Client Sample ID: MW-19
Date Collected: 11/13/19 14:42
Date Received: 11/14/19 09:40

Lab Sample ID: 500-173472-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			450986	11/18/19 17:31	ORM	TAL SL
Total/NA	Analysis	903.0		1	453777	12/10/19 05:41	KLS	TAL SL
Total/NA	Prep	PrecSep_0			450991	11/18/19 18:54	ORM	TAL SL
Total/NA	Analysis	904.0		1	451601	11/22/19 13:19	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	453917	12/11/19 08:45	SMP	TAL SL

Lab Chronicle

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

Job ID: 500-173472-2

Client Sample ID: MW-17

Lab Sample ID: 500-173472-5

Date Collected: 11/13/19 15:11

Matrix: Water

Date Received: 11/14/19 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			450986	11/18/19 17:31	ORM	TAL SL
Total/NA	Analysis	903.0		1	453777	12/10/19 05:41	KLS	TAL SL
Total/NA	Prep	PrecSep_0			450991	11/18/19 18:54	ORM	TAL SL
Total/NA	Analysis	904.0		1	451601	11/22/19 13:19	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	453917	12/11/19 08:45	SMP	TAL SL

Client Sample ID: Duplicate

Lab Sample ID: 500-173472-6

Date Collected: 11/13/19 00:00

Matrix: Water

Date Received: 11/14/19 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			450986	11/18/19 17:31	ORM	TAL SL
Total/NA	Analysis	903.0		1	453777	12/10/19 05:41	KLS	TAL SL
Total/NA	Prep	PrecSep_0			450991	11/18/19 18:54	ORM	TAL SL
Total/NA	Analysis	904.0		1	451601	11/22/19 13:19	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	453917	12/11/19 08:45	SMP	TAL SL

Client Sample ID: MW-09

Lab Sample ID: 500-173472-7

Date Collected: 11/14/19 08:32

Matrix: Water

Date Received: 11/15/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			450986	11/18/19 17:31	ORM	TAL SL
Total/NA	Analysis	903.0		1	453777	12/10/19 05:41	KLS	TAL SL
Total/NA	Prep	PrecSep_0			450991	11/18/19 18:54	ORM	TAL SL
Total/NA	Analysis	904.0		1	451601	11/22/19 13:19	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	453917	12/11/19 08:45	SMP	TAL SL

Client Sample ID: MW-11

Lab Sample ID: 500-173472-8

Date Collected: 11/14/19 09:30

Matrix: Water

Date Received: 11/15/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			450986	11/18/19 17:31	ORM	TAL SL
Total/NA	Analysis	903.0		1	453777	12/10/19 05:41	KLS	TAL SL
Total/NA	Prep	PrecSep_0			450991	11/18/19 18:54	ORM	TAL SL
Total/NA	Analysis	904.0		1	451601	11/22/19 13:20	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	453917	12/11/19 08:45	SMP	TAL SL

Lab Chronicle

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

Job ID: 500-173472-2

Client Sample ID: MW-12

Lab Sample ID: 500-173472-9

Date Collected: 11/14/19 10:17

Matrix: Water

Date Received: 11/15/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			450986	11/18/19 17:31	ORM	TAL SL
Total/NA	Analysis	903.0		1	453777	12/10/19 05:41	KLS	TAL SL
Total/NA	Prep	PrecSep_0			450991	11/18/19 18:54	ORM	TAL SL
Total/NA	Analysis	904.0		1	451601	11/22/19 13:20	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	453917	12/11/19 08:45	SMP	TAL SL

Client Sample ID: MW-15

Lab Sample ID: 500-173472-10

Date Collected: 11/14/19 11:53

Matrix: Water

Date Received: 11/15/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			450986	11/18/19 17:31	ORM	TAL SL
Total/NA	Analysis	903.0		1	453777	12/10/19 07:50	KLS	TAL SL
Total/NA	Prep	PrecSep_0			450991	11/18/19 18:54	ORM	TAL SL
Total/NA	Analysis	904.0		1	451601	11/22/19 13:20	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	453917	12/11/19 08:45	SMP	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

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

Job ID: 500-173472-2

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	100201	04-30-20

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	200023	11-30-19 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
903.0	PrecSep-21	Water	Radium-226
904.0	PrecSep_0	Water	Radium-228
Ra226_Ra228		Water	Combined Radium 226 + 228

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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#

500-173472 COC

Chain of Custody Record

Lab Job #: 500-173472

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler: 33, 3.9 (Corr 1.7)

Client	Client Project #	Preservative	3	8	8	3						Preservative Key
KPRG	12313.1											1. HCL, Cool to 4°
Project Name: Powerton CCR		Parameter	Total Metals	Sulfate	TDS, Cl, Fl	Rad 226/228						2. H2SO4, Cool to 4°
Project Location/State: Pekin, IL	Lab Project #											3. HNO3, Cool to 4°
Sampler: Mitchel Dolan	Lab PM											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									Comments
1		MW-01	11/13/19	1120	6	GW	X	X	X	X					
2		MW-08		1230											
3		MW-18		1350											
4		MW-19		1442											
5		MW-17		1511											
6		Duplicate		-											

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	11/13/19	1630	FEDEX		11/13/19	1630
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

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

Lab Comments:

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: 500-173472 COC
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-173472
Chain of Custody Number:
Page 1 of 1
Temperature °C of Cooler:

Client: KPRG
Client Project #: 12313.1
Project Name: Powerton CCR
Project Location/State: Pekin IL
Lab Project #:
Sampler: Michael Dolan
Lab PM: Erin Lang

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	3	8	8	5						Comments
							Parameter	Total Metals	Sulfate	TDS, Cl, Fl	Rad 226/228						
1		MW-09	11/14/19	0832	6	GW		X	X	X	X						
2		MW-11		0930													
3		MW-12		1017													
4		MW-15		1153													

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
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	11/14/19	1400	FEDEX		11/14/19	1400
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
				[signature]	TA	11-15-19	0855
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

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

Lab Comments:

500-173472 Waybill

ORIGIN ID:PIAA (262) 622-1143
TEST AMERICA
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 13NOV19
ACTWGT: 45.00 LB
CAD: 6994779/SSFE2021
DIMS: 24x18x12 IN
BILL THIRD PARTY

TO SAMPLE RECEIVING
TEST AMERICA
2417 BOND ST

UNIVERSITY PARK IL 60484
(708) 534-5200
INV:
PO:
REF:
DEPT:

48 qt.

RT 519 5 10:30
ST 16

FedEx Express

3 of 3
MPS# 0263 7780 1128 6417
Mstr# 7780 1128 6391

THU - 14 NOV 10:30A
PRIORITY OVERNIGHT

0201

XH JOTA

60484
IL-US ORD

ORIGIN ID:PIAA (262) 622-1143
TEST AMERICA
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 13NOV19
ACTWGT: 65.00 LB
CAD: 6994779/SSFE2021
DIMS: 24x18x12 IN
BILL THIRD PARTY

TO SAMPLE RECEIVING
TEST AMERICA
2417 BOND ST

500, 173472 48 qt.

UNIVERSITY PARK IL 60484
(708) 534-5200
INV:
PO:
REF:
DEPT:

FedE Expre

2 of 3
MPS# 0263 7780 1128 6406
Mstr# 7780 1128 6391

THU - 14 NOV
PRIORITY

0201

XH JOTA

RT 519 5 10:30
ST 16


ORIGIN ID:PIAA (262) 622-1143
TEST AMERICA
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US
TO SAMPLE RECEIVING
TEST AMERICA
2417 BOND ST
UNIVERSITY PARK IL 60484
(708) 534-5200
INV:
PO:
REF:
DEPT:
500-173472 Waybill
FedEx
Express
4 of 4
MPS#
0263
7780 3439 9763
Mstr#
780 3439 9730
XH JOTA
0201
FRI - 15 NOV 3:00P
STANDARD OVERNIGHT
60484
IL-US ORD

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-128618.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-173472-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/26/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Powerton CCR	Project #: 50011612			
Site: MWG - Powerton	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-01 (500-173472-1)	11/13/19	11:20 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-08 (500-173472-2)	11/13/19	12:30 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-18 (500-173472-3)	11/13/19	13:50 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-19 (500-173472-4)	11/13/19	14:42 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-17 (500-173472-5)	11/13/19	15:11 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
Duplicate (500-173472-6)	11/13/19	Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	11/14/19 1600	TA	[signature]	11/15/19 0855	TASTL
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-128655.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-173472-2
Address: 13715 Rider Trail North,	Due Date Requested: 11/26/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Powerton CCR	Project #: 50011612			
Site: MWG - Powerton	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-09 (500-173472-7)	11/14/19	08:32 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-11 (500-173472-8)	11/14/19	09:30 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-12 (500-173472-9)	11/14/19	10:17 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs
MW-15 (500-173472-10)	11/14/19	11:53 Central		Water			X	X	X	3	Full QC needed (dups, etc) Batch QC must be performed (dup, spikes, etc) - no NCMs

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 11/15/19 1700	Company: TA	Received by:	Date/Time: 11-16-19 08:30	Company: TA SLC
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-173472-2

Login Number: 173472
List Number: 1
Creator: James, Jeff A

List Source: Eurofins 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	3.3,3.9,1.7, 1.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-173472-2

Login Number: 173472
List Number: 2
Creator: Harris, Lorin C

List Source: Eurofins TestAmerica, St. Louis
List Creation: 11/15/19 01:49 PM

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.	False	
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?	False	
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.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-173472-2

Login Number: 173472
List Number: 3
Creator: Hellm, Michael

List Source: Eurofins TestAmerica, St. Louis
List Creation: 11/16/19 10:16 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	24.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

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

Job ID: 500-173472-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba Carrier (40-110)
500-173472-1	MW-01	86.0
500-173472-2	MW-08	90.1
500-173472-3	MW-18	77.9
500-173472-4	MW-19	83.9
500-173472-5	MW-17	85.7
500-173472-6	Duplicate	97.9
500-173472-7	MW-09	94.0
500-173472-8	MW-11	93.7
500-173472-9	MW-12	82.7
500-173472-10	MW-15	87.2
LCS 160-450986/1-A	Lab Control Sample	92.8
MB 160-450986/21-A	Method Blank	95.2

Tracer/Carrier Legend

Ba Carrier = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba Carrier (40-110)	Y Carrier (40-110)
500-173472-1	MW-01	86.0	79.3
500-173472-2	MW-08	90.1	77.4
500-173472-3	MW-18	77.9	78.1
500-173472-4	MW-19	83.9	80.0
500-173472-5	MW-17	85.7	75.1
500-173472-6	Duplicate	97.9	77.0
500-173472-7	MW-09	94.0	76.3
500-173472-8	MW-11	93.7	75.5
500-173472-9	MW-12	82.7	75.9
500-173472-10	MW-15	87.2	75.1
LCS 160-450991/1-A	Lab Control Sample	92.8	76.3
MB 160-450991/21-A	Method Blank	95.2	78.9

Tracer/Carrier Legend

Ba Carrier = Ba Carrier

Y Carrier = Y Carrier

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-175686-1
Client Project/Site: Powerton CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
1/7/2020 6:54:04 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: Powerton CCR

Job ID: 500-175686-1

Job ID: 500-175686-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-175686-1

Comments
No additional comments.

Receipt
The sample was received on 12/30/2019 8:40 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.1° C.

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

Detection Summary

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

Job ID: 500-175686-1

Client Sample ID: MW-01

Lab Sample ID: 500-175686-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.0021		0.0010		mg/L	1		6020A	Total Recoverable
Lead	0.0041		0.00050		mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Method Summary

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

Job ID: 500-175686-1

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

Protocol References:

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

Laboratory References:

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

Sample Summary

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

Job ID: 500-175686-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-175686-1	MW-01	Water	12/26/19 08:58	12/30/19 08:40	

Client Sample Results

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

Job ID: 500-175686-1

Client Sample ID: MW-01

Date Collected: 12/26/19 08:58
Date Received: 12/30/19 08:40

Lab Sample ID: 500-175686-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0021		0.0010		mg/L		12/31/19 06:44	12/31/19 14:36	1
Lead	0.0041		0.00050		mg/L		12/31/19 06:44	12/31/19 14:36	1

Definitions/Glossary

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

Job ID: 500-175686-1

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: Powerton CCR

Job ID: 500-175686-1

Metals

Filtration Batch: 522853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-522853/1-C	Method Blank	Total Recoverable	Water	FILTRATION	

Prep Batch: 523029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-175686-1	MW-01	Total Recoverable	Water	3005A	
MB 500-522853/1-C	Method Blank	Total Recoverable	Water	3005A	522853
LCS 500-523029/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 523516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-175686-1	MW-01	Total Recoverable	Water	6020A	523029
MB 500-522853/1-C	Method Blank	Total Recoverable	Water	6020A	523029
LCS 500-523029/2-A	Lab Control Sample	Total Recoverable	Water	6020A	523029

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-522853/1-C
Matrix: Water
Analysis Batch: 523516

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 523029

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.0010		0.0010		mg/L		12/31/19 06:44	12/31/19 14:10	1
Lead	<0.00050		0.00050		mg/L		12/31/19 06:44	12/31/19 14:10	1

Lab Sample ID: LCS 500-523029/2-A
Matrix: Water
Analysis Batch: 523516

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 523029

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.500	0.529		mg/L		106	80 - 120
Lead	0.100	0.106		mg/L		106	80 - 120

Lab Chronicle

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

Job ID: 500-175686-1

Client Sample ID: MW-01

Date Collected: 12/26/19 08:58
Date Received: 12/30/19 08:40

Lab Sample ID: 500-175686-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			523029	12/31/19 06:44	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	523516	12/31/19 14:36	FXG	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 500-175686-1

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	100201	04-30-20

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 60
Phone: 708.534.5200 Fax: 708.534

500-175686 COC

(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 #: 500-175686

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler: 5.1

Client: KPRG
Client Project #: 12313.1
Project Name: Powerton CCR
Project Location/State: Pekin, IL
Lab Project #:
Sampler: Michael Dolan
Lab PM: Erica Lang

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	Parameter: Cobalt (total)	Parameter: Lead (total)	Comments
1		MW-01	12/26	0858	1	W	X	X	

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

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

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	KPRG	12/27/19	1430	FEDEX	~~KPRG~~	12/27/19	1430
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
				[signature] Scott TA ERT		12/30/19	0840
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier: TA
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: Rush T.A. (3-day)

Lab Comments:

TAL-4124-500-1209

1/7/2020

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-175686-1

Login Number: 175686
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins 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	5.1
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	

Appendix B
Alternate Source Demonstration March 25, 2019

K P R G

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

ALTERNATE SOURCE DEMONSTRATION
CCR GROUNDWATER MONITORING
POWERTON GENERATING STATION

March 25, 2019

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

VIA E-MAIL

Re: Alternate Source Demonstration – Appendix IV Parameters
Powerton Generating Station – Ash By-pass Basin and Ash Surge Basin

Dear Ms. Shealey:

The Midwest Generation, LLC (Midwest Generation) Powerton Station is currently in assessment monitoring for the Ash By-pass Basin (ABB) and Ash Surge Basin (ASB) in accordance with the Federal Register, Environmental Protection Agency, 40 CFR Part 257.95, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule dated April 17, 2015 (CCR Rule). The wells being sampled were selected to meet the monitoring requirements of the CCR Rule for the ABB and the ASB. The monitoring well network around these basins consists of nine monitoring wells (MW-01 [upgradient], MW-08, MW-09 [upgradient], MW-11, MW-12, MW-15, MW-17, MW-18 and MW-19 [upgradient]) as shown on Figure 1.

Pursuant to Part 257.95(h)(1-3) of the CCR Rule, the applicable site specific Groundwater Protection Standards (GWPSs) for the twelve detected Appendix IV parameters were established in accordance with procedures defined in CCR Compliance Statistical Approach for Groundwater Data Evaluation, Midwest Generation Powerton Generating Station. This evaluation was summarized in a letter report titled Statistical Evaluation Summary CCR Groundwater Assessment Monitoring Powerton Generating Station dated December 26, 2018. The evaluation identified arsenic, barium, molybdenum, selenium and thallium above established GWPSs at several well locations with none of the individual well locations having all five of the parameters at elevated levels. In accordance with the CCR Rule, Midwest Generation conducted an Alternate Source Demonstration (ASD) under provisions in Section 257.95(g)(ii) to determine whether these SSIs may be

associated with an actual release from the regulated unit(s) or if another potential source in the vicinity of the basins may be affecting the local groundwater quality.

This report summarizes the results of the ASD completed in accordance with 40 CFR 257.95(g)(ii) for the Powerton Generating Station ABB and ASB. The report is structured to provide a documentation of field investigation activities, a presentation of Leaching Environmental Assessment Framework (LEAF) Test data, an alternate source evaluation of the potential SSI parameters, conclusions and recommendations. Each is discussed separately below. The statistical evaluation data tables from December 26, 2018 are provided in Attachment 1 for reference.

DOCUMENTATION OF FIELD ACTIVITIES

To assist in evaluating a potential alternate source(s), both basin water and ash samples were collected. One water sample was collected from the ASB and one water sample was collected from the ABB. The water samples were collected directly into laboratory prepared containers, transported on ice under a completed chain-of-custody to the analytical laboratory and analyzed for CCR Appendix IV assessment monitoring parameters. Analytical data package is provided in Attachment 2.

One composite ash sample was collected for each of the two basins (ASB and ABB). The composite samples consisted of a series of equivalent grab samples from across the length of each basin, from the inlet area to the outfall, to minimize potential skewing of the sample due to gradation changes (i.e., a larger coarse fraction near the inlet and larger fine fraction near outfall). The individual grab samples were thoroughly mixed to form a single composite sample for each basin. The composite samples were transferred directly into laboratory prepared containers, placed on ice and shipped to the analytical laboratory under a completed chain-of-custody. The ash sediment samples were analyzed using the 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 IV assessment monitoring parameters. The analytical data package is provided in Attachment 2.

LEAF TEST DATA

The results of the basin water and the ash LEAF Test analyses are provided in Tables 1 and 2, respectively. A review of Table 2 indicates that the Natural pH of the leachate ranges from 9.0 in the ABB to 8.6 in the ASB. The basin water pH was at 8.2 and 7.3 for the ABB and ASB, respectively (Table 1).

The LEAF Test data for the five Appendix IV parameters that had detections above the GWPS are illustrated in graphical form on Figures 2 through 6 as a function of pH. On those figures are also plotted the results of the "Natural pH" test samples, upgradient monitoring wells MW-01, MW-09 and MW-19 and the monitoring well data from the

affected wells which are the subject of this evaluation (MW-11, MW-12, MW-15 and MW-17) for the May and August 2018 sampling events (the assessment monitoring events which were compared to established GWPSs). For values reported as not-detected, one-half of the detection limit was used on the plots.

ALTERNATE SOURCE EVALUATION OF THE SSI PARAMETERS

Monitoring wells MW-11 and MW-12 are the immediate downgradient monitoring points for the ABB and wells MW-09 and MW-19 are considered local upgradient monitoring points. For statistical evaluation purposes, well MW-01 was also considered for representation of background. Downgradient monitoring well MW-11 is screened within a gravelly sand unit and indicated detections of arsenic and barium above the respective GWPSs. Downgradient well MW-12 is screened within a silty clay unit and indicated only detections of arsenic above the GWPS for that parameter.

Monitoring wells MW-15 and MW-17 are both immediately downgradient of the ASB and wells MW-11 and MW-12, discussed above to be downgradient relative to the ABB, may also be considered local upgradient of the ASB (they are downgradient wells for the ABB but upgradient of the ASB, located generally between the two basins; see Figure 1). Wells MW-15 and MW-17 are also both completed within areas of historical fill material placement which includes ash. Both are screened within a silty clay unit.

Arsenic

The established GWPS for arsenic is set at 0.011 mg/l. Arsenic detections in the May and August 2018 sampling events at well location MW-11 ranged from 0.089 mg/l to 0.68 mg/l, at well MW-12 0.09 mg/l to 0.12 mg/l and at well MW-17 0.087 mg/l to 0.42 mg/l.

A review of all available CCR monitoring data for the three noted upgradient/background wells shows arsenic concentrations to range from not detected to 0.0081 mg/l, however, in the May and August 2018 sampling events, arsenic was not detected in any of these three wells. LEAF Test data for arsenic in leachate under "Natural pH" conditions was 0.0048 mg/l and 0.0033 mg/l in the ABB and ASB, respectively. The basin water collected showed arsenic concentrations between 0.0019 mg/l (ABB) and 0.0032 mg/l (ASB). It is noted that these Natural pH and basin water concentrations are well below the established GWPS. If leachate was being released from the basins and mixing with background water quality, the resulting mixture would not exceed the established GWPS suggesting the elevated arsenic in wells MW-11, MW-12 and MW-17 is from a different source and not associated with a release from the regulated units.

Further review of the LEAF Test data indicates that the only conditions under which the leachate in either the ABB or the ASB show arsenic concentrations in excess of the GWPS is either under very basic conditions (pH greater than 10.5) or very acidic condition (pH less than 4). Basic conditions above pH 10.5 have not been

documented at the site and are generally not associated with bottom ash. Similarly, acidic conditions are highly unlikely and are generally not associated with bottom ash. In addition, if the noted arsenic detections in wells MW-11, MW-12 and MW-17 were associated with some unexplained high or low swings in the pH within the basins, then the pH in the groundwater samples would also reflect an associated increase or decrease which would result in the elevated arsenic detections being correlated to pH. Figure 7 provides a plot of the arsenic and associated pH values for the three subject monitoring wells. Based on the LEAF Test data, the relationship between arsenic and pH to the basic side of neutral (pH>7) should be positive linear and to the acid side of neutral (pH<7) inverse linear (i.e., increasing arsenic with decreasing pH). No such correlations are seen on Figure 7 which again indicates a source of the arsenic other than the regulated units.

Barium

There was only one barium detection above the GWPS which was at well location MW-11 in the August 2018 sampling. Barium was detected at 3.0 mg/l and the GWPS is established at 2.0 mg/l. A review of the other historical data from well MW-11 indicates previous barium concentrations ranging from 0.30 mg/l to 1.4 mg/l.

A review of all available CCR monitoring data for the three noted upgradient/background wells shows barium concentrations to range from 0.027 mg/l to 0.089 mg/l. LEAF Test data for barium in leachate under "Natural pH" conditions was 0.35 mg/l and 0.15 mg/l in the ABB and ASB, respectively. The basin water collected showed barium concentrations between 0.056 mg/l (ABB) and 0.15 mg/l (ASB). It is noted that these Natural pH leachate and basin water concentrations are well below the established GWPS. If leachate was being released from the basins and mixing with background water quality, the resulting mixture would not exceed the established GWPS suggesting the elevated barium in well MW-11 is from a different localized source and not associated with a release from the regulated units.

Further reviewing the LEAF Test data indicates that the only conditions under which the leachate in either the ABB or the ASB show barium concentrations in excess of the GWPS is under acidic conditions (pH 5.5 or less). Acidic conditions are highly unlikely and generally not associated with bottom ash. However, if the noted elevated barium detection in well MW-11 is associated with some unexplained and unlikely downward shift in pH within the ABB, then the pH in the groundwater sample would also reflect an associated decrease which would result in the elevated barium detection being inversely correlated to pH (i.e., increasing barium with decreasing pH). Figure 8 provides a plot of the barium and associated pH values for MW-11 along with a linear regression analysis of the data. The regression analysis shows the R^2 value for the regression line to be approximately 0.002 which indicates no correlation between these two parameters. Looking at the data distribution, the highest detections are clearly not associated with the lowest

pH values. Additional trend analysis using both Linear Regression and Sen's Slope estimator methods using the Sanitas™ statistical software for barium at MW-11 over time showed no statistically significant trends (see Attachment 3). These observations further indicate a localized barium source other than the regulated units.

Another factor to consider is that this is a single high detection above the GWPS. The most likely explanation is that this single high value is an unrepresentative outlier associated with either an analytical artifact or a higher suspended sediment load within the sample skewing the result upwards once preserved in the field with acid. If either of these two potential scenarios is the source of the elevated detection, the resultant data is not reflective of actual groundwater quality.

Molybdenum

There was only one molybdenum detection above the GWPS which was at well location MW-17 in the May 2018 sampling. Molybdenum was detected at 0.13 mg/l and the GWPS is established at 0.10 mg/l. A review of the other historical data from well MW-17 indicates previous molybdenum concentrations ranging from 0.019 mg/l to 0.12 mg/l.

A review of all available CCR monitoring data for the three noted upgradient/background wells shows molybdenum concentrations to range from not detected to 0.053 mg/l. The molybdenum concentrations at wells MW-11 and MW-12 ranged from not detected to 0.028 mg/l. LEAF Test data for molybdenum in leachate under "Natural pH" conditions was estimated at 0.0039 mg/l and 0.0029 mg/l in the ABB and ASB, respectively. The basin water collected showed molybdenum concentrations of 0.096 mg/l (ABB) and 0.01 mg/l (ASB). Well MW-17 is immediately downgradient of the ASB. It is noted that the Natural pH leachate concentrations and ASB basin water concentrations are well below the established GWPS. If leachate was being released from the basins and mixing with background water quality, the resulting mixture would not exceed the established GWPS. In fact, even the highest concentration of molybdenum generated in the LEAF Testing was only 0.0064 mg/l (over an order of magnitude lower than the GWPS) at a pH of 13 which is not a likely condition for bottom ash. The LEAF Test data basically document that the bottom ash within the subject basins is not a significant source of molybdenum, even under the most extreme conditions, indicating that the elevated molybdenum concentration in well MW-17 is from a different localized source and not associated with a release from the regulated units.

Selenium

Selenium was detected above the GWPS at only one downgradient monitoring well (MW-15). The concentration range was from 0.06 mg/l to 0.077 mg/l and the GWPS is established at 0.05 mg/l. A review of the other historical data from well

MW-15 indicates previous selenium concentrations ranging from 0.0032 mg/l to 0.045 mg/l.

A review of all available CCR monitoring data for the three noted upgradient/background wells shows selenium concentrations to range from not detected to 0.011 mg/l. The selenium concentrations at wells MW-11 and MW-12 were all non-detected. LEAF Test data for selenium in leachate under "Natural pH" conditions were not detected in both the ABB and ASB ash samples. The basin water collected showed a selenium concentration estimated at 0.002 mg/l in the ABB sample and was not detected in the ASB sample. It is noted that these Natural pH and basin water concentrations are well below the established GWPS. If leachate was being released from the basins and mixing with background water quality, the resulting mixture would not exceed the established GWPS. In fact, even the highest concentration of selenium generated in the LEAF Testing was only estimated at 0.041 mg/l at a pH of 2 which is not a likely condition for bottom ash. The LEAF Test data basically document that the bottom ash within the subject basins is not a significant source of selenium, even under the most extreme conditions, indicating that the elevated selenium concentration in well MW-15 is from a different localized source and not associated with a release from the regulated units.

Thallium

Thallium was detected above the GWPS at only one downgradient monitoring well (MW-17). The concentration range was from 0.0023 mg/l to 0.0068 mg/l and the GWPS is established at 0.002 mg/l. A review of the other historical data from well MW-17 indicates previous thallium concentrations ranging from not detected to 0.0075 mg/l.

A review of all available CCR monitoring data for the three noted upgradient/background wells shows thallium concentrations to be not detected. The thallium concentrations at wells MW-11 and MW-12 were all non-detected. LEAF Test data for thallium in leachate under "Natural pH" conditions were not detected in both the ABB and ASB ash samples. The basin water collected showed a thallium concentration estimated at 0.000091 mg/l in the ASB sample and was not detected in the ABB sample. It is noted that these Natural pH and basin water concentrations and/or detection limits are well below the established GWPS. If leachate was being released from the basins and mixing with background water quality, the resulting mixture would not exceed the established GWPS. Further evaluation of the LEAF Test data indicates that thallium is only detected in leachate on the acidic side of the pH scale and leachate concentrations only exceed the GWPS under conditions of a pH of approximately 4 or less. These acidic concentrations are not a likely condition for bottom ash. This would also indicate that the thallium concentration is an inverse function of pH (i.e., the lower the pH the higher the thallium concentration). Figure 9 provides a thallium versus pH plot for monitoring well MW-17 along with a linear regression analysis. The plot indicates poor correlation

with an R^2 factor of 0.31 and that any such correlation is linear positive (i.e., increasing concentration with increasing pH) as opposed to inverse as seen in the LEAF Test data. Additional trend analysis using both Linear Regression and Sen's Slope estimator methods using the Sanitas™ statistical software for thallium at MW-17 over time showed no statistically significant trends (see Attachment 3). Combined, these observations indicate that the bottom ash within the subject basins is not a significant source of thallium under any expected site conditions and that the elevated thallium concentration in well MW-17 is from a different localized source and not associated with a release from the regulated units.

CONCLUSIONS/RECOMMENDATIONS

Based on the discussions provided above, the noted arsenic, barium, molybdenum, selenium and thallium concentrations detected above the GWPS at several well locations have been evaluated and determined to be associated with other potential alternate sources and not a release from the regulated units. It is recommended to continue with assessment monitoring on a semi-annual basis in accordance with Sections 257.95(d) and (e) of the CCR Rule.

If there are any questions, please contact me at 262-781-0475.

Sincerely,
KPRG and Associates, Inc.

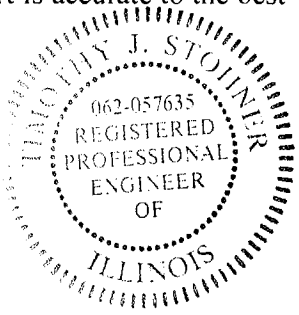
Richard R. Gnat, P.G.
Principal

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

cc: David Bacher, NRG
Joseph Kotas, Midwest Generation

CERTIFICATION

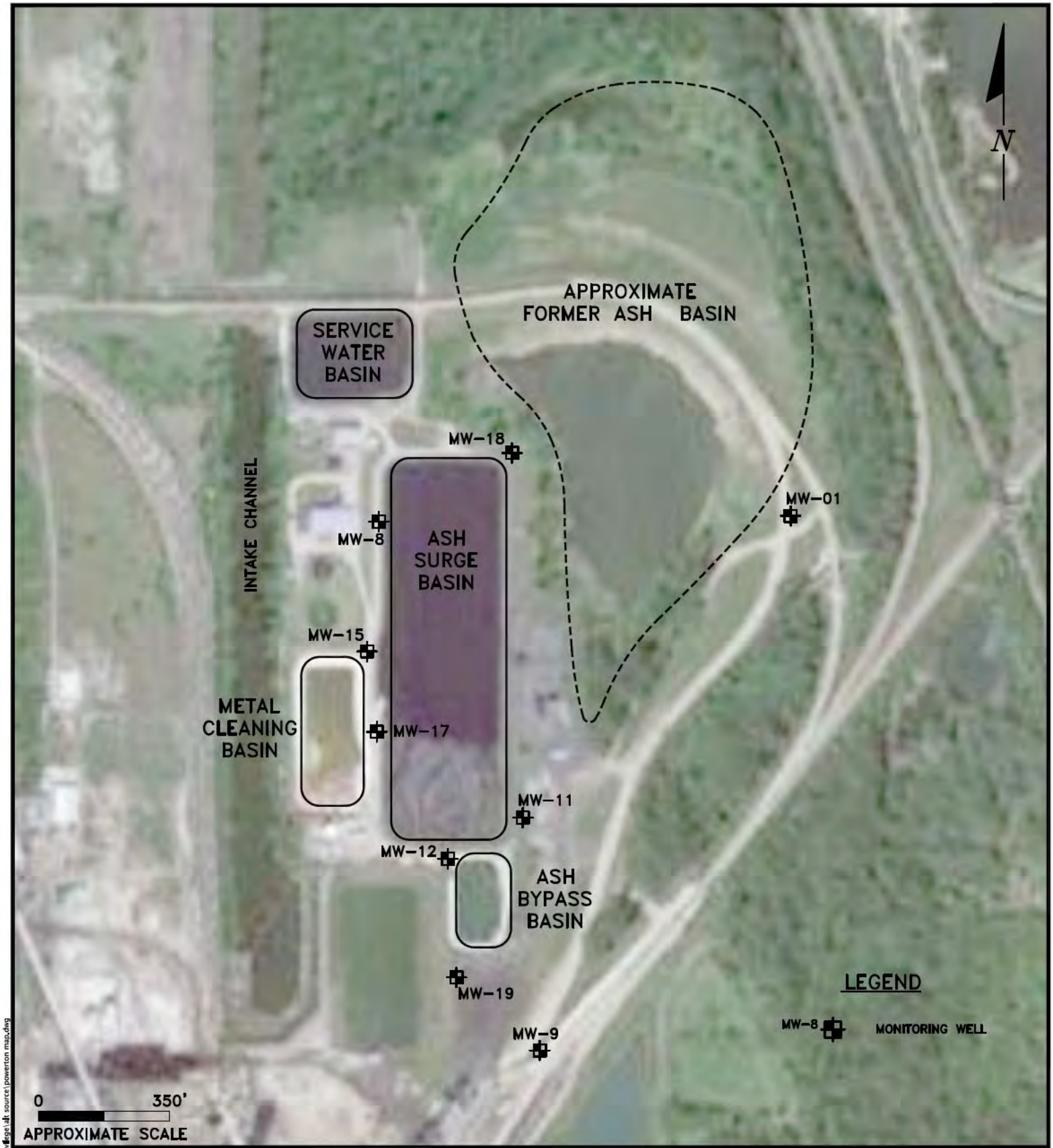
In accordance with Section 257.94(e)(2) of the CCR Rule, I hereby certify based on a review of the information contained within this CCR Alternate Source Demonstration dated March 25, 2019, that the information contained in this report is accurate to the best of my knowledge.



Certified by:
Date: March 25, 2019

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

FIGURES



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

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

14665 West Lisbon Road, Suite 28 Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

ABB AND ASB CCR MONITORING WELL SITE MAP

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 350' | Date: March 13, 2019

KPRG Project No. 23517.3 | FIGURE 1

W:\projects\midwest generation\attorney-client privilege\all source\powerton map.dwg

Figure 2. Arsenic Concentration vs. pH Value - Powerton Station (May/August 2018 Data)

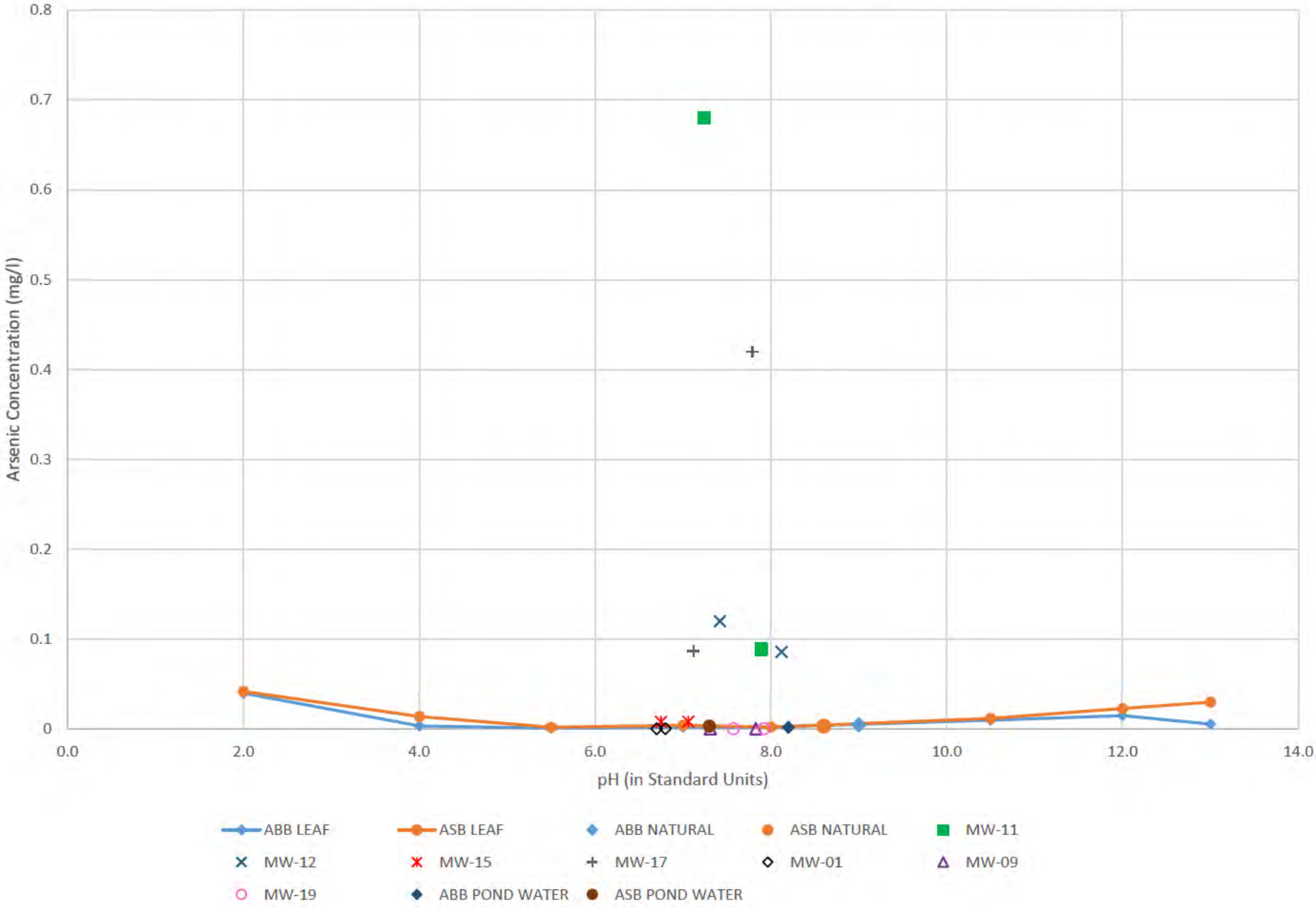


Figure 3. Barium Concentration vs. pH Value - Powerton Station (May/August 2018 Data)

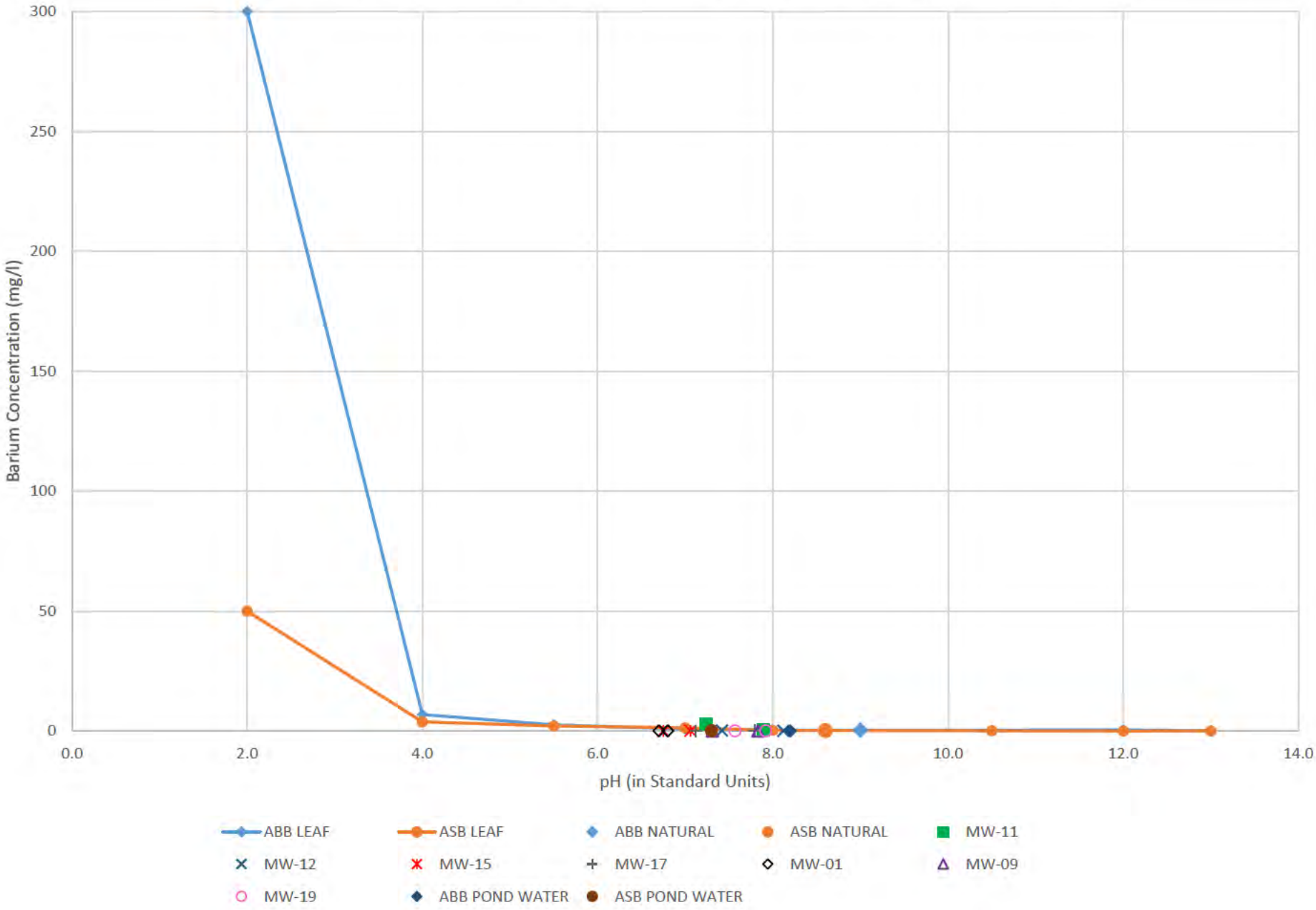


Figure 3a. Barium Concentration vs. pH Value - Powerton Station (May/August 2018 Data)

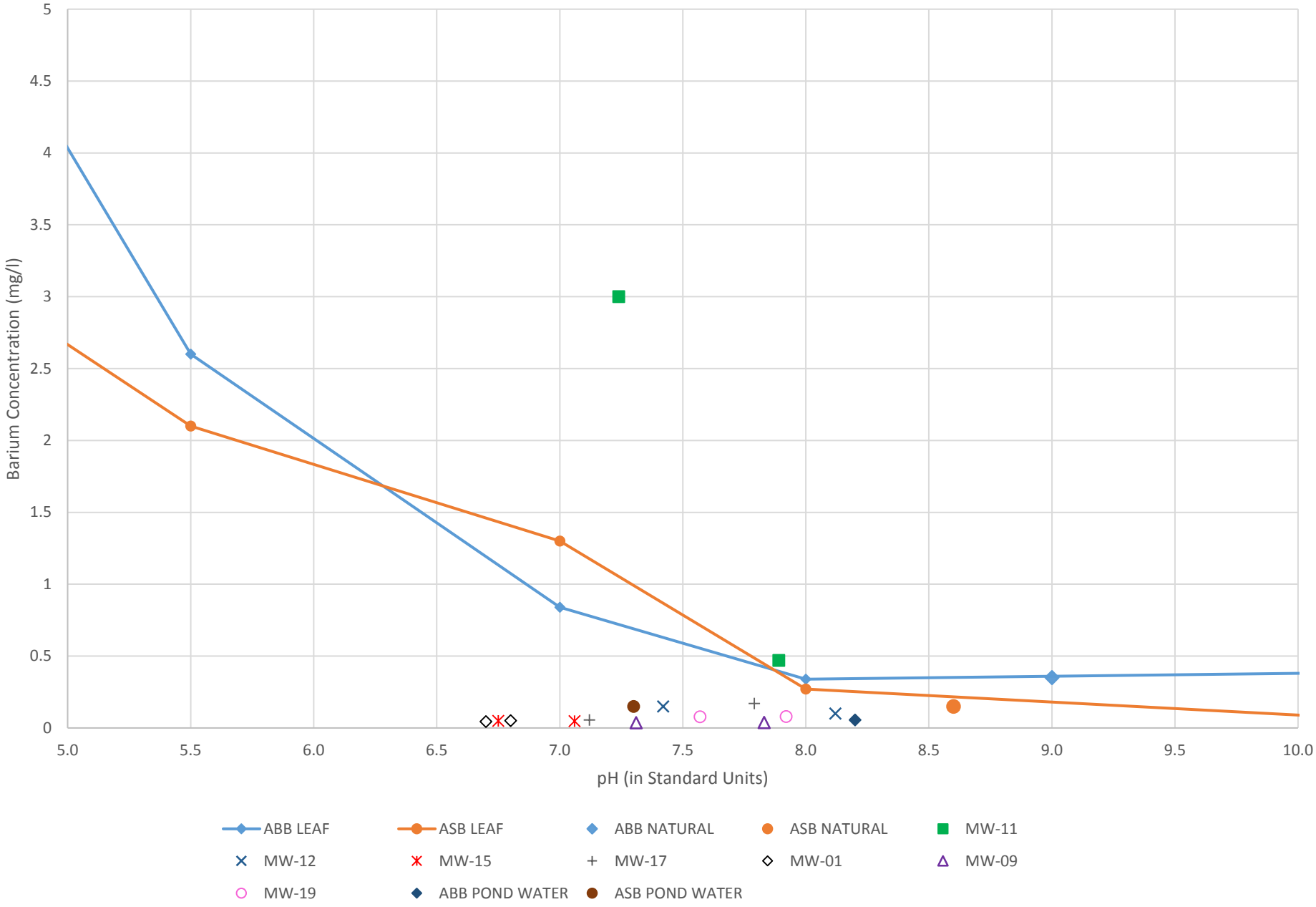


Figure 4. Molybdenum Concentration vs. pH Value - Powerton Station (May/August 2018 Data)

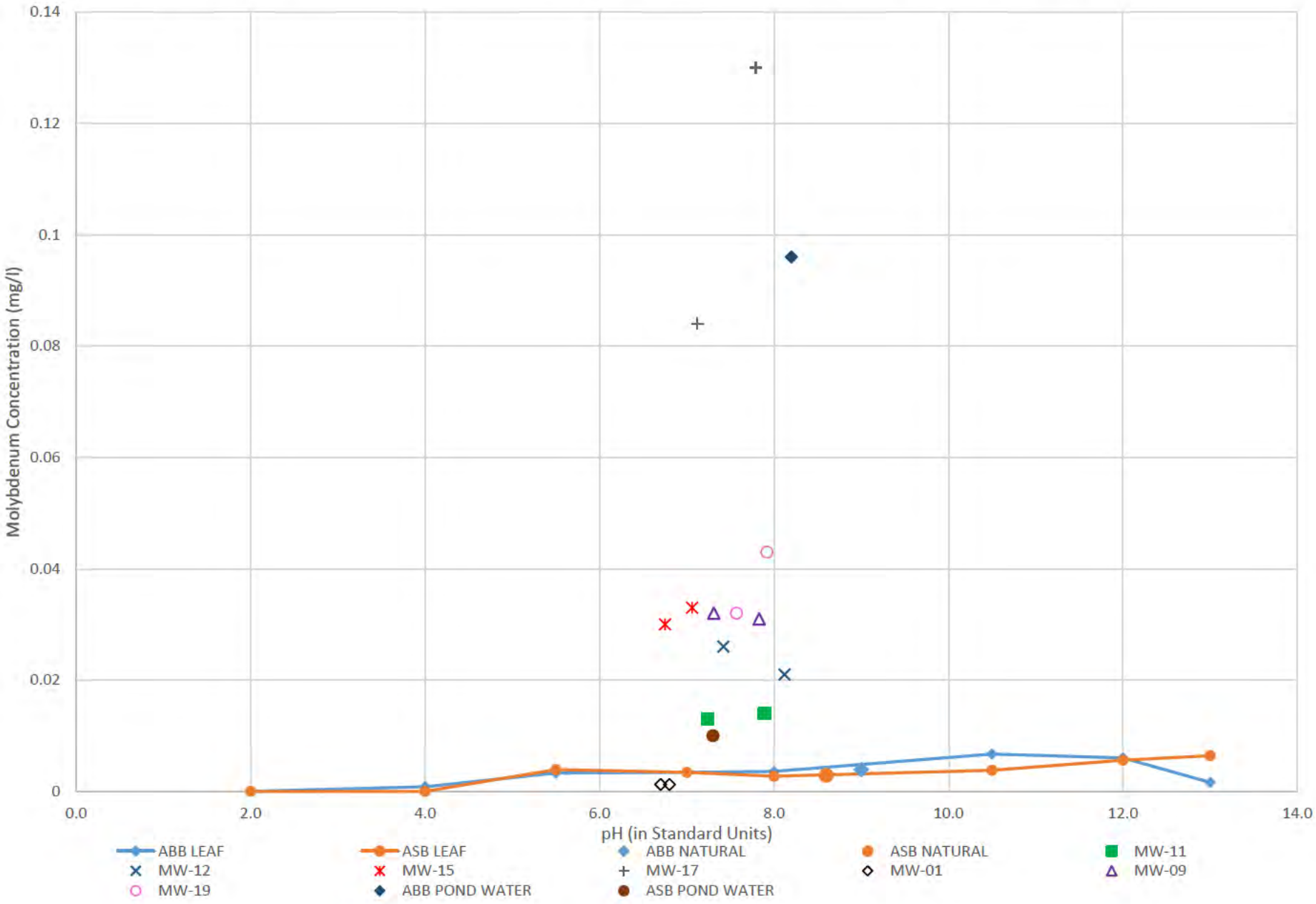


Figure 5. Selenium Concentration vs. pH Value - Powerton Station (May/August 2018 Data)

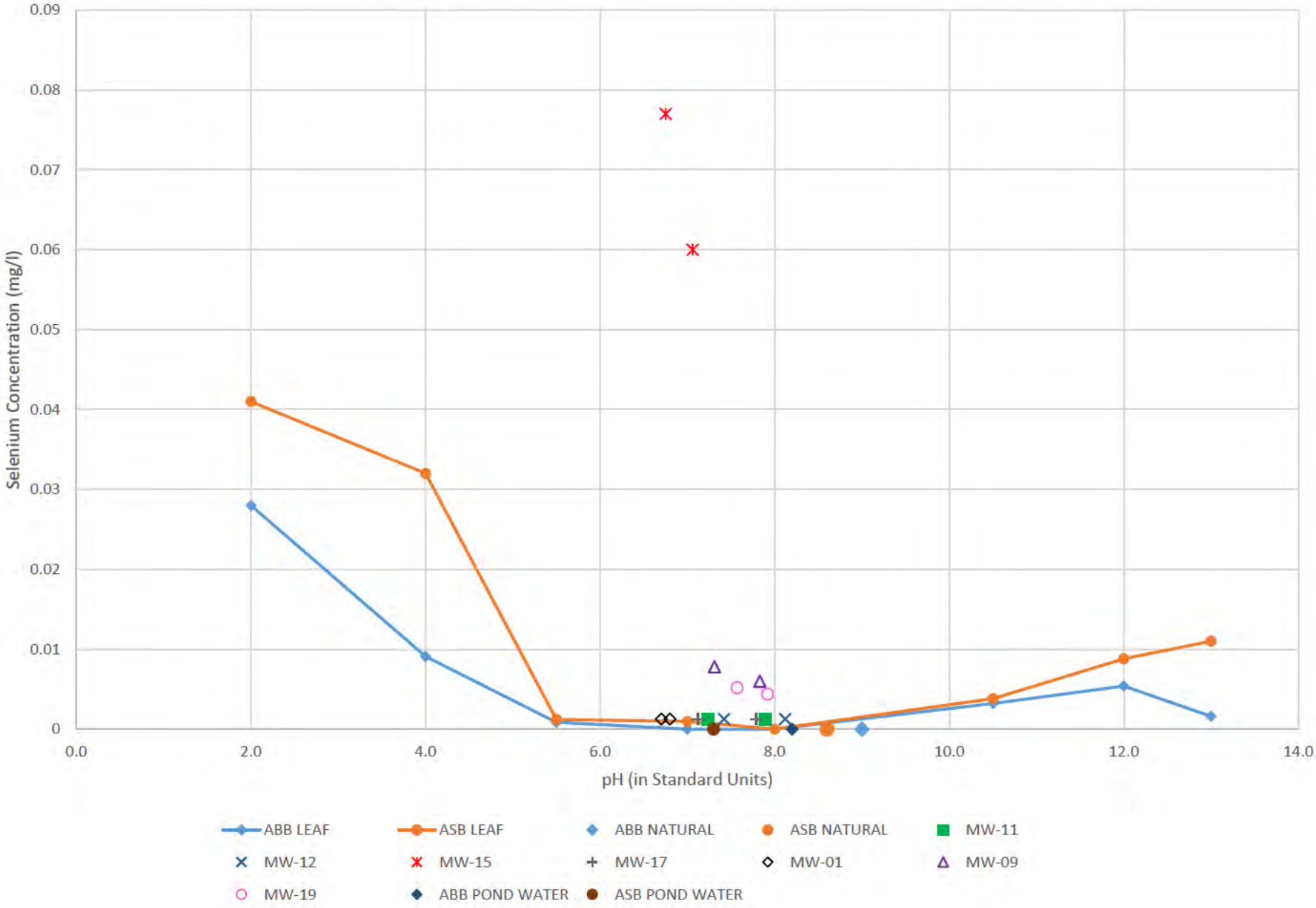


Figure 6. Thallium Concentration vs. pH Value - Powerton Station (May/August 2018 Data)

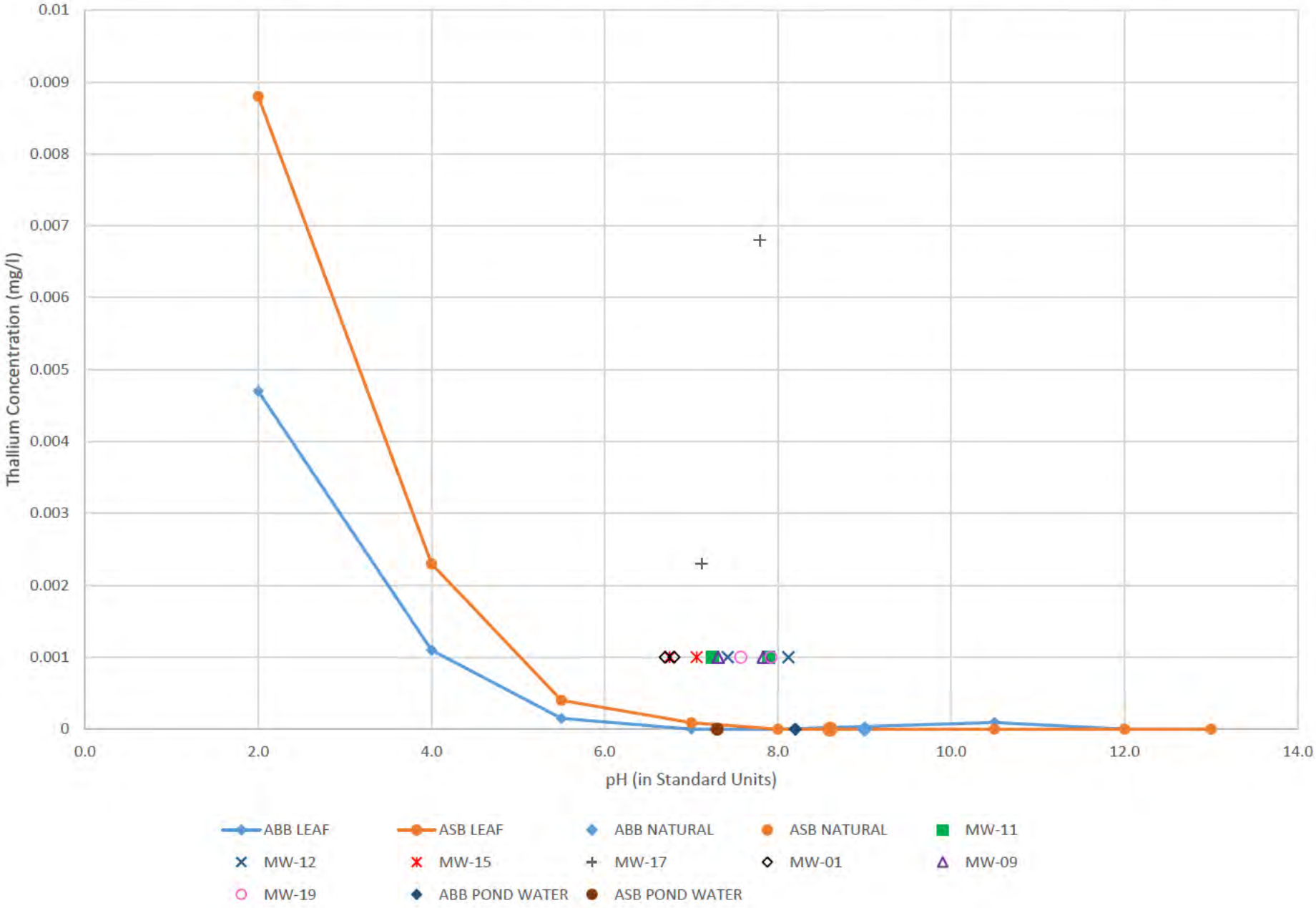


Figure 7. Arsenic Concentration vs. pH Value - Powerton Station (2015-2018 Data)

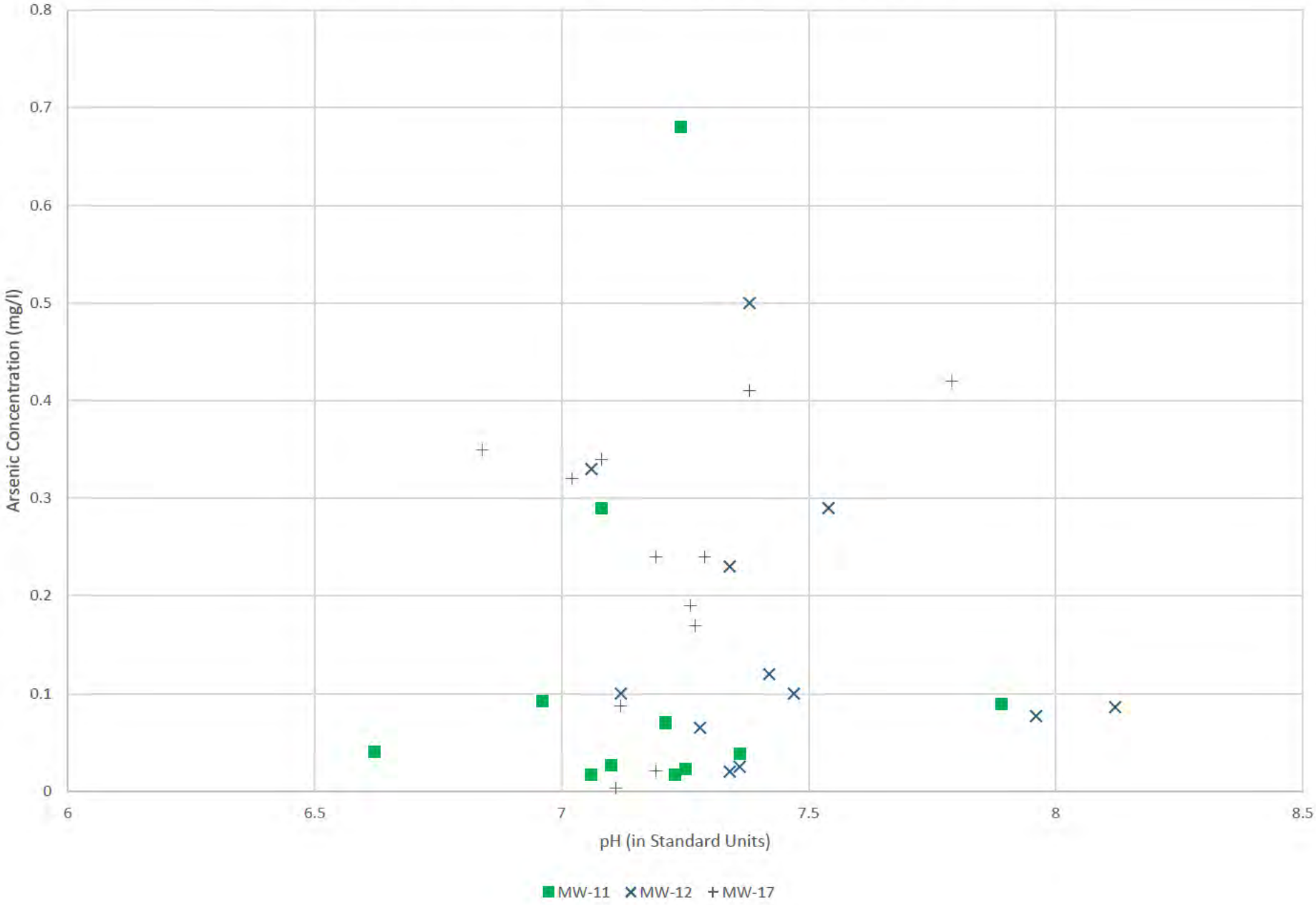


Figure 8. Barium Concentration vs. pH Value - Powerton Station (2015-2018 Data)

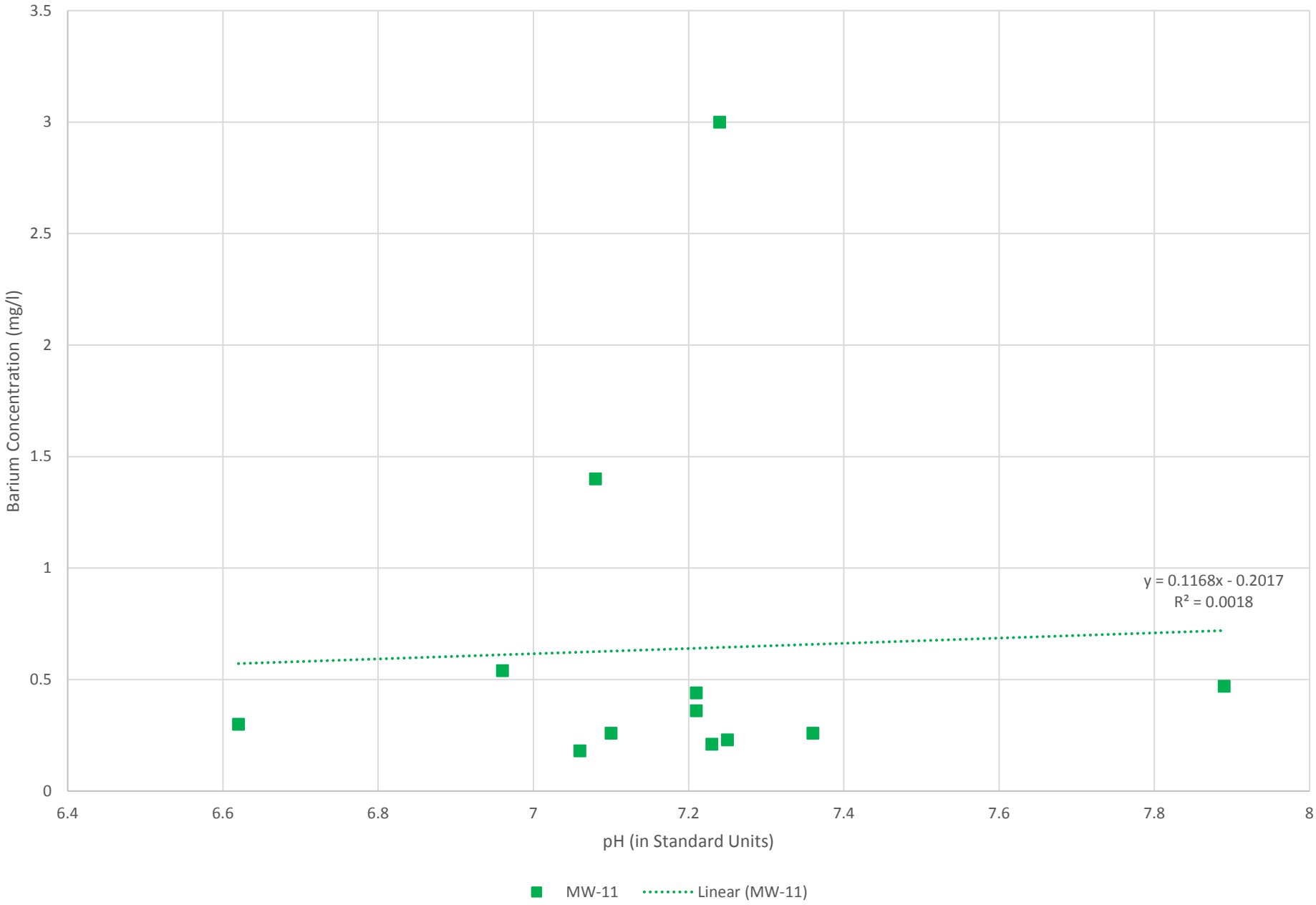
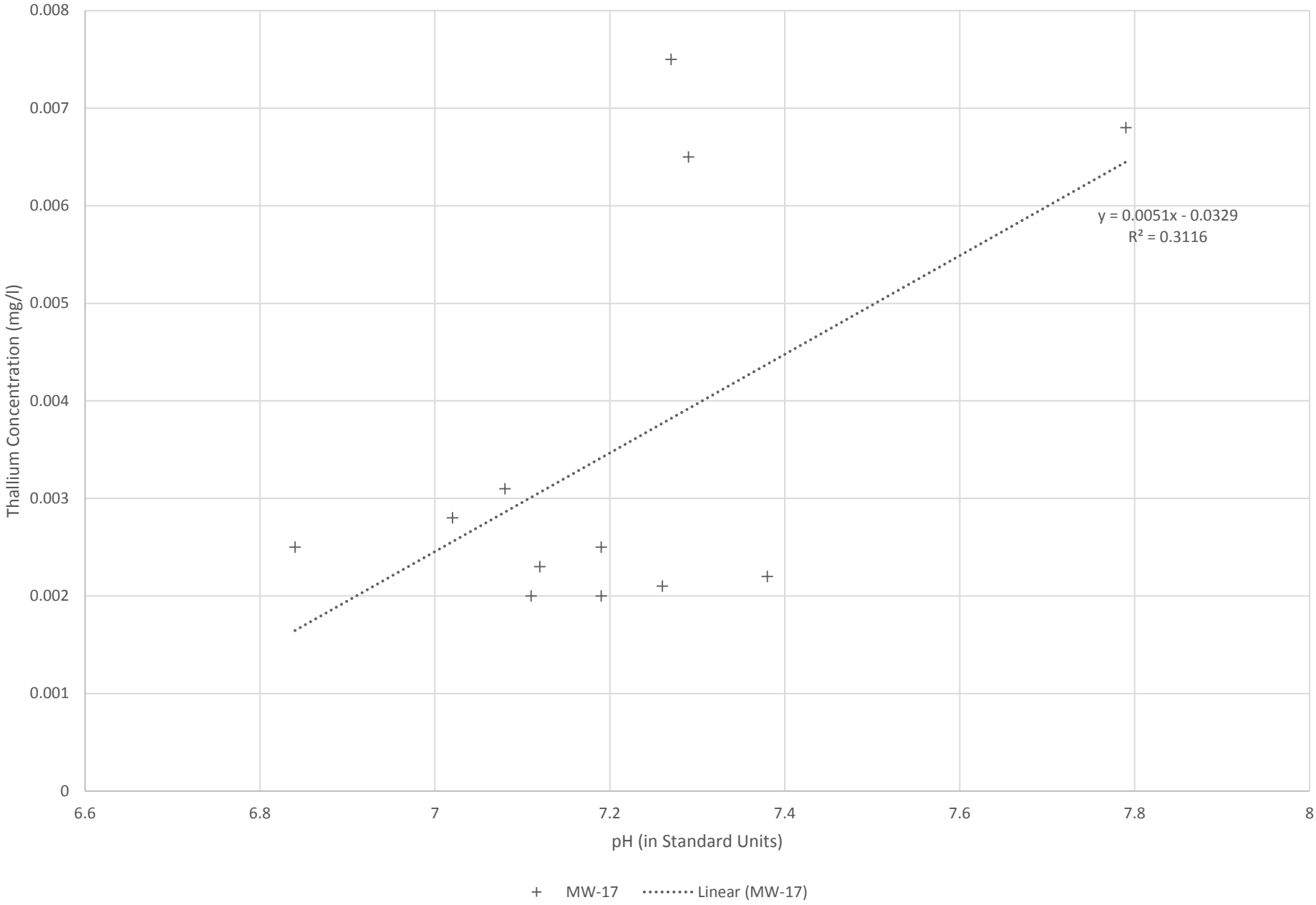


Figure 9. Thallium Concentration vs. pH Value - Powerton Station (2015-2018 Data)



TABLES

Table 1. Basin Water Results - Midwest Generation Powerton Station, Pekin, Illinois

Sample: PARAMETER	UNITS	Ash Bypass Basin (ABB) Water	Ash Surge Basin (ASB) Water
Antimony	mg/L	0.0014 J	0.0019 J
Arsenic	mg/L	0.0019	0.0032
Barium	mg/L	0.056	0.15
Beryllium	mg/L	<0.000057 ^	0.000069 J^
Cadmium	mg/L	<0.00013	<0.00013
Chromium	mg/L	0.0031	0.0036
Cobalt	mg/L	0.00014 J	0.00096
Fluoride	mg/L	1.8	0.46
Lead	mg/L	0.00028 J	0.00069 J
Lithium	mg/L	0.004 J	0.013
Mercury	mg/L	<0.000065	<0.000065
Molybdenum	mg/L	0.096	0.01
Combined Radium	pCi/L	<2.697	1.904
Selenium	mg/L	0.002 J	<0.00081
Thallium	mg/L	<0.000063	0.000091 J
pH	SU	8.2	7.3

Notes: Units are as noted.

J - Result is less than reporting limit but greater than or equal to method detection limit. Concentration is approximate value.

^ - Instrument related QC is outside acceptance limits

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

Sample: ABB ASH		LEAF TEST TARGETED pH VALUES								
PARAMETER	UNITS	13.0	12.0	10.5	8.0	7.0	5.5	4.0	2.0	Natural*
Antimony	mg/L	<0.0011	0.0021	0.002	<0.0011	<0.0011	<0.0011	<0.0011	<0.011	<0.0011
Arsenic	mg/L	0.0055	0.015	0.01	0.0022	0.0023	0.0011	0.0035	0.04	0.0048
Barium	mg/L	0.15	0.44	0.39	0.34	0.84	2.6	6.9	300	0.35
Beryllium	mg/L	0.00014 J	0.00032 J	0.00018 J	<0 000057	<0.000057	<0.000057	0 016	0.16	0.00011 J
Cadmium	mg/L	0.0002 J	0.00037 J	0.00035 J	<0.00013	<0.00013	0.00055 J	0 012	0.017	0.00018 J
Chromium	mg/L	0.0047	0.017	0.013	0 0019 J	0.0017 J	0.0017 J	0 029	2.4	0.0085
Cobalt	mg/L	0.0016	0.0036	0 0029	0.000095 J	0.00023 J	0.0067	0.16	1.3	0.0014
Fluoride	mg/L	0.62	0.88	0.95 J	0.72	0.58	<0.13	3.4	<1.3	1.4
Lead	mg/L	0.0021 B	0.0058 B	0 0039	<0 000094	<0.000094	<0.000094	0.0045	0.18	0.0033 B
Lithium	mg/L	<0.0026	0.0038 J	0.003 J	0.005	0.0074	0.034	0.31	2.8	0.0034 J
Mercury	mg/L	<0 000065	0.000082 J	<0.000065	<0 000065	<0.000065	<0.000065	<0.000065	0.00097	<0.000065
Molybdenum	mg/L	0.0016 J	0.006	0 0067	0 0036 J	0.0034 J	0.0033 J	0.00083 J	<0.0047	0.0039 J
ORP	millivolts	-166	-25	96	170	210	240	350	590	310
pH	SU	12.7	11.5	10.8	7.9	7.2	5.9	3.8	2.2	9.0
Combined Radium	pCi/L	2.424 UG	2.334 UG	2.078 UG	0.906 U	0.86 U	0.911	1 828	224.1	0 911 U
Selenium	mg/L	0.0016 J	0.0054	0.0032 J	<0.00081	<0.00081	0.00085 J	0.0091	0 028 J	<0.00081
Specific Conductance	umhos/cm	20000	1200	590	650	1300	4400	14000	78000	210
Thallium	mg/L	<0 000063	<0.000063	0.000091 J	<0 000063	<0.000063	0.00015 J	0.0011	0.0047 J	<0.000063

Sample: ASB ASH		LEAF TEST TARGETED pH VALUES								
PARAMETER	UNITS	13.0	12.0	10.5	8.0	7.0	5.5	4.0	2.0	Natural*
Antimony	mg/L	0.0041	0.0032	0 0022	0 0011 J	0.0011 J	<0.0011	<0 011	<0.011	0.0013 J
Arsenic	mg/L	0.03	0.023	0.012	0.0023	0.0042	0.0021	0 014	0.042	0.0033
Barium	mg/L	0.029	0.03	0.044	0.27	1.3	2.1	3.8	50	0.15
Beryllium	mg/L	<0 000057	<0.000057	<0.000057	<0 000057	<0.000057	<0.000057	0 022	0.15	<0.000057
Cadmium	mg/L	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	0.0016	0 029	0.037	<0.00013
Chromium	mg/L	0.0032	0.0039	0 0041	0 0018 J	0.0016 J	0.0017 J	0.021 B	0.7	0.002
Cobalt	mg/L	0.00097	0.00039 J	0.00021 J	0.000081 J	0.00059	0.033	0.36	1.2	<0.000075
Fluoride	mg/L	0.62	2 0	1.2	0.41	0.29	<0.26	7.9	1.9 J	0.45
Lead	mg/L	0.00043 JB	0.00024 JB	0.00019 JB	<0 000094	<0.000094	<0.000094	0.0059 J	0.2	<0.000094
Lithium	mg/L	<0.0026	<0.0026	<0.0026	0.014	0.035	0.14	0.52	2.4	0.0097
Mercury	mg/L	<0 000065	<0.000065	<0.000065	<0 000065	<0.000065	<0.000065	<0.000065	<0 000065	<0.000065
Molybdenum	mg/L	0.0064	0.0056	0.0038 J	0 0027 J	0.0034 J	0.0039 J	<0.0047	<0.0047	0.0029 J
ORP	millivolts	-86	-24	45	160	210	240	360	550	180
pH	SU	12.7	12.4	10.8	8.3	7.4	5.7	4.1	2.4	8.6
Combined Radium	pCi/L	1.05	0.913 U	0.894 U	0.784 U	0.943	1.334 G	NR	NR	0 874 U
Selenium	mg/L	0.011	0.0088	0.0038 J	<0.00081	0.00096 J	0.0012 J	0.032 J	0 041 J	<0.00081
Specific Conductance	umhos/cm	16000	6200	760	720	4200	15000	26000	77000	300
Thallium	mg/L	<0 000063	<0.000063	<0.000063	<0 000063	0.000088 J	0.0004 J	0.0023 J	0.0088 J	<0.000063

Notes: Units are as noted.
ORP - Oxidation Reduction Potential
ABB - Ash By-pass Basin
ASB - Ash Surge Basin
G - The sample MDC is greater than the requested RL
U - Undetected.
NR - Lab unable to obtain result due to matrix interference.
MDC - Minimum Detectable Concentration (radiochemistry)

Natural - pH of ash as measured in the laboratory prior to any pH test modifications.
J - Result is less than reporting limit but greater than or equal to method detection limit. Concentration is approximate value.
^ - Instrument related QC is outside acceptance limits

ATTACHMENT 1
Statistical Data Evaluation Tables – December 26, 2018

Table 4 ASB/ABB Assessment Monitoring - Appendix III Groundwater Analytical Results through 2018 - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-01 (S) up-gradient	11/16/2015	1 0	98	44	0 17	7 07	93	530
	2/25/2016	0 2	110	42	0 16	7 23	54	460
	5/20/2016	0 34	100	44	0 17	6 95	65	430
	8/17/2016	0 27	78	39	0 25	7 16	50	530
	11/16/2016	0 18	97	39	0 21	7 22	32	500
	2/14/2017	0 18	120	55	0 17	7 30	60	550
	5/3/2017	0 19	86	66	0 16	7 41	45	460
	6/21/2017	0 18	85	58	0 18	7 60	47	540
	Pred. Limit*	**1.0**	**142**	**81**	**0.25**	**7.90-6.58**	**115**	**648**
	8/25/2017	0 56	86	41	0 18	7 41	63	490
	11/8/2017	0 57	130	38	0 12	6 69	61	640
	5/17/2018	0 15	88	50	0 12	6 7	48	540
	8/8/2018	0 14	86	48	0 13	6 80	43	430
MW-09 (S) up-gradient	11/18/2015	2 0	63	H 31	H 0 19	7 15	H 110	H 440
	2/25/2016	2 3	77	36	0 19	7 34	120	500
	5/19/2016	2 0	73	38	0 17	7 30	100	520
	8/17/2016	2 7	74	39	0 15	7 32	120	750
	11/17/2016	4 5	85	38	0 13	7 37	110	630
	2/15/2017	4 1	84	38	0 13	6 94	160	620
	5/3/2017	3 5	85	38	0 17	7 48	170	680
	6/21/2017	3 3	82	38	0 14	7 63	180	760
	Pred. Limit*	**6.19**	**103**	**39**	**0.24**	**7.99-6.64**	**236**	**1000**
	8/25/2017	3 8	85	36	0 14	7 30	150	630
	11/8/2017	4	89	37	0 13	6 92	190	650
	5/16/2018	4 1	89	36	0 15	7 83	180	550
	8/8/2018	4 3	86	39	0 14	7 31	180	690
MW-19^ (S) up-gradient	11/18/2016	3 8	89	38	0 13	7 34	120	670
	2/15/2017	4 7	88	37	0 13	7 50	180	630
	5/5/2017	3 3	88	38	0 14	7 51	160	640
	6/21/2017	2 3	110	35	0 12	7 30	170	690
	8/28/2017	3 5	97	36	0 16	7 20	160	700
	11/6/2017	4 5	86	35	0 17	7 26	190	640
	5/14/2018	4 1	96	35	0 16	7 92	180	820
	8/6/2018	3 8	100	37	0 13	7 57	170	720
	Pred. Limit*	**6.20**	**121**	**41**	**0.20**	**8.20-6.70**	**236**	**890**
MW-08 (CL) down-gradient	11/18/2015	1 5	160	H 170	H 0 44	7 61	H 470	H 1300
	2/25/2016	1 7	160	200	0 30	7 00	280	1100
	5/18/2016	1 7	160	140	0 34	7 67	300	1200
	8/17/2016	1 0	150	230	0 35	7 33	360	1400
	11/15/2016	1 2	140	290	0 33	6 90	230	1300
	2/16/2017	1 5	150	460	0 28	7 00	230	1500
	5/2/2017	0 55	140	300	0 33	7 30	320	1300
	6/21/2017	1 2	160	490	0 30	7 27	350	1700
	Pred. Limit	**1.0**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/29/2017	**1.2**	**150**	**360**	**0.47**	7 29	**300**	**1500**
	11/8/2017	**0.68**	130	**260**	**0.45**	7 27	**270**	**1200**
	5/17/2018	**1.2**	130	**200**	**0.37**	6 79	**170**	**1000**
	8/8/2018	**1.1**	**140**	**270**	**0.32**	6 93	**190**	**1200**

Notes All units are in mg/l except pH is in standard units.
Pred. Limit - Prediction Limit
(S) - Sandy Unit
(CL) - Silty Clay Unit
* - Intrawell Prediction Limit. All others are interwell comparisons.
** - Based on pooled background from MW-01/MW-09. All others based on MW-01 as background.
^ - Recently installed upgradient well. Insufficient rounds of sampling for statistical evaluation at this time.
Italics Date - First round of Detection Monitoring and resample after statistical background establishment.

Bold - Potential statistically significant increase.
F1 - MS and/or MSD Recovery outside of limits.
H - Sample was prepped or analyzed beyond the specified holding time.
V- Serial dilution exceeds control limits.

Table 4 ASB/ABB Assessment Monitoring - Appendix III Groundwater Analytical Results through 2018 - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-11 (S) down-gradient	11/18/2015	1 7	110	H 54	H 0 55	7 06	H 160	H 670
	2/26/2016	1 5	140	120	0 55	7 25	220	850
	5/20/2016	1 6	140	120	0 56	7 10	210	920
	8/17/2016	1 0	130	93	0 67	7 08	180	910
	11/17/2016	1 2	140	130	0 44	7 21	240	1100
	2/16/2017	1 6	140	110	0 40	6 62	260	910
	5/3/2017	1 3	160	160	0 42	7 36	440	1300
	6/22/2017	1 2	140	120	0 60	7 21	260	1000
	Pred. Limit	**1.0**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/29/2017	**2.2**	130	**83**	**0.52**	7 23	**310**	**1100**
	11/9/2017	**1.5**	**140**	**100**	**0.59**	6 96	**230**	**970**
	5/16/2018	**2.0**	**140**	**88**	**0.61**	**7.89**	**270**	**1000**
	8/9/2018	**1.4**	**160**	**120**	**0.65**	7 24	**220**	**1000**
MW-12 (CL) down-gradient	11/19/2015	0 94	160	H 220	H 0 57	7 12	H 650	H 1400
	2/26/2016	0 42	130	200	0 40	7 96	530	1200
	5/20/2016	0 65	150	200	0 49	7 28	550	1400
	8/18/2016	0 69	170	200	0 49	7 06	620	1600
	11/18/2016	0 83	140	180	0 46	7 34	340	1300
	2/16/2017	0 48	140	190	0 37	7 54	630	1300
	5/3/2017	0 49	120	190	0 37	7 47	500	1200
	6/22/2017	0 50	130	190	0 48	7 36	580	1400
	Pred. Limit	**1.0**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/29/2017	0 78	**140**	**180**	**0.52**	7 34	**520**	**1400**
	11/10/2017	0 94	**130**	**170**	**0.48**	7 38	**370**	**1200**
	5/16/2018	0 46	**100**	**180**	**0.47**	**8.12**	**720**	**1500**
	8/9/2018	0 61	120	**190**	**0.44**	7 42	**480**	**1300**
MW-15 (CL) down-gradient	11/18/2015	1 5	270	H 210	H 0 53	6 55	H 1400	H 2400
	2/25/2016	2 0	240	110	0 61	6 84	640	1700
	5/19/2016	2 7	320	240	0 53	6 83	1200	2800
	8/18/2016	1 5	200	F1 170	0 54	6 96	660	1900
	11/17/2016	1 3	120	180	0 47	6 91	560	1900
	2/17/2017	1 9	200	190	0 43	7 24	670	1700
	5/4/2017	1 5	180	190	0 57	7 35	670	1700
	6/21/2017	1 6	180	200	0 56	7 30	530	1600
	Pred. Limit	**1.0**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/29/2017	**2.2**	**190**	**200**	**0.53**	6 87	**540**	**1800**
	11/10/2017	**1.6**	**170**	**180**	**0.63**	7 09	**530**	**1500**
	5/17/2018	**2.3**	**200**	**160**	**0.5**	**6.75**	**680**	**1800**
	8/9/2018	**2.3**	**200**	**200**	**0.48**	7 06	**520**	**1700**
MW-17 (CL) down-gradient	11/19/2015	1 6	210	H 230	H 0 43	7 11	H 850	H 1800
	2/22/2016	1 8	290	280	0 55	7 19	960	2100
	5/18/2016	1 4	200	230	0 64	7 02	700	1800
	8/15/2016	1 1	220	220	0 60	7 08	860	2100
	11/14/2016	1 5	200	210	0 56	7 26	560	2000
	2/13/2017	1 6	190	230	0 56	6 84	770	1600
	5/4/2017	1 2	170	210	0 61	7 29	720	1500
	6/22/2017	0 95	150	230	0 72	7 38	580	1600
	Pred. Limit	**1.0**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/29/2017	**1.4**	**190**	**230**	**0.64**	7 19	**640**	**1900**
	11/6/2017	**1.7**	**190**	**240**	**0.62**	7 27	**840**	**1800**
	5/14/2018	**1.6**	**170**	**220**	**0.6**	**7.79**	**800**	**1700**
	8/6/2018	**1.3**	**170**	**230**	**0.6**	7 12	**620**	**1600**
MW-18 (S) down-gradient	11/19/2015	0 80	140	H 220	H 0 66	7 62	H 310	H 1200
	2/22/2016	0 76	150	220	0 68	7 06	310	1200
	5/18/2016	0 72	120	230	0 71	7 68	230	1200
	8/15/2016	0 67	130	210	0 64	7 52	330	1300
	11/18/2016	0 94	130	200	0 58	7 69	250	1300
	2/15/2017	0 56	140	190	0 50	7 81	340	1200
	5/5/2017	0 46	130	180	0 52	8 12	360	1100
	6/21/2017	0 53	120	190	0 51	8 10	320	1200
	Pred. Limit	**1.00**	**136**	**77**	**0.24****	**7.73-6.83****	**107**	**788****
	8/28/2017	0 65	120	**200**	**0.53**	**7.81**	**310**	**1200**
	11/6/2017	0 67	120	**190**	**0.57**	**7.74**	**400**	**1200**
	5/14/2018	0 57	130	**180**	**0.59**	**8.27**	**440**	**1200**
	8/6/2018	0 58	120	**230**	**0.57**	**7.88**	**270**	**1100**

Notes All units are in mg/l except pH is in standard units.
Pred. Limit - Prediction Limit
(S) - Sandy Unit
(CL) - Silty Clay Unit
* - Intrawell Prediction Limit. All others are interwell comparisons.
** - Based on pooled background from MW-01/MW-09. All others based on MW-01 as background.
^ - Recently installed upgradient well. Insufficient rounds of sampling for statistical evaluation at this time.
Italics Date - First round of Detection Monitoring and resample after statistical background establishment.

Bold - Potential statistically significant increase.
F1 - MS and/or MSD Recovery outside of limits.
H - Sample was prepped or analyzed beyond the specified holding time.
V- Serial dilution exceeds control limits.

Table 5 ASB/ABB Assessment Monitoring - Detected Appendix IV Groundwater Analytical Results through 2018 - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well	Date	Arsenic	Barium	Cadmium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Radium 226 + 228 Combined	Selenium	Thallium
MW-01 up-gradient	11/16/2015	< 0 001	0 057	< 0 0005	< 0 001	0 17	* < 0 0005	< 0 01	< 0 0002	< 0 0050	0 744	< 0 0025	* < 0 002
	2/25/2016	0 0025	0 053	< 0 0005	0 0014	0 16	0 0019	< 0 01	< 0 0002	< 0 005	< 0 722	0 0029	< 0 002
	5/20/2016	0 0081	0 062	< 0 0005	0 0053	0 17	0 011	< 0 01	< 0 0002	< 0 005	< 0 953	< 0 0025	< 0 002
	8/17/2016	0 0014	0 048	< 0 0005	< 0 001	0 25	0 0014	< 0 010	< 0 0002	0 0057	< 0 491	< 0 0025	< 0 002
	11/16/2016	0 0051	0 056	< 0 0005	0 0044	0 21	0 0082	< 0 01	< 0 0002	0 0059	< 0 618	< 0 0025	< 0 002
	2/14/2017	0 0041	0 056	< 0 0005	0 0045	0 17	0 0076	< 0 01	< 0 0002	0 0056	< 0 837	< 0 0025	< 0 002
	5/3/2017	0 0015	0 045	< 0 0005	0 0033	0 16	0 0067	< 0 01	< 0 0002	< 0 005	0 574	< 0 0025	< 0 002
	6/21/2017	< 0 001	0 04	< 0 0005	< 0 001	0 18	< 0 0005	< 0 01	< 0 0002	0 0061	< 0 418	< 0 0025	< 0 002
	8/25/2017	< 0 001	0 049	< 0 0005	< 0 001	0 18	< 0 0005	< 0 01	< 0 0002	0 0059	0 775	< 0 0025	< 0 002
	11/8/2017	< 0 001	0 083	< 0 0005	< 0 001	0 12	< 0 0005	< 0 01	< 0 0002	< 0 005	0 343	< 0 0025	< 0 002
	GWPS	**0.011**	**2.0**	**0.005**	**0.009**	**4.0**	**0.018**	**0.04**	**0.002**	**0.10**	**5.0**	**0.05**	**0.002**
	5/17/2018	< 0 001	0 045	< 0 0005	< 0 001	0 12	0 00068	< 0 01	< 0 0002	< 0 005	< 0 396	< 0 0025	< 0 002
	8/8/2018	< 0 001	0 051	< 0 0005	< 0 001	0 13	< 0 0005	< 0 01	< 0 0002	< 0 005	0 579	< 0 0025	< 0 002
MW-09 up-gradient	11/18/2015	< 0 001	0 027	< 0 0005	< 0 001	H 0 19	< 0 0005	< 0 01	H < 0 0002	0 043	< 0 655	< 0 0025	< 0 002
	2/25/2016	0 0042	0 036	< 0 0005	0 0011	0 19	< 0 0005	< 0 01	< 0 0002	0 053	< 0 361	< 0 0025	< 0 002
	5/19/2016	< 0 001	0 029	< 0 0005	< 0 001	0 17	< 0 0005	< 0 01	< 0 0002	0 042	< 0 394	0 0032	< 0 002
	8/17/2016	< 0 001	0 031	< 0 0005	< 0 001	0 15	< 0 0005	< 0 01	< 0 0002	0 036	< 0 498	< 0 0025	< 0 002
	11/17/2016	0 0038	0 039	< 0 0005	< 0 001	0 13	< 0 0005	< 0 010	< 0 0002	0 036	0 646	0 0025	< 0 002
	2/15/2017	0 0032	0 043	< 0 0005	< 0 001	0 13	< 0 0005	< 0 010	< 0 0002	0 035	< 0 377	0 0062	< 0 002
	5/3/2017	0 0012	0 034	< 0 0005	< 0 001	0 17	< 0 0005	< 0 010	< 0 0002	0 034	< 0 445	0 011	< 0 002
	6/21/2017	< 0 001	0 037	< 0 0005	< 0 001	0 14	< 0 0005	< 0 010	< 0 0002	0 033	< 0 380	0 0072	< 0 002
	8/25/2017	< 0 001	0 044	< 0 0005	< 0 001	0 14	< 0 0005	< 0 010	< 0 0002	0 028	< 0 160	0 0043	< 0 002
	11/8/2017	0 0012	0 048	< 0 0005	< 0 001	0 13	< 0 0005	< 0 010	< 0 0002	0 026	0 344	< 0 0025	< 0 002
	GWPS	**0.011**	**2.0**	**0.005**	**0.009**	**4.0**	**0.018**	**0.04**	**0.002**	**0.10**	**5.0**	**0.05**	**0.002**
	5/16/2018	< 0 001	0 038	< 0 0005	< 0 001	0 15	< 0 0005	< 0 010	0 00029	0 031	< 0 424	0 006	< 0 002
	8/8/2018	< 0 001	0 037	< 0 0005	< 0 001	0 14	< 0 0005	< 0 010	< 0 0002	0 032	0 440	0 0078	< 0 002
MW-19 up-gradient	11/18/2016	< 0 001	0 084	< 0 0005	0 001	0 13	0 00068	< 0 01	< 0 0002	0 035	< 0 476	0 0043	< 0 002
	2/15/2017	< 0 001	0 088	< 0 0005	< 0 001	0 13	0 00061	< 0 01	< 0 0002	0 046	< 0 482	0 0063	< 0 002
	5/5/2017	< 0 001	0 076	< 0 0005	0 0013	0 14	0 0012	< 0 01	< 0 0002	0 035	0 923	0 0068	< 0 002
	6/21/2017	< 0 001	0 089	< 0 0005	< 0 001	0 12	< 0 0005	< 0 01	< 0 0002	0 024	< 0 334	0 0028	< 0 002
	8/28/2017	< 0 001	0 073	< 0 0005	< 0 001	0 16	< 0 0005	< 0 01	< 0 0002	0 041	0 370	0 0035	< 0 002
	11/6/2017	< 0 001	0 071	< 0 0005	< 0 001	0 17	< 0 0005	< 0 01	< 0 0002	0 042	0 360	< 0 0025	< 0 002
	5/14/2018	< 0 001	0 079	< 0 0005	< 0 001	0 16	< 0 0005	< 0 01	< 0 0002	0 043	0 562	0 0044	< 0 002
	8/7/2018	< 0 001	0 078	< 0 0005	< 0 001	0 13	< 0 0005	< 0 01	< 0 0002	0 032	0 835	0 0052	< 0 002
	GWPS	**0.011**	**2.0**	**0.005**	**0.009**	**4.0**	**0.018**	**0.04**	**0.002**	**0.10**	**5.0**	**0.05**	**0.002**
MW-08 down-gradient	11/18/2015	0 0029	0 15	< 0 0005	< 0 001	H 0 44	< 0 0005	0 028	H < 0 0002	0 01	< 0 559	< 0 0025	< 0 002
	2/25/2016	0 0018	0 11	0 00052	< 0 001	0 30	0 00072	0 015	< 0 0002	0 02	0 535	< 0 0025	< 0 002
	5/18/2016	0 0029	0 16	< 0 0005	< 0 001	0 34	< 0 0005	0 036	< 0 0002	0 0069	0 417	< 0 0025	< 0 002
	8/17/2016	0 0032	0 15	< 0 0005	< 0 001	0 35	< 0 0005	0 023	< 0 0002	0 013	< 0 519	< 0 0025	< 0 002
	11/15/2016	0 0012	0 076	< 0 0005	< 0 001	0 33	< 0 0005	0 017	< 0 0002	0 016	0 583	< 0 0025	< 0 002
	2/16/2017	0 003	0 086	< 0 0005	< 0 001	0 28	0 00087	< 0 01	< 0 0002	0 026	< 0 375	< 0 0025	< 0 002
	5/2/2017	0 0029	0 13	< 0 0005	< 0 001	0 33	< 0 0005	0 022	< 0 0002	0 0083	< 0 480	< 0 0025	< 0 002
	6/21/2017	0 0045	0 14	< 0 0005	< 0 001	0 30	< 0 0005	0 017	< 0 0002	0 031	< 0 439	< 0 0025	< 0 002
	8/29/2017	0 0011	0 062	< 0 0005	< 0 001	0 47	< 0 0005	< 0 01	< 0 0002	0 034	0 699	< 0 0025	< 0 002
	11/8/2017	0 0027	0 10	< 0 0005	< 0 001	0 45	< 0 0005	0 019	< 0 0002	0 014	0 806	< 0 0025	< 0 002
	GWPS	**0.011**	**2.0**	**0.005**	**0.009**	**4.0**	**0.018**	**0.04**	**0.002**	**0.10**	**5.0**	**0.05**	**0.002**
	5/17/2018	0 003	0 07	< 0 0005	< 0 001	0 37	< 0 0005	< 0 01	< 0 0002	0 024	0 655	< 0 0025	< 0 002
	8/8/2018	0 0055	0 071	< 0 0005	< 0 001	0 32	< 0 0005	< 0 01	< 0 0002	0 019	< 0 410	< 0 0025	< 0 002

Notes

All units are in mg/l except Radium is in pCi/L as noted.

Italics - Assessment Monitoring Conducted After Identification of Detected Appendix IV Compounds.

GWPS - Groundwater Protection Standard based on Table 2 and discussion in text

BOLD - Above established GWPS.

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

H - Sample was prepped or analyzed beyond the specified holding time.

* - LCS or LCSD is outside acceptance limits.

^ - Denotes instrument related QC exceeds the control limits

Table 5 ASB/ABB Assessment Monitoring - Detected Appendix IV Groundwater Analytical Results through 2018 - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well	Date	Arsenic	Barium	Cadmium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Radium 226 + 228 Combined	Selenium	Thallium
MW-11 down-gradient	11/18/2015	0 017	0 18	< 0 0005	0 002	H 0 55	< 0 0005	< 0 01	H < 0 0002	0 0120	0 788	< 0 0025	< 0 002
	2/26/2016	0 023	0 23	< 0 0005	0 0023	0 55	< 0 0005	< 0 01	< 0 0002	0 013	0 562	< 0 0025	< 0 002
	5/20/2016	0 027	0 26	< 0 0005	0 0024	0 56	0 00076	< 0 01	< 0 0002	0 014	0 524	< 0 0025	< 0 002
	8/17/2016	F1 0 29	1 4	< 0 0005	0 0034	0 67	0 001	< 0 010	< 0 0002	0 011	1 130	< 0 0025	< 0 002
	11/17/2016	0 071	0 44	< 0 0005	0 0037	0 44	0 0013	< 0 01	< 0 0002	0 0088	0 734	< 0 0025	< 0 002
	2/16/2017	0 04	0 3	< 0 0005	0 003	0 40	0 00094	< 0 01	< 0 0002	0 013	0 341	< 0 0025	< 0 002
	5/3/2017	0 039	0 26	< 0 0005	0 0035	0 42	0 00093	< 0 01	< 0 0002	0 015	0 662	< 0 0025	< 0 002
	6/22/2017	0 07	0 36	< 0 0005	0 0025	0 60	< 0 0005	< 0 01	< 0 0002	0 014	< 0 418	< 0 0025	< 0 002
	8/29/2017	0 017	0 21	< 0 0005	0 0026	0 52	< 0 0005	< 0 01	< 0 0002	0 016	< 0 313	< 0 0025	< 0 002
	11/9/2017	0 092	0 54	< 0 0005	0 0034	0 59	< 0 0005	< 0 01	< 0 0002	0 014	1 24	< 0 0025	< 0 002
	GWPS	**0.011**	**2.0**	**0.005**	**0.009**	**4.0**	**0.018**	**0.04**	**0.002**	**0.10**	**5.0**	**0.05**	**0.002**
	5/16/2018	**0.089**	0 47	< 0 0005	0 0041	0 61	< 0 0005	< 0 01	< 0 0002	0 014	1 12	< 0 0025	< 0 002
	8/9/2018	**0.68**	**3.0**	0 00082	0 0053	0 65	0 0012	< 0 01	< 0 0002	0 013	1 48	< 0 0025	< 0 002
MW-12 down-gradient	11/19/2015	0 10	0 180	0 00068	< 0 001	H 0 57	0 00063	0 023	H < 0 0002	0 0280	< 0 685	< 0 0025	< 0 002
	2/26/2016	0 077	0 130	0 0016	< 0 001	0 40	0 0014	0 014	< 0 0002	0 0150	1 11	< 0 0025	< 0 002
	5/20/2016	0 065	0 16	0 00077	< 0 001	0 49	0 0016	0 013	< 0 0002	0 028	0 576	< 0 0025	< 0 002
	8/18/2016	0 33	0 88	0 007	0 001	0 49	0 0011	0 015	< 0 0002	0 011	3 68	< 0 0025	< 0 002
	11/18/2016	0 23	0 67	0 0028	< 0 001	0 46	< 0 0005	0 017	< 0 0002	< 0 01	1 86	< 0 0025	< 0 002
	2/16/2017	0 29	0 26	0 0057	0 0013	0 37	0 0042	0 010	< 0 0002	0 015	1 15	< 0 0025	< 0 002
	5/3/2017	0 10	0 17	0 0022	< 0 001	0 37	0 0038	0 011	< 0 0002	0 017	0 518	< 0 0025	< 0 002
	6/22/2017	0 025	0 11	< 0 0005	< 0 001	0 48	0 00096	< 0 010	< 0 0002	0 028	0 376	< 0 0025	< 0 002
	8/29/2017	0 02	0 095	< 0 0005	< 0 001	0 52	< 0 0005	0 014	< 0 0002	0 024	0 529	< 0 0025	< 0 002
	11/10/2017	0 50	0 45	0 0015	< 0 001	0 48	0 00097	0 018	< 0 0002	0 023	1 67	< 0 0025	< 0 002
	GWPS	**0.011**	**2.0**	**0.005**	**0.009**	**4.0**	**0.018**	**0.04**	**0.002**	**0.10**	**5.0**	**0.05**	**0.002**
	5/16/2018	**0.09**	0 1	0 00052	< 0 001	0 47	0 00067	0 012	< 0 0002	0 021	0 741	< 0 0025	< 0 002
	8/9/2018	**0.12**	0 15	0 00084	< 0 001	0 44	0 00072	< 0 010	< 0 0002	0 026	0 735	< 0 0025	< 0 002
MW-15 down-gradient	11/18/2015	0 03	0 096	0 00061	< 0 001	H 0 53	< 0 0005	0 042	H < 0 0002	0 023	< 0 599	0 0065	< 0 002
	2/25/2016	0 025	0 083	< 0 0005	< 0 001	0 61	< 0 0005	0 041	< 0 0002	0 035	0 870	0 045	< 0 002
	5/19/2016	0 04	0 097	0 00098	< 0 001	0 53	< 0 0005	0 044	< 0 0002	0 041	< 0 420	0 0067	< 0 002
	8/18/2016	0 13	0 11	0 0041	< 0 001	0 54	< 0 0005	0 028	< 0 0002	0 027	< 0 672	0 0061	< 0 002
	11/17/2016	0 0033	0 031	< 0 0005	< 0 0010	0 47	< 0 0005	0 016	< 0 0002	0 018	< 0 570	0 0078	< 0 002
	2/17/2017	0 02	0 056	< 0 0005	< 0 0010	0 43	< 0 0005	0 025	< 0 0002	0 027	< 0 392	0 0032	< 0 002
	5/4/2017	0 011	0 049	< 0 0005	< 0 0010	0 57	< 0 0005	0 023	< 0 0002	0 023	< 0 456	0 0034	< 0 002
	6/21/2017	0 0093	0 054	< 0 0005	< 0 0010	0 56	< 0 0005	0 027	< 0 0002	0 03	< 0 347	0 019	< 0 002
	8/29/2017	0 0018	0 044	< 0 0005	< 0 0010	0 53	< 0 0005	0 023	< 0 0002	0 032	0 377	0 0092	< 0 002
	11/10/2017	0 0063	0 046	< 0 0005	< 0 0010	0 63	< 0 0005	0 025	< 0 0002	0 02	< 0 313	0 016	< 0 002
	GWPS	**0.011**	**2.0**	**0.005**	**0.009**	**4.0**	**0.018**	**0.04**	**0.002**	**0.10**	**5.0**	**0.05**	**0.002**
	5/17/2018	0 0081	0 05	< 0 0005	< 0 0010	0 5	< 0 0005	0 029	< 0 0002	0 03	0 397	**0.077**	< 0 002
	8/9/2018	0 0083	0 048	< 0 0005	< 0 0010	0 48	< 0 0005	0 026	< 0 0002	0 033	0 566	**0.06**	< 0 002
MW-17 down-gradient	11/19/2015	0 0028	0 14	< 0 0005	0 0012	H 0 43	0 0012	0 019	H < 0 0002	0 035	< 0 790	< 0 0025	< 0 002
	2/22/2016	0 021	0 051	< 0 0005	0 0012	0 55	< 0 0005	0 038	< 0 0002	0 093	1 07	< 0 0025	< 0 002
	5/18/2016	0 32	0 12	0 0011	0 0015	0 64	< 0 0005	0 026	< 0 0002	0 12	8 27	< 0 0025	0 0028
	8/15/2016	0 34	0 12	0 001	0 0016	0 6	< 0 0005	0 022	< 0 0002	0 1	0 606	< 0 0025	0 0031
	11/14/2016	0 19	0 073	0 00051	0 0012	0 56	< 0 0005	0 022	< 0 0002	0 042	3 76	< 0 0025	0 0021
	2/13/2017	0 35	0 16	0 00093	0 0014	0 56	0 00079	0 019	< 0 0002	0 088	2 08	< 0 0025	0 0025
	5/4/2017	0 24	0 39	0 0023	0 0023	0 61	0 00066	0 016	< 0 0002	0 036	1 91	< 0 0025	0 0065
	6/22/2017	0 41	0 13	0 0007	0 0012	0 72	0 0011	0 022	< 0 0002	0 11	1 21	< 0 0025	0 0022
	8/29/2017	0 24	0 092	< 0 0005	< 0 001	0 64	0 00058	0 021	< 0 0002	0 13	3 32	< 0 0025	0 0025
	11/6/2017	0 17	0 38	0 0022	0 0015	0 62	< 0 0005	< 0 01	< 0 0002	0 019	2 54	< 0 0025	0 0075
	GWPS	**0.011**	**2.0**	**0.005**	**0.009**	**4.0**	**0.018**	**0.04**	**0.002**	**0.10**	**5.0**	**0.05**	**0.002**
	5/14/2018	**0.42**	0 17	0 002	0 0029	0 6	0 0021	0 015	< 0 0002	**0.13**	2 03	< 0 0025	**0.0068**
	8/6/2018	**0.087**	0 055	0 00094	0 0015	0 60	< 0 0005	0 019	< 0 0002	0 084	1 34	< 0 0025	**0.0023**
MW-18 down-gradient	11/19/2015	0 0014	0 14	< 0 0005	< 0 001	H 0 66	< 0 0005	0 017	H < 0 0002	0 0051	< 0 845	< 0 0025	< 0 002
	2/22/2016	0 0012	0 15	< 0 0005	< 0 001	0 68	< 0 0005	0 022	< 0 0002	0 0055	1 88	< 0 0025	< 0 002
	5/18/2016	< 0 001	0 13	< 0 0005	< 0 001	0 71	< 0 0005	0 014	< 0 0002	0 0052	< 0 493	< 0 0025	< 0 002
	8/15/2016	< 0 001	0 14	< 0 0005	< 0 001	0 64	< 0 0005	0 012	< 0 0002	0 0059	0 836	< 0 0025	< 0 002
	11/18/2016	< 0 001	0 14	< 0 0005	< 0 001	0 58	< 0 0005	0 013	< 0 0002	0 0053	0 488	< 0 0025	< 0 002
	2/15/2017	< 0 001	0 14	< 0 0005	< 0 001	0 5	< 0 0005	0 014	< 0 0002	0 0058	< 0 347	< 0 0025	< 0 002
	5/5/2017	0 0032	0 12	< 0 0005	< 0 001	0 52	0 00057	0 01	< 0 0002	< 0 005	0 612	< 0 0025	< 0 002
	6/21/2017	< 0 001	0 12	< 0 0005	< 0 001	0 51	< 0 0005	0 014	< 0 0002	0 0051	0 629	< 0 0025	< 0 002
	8/28/2017	< 0 001	0 12	< 0 0005	< 0 001	0 53	< 0 0005	0 012	< 0 0002	0 005	0 498	< 0 0025	< 0 002
	11/6/2017	< 0 001	0 12	< 0 0005	< 0 001	0 57	< 0 0005	0 011	< 0 0002	0 0057	0 755	< 0 0025	< 0 002
	GWPS	**0.011**	**2.0**	**0.005**	**0.009**	**4.0**	**0.018**	**0.04**	**0.002**	**0.10**	**5.0**	**0.05**	**0.002**
	5/14/2018	< 0 001	0 13	< 0 0005	< 0 001	0 59	< 0 0005	0 013	< 0 0002	0 0052	0 641	< 0 0025	< 0 002
	8/6/2018	< 0 001	0 12	< 0 0005	< 0 001	0 57	< 0 0005	0 013	< 0 0002	0 0052	1 02	< 0 0025	< 0 002

Notes

All units are in mg/l except Radium is in pCi/L as noted.

Italics - Assessment Monitoring Conducted After Identification of Detected Appendix IV Compounds.

GWPS - Groundwater Protection Standard based on Table 2 and discussion in text

BOLD - Above established GWPS.

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

H - Sample was prepped or analyzed beyond the specified holding time.

* - LCS or LCSD is outside acceptance limits.

^ - Denotes instrument related QC exceeds the control limits

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: 180-85446-1
Client Project/Site: Midwest Generation

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
1/18/2019 1:57:25 PM

Carrie Gamber, Senior Project Manager
(412)963-2428
carrie.gamber@testamericainc.com

PA Lab ID: 02-00416

Table of Contents

Job ID: 180-85446-1

Laboratory: TestAmerica Pittsburgh

Narrative

CASE NARRATIVE

Client: KPRG and Associates, Inc.

Project: Midwest Generation

Report Number: 180-85446-1

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

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

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

RECEIPT

The samples were received on 01/05/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.9 C.

The Field Sampler was not listed on the Chain of Custody.

IC

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

METALS

Molybdenum was detected in method blank MB 180-267216/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

The continuing calibration verification (CCV) recovered above the upper control limit for beryllium. The samples associated with this CCV were less than the reporting limit for the affected analytes; therefore, the data have been reported. The following samples were impacted: ABB (180-85446-1), ASB (180-85446-2), (180-85446-H-2-C MS), (180-85446-H-2-D MSD), (180-85446-H-2-B PDS) and (180-85446-H-2-B SD ^5).

Definitions/Glossary

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

TestAmerica Job ID: 180-85446-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: 180-85446-1

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	06-30-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
EPA 6020A	3005A	Water	Lithium

Sample Summary

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

TestAmerica Job ID: 180-85446-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-85446-1	ABB	Water	01/04/19 11:00	01/05/19 09:30
180-85446-2	ASB	Water	01/04/19 12:00	01/05/19 09:30

Method Summary

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

TestAmerica Job ID: 180-85446-1

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
EPA 6020A	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT

Protocol References:

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: 180-85446-1

Client Sample ID: ABB

Date Collected: 01/04/19 11:00
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85446-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			267731	01/13/19 07:44	CMR	TAL PIT
	Instrument ID: CHICS2100B									
Total Recoverable	Prep	3005A			50 mL	50 mL	267216	01/07/19 11:48	NAM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			267457	01/08/19 20:24	WTR	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			50 mL	50 mL	267213	01/07/19 11:26	KA	TAL PIT
Total/NA	Analysis	EPA 7470A		1			267249	01/07/19 18:31	KA	TAL PIT
	Instrument ID: HGY									

Client Sample ID: ASB

Date Collected: 01/04/19 12:00
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85446-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			267731	01/13/19 08:15	CMR	TAL PIT
	Instrument ID: CHICS2100B									
Total Recoverable	Prep	3005A			50 mL	50 mL	267216	01/07/19 11:48	NAM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			267457	01/08/19 20:28	WTR	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			50 mL	50 mL	267213	01/07/19 11:26	KA	TAL PIT
Total/NA	Analysis	EPA 7470A		1			267249	01/07/19 18:32	KA	TAL PIT
	Instrument ID: HGY									

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: Prep

KA = Kayla Kalamasz

NAM = Nicole Marfisi

Batch Type: Analysis

CMR = Carl Reagle

KA = Kayla Kalamasz

WTR = Bill Reinheimer

Client Sample ID: ABB

Lab Sample ID: 180-85446-1

Date Collected: 01/04/19 11:00

Matrix: Water

Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.8		0.10	0.026	mg/L			01/13/19 07:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.9		1.0	0.32	ug/L		01/07/19 11:48	01/08/19 20:24	1
Barium	56		10	0.37	ug/L		01/07/19 11:48	01/08/19 20:24	1
Cadmium	ND		1.0	0.13	ug/L		01/07/19 11:48	01/08/19 20:24	1
Beryllium	ND	^	1.0	0.057	ug/L		01/07/19 11:48	01/08/19 20:24	1
Chromium	3.4		2.0	0.63	ug/L		01/07/19 11:48	01/08/19 20:24	1
Lead	0.28	J	1.0	0.094	ug/L		01/07/19 11:48	01/08/19 20:24	1
Selenium	2.0	J	5.0	0.81	ug/L		01/07/19 11:48	01/08/19 20:24	1
Cobalt	0.14	J	0.50	0.075	ug/L		01/07/19 11:48	01/08/19 20:24	1
Molybdenum	96		5.0	0.47	ug/L		01/07/19 11:48	01/08/19 20:24	1
Antimony	1.4	J	2.0	1.1	ug/L		01/07/19 11:48	01/08/19 20:24	1
Thallium	ND		1.0	0.063	ug/L		01/07/19 11:48	01/08/19 20:24	1
Lithium	4.0	J	5.0	2.6	ug/L		01/07/19 11:48	01/08/19 20:24	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/07/19 11:26	01/07/19 18:31	1

Client Sample ID: ASB

Lab Sample ID: 180-85446-2

Date Collected: 01/04/19 12:00

Matrix: Water

Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.46		0.10	0.026	mg/L			01/13/19 08:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.2		1.0	0.32	ug/L		01/07/19 11:48	01/08/19 20:28	1
Barium	150		10	0.37	ug/L		01/07/19 11:48	01/08/19 20:28	1
Cadmium	ND		1.0	0.13	ug/L		01/07/19 11:48	01/08/19 20:28	1
Beryllium	0.069	J ^	1.0	0.057	ug/L		01/07/19 11:48	01/08/19 20:28	1
Chromium	3.6		2.0	0.63	ug/L		01/07/19 11:48	01/08/19 20:28	1
Lead	0.69	J	1.0	0.094	ug/L		01/07/19 11:48	01/08/19 20:28	1
Selenium	ND		5.0	0.81	ug/L		01/07/19 11:48	01/08/19 20:28	1
Cobalt	0.96		0.50	0.075	ug/L		01/07/19 11:48	01/08/19 20:28	1
Molybdenum	10		5.0	0.47	ug/L		01/07/19 11:48	01/08/19 20:28	1
Antimony	1.9	J	2.0	1.1	ug/L		01/07/19 11:48	01/08/19 20:28	1
Thallium	0.091	J	1.0	0.063	ug/L		01/07/19 11:48	01/08/19 20:28	1
Lithium	13		5.0	2.6	ug/L		01/07/19 11:48	01/08/19 20:28	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/07/19 11:26	01/07/19 18:32	1

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-267731/6
Matrix: Water
Analysis Batch: 267731

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.026	mg/L			01/13/19 06:56	1

Lab Sample ID: LCS 180-267731/5
Matrix: Water
Analysis Batch: 267731

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.25	1.32		mg/L		105	80 - 120

Lab Sample ID: 180-85446-2 MS
Matrix: Water
Analysis Batch: 267731

Client Sample ID: ASB
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.51		6.25	7.35		mg/L		109	80 - 120

Lab Sample ID: 180-85446-2 MSD
Matrix: Water
Analysis Batch: 267731

Client Sample ID: ASB
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.51		6.25	7.28		mg/L		108	80 - 120	1	15

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

Lab Sample ID: MB 180-267216/1-A
Matrix: Water
Analysis Batch: 267457

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 267216

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.32	ug/L		01/07/19 11:48	01/08/19 19:14	1
Barium	ND		10	0.37	ug/L		01/07/19 11:48	01/08/19 19:14	1
Cadmium	ND		1.0	0.13	ug/L		01/07/19 11:48	01/08/19 19:14	1
Beryllium	ND		1.0	0.057	ug/L		01/07/19 11:48	01/08/19 19:14	1
Chromium	ND		2.0	0.63	ug/L		01/07/19 11:48	01/08/19 19:14	1
Lead	ND		1.0	0.094	ug/L		01/07/19 11:48	01/08/19 19:14	1
Selenium	ND		5.0	0.81	ug/L		01/07/19 11:48	01/08/19 19:14	1
Cobalt	ND		0.50	0.075	ug/L		01/07/19 11:48	01/08/19 19:14	1
Molybdenum	ND		5.0	0.47	ug/L		01/07/19 11:48	01/08/19 19:14	1
Antimony	ND		2.0	1.1	ug/L		01/07/19 11:48	01/08/19 19:14	1
Thallium	ND		1.0	0.063	ug/L		01/07/19 11:48	01/08/19 19:14	1
Lithium	ND		5.0	2.6	ug/L		01/07/19 11:48	01/08/19 19:14	1

Lab Sample ID: MB 180-267216/1-A
Matrix: Water
Analysis Batch: 267572

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 267216

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.32	ug/L		01/07/19 11:48	01/09/19 20:11	1

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

Lab Sample ID: MB 180-267216/1-A
Matrix: Water
Analysis Batch: 267572

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 267216

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		10	0.37	ug/L		01/07/19 11:48	01/09/19 20:11	1
Cadmium	ND		1.0	0.13	ug/L		01/07/19 11:48	01/09/19 20:11	1
Beryllium	ND		1.0	0.057	ug/L		01/07/19 11:48	01/09/19 20:11	1
Chromium	ND		2.0	0.63	ug/L		01/07/19 11:48	01/09/19 20:11	1
Lead	ND		1.0	0.094	ug/L		01/07/19 11:48	01/09/19 20:11	1
Selenium	ND		5.0	0.81	ug/L		01/07/19 11:48	01/09/19 20:11	1
Cobalt	ND		0.50	0.075	ug/L		01/07/19 11:48	01/09/19 20:11	1
Molybdenum	0.664	J	5.0	0.47	ug/L		01/07/19 11:48	01/09/19 20:11	1
Antimony	ND		2.0	1.1	ug/L		01/07/19 11:48	01/09/19 20:11	1
Thallium	ND		1.0	0.063	ug/L		01/07/19 11:48	01/09/19 20:11	1
Lithium	ND		5.0	2.6	ug/L		01/07/19 11:48	01/09/19 20:11	1

Lab Sample ID: LCS 180-267216/2-A
Matrix: Water
Analysis Batch: 267457

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 267216

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	40.0	40.5		ug/L		101	80 - 120
Barium	2000	2040		ug/L		102	80 - 120
Cadmium	50.0	53.0		ug/L		106	80 - 120
Beryllium	50.0	56.7		ug/L		113	80 - 120
Chromium	200	209		ug/L		105	80 - 120
Lead	20.0	21.3		ug/L		106	80 - 120
Selenium	10.0	9.95		ug/L		99	80 - 120
Cobalt	500	515		ug/L		103	80 - 120
Molybdenum	1000	1070		ug/L		107	80 - 120
Antimony	500	517		ug/L		103	80 - 120
Thallium	50.0	53.2		ug/L		106	80 - 120
Lithium	50.0	46.7		ug/L		93	80 - 120

Lab Sample ID: LCS 180-267216/2-A
Matrix: Water
Analysis Batch: 267572

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 267216

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	40.0	39.4		ug/L		98	80 - 120
Barium	2000	1820		ug/L		91	80 - 120
Cadmium	50.0	56.5		ug/L		113	80 - 120
Beryllium	50.0	50.2		ug/L		100	80 - 120
Chromium	200	192		ug/L		96	80 - 120
Lead	20.0	20.8		ug/L		104	80 - 120
Selenium	10.0	8.24		ug/L		82	80 - 120
Cobalt	500	452		ug/L		90	80 - 120
Molybdenum	1000	1090		ug/L		109	80 - 120
Antimony	500	467		ug/L		93	80 - 120
Thallium	50.0	51.0		ug/L		102	80 - 120
Lithium	50.0	54.4		ug/L		109	80 - 120

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

Lab Sample ID: 180-85446-2 MS
Matrix: Water
Analysis Batch: 267572

Client Sample ID: ASB
Prep Type: Total Recoverable
Prep Batch: 267216

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.2		40.0	43.3		ug/L		100	75 - 125
Barium	150		2000	1970		ug/L		91	75 - 125
Cadmium	ND		50.0	57.7		ug/L		115	75 - 125
Beryllium	0.069	J ^	50.0	49.2		ug/L		98	75 - 125
Chromium	3.6		200	189		ug/L		93	75 - 125
Lead	0.69	J	20.0	22.1		ug/L		107	75 - 125
Selenium	ND		10.0	9.53		ug/L		95	75 - 125
Cobalt	0.96		500	440		ug/L		88	75 - 125
Molybdenum	10		1000	1150		ug/L		114	75 - 125
Antimony	1.9	J	500	483		ug/L		96	75 - 125
Thallium	0.091	J	50.0	50.8		ug/L		101	75 - 125
Lithium	13		50.0	67.9		ug/L		110	75 - 125

Lab Sample ID: 180-85446-2 MSD
Matrix: Water
Analysis Batch: 267457

Client Sample ID: ASB
Prep Type: Total Recoverable
Prep Batch: 267216

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.2		40.0	42.7		ug/L		99	75 - 125	172	20
Barium	150		2000	2280		ug/L		106	75 - 125	175	20
Cadmium	ND		50.0	55.9		ug/L		112	75 - 125	NC	20
Beryllium	0.069	J ^	50.0	57.6	^	ug/L		115	75 - 125	NC	20
Chromium	3.6		200	226		ug/L		111	75 - 125	194	20
Lead	0.69	J	20.0	22.5		ug/L		109	75 - 125	189	20
Selenium	ND		10.0	9.14		ug/L		91	75 - 125	NC	20
Cobalt	0.96		500	489		ug/L		98	75 - 125	200	20
Molybdenum	10		1000	1110		ug/L		110	75 - 125	197	20
Antimony	1.9	J	500	545		ug/L		109	75 - 125	199	20
Thallium	0.091	J	50.0	53.6		ug/L		107	75 - 125	NC	20
Lithium	13		50.0	62.3		ug/L		99	75 - 125	132	20

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-267213/1-A
Matrix: Water
Analysis Batch: 267249

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 267213

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/07/19 11:26	01/07/19 18:19	1

Lab Sample ID: LCS 180-267213/2-A
Matrix: Water
Analysis Batch: 267249

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 267213

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.66		ug/L		106	80 - 120

QC Association Summary

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

TestAmerica Job ID: 180-85446-1

HPLC/IC

Analysis Batch: 267731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85446-1	ABB	Total/NA	Water	EPA 9056A	
180-85446-2	ASB	Total/NA	Water	EPA 9056A	
MB 180-267731/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-267731/5	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-85446-2 MS	ASB	Total/NA	Water	EPA 9056A	
180-85446-2 MSD	ASB	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 267213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85446-1	ABB	Total/NA	Water	7470A	
180-85446-2	ASB	Total/NA	Water	7470A	
MB 180-267213/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-267213/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 267216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85446-1	ABB	Total Recoverable	Water	3005A	
180-85446-2	ASB	Total Recoverable	Water	3005A	
MB 180-267216/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-267216/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-85446-2 MS	ASB	Total Recoverable	Water	3005A	
180-85446-2 MSD	ASB	Total Recoverable	Water	3005A	

Analysis Batch: 267249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85446-1	ABB	Total/NA	Water	EPA 7470A	267213
180-85446-2	ASB	Total/NA	Water	EPA 7470A	267213
MB 180-267213/1-A	Method Blank	Total/NA	Water	EPA 7470A	267213
LCS 180-267213/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	267213

Analysis Batch: 267457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85446-1	ABB	Total Recoverable	Water	EPA 6020A	267216
180-85446-2	ASB	Total Recoverable	Water	EPA 6020A	267216
MB 180-267216/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	267216
LCS 180-267216/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	267216
180-85446-2 MSD	ASB	Total Recoverable	Water	EPA 6020A	267216

Analysis Batch: 267572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-267216/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	267216
LCS 180-267216/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	267216
180-85446-2 MS	ASB	Total Recoverable	Water	EPA 6020A	267216

Chain of Custody Record

273172

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Company Name: KPRG and Associates	Tel/Fax:	Lab Contact:	Carrier:	____ of ____ COCs
Address: 14665 W Lisbon Rd Ste 1A	Analysis Turnaround Time			Sampler:
City/State/Zip: Brookfield / WI 53005	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 262-781-0475	TAT if different from Below ____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: NRG	☐ 1 week			
Site: Powerton	☐ 2 days			Job / SDG No.:
PO# 23517.0	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Fluoride	Metals	Rad 226/228	Sample Specific Notes:
ABB	1-4-19	1100	G	W	4	N	N	X	X	X	
ASB	1-4-19	1200	G	W	4	N	N	X	X	X	

180-85446 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____ | 1 | 4 | 4 |

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:
CCR Appedix 4 metals → As, Ba, Cd, Co, Pb, Li, Hg, Mo, Se, Tl / Date for all samples is 1-4-19

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ | Therm ID No.: ____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Mitchel Dolan	KPRG	1-4-19/1400	FEDEX		1-4-19/1400
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Pauline Watson	TAPitt	1-5-19 - 9:30
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

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1/18/2019

180-85446 Waybill

FedEx.

Do Not Lift Usin[illegible]

erica

ST 3 9 1 12:00 A G

0897
01.05

ORIGIN ID:PIAA (000) 000-0000
KPRG ASSOCIATES
414 PLAZA DR STE 106

WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 04JAN19
ACTWGT: 50.00 LB
CAD: 006994779/SSFE1922
DIMS: 22x12x12 IN

BILL THIRD PARTY

TO ATTN CARRIE GAMBER
TEST AMERICA
301 ALPHA DR RIDC PARK

PITTSBURGH PA 15238
(412) 963-7058 REF:
INV:
PO: DEPT:

FedEx Express E

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 7848 0408 0897

XO AGCA

15238
US PIT

Uncorrected temp 1.9 °C
Thermometer ID 10
CF 0 Initials TS
PT-WI-SR-001 effective 11/6/18

FedEx Express

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 180-85446-1

Login Number: 85446
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?	False	
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	

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

TestAmerica Job ID: 180-85446-2
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:
2/7/2019 4:39:54 PM

Carrie Gamber, Senior Project Manager
(412)963-2428
carrie.gamber@testamericainc.com

PA Lab ID: 02-00416

Table of Contents

Job ID: 180-85446-2

Laboratory: TestAmerica Pittsburgh

Narrative

CASE NARRATIVE

Client: KPRG and Associates, Inc.

Project: Midwest Generation

Report Number: 180-85446-2

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

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

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

RECEIPT

The samples were received on 01/05/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.9 C.

The Field Sampler was not listed on the Chain of Custody.

903.0

The following samples were prepared at a reduced aliquot: ABB (180-85446-1) and ASB (180-85446-2). Sample 180-85446-1 was reduced due to yellow discoloration. Sample 180-85446-2 was reduced due to sediment.

904.0

The following samples were prepared at a reduced aliquot due to limited sample volume due to re-extract: ABB (180-85446-1) and ASB (180-85446-2).

Method(s) PrecSep_0: Radium 228 Prep Batch 160-410725: The following samples were prepared at a reduced aliquot: ABB (180-85446-1) and ASB (180-85446-2). Sample 180-85446-1 was reduced due to yellow discoloration. Sample 180-85446-2 was reduced due to sediment.

Definitions/Glossary

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

TestAmerica Job ID: 180-85446-2

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

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: 180-85446-2

Laboratory: TestAmerica Pittsburgh

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200005	06-30-19

Laboratory: TestAmerica St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-19
ANAB	DoD ELAP		L2305	04-06-19
Arizona	State Program	9	AZ0813	12-08-19
California	State Program	9	2886	06-30-19
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-19
Illinois	NELAP	5	200023	11-30-19
Iowa	State Program	7	373	12-01-20
Kansas	NELAP	7	E-10236	10-31-19
Kentucky (DW)	State Program	4	90125	12-31-18 *
Louisiana	NELAP	6	04080	06-30-19
Louisiana (DW)	NELAP	6	LA011	12-31-19
Maryland	State Program	3	310	09-30-19
Michigan	State Program	5	9005	06-30-19
Missouri	State Program	7	780	06-30-19
Nevada	State Program	9	MO000542018-1	07-31-19
New Jersey	NELAP	2	MO002	06-30-19
New York	NELAP	2	11616	03-31-19
North Dakota	State Program	8	R207	06-30-19
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-19
Pennsylvania	NELAP	3	68-00540	02-28-19 *
South Carolina	State Program	4	85002001	06-30-19
Texas	NELAP	6	T104704193-18-12	07-31-19
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542018-10	07-31-19
Virginia	NELAP	3	460230	06-14-19
Washington	State Program	10	C592	08-30-19
West Virginia DEP	State Program	3	381	08-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Sample Summary

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

TestAmerica Job ID: 180-85446-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-85446-1	ABB	Water	01/04/19 11:00	01/05/19 09:30
180-85446-2	ASB	Water	01/04/19 12:00	01/05/19 09:30

Method Summary

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

TestAmerica Job ID: 180-85446-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

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

TestAmerica Job ID: 180-85446-2

Client Sample ID: ABB

Lab Sample ID: 180-85446-1

Date Collected: 01/04/19 11:00

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.59 mL	1.0 g	409814	01/09/19 09:10	SJC	TAL SL
Total/NA	Analysis	903.0		1			413802	02/06/19 08:40	KLS	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			196.71 mL	1.0 g	412615	01/28/19 08:01	JLC	TAL SL
Total/NA	Analysis	904.0		1			413086	01/31/19 09:19	KLS	TAL SL
	Instrument ID: GFPCORANGE									

Client Sample ID: ASB

Lab Sample ID: 180-85446-2

Date Collected: 01/04/19 12:00

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.46 mL	1.0 g	409814	01/09/19 09:10	SJC	TAL SL
Total/NA	Analysis	903.0		1			413802	02/06/19 08:40	KLS	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			264.91 mL	1.0 g	412615	01/28/19 08:01	JLC	TAL SL
Total/NA	Analysis	904.0		1			413086	01/31/19 09:19	KLS	TAL SL
	Instrument ID: GFPCORANGE									

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Analyst References:

Lab: TAL SL

Batch Type: Prep

JLC = Jessica Chapman

SJC = Sarah Cooper

Batch Type: Analysis

KLS = Kody Saulters

Client Sample ID: ABB

Lab Sample ID: 180-85446-1

Date Collected: 01/04/19 11:00

Matrix: Water

Date Received: 01/05/19 09:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0261	U	0.0578	0.0578	1.00	0.107	pCi/L	01/09/19 09:10	02/06/19 08:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.2*		*40 - 110*	*01/09/19 09:10*	*02/06/19 08:40*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.85	U G	1.61	1.62	1.00	2.59	pCi/L	01/28/19 08:01	01/31/19 09:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*01/28/19 08:01*	*01/31/19 09:19*	*1*
Y Carrier	*75.5*		*40 - 110*	*01/28/19 08:01*	*01/31/19 09:19*	*1*

Client Sample ID: ASB

Lab Sample ID: 180-85446-2

Date Collected: 01/04/19 12:00

Matrix: Water

Date Received: 01/05/19 09:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.144**		0.0952	0.0961	1.00	0.125	pCi/L	01/09/19 09:10	02/06/19 08:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.6*		*40 - 110*	*01/09/19 09:10*	*02/06/19 08:40*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.02	U G	1.08	1.08	1.00	1.76	pCi/L	01/28/19 08:01	01/31/19 09:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.7*		*40 - 110*	*01/28/19 08:01*	*01/31/19 09:19*	*1*
Y Carrier	*74.4*		*40 - 110*	*01/28/19 08:01*	*01/31/19 09:19*	*1*

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-409814/22-A
Matrix: Water
Analysis Batch: 413803

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 409814

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.01039	U	0.0415	0.0415	1.00	0.0985	pCi/L	01/09/19 09:10	02/06/19 08:42	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*01/09/19 09:10*	*02/06/19 08:42*	*1*

Lab Sample ID: LCS 160-409814/1-A
Matrix: Water
Analysis Batch: 413801

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 409814

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	14.10		1.44	1.00	0.116	pCi/L	93	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*97.9*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-412615/22-A
Matrix: Water
Analysis Batch: 413086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 412615

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.743	U G	1.16	1.18	1.00	1.79	pCi/L	01/28/19 08:01	01/31/19 09:20	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*108*		*40 - 110*	*01/28/19 08:01*	*01/31/19 09:20*	*1*
Y Carrier	*74.8*		*40 - 110*	*01/28/19 08:01*	*01/31/19 09:20*	*1*

Lab Sample ID: LCS 160-412615/1-A
Matrix: Water
Analysis Batch: 413086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 412615

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			47.6	41.82		4.97	1.00	1.83	pCi/L	88	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*99.4*		*40 - 110*
Y Carrier	*79.3*		*40 - 110*

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

TestAmerica Job ID: 180-85446-2

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-412615/2-A
Matrix: Water
Analysis Batch: 413086

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 412615

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			47.6	41.03		4.84	1.00	1.63	pCi/L	86	56 - 140	0.08	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*104*		*40 - 110*
Y Carrier	*79.6*		*40 - 110*

QC Association Summary

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

TestAmerica Job ID: 180-85446-2

Rad

Prep Batch: 409814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85446-1	ABB	Total/NA	Water	PrecSep-21	
180-85446-2	ASB	Total/NA	Water	PrecSep-21	
MB 160-409814/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-409814/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 412615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85446-1	ABB	Total/NA	Water	PrecSep_0	
180-85446-2	ASB	Total/NA	Water	PrecSep_0	
MB 160-412615/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-412615/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-412615/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Chain of Custody Record

273172

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Company Name: KPRG and Associates	Tel/Fax:	Lab Contact:	Carrier:	____ of ____ COCs
Address: 14665 W Lisbon Rd Ste 1A	Analysis Turnaround Time			Sampler:
City/State/Zip: Brookfield / WI 53005	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 262-781-0475	TAT if different from Below ____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: NRG	☐ 1 week			
Site: Powerton	☐ 2 days			Job / SDG No.:
PO# 23517.0	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Fluoride	Metals	Rad 226/228	Sample Specific Notes:
ABB	1-4-19	1100	G	W	4	N	N	X	X	X	
ASB	1-4-19	1200	G	W	4	N	N	X	X	X	

180-85446 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____ | 1 | 4 | 4 |

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:
CCR Appedix 4 metals → As, Ba, Cd, Co, Pb, Li, Hg, Mo, Se, Tl / Date for all samples is 1-4-19

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ | Therm ID No.: ____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Mitchel Dolan	KPRG	1-4-19/1400	FEDEX		1-4-19/1400
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Pauline Watson	TAPitt	1-5-19 - 9:30
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

2/7/2019

FedEx.

180-85446 Waybill

Do Not Lift Usin

erica

ST 3 9 1 12:00 A G 0897 01.05

ORIGIN ID:PIAA (000) 000-0000
KPRG ASSOCIATES
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 04JAN19
ACTWGT: 50.00 LB
CAD: 006994779/SSFE1922
DIMS: 22x12x12 IN
BILL THIRD PARTY

TO ATTN CARRIE GAMBER
TEST AMERICA
301 ALPHA DR RIDC PARK

PITTSBURGH PA 15238
(412) 963-7058 REF:
INV:
PO: DEPT:

FedEx Express E

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 7848 0408 0897

XO AGCA

15238
US PIT

Uncorrected temp 1.9 °C
Thermometer ID 10
CF 0 Initials TS
PT-WI-SR-001 effective 11/6/18

FedEx Express

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-351860.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 180-85446-2
Address: 13715 Rider Trail North, .	Due Date Requested: 1/17/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Midwest Generation	Project #: 18018377			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
ABB (180-85446-1)	1/4/19	11:00 Central		Water			X	X	2	
ASB (180-85446-2)	1/4/19	12:00 Central		Water			X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/7/19 1700	TA PIT		1-8-19/0855	TA-STL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 09/20/2016

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 180-85446-2

Login Number: 85446
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?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 180-85446-2

Login Number: 85446
List Number: 2
Creator: Press, Nicholas B

List Source: TestAmerica St. Louis
List Creation: 01/08/19 02:44 PM

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.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	19.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

TestAmerica Job ID: 180-85447-1
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:
2/21/2019 3:09:58 PM

Carrie Gamber, Senior Project Manager
(412)963-2428
carrie.gamber@testamericainc.com

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

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

PA Lab ID: 02-00416

Table of Contents

Job ID: 180-85447-1

Laboratory: TestAmerica Pittsburgh

Narrative

CASE NARRATIVE

Client: KPRG and Associates, Inc.

Project: Midwest Generation

Report Number: 180-85447-1

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

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

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

RECEIPT

The samples were received on 01/05/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.9 C.

The Field Sampler was not listed on the Chain of Custody.

One out of two containers for the following sample did not match the information listed on the Chain-of-Custody (COC): ABB PRETEST (180-85447-1). The container label lists a sample collection time of 11:00, while the COC lists 11:10. The time on the COC was used.

METALS

A couple samples were diluted due to the high concentration of non-target metals or due to the sample matrix. Elevated reporting limits (RLs) are provided.

Lead was detected in method blank MB 180-268107/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Chromium and Cobalt were detected in method blank MB 180-268586/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

GENERAL CHEMSITRY

Several samples were diluted due to the nature of the sample matrix or due to the detection of non-target analytes for IC (Nitrate). Nitric Acid is used to adjust the pH of the sample per the leach method. Elevated reporting limits (RLs) are provided.

The continuing calibration verification (CCV) associated with batch 180-269858 recovered outside acceptance criteria, biased low, for Fluoride. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect or at an estimated level for this analyte, the data have been reported. The samples contained high concentrations of Nitric Acid which caused the CCV after it to fail low for this analyte.

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
E	Result exceeded calibration range.

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: 180-85447-1

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	06-30-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
2540G		Solid	Percent Moisture
2540G		Solid	Percent Solids
EPA 6020A	3010A	Solid	Lithium
SM 2510B		Solid	Specific Conductance
SM 2580B		Solid	Oxidation Reduction Potential

Sample Summary

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

TestAmerica Job ID: 180-85447-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-85447-1	ABB PRETEST	Solid	01/04/19 11:10	01/05/19 09:30
180-85447-2	ABB pH 13.0	Solid	01/04/19 11:10	01/05/19 09:30
180-85447-3	ABB pH 12.0	Solid	01/04/19 11:10	01/05/19 09:30
180-85447-4	ABB pH 10.5	Solid	01/04/19 11:10	01/05/19 09:30
180-85447-6	ABB pH 8.0	Solid	01/04/19 11:10	01/05/19 09:30
180-85447-7	ABB pH 7.0	Solid	01/04/19 11:10	01/05/19 09:30
180-85447-8	ABB pH 5.5	Solid	01/04/19 11:10	01/05/19 09:30
180-85447-9	ABB pH 4.0	Solid	01/04/19 11:10	01/05/19 09:30
180-85447-10	ABB pH 2.0	Solid	01/04/19 11:10	01/05/19 09:30
180-85447-11	ABB pH NATURAL	Solid	01/04/19 11:10	01/05/19 09:30
180-85447-12	ASB PRETEST	Solid	01/04/19 11:45	01/05/19 09:30
180-85447-13	ASB pH 13.0	Solid	01/04/19 11:45	01/05/19 09:30
180-85447-14	ASB pH 12.0	Solid	01/04/19 11:45	01/05/19 09:30
180-85447-15	ASB pH 10.5	Solid	01/04/19 11:45	01/05/19 09:30
180-85447-17	ASB pH 8.0	Solid	01/04/19 11:45	01/05/19 09:30
180-85447-18	ASB pH 7.0	Solid	01/04/19 11:45	01/05/19 09:30
180-85447-19	ASB pH 5.5	Solid	01/04/19 11:45	01/05/19 09:30
180-85447-20	ASB pH 4.0	Solid	01/04/19 11:45	01/05/19 09:30
180-85447-21	ASB pH 2.0	Solid	01/04/19 11:45	01/05/19 09:30
180-85447-22	ASB pH NATURAL	Solid	01/04/19 11:45	01/05/19 09:30
180-85447-23	MB LOW	Solid	01/04/19 00:00	01/05/19 09:30
180-85447-24	MB NATURAL	Solid	01/04/19 00:00	01/05/19 09:30
180-85447-25	MB HIGH	Solid	01/04/19 00:00	01/05/19 09:30
180-85447-49	MB LOW 1	Solid	01/21/19 00:00	01/05/19 09:30
180-85447-51	MB LOW 2	Solid	01/31/19 00:00	01/05/19 09:30

Method Summary

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

TestAmerica Job ID: 180-85447-1

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
EPA 6020A	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
2540G	SM 2540G	SM22	TAL PIT
EPA 9040C	pH	SW846	TAL PIT
SM 2510B	Conductivity, Specific Conductance	SM	TAL PIT
SM 2580B	Reduction-Oxidation (REDOX) Potential	SM	TAL PIT
1313	Liquid-Solid Partitioning as a Function of pH via Parallel Batch	SW846	TAL PIT
3010A	Preparation, Total Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT

Protocol References:

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

SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition

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: 180-85447-1

Client Sample ID: ABB PRETEST

Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			267637	01/11/19 08:56	JMS	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268574	01/21/19 07:40	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268604	01/23/19 07:40	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ABB pH 13.0

Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			268208	01/18/19 11:10	CMR	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268107	01/17/19 07:12	RJR	TAL PIT
Leach	Analysis	EPA 6020A		1			268295	01/18/19 17:20	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268065	01/16/19 15:06	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268204	01/17/19 17:47	KA	TAL PIT
	Instrument ID: HGY									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268142	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268140	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ABB pH 12.0

Lab Sample ID: 180-85447-3

Date Collected: 01/04/19 11:10

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			268079	01/17/19 14:37	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268107	01/17/19 07:12	RJR	TAL PIT
Leach	Analysis	EPA 6020A		1			268295	01/18/19 17:30	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268065	01/16/19 15:06	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268204	01/17/19 17:48	KA	TAL PIT
	Instrument ID: HGY									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268142	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268140	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ABB pH 10.5

Lab Sample ID: 180-85447-4

Date Collected: 01/04/19 11:10

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	EPA 9056A		10			268298	01/19/19 10:55	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268263	01/18/19 12:59	NAM	TAL PIT
Leach	Analysis	EPA 6020A		1			268357	01/19/19 17:28	WTR	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268340	01/21/19 10:49	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268542	01/22/19 18:02	KA	TAL PIT
	Instrument ID: HGZ									
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268260	01/18/19 10:20	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268262	01/18/19 10:40	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT

Lab Chronicle

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

TestAmerica Job ID: 180-85447-1

Client Sample ID: ABB pH 10.5

Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-4

Matrix: Solid

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			268261	01/18/19 10:20	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ABB pH 8.0

Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			268079	01/17/19 14:53	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268107	01/17/19 07:12	RJR	TAL PIT
Leach	Analysis	EPA 6020A		1			268295	01/18/19 17:34	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268065	01/16/19 15:06	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268204	01/17/19 17:49	KA	TAL PIT
	Instrument ID: HGY									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268142	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268140	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ABB pH 7.0

Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			268079	01/17/19 15:08	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268107	01/17/19 07:12	RJR	TAL PIT
Leach	Analysis	EPA 6020A		1			268295	01/18/19 17:37	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268065	01/16/19 15:06	KA	TAL PIT

Lab Chronicle

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

TestAmerica Job ID: 180-85447-1

Client Sample ID: ABB pH 7.0

Lab Sample ID: 180-85447-7

Date Collected: 01/04/19 11:10

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 7470A		1			268204	01/17/19 17:50	KA	TAL PIT
	Instrument ID: HGY									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268142	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268140	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ABB pH 5.5

Lab Sample ID: 180-85447-8

Date Collected: 01/04/19 11:10

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			268298	01/19/19 11:10	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268263	01/18/19 12:59	NAM	TAL PIT
Leach	Analysis	EPA 6020A		1			268357	01/19/19 17:32	WTR	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268340	01/21/19 10:49	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268542	01/22/19 18:03	KA	TAL PIT
	Instrument ID: HGZ									
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268260	01/18/19 10:20	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268262	01/18/19 10:40	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268261	01/18/19 10:20	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ABB pH 4.0

Lab Sample ID: 180-85447-9

Date Collected: 01/04/19 11:10

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT

Lab Chronicle

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

TestAmerica Job ID: 180-85447-1

Client Sample ID: ABB pH 4.0

Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-9

Matrix: Solid

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			268298	01/19/19 11:25	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268263	01/18/19 12:59	NAM	TAL PIT
Leach	Analysis	EPA 6020A		1			268357	01/19/19 17:35	WTR	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268340	01/21/19 10:49	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268542	01/22/19 18:04	KA	TAL PIT
	Instrument ID: HGZ									
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268260	01/18/19 10:20	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268262	01/18/19 10:40	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268261	01/18/19 10:20	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ABB pH 2.0

Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	935.4 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Analysis	EPA 9056A		50			269858	02/07/19 23:30	CMR	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	935.4 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	269867	02/07/19 11:53	NAM	TAL PIT
Leach	Analysis	EPA 6020A		10	1.0 mL	1.0 mL	270330	02/12/19 18:46	WTR	TAL PIT
	Instrument ID: X									
Leach	Leach	1313			95 g	935.4 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	269834	02/07/19 10:44	RJR	TAL PIT
Leach	Analysis	EPA 7470A		1			269950	02/08/19 10:23	RJR	TAL PIT
	Instrument ID: HGZ									
Leach	Leach	1313			95 g	935.4 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Analysis	EPA 9040C		1			269862	02/07/19 08:30	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Analysis	SM 2510B		1			269868	02/07/19 08:30	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Analysis	SM 2580B		1			269865	02/07/19 08:30	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ABB pH NATURAL

Lab Sample ID: 180-85447-11

Date Collected: 01/04/19 11:10

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			268079	01/17/19 12:00	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268107	01/17/19 07:12	RJR	TAL PIT
Leach	Analysis	EPA 6020A		1			268295	01/18/19 17:40	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268065	01/16/19 15:06	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268204	01/17/19 17:45	KA	TAL PIT
	Instrument ID: HGY									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268142	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268140	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ASB PRETEST

Lab Sample ID: 180-85447-12

Date Collected: 01/04/19 11:45

Matrix: Solid

Date Received: 01/05/19 09:30

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			267637	01/11/19 08:56	JMS	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268574	01/21/19 07:40	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268604	01/23/19 07:40	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ASB pH 13.0

Lab Sample ID: 180-85447-13

Date Collected: 01/04/19 11:45

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT

Client Sample ID: ASB pH 13.0

Date Collected: 01/04/19 11:45
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-13

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 9056A		5			268208	01/18/19 11:26	CMR	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268107	01/17/19 07:12	RJR	TAL PIT
Leach	Analysis	EPA 6020A		1			268295	01/18/19 17:43	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268065	01/16/19 15:06	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268204	01/17/19 17:51	KA	TAL PIT
	Instrument ID: HGY									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268142	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268140	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ASB pH 12.0

Date Collected: 01/04/19 11:45
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-14

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			268079	01/17/19 18:02	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268107	01/17/19 07:12	RJR	TAL PIT
Leach	Analysis	EPA 6020A		1			268295	01/18/19 17:47	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268065	01/16/19 15:06	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268204	01/17/19 17:56	KA	TAL PIT
	Instrument ID: HGY									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268142	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268140	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ASB pH 10.5

Date Collected: 01/04/19 11:45
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-15

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			268079	01/17/19 15:24	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268107	01/17/19 07:12	RJR	TAL PIT
Leach	Analysis	EPA 6020A		1			268295	01/18/19 17:50	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268065	01/16/19 15:06	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268204	01/17/19 17:57	KA	TAL PIT
	Instrument ID: HGY									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268142	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268140	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ASB pH 8.0

Date Collected: 01/04/19 11:45
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-17

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			268079	01/17/19 15:40	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268107	01/17/19 07:12	RJR	TAL PIT
Leach	Analysis	EPA 6020A		1			268295	01/18/19 17:53	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268065	01/16/19 15:06	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268204	01/17/19 17:58	KA	TAL PIT
	Instrument ID: HGY									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268142	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT

Lab Chronicle

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

TestAmerica Job ID: 180-85447-1

Client Sample ID: ASB pH 8.0

Date Collected: 01/04/19 11:45
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-17

Matrix: Solid

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			268140	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ASB pH 7.0

Date Collected: 01/04/19 11:45
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-18

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9056A		2.5			268079	01/17/19 18:18	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268107	01/17/19 07:12	RJR	TAL PIT
Leach	Analysis	EPA 6020A		1			268295	01/18/19 17:57	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268065	01/16/19 15:06	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268204	01/17/19 17:59	KA	TAL PIT
	Instrument ID: HGY									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268142	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268140	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ASB pH 5.5

Date Collected: 01/04/19 11:45
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-19

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	936.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	EPA 9056A		10			268298	01/19/19 11:41	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	936.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268263	01/18/19 12:59	NAM	TAL PIT
Leach	Analysis	EPA 6020A		1			268357	01/19/19 17:38	WTR	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	936.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268340	01/21/19 10:49	KA	TAL PIT

Client Sample ID: ASB pH 5.5

Lab Sample ID: 180-85447-19

Date Collected: 01/04/19 11:45

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 7470A		1			268542	01/22/19 18:05	KA	TAL PIT
	Instrument ID: HGZ									
Leach	Leach	1313			95 g	936.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268260	01/18/19 10:20	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268262	01/18/19 10:40	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268261	01/18/19 10:20	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ASB pH 4.0

Lab Sample ID: 180-85447-20

Date Collected: 01/04/19 11:45

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	935.4 mL	268574	01/21/19 07:40	LWM	TAL PIT
Leach	Analysis	EPA 9056A		25			268716	01/24/19 19:53	CMR	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	935.4 mL	268574	01/21/19 07:40	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268586	01/23/19 12:55	NAM	TAL PIT
Leach	Analysis	EPA 6020A		10			268821	01/25/19 14:30	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	935.4 mL	268574	01/21/19 07:40	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	269197	01/31/19 07:10	RJR	TAL PIT
Leach	Analysis	EPA 7470A		1			269298	01/31/19 16:42	RJR	TAL PIT
	Instrument ID: HGZ									
Leach	Leach	1313			95 g	935.4 mL	268574	01/21/19 07:40	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268604	01/23/19 07:40	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268574	01/21/19 07:40	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268609	01/23/19 07:40	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	268574	01/21/19 07:40	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268608	01/23/19 07:40	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ASB pH 2.0

Lab Sample ID: 180-85447-21

Date Collected: 01/04/19 11:45

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	936.4 mL	269578	02/05/19 08:30	MTW	TAL PIT

Lab Chronicle

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

TestAmerica Job ID: 180-85447-1

Client Sample ID: ASB pH 2.0

Lab Sample ID: 180-85447-21

Date Collected: 01/04/19 11:45

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 9056A		50			269858	02/07/19 23:46	CMR	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	936.4 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	269867	02/07/19 11:53	NAM	TAL PIT
Leach	Analysis	EPA 6020A		10	1.0 mL	1.0 mL	270330	02/12/19 18:51	WTR	TAL PIT
	Instrument ID: X									
Leach	Leach	1313			95 g	936.4 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	269834	02/07/19 10:44	RJR	TAL PIT
Leach	Analysis	EPA 7470A		1			269950	02/08/19 10:22	RJR	TAL PIT
	Instrument ID: HGZ									
Leach	Leach	1313			95 g	936.4 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Analysis	EPA 9040C		1			269862	02/07/19 08:30	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Analysis	SM 2510B		1			269868	02/07/19 08:30	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Analysis	SM 2580B		1			269865	02/07/19 08:30	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ASB pH NATURAL

Lab Sample ID: 180-85447-22

Date Collected: 01/04/19 11:45

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			268079	01/17/19 10:28	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268107	01/17/19 07:12	RJR	TAL PIT
Leach	Analysis	EPA 6020A		1			268295	01/18/19 18:00	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268065	01/16/19 15:06	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268204	01/17/19 17:46	KA	TAL PIT
	Instrument ID: HGY									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268142	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	936.4 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268140	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MB LOW

Lab Sample ID: 180-85447-23

Date Collected: 01/04/19 00:00

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			1.0 g	950 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100			268298	01/19/19 11:56	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			1.0 g	950 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268263	01/18/19 12:59	NAM	TAL PIT
Leach	Analysis	EPA 6020A		1			268357	01/19/19 17:41	WTR	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			1.0 g	950 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268340	01/21/19 10:49	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268542	01/22/19 18:06	KA	TAL PIT
	Instrument ID: HGZ									
Leach	Leach	1313			1.0 g	950 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268260	01/18/19 10:20	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			1.0 g	950 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268262	01/18/19 10:40	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			1.0 g	950 mL	268246	01/16/19 10:20	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268261	01/18/19 10:20	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MB NATURAL

Lab Sample ID: 180-85447-24

Date Collected: 01/04/19 00:00

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			1.0 g	950 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			268079	01/17/19 10:43	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			1.0 g	950 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268107	01/17/19 07:12	RJR	TAL PIT
Leach	Analysis	EPA 6020A		1			268295	01/18/19 18:10	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			1.0 g	950 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268065	01/16/19 15:06	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268204	01/17/19 18:03	KA	TAL PIT
	Instrument ID: HGY									
Leach	Leach	1313			1.0 g	950 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			1.0 g	950 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268142	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			1.0 g	950 mL	268040	01/14/19 09:05	LWM	TAL PIT

Client Sample ID: MB NATURAL

Lab Sample ID: 180-85447-24

Date Collected: 01/04/19 00:00

Matrix: Solid

Date Received: 01/05/19 09:30

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			268140	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MB HIGH

Lab Sample ID: 180-85447-25

Date Collected: 01/04/19 00:00

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			1.0 g	950 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			268208	01/18/19 11:41	CMR	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			1.0 g	950 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268107	01/17/19 07:12	RJR	TAL PIT
Leach	Analysis	EPA 6020A		1			268295	01/18/19 18:13	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			1.0 g	950 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	268065	01/16/19 15:06	KA	TAL PIT
Leach	Analysis	EPA 7470A		1			268204	01/17/19 18:00	KA	TAL PIT
	Instrument ID: HGY									
Leach	Leach	1313			1.0 g	950 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268135	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			1.0 g	950 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268142	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			1.0 g	950 mL	268040	01/14/19 09:05	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268140	01/16/19 09:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MB LOW 1

Lab Sample ID: 180-85447-49

Date Collected: 01/21/19 00:00

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			1.0 g	950 mL	268574	01/21/19 07:40	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100			268716	01/24/19 20:09	CMR	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			1.0 g	950 mL	268574	01/21/19 07:40	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268586	01/23/19 12:55	NAM	TAL PIT
Leach	Analysis	EPA 6020A		1			268763	01/24/19 18:46	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			1.0 g	950 mL	268574	01/21/19 07:40	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	268586	01/23/19 12:55	NAM	TAL PIT

Lab Chronicle

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

TestAmerica Job ID: 180-85447-1

Client Sample ID: MB LOW 1

Lab Sample ID: 180-85447-49

Date Collected: 01/21/19 00:00
Matrix: Solid
Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 6020A		1			268821	01/25/19 14:33	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			1.0 g	950 mL	268574	01/21/19 07:40	LWM	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	269197	01/31/19 07:10	RJR	TAL PIT
Leach	Analysis	EPA 7470A		1			269298	01/31/19 16:43	RJR	TAL PIT
	Instrument ID: HGZ									
Leach	Leach	1313			1.0 g	950 mL	268574	01/21/19 07:40	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			268604	01/23/19 07:40	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			1.0 g	950 mL	268574	01/21/19 07:40	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			268609	01/23/19 07:40	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			1.0 g	950 mL	268574	01/21/19 07:40	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			268608	01/23/19 07:40	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MB LOW 2

Lab Sample ID: 180-85447-51

Date Collected: 01/31/19 00:00
Matrix: Solid
Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			1.0 g	950 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Analysis	EPA 9056A		100			269858	02/08/19 00:02	CMR	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			1.0 g	950 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	269867	02/07/19 11:53	NAM	TAL PIT
Leach	Analysis	EPA 6020A		1			269977	02/08/19 00:37	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			1.0 g	950 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Prep	7470A			50 mL	50 mL	269834	02/07/19 10:44	RJR	TAL PIT
Leach	Analysis	EPA 7470A		1			269950	02/08/19 10:21	RJR	TAL PIT
	Instrument ID: HGZ									
Leach	Leach	1313			1.0 g	950 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Analysis	EPA 9040C		1			269862	02/07/19 08:30	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			1.0 g	950 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Analysis	SM 2510B		1			269868	02/07/19 08:30	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			1.0 g	950 mL	269578	02/05/19 08:30	MTW	TAL PIT
Leach	Analysis	SM 2580B		1			269865	02/07/19 08:30	MTW	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

MTW = Michael Wesoloski

Batch Type: Prep

KA = Kayla Kalamasz

NAM = Nicole Marfisi

RJR = Ron Rosenbaum

Batch Type: Analysis

CMR = Carl Reagle

JMS = Jessica Scalise

KA = Kayla Kalamasz

MJH = Matthew Hartman

MTW = Michael Wesoloski

RJR = Ron Rosenbaum

RSK = Robert Kurtz

WTR = Bill Reinheimer

Client Sample ID: ABB PRETEST

Lab Sample ID: 180-85447-1
Matrix: Solid
Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.4		0.1	0.1	%			01/11/19 08:56	1
Percent Solids	98.6		0.1	0.1	%			01/11/19 08:56	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.7		0.1	0.1	SU			01/16/19 09:05	1
pH	6.1		0.1	0.1	SU			01/16/19 09:05	1
pH	12.5		0.1	0.1	SU			01/16/19 09:05	1
pH	3.6		0.1	0.1	SU			01/23/19 07:40	1

Client Sample ID: ABB pH 13.0

Lab Sample ID: 180-85447-2
Matrix: Solid
Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.62		0.50	0.13	mg/L			01/18/19 11:10	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.5		1.0	0.32	ug/L		01/17/19 07:12	01/18/19 17:20	1
Barium	150		10	0.37	ug/L		01/17/19 07:12	01/18/19 17:20	1
Cadmium	0.20	J	1.0	0.13	ug/L		01/17/19 07:12	01/18/19 17:20	1
Beryllium	0.14	J	1.0	0.057	ug/L		01/17/19 07:12	01/18/19 17:20	1
Chromium	4.7		2.0	0.63	ug/L		01/17/19 07:12	01/18/19 17:20	1
Lead	2.1	B	1.0	0.094	ug/L		01/17/19 07:12	01/18/19 17:20	1
Selenium	1.6	J	5.0	0.81	ug/L		01/17/19 07:12	01/18/19 17:20	1
Cobalt	1.6		0.50	0.075	ug/L		01/17/19 07:12	01/18/19 17:20	1
Molybdenum	1.6	J	5.0	0.47	ug/L		01/17/19 07:12	01/18/19 17:20	1
Antimony	ND		2.0	1.1	ug/L		01/17/19 07:12	01/18/19 17:20	1
Thallium	ND		1.0	0.063	ug/L		01/17/19 07:12	01/18/19 17:20	1
Lithium	ND		5.0	2.6	ug/L		01/17/19 07:12	01/18/19 17:20	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/16/19 15:06	01/17/19 17:47	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.7		0.1	0.1	SU			01/16/19 09:05	1
Specific Conductance	20000		1.0	1.0	umhos/cm			01/16/19 09:05	1
Oxidation Reduction Potential	- 166		10	10	millivolts			01/16/19 09:05	1

Client Sample ID: ABB pH 12.0

Lab Sample ID: 180-85447-3
Matrix: Solid
Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.88		0.10	0.026	mg/L			01/17/19 14:37	1

Client Sample ID: ABB pH 12.0

Lab Sample ID: 180-85447-3
Matrix: Solid
Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15		1.0	0.32	ug/L		01/17/19 07:12	01/18/19 17:30	1
Barium	440		10	0.37	ug/L		01/17/19 07:12	01/18/19 17:30	1
Cadmium	0.37	J	1.0	0.13	ug/L		01/17/19 07:12	01/18/19 17:30	1
Beryllium	0.32	J	1.0	0.057	ug/L		01/17/19 07:12	01/18/19 17:30	1
Chromium	17		2.0	0.63	ug/L		01/17/19 07:12	01/18/19 17:30	1
Lead	5.8	B	1.0	0.094	ug/L		01/17/19 07:12	01/18/19 17:30	1
Selenium	5.4		5.0	0.81	ug/L		01/17/19 07:12	01/18/19 17:30	1
Cobalt	3.6		0.50	0.075	ug/L		01/17/19 07:12	01/18/19 17:30	1
Molybdenum	6.0		5.0	0.47	ug/L		01/17/19 07:12	01/18/19 17:30	1
Antimony	2.1		2.0	1.1	ug/L		01/17/19 07:12	01/18/19 17:30	1
Thallium	ND		1.0	0.063	ug/L		01/17/19 07:12	01/18/19 17:30	1
Lithium	3.8	J	5.0	2.6	ug/L		01/17/19 07:12	01/18/19 17:30	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.082	J	0.20	0.065	ug/L		01/16/19 15:06	01/17/19 17:48	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	11.5		0.1	0.1	SU			01/16/19 09:05	1
Specific Conductance	1200		1.0	1.0	umhos/cm			01/16/19 09:05	1
Oxidation Reduction Potential	- 25		10	10	millivolts			01/16/19 09:05	1

Client Sample ID: ABB pH 10.5

Lab Sample ID: 180-85447-4
Matrix: Solid
Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.95	J	1.0	0.26	mg/L			01/19/19 10:55	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10		1.0	0.32	ug/L		01/18/19 12:59	01/19/19 17:28	1
Barium	390		10	0.37	ug/L		01/18/19 12:59	01/19/19 17:28	1
Cadmium	0.35	J	1.0	0.13	ug/L		01/18/19 12:59	01/19/19 17:28	1
Beryllium	0.18	J	1.0	0.057	ug/L		01/18/19 12:59	01/19/19 17:28	1
Chromium	13		2.0	0.63	ug/L		01/18/19 12:59	01/19/19 17:28	1
Lead	3.9		1.0	0.094	ug/L		01/18/19 12:59	01/19/19 17:28	1
Selenium	3.2	J	5.0	0.81	ug/L		01/18/19 12:59	01/19/19 17:28	1
Cobalt	2.9		0.50	0.075	ug/L		01/18/19 12:59	01/19/19 17:28	1
Molybdenum	6.7		5.0	0.47	ug/L		01/18/19 12:59	01/19/19 17:28	1
Antimony	2.0		2.0	1.1	ug/L		01/18/19 12:59	01/19/19 17:28	1
Thallium	0.091	J	1.0	0.063	ug/L		01/18/19 12:59	01/19/19 17:28	1
Lithium	3.0	J	5.0	2.6	ug/L		01/18/19 12:59	01/19/19 17:28	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/21/19 10:49	01/22/19 18:02	1

Client Sample ID: ABB pH 10.5

Lab Sample ID: 180-85447-4
Date Collected: 01/04/19 11:10
Matrix: Solid
Date Received: 01/05/19 09:30

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	10.8		0.1	0.1	SU			01/18/19 10:20	1
Specific Conductance	590		1.0	1.0	umhos/cm			01/18/19 10:40	1
Oxidation Reduction Potential	96		10	10	millivolts			01/18/19 10:20	1

Client Sample ID: ABB pH 8.0

Lab Sample ID: 180-85447-6
Date Collected: 01/04/19 11:10
Matrix: Solid
Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.72		0.10	0.026	mg/L			01/17/19 14:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.2		1.0	0.32	ug/L		01/17/19 07:12	01/18/19 17:34	1
Barium	340		10	0.37	ug/L		01/17/19 07:12	01/18/19 17:34	1
Cadmium	ND		1.0	0.13	ug/L		01/17/19 07:12	01/18/19 17:34	1
Beryllium	ND		1.0	0.057	ug/L		01/17/19 07:12	01/18/19 17:34	1
Chromium	1.9	J	2.0	0.63	ug/L		01/17/19 07:12	01/18/19 17:34	1
Lead	ND		1.0	0.094	ug/L		01/17/19 07:12	01/18/19 17:34	1
Selenium	ND		5.0	0.81	ug/L		01/17/19 07:12	01/18/19 17:34	1
Cobalt	0.095	J	0.50	0.075	ug/L		01/17/19 07:12	01/18/19 17:34	1
Molybdenum	3.6	J	5.0	0.47	ug/L		01/17/19 07:12	01/18/19 17:34	1
Antimony	ND		2.0	1.1	ug/L		01/17/19 07:12	01/18/19 17:34	1
Thallium	ND		1.0	0.063	ug/L		01/17/19 07:12	01/18/19 17:34	1
Lithium	5.0		5.0	2.6	ug/L		01/17/19 07:12	01/18/19 17:34	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/16/19 15:06	01/17/19 17:49	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.9		0.1	0.1	SU			01/16/19 09:05	1
Specific Conductance	650		1.0	1.0	umhos/cm			01/16/19 09:05	1
Oxidation Reduction Potential	170		10	10	millivolts			01/16/19 09:05	1

Client Sample ID: ABB pH 7.0

Lab Sample ID: 180-85447-7
Date Collected: 01/04/19 11:10
Matrix: Solid
Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.58		0.10	0.026	mg/L			01/17/19 15:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.3		1.0	0.32	ug/L		01/17/19 07:12	01/18/19 17:37	1
Barium	840		10	0.37	ug/L		01/17/19 07:12	01/18/19 17:37	1
Cadmium	ND		1.0	0.13	ug/L		01/17/19 07:12	01/18/19 17:37	1
Beryllium	ND		1.0	0.057	ug/L		01/17/19 07:12	01/18/19 17:37	1

Client Sample ID: ABB pH 7.0

Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-7
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**1.7**	**J**	2.0	0.63	ug/L		01/17/19 07:12	01/18/19 17:37	1
Lead	ND		1.0	0.094	ug/L		01/17/19 07:12	01/18/19 17:37	1
Selenium	ND		5.0	0.81	ug/L		01/17/19 07:12	01/18/19 17:37	1
Cobalt	**0.23**	**J**	0.50	0.075	ug/L		01/17/19 07:12	01/18/19 17:37	1
Molybdenum	**3.4**	**J**	5.0	0.47	ug/L		01/17/19 07:12	01/18/19 17:37	1
Antimony	ND		2.0	1.1	ug/L		01/17/19 07:12	01/18/19 17:37	1
Thallium	ND		1.0	0.063	ug/L		01/17/19 07:12	01/18/19 17:37	1
Lithium	**7.4**		5.0	2.6	ug/L		01/17/19 07:12	01/18/19 17:37	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/16/19 15:06	01/17/19 17:50	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.2**		0.1	0.1	SU			01/16/19 09:05	1
Specific Conductance	**1300**		1.0	1.0	umhos/cm			01/16/19 09:05	1
Oxidation Reduction Potential	**210**		10	10	millivolts			01/16/19 09:05	1

Client Sample ID: ABB pH 5.5

Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-8
Matrix: Solid

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.50	0.13	mg/L			01/19/19 11:10	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**1.1**		1.0	0.32	ug/L		01/18/19 12:59	01/19/19 17:32	1
Barium	**2600**		10	0.37	ug/L		01/18/19 12:59	01/19/19 17:32	1
Cadmium	**0.55**	**J**	1.0	0.13	ug/L		01/18/19 12:59	01/19/19 17:32	1
Beryllium	ND		1.0	0.057	ug/L		01/18/19 12:59	01/19/19 17:32	1
Chromium	**1.7**	**J**	2.0	0.63	ug/L		01/18/19 12:59	01/19/19 17:32	1
Lead	ND		1.0	0.094	ug/L		01/18/19 12:59	01/19/19 17:32	1
Selenium	**0.85**	**J**	5.0	0.81	ug/L		01/18/19 12:59	01/19/19 17:32	1
Cobalt	**6.7**		0.50	0.075	ug/L		01/18/19 12:59	01/19/19 17:32	1
Molybdenum	**3.3**	**J**	5.0	0.47	ug/L		01/18/19 12:59	01/19/19 17:32	1
Antimony	ND		2.0	1.1	ug/L		01/18/19 12:59	01/19/19 17:32	1
Thallium	**0.15**	**J**	1.0	0.063	ug/L		01/18/19 12:59	01/19/19 17:32	1
Lithium	**34**		5.0	2.6	ug/L		01/18/19 12:59	01/19/19 17:32	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/21/19 10:49	01/22/19 18:03	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**5.9**		0.1	0.1	SU			01/18/19 10:20	1
Specific Conductance	**4400**		1.0	1.0	umhos/cm			01/18/19 10:40	1
Oxidation Reduction Potential	**240**		10	10	millivolts			01/18/19 10:20	1

Client Sample ID: ABB pH 4.0

Lab Sample ID: 180-85447-9

Date Collected: 01/04/19 11:10

Matrix: Solid

Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	3.4		1.0	0.26	mg/L			01/19/19 11:25	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.5		1.0	0.32	ug/L		01/18/19 12:59	01/19/19 17:35	1
Barium	6900		10	0.37	ug/L		01/18/19 12:59	01/19/19 17:35	1
Cadmium	12		1.0	0.13	ug/L		01/18/19 12:59	01/19/19 17:35	1
Beryllium	16		1.0	0.057	ug/L		01/18/19 12:59	01/19/19 17:35	1
Chromium	29		2.0	0.63	ug/L		01/18/19 12:59	01/19/19 17:35	1
Lead	4.5		1.0	0.094	ug/L		01/18/19 12:59	01/19/19 17:35	1
Selenium	9.1		5.0	0.81	ug/L		01/18/19 12:59	01/19/19 17:35	1
Cobalt	160		0.50	0.075	ug/L		01/18/19 12:59	01/19/19 17:35	1
Molybdenum	0.83	J	5.0	0.47	ug/L		01/18/19 12:59	01/19/19 17:35	1
Antimony	ND		2.0	1.1	ug/L		01/18/19 12:59	01/19/19 17:35	1
Thallium	1.1		1.0	0.063	ug/L		01/18/19 12:59	01/19/19 17:35	1
Lithium	310		5.0	2.6	ug/L		01/18/19 12:59	01/19/19 17:35	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/21/19 10:49	01/22/19 18:04	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	3.8		0.1	0.1	SU			01/18/19 10:20	1
Specific Conductance	14000		1.0	1.0	umhos/cm			01/18/19 10:40	1
Oxidation Reduction Potential	350		10	10	millivolts			01/18/19 10:20	1

Client Sample ID: ABB pH 2.0

Lab Sample ID: 180-85447-10

Date Collected: 01/04/19 11:10

Matrix: Solid

Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		5.0	1.3	mg/L			02/07/19 23:30	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	40		10	3.2	ug/L		02/07/19 11:53	02/12/19 18:46	10
Barium	300000		100	3.7	ug/L		02/07/19 11:53	02/12/19 18:46	10
Cadmium	17		10	1.3	ug/L		02/07/19 11:53	02/12/19 18:46	10
Beryllium	160		10	0.57	ug/L		02/07/19 11:53	02/12/19 18:46	10
Chromium	2400		20	6.3	ug/L		02/07/19 11:53	02/12/19 18:46	10
Lead	180		10	0.94	ug/L		02/07/19 11:53	02/12/19 18:46	10
Selenium	28	J	50	8.1	ug/L		02/07/19 11:53	02/12/19 18:46	10
Cobalt	1300		5.0	0.75	ug/L		02/07/19 11:53	02/12/19 18:46	10
Molybdenum	ND		50	4.7	ug/L		02/07/19 11:53	02/12/19 18:46	10
Antimony	ND		20	11	ug/L		02/07/19 11:53	02/12/19 18:46	10
Thallium	4.7	J	10	0.63	ug/L		02/07/19 11:53	02/12/19 18:46	10
Lithium	2800		50	26	ug/L		02/07/19 11:53	02/12/19 18:46	10

Client Sample ID: ABB pH 2.0

Lab Sample ID: 180-85447-10
Matrix: Solid
Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.97**		0.20	0.065	ug/L		02/07/19 10:44	02/08/19 10:23	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**2.2**		0.1	0.1	SU			02/07/19 08:30	1
Specific Conductance	**78000**		1.0	1.0	umhos/cm			02/07/19 08:30	1
Oxidation Reduction Potential	**590**		10	10	millivolts			02/07/19 08:30	1

Client Sample ID: ABB pH NATURAL

Lab Sample ID: 180-85447-11
Matrix: Solid
Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**1.4**		0.10	0.026	mg/L			01/17/19 12:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.8**		1.0	0.32	ug/L		01/17/19 07:12	01/18/19 17:40	1
Barium	**350**		10	0.37	ug/L		01/17/19 07:12	01/18/19 17:40	1
Cadmium	**0.18**	**J**	1.0	0.13	ug/L		01/17/19 07:12	01/18/19 17:40	1
Beryllium	**0.11**	**J**	1.0	0.057	ug/L		01/17/19 07:12	01/18/19 17:40	1
Chromium	**8.5**		2.0	0.63	ug/L		01/17/19 07:12	01/18/19 17:40	1
Lead	**3.3**	**B**	1.0	0.094	ug/L		01/17/19 07:12	01/18/19 17:40	1
Selenium	ND		5.0	0.81	ug/L		01/17/19 07:12	01/18/19 17:40	1
Cobalt	**1.4**		0.50	0.075	ug/L		01/17/19 07:12	01/18/19 17:40	1
Molybdenum	**3.9**	**J**	5.0	0.47	ug/L		01/17/19 07:12	01/18/19 17:40	1
Antimony	ND		2.0	1.1	ug/L		01/17/19 07:12	01/18/19 17:40	1
Thallium	ND		1.0	0.063	ug/L		01/17/19 07:12	01/18/19 17:40	1
Lithium	**3.4**	**J**	5.0	2.6	ug/L		01/17/19 07:12	01/18/19 17:40	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/16/19 15:06	01/17/19 17:45	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**9.0**		0.1	0.1	SU			01/16/19 09:05	1
Specific Conductance	**210**		1.0	1.0	umhos/cm			01/16/19 09:05	1
Oxidation Reduction Potential	**310**		10	10	millivolts			01/16/19 09:05	1

Client Sample ID: ASB PRETEST

Lab Sample ID: 180-85447-12
Matrix: Solid
Date Collected: 01/04/19 11:45
Date Received: 01/05/19 09:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**1.3**		0.1	0.1	%			01/11/19 08:56	1
Percent Solids	**98.7**		0.1	0.1	%			01/11/19 08:56	1

Client Sample ID: ASB PRETEST

Lab Sample ID: 180-85447-12
Matrix: Solid
Date Collected: 01/04/19 11:45
Date Received: 01/05/19 09:30

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.0		0.1	0.1	SU			01/16/19 09:05	1
pH	7.8		0.1	0.1	SU			01/16/19 09:05	1
pH	4.9		0.1	0.1	SU			01/23/19 07:40	1

Client Sample ID: ASB pH 13.0

Lab Sample ID: 180-85447-13
Matrix: Solid
Date Collected: 01/04/19 11:45
Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.62		0.50	0.13	mg/L			01/18/19 11:26	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	30		1.0	0.32	ug/L		01/17/19 07:12	01/18/19 17:43	1
Barium	29		10	0.37	ug/L		01/17/19 07:12	01/18/19 17:43	1
Cadmium	ND		1.0	0.13	ug/L		01/17/19 07:12	01/18/19 17:43	1
Beryllium	ND		1.0	0.057	ug/L		01/17/19 07:12	01/18/19 17:43	1
Chromium	3.2		2.0	0.63	ug/L		01/17/19 07:12	01/18/19 17:43	1
Lead	0.43	J B	1.0	0.094	ug/L		01/17/19 07:12	01/18/19 17:43	1
Selenium	11		5.0	0.81	ug/L		01/17/19 07:12	01/18/19 17:43	1
Cobalt	0.97		0.50	0.075	ug/L		01/17/19 07:12	01/18/19 17:43	1
Molybdenum	6.4		5.0	0.47	ug/L		01/17/19 07:12	01/18/19 17:43	1
Antimony	4.1		2.0	1.1	ug/L		01/17/19 07:12	01/18/19 17:43	1
Thallium	ND		1.0	0.063	ug/L		01/17/19 07:12	01/18/19 17:43	1
Lithium	ND		5.0	2.6	ug/L		01/17/19 07:12	01/18/19 17:43	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/16/19 15:06	01/17/19 17:51	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.7		0.1	0.1	SU			01/16/19 09:05	1
Specific Conductance	16000		1.0	1.0	umhos/cm			01/16/19 09:05	1
Oxidation Reduction Potential	- 86		10	10	millivolts			01/16/19 09:05	1

Client Sample ID: ASB pH 12.0

Lab Sample ID: 180-85447-14
Matrix: Solid
Date Collected: 01/04/19 11:45
Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.0		0.50	0.13	mg/L			01/17/19 18:02	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	23		1.0	0.32	ug/L		01/17/19 07:12	01/18/19 17:47	1
Barium	30		10	0.37	ug/L		01/17/19 07:12	01/18/19 17:47	1
Cadmium	ND		1.0	0.13	ug/L		01/17/19 07:12	01/18/19 17:47	1
Beryllium	ND		1.0	0.057	ug/L		01/17/19 07:12	01/18/19 17:47	1

Client Sample ID: ASB pH 12.0

Date Collected: 01/04/19 11:45
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-14
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	3.9		2.0	0.63	ug/L		01/17/19 07:12	01/18/19 17:47	1
Lead	0.24	J B	1.0	0.094	ug/L		01/17/19 07:12	01/18/19 17:47	1
Selenium	8.8		5.0	0.81	ug/L		01/17/19 07:12	01/18/19 17:47	1
Cobalt	0.39	J	0.50	0.075	ug/L		01/17/19 07:12	01/18/19 17:47	1
Molybdenum	5.6		5.0	0.47	ug/L		01/17/19 07:12	01/18/19 17:47	1
Antimony	3.2		2.0	1.1	ug/L		01/17/19 07:12	01/18/19 17:47	1
Thallium	ND		1.0	0.063	ug/L		01/17/19 07:12	01/18/19 17:47	1
Lithium	ND		5.0	2.6	ug/L		01/17/19 07:12	01/18/19 17:47	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/16/19 15:06	01/17/19 17:56	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.4		0.1	0.1	SU			01/16/19 09:05	1
Specific Conductance	6200		1.0	1.0	umhos/cm			01/16/19 09:05	1
Oxidation Reduction Potential	-24		10	10	millivolts			01/16/19 09:05	1

Client Sample ID: ASB pH 10.5

Date Collected: 01/04/19 11:45
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-15
Matrix: Solid

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.2		0.10	0.026	mg/L			01/17/19 15:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		1.0	0.32	ug/L		01/17/19 07:12	01/18/19 17:50	1
Barium	44		10	0.37	ug/L		01/17/19 07:12	01/18/19 17:50	1
Cadmium	ND		1.0	0.13	ug/L		01/17/19 07:12	01/18/19 17:50	1
Beryllium	ND		1.0	0.057	ug/L		01/17/19 07:12	01/18/19 17:50	1
Chromium	4.1		2.0	0.63	ug/L		01/17/19 07:12	01/18/19 17:50	1
Lead	0.19	J B	1.0	0.094	ug/L		01/17/19 07:12	01/18/19 17:50	1
Selenium	3.8	J	5.0	0.81	ug/L		01/17/19 07:12	01/18/19 17:50	1
Cobalt	0.21	J	0.50	0.075	ug/L		01/17/19 07:12	01/18/19 17:50	1
Molybdenum	3.8	J	5.0	0.47	ug/L		01/17/19 07:12	01/18/19 17:50	1
Antimony	2.2		2.0	1.1	ug/L		01/17/19 07:12	01/18/19 17:50	1
Thallium	ND		1.0	0.063	ug/L		01/17/19 07:12	01/18/19 17:50	1
Lithium	ND		5.0	2.6	ug/L		01/17/19 07:12	01/18/19 17:50	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/16/19 15:06	01/17/19 17:57	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	10.8		0.1	0.1	SU			01/16/19 09:05	1
Specific Conductance	760		1.0	1.0	umhos/cm			01/16/19 09:05	1
Oxidation Reduction Potential	45		10	10	millivolts			01/16/19 09:05	1

Client Sample ID: ASB pH 8.0

Lab Sample ID: 180-85447-17

Date Collected: 01/04/19 11:45

Matrix: Solid

Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.41		0.10	0.026	mg/L			01/17/19 15:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.3		1.0	0.32	ug/L		01/17/19 07:12	01/18/19 17:53	1
Barium	270		10	0.37	ug/L		01/17/19 07:12	01/18/19 17:53	1
Cadmium	ND		1.0	0.13	ug/L		01/17/19 07:12	01/18/19 17:53	1
Beryllium	ND		1.0	0.057	ug/L		01/17/19 07:12	01/18/19 17:53	1
Chromium	1.8	J	2.0	0.63	ug/L		01/17/19 07:12	01/18/19 17:53	1
Lead	ND		1.0	0.094	ug/L		01/17/19 07:12	01/18/19 17:53	1
Selenium	ND		5.0	0.81	ug/L		01/17/19 07:12	01/18/19 17:53	1
Cobalt	0.081	J	0.50	0.075	ug/L		01/17/19 07:12	01/18/19 17:53	1
Molybdenum	2.7	J	5.0	0.47	ug/L		01/17/19 07:12	01/18/19 17:53	1
Antimony	1.1	J	2.0	1.1	ug/L		01/17/19 07:12	01/18/19 17:53	1
Thallium	ND		1.0	0.063	ug/L		01/17/19 07:12	01/18/19 17:53	1
Lithium	14		5.0	2.6	ug/L		01/17/19 07:12	01/18/19 17:53	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/16/19 15:06	01/17/19 17:58	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.3		0.1	0.1	SU			01/16/19 09:05	1
Specific Conductance	720		1.0	1.0	umhos/cm			01/16/19 09:05	1
Oxidation Reduction Potential	160		10	10	millivolts			01/16/19 09:05	1

Client Sample ID: ASB pH 7.0

Lab Sample ID: 180-85447-18

Date Collected: 01/04/19 11:45

Matrix: Solid

Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.29		0.25	0.066	mg/L			01/17/19 18:18	2.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.2		1.0	0.32	ug/L		01/17/19 07:12	01/18/19 17:57	1
Barium	1300		10	0.37	ug/L		01/17/19 07:12	01/18/19 17:57	1
Cadmium	ND		1.0	0.13	ug/L		01/17/19 07:12	01/18/19 17:57	1
Beryllium	ND		1.0	0.057	ug/L		01/17/19 07:12	01/18/19 17:57	1
Chromium	1.6	J	2.0	0.63	ug/L		01/17/19 07:12	01/18/19 17:57	1
Lead	ND		1.0	0.094	ug/L		01/17/19 07:12	01/18/19 17:57	1
Selenium	0.96	J	5.0	0.81	ug/L		01/17/19 07:12	01/18/19 17:57	1
Cobalt	0.59		0.50	0.075	ug/L		01/17/19 07:12	01/18/19 17:57	1
Molybdenum	3.4	J	5.0	0.47	ug/L		01/17/19 07:12	01/18/19 17:57	1
Antimony	1.1	J	2.0	1.1	ug/L		01/17/19 07:12	01/18/19 17:57	1
Thallium	0.088	J	1.0	0.063	ug/L		01/17/19 07:12	01/18/19 17:57	1
Lithium	35		5.0	2.6	ug/L		01/17/19 07:12	01/18/19 17:57	1

Client Sample ID: ASB pH 7.0

Lab Sample ID: 180-85447-18
Date Collected: 01/04/19 11:45
Matrix: Solid
Date Received: 01/05/19 09:30

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/16/19 15:06	01/17/19 17:59	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4		0.1	0.1	SU			01/16/19 09:05	1
Specific Conductance	4200		1.0	1.0	umhos/cm			01/16/19 09:05	1
Oxidation Reduction Potential	210		10	10	millivolts			01/16/19 09:05	1

Client Sample ID: ASB pH 5.5

Lab Sample ID: 180-85447-19
Date Collected: 01/04/19 11:45
Matrix: Solid
Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.0	0.26	mg/L			01/19/19 11:41	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.1		1.0	0.32	ug/L		01/18/19 12:59	01/19/19 17:38	1
Barium	2100		10	0.37	ug/L		01/18/19 12:59	01/19/19 17:38	1
Cadmium	1.6		1.0	0.13	ug/L		01/18/19 12:59	01/19/19 17:38	1
Beryllium	ND		1.0	0.057	ug/L		01/18/19 12:59	01/19/19 17:38	1
Chromium	1.7	J	2.0	0.63	ug/L		01/18/19 12:59	01/19/19 17:38	1
Lead	ND		1.0	0.094	ug/L		01/18/19 12:59	01/19/19 17:38	1
Selenium	1.2	J	5.0	0.81	ug/L		01/18/19 12:59	01/19/19 17:38	1
Cobalt	33		0.50	0.075	ug/L		01/18/19 12:59	01/19/19 17:38	1
Molybdenum	3.9	J	5.0	0.47	ug/L		01/18/19 12:59	01/19/19 17:38	1
Antimony	ND		2.0	1.1	ug/L		01/18/19 12:59	01/19/19 17:38	1
Thallium	0.40	J	1.0	0.063	ug/L		01/18/19 12:59	01/19/19 17:38	1
Lithium	140		5.0	2.6	ug/L		01/18/19 12:59	01/19/19 17:38	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/21/19 10:49	01/22/19 18:05	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.7		0.1	0.1	SU			01/18/19 10:20	1
Specific Conductance	15000		1.0	1.0	umhos/cm			01/18/19 10:40	1
Oxidation Reduction Potential	240		10	10	millivolts			01/18/19 10:20	1

Client Sample ID: ASB pH 4.0

Lab Sample ID: 180-85447-20
Date Collected: 01/04/19 11:45
Matrix: Solid
Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	7.9		2.5	0.66	mg/L			01/24/19 19:53	25

Client Sample ID: ASB pH 4.0

Lab Sample ID: 180-85447-20

Date Collected: 01/04/19 11:45

Matrix: Solid

Date Received: 01/05/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14		10	3.2	ug/L		01/23/19 12:55	01/25/19 14:30	10
Barium	3800		100	3.7	ug/L		01/23/19 12:55	01/25/19 14:30	10
Cadmium	29		10	1.3	ug/L		01/23/19 12:55	01/25/19 14:30	10
Beryllium	22		10	0.57	ug/L		01/23/19 12:55	01/25/19 14:30	10
Chromium	21	B	20	6.3	ug/L		01/23/19 12:55	01/25/19 14:30	10
Lead	5.9	J	10	0.94	ug/L		01/23/19 12:55	01/25/19 14:30	10
Selenium	32	J	50	8.1	ug/L		01/23/19 12:55	01/25/19 14:30	10
Cobalt	360		5.0	0.75	ug/L		01/23/19 12:55	01/25/19 14:30	10
Molybdenum	ND		50	4.7	ug/L		01/23/19 12:55	01/25/19 14:30	10
Antimony	ND		20	11	ug/L		01/23/19 12:55	01/25/19 14:30	10
Thallium	2.3	J	10	0.63	ug/L		01/23/19 12:55	01/25/19 14:30	10
Lithium	520		50	26	ug/L		01/23/19 12:55	01/25/19 14:30	10

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/31/19 07:10	01/31/19 16:42	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	4.1		0.1	0.1	SU			01/23/19 07:40	1
Specific Conductance	26000		1.0	1.0	umhos/cm			01/23/19 07:40	1
Oxidation Reduction Potential	360		10	10	millivolts			01/23/19 07:40	1

Client Sample ID: ASB pH 2.0

Lab Sample ID: 180-85447-21

Date Collected: 01/04/19 11:45

Matrix: Solid

Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.9	J	5.0	1.3	mg/L			02/07/19 23:46	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	42		10	3.2	ug/L		02/07/19 11:53	02/12/19 18:51	10
Barium	50000		100	3.7	ug/L		02/07/19 11:53	02/12/19 18:51	10
Cadmium	37		10	1.3	ug/L		02/07/19 11:53	02/12/19 18:51	10
Beryllium	150		10	0.57	ug/L		02/07/19 11:53	02/12/19 18:51	10
Chromium	700		20	6.3	ug/L		02/07/19 11:53	02/12/19 18:51	10
Lead	200		10	0.94	ug/L		02/07/19 11:53	02/12/19 18:51	10
Selenium	41	J	50	8.1	ug/L		02/07/19 11:53	02/12/19 18:51	10
Cobalt	1200		5.0	0.75	ug/L		02/07/19 11:53	02/12/19 18:51	10
Molybdenum	ND		50	4.7	ug/L		02/07/19 11:53	02/12/19 18:51	10
Antimony	ND		20	11	ug/L		02/07/19 11:53	02/12/19 18:51	10
Thallium	8.8	J	10	0.63	ug/L		02/07/19 11:53	02/12/19 18:51	10
Lithium	2400		50	26	ug/L		02/07/19 11:53	02/12/19 18:51	10

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		02/07/19 10:44	02/08/19 10:22	1

Client Sample ID: ASB pH 2.0

Lab Sample ID: 180-85447-21
Matrix: Solid
Date Collected: 01/04/19 11:45
Date Received: 01/05/19 09:30

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	2.4		0.1	0.1	SU			02/07/19 08:30	1
Specific Conductance	77000		1.0	1.0	umhos/cm			02/07/19 08:30	1
Oxidation Reduction Potential	550		10	10	millivolts			02/07/19 08:30	1

Client Sample ID: ASB pH NATURAL

Lab Sample ID: 180-85447-22
Matrix: Solid
Date Collected: 01/04/19 11:45
Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.45		0.10	0.026	mg/L			01/17/19 10:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.3		1.0	0.32	ug/L		01/17/19 07:12	01/18/19 18:00	1
Barium	150		10	0.37	ug/L		01/17/19 07:12	01/18/19 18:00	1
Cadmium	ND		1.0	0.13	ug/L		01/17/19 07:12	01/18/19 18:00	1
Beryllium	ND		1.0	0.057	ug/L		01/17/19 07:12	01/18/19 18:00	1
Chromium	2.0		2.0	0.63	ug/L		01/17/19 07:12	01/18/19 18:00	1
Lead	ND		1.0	0.094	ug/L		01/17/19 07:12	01/18/19 18:00	1
Selenium	ND		5.0	0.81	ug/L		01/17/19 07:12	01/18/19 18:00	1
Cobalt	ND		0.50	0.075	ug/L		01/17/19 07:12	01/18/19 18:00	1
Molybdenum	2.9	J	5.0	0.47	ug/L		01/17/19 07:12	01/18/19 18:00	1
Antimony	1.3	J	2.0	1.1	ug/L		01/17/19 07:12	01/18/19 18:00	1
Thallium	ND		1.0	0.063	ug/L		01/17/19 07:12	01/18/19 18:00	1
Lithium	9.7		5.0	2.6	ug/L		01/17/19 07:12	01/18/19 18:00	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/16/19 15:06	01/17/19 17:46	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.6		0.1	0.1	SU			01/16/19 09:05	1
Specific Conductance	300		1.0	1.0	umhos/cm			01/16/19 09:05	1
Oxidation Reduction Potential	180		10	10	millivolts			01/16/19 09:05	1

Client Sample ID: MB LOW

Lab Sample ID: 180-85447-23
Matrix: Solid
Date Collected: 01/04/19 00:00
Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		10	2.6	mg/L			01/19/19 11:56	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.32	ug/L		01/18/19 12:59	01/19/19 17:41	1
Barium	1.9	J	10	0.37	ug/L		01/18/19 12:59	01/19/19 17:41	1
Cadmium	ND		1.0	0.13	ug/L		01/18/19 12:59	01/19/19 17:41	1
Beryllium	ND		1.0	0.057	ug/L		01/18/19 12:59	01/19/19 17:41	1

Client Sample ID: MB LOW

Lab Sample ID: 180-85447-23

Date Collected: 01/04/19 00:00
Matrix: Solid
Date Received: 01/05/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**1.6**	**J**	2.0	0.63	ug/L		01/18/19 12:59	01/19/19 17:41	1
Lead	ND		1.0	0.094	ug/L		01/18/19 12:59	01/19/19 17:41	1
Selenium	ND		5.0	0.81	ug/L		01/18/19 12:59	01/19/19 17:41	1
Cobalt	ND		0.50	0.075	ug/L		01/18/19 12:59	01/19/19 17:41	1
Molybdenum	ND		5.0	0.47	ug/L		01/18/19 12:59	01/19/19 17:41	1
Antimony	ND		2.0	1.1	ug/L		01/18/19 12:59	01/19/19 17:41	1
Thallium	ND		1.0	0.063	ug/L		01/18/19 12:59	01/19/19 17:41	1
Lithium	ND		5.0	2.6	ug/L		01/18/19 12:59	01/19/19 17:41	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/21/19 10:49	01/22/19 18:06	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**0.8**		0.1	0.1	SU			01/18/19 10:20	1
Specific Conductance	**120000**		1.0	1.0	umhos/cm			01/18/19 10:40	1
Oxidation Reduction Potential	**580**		10	10	millivolts			01/18/19 10:20	1

Client Sample ID: MB NATURAL

Lab Sample ID: 180-85447-24

Date Collected: 01/04/19 00:00
Matrix: Solid
Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.026	mg/L			01/17/19 10:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.32	ug/L		01/17/19 07:12	01/18/19 18:10	1
Barium	**7.5**	**J**	10	0.37	ug/L		01/17/19 07:12	01/18/19 18:10	1
Cadmium	ND		1.0	0.13	ug/L		01/17/19 07:12	01/18/19 18:10	1
Beryllium	ND		1.0	0.057	ug/L		01/17/19 07:12	01/18/19 18:10	1
Chromium	**1.8**	**J**	2.0	0.63	ug/L		01/17/19 07:12	01/18/19 18:10	1
Lead	ND		1.0	0.094	ug/L		01/17/19 07:12	01/18/19 18:10	1
Selenium	ND		5.0	0.81	ug/L		01/17/19 07:12	01/18/19 18:10	1
Cobalt	ND		0.50	0.075	ug/L		01/17/19 07:12	01/18/19 18:10	1
Molybdenum	ND		5.0	0.47	ug/L		01/17/19 07:12	01/18/19 18:10	1
Antimony	ND		2.0	1.1	ug/L		01/17/19 07:12	01/18/19 18:10	1
Thallium	ND		1.0	0.063	ug/L		01/17/19 07:12	01/18/19 18:10	1
Lithium	ND		5.0	2.6	ug/L		01/17/19 07:12	01/18/19 18:10	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/16/19 15:06	01/17/19 18:03	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.5**		0.1	0.1	SU			01/16/19 09:05	1
Specific Conductance	**4.2**		1.0	1.0	umhos/cm			01/16/19 09:05	1
Oxidation Reduction Potential	**140**		10	10	millivolts			01/16/19 09:05	1

Client Sample ID: MB HIGH

Lab Sample ID: 180-85447-25

Date Collected: 01/04/19 00:00

Matrix: Solid

Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.50	0.13	mg/L			01/18/19 11:41	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.32	ug/L		01/17/19 07:12	01/18/19 18:13	1
Barium	**1.7**	**J**	10	0.37	ug/L		01/17/19 07:12	01/18/19 18:13	1
Cadmium	ND		1.0	0.13	ug/L		01/17/19 07:12	01/18/19 18:13	1
Beryllium	ND		1.0	0.057	ug/L		01/17/19 07:12	01/18/19 18:13	1
Chromium	**2.1**		2.0	0.63	ug/L		01/17/19 07:12	01/18/19 18:13	1
Lead	ND		1.0	0.094	ug/L		01/17/19 07:12	01/18/19 18:13	1
Selenium	ND		5.0	0.81	ug/L		01/17/19 07:12	01/18/19 18:13	1
Cobalt	ND		0.50	0.075	ug/L		01/17/19 07:12	01/18/19 18:13	1
Molybdenum	ND		5.0	0.47	ug/L		01/17/19 07:12	01/18/19 18:13	1
Antimony	ND		2.0	1.1	ug/L		01/17/19 07:12	01/18/19 18:13	1
Thallium	ND		1.0	0.063	ug/L		01/17/19 07:12	01/18/19 18:13	1
Lithium	ND		5.0	2.6	ug/L		01/17/19 07:12	01/18/19 18:13	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/16/19 15:06	01/17/19 18:00	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**12.8**		0.1	0.1	SU			01/16/19 09:05	1
Specific Conductance	**23000**		1.0	1.0	umhos/cm			01/16/19 09:05	1
Oxidation Reduction Potential	**- 34**		10	10	millivolts			01/16/19 09:05	1

Client Sample ID: MB LOW 1

Lab Sample ID: 180-85447-49

Date Collected: 01/21/19 00:00

Matrix: Solid

Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		10	2.6	mg/L			01/24/19 20:09	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.32	ug/L		01/23/19 12:55	01/24/19 18:46	1
Barium	**2.5**	**J**	10	0.37	ug/L		01/23/19 12:55	01/24/19 18:46	1
Cadmium	ND		1.0	0.13	ug/L		01/23/19 12:55	01/24/19 18:46	1
Beryllium	ND		1.0	0.057	ug/L		01/23/19 12:55	01/24/19 18:46	1
Chromium	**1.4**	**J B**	2.0	0.63	ug/L		01/23/19 12:55	01/24/19 18:46	1
Lead	ND		1.0	0.094	ug/L		01/23/19 12:55	01/24/19 18:46	1
Selenium	ND		5.0	0.81	ug/L		01/23/19 12:55	01/24/19 18:46	1
Cobalt	ND		0.50	0.075	ug/L		01/23/19 12:55	01/24/19 18:46	1
Molybdenum	ND		5.0	0.47	ug/L		01/23/19 12:55	01/24/19 18:46	1
Antimony	ND		2.0	1.1	ug/L		01/23/19 12:55	01/24/19 18:46	1
Thallium	ND		1.0	0.063	ug/L		01/23/19 12:55	01/24/19 18:46	1
Lithium	**3.2**	**J**	5.0	2.6	ug/L		01/23/19 12:55	01/25/19 14:33	1

Client Sample ID: MB LOW 1

Lab Sample ID: 180-85447-49
Matrix: Solid
Date Collected: 01/21/19 00:00
Date Received: 01/05/19 09:30

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/31/19 07:10	01/31/19 16:43	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**0.8**		0.1	0.1	SU			01/23/19 07:40	1
Specific Conductance	**120000**		1.0	1.0	umhos/cm			01/23/19 07:40	1
Oxidation Reduction Potential	**600**		10	10	millivolts			01/23/19 07:40	1

Client Sample ID: MB LOW 2

Lab Sample ID: 180-85447-51
Matrix: Solid
Date Collected: 01/31/19 00:00
Date Received: 01/05/19 09:30

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		10	2.6	mg/L			02/08/19 00:02	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.32	ug/L		02/07/19 11:53	02/08/19 00:37	1
Barium	ND		10	0.37	ug/L		02/07/19 11:53	02/08/19 00:37	1
Cadmium	ND		1.0	0.13	ug/L		02/07/19 11:53	02/08/19 00:37	1
Beryllium	ND		1.0	0.057	ug/L		02/07/19 11:53	02/08/19 00:37	1
Chromium	**0.74**	**J**	2.0	0.63	ug/L		02/07/19 11:53	02/08/19 00:37	1
Lead	ND		1.0	0.094	ug/L		02/07/19 11:53	02/08/19 00:37	1
Selenium	ND		5.0	0.81	ug/L		02/07/19 11:53	02/08/19 00:37	1
Cobalt	ND		0.50	0.075	ug/L		02/07/19 11:53	02/08/19 00:37	1
Molybdenum	**0.85**	**J**	5.0	0.47	ug/L		02/07/19 11:53	02/08/19 00:37	1
Antimony	ND		2.0	1.1	ug/L		02/07/19 11:53	02/08/19 00:37	1
Thallium	ND		1.0	0.063	ug/L		02/07/19 11:53	02/08/19 00:37	1
Lithium	ND		5.0	2.6	ug/L		02/07/19 11:53	02/08/19 00:37	1

Method: EPA 7470A - Mercury (CVAA) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		02/07/19 10:44	02/08/19 10:21	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**0.4**		0.1	0.1	SU			02/07/19 08:30	1
Specific Conductance	**100000**	**E**	1.0	1.0	umhos/cm			02/07/19 08:30	1
Oxidation Reduction Potential	**540**		10	10	millivolts			02/07/19 08:30	1

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-268079/6
Matrix: Solid
Analysis Batch: 268079

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.026	mg/L			01/17/19 08:23	1

Lab Sample ID: LCS 180-268079/5
Matrix: Solid
Analysis Batch: 268079

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.25	1.36		mg/L		109	80 - 120

Lab Sample ID: MB 180-268208/6
Matrix: Solid
Analysis Batch: 268208

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.026	mg/L			01/18/19 10:55	1

Lab Sample ID: LCS 180-268208/5
Matrix: Solid
Analysis Batch: 268208

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.25	1.15		mg/L		92	80 - 120

Lab Sample ID: MB 180-268298/6
Matrix: Solid
Analysis Batch: 268298

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.026	mg/L			01/19/19 10:04	1

Lab Sample ID: LCS 180-268298/5
Matrix: Solid
Analysis Batch: 268298

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.25	1.27		mg/L		102	80 - 120

Lab Sample ID: MB 180-268716/6
Matrix: Solid
Analysis Batch: 268716

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.026	mg/L			01/24/19 10:54	1

Lab Sample ID: LCS 180-268716/5
Matrix: Solid
Analysis Batch: 268716

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.25	1.28		mg/L		102	80 - 120

Lab Sample ID: MB 180-269858/61
Matrix: Solid
Analysis Batch: 269858

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.026	mg/L			02/07/19 20:36	1

Lab Sample ID: LCS 180-269858/60
Matrix: Solid
Analysis Batch: 269858

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.25	1.23		mg/L		98	80 - 120

Lab Sample ID: 180-85447-11 MS
Matrix: Solid
Analysis Batch: 268079

Client Sample ID: ABB pH NATURAL
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.4		1.25	2.46		mg/L		84	80 - 120

Lab Sample ID: 180-85447-11 MSD
Matrix: Solid
Analysis Batch: 268079

Client Sample ID: ABB pH NATURAL
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	1.4		1.25	2.43		mg/L		81	80 - 120	2	15

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

Lab Sample ID: MB 180-268107/1-A
Matrix: Solid
Analysis Batch: 268295

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 268107

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.32	ug/L		01/17/19 07:12	01/18/19 16:37	1
Barium	ND		10	0.37	ug/L		01/17/19 07:12	01/18/19 16:37	1
Cadmium	ND		1.0	0.13	ug/L		01/17/19 07:12	01/18/19 16:37	1
Beryllium	ND		1.0	0.057	ug/L		01/17/19 07:12	01/18/19 16:37	1
Chromium	ND		2.0	0.63	ug/L		01/17/19 07:12	01/18/19 16:37	1
Lead	0.110	J	1.0	0.094	ug/L		01/17/19 07:12	01/18/19 16:37	1
Selenium	ND		5.0	0.81	ug/L		01/17/19 07:12	01/18/19 16:37	1
Cobalt	ND		0.50	0.075	ug/L		01/17/19 07:12	01/18/19 16:37	1
Molybdenum	ND		5.0	0.47	ug/L		01/17/19 07:12	01/18/19 16:37	1
Antimony	ND		2.0	1.1	ug/L		01/17/19 07:12	01/18/19 16:37	1
Thallium	ND		1.0	0.063	ug/L		01/17/19 07:12	01/18/19 16:37	1
Lithium	ND		5.0	2.6	ug/L		01/17/19 07:12	01/18/19 16:37	1

Lab Sample ID: LCS 180-268107/2-A
Matrix: Solid
Analysis Batch: 268295

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 268107

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	40.0	35.4		ug/L		89	80 - 120
Barium	2000	1880		ug/L		94	80 - 120
Cadmium	50.0	50.7		ug/L		101	80 - 120

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

Lab Sample ID: LCS 180-268107/2-A
Matrix: Solid
Analysis Batch: 268295

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 268107

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	50.0	49.7		ug/L		99	80 - 120
Chromium	200	209		ug/L		104	80 - 120
Lead	20.0	21.3		ug/L		107	80 - 120
Selenium	10.0	10.2		ug/L		102	80 - 120
Cobalt	500	445		ug/L		89	80 - 120
Molybdenum	1000	1000		ug/L		100	80 - 120
Antimony	500	492		ug/L		98	80 - 120
Thallium	50.0	51.5		ug/L		103	80 - 120
Lithium	50.0	47.3		ug/L		95	80 - 120

Lab Sample ID: MB 180-268263/1-A
Matrix: Solid
Analysis Batch: 268357

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 268263

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.32	ug/L		01/18/19 12:59	01/19/19 17:12	1
Barium	ND		10	0.37	ug/L		01/18/19 12:59	01/19/19 17:12	1
Cadmium	ND		1.0	0.13	ug/L		01/18/19 12:59	01/19/19 17:12	1
Beryllium	ND		1.0	0.057	ug/L		01/18/19 12:59	01/19/19 17:12	1
Chromium	ND		2.0	0.63	ug/L		01/18/19 12:59	01/19/19 17:12	1
Lead	ND		1.0	0.094	ug/L		01/18/19 12:59	01/19/19 17:12	1
Selenium	ND		5.0	0.81	ug/L		01/18/19 12:59	01/19/19 17:12	1
Cobalt	ND		0.50	0.075	ug/L		01/18/19 12:59	01/19/19 17:12	1
Molybdenum	ND		5.0	0.47	ug/L		01/18/19 12:59	01/19/19 17:12	1
Antimony	ND		2.0	1.1	ug/L		01/18/19 12:59	01/19/19 17:12	1
Thallium	ND		1.0	0.063	ug/L		01/18/19 12:59	01/19/19 17:12	1
Lithium	ND		5.0	2.6	ug/L		01/18/19 12:59	01/19/19 17:12	1

Lab Sample ID: LCS 180-268263/2-A
Matrix: Solid
Analysis Batch: 268357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 268263

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	40.0	38.2		ug/L		95	80 - 120
Barium	2000	2090		ug/L		105	80 - 120
Cadmium	50.0	56.4		ug/L		113	80 - 120
Beryllium	50.0	52.6		ug/L		105	80 - 120
Chromium	200	223		ug/L		112	80 - 120
Lead	20.0	21.5		ug/L		108	80 - 120
Selenium	10.0	8.28		ug/L		83	80 - 120
Cobalt	500	490		ug/L		98	80 - 120
Molybdenum	1000	1070		ug/L		107	80 - 120
Antimony	500	538		ug/L		108	80 - 120
Thallium	50.0	49.2		ug/L		98	80 - 120
Lithium	50.0	49.1		ug/L		98	80 - 120

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

Lab Sample ID: MB 180-268586/1-A
Matrix: Solid
Analysis Batch: 268763

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 268586

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.32	ug/L		01/23/19 12:55	01/24/19 18:36	1
Barium	ND		10	0.37	ug/L		01/23/19 12:55	01/24/19 18:36	1
Cadmium	ND		1.0	0.13	ug/L		01/23/19 12:55	01/24/19 18:36	1
Beryllium	ND		1.0	0.057	ug/L		01/23/19 12:55	01/24/19 18:36	1
Chromium	1.33	J	2.0	0.63	ug/L		01/23/19 12:55	01/24/19 18:36	1
Lead	ND		1.0	0.094	ug/L		01/23/19 12:55	01/24/19 18:36	1
Selenium	ND		5.0	0.81	ug/L		01/23/19 12:55	01/24/19 18:36	1
Cobalt	0.0870	J	0.50	0.075	ug/L		01/23/19 12:55	01/24/19 18:36	1
Molybdenum	ND		5.0	0.47	ug/L		01/23/19 12:55	01/24/19 18:36	1
Antimony	ND		2.0	1.1	ug/L		01/23/19 12:55	01/24/19 18:36	1
Thallium	ND		1.0	0.063	ug/L		01/23/19 12:55	01/24/19 18:36	1

Lab Sample ID: MB 180-268586/1-A
Matrix: Solid
Analysis Batch: 268821

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 268586

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		5.0	2.6	ug/L		01/23/19 12:55	01/25/19 14:23	1

Lab Sample ID: LCS 180-268586/2-A
Matrix: Solid
Analysis Batch: 268763

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 268586

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	40.0	40.2		ug/L		100	80 - 120
Barium	2000	2090		ug/L		105	80 - 120
Cadmium	50.0	55.2		ug/L		110	80 - 120
Beryllium	50.0	46.3		ug/L		93	80 - 120
Chromium	200	227		ug/L		113	80 - 120
Lead	20.0	21.7		ug/L		109	80 - 120
Selenium	10.0	9.45		ug/L		94	80 - 120
Cobalt	500	507		ug/L		101	80 - 120
Molybdenum	1000	1100		ug/L		110	80 - 120
Antimony	500	534		ug/L		107	80 - 120
Thallium	50.0	52.7		ug/L		105	80 - 120

Lab Sample ID: LCS 180-268586/2-A
Matrix: Solid
Analysis Batch: 268821

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 268586

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	50.0	59.5		ug/L		119	80 - 120

Lab Sample ID: MB 180-269867/1-A
Matrix: Solid
Analysis Batch: 269977

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 269867

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.32	ug/L		02/07/19 11:53	02/08/19 00:28	1

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

Lab Sample ID: MB 180-269867/1-A
Matrix: Solid
Analysis Batch: 269977

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 269867

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		10	0.37	ug/L		02/07/19 11:53	02/08/19 00:28	1
Cadmium	ND		1.0	0.13	ug/L		02/07/19 11:53	02/08/19 00:28	1
Beryllium	ND		1.0	0.057	ug/L		02/07/19 11:53	02/08/19 00:28	1
Chromium	ND		2.0	0.63	ug/L		02/07/19 11:53	02/08/19 00:28	1
Lead	ND		1.0	0.094	ug/L		02/07/19 11:53	02/08/19 00:28	1
Selenium	ND		5.0	0.81	ug/L		02/07/19 11:53	02/08/19 00:28	1
Cobalt	ND		0.50	0.075	ug/L		02/07/19 11:53	02/08/19 00:28	1
Molybdenum	ND		5.0	0.47	ug/L		02/07/19 11:53	02/08/19 00:28	1
Antimony	ND		2.0	1.1	ug/L		02/07/19 11:53	02/08/19 00:28	1
Thallium	ND		1.0	0.063	ug/L		02/07/19 11:53	02/08/19 00:28	1
Lithium	ND		5.0	2.6	ug/L		02/07/19 11:53	02/08/19 00:28	1

Lab Sample ID: LCS 180-269867/2-A
Matrix: Solid
Analysis Batch: 269977

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 269867

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	40.0	40.7		ug/L		102	80 - 120
Barium	2000	1940		ug/L		97	80 - 120
Cadmium	50.0	50.6		ug/L		101	80 - 120
Beryllium	50.0	52.2		ug/L		104	80 - 120
Chromium	200	188		ug/L		94	80 - 120
Lead	20.0	20.3		ug/L		101	80 - 120
Selenium	10.0	8.48		ug/L		85	80 - 120
Cobalt	500	485		ug/L		97	80 - 120
Molybdenum	1000	995		ug/L		99	80 - 120
Antimony	500	478		ug/L		96	80 - 120
Thallium	50.0	48.7		ug/L		97	80 - 120
Lithium	50.0	51.7		ug/L		103	80 - 120

Lab Sample ID: 180-85447-23 MS
Matrix: Solid
Analysis Batch: 268357

Client Sample ID: MB LOW
Prep Type: Leach
Prep Batch: 268263

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		40.0	38.9		ug/L		97	75 - 125
Barium	1.9	J	2000	2120		ug/L		106	75 - 125
Cadmium	ND		50.0	55.6		ug/L		111	75 - 125
Beryllium	ND		50.0	51.8		ug/L		104	75 - 125
Chromium	1.6	J	200	224		ug/L		111	75 - 125
Lead	ND		20.0	21.3		ug/L		107	75 - 125
Selenium	ND		10.0	9.68		ug/L		97	75 - 125
Cobalt	ND		500	497		ug/L		99	75 - 125
Molybdenum	ND		1000	1100		ug/L		110	75 - 125
Antimony	ND		500	543		ug/L		109	75 - 125
Thallium	ND		50.0	50.0		ug/L		100	75 - 125
Lithium	ND		50.0	49.8		ug/L		100	75 - 125

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

Lab Sample ID: 180-85447-23 MSD
Matrix: Solid
Analysis Batch: 268357

Client Sample ID: MB LOW
Prep Type: Leach
Prep Batch: 268263

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		40.0	38.3		ug/L		96	75 - 125	1	20
Barium	1.9	J	2000	2100		ug/L		105	75 - 125	1	20
Cadmium	ND		50.0	55.4		ug/L		111	75 - 125	0	20
Beryllium	ND		50.0	52.7		ug/L		105	75 - 125	2	20
Chromium	1.6	J	200	226		ug/L		112	75 - 125	1	20
Lead	ND		20.0	21.5		ug/L		107	75 - 125	0	20
Selenium	ND		10.0	8.60		ug/L		86	75 - 125	12	20
Cobalt	ND		500	494		ug/L		99	75 - 125	1	20
Molybdenum	ND		1000	1100		ug/L		110	75 - 125	0	20
Antimony	ND		500	533		ug/L		107	75 - 125	2	20
Thallium	ND		50.0	50.1		ug/L		100	75 - 125	0	20
Lithium	ND		50.0	49.2		ug/L		98	75 - 125	1	20

Lab Sample ID: 180-85447-49 MS
Matrix: Solid
Analysis Batch: 268763

Client Sample ID: MB LOW 1
Prep Type: Leach
Prep Batch: 268586

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		40.0	38.6		ug/L		97	75 - 125
Barium	2.5	J	2000	2090		ug/L		104	75 - 125
Cadmium	ND		50.0	54.6		ug/L		109	75 - 125
Beryllium	ND		50.0	49.7		ug/L		99	75 - 125
Chromium	1.4	J B	200	224		ug/L		111	75 - 125
Lead	ND		20.0	21.8		ug/L		109	75 - 125
Selenium	ND		10.0	8.68		ug/L		87	75 - 125
Cobalt	ND		500	495		ug/L		99	75 - 125
Molybdenum	ND		1000	1060		ug/L		106	75 - 125
Antimony	ND		500	539		ug/L		108	75 - 125
Thallium	ND		50.0	52.4		ug/L		105	75 - 125

Lab Sample ID: 180-85447-49 MS
Matrix: Solid
Analysis Batch: 268821

Client Sample ID: MB LOW 1
Prep Type: Leach
Prep Batch: 268586

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	3.2	J	50.0	61.8		ug/L		117	75 - 125

Lab Sample ID: 180-85447-49 MSD
Matrix: Solid
Analysis Batch: 268763

Client Sample ID: MB LOW 1
Prep Type: Leach
Prep Batch: 268586

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		40.0	39.3		ug/L		98	75 - 125	2	20
Barium	2.5	J	2000	2080		ug/L		104	75 - 125	0	20
Cadmium	ND		50.0	54.5		ug/L		109	75 - 125	0	20
Beryllium	ND		50.0	49.8		ug/L		100	75 - 125	0	20
Chromium	1.4	J B	200	226		ug/L		112	75 - 125	1	20
Lead	ND		20.0	21.7		ug/L		109	75 - 125	0	20
Selenium	ND		10.0	9.44		ug/L		94	75 - 125	8	20

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

Lab Sample ID: 180-85447-49 MSD
Matrix: Solid
Analysis Batch: 268763

Client Sample ID: MB LOW 1
Prep Type: Leach
Prep Batch: 268586

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	ND		500	489		ug/L		98	75 - 125	1	20
Molybdenum	ND		1000	1070		ug/L		107	75 - 125	2	20
Antimony	ND		500	530		ug/L		106	75 - 125	2	20
Thallium	ND		50.0	52.0		ug/L		104	75 - 125	1	20

Lab Sample ID: 180-85447-49 MSD
Matrix: Solid
Analysis Batch: 268821

Client Sample ID: MB LOW 1
Prep Type: Leach
Prep Batch: 268586

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	3.2	J	50.0	59.8		ug/L		113	75 - 125	3	20

Lab Sample ID: 180-85447-51 MS
Matrix: Solid
Analysis Batch: 269977

Client Sample ID: MB LOW 2
Prep Type: Leach
Prep Batch: 269867

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		40.0	40.3		ug/L		101	75 - 125
Barium	ND		2000	1920		ug/L		96	75 - 125
Cadmium	ND		50.0	49.7		ug/L		99	75 - 125
Beryllium	ND		50.0	52.6		ug/L		105	75 - 125
Chromium	0.74	J	200	204		ug/L		102	75 - 125
Lead	ND		20.0	20.5		ug/L		103	75 - 125
Selenium	ND		10.0	8.67		ug/L		87	75 - 125
Cobalt	ND		500	515		ug/L		103	75 - 125
Molybdenum	0.85	J	1000	981		ug/L		98	75 - 125
Antimony	ND		500	467		ug/L		93	75 - 125
Thallium	ND		50.0	48.8		ug/L		98	75 - 125
Lithium	ND		50.0	52.6		ug/L		105	75 - 125

Lab Sample ID: 180-85447-51 MSD
Matrix: Solid
Analysis Batch: 269977

Client Sample ID: MB LOW 2
Prep Type: Leach
Prep Batch: 269867

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		40.0	39.8		ug/L		100	75 - 125	1	20
Barium	ND		2000	1910		ug/L		95	75 - 125	1	20
Cadmium	ND		50.0	50.0		ug/L		100	75 - 125	1	20
Beryllium	ND		50.0	51.3		ug/L		103	75 - 125	2	20
Chromium	0.74	J	200	207		ug/L		103	75 - 125	1	20
Lead	ND		20.0	20.6		ug/L		103	75 - 125	1	20
Selenium	ND		10.0	8.44		ug/L		84	75 - 125	3	20
Cobalt	ND		500	524		ug/L		105	75 - 125	2	20
Molybdenum	0.85	J	1000	1000		ug/L		100	75 - 125	2	20
Antimony	ND		500	454		ug/L		91	75 - 125	3	20
Thallium	ND		50.0	49.1		ug/L		98	75 - 125	1	20
Lithium	ND		50.0	53.4		ug/L		107	75 - 125	1	20

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-268065/1-A
Matrix: Solid
Analysis Batch: 268204

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 268065

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/16/19 15:06	01/17/19 17:43	1

Lab Sample ID: LCS 180-268065/2-A
Matrix: Solid
Analysis Batch: 268204

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 268065

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.50		ug/L		100	80 - 120

Lab Sample ID: MB 180-268340/1-A
Matrix: Solid
Analysis Batch: 268542

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 268340

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/21/19 10:49	01/22/19 18:00	1

Lab Sample ID: LCS 180-268340/2-A
Matrix: Solid
Analysis Batch: 268542

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 268340

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.32		ug/L		93	80 - 120

Lab Sample ID: LCSD 180-268340/3-A
Matrix: Solid
Analysis Batch: 268542

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 268340

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	2.50	2.34		ug/L		93	80 - 120	1	20

Lab Sample ID: MB 180-269197/1-A
Matrix: Solid
Analysis Batch: 269298

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 269197

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		01/31/19 07:10	01/31/19 16:40	1

Lab Sample ID: LCS 180-269197/2-A
Matrix: Solid
Analysis Batch: 269298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 269197

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.41		ug/L		96	80 - 120

Lab Sample ID: MB 180-269834/1-A
Matrix: Solid
Analysis Batch: 269950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 269834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.065	ug/L		02/07/19 10:44	02/08/19 10:06	1

Lab Sample ID: LCS 180-269834/2-A
Matrix: Solid
Analysis Batch: 269950

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 269834

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.50		ug/L		100	80 - 120

Lab Sample ID: 180-85447-25 MS
Matrix: Solid
Analysis Batch: 268204

Client Sample ID: MB HIGH
Prep Type: Leach
Prep Batch: 268065

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		1.00	1.00		ug/L		100	75 - 125

Lab Sample ID: 180-85447-25 MSD
Matrix: Solid
Analysis Batch: 268204

Client Sample ID: MB HIGH
Prep Type: Leach
Prep Batch: 268065

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		1.00	1.01		ug/L		101	75 - 125	0	20

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-268135/1
Matrix: Solid
Analysis Batch: 268135

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 180-268260/1
Matrix: Solid
Analysis Batch: 268260

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 180-268604/1
Matrix: Solid
Analysis Batch: 268604

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 180-269862/1
Matrix: Solid
Analysis Batch: 269862

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: 180-85447-11 DU
Matrix: Solid
Analysis Batch: 268135

Client Sample ID: ABB pH NATURAL
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	9.0			9.0		SU				0.1	2

Lab Sample ID: 180-85447-14 DU
Matrix: Solid
Analysis Batch: 268135

Client Sample ID: ASB pH 12.0
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	12.4			12.4		SU				0	2

Lab Sample ID: 180-85447-8 DU
Matrix: Solid
Analysis Batch: 268260

Client Sample ID: ABB pH 5.5
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	5.9			5.8		SU				0.2	2

Lab Sample ID: 180-85447-20 DU
Matrix: Solid
Analysis Batch: 268604

Client Sample ID: ASB pH 4.0
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	4.1			4.1		SU				0.2	2

Lab Sample ID: 180-85447-10 DU
Matrix: Solid
Analysis Batch: 269862

Client Sample ID: ABB pH 2.0
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	2.2			2.2		SU				0.5	2

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 180-268142/2
Matrix: Solid
Analysis Batch: 268142

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/16/19 09:05	1

Lab Sample ID: LCS 180-268142/1
Matrix: Solid
Analysis Batch: 268142

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	85.8		umhos/cm		102	90 - 110		

Method: SM 2510B - Conductivity, Specific Conductance (Continued)

Lab Sample ID: MB 180-268262/2
Matrix: Solid
Analysis Batch: 268262

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/18/19 10:40	1

Lab Sample ID: LCS 180-268262/1
Matrix: Solid
Analysis Batch: 268262

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	87.2		umhos/cm		104	90 - 110

Lab Sample ID: MB 180-268609/2
Matrix: Solid
Analysis Batch: 268609

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/23/19 07:40	1

Lab Sample ID: LCS 180-268609/1
Matrix: Solid
Analysis Batch: 268609

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	86.2		umhos/cm		103	90 - 110

Lab Sample ID: MB 180-269868/2
Matrix: Solid
Analysis Batch: 269868

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			02/07/19 08:30	1

Lab Sample ID: LCS 180-269868/1
Matrix: Solid
Analysis Batch: 269868

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	86.8		umhos/cm		103	90 - 110

Lab Sample ID: 180-85447-11 DU
Matrix: Solid
Analysis Batch: 268142

Client Sample ID: ABB pH NATURAL
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	210		214		umhos/cm		0.3	20

Lab Sample ID: 180-85447-14 DU
Matrix: Solid
Analysis Batch: 268142

Client Sample ID: ASB pH 12.0
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	6200		6240		umhos/cm		0.05	20

Lab Sample ID: 180-85447-8 DU — **Client Sample ID: ABB pH 5.5**
Matrix: Solid — **Prep Type: Leach**
Analysis Batch: 268262

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	4400		4440		umhos/cm		0.07	20

Lab Sample ID: 180-85447-20 DU — **Client Sample ID: ASB pH 4.0**
Matrix: Solid — **Prep Type: Leach**
Analysis Batch: 268609

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	26000		26000		umhos/cm		0.08	20

Lab Sample ID: 180-85447-10 DU — **Client Sample ID: ABB pH 2.0**
Matrix: Solid — **Prep Type: Leach**
Analysis Batch: 269868

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	78000		78200		umhos/cm		0	20

Method: SM 2580B - Reduction-Oxidation (REDOX) Potential

Lab Sample ID: LCS 180-268140/1 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 268140

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	470		millivolts		99	90 - 110

Lab Sample ID: LCS 180-268261/1 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 268261

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	475		millivolts		100	90 - 110

Lab Sample ID: LCS 180-268608/1 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 268608

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	476		millivolts		100	90 - 110

Lab Sample ID: LCS 180-269865/1 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 269865

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	475		millivolts		100	90 - 110

Method: SM 2580B - Reduction-Oxidation (REDOX) Potential (Continued)

Lab Sample ID: 180-85447-11 DU
Matrix: Solid
Analysis Batch: 268140

Client Sample ID: ABB pH NATURAL
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Oxidation Reduction Potential	310			311		millivolts				1	20

Lab Sample ID: 180-85447-14 DU
Matrix: Solid
Analysis Batch: 268140

Client Sample ID: ASB pH 12.0
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Oxidation Reduction Potential	- 24			- 25		millivolts				NC	20

Lab Sample ID: 180-85447-8 DU
Matrix: Solid
Analysis Batch: 268261

Client Sample ID: ABB pH 5.5
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Oxidation Reduction Potential	240			237		millivolts				0.8	20

Lab Sample ID: 180-85447-20 DU
Matrix: Solid
Analysis Batch: 268608

Client Sample ID: ASB pH 4.0
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Oxidation Reduction Potential	360			353		millivolts				0.8	20

Lab Sample ID: 180-85447-10 DU
Matrix: Solid
Analysis Batch: 269865

Client Sample ID: ABB pH 2.0
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Oxidation Reduction Potential	590			584		millivolts				0.3	20

HPLC/IC

Leach Batch: 268040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-2	ABB pH 13.0	Leach	Solid	1313	
180-85447-3	ABB pH 12.0	Leach	Solid	1313	
180-85447-6	ABB pH 8.0	Leach	Solid	1313	
180-85447-7	ABB pH 7.0	Leach	Solid	1313	
180-85447-11	ABB pH NATURAL	Leach	Solid	1313	
180-85447-13	ASB pH 13.0	Leach	Solid	1313	
180-85447-14	ASB pH 12.0	Leach	Solid	1313	
180-85447-15	ASB pH 10.5	Leach	Solid	1313	
180-85447-17	ASB pH 8.0	Leach	Solid	1313	
180-85447-18	ASB pH 7.0	Leach	Solid	1313	
180-85447-22	ASB pH NATURAL	Leach	Solid	1313	
180-85447-24	MB NATURAL	Leach	Solid	1313	
180-85447-25	MB HIGH	Leach	Solid	1313	
180-85447-11 MS	ABB pH NATURAL	Leach	Solid	1313	
180-85447-11 MSD	ABB pH NATURAL	Leach	Solid	1313	

Analysis Batch: 268079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-3	ABB pH 12.0	Leach	Solid	EPA 9056A	268040
180-85447-6	ABB pH 8.0	Leach	Solid	EPA 9056A	268040
180-85447-7	ABB pH 7.0	Leach	Solid	EPA 9056A	268040
180-85447-11	ABB pH NATURAL	Leach	Solid	EPA 9056A	268040
180-85447-14	ASB pH 12.0	Leach	Solid	EPA 9056A	268040
180-85447-15	ASB pH 10.5	Leach	Solid	EPA 9056A	268040
180-85447-17	ASB pH 8.0	Leach	Solid	EPA 9056A	268040
180-85447-18	ASB pH 7.0	Leach	Solid	EPA 9056A	268040
180-85447-22	ASB pH NATURAL	Leach	Solid	EPA 9056A	268040
180-85447-24	MB NATURAL	Leach	Solid	EPA 9056A	268040
MB 180-268079/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-268079/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	
180-85447-11 MS	ABB pH NATURAL	Leach	Solid	EPA 9056A	268040
180-85447-11 MSD	ABB pH NATURAL	Leach	Solid	EPA 9056A	268040

Analysis Batch: 268208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-2	ABB pH 13.0	Leach	Solid	EPA 9056A	268040
180-85447-13	ASB pH 13.0	Leach	Solid	EPA 9056A	268040
180-85447-25	MB HIGH	Leach	Solid	EPA 9056A	268040
MB 180-268208/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-268208/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

Leach Batch: 268246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-4	ABB pH 10.5	Leach	Solid	1313	
180-85447-8	ABB pH 5.5	Leach	Solid	1313	
180-85447-9	ABB pH 4.0	Leach	Solid	1313	
180-85447-19	ASB pH 5.5	Leach	Solid	1313	
180-85447-23	MB LOW	Leach	Solid	1313	

HPLC/IC (Continued)

Analysis Batch: 268298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-4	ABB pH 10.5	Leach	Solid	EPA 9056A	268246
180-85447-8	ABB pH 5.5	Leach	Solid	EPA 9056A	268246
180-85447-9	ABB pH 4.0	Leach	Solid	EPA 9056A	268246
180-85447-19	ASB pH 5.5	Leach	Solid	EPA 9056A	268246
180-85447-23	MB LOW	Leach	Solid	EPA 9056A	268246
MB 180-268298/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-268298/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

Leach Batch: 268574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-20	ASB pH 4.0	Leach	Solid	1313	
180-85447-49	MB LOW 1	Leach	Solid	1313	

Analysis Batch: 268716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-20	ASB pH 4.0	Leach	Solid	EPA 9056A	268574
180-85447-49	MB LOW 1	Leach	Solid	EPA 9056A	268574
MB 180-268716/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-268716/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

Leach Batch: 269578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-10	ABB pH 2.0	Leach	Solid	1313	
180-85447-21	ASB pH 2.0	Leach	Solid	1313	
180-85447-51	MB LOW 2	Leach	Solid	1313	

Analysis Batch: 269858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-10	ABB pH 2.0	Leach	Solid	EPA 9056A	269578
180-85447-21	ASB pH 2.0	Leach	Solid	EPA 9056A	269578
180-85447-51	MB LOW 2	Leach	Solid	EPA 9056A	269578
MB 180-269858/61	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-269858/60	Lab Control Sample	Total/NA	Solid	EPA 9056A	

Metals

Leach Batch: 268040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-2	ABB pH 13.0	Leach	Solid	1313	
180-85447-3	ABB pH 12.0	Leach	Solid	1313	
180-85447-6	ABB pH 8.0	Leach	Solid	1313	
180-85447-7	ABB pH 7.0	Leach	Solid	1313	
180-85447-11	ABB pH NATURAL	Leach	Solid	1313	
180-85447-13	ASB pH 13.0	Leach	Solid	1313	
180-85447-14	ASB pH 12.0	Leach	Solid	1313	
180-85447-15	ASB pH 10.5	Leach	Solid	1313	
180-85447-17	ASB pH 8.0	Leach	Solid	1313	
180-85447-18	ASB pH 7.0	Leach	Solid	1313	
180-85447-22	ASB pH NATURAL	Leach	Solid	1313	
180-85447-24	MB NATURAL	Leach	Solid	1313	

Metals (Continued)

Leach Batch: 268040 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-25	MB HIGH	Leach	Solid	1313	
180-85447-25 MS	MB HIGH	Leach	Solid	1313	
180-85447-25 MSD	MB HIGH	Leach	Solid	1313	

Prep Batch: 268065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-2	ABB pH 13.0	Leach	Solid	7470A	268040
180-85447-3	ABB pH 12.0	Leach	Solid	7470A	268040
180-85447-6	ABB pH 8.0	Leach	Solid	7470A	268040
180-85447-7	ABB pH 7.0	Leach	Solid	7470A	268040
180-85447-11	ABB pH NATURAL	Leach	Solid	7470A	268040
180-85447-13	ASB pH 13.0	Leach	Solid	7470A	268040
180-85447-14	ASB pH 12.0	Leach	Solid	7470A	268040
180-85447-15	ASB pH 10.5	Leach	Solid	7470A	268040
180-85447-17	ASB pH 8.0	Leach	Solid	7470A	268040
180-85447-18	ASB pH 7.0	Leach	Solid	7470A	268040
180-85447-22	ASB pH NATURAL	Leach	Solid	7470A	268040
180-85447-24	MB NATURAL	Leach	Solid	7470A	268040
180-85447-25	MB HIGH	Leach	Solid	7470A	268040
MB 180-268065/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 180-268065/2-A	Lab Control Sample	Total/NA	Solid	7470A	
180-85447-25 MS	MB HIGH	Leach	Solid	7470A	268040
180-85447-25 MSD	MB HIGH	Leach	Solid	7470A	268040

Prep Batch: 268107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-2	ABB pH 13.0	Leach	Solid	3010A	268040
180-85447-3	ABB pH 12.0	Leach	Solid	3010A	268040
180-85447-6	ABB pH 8.0	Leach	Solid	3010A	268040
180-85447-7	ABB pH 7.0	Leach	Solid	3010A	268040
180-85447-11	ABB pH NATURAL	Leach	Solid	3010A	268040
180-85447-13	ASB pH 13.0	Leach	Solid	3010A	268040
180-85447-14	ASB pH 12.0	Leach	Solid	3010A	268040
180-85447-15	ASB pH 10.5	Leach	Solid	3010A	268040
180-85447-17	ASB pH 8.0	Leach	Solid	3010A	268040
180-85447-18	ASB pH 7.0	Leach	Solid	3010A	268040
180-85447-22	ASB pH NATURAL	Leach	Solid	3010A	268040
180-85447-24	MB NATURAL	Leach	Solid	3010A	268040
180-85447-25	MB HIGH	Leach	Solid	3010A	268040
MB 180-268107/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-268107/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Analysis Batch: 268204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-2	ABB pH 13.0	Leach	Solid	EPA 7470A	268065
180-85447-3	ABB pH 12.0	Leach	Solid	EPA 7470A	268065
180-85447-6	ABB pH 8.0	Leach	Solid	EPA 7470A	268065
180-85447-7	ABB pH 7.0	Leach	Solid	EPA 7470A	268065
180-85447-11	ABB pH NATURAL	Leach	Solid	EPA 7470A	268065
180-85447-13	ASB pH 13.0	Leach	Solid	EPA 7470A	268065
180-85447-14	ASB pH 12.0	Leach	Solid	EPA 7470A	268065

Metals (Continued)

Analysis Batch: 268204 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-15	ASB pH 10.5	Leach	Solid	EPA 7470A	268065
180-85447-17	ASB pH 8.0	Leach	Solid	EPA 7470A	268065
180-85447-18	ASB pH 7.0	Leach	Solid	EPA 7470A	268065
180-85447-22	ASB pH NATURAL	Leach	Solid	EPA 7470A	268065
180-85447-24	MB NATURAL	Leach	Solid	EPA 7470A	268065
180-85447-25	MB HIGH	Leach	Solid	EPA 7470A	268065
MB 180-268065/1-A	Method Blank	Total/NA	Solid	EPA 7470A	268065
LCS 180-268065/2-A	Lab Control Sample	Total/NA	Solid	EPA 7470A	268065
180-85447-25 MS	MB HIGH	Leach	Solid	EPA 7470A	268065
180-85447-25 MSD	MB HIGH	Leach	Solid	EPA 7470A	268065

Leach Batch: 268246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-4	ABB pH 10.5	Leach	Solid	1313	
180-85447-8	ABB pH 5.5	Leach	Solid	1313	
180-85447-9	ABB pH 4.0	Leach	Solid	1313	
180-85447-19	ASB pH 5.5	Leach	Solid	1313	
180-85447-23	MB LOW	Leach	Solid	1313	
180-85447-23 MS	MB LOW	Leach	Solid	1313	
180-85447-23 MSD	MB LOW	Leach	Solid	1313	

Prep Batch: 268263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-4	ABB pH 10.5	Leach	Solid	3010A	268246
180-85447-8	ABB pH 5.5	Leach	Solid	3010A	268246
180-85447-9	ABB pH 4.0	Leach	Solid	3010A	268246
180-85447-19	ASB pH 5.5	Leach	Solid	3010A	268246
180-85447-23	MB LOW	Leach	Solid	3010A	268246
MB 180-268263/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-268263/2-A	Lab Control Sample	Total/NA	Solid	3010A	
180-85447-23 MS	MB LOW	Leach	Solid	3010A	268246
180-85447-23 MSD	MB LOW	Leach	Solid	3010A	268246

Analysis Batch: 268295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-2	ABB pH 13.0	Leach	Solid	EPA 6020A	268107
180-85447-3	ABB pH 12.0	Leach	Solid	EPA 6020A	268107
180-85447-6	ABB pH 8.0	Leach	Solid	EPA 6020A	268107
180-85447-7	ABB pH 7.0	Leach	Solid	EPA 6020A	268107
180-85447-11	ABB pH NATURAL	Leach	Solid	EPA 6020A	268107
180-85447-13	ASB pH 13.0	Leach	Solid	EPA 6020A	268107
180-85447-14	ASB pH 12.0	Leach	Solid	EPA 6020A	268107
180-85447-15	ASB pH 10.5	Leach	Solid	EPA 6020A	268107
180-85447-17	ASB pH 8.0	Leach	Solid	EPA 6020A	268107
180-85447-18	ASB pH 7.0	Leach	Solid	EPA 6020A	268107
180-85447-22	ASB pH NATURAL	Leach	Solid	EPA 6020A	268107
180-85447-24	MB NATURAL	Leach	Solid	EPA 6020A	268107
180-85447-25	MB HIGH	Leach	Solid	EPA 6020A	268107
MB 180-268107/1-A	Method Blank	Total/NA	Solid	EPA 6020A	268107
LCS 180-268107/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	268107

Metals (Continued)

Prep Batch: 268340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-4	ABB pH 10.5	Leach	Solid	7470A	268246
180-85447-8	ABB pH 5.5	Leach	Solid	7470A	268246
180-85447-9	ABB pH 4.0	Leach	Solid	7470A	268246
180-85447-19	ASB pH 5.5	Leach	Solid	7470A	268246
180-85447-23	MB LOW	Leach	Solid	7470A	268246
MB 180-268340/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 180-268340/2-A	Lab Control Sample	Total/NA	Solid	7470A	
LCSD 180-268340/3-A	Lab Control Sample Dup	Total/NA	Solid	7470A	

Analysis Batch: 268357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-4	ABB pH 10.5	Leach	Solid	EPA 6020A	268263
180-85447-8	ABB pH 5.5	Leach	Solid	EPA 6020A	268263
180-85447-9	ABB pH 4.0	Leach	Solid	EPA 6020A	268263
180-85447-19	ASB pH 5.5	Leach	Solid	EPA 6020A	268263
180-85447-23	MB LOW	Leach	Solid	EPA 6020A	268263
MB 180-268263/1-A	Method Blank	Total/NA	Solid	EPA 6020A	268263
LCS 180-268263/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	268263
180-85447-23 MS	MB LOW	Leach	Solid	EPA 6020A	268263
180-85447-23 MSD	MB LOW	Leach	Solid	EPA 6020A	268263

Analysis Batch: 268542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-4	ABB pH 10.5	Leach	Solid	EPA 7470A	268340
180-85447-8	ABB pH 5.5	Leach	Solid	EPA 7470A	268340
180-85447-9	ABB pH 4.0	Leach	Solid	EPA 7470A	268340
180-85447-19	ASB pH 5.5	Leach	Solid	EPA 7470A	268340
180-85447-23	MB LOW	Leach	Solid	EPA 7470A	268340
MB 180-268340/1-A	Method Blank	Total/NA	Solid	EPA 7470A	268340
LCS 180-268340/2-A	Lab Control Sample	Total/NA	Solid	EPA 7470A	268340
LCSD 180-268340/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 7470A	268340

Leach Batch: 268574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-20	ASB pH 4.0	Leach	Solid	1313	
180-85447-49	MB LOW 1	Leach	Solid	1313	
180-85447-49 MS	MB LOW 1	Leach	Solid	1313	
180-85447-49 MSD	MB LOW 1	Leach	Solid	1313	

Prep Batch: 268586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-20	ASB pH 4.0	Leach	Solid	3010A	268574
180-85447-49	MB LOW 1	Leach	Solid	3010A	268574
MB 180-268586/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-268586/2-A	Lab Control Sample	Total/NA	Solid	3010A	
180-85447-49 MS	MB LOW 1	Leach	Solid	3010A	268574
180-85447-49 MSD	MB LOW 1	Leach	Solid	3010A	268574

Analysis Batch: 268763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-49	MB LOW 1	Leach	Solid	EPA 6020A	268586

Metals (Continued)

Analysis Batch: 268763 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-268586/1-A	Method Blank	Total/NA	Solid	EPA 6020A	268586
LCS 180-268586/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	268586
180-85447-49 MS	MB LOW 1	Leach	Solid	EPA 6020A	268586
180-85447-49 MSD	MB LOW 1	Leach	Solid	EPA 6020A	268586

Analysis Batch: 268821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-20	ASB pH 4.0	Leach	Solid	EPA 6020A	268586
180-85447-49	MB LOW 1	Leach	Solid	EPA 6020A	268586
MB 180-268586/1-A	Method Blank	Total/NA	Solid	EPA 6020A	268586
LCS 180-268586/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	268586
180-85447-49 MS	MB LOW 1	Leach	Solid	EPA 6020A	268586
180-85447-49 MSD	MB LOW 1	Leach	Solid	EPA 6020A	268586

Prep Batch: 269197

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-20	ASB pH 4.0	Leach	Solid	7470A	268574
180-85447-49	MB LOW 1	Leach	Solid	7470A	268574
MB 180-269197/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 180-269197/2-A	Lab Control Sample	Total/NA	Solid	7470A	

Analysis Batch: 269298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-20	ASB pH 4.0	Leach	Solid	EPA 7470A	269197
180-85447-49	MB LOW 1	Leach	Solid	EPA 7470A	269197
MB 180-269197/1-A	Method Blank	Total/NA	Solid	EPA 7470A	269197
LCS 180-269197/2-A	Lab Control Sample	Total/NA	Solid	EPA 7470A	269197

Leach Batch: 269578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-10	ABB pH 2.0	Leach	Solid	1313	
180-85447-21	ASB pH 2.0	Leach	Solid	1313	
180-85447-51	MB LOW 2	Leach	Solid	1313	
180-85447-51 MS	MB LOW 2	Leach	Solid	1313	
180-85447-51 MSD	MB LOW 2	Leach	Solid	1313	

Prep Batch: 269834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-10	ABB pH 2.0	Leach	Solid	7470A	269578
180-85447-21	ASB pH 2.0	Leach	Solid	7470A	269578
180-85447-51	MB LOW 2	Leach	Solid	7470A	269578
MB 180-269834/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 180-269834/2-A	Lab Control Sample	Total/NA	Solid	7470A	

Prep Batch: 269867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-10	ABB pH 2.0	Leach	Solid	3010A	269578
180-85447-21	ASB pH 2.0	Leach	Solid	3010A	269578
180-85447-51	MB LOW 2	Leach	Solid	3010A	269578
MB 180-269867/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-269867/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Metals (Continued)

Prep Batch: 269867 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-51 MS	MB LOW 2	Leach	Solid	3010A	269578
180-85447-51 MSD	MB LOW 2	Leach	Solid	3010A	269578

Analysis Batch: 269950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-10	ABB pH 2.0	Leach	Solid	EPA 7470A	269834
180-85447-21	ASB pH 2.0	Leach	Solid	EPA 7470A	269834
180-85447-51	MB LOW 2	Leach	Solid	EPA 7470A	269834
MB 180-269834/1-A	Method Blank	Total/NA	Solid	EPA 7470A	269834
LCS 180-269834/2-A	Lab Control Sample	Total/NA	Solid	EPA 7470A	269834

Analysis Batch: 269977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-51	MB LOW 2	Leach	Solid	EPA 6020A	269867
MB 180-269867/1-A	Method Blank	Total/NA	Solid	EPA 6020A	269867
LCS 180-269867/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	269867
180-85447-51 MS	MB LOW 2	Leach	Solid	EPA 6020A	269867
180-85447-51 MSD	MB LOW 2	Leach	Solid	EPA 6020A	269867

Analysis Batch: 270330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-10	ABB pH 2.0	Leach	Solid	EPA 6020A	269867
180-85447-21	ASB pH 2.0	Leach	Solid	EPA 6020A	269867

General Chemistry

Analysis Batch: 267637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-1	ABB PRETEST	Total/NA	Solid	2540G	
180-85447-12	ASB PRETEST	Total/NA	Solid	2540G	

Leach Batch: 268040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-1	ABB PRETEST	Leach	Solid	1313	
180-85447-1	ABB PRETEST	Leach	Solid	1313	
180-85447-1	ABB PRETEST	Leach	Solid	1313	
180-85447-2	ABB pH 13.0	Leach	Solid	1313	
180-85447-3	ABB pH 12.0	Leach	Solid	1313	
180-85447-6	ABB pH 8.0	Leach	Solid	1313	
180-85447-7	ABB pH 7.0	Leach	Solid	1313	
180-85447-11	ABB pH NATURAL	Leach	Solid	1313	
180-85447-12	ASB PRETEST	Leach	Solid	1313	
180-85447-12	ASB PRETEST	Leach	Solid	1313	
180-85447-13	ASB pH 13.0	Leach	Solid	1313	
180-85447-14	ASB pH 12.0	Leach	Solid	1313	
180-85447-15	ASB pH 10.5	Leach	Solid	1313	
180-85447-17	ASB pH 8.0	Leach	Solid	1313	
180-85447-18	ASB pH 7.0	Leach	Solid	1313	
180-85447-22	ASB pH NATURAL	Leach	Solid	1313	
180-85447-24	MB NATURAL	Leach	Solid	1313	

General Chemistry (Continued)

Leach Batch: 268040 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-25	MB HIGH	Leach	Solid	1313	
180-85447-11 DU	ABB pH NATURAL	Leach	Solid	1313	
180-85447-14 DU	ASB pH 12.0	Leach	Solid	1313	

Analysis Batch: 268135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-1	ABB PRETEST	Leach	Solid	EPA 9040C	268040
180-85447-1	ABB PRETEST	Leach	Solid	EPA 9040C	268040
180-85447-1	ABB PRETEST	Leach	Solid	EPA 9040C	268040
180-85447-2	ABB pH 13.0	Leach	Solid	EPA 9040C	268040
180-85447-3	ABB pH 12.0	Leach	Solid	EPA 9040C	268040
180-85447-6	ABB pH 8.0	Leach	Solid	EPA 9040C	268040
180-85447-7	ABB pH 7.0	Leach	Solid	EPA 9040C	268040
180-85447-11	ABB pH NATURAL	Leach	Solid	EPA 9040C	268040
180-85447-12	ASB PRETEST	Leach	Solid	EPA 9040C	268040
180-85447-12	ASB PRETEST	Leach	Solid	EPA 9040C	268040
180-85447-13	ASB pH 13.0	Leach	Solid	EPA 9040C	268040
180-85447-14	ASB pH 12.0	Leach	Solid	EPA 9040C	268040
180-85447-15	ASB pH 10.5	Leach	Solid	EPA 9040C	268040
180-85447-17	ASB pH 8.0	Leach	Solid	EPA 9040C	268040
180-85447-18	ASB pH 7.0	Leach	Solid	EPA 9040C	268040
180-85447-22	ASB pH NATURAL	Leach	Solid	EPA 9040C	268040
180-85447-24	MB NATURAL	Leach	Solid	EPA 9040C	268040
180-85447-25	MB HIGH	Leach	Solid	EPA 9040C	268040
LCS 180-268135/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	
180-85447-11 DU	ABB pH NATURAL	Leach	Solid	EPA 9040C	268040
180-85447-14 DU	ASB pH 12.0	Leach	Solid	EPA 9040C	268040

Analysis Batch: 268140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-2	ABB pH 13.0	Leach	Solid	SM 2580B	268040
180-85447-3	ABB pH 12.0	Leach	Solid	SM 2580B	268040
180-85447-6	ABB pH 8.0	Leach	Solid	SM 2580B	268040
180-85447-7	ABB pH 7.0	Leach	Solid	SM 2580B	268040
180-85447-11	ABB pH NATURAL	Leach	Solid	SM 2580B	268040
180-85447-13	ASB pH 13.0	Leach	Solid	SM 2580B	268040
180-85447-14	ASB pH 12.0	Leach	Solid	SM 2580B	268040
180-85447-15	ASB pH 10.5	Leach	Solid	SM 2580B	268040
180-85447-17	ASB pH 8.0	Leach	Solid	SM 2580B	268040
180-85447-18	ASB pH 7.0	Leach	Solid	SM 2580B	268040
180-85447-22	ASB pH NATURAL	Leach	Solid	SM 2580B	268040
180-85447-24	MB NATURAL	Leach	Solid	SM 2580B	268040
180-85447-25	MB HIGH	Leach	Solid	SM 2580B	268040
LCS 180-268140/1	Lab Control Sample	Total/NA	Solid	SM 2580B	
180-85447-11 DU	ABB pH NATURAL	Leach	Solid	SM 2580B	268040
180-85447-14 DU	ASB pH 12.0	Leach	Solid	SM 2580B	268040

Analysis Batch: 268142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-2	ABB pH 13.0	Leach	Solid	SM 2510B	268040
180-85447-3	ABB pH 12.0	Leach	Solid	SM 2510B	268040

General Chemistry (Continued)

Analysis Batch: 268142 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-6	ABB pH 8.0	Leach	Solid	SM 2510B	268040
180-85447-7	ABB pH 7.0	Leach	Solid	SM 2510B	268040
180-85447-11	ABB pH NATURAL	Leach	Solid	SM 2510B	268040
180-85447-13	ASB pH 13.0	Leach	Solid	SM 2510B	268040
180-85447-14	ASB pH 12.0	Leach	Solid	SM 2510B	268040
180-85447-15	ASB pH 10.5	Leach	Solid	SM 2510B	268040
180-85447-17	ASB pH 8.0	Leach	Solid	SM 2510B	268040
180-85447-18	ASB pH 7.0	Leach	Solid	SM 2510B	268040
180-85447-22	ASB pH NATURAL	Leach	Solid	SM 2510B	268040
180-85447-24	MB NATURAL	Leach	Solid	SM 2510B	268040
180-85447-25	MB HIGH	Leach	Solid	SM 2510B	268040
MB 180-268142/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-268142/1	Lab Control Sample	Total/NA	Solid	SM 2510B	
180-85447-11 DU	ABB pH NATURAL	Leach	Solid	SM 2510B	268040
180-85447-14 DU	ASB pH 12.0	Leach	Solid	SM 2510B	268040

Leach Batch: 268246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-4	ABB pH 10.5	Leach	Solid	1313	
180-85447-8	ABB pH 5.5	Leach	Solid	1313	
180-85447-9	ABB pH 4.0	Leach	Solid	1313	
180-85447-19	ASB pH 5.5	Leach	Solid	1313	
180-85447-23	MB LOW	Leach	Solid	1313	
180-85447-8 DU	ABB pH 5.5	Leach	Solid	1313	

Analysis Batch: 268260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-4	ABB pH 10.5	Leach	Solid	EPA 9040C	268246
180-85447-8	ABB pH 5.5	Leach	Solid	EPA 9040C	268246
180-85447-9	ABB pH 4.0	Leach	Solid	EPA 9040C	268246
180-85447-19	ASB pH 5.5	Leach	Solid	EPA 9040C	268246
180-85447-23	MB LOW	Leach	Solid	EPA 9040C	268246
LCS 180-268260/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	
180-85447-8 DU	ABB pH 5.5	Leach	Solid	EPA 9040C	268246

Analysis Batch: 268261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-4	ABB pH 10.5	Leach	Solid	SM 2580B	268246
180-85447-8	ABB pH 5.5	Leach	Solid	SM 2580B	268246
180-85447-9	ABB pH 4.0	Leach	Solid	SM 2580B	268246
180-85447-19	ASB pH 5.5	Leach	Solid	SM 2580B	268246
180-85447-23	MB LOW	Leach	Solid	SM 2580B	268246
LCS 180-268261/1	Lab Control Sample	Total/NA	Solid	SM 2580B	
180-85447-8 DU	ABB pH 5.5	Leach	Solid	SM 2580B	268246

Analysis Batch: 268262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-4	ABB pH 10.5	Leach	Solid	SM 2510B	268246
180-85447-8	ABB pH 5.5	Leach	Solid	SM 2510B	268246
180-85447-9	ABB pH 4.0	Leach	Solid	SM 2510B	268246
180-85447-19	ASB pH 5.5	Leach	Solid	SM 2510B	268246

General Chemistry (Continued)

Analysis Batch: 268262 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-23	MB LOW	Leach	Solid	SM 2510B	268246
MB 180-268262/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-268262/1	Lab Control Sample	Total/NA	Solid	SM 2510B	
180-85447-8 DU	ABB pH 5.5	Leach	Solid	SM 2510B	268246

Leach Batch: 268574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-1	ABB PRETEST	Leach	Solid	1313	
180-85447-12	ASB PRETEST	Leach	Solid	1313	
180-85447-20	ASB pH 4.0	Leach	Solid	1313	
180-85447-49	MB LOW 1	Leach	Solid	1313	
180-85447-20 DU	ASB pH 4.0	Leach	Solid	1313	

Analysis Batch: 268604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-1	ABB PRETEST	Leach	Solid	EPA 9040C	268574
180-85447-12	ASB PRETEST	Leach	Solid	EPA 9040C	268574
180-85447-20	ASB pH 4.0	Leach	Solid	EPA 9040C	268574
180-85447-49	MB LOW 1	Leach	Solid	EPA 9040C	268574
LCS 180-268604/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	
180-85447-20 DU	ASB pH 4.0	Leach	Solid	EPA 9040C	268574

Analysis Batch: 268608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-20	ASB pH 4.0	Leach	Solid	SM 2580B	268574
180-85447-49	MB LOW 1	Leach	Solid	SM 2580B	268574
LCS 180-268608/1	Lab Control Sample	Total/NA	Solid	SM 2580B	
180-85447-20 DU	ASB pH 4.0	Leach	Solid	SM 2580B	268574

Analysis Batch: 268609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-20	ASB pH 4.0	Leach	Solid	SM 2510B	268574
180-85447-49	MB LOW 1	Leach	Solid	SM 2510B	268574
MB 180-268609/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-268609/1	Lab Control Sample	Total/NA	Solid	SM 2510B	
180-85447-20 DU	ASB pH 4.0	Leach	Solid	SM 2510B	268574

Leach Batch: 269578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-10	ABB pH 2.0	Leach	Solid	1313	
180-85447-21	ASB pH 2.0	Leach	Solid	1313	
180-85447-51	MB LOW 2	Leach	Solid	1313	
180-85447-10 DU	ABB pH 2.0	Leach	Solid	1313	

Analysis Batch: 269862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-10	ABB pH 2.0	Leach	Solid	EPA 9040C	269578
180-85447-21	ASB pH 2.0	Leach	Solid	EPA 9040C	269578
180-85447-51	MB LOW 2	Leach	Solid	EPA 9040C	269578
LCS 180-269862/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	
180-85447-10 DU	ABB pH 2.0	Leach	Solid	EPA 9040C	269578

QC Association Summary

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

TestAmerica Job ID: 180-85447-1

Analysis Batch: 269865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-10	ABB pH 2.0	Leach	Solid	SM 2580B	269578
180-85447-21	ASB pH 2.0	Leach	Solid	SM 2580B	269578
180-85447-51	MB LOW 2	Leach	Solid	SM 2580B	269578
LCS 180-269865/1	Lab Control Sample	Total/NA	Solid	SM 2580B	
180-85447-10 DU	ABB pH 2.0	Leach	Solid	SM 2580B	269578

Analysis Batch: 269868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-10	ABB pH 2.0	Leach	Solid	SM 2510B	269578
180-85447-21	ASB pH 2.0	Leach	Solid	SM 2510B	269578
180-85447-51	MB LOW 2	Leach	Solid	SM 2510B	269578
MB 180-269868/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-269868/1	Lab Control Sample	Total/NA	Solid	SM 2510B	
180-85447-10 DU	ABB pH 2.0	Leach	Solid	SM 2510B	269578

Chain of Custody Record

273171

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Company Name: KPRG and Associates	Tel/Fax:	Lab Contact:	Carrier:	____ of ____ COCs
Address: 14665 W. Lisbon Rd. Ste 1A	**Analysis Turnaround Time**			Sampler:
City/State/Zip: Brookfield / WI / 53005	☐ CALENDAR DAYS ☐ WORKING DAYS			**For Lab Use Only:**
Phone: 262-781-0475	TAT if different from Below ____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: NRG	☐ 1 week			
Site: Powerton	☐ 2 days			Job / SDG No.:
PO# 23517.0	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	LEAF Method 1313	Sample Specific Notes:
ABB	1-4-19	1110	C	S	2	N	N	X	
ASB	1-4-19	1145	C	S	2	N	N	X	

180-85447 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

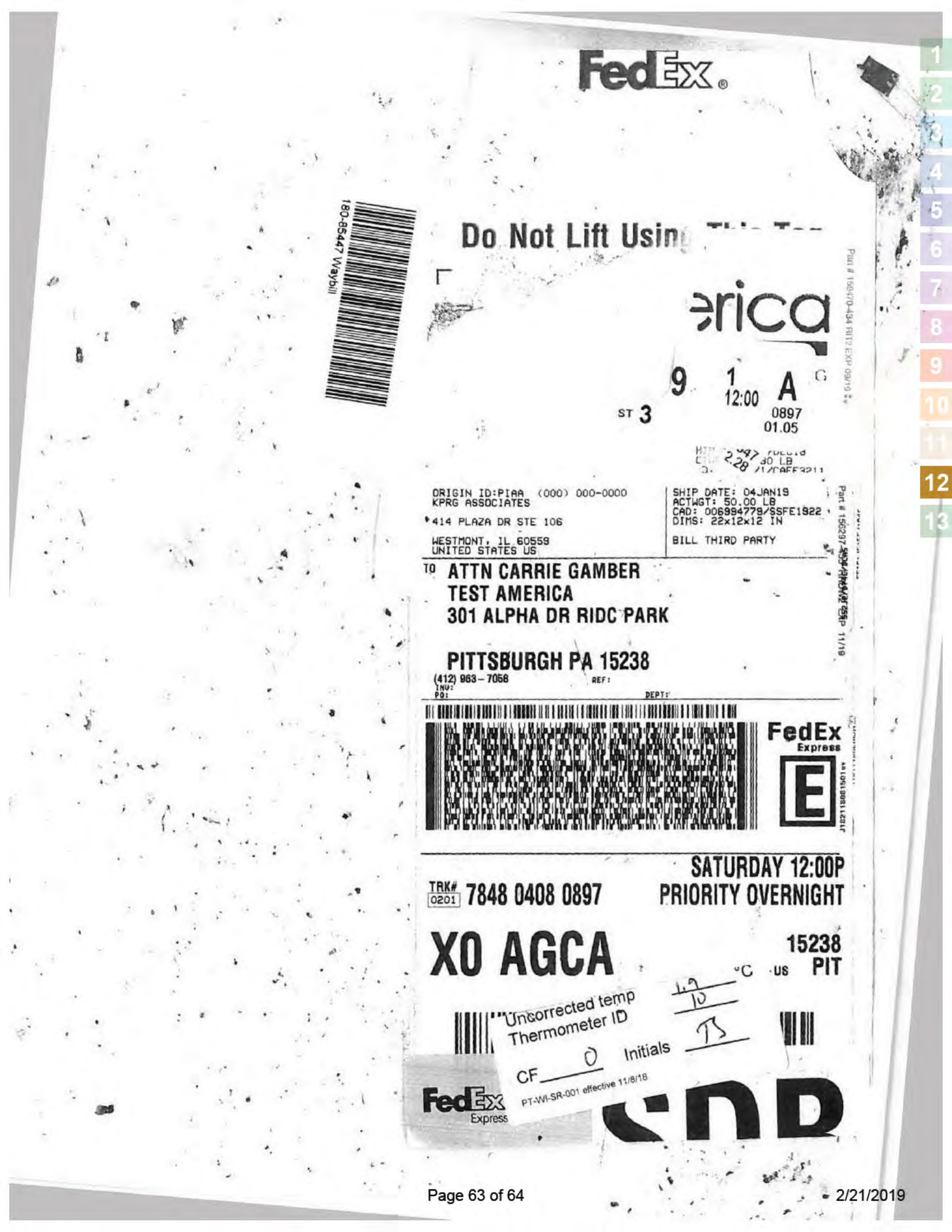
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:
CCR Appendix 4 compounds → As, Ba, Cd, Co, F, Pb, Li, Hg, Mo, Rad 226/228, Se, Tl / Sample Date is 1-4-19

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ | Therm ID No.: ____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Mitchel Dolan	KPRG	1-4-19 / 1400	FEDEX		1-4-19 / 1400
Relinquished by:	Company:	Date/Time:	Received by: Dulce Watson	Company: TAP++	Date/Time: 1-5-19 9:30
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

2/21/2019



FedEx

180-85447 Waybill

Do Not Lift Usin

erica

9 1 A
12:00
ST 3
0897
01.05

2.28 30 LB

ORIGIN ID:PIAA (000) 000-0000
KPRG ASSOCIATES
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 04JAN19
ACTWGT: 50.00 LB
CAD: 006994779/SSFE1822
DIMS: 22x12x12 IN
BILL THIRD PARTY

TO ATTN CARRIE GAMBER
TEST AMERICA
301 ALPHA DR RIDC PARK

PITTSBURGH PA 15238
(412) 963-7058
INV:
PO:
REF:
DEPT:

FedEx Express

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 7848 0408 0897

XO AGCA

15238
PIT

°C US

Uncorrected temp 4.9
Thermometer ID 10
CF 0 Initials TS

FedEx Express PT-WI-SR-001 effective 11/8/18

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 180-85447-1

Login Number: 85447
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?	False	
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 Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

TestAmerica Job ID: 180-85447-2
Client Project/Site: Midwest Generation

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
3/22/2019 8:10:17 AM

Carrie Gamber, Senior Project Manager
(412)963-2428
carrie.gamber@testamericainc.com

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

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

PA Lab ID: 02-00416

Table of Contents

Job ID: 180-85447-2

Laboratory: TestAmerica Pittsburgh

Narrative

CASE NARRATIVE

Client: KPRG and Associates, Inc.

Project: Midwest Generation

Report Number: 180-85447-2

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

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

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

RECEIPT

The samples were received on 01/05/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.9 C.

The Field Sampler was not listed on the Chain of Custody.

One out of two containers for the following sample did not match the information listed on the Chain-of-Custody (COC): ABB PRETEST (180-85447-1). The container label lists a sample collection time of 11:00, while the COC lists 11:10. The time on the COC was used.

METALS

No 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 above or in the Definitions/Glossary page.

901.1

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232

Job ID: 180-85447-2 (Continued)

Laboratory: TestAmerica Pittsburgh (Continued)

Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

ABB pH 2.0 (180-85447-34), (LCS 160-417071/2-A), (MB 160-417071/1-A), (490-168989-I-1-A) and (490-168989-I-1-B DU)

903.0

Several samples were prepared at a reduced aliquot due to limited volume or due to brown discoloration and heavy sediment. . All available containers were consumed.

The following sample boiled over while heating and a minimal amount was lost: ASB pH 4.0 (180-85447-43) and ASB pH 2.0 (180-85447-44). This will affect the barium carrier recoveries, possibly causing a slightly lower recovery. The sample created a crystallized precipitate that does not work with the chemistry of this method. Barium was not able to be carried through the process, so the sample was removed from this batch and canceled.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date: MB LOW 2 (180-85447-52), (LCS 160-414637/1-A), (MB 160-414637/18-A).

904.0

Several samples were prepared at a reduced aliquot due to limited volume due to brown discoloration and heavy sediment. All available containers were consumed.

The following samples boiled over while heating and a minimal amount was lost: ASB pH 4.0 (180-85447-43) and ASB pH 2.0 (180-85447-44). This will affect the barium carrier recoveries, possibly causing a slightly lower recovery. The sample created a crystallized precipitate that does not work with the chemistry of this method. Barium was not able to be carried through the process, so the sample was removed from this batch and canceled.

The following sample exhibited a negative result greater in magnitude than the 3 sigma TPU. This occurrence was evaluated and determined to be random in nature. Sporadic occurrences such as this are statistically expected. No further action is required. MB LOW 2 (180-85447-52)

The following samples did not meet the requested limit (RL) due to the reduced sample volume attributed to the presence of matrix interferences. The data have been reported with this narrative. ABB pH 10.5 (180-85447-28) and ASB pH 5.5 (180-85447-42)

The following samples did not meet the requested limit (RL) due to the reduced sample volume attributed to the presence of matrix interferences. The data have been reported with this narrative. ABB pH 13.0 (180-85447-26) and ABB pH 12.0 (180-85447-27)

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

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: 180-85447-2

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	06-30-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 2510B		Solid	Specific Conductance
SM 2580B		Solid	Oxidation Reduction Potential

Laboratory: TestAmerica St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-19
ANAB	DoD / DOE		L2305	04-06-22
Arizona	State Program	9	AZ0813	12-08-19
California	State Program	9	2886	06-30-19
Connecticut	State Program	1	PH-0241	03-31-19 *
Florida	NELAP	4	E87689	06-30-19
Hawaii	State Program	9	NA	06-30-19
Illinois	NELAP	5	200023	11-30-19
Iowa	State Program	7	373	12-01-20
Kansas	NELAP	7	E-10236	10-31-19
Kentucky (DW)	State Program	4	KY90125	12-31-19
Louisiana	NELAP	6	04080	06-30-19
Louisiana (DW)	NELAP	6	LA011	12-31-19
Maryland	State Program	3	310	09-30-19
Michigan	State Program	5	9005	06-30-19
Missouri	State Program	7	780	06-30-19
Nevada	State Program	9	MO000542018-1	07-31-19
New Jersey	NELAP	2	MO002	06-30-19
New York	NELAP	2	11616	03-31-19 *
North Dakota	State Program	8	R207	06-30-19
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-19
Pennsylvania	NELAP	3	68-00540	02-28-19 *
South Carolina	State Program	4	85002001	06-30-19
Texas	NELAP	6	T104704193-18-13	07-31-19
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542018-10	07-31-19
Virginia	NELAP	3	460230	06-14-19
Washington	State Program	10	C592	08-30-19
West Virginia DEP	State Program	3	381	08-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Sample Summary

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

TestAmerica Job ID: 180-85447-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-85447-10	ABB pH 2.0	Solid	01/04/19 11:10	01/05/19 09:30
180-85447-26	ABB pH 13.0	Water	01/16/19 09:05	01/05/19 09:30
180-85447-27	ABB pH 12.0	Water	01/16/19 09:05	01/05/19 09:30
180-85447-28	ABB pH 10.5	Water	01/18/19 09:20	01/05/19 09:30
180-85447-30	ABB pH 8.0	Water	01/16/19 09:05	01/05/19 09:30
180-85447-31	ABB pH 7.0	Water	01/16/19 09:05	01/05/19 09:30
180-85447-32	ABB pH 5.5	Water	01/18/19 09:20	01/05/19 09:30
180-85447-33	ABB pH 4.0	Water	01/18/19 09:20	01/05/19 09:30
180-85447-34	ABB pH 2.0	Water	02/07/19 07:30	01/05/19 09:30
180-85447-35	ABB pH NATURAL	Water	01/16/19 09:05	01/05/19 09:30
180-85447-36	ASB pH 13.0	Water	01/16/19 09:05	01/05/19 09:30
180-85447-37	ASB pH 12.0	Water	01/16/19 09:05	01/05/19 09:30
180-85447-38	ASB pH 10.5	Water	01/16/19 09:05	01/05/19 09:30
180-85447-40	ASB pH 8.0	Water	01/16/19 09:05	01/05/19 09:30
180-85447-41	ASB pH 7.0	Water	01/16/19 09:05	01/05/19 09:30
180-85447-42	ASB pH 5.5	Water	01/18/19 09:20	01/05/19 09:30
180-85447-45	ASB pH NATURAL	Water	01/16/19 09:05	01/05/19 09:30
180-85447-46	MB LOW	Water	01/18/19 09:20	01/05/19 09:30
180-85447-47	MB NATURAL	Water	01/16/19 09:05	01/05/19 09:30
180-85447-48	MB HIGH	Water	01/16/19 09:05	01/05/19 09:30
180-85447-50	MB LOW 1	Water	01/23/19 07:40	01/05/19 09:30
180-85447-51	MB LOW 2	Solid	01/31/19 00:00	01/05/19 09:30
180-85447-52	MB LOW 2	Water	02/07/19 07:30	01/05/19 09:30

Method Summary

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

TestAmerica Job ID: 180-85447-2

Method	Method Description	Protocol	Laboratory
EPA 9040C	pH	SW846	TAL PIT
SM 2510B	Conductivity, Specific Conductance	SM	TAL PIT
SM 2580B	Reduction-Oxidation (REDOX) Potential	SM	TAL PIT
901.1	Radium-226 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
1313	Liquid-Solid Partitioning as a Function of pH via Parallel Batch	SW846	TAL PIT
Fill_Geo-21	Fill Geometry, 21-Day In-Growth	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Client Sample ID: ABB pH 2.0

Lab Sample ID: 180-85447-10

Date Collected: 01/04/19 11:10

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			95 g	935.4 mL	270898	02/18/19 09:15	MTW	TAL PIT
Leach	Analysis	EPA 9040C		1			270930	02/20/19 09:15	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	270898	02/18/19 09:15	MTW	TAL PIT
Leach	Analysis	SM 2510B		1			270933	02/20/19 09:15	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			95 g	935.4 mL	270898	02/18/19 09:15	MTW	TAL PIT
Leach	Analysis	SM 2580B		1			270932	02/20/19 09:15	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ABB pH 13.0

Lab Sample ID: 180-85447-26

Date Collected: 01/16/19 09:05

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			249.96 mL	1.0 g	411366	01/21/19 08:18	JLC	TAL SL
Total/NA	Analysis	903.0		1			414506	02/12/19 05:41	KLS	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			249.96 mL	1.0 g	411374	01/21/19 09:34	JLC	TAL SL
Total/NA	Analysis	904.0		1			413455	02/04/19 16:14	KLS	TAL SL
	Instrument ID: GFPCPURPLE									

Client Sample ID: ABB pH 12.0

Lab Sample ID: 180-85447-27

Date Collected: 01/16/19 09:05

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			249.91 mL	1.0 g	411366	01/21/19 08:18	JLC	TAL SL
Total/NA	Analysis	903.0		1			414506	02/12/19 05:42	KLS	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			249.91 mL	1.0 g	411374	01/21/19 09:34	JLC	TAL SL
Total/NA	Analysis	904.0		1			413455	02/04/19 16:14	KLS	TAL SL
	Instrument ID: GFPCPURPLE									

Client Sample ID: ABB pH 10.5

Lab Sample ID: 180-85447-28

Date Collected: 01/18/19 09:20

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			292.54 mL	1.0 g	411711	01/22/19 13:04	CLP	TAL SL
Total/NA	Analysis	903.0		1			414693	02/13/19 05:51	KLS	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			292.54 mL	1.0 g	411716	01/22/19 14:01	CLP	TAL SL

Client Sample ID: ABB pH 10.5

Date Collected: 01/18/19 09:20
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-28
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	904.0		1			413722	02/05/19 15:57	CDR	TAL SL
	Instrument ID: GFPCORANGE									

Client Sample ID: ABB pH 8.0

Date Collected: 01/16/19 09:05
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			556.67 mL	1.0 g	411366	01/21/19 08:18	JLC	TAL SL
Total/NA	Analysis	903.0		1			414506	02/12/19 05:42	KLS	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			556.67 mL	1.0 g	411374	01/21/19 09:34	JLC	TAL SL
Total/NA	Analysis	904.0		1			413455	02/04/19 16:14	KLS	TAL SL
	Instrument ID: GFPCPURPLE									

Client Sample ID: ABB pH 7.0

Date Collected: 01/16/19 09:05
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-31
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			550.54 mL	1.0 g	411366	01/21/19 08:18	JLC	TAL SL
Total/NA	Analysis	903.0		1			414506	02/12/19 05:42	KLS	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			550.54 mL	1.0 g	411374	01/21/19 09:34	JLC	TAL SL
Total/NA	Analysis	904.0		1			413455	02/04/19 16:15	KLS	TAL SL
	Instrument ID: GFPCPURPLE									

Client Sample ID: ABB pH 5.5

Date Collected: 01/18/19 09:20
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-32
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			582.99 mL	1.0 g	411711	01/22/19 13:04	CLP	TAL SL
Total/NA	Analysis	903.0		1			414693	02/13/19 05:51	KLS	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			582.99 mL	1.0 g	411716	01/22/19 14:01	CLP	TAL SL
Total/NA	Analysis	904.0		1			413722	02/05/19 15:57	CDR	TAL SL
	Instrument ID: GFPCORANGE									

Lab Chronicle

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

TestAmerica Job ID: 180-85447-2

Client Sample ID: ABB pH 4.0

Lab Sample ID: 180-85447-33

Date Collected: 01/18/19 09:20
Matrix: Water
Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			587.67 mL	1.0 g	411711	01/22/19 13:04	CLP	TAL SL
Total/NA	Analysis	903.0		1			414693	02/13/19 05:51	KLS	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			587.67 mL	1.0 g	411716	01/22/19 14:01	CLP	TAL SL
Total/NA	Analysis	904.0		1			413722	02/05/19 15:57	CDR	TAL SL
	Instrument ID: GFPCORANGE									

Client Sample ID: ABB pH 2.0

Lab Sample ID: 180-85447-34

Date Collected: 02/07/19 07:30
Matrix: Water
Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Fill_Geo-21			500 mL	1.0 g	417071	02/27/19 15:04	KRS	TAL SL
Total/NA	Analysis	901.1		1			420133	03/20/19 10:34	KLS	TAL SL
	Instrument ID: GAMMAVISION									

Client Sample ID: ABB pH NATURAL

Lab Sample ID: 180-85447-35

Date Collected: 01/16/19 09:05
Matrix: Water
Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			549.43 mL	1.0 g	411366	01/21/19 08:18	JLC	TAL SL
Total/NA	Analysis	903.0		1			414506	02/12/19 05:42	KLS	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			549.43 mL	1.0 g	411374	01/21/19 09:34	JLC	TAL SL
Total/NA	Analysis	904.0		1			413455	02/04/19 16:15	KLS	TAL SL
	Instrument ID: GFPCPURPLE									

Client Sample ID: ASB pH 13.0

Lab Sample ID: 180-85447-36

Date Collected: 01/16/19 09:05
Matrix: Water
Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			563.20 mL	1.0 g	411366	01/21/19 08:18	JLC	TAL SL
Total/NA	Analysis	903.0		1			414506	02/12/19 05:42	KLS	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			563.20 mL	1.0 g	411374	01/21/19 09:34	JLC	TAL SL
Total/NA	Analysis	904.0		1			413455	02/04/19 16:15	KLS	TAL SL
	Instrument ID: GFPCPURPLE									

Client Sample ID: ASB pH 12.0

Lab Sample ID: 180-85447-37

Date Collected: 01/16/19 09:05

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			571.25 mL	1.0 g	411366	01/21/19 08:18	JLC	TAL SL
Total/NA	Analysis	903.0		1			414506	02/12/19 05:42	KLS	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			571.25 mL	1.0 g	411374	01/21/19 09:34	JLC	TAL SL
Total/NA	Analysis	904.0		1			413455	02/04/19 16:15	KLS	TAL SL
	Instrument ID: GFPCPURPLE									

Client Sample ID: ASB pH 10.5

Lab Sample ID: 180-85447-38

Date Collected: 01/16/19 09:05

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			547.60 mL	1.0 g	411366	01/21/19 08:18	JLC	TAL SL
Total/NA	Analysis	903.0		1			414506	02/12/19 05:42	KLS	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			547.60 mL	1.0 g	411374	01/21/19 09:34	JLC	TAL SL
Total/NA	Analysis	904.0		1			413455	02/04/19 16:15	KLS	TAL SL
	Instrument ID: GFPCPURPLE									

Client Sample ID: ASB pH 8.0

Lab Sample ID: 180-85447-40

Date Collected: 01/16/19 09:05

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			558.12 mL	1.0 g	411366	01/21/19 08:18	JLC	TAL SL
Total/NA	Analysis	903.0		1			414506	02/12/19 05:42	KLS	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			558.12 mL	1.0 g	411374	01/21/19 09:34	JLC	TAL SL
Total/NA	Analysis	904.0		1			413455	02/04/19 16:15	KLS	TAL SL
	Instrument ID: GFPCPURPLE									

Client Sample ID: ASB pH 7.0

Lab Sample ID: 180-85447-41

Date Collected: 01/16/19 09:05

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			565.90 mL	1.0 g	411366	01/21/19 08:18	JLC	TAL SL
Total/NA	Analysis	903.0		1			414507	02/12/19 05:44	KLS	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			565.90 mL	1.0 g	411374	01/21/19 09:34	JLC	TAL SL
Total/NA	Analysis	904.0		1			413455	02/04/19 16:15	KLS	TAL SL
	Instrument ID: GFPCPURPLE									

Client Sample ID: ASB pH 5.5

Lab Sample ID: 180-85447-42

Date Collected: 01/18/19 09:20

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			582.05 mL	1.0 g	411711	01/22/19 13:04	CLP	TAL SL
Total/NA	Analysis	903.0		1			414693	02/13/19 05:51	KLS	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			582.05 mL	1.0 g	411716	01/22/19 14:01	CLP	TAL SL
Total/NA	Analysis	904.0		1			413722	02/05/19 15:57	CDR	TAL SL
	Instrument ID: GFPCORANGE									

Client Sample ID: ASB pH NATURAL

Lab Sample ID: 180-85447-45

Date Collected: 01/16/19 09:05

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			548.67 mL	1.0 g	411366	01/21/19 08:18	JLC	TAL SL
Total/NA	Analysis	903.0		1			414507	02/12/19 05:44	KLS	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			548.67 mL	1.0 g	411374	01/21/19 09:34	JLC	TAL SL
Total/NA	Analysis	904.0		1			413455	02/04/19 16:15	KLS	TAL SL
	Instrument ID: GFPCPURPLE									

Client Sample ID: MB LOW

Lab Sample ID: 180-85447-46

Date Collected: 01/18/19 09:20

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			557.25 mL	1.0 g	411711	01/22/19 13:04	CLP	TAL SL
Total/NA	Analysis	903.0		1			414693	02/13/19 05:51	KLS	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			557.25 mL	1.0 g	411716	01/22/19 14:01	CLP	TAL SL
Total/NA	Analysis	904.0		1			413722	02/05/19 15:57	CDR	TAL SL
	Instrument ID: GFPCORANGE									

Client Sample ID: MB NATURAL

Lab Sample ID: 180-85447-47

Date Collected: 01/16/19 09:05

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			561.92 mL	1.0 g	411366	01/21/19 08:18	JLC	TAL SL
Total/NA	Analysis	903.0		1			414507	02/12/19 05:44	KLS	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			561.92 mL	1.0 g	411374	01/21/19 09:34	JLC	TAL SL
Total/NA	Analysis	904.0		1			413455	02/04/19 16:15	KLS	TAL SL
	Instrument ID: GFPCPURPLE									

Client Sample ID: MB HIGH

Lab Sample ID: 180-85447-48

Date Collected: 01/16/19 09:05

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			569.08 mL	1.0 g	411366	01/21/19 08:18	JLC	TAL SL
Total/NA	Analysis	903.0		1			414507	02/12/19 05:44	KLS	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			569.08 mL	1.0 g	411374	01/21/19 09:34	JLC	TAL SL
Total/NA	Analysis	904.0		1			413455	02/04/19 16:16	KLS	TAL SL
	Instrument ID: GFPCPURPLE									

Client Sample ID: MB LOW 1

Lab Sample ID: 180-85447-50

Date Collected: 01/23/19 07:40

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			575.94 mL	1.0 g	412109	01/25/19 08:41	HET	TAL SL
Total/NA	Analysis	903.0		1			415289	02/18/19 06:02	CDR	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			575.94 mL	1.0 g	412125	01/25/19 10:48	HET	TAL SL
Total/NA	Analysis	904.0		1			413930	02/07/19 15:47	CDR	TAL SL
	Instrument ID: GFPCPURPLE									

Client Sample ID: MB LOW 2

Lab Sample ID: 180-85447-51

Date Collected: 01/31/19 00:00

Matrix: Solid

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			1.0 g	950 mL	270898	02/18/19 09:15	MTW	TAL PIT
Leach	Analysis	EPA 9040C		1			270930	02/20/19 09:15	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			1.0 g	950 mL	270898	02/18/19 09:15	MTW	TAL PIT
Leach	Analysis	SM 2510B		1			270933	02/20/19 09:15	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			1.0 g	950 mL	270898	02/18/19 09:15	MTW	TAL PIT
Leach	Analysis	SM 2580B		1			270932	02/20/19 09:15	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MB LOW 2

Lab Sample ID: 180-85447-52

Date Collected: 02/07/19 07:30

Matrix: Water

Date Received: 01/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			606.25 mL	1.0 g	414637	02/12/19 15:24	CLP	TAL SL
Total/NA	Analysis	903.0		1			417879	03/06/19 05:43	CDR	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			606.25 mL	1.0 g	414649	02/12/19 16:59	CLP	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 180-85447-2

Client Sample ID: MB LOW 2

Date Collected: 02/07/19 07:30
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-52

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	415904	02/21/19 09:10	KLS	TAL SL
	Instrument ID: GFPCORANGE									

Laboratory References:

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

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Analyst References:

Lab: TAL PIT

Batch Type: Leach

MTW = Michael Wesoloski

Batch Type: Analysis

MTW = Michael Wesoloski

Lab: TAL SL

Batch Type: Prep

CLP = Cassandra Park

HET = Hailey Thompson

JLC = Jessica Chapman

KRS = Kurt Slama

Batch Type: Analysis

CDR = Conrad Reuscher

KLS = Kody Saulters

Client Sample ID: ABB pH 2.0

Date Collected: 01/04/19 11:10
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-10
Matrix: Solid

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	2.2		0.1	0.1	SU			02/20/19 09:15	1
Specific Conductance	78000		1.0	1.0	umhos/cm			02/20/19 09:15	1
Oxidation Reduction Potential	580		10	10	millivolts			02/20/19 09:15	1

Client Sample ID: ABB pH 13.0

Date Collected: 01/16/19 09:05
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-26
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0662	U	0.237	0.237	1.00	0.454	pCi/L	01/21/19 08:18	02/12/19 05:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.7*		*40 - 110*	*01/21/19 08:18*	*02/12/19 05:41*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.874	U G	1.18	1.18	1.00	1.97	pCi/L	01/21/19 09:34	02/04/19 16:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.7*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:14*	*1*
Y Carrier	*65.8*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:14*	*1*

Client Sample ID: ABB pH 12.0

Date Collected: 01/16/19 09:05
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-27
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0994	U	0.225	0.225	1.00	0.414	pCi/L	01/21/19 08:18	02/12/19 05:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*40 - 110*	*01/21/19 08:18*	*02/12/19 05:42*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.785	U G	1.01	1.01	1.00	1.92	pCi/L	01/21/19 09:34	02/04/19 16:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:14*	*1*
Y Carrier	*78.9*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:14*	*1*

Client Sample ID: ABB pH 10.5

Date Collected: 01/18/19 09:20
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-28
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.151	U	0.185	0.185	1.00	0.298	pCi/L	01/22/19 13:04	02/13/19 05:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.5*		*40 - 110*	*01/22/19 13:04*	*02/13/19 05:51*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.664	U G	1.05	1.05	1.00	1.78	pCi/L	01/22/19 14:01	02/05/19 15:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.5*		*40 - 110*	*01/22/19 14:01*	*02/05/19 15:57*	*1*
Y Carrier	*65.8*		*40 - 110*	*01/22/19 14:01*	*02/05/19 15:57*	*1*

Client Sample ID: ABB pH 8.0

Date Collected: 01/16/19 09:05
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-30
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.122	U	0.131	0.131	1.00	0.209	pCi/L	01/21/19 08:18	02/12/19 05:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.6*		*40 - 110*	*01/21/19 08:18*	*02/12/19 05:42*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.208	U	0.408	0.409	1.00	0.697	pCi/L	01/21/19 09:34	02/04/19 16:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.6*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:14*	*1*
Y Carrier	*83.4*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:14*	*1*

Client Sample ID: ABB pH 7.0

Date Collected: 01/16/19 09:05
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-31
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0835	U	0.104	0.104	1.00	0.171	pCi/L	01/21/19 08:18	02/12/19 05:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*01/21/19 08:18*	*02/12/19 05:42*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.255	U	0.409	0.410	1.00	0.689	pCi/L	01/21/19 09:34	02/04/19 16:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*
Y Carrier	*87.1*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*

Client Sample ID: ABB pH 5.5

Lab Sample ID: 180-85447-32
Date Collected: 01/18/19 09:20
Matrix: Water
Date Received: 01/05/19 09:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.258**		0.149	0.150	1.00	0.189	pCi/L	01/22/19 13:04	02/13/19 05:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*01/22/19 13:04*	*02/13/19 05:51*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.454	U	0.408	0.410	1.00	0.653	pCi/L	01/22/19 14:01	02/05/19 15:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*01/22/19 14:01*	*02/05/19 15:57*	*1*
Y Carrier	*81.1*		*40 - 110*	*01/22/19 14:01*	*02/05/19 15:57*	*1*

Client Sample ID: ABB pH 4.0

Lab Sample ID: 180-85447-33
Date Collected: 01/18/19 09:20
Matrix: Water
Date Received: 01/05/19 09:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.909**		0.216	0.231	1.00	0.141	pCi/L	01/22/19 13:04	02/13/19 05:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*40 - 110*	*01/22/19 13:04*	*02/13/19 05:51*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.919**		0.454	0.462	1.00	0.674	pCi/L	01/22/19 14:01	02/05/19 15:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*40 - 110*	*01/22/19 14:01*	*02/05/19 15:57*	*1*
Y Carrier	*82.2*		*40 - 110*	*01/22/19 14:01*	*02/05/19 15:57*	*1*

Client Sample ID: ABB pH 2.0

Lab Sample ID: 180-85447-34

Date Collected: 02/07/19 07:30

Matrix: Water

Date Received: 01/05/19 09:30

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**82.1**		23.3	24.7	50.0	23.5	pCi/L	02/27/19 15:04	03/20/19 10:34	1
Radium-228	**142**		27.0	30.2	50.0	31.0	pCi/L	02/27/19 15:04	03/20/19 10:34	1

Client Sample ID: ABB pH NATURAL

Lab Sample ID: 180-85447-35

Date Collected: 01/16/19 09:05

Matrix: Water

Date Received: 01/05/19 09:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.109	U	0.112	0.113	1.00	0.174	pCi/L	01/21/19 08:18	02/12/19 05:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*40 - 110*	*01/21/19 08:18*	*02/12/19 05:42*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.453	U	0.454	0.456	1.00	0.737	pCi/L	01/21/19 09:34	02/04/19 16:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*
Y Carrier	*82.6*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*

Client Sample ID: ASB pH 13.0

Lab Sample ID: 180-85447-36

Date Collected: 01/16/19 09:05

Matrix: Water

Date Received: 01/05/19 09:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0427	U	0.114	0.114	1.00	0.214	pCi/L	01/21/19 08:18	02/12/19 05:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.1*		*40 - 110*	*01/21/19 08:18*	*02/12/19 05:42*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.836**		0.546	0.551	1.00	0.835	pCi/L	01/21/19 09:34	02/04/19 16:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.1*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*
Y Carrier	*83.0*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*

Client Sample ID: ASB pH 12.0

Date Collected: 01/16/19 09:05
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-37
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00931	U	0.0834	0.0834	1.00	0.172	pCi/L	01/21/19 08:18	02/12/19 05:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.2*		*40 - 110*	*01/21/19 08:18*	*02/12/19 05:42*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0375	U	0.408	0.408	1.00	0.741	pCi/L	01/21/19 09:34	02/04/19 16:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.2*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*
Y Carrier	*83.4*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*

Client Sample ID: ASB pH 10.5

Date Collected: 01/16/19 09:05
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-38
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0538	U	0.106	0.106	1.00	0.191	pCi/L	01/21/19 08:18	02/12/19 05:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.2*		*40 - 110*	*01/21/19 08:18*	*02/12/19 05:42*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.433	U	0.336	0.339	1.00	0.703	pCi/L	01/21/19 09:34	02/04/19 16:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.2*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*
Y Carrier	*84.5*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*

Client Sample ID: ASB pH 8.0

Date Collected: 01/16/19 09:05
Date Received: 01/05/19 09:30

Lab Sample ID: 180-85447-40
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0452	U	0.0940	0.0941	1.00	0.172	pCi/L	01/21/19 08:18	02/12/19 05:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.3*		*40 - 110*	*01/21/19 08:18*	*02/12/19 05:42*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.312	U	0.371	0.372	1.00	0.612	pCi/L	01/21/19 09:34	02/04/19 16:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.3*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*
Y Carrier	*85.2*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*

Client Sample ID: ASB pH 7.0

Lab Sample ID: 180-85447-41
Date Collected: 01/16/19 09:05
Matrix: Water
Date Received: 01/05/19 09:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.282**		0.136	0.138	1.00	0.158	pCi/L	01/21/19 08:18	02/12/19 05:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*01/21/19 08:18*	*02/12/19 05:44*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.357	U	0.402	0.404	1.00	0.661	pCi/L	01/21/19 09:34	02/04/19 16:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*
Y Carrier	*86.7*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*

Client Sample ID: ASB pH 5.5

Lab Sample ID: 180-85447-42
Date Collected: 01/18/19 09:20
Matrix: Water
Date Received: 01/05/19 09:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.274**		0.173	0.175	1.00	0.224	pCi/L	01/22/19 13:04	02/13/19 05:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*65.8*		*40 - 110*	*01/22/19 13:04*	*02/13/19 05:51*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.477	U G	0.635	0.636	1.00	1.06	pCi/L	01/22/19 14:01	02/05/19 15:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*65.8*		*40 - 110*	*01/22/19 14:01*	*02/05/19 15:57*	*1*
Y Carrier	*83.0*		*40 - 110*	*01/22/19 14:01*	*02/05/19 15:57*	*1*

Client Sample ID: ASB pH NATURAL

Lab Sample ID: 180-85447-45

Date Collected: 01/16/19 09:05

Matrix: Water

Date Received: 01/05/19 09:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0153	U	0.0848	0.0848	1.00	0.185	pCi/L	01/21/19 08:18	02/12/19 05:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*01/21/19 08:18*	*02/12/19 05:44*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.240	U	0.407	0.407	1.00	0.689	pCi/L	01/21/19 09:34	02/04/19 16:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*
Y Carrier	*86.0*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*

Client Sample ID: MB LOW

Lab Sample ID: 180-85447-46

Date Collected: 01/18/19 09:20

Matrix: Water

Date Received: 01/05/19 09:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0321	U	0.0963	0.0963	1.00	0.223	pCi/L	01/22/19 13:04	02/13/19 05:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.5*		*40 - 110*	*01/22/19 13:04*	*02/13/19 05:51*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.360	U	0.545	0.546	1.00	0.916	pCi/L	01/22/19 14:01	02/05/19 15:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.5*		*40 - 110*	*01/22/19 14:01*	*02/05/19 15:57*	*1*
Y Carrier	*81.1*		*40 - 110*	*01/22/19 14:01*	*02/05/19 15:57*	*1*

Client Sample ID: MB NATURAL

Lab Sample ID: 180-85447-47

Date Collected: 01/16/19 09:05

Matrix: Water

Date Received: 01/05/19 09:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00488	U	0.0678	0.0678	1.00	0.151	pCi/L	01/21/19 08:18	02/12/19 05:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*01/21/19 08:18*	*02/12/19 05:44*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0316	U	0.340	0.340	1.00	0.613	pCi/L	01/21/19 09:34	02/04/19 16:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*
Y Carrier	*85.2*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:15*	*1*

Client Sample ID: MB HIGH

Lab Sample ID: 180-85447-48
Date Collected: 01/16/19 09:05
Matrix: Water
Date Received: 01/05/19 09:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0528	U	0.0880	0.0882	1.00	0.155	pCi/L	01/21/19 08:18	02/12/19 05:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.0*		*40 - 110*	*01/21/19 08:18*	*02/12/19 05:44*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.288	U	0.382	0.383	1.00	0.636	pCi/L	01/21/19 09:34	02/04/19 16:16	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.0*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:16*	*1*
Y Carrier	*84.1*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:16*	*1*

Client Sample ID: MB LOW 1

Lab Sample ID: 180-85447-50
Date Collected: 01/23/19 07:40
Matrix: Water
Date Received: 01/05/19 09:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0480	U	0.0696	0.0697	1.00	0.119	pCi/L	01/25/19 08:41	02/18/19 06:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*01/25/19 08:41*	*02/18/19 06:02*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.107	U	0.415	0.415	1.00	0.725	pCi/L	01/25/19 10:48	02/07/19 15:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*01/25/19 10:48*	*02/07/19 15:47*	*1*
Y Carrier	*77.8*		*40 - 110*	*01/25/19 10:48*	*02/07/19 15:47*	*1*

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

TestAmerica Job ID: 180-85447-2

Client Sample ID: MB LOW 2

Lab Sample ID: 180-85447-51
Matrix: Solid
Date Collected: 01/31/19 00:00
Date Received: 01/05/19 09:30

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	0.4		0.1	0.1	SU			02/20/19 09:15	1
Specific Conductance	100000		1.0	1.0	umhos/cm			02/20/19 09:15	1
Oxidation Reduction Potential	550		10	10	millivolts			02/20/19 09:15	1

Client Sample ID: MB LOW 2

Lab Sample ID: 180-85447-52
Matrix: Water
Date Collected: 02/07/19 07:30
Date Received: 01/05/19 09:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.000	U	0.0644	0.0644	1.00	0.139	pCi/L	02/12/19 15:24	03/06/19 05:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.5*		*40 - 110*	*02/12/19 15:24*	*03/06/19 05:43*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.545	U	0.313	0.317	1.00	0.666	pCi/L	02/12/19 16:59	02/21/19 09:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.5*		*40 - 110*	*02/12/19 16:59*	*02/21/19 09:10*	*1*
Y Carrier	*91.2*		*40 - 110*	*02/12/19 16:59*	*02/21/19 09:10*	*1*

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-270930/1
Matrix: Solid
Analysis Batch: 270930

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: 180-85447-10 DU
Matrix: Solid
Analysis Batch: 270930

Client Sample ID: ABB pH 2.0
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	2.2			2.2		SU				0.4	2

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 180-270933/2
Matrix: Solid
Analysis Batch: 270933

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			02/20/19 09:15	1

Lab Sample ID: LCS 180-270933/1
Matrix: Solid
Analysis Batch: 270933

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	86.6		umhos/cm		103	90 - 110		

Lab Sample ID: 180-85447-10 DU
Matrix: Solid
Analysis Batch: 270933

Client Sample ID: ABB pH 2.0
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Specific Conductance	78000			78200		umhos/cm				0	20

Method: SM 2580B - Reduction-Oxidation (REDOX) Potential

Lab Sample ID: LCS 180-270932/1
Matrix: Solid
Analysis Batch: 270932

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	474		millivolts		100	90 - 110		

Lab Sample ID: 180-85447-10 DU
Matrix: Solid
Analysis Batch: 270932

Client Sample ID: ABB pH 2.0
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Oxidation Reduction Potential	580			581		millivolts				0.3	20

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-417071/1-A
Matrix: Water
Analysis Batch: 420131

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 417071

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-5.956	U	19.8	19.8	50.0	33.9	pCi/L	02/27/19 15:04	03/20/19 08:19	1
Radium-228	16.40	U	15.9	16.0	50.0	19.3	pCi/L	02/27/19 15:04	03/20/19 08:19	1

Lab Sample ID: LCS 160-417071/2-A
Matrix: Water
Analysis Batch: 420132

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 417071

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	136000	130900		15100		370	pCi/L	96	90 - 111
Cesium-137	44800	43740		4380		110	pCi/L	98	90 - 111
Cobalt-60	30200	29540		2920		66.5	pCi/L	98	89 - 110

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-411366/23-A
Matrix: Water
Analysis Batch: 414507

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 411366

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.08482	U	0.115	0.115	1.00	0.193	pCi/L	01/21/19 08:18	02/12/19 05:45	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*01/21/19 08:18*	*02/12/19 05:45*	*1*

Lab Sample ID: LCS 160-411366/1-A
Matrix: Water
Analysis Batch: 414506

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411366

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	22.7	20.28		2.13	1.00	0.178	pCi/L	89	68 - 137

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*99.4*		*40 - 110*

Lab Sample ID: MB 160-411711/22-A
Matrix: Water
Analysis Batch: 414688

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 411711

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.006351	U	0.0536	0.0536	1.00	0.112	pCi/L	01/22/19 13:04	02/13/19 05:55	1

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: MB 160-411711/22-A
Matrix: Water
Analysis Batch: 414688

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 411711

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	72.0		40 - 110	01/22/19 13:04	02/13/19 05:55	1

Lab Sample ID: LCS 160-411711/1-A
Matrix: Water
Analysis Batch: 414693

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411711

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	10.82		1.16	1.00	0.108	pCi/L	95	68 - 137		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	76.1		40 - 110

Lab Sample ID: MB 160-412109/18-A
Matrix: Water
Analysis Batch: 415289

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 412109

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.004897	U	0.0405	0.0405	1.00	0.0824	pCi/L	01/25/19 08:41	02/18/19 06:05	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	109		40 - 110	01/25/19 08:41	02/18/19 06:05	1

Lab Sample ID: LCS 160-412109/1-A
Matrix: Water
Analysis Batch: 415289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 412109

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	11.37		1.16	1.00	0.0749	pCi/L	100	68 - 137		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	107		40 - 110

Lab Sample ID: MB 160-414637/18-A
Matrix: Water
Analysis Batch: 417879

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 414637

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.009030	U	0.0456	0.0456	1.00	0.0882	pCi/L	02/12/19 15:24	03/06/19 05:44	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	99.7		40 - 110	02/12/19 15:24	03/06/19 05:44	1

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-414637/1-A
Matrix: Water
Analysis Batch: 417878

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 414637

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.4	8.870		0.923	1.00	0.0740	pCi/L	78	68 - 137

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*106*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-411374/23-A
Matrix: Water
Analysis Batch: 413681

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 411374

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.6720	U	0.465	0.469	1.00	0.719	pCi/L	01/21/19 09:34	02/04/19 16:17	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:17*	*1*
Y Carrier	*86.7*		*40 - 110*	*01/21/19 09:34*	*02/04/19 16:17*	*1*

Lab Sample ID: LCS 160-411374/1-A
Matrix: Water
Analysis Batch: 413455

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411374

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	19.0	19.35		2.34	1.00	0.976	pCi/L	102	56 - 140

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*99.4*		*40 - 110*
Y Carrier	*70.3*		*40 - 110*

Lab Sample ID: MB 160-411716/22-A
Matrix: Water
Analysis Batch: 413722

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 411716

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3180	U	0.295	0.297	1.00	0.475	pCi/L	01/22/19 14:01	02/05/19 15:59	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*72.0*		*40 - 110*	*01/22/19 14:01*	*02/05/19 15:59*	*1*
Y Carrier	*85.6*		*40 - 110*	*01/22/19 14:01*	*02/05/19 15:59*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-411716/1-A
Matrix: Water
Analysis Batch: 413722

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411716

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.51	9.667		1.23	1.00	0.570	pCi/L	102	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*76.1*		*40 - 110*
Y Carrier	*73.6*		*40 - 110*

Lab Sample ID: MB 160-412125/18-A
Matrix: Water
Analysis Batch: 413930

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 412125

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.006120	U	0.174	0.174	1.00	0.316	pCi/L	01/25/19 10:48	02/07/19 15:49	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*40 - 110*	*01/25/19 10:48*	*02/07/19 15:49*	*1*
Y Carrier	*85.2*		*40 - 110*	*01/25/19 10:48*	*02/07/19 15:49*	*1*

Lab Sample ID: LCS 160-412125/1-A
Matrix: Water
Analysis Batch: 413930

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 412125

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.51	9.530		1.12	1.00	0.425	pCi/L	100	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*107*		*40 - 110*
Y Carrier	*74.0*		*40 - 110*

Lab Sample ID: MB 160-414649/18-A
Matrix: Water
Analysis Batch: 415904

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 414649

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1381	U	0.237	0.237	1.00	0.400	pCi/L	02/12/19 16:59	02/21/19 09:10	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.7*		*40 - 110*	*02/12/19 16:59*	*02/21/19 09:10*	*1*
Y Carrier	*87.9*		*40 - 110*	*02/12/19 16:59*	*02/21/19 09:10*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-414649/1-A
Matrix: Water
Analysis Batch: 415904

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 414649

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.46	7.096		0.860	1.00	0.349	pCi/L	75	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*106*		*40 - 110*
Y Carrier	*85.2*		*40 - 110*

General Chemistry

Leach Batch: 270898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-10	ABB pH 2.0	Leach	Solid	1313	
180-85447-51	MB LOW 2	Leach	Solid	1313	
180-85447-10 DU	ABB pH 2.0	Leach	Solid	1313	

Analysis Batch: 270930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-10	ABB pH 2.0	Leach	Solid	EPA 9040C	270898
180-85447-51	MB LOW 2	Leach	Solid	EPA 9040C	270898
LCS 180-270930/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	
180-85447-10 DU	ABB pH 2.0	Leach	Solid	EPA 9040C	270898

Analysis Batch: 270932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-10	ABB pH 2.0	Leach	Solid	SM 2580B	270898
180-85447-51	MB LOW 2	Leach	Solid	SM 2580B	270898
LCS 180-270932/1	Lab Control Sample	Total/NA	Solid	SM 2580B	
180-85447-10 DU	ABB pH 2.0	Leach	Solid	SM 2580B	270898

Analysis Batch: 270933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-10	ABB pH 2.0	Leach	Solid	SM 2510B	270898
180-85447-51	MB LOW 2	Leach	Solid	SM 2510B	270898
MB 180-270933/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-270933/1	Lab Control Sample	Total/NA	Solid	SM 2510B	
180-85447-10 DU	ABB pH 2.0	Leach	Solid	SM 2510B	270898

Rad

Prep Batch: 411366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-26	ABB pH 13.0	Total/NA	Water	PrecSep-21	
180-85447-27	ABB pH 12.0	Total/NA	Water	PrecSep-21	
180-85447-30	ABB pH 8.0	Total/NA	Water	PrecSep-21	
180-85447-31	ABB pH 7.0	Total/NA	Water	PrecSep-21	
180-85447-35	ABB pH NATURAL	Total/NA	Water	PrecSep-21	
180-85447-36	ASB pH 13.0	Total/NA	Water	PrecSep-21	
180-85447-37	ASB pH 12.0	Total/NA	Water	PrecSep-21	
180-85447-38	ASB pH 10.5	Total/NA	Water	PrecSep-21	
180-85447-40	ASB pH 8.0	Total/NA	Water	PrecSep-21	
180-85447-41	ASB pH 7.0	Total/NA	Water	PrecSep-21	
180-85447-45	ASB pH NATURAL	Total/NA	Water	PrecSep-21	
180-85447-47	MB NATURAL	Total/NA	Water	PrecSep-21	
180-85447-48	MB HIGH	Total/NA	Water	PrecSep-21	
MB 160-411366/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-411366/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 411374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-26	ABB pH 13.0	Total/NA	Water	PrecSep_0	
180-85447-27	ABB pH 12.0	Total/NA	Water	PrecSep_0	

Rad (Continued)

Prep Batch: 411374 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-30	ABB pH 8.0	Total/NA	Water	PrecSep_0	
180-85447-31	ABB pH 7.0	Total/NA	Water	PrecSep_0	
180-85447-35	ABB pH NATURAL	Total/NA	Water	PrecSep_0	
180-85447-36	ASB pH 13.0	Total/NA	Water	PrecSep_0	
180-85447-37	ASB pH 12.0	Total/NA	Water	PrecSep_0	
180-85447-38	ASB pH 10.5	Total/NA	Water	PrecSep_0	
180-85447-40	ASB pH 8.0	Total/NA	Water	PrecSep_0	
180-85447-41	ASB pH 7.0	Total/NA	Water	PrecSep_0	
180-85447-45	ASB pH NATURAL	Total/NA	Water	PrecSep_0	
180-85447-47	MB NATURAL	Total/NA	Water	PrecSep_0	
180-85447-48	MB HIGH	Total/NA	Water	PrecSep_0	
MB 160-411374/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-411374/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 411711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-28	ABB pH 10.5	Total/NA	Water	PrecSep-21	
180-85447-32	ABB pH 5.5	Total/NA	Water	PrecSep-21	
180-85447-33	ABB pH 4.0	Total/NA	Water	PrecSep-21	
180-85447-42	ASB pH 5.5	Total/NA	Water	PrecSep-21	
180-85447-46	MB LOW	Total/NA	Water	PrecSep-21	
MB 160-411711/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-411711/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 411716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-28	ABB pH 10.5	Total/NA	Water	PrecSep_0	
180-85447-32	ABB pH 5.5	Total/NA	Water	PrecSep_0	
180-85447-33	ABB pH 4.0	Total/NA	Water	PrecSep_0	
180-85447-42	ASB pH 5.5	Total/NA	Water	PrecSep_0	
180-85447-46	MB LOW	Total/NA	Water	PrecSep_0	
MB 160-411716/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-411716/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 412109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-50	MB LOW 1	Total/NA	Water	PrecSep-21	
MB 160-412109/18-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-412109/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 412125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-50	MB LOW 1	Total/NA	Water	PrecSep_0	
MB 160-412125/18-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-412125/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 414637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-52	MB LOW 2	Total/NA	Water	PrecSep-21	
MB 160-414637/18-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-414637/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

QC Association Summary

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

TestAmerica Job ID: 180-85447-2

Prep Batch: 414649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-52	MB LOW 2	Total/NA	Water	PrecSep_0	
MB 160-414649/18-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-414649/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 417071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-85447-34	ABB pH 2.0	Total/NA	Water	Fill_Geo-21	
MB 160-417071/1-A	Method Blank	Total/NA	Water	Fill_Geo-21	
LCS 160-417071/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-21	

Chain of Custody Record

273171

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Company Name: KPRG and Associates	Tel/Fax:	Lab Contact:	Carrier:	____ of ____ COCs
Address: 14665 W. Lisbon Rd. Ste 1A	Analysis Turnaround Time			Sampler:
City/State/Zip: Brookfield / WI / 53005	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 262-781-0475	TAT if different from Below ____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: NRG	☐ 1 week			
Site: Powerton	☐ 2 days			Job / SDG No.:
PO# 23517.0	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	LEAF Method 1313	Sample Specific Notes:
ABB	1-4-19	1110	C	S	2	N	N	X	
ASB	1-4-19	1145	C	S	2	N	N	X	

180-85447 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

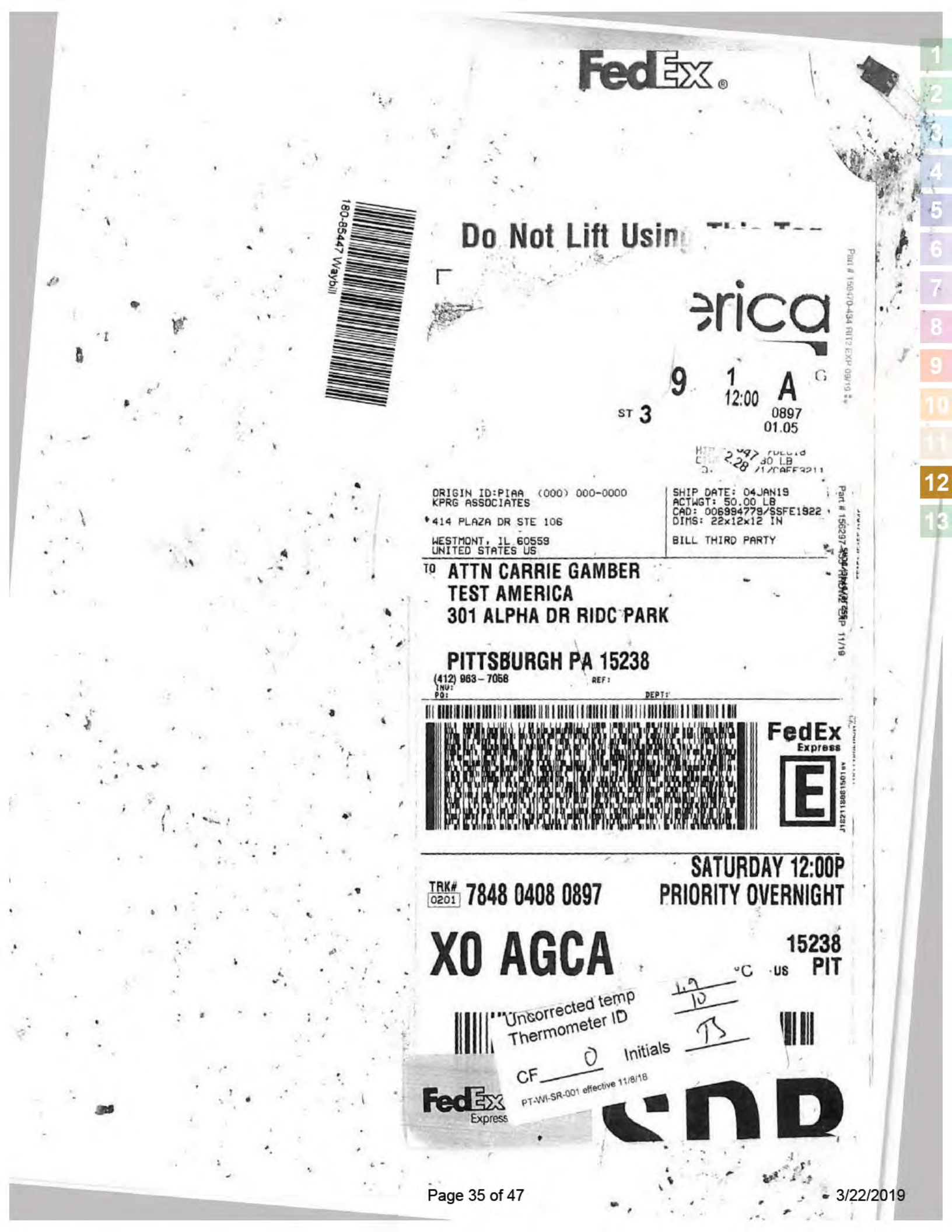
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:
CCR Appendix 4 compounds → As, Ba, Cd, Co, F, Pb, Li, Hg, Mo, Rad 226/228, Se, Tl / Sample Date is 1-4-19

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ | Therm ID No.: ____

	Company	Date/Time		Company	Date/Time
Relinquished by: Mitchel Dolan	KPRG	1-4-19 / 1400	Received by: FEDEX		1-4-19 / 1400
Relinquished by:	Company:	Date/Time:	Received by: Dulce Watson	Company: TAP++	Date/Time: 1-5-19 9:30
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

3/22/2019



FedEx

180-85447 Waybill

Do Not Lift Usin

erica

9 1 A
12:00
ST 3
0897
01.05

2.28 30 LB

ORIGIN ID:PIAA (000) 000-0000
KPRG ASSOCIATES
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 04JAN19
ACTWGT: 50.00 LB
CAD: 006994779/SSFE1822
DIMS: 22x12x12 IN
BILL THIRD PARTY

TO ATTN CARRIE GAMBER
TEST AMERICA
301 ALPHA DR RIDC PARK

PITTSBURGH PA 15238
(412) 963-7058
INV:
PO:
REF:
DEPT:

FedEx Express

TRK# 0201 7848 0408 0897

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO AGCA

15238
PIT

°C US

Uncorrected temp 4.9
Thermometer ID 10
CF 0 Initials TS

FedEx Express PT-WI-SR-001 effective 11/8/18

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-352603.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 180-85447-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/17/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Midwest Generation	Project #: 18018377			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
ABB pH 13.0 (180-85447-26)	1/16/19	09:05 Central		Water			X	X	2	
ABB pH 12.0 (180-85447-27)	1/16/19	09:05 Central		Water			X	X	2	
ABB pH 8.0 (180-85447-30)	1/16/19	09:05 Central		Water			X	X	2	
ABB pH 7.0 (180-85447-31)	1/16/19	09:05 Central		Water			X	X	2	
ABB pH NATURAL (180-85447-35)	1/16/19	09:05 Central		Water			X	X	2	
ASB pH 13.0 (180-85447-36)	1/16/19	09:05 Central		Water			X	X	2	
ASB pH 12.0 (180-85447-37)	1/16/19	09:05 Central		Water			X	X	2	
ASB pH 10.5 (180-85447-38)	1/16/19	09:05 Central		Water			X	X	2	
ASB pH 8.0 (180-85447-40)	1/16/19	09:05 Central		Water			X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	1/16/19 1700	TAL PIT	Michael Heem	1-17-19 0915	TA STL
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 09/20/2016

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-352603.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Illinois	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 180-85447-2
Address: 13715 Rider Trail North,	Due Date Requested: 1/17/2019	Analysis Requested		Preservation Codes:
City: Earth City	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: Midwest Generation	Project #: 18018377			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
ASB pH 7.0 (180-85447-41)	1/16/19	09:05 Central		Water			X	X	2	
ASB pH NATURAL (180-85447-45)	1/16/19	09:05 Central		Water			X	X	2	
MB NATURAL (180-85447-47)	1/16/19	09:05 Central		Water			X	X	2	
MB HIGH (180-85447-48)	1/16/19	09:05 Central		Water			X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/16/19 1700	TA PIT	Michael Fleem	1-17-19 0915	TA STL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 09/20/2016

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-352757.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 180-85447-2
Address: 13715 Rider Trail North,	Due Date Requested: 1/17/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Midwest Generation	Project #: 18018377			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wastefoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
ABB pH 10.5 (180-85447-28)	1/18/19	09:20 Central		Water			X	X	2	
ABB pH 5.5 (180-85447-32)	1/18/19	09:20 Central		Water			X	X	2	
ABB pH 4.0 (180-85447-33)	1/18/19	09:20 Central		Water			X	X	2	
ASB pH 5.5 (180-85447-42)	1/18/19	09:20 Central		Water			X	X	2	
MB LOW (180-85447-46)	1/18/19	09:20 Central		Water			X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:
Empty Kit Relinquished by: Date:	Time: Method of Shipment:
Relinquished by: Date/Time: 1/18/19 1200 Company	Received by: Date/Time: 1-19-19 0830 Company TASR
Relinquished by: Date/Time: Company	Received by: Date/Time: Company
Relinquished by: Date/Time: Company	Received by: Date/Time: Company
Custody Seals Intact: Δ Yes Δ No Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 09/20/2016

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

3/22/2019

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-353110.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 180-85447-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/17/2019			Preservation Codes:
City: Earth City	TAT Requested (days):			A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: Midwest Generation	Project #: 18018377			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
ASB pH 4.0 (180-85447-43)	1/23/19	07:40 Central		Water			X	X	2	
MB LOW 1 (180-85447-50)	1/23/19	07:40 Central		Water			X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	1/23/19 1700	TAPITT	Michael Hamm	1-24-19 0900	TAST
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 09/20/2016

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-354349.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 180-85447-2
Address: 13715 Rider Trail North,	Due Date Requested: 2/14/2019	**Analysis Requested**		Preservation Codes:
City: Earth City	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA; M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Midwest Generation	Project #: 18018377			
Site:	SSOW#:			Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
ABB pH 2.0 (180-85447-34)	2/7/19	07:30 Central		Water			X	X	2	
ASB pH 2.0 (180-85447-44)	2/7/19	07:30 Central		Water			X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:		Time:		Method of Shipment:	
Relinquished by: [signature]	Date/Time: 2/7/19 1700	Company: TA Pitt	Received by: [signature]	Date/Time: 2-8-19 / 0800	Company: TASL	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:			

Ver: 09/20/2016

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-354349.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 180-85447-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/11/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Midwest Generation	Project #: 18018377			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MB LOW 2 (180-85447-52)	2/7/19	07:30 Central		Water			X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 2/7/19 1700	Company TAPIT	Received by:	Date/Time: 2-9-19/0900	Company FEDEX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 09/20/2016

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3/22/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 180-85447-2

Login Number: 85447
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?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 180-85447-2

Login Number: 85447
List Number: 2
Creator: Hellm, Michael

List Source: TestAmerica St. Louis
List Creation: 01/17/19 02:44 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.7, 0.8, 0.9, 2.6, 3.0, 3.2, 18.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
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.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 180-85447-2

Login Number: 85447
List Number: 3
Creator: Hellm, Michael

List Source: TestAmerica St. Louis
List Creation: 01/19/19 01:36 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	19.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 180-85447-2

Login Number: 85447
List Number: 4
Creator: Hellm, Michael

List Source: TestAmerica St. Louis
List Creation: 01/24/19 11:38 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	False	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	17.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 180-85447-2

Login Number: 85447
List Number: 5
Creator: Press, Nicholas B

List Source: TestAmerica St. Louis
List Creation: 02/08/19 08:27 PM

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	3.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 180-85447-2

Login Number: 85447
List Number: 6
Creator: Press, Nicholas B

List Source: TestAmerica St. Louis
List Creation: 02/08/19 08:28 PM

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	3.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ATTACHMENT 3
Sanitas™ Trend Analysis Results

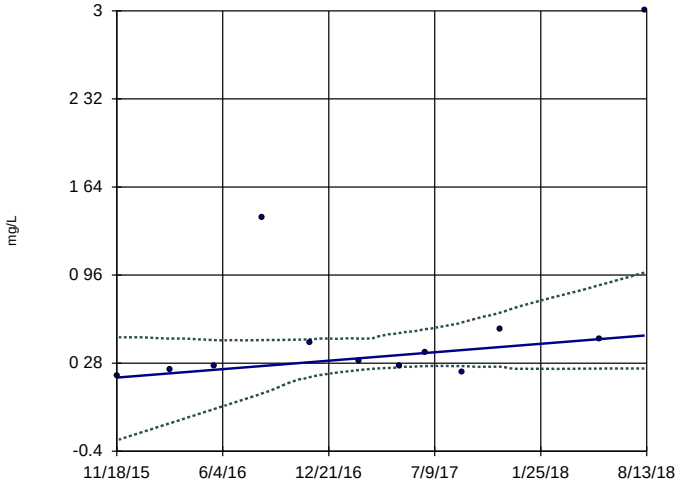
Trend Test Linear Barium MW-11

Powerton Generating Station Client: NRG Data: Powerton Printed 3/7/2019, 8:47 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Me hod
Barium (mg/L)	MW-11	0.1194	29	35	No	12	0	n/a	n/a	0.02	NP (Nor...

Sen's Slope and 95% Confidence Band

MW-11



n = 12

Slope = 0.1194 units per year.

Mann-Kendall statistic = 29 critical = 35

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because the Shapiro Wilk normality test showed the residuals to be non-normal at the 0.05 alpha level, calculated = 0.8304, critical = 0.859.

Constituent: Barium Analysis Run 3/7/2019 8:46 AM

Powerton Generating Station Client: NRG Data: Powerton

Sen's Slope Estimator

Constituent: Barium (mg/L) Analysis Run 3/7/2019 8:47 AM

Powerton Generating Station Client: NRG Data: Powerton

	MW-11
11/18/2015	0.18
2/26/2016	0.23
5/20/2016	0.26
8/17/2016	1.4
11/17/2016	0.44
2/16/2017	0.3
5/3/2017	0.26
6/22/2017	0.36
8/29/2017	0.21
11/9/2017	0.54
5/16/2018	0.47
8/9/2018	3

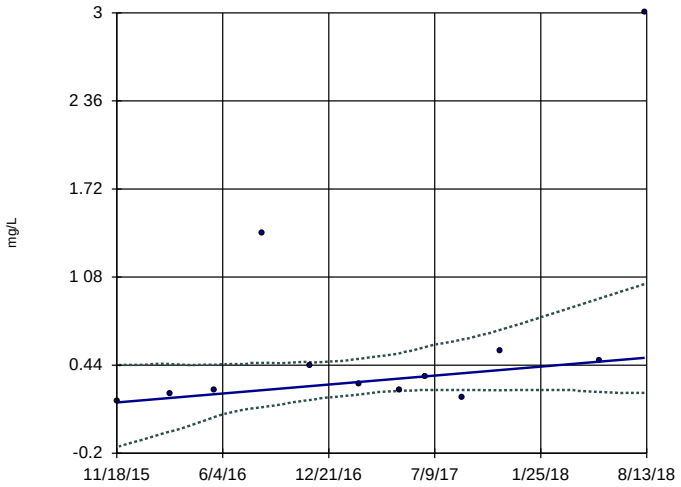
Trend Test Sens Slope Barium MW-11

Powerton Generating Station Client: NRG Data: Powerton Printed 3/7/2019, 8:51 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Me hod
Barium (mg/L)	MW-11	0.1194	29	35	No	12	0	n/a	n/a	0.02	NP (Nor...

Sen's Slope and 95% Confidence Band

MW-11



n = 12

Slope = 0.1194 units per year.

Mann-Kendall statistic = 29 critical = 35

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because the Shapiro Wilk normality test showed the residuals to be non-normal at the 0.05 alpha level, calculated = 0.8304, critical = 0.859.

Constituent: Barium Analysis Run 3/7/2019 8:49 AM

Powerton Generating Station Client: NRG Data: Powerton

Sen's Slope Estimator

Constituent: Barium (mg/L) Analysis Run 3/7/2019 8:51 AM

Powerton Generating Station Client: NRG Data: Powerton

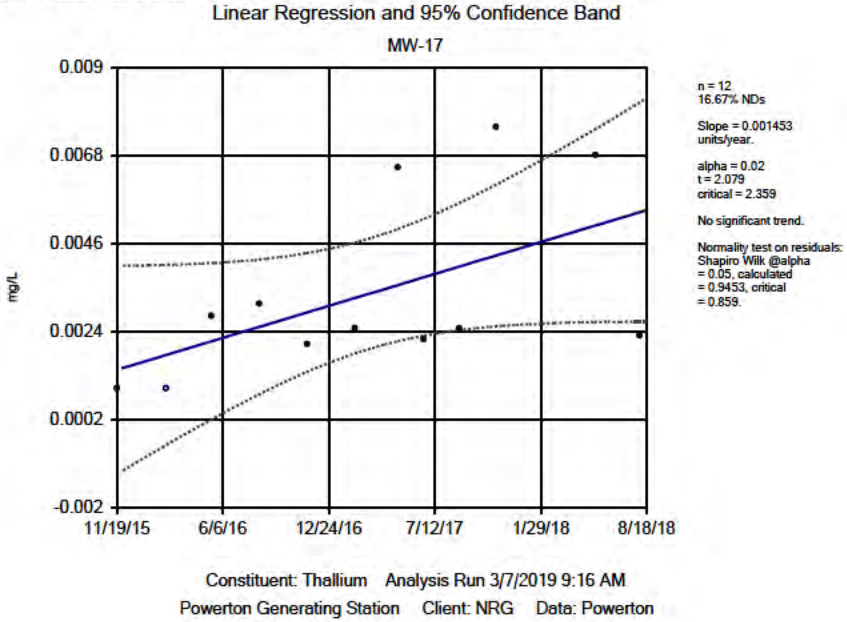
	MW-11
11/18/2015	0.18
2/26/2016	0.23
5/20/2016	0.26
8/17/2016	1.4
11/17/2016	0.44
2/16/2017	0.3
5/3/2017	0.26
6/22/2017	0.36
8/29/2017	0.21
11/9/2017	0.54
5/16/2018	0.47
8/9/2018	3

Trend Test Linear Thallium MW-17

Powerton Generating Station Client: NRG Data: Powerton Printed 3/7/2019, 9:17 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Me hod
Thallium (mg/L)	MW-17	0.001453	2.079	2.359	No	12	16.67	Yes	no	0.02	Param.

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG
Hollow symbols indicate censored values.



Linear Regression

Constituent: Thallium (mg/L) Analysis Run 3/7/2019 9:17 AM

Powerton Generating Station Client: NRG Data: Powerton

	MW-17
11/19/2015	<0.002
2/22/2016	<0.002
5/18/2016	0.0028
8/15/2016	0.0031
11/14/2016	0.0021
2/13/2017	0.0025
5/4/2017	0.0065
6/22/2017	0.0022
8/29/2017	0.0025
11/6/2017	0.0075
5/14/2018	0.0068
8/6/2018	0.0023

Trend Test Sens Slope Thallium MW-17

Powerton Generating Station Client: NRG Data: Powerton Printed 3/7/2019, 9:19 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Me hod
Thallium (mg/L)	MW-17	0.001162	26	35	No	12	16.67	n/a	n/a	0.02	NP

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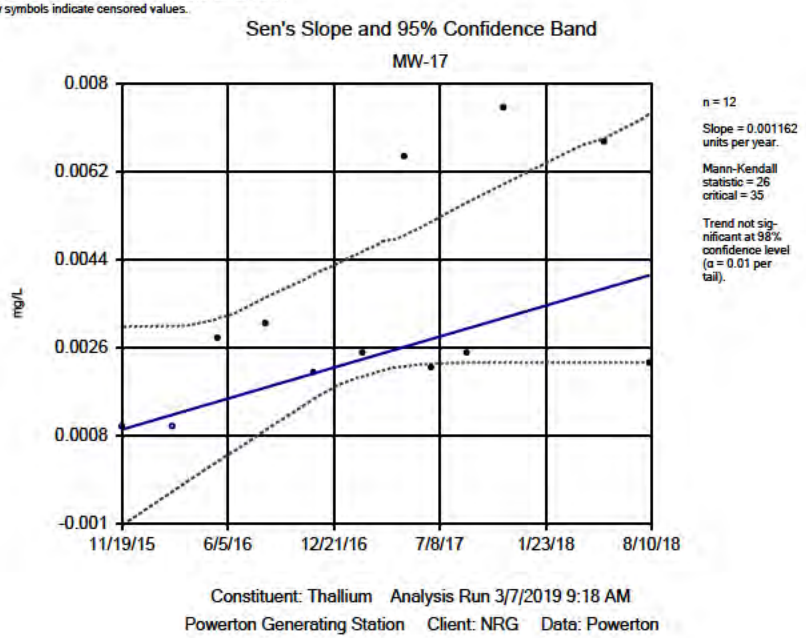
Hollow symbols indicate censored values.



Constituent: Thallium Analysis Run 3/7/2019 9:18 AM
Powerton Generating Station Client: NRG Data: Powerton

Sen's Slope Estimator

Constituent: Thallium (mg/L) Analysis Run 3/7/2019 9:19 AM

Powerton Generating Station Client: NRG Data: Powerton

	MW-17
11/19/2015	<0.002
2/22/2016	<0.002
5/18/2016	0.0028
8/15/2016	0.0031
11/14/2016	0.0021
2/13/2017	0.0025
5/4/2017	0.0065
6/22/2017	0.0022
8/29/2017	0.0025
11/6/2017	0.0075
5/14/2018	0.0068
8/6/2018	0.0023

CERTIFICATE OF SERVICE

The undersigned, Faith E. Bugel, an attorney, certifies that I have served by email the Clerk and by email the individuals with email addresses named on the Service List provided on the Board's website, available at https://pcb.illinois.gov/Cases/GetCaseDetailsById?caseId=16858, true and correct copies of the public comment, **CCR Compliance Annual Groundwater Monitoring and Corrective Action Report — 2019 for Powerton** before 5 p.m. Central Time on October 14, 2020. The number of pages in the email transmission is 406 pages.

Respectfully Submitted,

/s/ Faith E. Bugel

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Attorney for Sierra Club

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