K P R G

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

CCR COMPLIANCE
ANNUAL GROUNDWATER MONITORING and CORRECTIVE ACTION REPORT - 2020

Midwest Generation, LLC
Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

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

January 31, 2021

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

OVERVIEW

Groundwater monitoring requirements in accordance with the Federal Register, Environmental Protection Agency, 40 CFR Parts 257.94, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule dated April 17, 2015 (CCR Rule) and subsequent amendments, have been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Joliet #29 Generating Station. The wells sampled were selected to meet the monitoring requirements of the CCR Rule for Ash Pond 2. The monitoring well network around this pond consists of four monitoring wells (MW-3, MW-4, MW-5 and MW-10 [upgradient]) as shown on Figure 1.

This overview of the 2020 groundwater monitoring period is provided in accordance with revised requirements under Section 257.90(e)(6). Each required item is discussed separately below.

- Section 257.90(e)(6)(i) – At the start of the current monitoring period, the subject CCR unit was operating under the detection monitoring program outlined in Section 257.94.

- Section 257.90(e)(6)(ii) – At the end of the current monitoring period, the subject CCR unit is continuing to operate under the detection monitoring program outlined in Section 257.94.

- Section 257.90(e)(6)(iii) – There were no confirmed statistically significant increases (SSIs) above established background for the Appendix III detection monitoring constituents recorded during this monitoring period.

- Section 257.90(e)(6)(iv) – The subject site is not in assessment monitoring.

- Section 257.90(e)(6)(v) – The subject unit is not under corrective action.

- Section 257.90(e)(6)(vi) – The subject unit is not under corrective action.

1.0 INTRODUCTION

The Detection Monitoring requirements in accordance with the Federal Register, Environmental Protection Agency, 40 CFR Parts 257.94, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule dated April 17, 2015 (CCR Rule) and subsequent amendments have been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Joliet #29 Generating Station. The wells sampled were selected to meet the monitoring requirements of the CCR Rule for Ash Pond 2 which is in the process of having the ash removed and cleaned out. The monitoring well network around this pond consists of four monitoring wells (MW-3, MW-4, MW-5 and MW-10 [upgradient]) as shown on Figure 1.

This fourth annual report covers the work performed relative to CCR groundwater monitoring for the 2020 calendar year. It does not duplicate information or activities reported in previous years. It is prepared in accordance with Section 257.90(e)(1-6) and summarizes the sampling procedures used, provides an evaluation of groundwater flow conditions, summarizes the analytical data generated and provides a discussion of the statistical evaluations completed as a basis for determining the appropriate next phase of compliance activities.

2.0 FIELD PROCEDURES AND GROUNDWATER FLOW EVALUATION

2.1 Field Procedures

As previously noted, the CCR groundwater monitoring network for Ash Pond 2 consists of four wells (MW-3, MW-4, MW-5 and MW-10) as shown on Figure 1. As part of sampling procedures, the integrity of all monitoring wells was inspected and water levels were obtained using an electronic water level meter (see summary of water level discussion below). During all sampling events, the wells were found in good condition with locked protector casings, and the concrete surface seals were intact.

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

2.2 Groundwater Flow Evaluation

Water level data measurements were obtained from each well during each round of groundwater monitoring. A complete round of water levels was collected prior to initiating sampling, and the water level data are summarized in Table 1. The water levels were used to generate a groundwater flow map for each sampling event. These maps are provided as Figures 2 and 3. A review of the maps indicates a consistent generally southerly groundwater flow direction and a fairly shallow horizontal hydraulic gradient. In accordance with general groundwater sampling requirements under Section 257.93(c), Table 2 provides a summary of the flow direction and an estimated rate of groundwater flow for each sampling event. The flow rate was calculated using the following equation:

$$V_s = \frac{K\,dh}{n_e\,dl}$$, where

V_s is seepage velocity (distance/time)
K is hydraulic conductivity (distance/time)
dh/dl is hydraulic gradient (unitless)
n_e is effective porosity (unitless)

The average hydraulic conductivity of 3.896×10^{-3} ft/sec used in Table 2 was obtained from the Hydrogeologic Assessment Report dated February 2011 and prepared by Patrick Engineering. The estimated effective porosity of the aquifer materials (0.35) was obtained from literature (Applied Hydrogeology, Fetter, 1980).

3.0 ANALYTICAL DATA AND STATUS OF EVALUATIONS

3.1 Sampling Summary

The groundwater sampling summary from 2020 is provided in Table 3, in accordance with 257.90 (e)(3).

3.2 Data Summary

The analytical data from the detection monitoring groundwater samples for Appendix III parameters are provided in Table 4. Semi-annual groundwater sampling was completed for Appendix III in 2020 in accordance with detection monitoring requirements under Section 257.94. The tables include the sample dates and whether the specific well is considered upgradient or downgradient relative to groundwater flow and the regulated unit. For each monitoring event (May and October 2020) a duplicate sample was collected from monitoring well MW-5. All duplicate values were within an acceptable range. It is noted that in the October 2020 sampling, selenium was detected just above the reporting limit in the investigative sample but was not detected in the duplicate. The analytical data packages from the detection monitoring events are provided in Appendix A. Groundwater sampling for Appendix IV was not performed in 2020 since this facility is in detection monitoring.

Confirmatory resampling in accordance with CCR Compliance Statistical Approach for Groundwater Data Evaluation for Joliet #29 Station dated October 10, 2017 were limited to any potential statistically significant increases (SSI) for specific parameters at specific wells. 2nd Quarter data indicated total Dissolved Solids (TDS) and boron above their respective calculated Prediction Limits (PLs) at wells MW-4 and MW-10, and TDS above its respective calculated PL at well MW-3. Confirmatory resampling indicated that analytical results were below the PLs for each resampled well and therefore there were no confirmed SSIs.

3.3. Current Status

Ash Pond 2 is, and continues to be, in detection monitoring, and there has been no transition between monitoring programs in 2020 since no confirmed SSIs were recorded.

4.0 SUMMARY/CONCLUSIONS AND RECOMMENDATIONS

The detection monitoring requirements in accordance with the CCR Rule have been successfully met. While in detection monitoring, Ash Pond 2 analytical results were below the calculated PLs. Groundwater monitoring wells that had analytical results from initial sampling that showed parameters above the PLs were resampled to minimize potential for a false positive. All monitoring wells that were resampled showed analytical results below the PLs. Therefore, it is recommended that the site continue with routine detection monitoring at this time in accordance with Section 257.94. The next round of CCR detection monitoring groundwater sampling is scheduled for 2nd Quarter of 2021.

5.0 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.

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

- KPRG and Associates, Inc., CCR Compliance Monitoring, Sampling and Analysis Plan, Midwest Generation, LLC Joliet #29 Generating Station. October 10, 2017.

- KPRG and Associates, Inc., CCR Compliance Statistical Approach for Groundwater Data Evaluation, Midwest Generation, LLC Joliet #29 Generating Station. October 10, 2017.

- KPRG and Associates, Inc., CCR Groundwater Monitoring Statistical Evaluation Summary - 2017, Midwest Generation, LLC Joliet #29 Generating Station. January 12, 2018.

- KPRG and Associates, Inc., CCR Annual Groundwater Monitoring and Corrective Action Report - 2017, Midwest Generation, LLC Joliet #29 Generating Station. January 31, 2018.

- KPRG and Associates, Inc., CCR Annual Groundwater Monitoring and Corrective Action Report - 2018, Midwest Generation, LLC Joliet #29 Generating Station. January 31, 2019.

- KPRG and Associates, Inc., CCR Annual Groundwater Monitoring and Corrective Action Report - 2019, Midwest Generation, LLC Joliet #29 Generating Station. January 31, 2020.

- Patrick Engineering, Inc., Hydrogeologic Assessment Report – Joliet Generating Station No. 29, Joliet, IL. February 2011.

FIGURES

0 100'
APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, inc.

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

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

CCR MONITORING WELLS SITE MAP

JOLIET #29 GENERATING STATION
JOLIET, ILLINOIS

Scale: 1" = 100' | Date: December 27, 2017

KPRG Project No. 12313.0 | FIGURE 1

W:\projects\midwest generation attorney-client privilege\gw evaluations\joliet #29 map.dwg

LEGEND:

506 GROUNDWATER CONTOUR LINE

GROUNDWATER FLOW LINE

MW-06 NON-CCR MONITORING WELL

NOTES:
BACKGROUND MAP RETRIEVED FROM GOOGLE MAPS 2013

0 128'
APPROXIMATE SCALE

ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G KPRG and Associates, inc.

14665 West Lisbon Road, Suite 1A Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

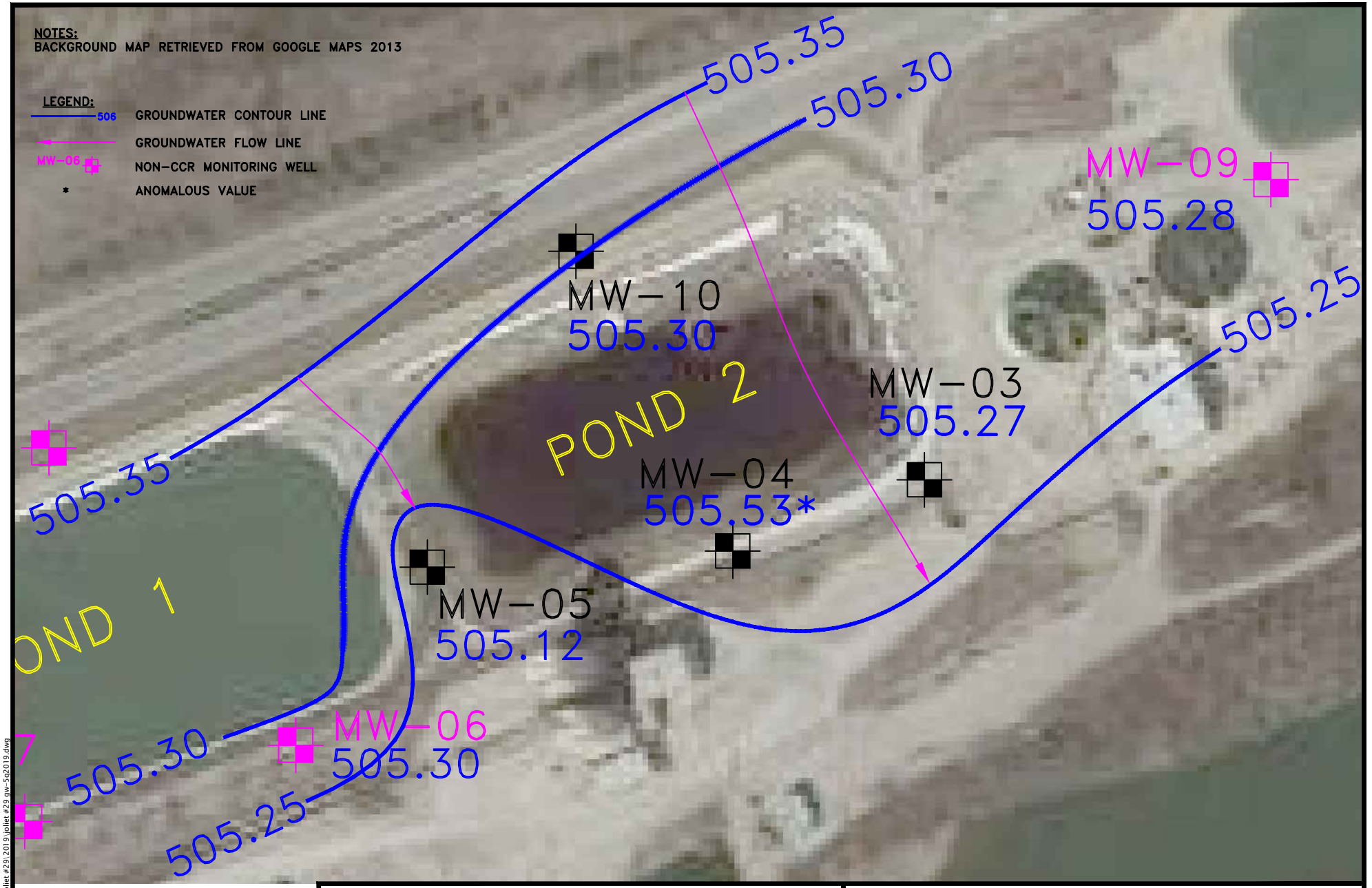
414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

CCR GROUNDWATER CONTOUR 5/20

JOLIET #29 GENERATING STATION
JOLIET, ILLINOIS

Scale: 1" = 128' | Date: June 23, 2020

KPRG Project No. 12313.0 | FIGURE 2



0 128'
APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 1A Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

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

CCR GROUNDWATER CONTOUR MAP 10/2020

JOLIET #29 GENERATING STATION
JOLIET, ILLINOIS

Scale: 1" = 128' | Date: January 4, 2021

KPRG Project No. 12313.0 | FIGURE 3

W:\projects\midwest generation\12313\figures\joliet #29\2019\joliet #29 gw-5q2019.dwg

TABLES

Table 1. Groundwater Elevations - Midwest Generation, LLC, Joliet Station #29, Joliet, IL

Well ID	Date	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
MW-03	10/27/15	538.78	33.87	504.91
	02/09/16	538.79	33.17	505.62
	05/10/16	538.79	32.82	505.97
	08/30/16	538.79	31.88	506.91
	11/01/16	538.79	32.88	505.91
	02/06/17	538.79	33.25	505.54
	04/25/17	538.79	33.06	505.73
	06/14/17	538.79	33.74	505.05
	08/01/17	538.79	32.36	506.43
	10/18/17	538.79	30.03	508.76
	04/24/18	538.79	32.83	505.96
	10/16/18	538.79	32.58	506.21
	05/06/19	538.79	29.59	509.20
	11/06/19	538.79	33.38	505.41
	05/20/20	538.79	27.13	511.66
	10/21/20	538.79	33.52	505.27
MW-04	10/27/15	539.03	34.05	504.98
	02/09/16	539.01	33.42	505.59
	05/10/16	539.01	33.07	505.94
	08/30/16	539.01	32.08	506.93
	11/01/16	539.01	33.16	505.85
	02/06/17	539.01	33.51	505.50
	04/25/17	539.01	33.29	505.72
	06/14/17	539.01	33.99	505.02
	08/01/17	539.01	32.09	506.92
	10/18/17	539.01	30.28	508.73
	04/24/18	539.01	33.10	505.91
	10/16/18	539.01	32.85	506.16
	05/06/19	539.01	29.83	509.18
	11/06/19	539.01	31.65	507.36
	05/20/20	539.01	27.40	511.61
	10/21/20	539.01	33.48	505.53
MW-05	10/27/15	539.69	34.91	504.78
	02/09/16	539.64	34.18	505.46
	05/10/16	539.64	33.81	505.83
	08/30/16	539.64	32.82	506.82
	11/01/16	539.64	33.90	505.74
	02/06/17	539.64	34.23	505.41
	04/25/17	539.64	34.04	505.60
	06/14/17	539.64	34.74	504.90
	08/01/17	539.64	33.12	506.52
	10/18/17	539.64	31.03	508.61
	04/24/18	539.64	33.79	505.85
	10/16/18	539.64	33.61	506.03
	05/06/19	539.64	30.55	509.09
	11/06/19	539.64	32.40	507.24
	05/20/20	539.64	28.16	511.48
	05/20/20	539.64	34.52	505.12
MW-10	10/27/15	540.03	35.10	504.93
	02/09/16	540.02	34.32	505.70
	05/10/16	540.02	34.02	506.00
	08/30/16	540.02	32.97	507.05
	11/01/16	540.02	34.04	505.98
	02/06/17	540.02	34.42	505.60
	04/25/17	540.02	34.22	505.80
	06/14/17	540.02	34.91	505.11
	08/01/17	540.02	33.18	506.84
	10/18/17	540.02	31.13	508.89
	04/24/18	540.02	33.97	506.05
	10/16/18	540.02	33.73	506.29
	05/06/19	540.02	30.58	509.44
	11/06/19	540.02	32.42	507.60
	05/20/20	540.02	28.09	511.93
	10/21/20	540.02	34.72	505.30

MSL - Mean Sea Level
TOC - Top of Casing

Table 2. Groundwater Flow Direction and Estimated Seepage Velocity/Flow Rate - Joliet #29 Generation Station.

DATE	Groundwater Flow Direction	K_{avg} (ft/sec)*	Average Hydraulic Gradient (ft/ft)	Porosity (unitless)**	Estimated Seepage Velocity (ft/day)
10/28/2015	Southerly (SSW-SSE)	3.896E-03	0.0003	0.35	0.26
2/10/2016	Southerly (SSW-SSE)	3.896E-03	0.0007	0.35	0.63
5/12/2016	Southerly (SSW-SSE)	3.896E-03	0.0004	0.35	0.34
8/31/2016	Southerly (SSW-SSE)	3.896E-03	0.0004	0.35	0.34
11/2/2016	Southerly (SSW-SSE)	3.896E-03	0.0007	0.35	0.63
2/6/2017	Southerly (SSW-SSE)	3.896E-03	0.0005	0.35	0.43
4/26/2017	Southerly (SSW-SSE)	3.896E-03	0.0006	0.35	0.58
6/14/2017	Southerly (SSW-SSE)	3.896E-03	0.0006	0.35	0.58
8/2/2017	Southerly (SSW-SSE)	3.896E-03	0.0008	0.35	0.77
10/18/2017	Southerly (SSW-SSE)	3.896E-03	0.0004	0.35	0.38
4/24/2018	Southerly (SSW-SSE)	3.896E-03	0.0008	0.35	0.77
10/16/2018	Southerly (SSW)	3.896E-03	0.00053	0.35	0.51
5/6/2019	Southerly (SSW-SSE)	3.896E-03	0.0010	0.35	0.91
11/6/2019	Southerly (SSW-SSE)	3.896E-03	0.00200	0.35	1.92
5/20/2020	Southerly (SSW-SSE)	3.896E-03	0.0043	0.35	4.16
10/21/2020	Southerly (SSW-SSE)	3.896E-03	0.00080	0.35	0.77

* K_{avg} - Average hydraulic conductivity (feet/second) from Hydrogeologic Assessment Report, Patrick Engineering, February 2011.
** - Porosity estimate from Applied Hydrogeology, Fetter, 1980.
SSW - South-southwest
SSE - South-southeast

Table 3. CCR Groundwater Sample Collection Summary for 2020 - Joliet #29 Generating Station

Well ID	Number of Groundwater Sampling Events	Dates Groundwater Sampling Events	Detection Monitoring (D) versus Assessment Monitoring (A)
MW-10 (Upgradient)	2	5/20/2020	D
		10/22/2020	D
MW-3 (Downgradient)	2	5/20/2020	D
		10/22/2020	D
MW-4 (Downgradient)	2	5/20/2020	D
		10/22/2020	D
MW-5 (Downgradient)	2	5/20/2020	D
		10/22/2020	D

Table 4. Semi-Annual Detection Monitoring Statistical Comparisons - Appendix III Groundwater Analytical Results thru 2020 - Midwest Generation, LLC, Joliet Station #29, Joliet, IL.

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-10 up-gradient	10/28/2015	0.47	100	200	0.41	7.04	84	790
	2/10/2016	0.41	100	210	0.44	7.17	120	820
	5/12/2016	0.29	100	300	0.42	7.02	110	920
	8/31/2016	0.36	89	170	0.46	6.95	100	760
	11/2/2016	0.48	100	130	0.45	6.99	95	720
	2/6/2017	0.44	120	190	0.36	6.99	88	820
	4/26/2017	0.35	120	200	0.35	7.27	87	760
	6/14/2017	0.29	91	160	0.43	7.47	75	690
	Pred. Limit*	**0.57**	**131**	**318**	**0.51**	**7.56-6.67**	**131**	**959**
	8/2/2017	0.45	97	170	0.38	7.23	110	750
	10/18/2017	**0.61**	120	140	0.41	7.11	130	820
	4/24/2018	0.4	110	260	0.39	7.28	120	910
	10/17/2018	**0.63**	120	180	0.42	7.30	110	810
	11/24/2018 R	0.44	NA	NA	NA	NA	NA	NA
	5/7/2019	0.56	130	**410**	0.39	7.17	95	**1,000**
	7/3/2019 R	NA	NA	230	NA	NA	NA	830
	11/7/2019	0.35	90	130	0.36	7.40	59	650
	5/20/2020	**0.85**	120	250	0.41	6.90	100	**960**
	6/11/2020 R	0.26	NA	NA	NA	NA	NA	770
	10/22/2020	0.34	110	230	0.41	7.11	93	850
MW-03 down-gradient	10/28/2015	0.34	110	230	0.41	7.11	110	960
	2/10/2016	0.49	100	220	0.44	7.31	130	790
	5/10/2016	0.48	95	240	0.44	7.07	130	800
	8/31/2016	0.49	100	250	0.45	7.18	120	920
	11/2/2016	0.34	87	190	0.44	7.45	94	780
	2/6/2017	0.40	97	140	0.39	7.35	77	720
	4/26/2017	0.54	100	210	0.36	7.03	120	820
	6/14/2017	0.45	88	190	0.44	7.48	75	760
	Pred. Limit	**0.57**	**131**	**316**	**0.51**	**7.56-6.67**	**130**	**956**
	8/2/2017	0.41	99	200	0.40	7.34	110	850
	10/18/2017	0.35	93	160	0.42	7.11	100	850
	4/24/2018	0.52	100	220	0.42	7.2	**150**	930
	7/31/2018 R	NA	NA	NA	NA	NA	110	NA
	10/17/2018	0.25	100	250	0.4	7.04	110	870
	5/7/2019	0.43	120	280	0.4	7.27	**140**	880
	7/3/2019 R	NA	NA	NA	NA	NA	65	NA
	11/7/2019	0.34	100	150	0.4	7.32	65	660
	5/20/2020	0.38	100	230	0.42	7.56	78	**960**
	6/11/2020 R	NA	NA	NA	NA	NA	NA	930
	10/22/2020	0.32	110	180	0.43	7.23	90	770
MW-04 down-gradient	10/28/2015	0.34	94	F1 200	0.45	7.07	83	740
	2/10/2016	0.32	97	210	0.47	7.22	140	810
	5/10/2016	0.47	100	260	0.46	6.71	150	900
	8/31/2016	0.42	100	210	0.45	7.07	120	890
	11/2/2016	0.32	98	160	0.43	7.25	83	750
	2/6/2017	0.40	110	200	0.37	7.19	98	790
	4/26/2017	0.33	100	220	0.37	7.46	89	770
	6/14/2017	0.37	92	190	0.47	7.43	80	770
	Pred. Limit	**0.57**	**131**	**316**	**0.51**	**7.56-6.67**	**130**	**956**
	8/2/2017	0.35	93	180	0.43	7.41	100	770
	10/18/2017	0.54	97	140	0.45	7.2	120	790
	4/24/2018	0.4	110	240	0.43	7.21	**160**	940
	7/31/2018 R	NA	NA	NA	NA	NA	120	NA
	10/17/2018	0.29	100	230	0.45	7.2	130	840
	5/7/2019	**0.76**	120	**340**	0.42	7.27	120	**1,000**
	7/3/2019 R	0.23	NA	250	NA	NA	NA	870
	11/6/2019	0.3	77	140	0.41	7.33	53	670
	5/20/2020	**0.79**	110	250	0.45	7.3	110	**1,100**
	6/11/2020 R	0.28	NA	NA	NA	NA	NA	850
	10/22/2020	0.33	100	190	0.48	7.15	83	770
MW-05 down-gradient	10/28/2015	0.64	100	160	0.39	7.12	120	790
	2/10/2016	0.46	110	220	0.39	7.25	120	790
	5/10/2016	0.8	150	220	0.46	6.88	290	950
	8/31/2016	1.0	140	99	0.56	6.81	260	820
	11/2/2016	0.41	98	130	0.37	7.26	100	700
	2/6/2017	0.48	150	180	0.30	7.22	120	790
	4/26/2017	0.67	110	F1 190	0.37	7.28	170	770
	6/14/2017	0.44	75	150	0.46	7.45	110	670
	Pred. Limit	**0.57**	**131**	**316**	**0.51**	**7.56-6.67**	**130**	**956**
	8/2/2017	0.28	83	170	0.35	7.30	99	770
	10/18/2017	0.42	110	110	0.38	7.16	95	720
	4/24/2018	0.31	110	300	0.34	7.33	130	**1,000**
	7/31/2018 R	NA	NA	NA	NA	NA	NA	940
	10/17/2018	0.31	110	210	0.36	7.29	93	810
	5/6/2019	0.38	130	**500**	0.31	7.11	84	**1,300**
	7/3/2019 R	NA	NA	150	NA	NA	NA	890
	11/7/2019	0.31	**180**	130	0.3	7.44	64	590
	12/4/2019 R	NA	89	NA	NA	NA	NA	NA
	5/20/2020	0.32	100	270	0.37	7.03	67	890
	10/22/2020	0.52	92	180	0.38	7.16	85	720

Notes: All units are in mg/l except pH is in standard units.
* - Intrawell Prediction Limit. All others are interwell comparisons with MW-10 as background..
Bold - Potential statistically significant increase.
F1 - MS and/or MSD Recovery outside of limits.
Pred. Limit - Prediction Limit
Italics Date - First round of Detection Monitoring and resample after statistical background establishment.
NA - Not analyzed. No confirmation resample required.
R - Resample

APPENDIX A
Analytical Data Packages

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 500-182410-1
Client Project/Site: Joliet #29 CCR
Revision: 1

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

Attn: Richard Gnat

Diana Mockler

Authorized for release by:
6/10/2020 12:03:56 PM

Diana Mockler, Project Manager I
(219)252-7570
diana.mockler@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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.

Table of Contents

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Job ID: 500-182410-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-182410-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 5/21/2020. The report (revision 1) is being revised due to: client indicated that samples were field filtered on the COC when they were not field filtered. The COC has been corrected.

Receipt
The samples were received on 5/21/2020 1:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 3.4º C, 3.8º C, 4.4º C and 6.7º C.

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

General Chemistry
Method SM 4500 Cl- E: A deviation from the Standard Operating Procedure (SOP) occurred for Chloride. Details are as follows: The instrument software is set up to analyze bracketing QC every ten runs; however, the system inadvertently had the wrong number of samples in each bracket. All data was bracketed by passing QC and has been reported.

Method SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-03 (500-182410-1), MW-04 (500-182410-2), MW-05 (500-182410-3), MW-10 (500-182410-4), Duplicate (500-182410-5), (400-188491-D-14), (400-188491-D-14 MS) and (400-188491-D-14 MSD). 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.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

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

Protocol References:

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

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

Laboratory References:

TAL CHI = 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: Joliet #29 CCR

Job ID: 500-182410-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-182410-1	MW-03	Water	05/20/20 11:56	05/21/20 13:55	
500-182410-2	MW-04	Water	05/20/20 13:45	05/21/20 13:55	
500-182410-3	MW-05	Water	05/20/20 11:37	05/21/20 13:55	
500-182410-4	MW-10	Water	05/20/20 09:39	05/21/20 13:55	
500-182410-5	Duplicate	Water	05/20/20 11:37	05/21/20 13:55	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-03

Date Collected: 05/20/20 11:56
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.38		0.050		mg/L		05/21/20 17:45	06/04/20 16:42	1
Calcium	100		0.20		mg/L		05/21/20 17:45	05/29/20 15:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	960		10		mg/L			05/22/20 01:20	1
Chloride	230		10		mg/L			06/02/20 13:39	5
Fluoride	0.42		0.10		mg/L			06/02/20 09:28	1
Sulfate	78		25		mg/L			05/28/20 13:18	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-04

Date Collected: 05/20/20 13:45
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.79		0.050		mg/L		05/21/20 17:45	06/04/20 16:46	1
Calcium	110		0.20		mg/L		05/21/20 17:45	05/29/20 15:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1100		10		mg/L			05/22/20 01:23	1
Chloride	250		10		mg/L			06/02/20 13:39	5
Fluoride	0.45		0.10		mg/L			06/02/20 09:38	1
Sulfate	110		100		mg/L			05/28/20 13:18	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-05

Date Collected: 05/20/20 11:37
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.32		0.050		mg/L		05/21/20 17:45	06/04/20 16:50	1
Calcium	100		0.20		mg/L		05/21/20 17:45	05/29/20 15:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	890		10		mg/L			05/23/20 00:26	1
Chloride	270		40		mg/L			06/02/20 13:50	20
Fluoride	0.37		0.10		mg/L			06/02/20 09:41	1
Sulfate	67		25		mg/L			05/28/20 13:22	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-10

Date Collected: 05/20/20 09:39
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.85		0.050		mg/L		05/21/20 17:45	06/04/20 16:53	1
Calcium	120		0.20		mg/L		05/21/20 17:45	05/29/20 15:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	960		10		mg/L			05/23/20 00:31	1
Chloride	250		10		mg/L			06/02/20 13:40	5
Fluoride	0.41		0.10		mg/L			06/02/20 09:44	1
Sulfate	100		50		mg/L			05/28/20 13:22	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: Duplicate

Date Collected: 05/20/20 11:37
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.32		0.050		mg/L		05/21/20 17:45	06/04/20 16:57	1
Calcium	98		0.20		mg/L		05/21/20 17:45	05/29/20 15:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	940		10		mg/L			05/23/20 00:34	1
Chloride	270		40		mg/L			06/02/20 13:52	20
Fluoride	0.37		0.10		mg/L			06/02/20 09:51	1
Sulfate	67		25		mg/L			05/28/20 13:22	5

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

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)
MQL	Method Quantitation Limit
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: Joliet #29 CCR

Job ID: 500-182410-1

Metals

Prep Batch: 543877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total Recoverable	Water	3005A	
500-182410-2	MW-04	Total Recoverable	Water	3005A	
500-182410-3	MW-05	Total Recoverable	Water	3005A	
500-182410-4	MW-10	Total Recoverable	Water	3005A	
500-182410-5	Duplicate	Total Recoverable	Water	3005A	
MB 500-543877/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-543877/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 545254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total Recoverable	Water	6020A	543877
500-182410-2	MW-04	Total Recoverable	Water	6020A	543877
500-182410-3	MW-05	Total Recoverable	Water	6020A	543877
500-182410-4	MW-10	Total Recoverable	Water	6020A	543877
500-182410-5	Duplicate	Total Recoverable	Water	6020A	543877
MB 500-543877/1-A	Method Blank	Total Recoverable	Water	6020A	543877
LCS 500-543877/2-A	Lab Control Sample	Total Recoverable	Water	6020A	543877

Analysis Batch: 546160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total Recoverable	Water	6020A	543877
500-182410-2	MW-04	Total Recoverable	Water	6020A	543877
500-182410-3	MW-05	Total Recoverable	Water	6020A	543877
500-182410-4	MW-10	Total Recoverable	Water	6020A	543877
500-182410-5	Duplicate	Total Recoverable	Water	6020A	543877
MB 500-543877/1-A	Method Blank	Total Recoverable	Water	6020A	543877
LCS 500-543877/2-A	Lab Control Sample	Total Recoverable	Water	6020A	543877

General Chemistry

Analysis Batch: 490714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-182410-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-182410-3	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-182410-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-182410-5	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 400-490714/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-490714/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-490714/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 543922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total/NA	Water	SM 2540C	
500-182410-2	MW-04	Total/NA	Water	SM 2540C	
MB 500-543922/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-543922/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 544145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-3	MW-05	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 544145 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-4	MW-10	Total/NA	Water	SM 2540C	
500-182410-5	Duplicate	Total/NA	Water	SM 2540C	
MB 500-544145/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-544145/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-182410-3 DU	MW-05	Total/NA	Water	SM 2540C	

Analysis Batch: 545508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total/NA	Water	SM 4500 F C	
500-182410-2	MW-04	Total/NA	Water	SM 4500 F C	
500-182410-3	MW-05	Total/NA	Water	SM 4500 F C	
500-182410-4	MW-10	Total/NA	Water	SM 4500 F C	
500-182410-5	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-545508/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-545508/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-182410-1 MS	MW-03	Total/NA	Water	SM 4500 F C	
500-182410-1 MSD	MW-03	Total/NA	Water	SM 4500 F C	

Analysis Batch: 545521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-182410-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-182410-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-182410-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-182410-5	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-545521/48	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-545521/49	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-543877/1-A
Matrix: Water
Analysis Batch: 545254

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 543877

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		05/21/20 17:45	05/29/20 15:06	1

Lab Sample ID: MB 500-543877/1-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 543877

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/21/20 17:45	06/04/20 16:05	1

Lab Sample ID: LCS 500-543877/2-A
Matrix: Water
Analysis Batch: 545254

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 543877

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	11.9		mg/L		119	80 - 120

Lab Sample ID: LCS 500-543877/2-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 543877

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.998		mg/L		100	80 - 120

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

Lab Sample ID: MB 500-543922/1
Matrix: Water
Analysis Batch: 543922

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			05/22/20 00:24	1

Lab Sample ID: LCS 500-543922/2
Matrix: Water
Analysis Batch: 543922

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	246		mg/L		98	80 - 120

Lab Sample ID: MB 500-544145/1
Matrix: Water
Analysis Batch: 544145

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			05/23/20 00:11	1

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

Lab Sample ID: LCS 500-544145/2
Matrix: Water
Analysis Batch: 544145

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	246		mg/L		98	80 - 120

Lab Sample ID: 500-182410-3 DU
Matrix: Water
Analysis Batch: 544145

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	890		928		mg/L		4	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-545521/48
Matrix: Water
Analysis Batch: 545521

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			06/02/20 13:33	1

Lab Sample ID: LCS 500-545521/49
Matrix: Water
Analysis Batch: 545521

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.6		mg/L		98	85 - 115

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-545508/3
Matrix: Water
Analysis Batch: 545508

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			06/02/20 09:19	1

Lab Sample ID: LCS 500-545508/4
Matrix: Water
Analysis Batch: 545508

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	11.0		mg/L		110	80 - 120

Lab Sample ID: 500-182410-1 MS
Matrix: Water
Analysis Batch: 545508

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.42		5.00	5.99		mg/L		111	75 - 125

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 500-182410-1 MSD
Matrix: Water
Analysis Batch: 545508

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.42		5.00	5.96		mg/L		111	75 - 125	1	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-490714/6
Matrix: Water
Analysis Batch: 490714

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			05/28/20 12:29	1

Lab Sample ID: LCS 400-490714/7
Matrix: Water
Analysis Batch: 490714

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	14.1		mg/L		94	90 - 110

Lab Sample ID: MRL 400-490714/3
Matrix: Water
Analysis Batch: 490714

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		96	50 - 150

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

Chain of Custody Record

eurofins

Client Information	Sampler: Mark Wilson/Michael Ross	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No.: 500-81734-37390.1
Client Contact: Erin Bulson	Phone: 630-325-1300	E-Mail: eric.lang@testamericainc.com		Page: Page 1 of 1
Company: KPRG and Associates, Inc.				Job #: 500-18240
Address: 14665 West Lisbon Road, Suite 1A	Due Date Requested:			
City: Brookfield	TAT Requested (days):			
State, Zip: WI, 53005				
Phone: 815-671-2258(Tel) 500-182410 COC	PO #: 4502012471			
Email: erinb@kprginc.com	WO #:			
Project Name: Joliet #29 CCR/ Event Desc: Quarterly MWG Joliet #29 CCR	Project #: 50011568			
Site: Illinois	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	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)	6020A - (MOD) Single Element	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
	Preservation Code:							D	N		
1	MW-03	5/20/20	11:56	G	Water	Y		X	X		
2	MW-04	5/20/20	13:45	G	Water	Y		X	X		
3	MW-05	5/20/20	11:37	G	Water	Y		X	X		
4	MW-10	5/20/20	9:39	G	Water	Y		X	X		
5	Duplicate	5/20/20	11:37	G	Water	Y		X	X		

(NO) BW 5/21/20 per Erin Bulson @ KPRG

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Michael Ross	Date/Time: 5/21/20	Company: KPRG	Received by: Stephanie Hernandez Date/Time: 5/21/20 1355 Company: TAL-CHI
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: 6.1 3C, 3.8, 4.4, 3.4

Ver: 01/16/2019

6/10/2020 (Rev. 1)

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 America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mockler, Diana J	Carrier Tracking No(s):	COC No: 500-135491.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: diana.mockler@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-182410-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 6/3/2020			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Joliet #29 CCR	Project #: 50011568			
Site: NRG Midwest Generation LSQ Joliet#29 CCR	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)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-03 (500-182410-1)	5/20/20	11:56 Central		Water			X	1	
MW-04 (500-182410-2)	5/20/20	13:45 Central		Water			X	1	
MW-05 (500-182410-3)	5/20/20	11:37 Central		Water			X	1	
MW-10 (500-182410-4)	5/20/20	09:39 Central		Water			X	1	
Duplicate (500-182410-5)	5/20/20	11:37 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica 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 Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

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]	5/21/20 1700	TA	Kathy R Owen	5-22-20 918	EA
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: 0.0 IR9

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-182410-1

Login Number: 182410
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.	False	
Cooler Temperature is recorded.	True	6.7,3.8,4.4,3.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-182410-1

Login Number: 182410
List Number: 2
Creator: Avery, Kathy R

List Source: Eurofins TestAmerica, Pensacola
List Creation: 05/22/20 01:28 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	0.0°C IR 9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-03
Date Collected: 05/20/20 11:56
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:28	FXG	TAL CHI
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	546160	06/04/20 16:42	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	543922	05/22/20 01:20	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	545521	06/02/20 13:39	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	545508	06/02/20 09:28	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	490714	05/28/20 13:18	HES	TAL PEN

Client Sample ID: MW-04
Date Collected: 05/20/20 13:45
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:30	FXG	TAL CHI
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	546160	06/04/20 16:46	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	543922	05/22/20 01:23	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	545521	06/02/20 13:39	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	545508	06/02/20 09:38	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	490714	05/28/20 13:18	HES	TAL PEN

Client Sample ID: MW-05
Date Collected: 05/20/20 11:37
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:32	FXG	TAL CHI
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	546160	06/04/20 16:50	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 00:26	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		20	545521	06/02/20 13:50	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	545508	06/02/20 09:41	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	490714	05/28/20 13:22	HES	TAL PEN

Client Sample ID: MW-10
Date Collected: 05/20/20 09:39
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:34	FXG	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-10

Lab Sample ID: 500-182410-4

Date Collected: 05/20/20 09:39

Matrix: Water

Date Received: 05/21/20 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	546160	06/04/20 16:53	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 00:31	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	545521	06/02/20 13:40	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	545508	06/02/20 09:44	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	490714	05/28/20 13:22	HES	TAL PEN

Client Sample ID: Duplicate

Lab Sample ID: 500-182410-5

Date Collected: 05/20/20 11:37

Matrix: Water

Date Received: 05/21/20 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:36	FXG	TAL CHI
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	546160	06/04/20 16:57	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 00:34	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		20	545521	06/02/20 13:52	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	545508	06/02/20 09:51	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	490714	05/28/20 13:22	HES	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

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 500-183483-1
Client Project/Site: Joliet #29 CCR Resample

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

Attn: Richard Gnat

Diana Mockler

Authorized for release by:
6/17/2020 8:59:32 AM

Diana Mockler, Project Manager I
(219)252-7570
diana.mockler@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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.

Table of Contents

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Job ID: 500-183483-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-183483-1

Comments
No additional comments.

Receipt
The samples were received on 6/12/2020 1:50 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.0º C.

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

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

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

Protocol References:

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

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

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

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: Joliet #29 CCR Resample

Job ID: 500-183483-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-183483-1	MW-04	Water	06/11/20 11:58	06/12/20 13:50	
500-183483-2	MW-10	Water	06/11/20 15:27	06/12/20 13:50	
500-183483-3	MW-03	Water	06/11/20 11:23	06/12/20 13:50	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Client Sample ID: MW-04

Date Collected: 06/11/20 11:58
Date Received: 06/12/20 13:50

Lab Sample ID: 500-183483-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.28		0.050		mg/L		06/15/20 07:10	06/15/20 15:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	850		150		mg/L			06/15/20 13:33	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Client Sample ID: MW-10

Date Collected: 06/11/20 15:27
Date Received: 06/12/20 13:50

Lab Sample ID: 500-183483-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.26		0.050		mg/L		06/15/20 07:10	06/15/20 16:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	770		150		mg/L			06/15/20 13:33	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Client Sample ID: MW-03
Date Collected: 06/11/20 11:23
Date Received: 06/12/20 13:50

Lab Sample ID: 500-183483-3
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	930		150		mg/L			06/15/20 13:33	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

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
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Metals

Prep Batch: 547444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-183483-1	MW-04	Total Recoverable	Water	3005A	
500-183483-2	MW-10	Total Recoverable	Water	3005A	
MB 500-547444/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-547444/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-183483-1 MS	MW-04	Total Recoverable	Water	3005A	
500-183483-1 MSD	MW-04	Total Recoverable	Water	3005A	
500-183483-1 DU	MW-04	Total Recoverable	Water	3005A	

Analysis Batch: 547734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-183483-1	MW-04	Total Recoverable	Water	6020A	547444
500-183483-2	MW-10	Total Recoverable	Water	6020A	547444
MB 500-547444/1-A	Method Blank	Total Recoverable	Water	6020A	547444
LCS 500-547444/2-A	Lab Control Sample	Total Recoverable	Water	6020A	547444
500-183483-1 MS	MW-04	Total Recoverable	Water	6020A	547444
500-183483-1 MSD	MW-04	Total Recoverable	Water	6020A	547444
500-183483-1 DU	MW-04	Total Recoverable	Water	6020A	547444

General Chemistry

Analysis Batch: 282103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-183483-1	MW-04	Total/NA	Water	SM 2540C	
500-183483-2	MW-10	Total/NA	Water	SM 2540C	
500-183483-3	MW-03	Total/NA	Water	SM 2540C	
MB 310-282103/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-282103/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-547444/1-A
Matrix: Water
Analysis Batch: 547734

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 547444

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		06/15/20 07:10	06/15/20 14:31	1

Lab Sample ID: LCS 500-547444/2-A
Matrix: Water
Analysis Batch: 547734

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 547444

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.998		mg/L		100	80 - 120

Lab Sample ID: 500-183483-1 MS
Matrix: Water
Analysis Batch: 547734

Client Sample ID: MW-04
Prep Type: Total Recoverable
Prep Batch: 547444

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.28		1.00	1.26		mg/L		98	75 - 125

Lab Sample ID: 500-183483-1 MSD
Matrix: Water
Analysis Batch: 547734

Client Sample ID: MW-04
Prep Type: Total Recoverable
Prep Batch: 547444

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.28		1.00	1.27		mg/L		99	75 - 125	1	20

Lab Sample ID: 500-183483-1 DU
Matrix: Water
Analysis Batch: 547734

Client Sample ID: MW-04
Prep Type: Total Recoverable
Prep Batch: 547444

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	0.28		0.283		mg/L		0.3	20

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

Lab Sample ID: MB 310-282103/1
Matrix: Water
Analysis Batch: 282103

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	<30		30		mg/L			06/15/20 13:33	1

Lab Sample ID: LCS 310-282103/2
Matrix: Water
Analysis Batch: 282103

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	1000	1000		mg/L		100	90 - 110

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

Chain of Custody Record

eurofins

Client Information	Sampler: Michael Ress	Lab PM: Mockler, Diana J	Carrier Tracking No(s)	COC No: 500-82396-37647.1
Client Contact: Erin Bulson	Phone: 630-325-1300	E-Mail: diana.mockler@testamericainc.com		Page: Page 1 of 1
Company: KPRG and Associates, Inc.				Job #: 500-183483

Address: 14665 West Lisbon Road, Suite 1A	Due Date Requested:	Analysis Requested
City: Brookfield	TAT Requested (days):	
State, Zip: WI, 53005		
Phone: 815-671-2258(Tel)	PO #: 4502012471	
Email: erinb@kprginc.com	WO #:	
Project Name: Joliet #29 CCR	Project #: 50011568	500-183483 COC
Site: Illinois	SSOW#:	

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	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)	6020A - Boron	2540C - TDS	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N		
1	MW-04	6/11/20	11:58	G	Water	N		X	X		
2	MW-10	6/11/20	15:27	G	Water	N		X	X		
3	MW-03	6/11/20	11:23	G	Water	N			X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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)

Special Instructions/QC Requirements:

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

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		6/12/20 1300	TA		6/12/20 1300	TA
2		6/12/20 1350	TA	Stephanie Hernandez	6/12/20 1350	TA-CHI
3						

Custody Seals Intact: △ Yes △ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 1.0→2.0 3 bag

eurofins | Environment Testing TestAmerica

500-183483 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: TA Chicago

City/State: CITY University Park STATE IL Project:

Receipt Information

Date/Time Received: DATE 061320 TIME 0900 Received By:

Delivery Type: ☐ UPS ☑ FedEx Sat ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☑ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☑ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☑ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☑ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☑ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: Correction Factor (°C):

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): NA Corrected Temp (°C): +0.1

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:	MW-04 Plastic 1L	
Uncorrected Temp (°C):	0.4	
Corrected Temp (°C):	0.5	

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

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 America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mockler, Diana J	Carrier Tracking No(s):	COC No: 500-136209.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: diana.mockler@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): NELAP - Illinois		Job #: 500-183483-1
Address: 3019 Venture Way, ,	Due Date Requested: 6/24/2020			
City: Cedar Falls	TAT Requested (days):			
State, Zip: IA, 50613				
Phone: 319-277-2401(Tel) 319-277-2425(Fax)	PO #:			
Email:	WO #:			
Project Name: Joliet #29 CCR Resample	Project #: 50011568			
Site: NRG Midwest Generation LSQ Joliet#29 CCR	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)	2540C_Calcd/ Total Dissolved Solids	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-04 (500-183483-1)	6/11/20	11:58 Central		Water			X	1	
MW-10 (500-183483-2)	6/11/20	15:27 Central		Water			X	1	
MW-03 (500-183483-3)	6/11/20	11:23 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica 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 Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

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]	6/12/20 1608	TA	[signature]	6/13/20	eto
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

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-183483-1

Login Number: 183483
List Number: 1
Creator: Hernandez, Stephanie

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	2.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-183483-1

Login Number: 183483
List Number: 2
Creator: Miller, Drew E

List Source: Eurofins TestAmerica, Cedar Falls
List Creation: 06/13/20 09:52 AM

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

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Client Sample ID: MW-04
Date Collected: 06/11/20 11:58
Date Received: 06/12/20 13:50

Lab Sample ID: 500-183483-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			547444	06/15/20 07:10	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	547734	06/15/20 15:57	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	282103	06/15/20 13:33	LBB	TAL CF

Client Sample ID: MW-10
Date Collected: 06/11/20 15:27
Date Received: 06/12/20 13:50

Lab Sample ID: 500-183483-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			547444	06/15/20 07:10	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	547734	06/15/20 16:16	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	282103	06/15/20 13:33	LBB	TAL CF

Client Sample ID: MW-03
Date Collected: 06/11/20 11:23
Date Received: 06/12/20 13:50

Lab Sample ID: 500-183483-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	282103	06/15/20 13:33	LBB	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

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

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 500-189930-1
Client Project/Site: Joliet #29 CCR - Quarterly

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

Attn: Richard Gnat

Diana Mockler

Authorized for release by:
11/13/2020 8:40:01 AM

Diana Mockler, Project Manager I
(219)252-7570
Diana.Mockler@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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.

Table of Contents

Job ID: 500-189930-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-189930-1

Comments
No additional comments.

Receipt
The samples were received on 10/22/2020 6:20 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.7º C.

Metals
Method 6020A: The low level continuing calibration verification (CCVL) at lines 25 and 49, associated with batch 500-569004 recovered above the upper control limit for Beryllium. The samples associated with this CCVL were non-detects for the affected analyte; therefore, the data have been reported.

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

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

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 CF
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI
7470A	Preparation, Mercury	SW846	TAL CHI

Protocol References:

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

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

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

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: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-189930-1	MW-03	Water	10/22/20 10:18	10/22/20 18:20	
500-189930-2	MW-04	Water	10/22/20 11:11	10/22/20 18:20	
500-189930-3	MW-05	Water	10/22/20 12:46	10/22/20 18:20	
500-189930-4	MW-10	Water	10/22/20 12:05	10/22/20 18:20	
500-189930-5	Duplicate	Water	10/22/20 00:00	10/22/20 18:20	

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Client Sample ID: MW-03

Date Collected: 10/22/20 10:18
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-1

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		10/26/20 17:38	10/27/20 11:15	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		10/26/20 17:38	10/27/20 17:34	1
Arsenic	**0.0014**		0.0010		mg/L		10/26/20 17:38	10/27/20 17:34	1
Barium	**0.10**		0.0025		mg/L		10/26/20 17:38	10/27/20 22:22	1
Beryllium	<0.0010	^	0.0010		mg/L		10/26/20 17:38	10/27/20 22:22	1
Boron	**0.32**		0.050		mg/L		10/26/20 17:38	10/27/20 17:34	1
Cadmium	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:34	1
Calcium	**110**		0.20		mg/L		10/26/20 17:38	10/27/20 17:34	1
Chromium	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 17:34	1
Cobalt	<0.0010		0.0010		mg/L		10/26/20 17:38	10/27/20 17:34	1
Lead	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:34	1
Molybdenum	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 17:34	1
Selenium	<0.0025		0.0025		mg/L		10/26/20 17:38	10/27/20 22:22	1
Thallium	<0.0020		0.0020		mg/L		10/26/20 17:38	10/27/20 17:34	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/29/20 10:20	10/30/20 08:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**770**		30		mg/L			10/28/20 13:56	1
Chloride	**180**		10		mg/L			11/03/20 09:51	5
Fluoride	**0.43**		0.10		mg/L			11/04/20 14:47	1
Sulfate	**90**		15		mg/L			10/26/20 15:34	3

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Client Sample ID: MW-04

Date Collected: 10/22/20 11:11
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-2

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		10/26/20 17:38	10/27/20 11:18	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		10/26/20 17:38	10/27/20 17:37	1
Arsenic	**0.0015**		0.0010		mg/L		10/26/20 17:38	10/27/20 17:37	1
Barium	**0.089**		0.0025		mg/L		10/26/20 17:38	10/27/20 22:26	1
Beryllium	<0.0010	^	0.0010		mg/L		10/26/20 17:38	10/27/20 22:26	1
Boron	**0.33**		0.050		mg/L		10/26/20 17:38	10/27/20 17:37	1
Cadmium	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:37	1
Calcium	**100**		0.20		mg/L		10/26/20 17:38	10/27/20 17:37	1
Chromium	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 17:37	1
Cobalt	**0.0082**		0.0010		mg/L		10/26/20 17:38	10/27/20 17:37	1
Lead	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:37	1
Molybdenum	**0.0061**		0.0050		mg/L		10/26/20 17:38	10/27/20 17:37	1
Selenium	<0.0025		0.0025		mg/L		10/26/20 17:38	10/27/20 22:26	1
Thallium	<0.0020		0.0020		mg/L		10/26/20 17:38	10/27/20 17:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/29/20 10:20	10/30/20 08:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**770**		30		mg/L			10/28/20 13:56	1
Chloride	**190**		10		mg/L			11/03/20 09:51	5
Fluoride	**0.48**		0.10		mg/L			11/04/20 14:50	1
Sulfate	**83**		15		mg/L			10/26/20 15:35	3

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Client Sample ID: MW-05

Date Collected: 10/22/20 12:46
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-3

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		10/26/20 17:38	10/27/20 11:21	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		10/26/20 17:38	10/27/20 17:41	1
Arsenic	**0.0012**		0.0010		mg/L		10/26/20 17:38	10/27/20 17:41	1
Barium	**0.069**		0.0025		mg/L		10/26/20 17:38	10/27/20 22:29	1
Beryllium	<0.0010	^	0.0010		mg/L		10/26/20 17:38	10/27/20 22:29	1
Boron	**0.52**		0.050		mg/L		10/26/20 17:38	10/27/20 17:41	1
Cadmium	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:41	1
Calcium	**92**		0.20		mg/L		10/26/20 17:38	10/27/20 17:41	1
Chromium	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 17:41	1
Cobalt	<0.0010		0.0010		mg/L		10/26/20 17:38	10/27/20 17:41	1
Lead	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:41	1
Molybdenum	**0.0054**		0.0050		mg/L		10/26/20 17:38	10/27/20 17:41	1
Selenium	**0.0030**		0.0025		mg/L		10/26/20 17:38	10/27/20 22:29	1
Thallium	<0.0020		0.0020		mg/L		10/26/20 17:38	10/27/20 17:41	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/29/20 10:20	10/30/20 09:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**720**		30		mg/L			10/28/20 13:56	1
Chloride	**180**	**F1**	10		mg/L			11/03/20 11:09	5
Fluoride	**0.38**		0.10		mg/L			11/04/20 14:53	1
Sulfate	**85**		15		mg/L			10/26/20 15:36	3

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Client Sample ID: MW-10

Date Collected: 10/22/20 12:05
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		10/26/20 17:38	10/27/20 11:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/26/20 17:38	10/27/20 17:44	1
Arsenic	<0.0010		0.0010		mg/L		10/26/20 17:38	10/27/20 17:44	1
Barium	**0.043**		0.0025		mg/L		10/26/20 17:38	10/27/20 22:33	1
Beryllium	<0.0010	^	0.0010		mg/L		10/26/20 17:38	10/27/20 22:33	1
Boron	**0.34**		0.050		mg/L		10/26/20 17:38	10/27/20 17:44	1
Cadmium	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:44	1
Calcium	**110**		0.20		mg/L		10/26/20 17:38	10/27/20 17:44	1
Chromium	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 17:44	1
Cobalt	<0.0010		0.0010		mg/L		10/26/20 17:38	10/27/20 17:44	1
Lead	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:44	1
Molybdenum	**0.0057**		0.0050		mg/L		10/26/20 17:38	10/27/20 17:44	1
Selenium	<0.0025		0.0025		mg/L		10/26/20 17:38	10/27/20 22:33	1
Thallium	<0.0020		0.0020		mg/L		10/26/20 17:38	10/27/20 17:44	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/29/20 10:20	10/30/20 09:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**850**		30		mg/L			10/28/20 13:56	1
Chloride	**230**		10		mg/L			11/03/20 11:12	5
Fluoride	**0.41**		0.10		mg/L			11/04/20 14:56	1
Sulfate	**93**		15		mg/L			10/26/20 15:36	3

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Client Sample ID: Duplicate

Date Collected: 10/22/20 00:00
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		10/26/20 17:38	10/27/20 11:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/26/20 17:38	10/27/20 17:48	1
Arsenic	**0.0015**		0.0010		mg/L		10/26/20 17:38	10/27/20 17:48	1
Barium	**0.10**		0.0025		mg/L		10/26/20 17:38	10/27/20 22:36	1
Beryllium	<0.0010	^	0.0010		mg/L		10/26/20 17:38	10/27/20 22:36	1
Boron	**0.33**		0.050		mg/L		10/26/20 17:38	10/27/20 17:48	1
Cadmium	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:48	1
Calcium	**110**		0.20		mg/L		10/26/20 17:38	10/27/20 17:48	1
Chromium	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 17:48	1
Cobalt	<0.0010		0.0010		mg/L		10/26/20 17:38	10/27/20 17:48	1
Lead	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:48	1
Molybdenum	**0.0052**		0.0050		mg/L		10/26/20 17:38	10/27/20 17:48	1
Selenium	<0.0025		0.0025		mg/L		10/26/20 17:38	10/27/20 22:36	1
Thallium	<0.0020		0.0020		mg/L		10/26/20 17:38	10/27/20 17:48	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/29/20 10:20	10/30/20 09:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**760**		30		mg/L			10/28/20 13:56	1
Chloride	**180**		10		mg/L			11/03/20 11:13	5
Fluoride	**0.43**		0.10		mg/L			11/04/20 14:59	1
Sulfate	**91**		15		mg/L			10/26/20 15:36	3

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control 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
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Metals

Prep Batch: 568663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total Recoverable	Water	3005A	
500-189930-2	MW-04	Total Recoverable	Water	3005A	
500-189930-3	MW-05	Total Recoverable	Water	3005A	
500-189930-4	MW-10	Total Recoverable	Water	3005A	
500-189930-5	Duplicate	Total Recoverable	Water	3005A	
MB 500-568663/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-568663/26-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 500-568663/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 568845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total Recoverable	Water	6010C	568663
500-189930-2	MW-04	Total Recoverable	Water	6010C	568663
500-189930-3	MW-05	Total Recoverable	Water	6010C	568663
500-189930-4	MW-10	Total Recoverable	Water	6010C	568663
500-189930-5	Duplicate	Total Recoverable	Water	6010C	568663
MB 500-568663/1-A	Method Blank	Total Recoverable	Water	6010C	568663
LCS 500-568663/26-A	Lab Control Sample	Total Recoverable	Water	6010C	568663

Analysis Batch: 569003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total Recoverable	Water	6020A	568663
500-189930-2	MW-04	Total Recoverable	Water	6020A	568663
500-189930-3	MW-05	Total Recoverable	Water	6020A	568663
500-189930-4	MW-10	Total Recoverable	Water	6020A	568663
500-189930-5	Duplicate	Total Recoverable	Water	6020A	568663
MB 500-568663/1-A	Method Blank	Total Recoverable	Water	6020A	568663
LCS 500-568663/2-A	Lab Control Sample	Total Recoverable	Water	6020A	568663

Analysis Batch: 569004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total Recoverable	Water	6020A	568663
500-189930-2	MW-04	Total Recoverable	Water	6020A	568663
500-189930-3	MW-05	Total Recoverable	Water	6020A	568663
500-189930-4	MW-10	Total Recoverable	Water	6020A	568663
500-189930-5	Duplicate	Total Recoverable	Water	6020A	568663
MB 500-568663/1-A	Method Blank	Total Recoverable	Water	6020A	568663
LCS 500-568663/26-A	Lab Control Sample	Total Recoverable	Water	6020A	568663

Prep Batch: 569235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total/NA	Water	7470A	
500-189930-2	MW-04	Total/NA	Water	7470A	
500-189930-3	MW-05	Total/NA	Water	7470A	
500-189930-4	MW-10	Total/NA	Water	7470A	
500-189930-5	Duplicate	Total/NA	Water	7470A	
MB 500-569235/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-569235/13-A	Lab Control Sample	Total/NA	Water	7470A	

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Metals

Analysis Batch: 569446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total/NA	Water	7470A	569235
500-189930-2	MW-04	Total/NA	Water	7470A	569235
500-189930-3	MW-05	Total/NA	Water	7470A	569235
500-189930-4	MW-10	Total/NA	Water	7470A	569235
500-189930-5	Duplicate	Total/NA	Water	7470A	569235
MB 500-569235/12-A	Method Blank	Total/NA	Water	7470A	569235
LCS 500-569235/13-A	Lab Control Sample	Total/NA	Water	7470A	569235

General Chemistry

Analysis Batch: 297381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total/NA	Water	SM 2540C	
500-189930-2	MW-04	Total/NA	Water	SM 2540C	
500-189930-3	MW-05	Total/NA	Water	SM 2540C	
500-189930-4	MW-10	Total/NA	Water	SM 2540C	
500-189930-5	Duplicate	Total/NA	Water	SM 2540C	
MB 310-297381/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-297381/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 568657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-189930-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-189930-3	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-189930-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-189930-5	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-568657/39	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-568657/40	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 570023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-189930-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
MB 500-570023/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-570023/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 570079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-189930-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-189930-5	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-570079/42	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-570079/43	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-189930-3 MS	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-189930-3 MSD	MW-05	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 570407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total/NA	Water	SM 4500 F C	
500-189930-2	MW-04	Total/NA	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 570407 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-3	MW-05	Total/NA	Water	SM 4500 F C	
500-189930-4	MW-10	Total/NA	Water	SM 4500 F C	
500-189930-5	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-570407/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-570407/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-568663/1-A
Matrix: Water
Analysis Batch: 568845

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568663

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		10/26/20 17:38	10/27/20 11:01	1

Lab Sample ID: LCS 500-568663/26-A
Matrix: Water
Analysis Batch: 568845

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568663

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.100	0.102		mg/L		102	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-568663/1-A
Matrix: Water
Analysis Batch: 569003

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568663

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/26/20 17:38	10/27/20 15:47	1
Arsenic	<0.0010		0.0010		mg/L		10/26/20 17:38	10/27/20 15:47	1
Boron	<0.050		0.050		mg/L		10/26/20 17:38	10/27/20 15:47	1
Cadmium	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 15:47	1
Calcium	<0.20		0.20		mg/L		10/26/20 17:38	10/27/20 15:47	1
Chromium	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 15:47	1
Cobalt	<0.0010		0.0010		mg/L		10/26/20 17:38	10/27/20 15:47	1
Lead	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 15:47	1
Molybdenum	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 15:47	1
Thallium	<0.0020		0.0020		mg/L		10/26/20 17:38	10/27/20 15:47	1

Lab Sample ID: MB 500-568663/1-A
Matrix: Water
Analysis Batch: 569004

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568663

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.0025		0.0025		mg/L		10/26/20 17:38	10/27/20 18:50	1
Beryllium	<0.0010	^	0.0010		mg/L		10/26/20 17:38	10/27/20 18:50	1
Selenium	<0.0025		0.0025		mg/L		10/26/20 17:38	10/27/20 18:50	1

Lab Sample ID: LCS 500-568663/26-A
Matrix: Water
Analysis Batch: 569004

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568663

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.500	0.479		mg/L		96	80 - 120
Beryllium	0.0500	0.0504	^	mg/L		101	80 - 120
Selenium	0.100	0.100		mg/L		100	80 - 120

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

Lab Sample ID: LCS 500-568663/2-A
Matrix: Water
Analysis Batch: 569003

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568663

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.495		mg/L		99	80 - 120
Arsenic	0.100	0.0987		mg/L		99	80 - 120
Boron	1.00	1.00		mg/L		100	80 - 120
Cadmium	0.0500	0.0507		mg/L		101	80 - 120
Calcium	10.0	8.97		mg/L		90	80 - 120
Chromium	0.200	0.206		mg/L		103	80 - 120
Cobalt	0.500	0.508		mg/L		102	80 - 120
Lead	0.100	0.104		mg/L		104	80 - 120
Molybdenum	1.00	0.976		mg/L		98	80 - 120
Thallium	0.100	0.104		mg/L		104	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-569235/12-A
Matrix: Water
Analysis Batch: 569446

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 569235

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/29/20 10:20	10/30/20 08:22	1

Lab Sample ID: LCS 500-569235/13-A
Matrix: Water
Analysis Batch: 569446

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 569235

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00210		mg/L		105	80 - 120

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

Lab Sample ID: MB 310-297381/1
Matrix: Water
Analysis Batch: 297381

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	<30		30		mg/L			10/28/20 13:56	1

Lab Sample ID: LCS 310-297381/2
Matrix: Water
Analysis Batch: 297381

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	1000	982		mg/L		98	90 - 110

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-570023/12
Matrix: Water
Analysis Batch: 570023

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			11/03/20 08:56	1

Lab Sample ID: LCS 500-570023/13
Matrix: Water
Analysis Batch: 570023

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	49.5		mg/L		99	85 - 115

Lab Sample ID: MB 500-570079/42
Matrix: Water
Analysis Batch: 570079

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			11/03/20 11:07	1

Lab Sample ID: LCS 500-570079/43
Matrix: Water
Analysis Batch: 570079

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	51.7		mg/L		103	85 - 115

Lab Sample ID: 500-189930-3 MS
Matrix: Water
Analysis Batch: 570079

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	180	F1	50.0	213	F1	mg/L		71	75 - 125

Lab Sample ID: 500-189930-3 MSD
Matrix: Water
Analysis Batch: 570079

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	180	F1	50.0	221		mg/L		88	75 - 125	4	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-570407/3
Matrix: Water
Analysis Batch: 570407

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			11/04/20 13:53	1

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: LCS 500-570407/4
Matrix: Water
Analysis Batch: 570407

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	10.9		mg/L		109	80 - 120		

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-568657/39
Matrix: Water
Analysis Batch: 568657

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			10/26/20 15:32	1

Lab Sample ID: LCS 500-568657/40
Matrix: Water
Analysis Batch: 568657

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			20.0	19.6		mg/L		98	80 - 120		

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 America

Client Information	Sampler:	Lab PM: Mockler, Diana J	Carrier Tracking No(s):	COC No: 500-85986-38852.1
Client Contact: Erin Bulson	Phone:	E-Mail: Diana.Mockler@Eurofinset.com		Page: Page 1 of 1
Company: KPRG and Associates, Inc.				Job #: 500-189930

Address: 14665 West Lisbon Road, Suite 1A
City: Brookfield
State, Zip: WI, 53005
Phone: 815-671-2258(Tel)
Email: erinb@kprginc.com
500-189930 COC
Project Name: Joliet #29 CCR/ Event Desc: Quarterly MWG Joliet #29 CCR
Site: Illinois

Due Date Requested:
TAT Requested (days):
PO #: 4502012471
WO #:
Project #: 50011568
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	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)	6020A - (MOD) Single Element	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N		
1	MW-03	10-22	1018		Water						
2	MW-04	10-22	1111		Water						
3	MW-05	10-22	1246		Water						
4	MW-10	10-22	1205		Water						
5	Duplicate	10-22	—		Water						

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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)

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Erin Bulson	10-22 / 1820		Aaron Kimbrough	10/22/10 18:20	TAT
	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: 5.7

NOTE: All SO

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 America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mockler, Diana J	Carrier Tracking No(s):	COC No: 500-141336.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Diana.Mockler@Eurofinset.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): NELAP - Illinois		Job #: 500-189930-1
Address: 3019 Venture Way, ,	Due Date Requested: 11/4/2020			
City: Cedar Falls	TAT Requested (days):			
State, Zip: IA, 50613				
Phone: 319-277-2401(Tel) 319-277-2425(Fax)	PO #:			
Email:	WO #:			
Project Name: Joliet #29 CCR - Quarterly	Project #: 50011568			
Site: NRG Midwest Generation LSQ Joliet#29 CCR	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)	2540C_Calcd/ Total Dissolved Solids	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
MW-03 (500-189930-1)	10/22/20	10:18 Central		Water			X	1	
MW-04 (500-189930-2)	10/22/20	11:11 Central		Water			X	1	
MW-05 (500-189930-3)	10/22/20	12:46 Central		Water			X	1	
MW-10 (500-189930-4)	10/22/20	12:05 Central		Water			X	1	
Duplicate (500-189930-5)	10/22/20	Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica 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 Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

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		10/23/20 1700			10-24-20 0750	
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 | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: ETA chicago

City/State: CITY University Park STATE IL Project: Joliet # 29 CCR - Quarterly

Receipt Information

Date/Time Received: DATE 10-24-20 TIME 0950 Received By: EP

Delivery Type: ☐ UPS ☒ FedEx SAT ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☐ Yes ☒ No *If yes:* Cooler # _____ of _____

Cooler Custody Seals Present? ☒ Yes ☐ No *If yes:* Cooler custody seals intact? ☒ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☐ Yes ☒ No *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: O Correction Factor (°C): 0.0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1. 10-24-20 EP Corrected Temp (°C):

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:	plastic 250mL	
Uncorrected Temp (°C):	1.8	
Corrected Temp (°C):	1.8	

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-189930-1

Login Number: 189930
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	5.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-189930-1

Login Number: 189930
List Number: 2
Creator: Bovy, Lorrainna L

List Source: Eurofins TestAmerica, Cedar Falls
List Creation: 10/26/20 09:56 AM

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	
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	Received project as a subcontract.
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	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Client Sample ID: MW-03

Date Collected: 10/22/20 10:18
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	568845	10/27/20 11:15	JEF	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569003	10/27/20 17:34	FXG	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569004	10/27/20 22:22	FXG	TAL CHI
Total/NA	Prep	7470A			569235	10/29/20 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	569446	10/30/20 08:56	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	297381	10/28/20 13:56	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		5	570023	11/03/20 09:51	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	570407	11/04/20 14:47	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		3	568657	10/26/20 15:34	RES	TAL CHI

Client Sample ID: MW-04

Date Collected: 10/22/20 11:11
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	568845	10/27/20 11:18	JEF	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569003	10/27/20 17:37	FXG	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569004	10/27/20 22:26	FXG	TAL CHI
Total/NA	Prep	7470A			569235	10/29/20 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	569446	10/30/20 08:58	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	297381	10/28/20 13:56	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		5	570023	11/03/20 09:51	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	570407	11/04/20 14:50	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		3	568657	10/26/20 15:35	RES	TAL CHI

Client Sample ID: MW-05

Date Collected: 10/22/20 12:46
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	568845	10/27/20 11:21	JEF	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569003	10/27/20 17:41	FXG	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569004	10/27/20 22:29	FXG	TAL CHI
Total/NA	Prep	7470A			569235	10/29/20 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	569446	10/30/20 09:00	MJG	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Client Sample ID: MW-05
Date Collected: 10/22/20 12:46
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	297381	10/28/20 13:56	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		5	570079	11/03/20 11:09	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	570407	11/04/20 14:53	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		3	568657	10/26/20 15:36	RES	TAL CHI

Client Sample ID: MW-10
Date Collected: 10/22/20 12:05
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	568845	10/27/20 11:24	JEF	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569003	10/27/20 17:44	FXG	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569004	10/27/20 22:33	FXG	TAL CHI
Total/NA	Prep	7470A			569235	10/29/20 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	569446	10/30/20 09:02	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	297381	10/28/20 13:56	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		5	570079	11/03/20 11:12	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	570407	11/04/20 14:56	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		3	568657	10/26/20 15:36	RES	TAL CHI

Client Sample ID: Duplicate
Date Collected: 10/22/20 00:00
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	568845	10/27/20 11:28	JEF	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569003	10/27/20 17:48	FXG	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569004	10/27/20 22:36	FXG	TAL CHI
Total/NA	Prep	7470A			569235	10/29/20 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	569446	10/30/20 09:05	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	297381	10/28/20 13:56	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		5	570079	11/03/20 11:13	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	570407	11/04/20 14:59	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		3	568657	10/26/20 15:36	RES	TAL CHI

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

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