



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

**FEDERAL CCR COMPLIANCE
ANNUAL GROUNDWATER MONITORING and
CORRECTIVE ACTION REPORT - 2023**

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

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January 31, 2024

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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) Waukegan Generating Station. The wells sampled were selected to meet the monitoring requirements of the CCR Rule for the West and East Ash Ponds. The CCR monitoring well network around these ponds consists of eight monitoring wells (MW-01 through MW-04, MW-09, MW-11, MW-14 and MW-16). Wells MW-09, MW-11 and MW-14 are upgradient wells as shown on Figure 1.

This overview of the 2023 groundwater monitoring period is provided in accordance with 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 continues to operate under the detection monitoring program outlined in Section 257.94.
- Section 257.90(e)(6)(iii) – The following statistically significant increases (SSIs) above established background for Appendix III detection monitoring constituents were noted during this monitoring period:
 - MW-01 – boron (1st and 2nd quarters) and pH 1st through 4th quarters)
 - MW-02 – boron (1st through 4th quarters) and pH (1st through 3rd quarters)
 - MW-03 – boron (1st through 4th quarters) and pH (1st through 3rd quarters)
 - MW-04 – boron (1st through 4th quarters), pH (3rd quarter) and sulfate (2nd quarter)
 - MW-16 – boron and sulfate (1st through 4th quarters)

These constituent SSIs have been addressed previously under Alternate Source Demonstrations (ASDs) with determination being made that the SSIs are not associated with a release from the regulated units. The detections of these parameters during the 2023 sampling were within similar ranges as previous sampling events.

- Section 257.90(e)(6)(iv) – The subject units are not under assessment monitoring.

- Section 257.90(e)(6)(v) – The subject units are not under corrective action.
- Section 257.90(e)(6)(vi) – The subject units are not under corrective action.

On June 20, 2023 U.S. Environmental Protection Agency (USEPA) issued a Proposed Denial of Alternative Closure Deadline for Waukegan Generation Station in Docket No. EPA-HQ-OLEM-2023-0209. On September 9, 2023, Midwest Generation submitted detailed comments and responses to the USEPA proposed denial. A final decision has not yet been issued. Some data presentations may be modified based on the final decision.

1.0 INTRODUCTION

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

This annual report covers the work performed relative to CCR groundwater monitoring for the calendar year 2023. It does not duplicate information or activities previously reported. 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 summarizes conclusions and recommendations for the station going forward.

2.0 FIELD PROCEDURES AND GROUNDWATER FLOW EVALUATION

2.1 Field Procedures

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

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

2.2 Groundwater Flow Evaluation

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

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

V_s is seepage velocity (distance/time)

K is hydraulic conductivity (distance/time)

dh/dl is hydraulic gradient (unitless)

n_e is effective porosity (unitless)

The average hydraulic conductivity of 1.79×10^{-3} ft/sec used in Table 2 was based on a re-evaluation of slug test data performed by Patrick Engineering as part of a hydrogeologic assessment dated February 2011. The estimated effective porosity of the sandy 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 2023 is provided in Table 3, in accordance with 257.90(e)(3). Analytical data packages are included in Attachment 2.

3.2 Data Summary

The analytical data from the detection monitoring groundwater sampling for Appendix III parameters are provided in Table 4. Quarterly groundwater sampling was completed for Appendix III in 2023 which exceeds the minimum detection monitoring requirements under Section 257.94. The table includes the sample dates and whether the specific well is considered upgradient or downgradient relative to groundwater flow and the regulated unit. Table 4 also includes calculated Prediction Limits (PLs) established in the initial CCR Groundwater Monitoring Statistical Evaluation Summary dated January 2018 for data comparison purposes. The downgradient intrawell prediction limits were established for the parameters which were part of the Alternate Source Demonstrations (see 2018 and 2019 CCR Compliance Reports).

The following downgradient monitoring well SSIs above established background for Appendix III detection monitoring constituents were noted during the 2023 monitoring period:

- MW-01 – boron (1st and 2nd quarters) and pH 1st through 4th quarters)
- MW-02 – boron (1st through 4th quarters) and pH (1st through 3rd quarters)
- MW-03 – boron (1st through 4th quarters) and pH (1st through 3rd quarters)
- MW-04 – boron (1st through 4th quarters), pH (3rd quarter) and sulfate (2nd quarter)
- MW-16 – boron and sulfate (1st through 4th quarters)

These constituent SSIs have been addressed previously under Alternate Source Demonstrations (ASDs) with determination being made that the SSIs are not associated with a release from the regulated units. The detections of these parameters during the 2023 sampling were within similar ranges as previous sampling events.

3.3 Current Status

Since the noted SSIs for boron, sulfate and pH were previously addressed under a successful ASD, the station remains in detection monitoring.

4.0 SUMMARY/CONCLUSIONS AND RECOMMENDATIONS

The detection monitoring requirements in accordance with the CCR Rule have been successfully met. At this time, it is recommended that the station stay in detection monitoring in accordance with Section 257.94.

As previously noted, on June 20, 2023 USEPA issued a Proposed Denial of Alternative Closure Deadline for Waukegan Generation Station in Docket No. EPA-HQ-OLEM-2023-0209. On September 9, 2023, Midwest Generation submitted detailed comments and responses to the USEPA proposed denial. A final decision has not yet been issued. Some data presentations may be modified based on the final decision.

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.
- Patrick Engineering, Inc., Hydrogeologic Assessment Report – Waukegan Generating Station, Waukegan, IL. February 2011.
- KPRG and Associates, Inc., CCR Compliance Monitoring, Sampling and Analysis Plan, Midwest Generation, LLC Waukegan Generating Station. October 10, 2017.
- KPRG and Associates, Inc., CCR Compliance Annual Groundwater Monitoring and Corrective Action Report - 2018, Midwest Generation, LLC Waukegan Generating Station. January 31, 2019.
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- KPRG and Associates, Inc., CCR Compliance Annual Groundwater Monitoring and Corrective Action Report - 2020, Midwest Generation, LLC Waukegan Generating Station. January 31, 2021.
- KPRG and Associates, Inc., CCR Compliance Annual Groundwater Monitoring and Corrective Action Report - 2021, Midwest Generation, LLC Waukegan Generating Station. January 31, 2022.
- KPRG and Associates, Inc., CCR Compliance Annual Groundwater Monitoring and Corrective Action Report - 2022, Midwest Generation, LLC Waukegan Generating Station. January 31, 2023.
- C.W. Fetter, Jr., Applied Hydrogeology. Charles E. Merrill Publishing Co., 1980.

FIGURE



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ENVIRONMENTAL CONSULTATION & REMEDIATION		CCR MONITORING WELL SITE MAP	
 KPRG and Associates, inc.		WAUKEGAN STATION WAUKEGAN, ILLINOIS	
		Scale: 1" = 550'	Date: January 2, 2018
14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478		KPRG Project No. 12313.2	
414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593		FIGURE 1	

TABLES

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

Well ID	Date	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
MW-01	11/2/2015	603.12	20.75	582.37
	2/29/2016	603.12	20.71	582.41
	5/2/2016	603.12	20.89	582.23
	8/23/2016	603.12	22.01	581.11
	12/2/2016	603.62	22.27	581.35
	2/21/2017	603.62	22.42	581.20
	5/15/2017	603.62	20.52	583.10
	7/5/2017	603.62	21.81	581.81
	9/11/2017	603.62	21.47	582.15
	11/27/2017	603.62	21.82	581.80
	5/29/2018	603.62	19.43	584.19
	11/5/2018	603.62	20.45	583.17
	5/14/2019	603.62	19.81	583.81
	11/18/2019	603.62	19.89	583.73
	4/21/2020	603.62	20.81	582.81
	11/17/2020	603.62	21.51	582.11
	3/1/2021	603.62	21.19	582.43
	3/30/2021	603.62	21.34	582.28
	5/5/2021	603.62	21.76	581.86
	5/27/2021	603.62	21.78	581.84
	6/18/2021	603.62	21.90	581.72
	7/8/2021	603.62	21.75	581.87
	8/18/2021	603.62	21.82	581.80
	9/29/2021	603.62	22.22	581.40
	10/12/2021	603.62	21.65	581.97
	11/3/2021	603.62	21.45	582.17
	12/14/2021	603.62	21.52	582.10
	1/12/2022	603.62	21.73	581.89
	2/8/2022	603.62	22.00	581.62
	3/10/2022	603.62	21.67	581.95
	4/14/2022	603.62	22.27	581.35
	5/23/2022	603.62	21.25	582.37
	6/28/2022	603.62	21.80	581.82
	7/18/2022	603.62	22.00	581.62
	8/22/2022	603.62	21.78	581.84
	9/26/2022	603.62	21.75	581.87
	10/3/2022	603.62	21.95	581.67
	11/7/2022	603.62	22.17	581.45
	12/15/2022	603.62	21.90	581.72
	1/17/2023	603.62	21.60	582.02
	2/13/2023	603.62	21.76	581.86
	3/15/2023	603.62	21.40	582.22
	4/26/2023	603.62	21.35	582.27
	5/8/2023	603.62	21.46	582.16
	6/7/2023	603.62	21.90	581.72
	7/3/2023	603.62	21.80	581.82
	8/7/2023	603.62	22.22	581.40
	9/13/2023	603.62	22.45	581.17
	10/23/2023	603.62	22.05	581.57
	11/27/2023	603.62	22.28	581.34
12/26/2023	603.62	22.10	581.52	
MW-02	11/2/2015	603.04	20.71	582.33
	2/29/2016	603.04	20.59	582.45
	5/2/2016	603.04	20.82	582.22
	8/23/2016	603.04	22.04	581.00
	12/2/2016	603.39	22.13	581.26
	2/21/2017	603.39	22.24	581.15
	5/15/2017	603.39	20.25	583.14
	7/5/2017	603.39	21.59	581.80
	9/11/2017	603.39	21.21	582.18
	11/27/2017	603.39	21.63	581.76
	5/29/2018	603.39	19.12	584.27
	11/5/2018	603.39	20.19	583.20
	5/14/2019	603.39	19.55	583.84
	11/18/2019	603.39	19.60	583.79
	4/21/2020	603.39	20.57	582.82
	11/17/2020	603.39	21.32	582.07
	3/1/2021	603.39	21.04	582.35
	3/30/2021	603.39	21.13	582.26
	5/5/2021	603.39	21.56	581.83
	5/27/2021	603.39	21.60	581.79
	6/18/2021	603.39	21.65	581.74
	7/8/2021	603.39	21.48	581.91
	8/18/2021	603.39	21.56	581.83
	9/29/2021	603.39	22.00	581.39
	10/12/2021	603.39	21.50	581.89
	11/3/2021	603.39	21.26	582.13
	12/14/2021	603.39	21.40	581.99
	1/12/2022	603.39	21.65	581.74
	2/8/2022	603.39	21.90	581.49
	3/10/2022	603.39	21.55	581.84
	4/14/2022	603.39	22.10	581.29
	5/23/2022	603.39	21.11	582.28
	6/28/2022	603.39	21.60	581.79
	7/18/2022	603.39	21.80	581.59
	8/22/2022	603.39	21.65	581.74
	9/26/2022	603.39	21.50	581.89
	10/3/2022	603.39	21.75	581.64
	11/7/2022	603.39	22.22	581.17
	12/15/2022	603.39	21.75	581.64
	1/17/2023	603.39	21.75	581.64
	2/13/2023	603.39	21.69	581.70
	3/15/2023	603.39	21.25	582.14
	4/26/2023	603.39	21.15	582.24
	5/8/2023	603.39	21.35	582.04
	6/7/2023	603.39	21.75	581.64
	7/3/2023	603.39	21.60	581.79
	8/7/2023	603.39	22.08	581.31
	9/13/2023	603.39	22.30	581.09
	10/23/2023	603.39	22.00	581.39
	11/27/2023	603.39	22.14	581.25
12/26/2023	603.39	22.05	581.34	

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

Well ID	Date	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
MW-03	11/2/2015	602.91	20.37	582.54
	2/29/2016	602.91	20.43	582.48
	5/2/2016	602.91	20.66	582.25
	8/23/2016	602.91	22.12	580.79
	12/2/2016	603.70	22.52	581.18
	2/21/2017	603.70	22.64	581.06
	5/15/2017	603.70	20.55	583.15
	7/5/2017	603.70	21.92	581.78
	9/11/2017	603.70	21.55	582.15
	11/28/2017	603.70	21.96	581.74
	5/29/2018	603.70	19.40	584.30
	11/5/2018	603.70	20.48	583.22
	5/14/2019	603.70	19.80	583.90
	11/18/2019	603.70	20.05	583.65
	4/21/2020	603.70	20.82	582.88
	11/17/2020	603.70	21.60	582.10
	3/1/2021	603.70	21.30	582.40
	3/30/2021	603.70	21.40	582.30
	5/5/2021	603.70	21.83	581.87
	5/27/2021	603.70	21.85	581.85
	6/18/2021	603.70	21.91	581.79
	7/8/2021	603.70	21.71	581.99
	8/18/2021	603.70	21.80	581.90
	9/29/2021	603.70	22.30	581.40
	10/12/2021	603.70	21.70	582.00
	11/3/2021	603.70	21.53	582.17
	12/14/2021	603.70	21.60	582.10
	1/12/2022	603.70	21.97	581.73
	2/8/2022	603.70	22.29	581.41
	3/10/2022	603.70	21.50	582.20
	4/14/2022	603.70	22.30	581.40
	5/23/2022	603.70	21.18	582.52
	6/28/2022	603.70	21.85	581.85
	7/18/2022	603.70	22.10	581.60
	8/22/2022	603.70	21.76	581.94
	9/26/2022	603.70	21.70	582.00
	10/3/2022	603.70	22.00	581.70
	11/7/2022	603.70	22.22	581.48
	12/15/2022	603.70	22.20	581.50
	1/17/2023	603.70	22.10	581.60
	2/13/2023	603.70	22.00	581.70
	3/15/2023	603.70	21.50	582.20
	4/26/2023	603.70	21.40	582.30
	5/8/2023	603.70	25.12	578.58
	6/7/2023	603.70	22.00	581.70
	7/3/2023	603.70	21.87	581.83
	8/7/2023	603.70	22.43	581.27
	9/13/2023	603.70	22.75	580.95
	10/23/2023	603.70	22.30	581.40
	11/27/2023	603.70	22.60	581.10
12/26/2023	603.70	22.50	581.20	
MW-04	11/2/2015	603.19	20.83	582.36
	2/29/2016	603.19	20.70	582.49
	5/2/2016	603.19	20.94	582.25
	8/23/2016	603.19	22.69	580.50
	12/2/2016	603.17	22.18	580.99
	2/21/2017	603.17	22.36	580.81
	5/15/2017	603.17	20.04	583.13
	7/5/2017	603.17	21.46	581.71
	9/11/2017	603.17	21.05	582.12
	11/28/2017	603.17	21.54	581.63
	5/30/2018	603.17	18.88	584.29
	11/6/2018	603.17	19.96	583.21
	5/14/2019	603.17	19.35	583.82
	11/18/2019	603.17	19.36	583.81
	4/21/2020	603.17	20.40	582.77
	11/18/2020	603.17	21.23	581.94
	3/1/2021	603.17	20.95	582.22
	3/30/2021	603.17	21.02	582.15
	5/5/2021	603.17	21.52	581.65
	5/27/2021	603.17	21.55	581.62
	6/18/2021	603.17	21.62	581.55
	7/8/2021	603.17	21.45	581.72
	8/18/2021	603.17	21.49	581.68
	9/29/2021	603.17	22.08	581.09
	10/12/2021	603.17	21.35	581.82
	11/3/2021	603.17	21.15	582.02
	12/14/2021	603.17	21.40	581.77
	1/12/2022	603.17	21.72	581.45
	2/8/2022	603.17	22.17	581.00
	3/10/2022	603.17	21.73	581.44
	4/14/2022	603.17	22.08	581.09
	5/23/2022	603.17	20.92	582.25
	6/28/2022	603.17	21.55	581.62
	7/18/2022	603.17	21.80	581.37
	8/22/2022	603.17	21.55	581.62
	9/26/2022	603.17	21.40	581.77
	10/3/2022	603.17	21.70	581.47
	11/7/2022	603.17	22.13	581.04
	12/15/2022	603.17	22.05	581.12
	1/17/2023	603.17	21.90	581.27
	2/13/2023	603.17	21.76	581.41
	3/15/2023	603.17	21.50	581.67
	4/26/2023	603.17	21.00	582.17
	5/8/2023	603.17	21.11	582.06
	6/7/2023	603.17	21.65	581.52
	7/3/2023	603.17	21.55	581.62
	8/7/2023	603.17	22.20	580.97
	9/13/2023	603.17	22.75	580.42
	10/23/2023	603.17	22.10	581.07
	11/27/2023	603.17	22.49	580.68
12/26/2023	603.17	22.40	580.77	

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

Well ID	Date	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
MW-09	11/2/2015	594.00	9.78	584.22
	2/29/2016	594.00	9.89	584.11
	5/2/2016	594.00	9.59	584.41
	8/23/2016	594.00	10.58	583.42
	12/2/2016	594.00	10.27	583.73
	2/21/2017	594.00	10.21	583.79
	5/15/2017	594.00	9.57	584.43
	7/6/2017	594.00	9.81	584.19
	9/11/2017	594.00	10.25	583.75
	11/29/2017	594.00	9.98	584.02
	5/31/2018	594.00	9.38	584.62
	11/6/2018	594.00	9.52	584.48
	5/14/2019	594.00	9.50	584.50
	11/18/2019	594.00	9.62	584.38
	4/21/2020	594.00	9.84	584.16
	11/18/2020	594.00	10.83	583.17
	3/1/2021	594.00	9.90	584.10
	3/30/2021	594.00	10.46	583.54
	5/5/2021	594.00	10.80	583.20
	5/27/2021	594.00	10.92	583.08
	6/18/2021	594.00	11.25	582.75
	7/8/2021	594.00	10.82	583.18
	8/18/2021	594.00	10.99	583.01
	9/29/2021	594.00	11.82	582.18
	10/12/2021	594.00	10.94	583.06
	11/3/2021	594.00	10.53	583.47
	12/14/2021	594.00	10.60	583.40
	1/12/2022	594.00	10.70	583.30
	2/8/2022	594.00	10.95	583.05
	3/10/2022	594.00	10.62	583.38
	4/14/2022	594.00	11.82	582.18
	5/23/2022	594.00	10.41	583.59
	6/28/2022	594.00	10.80	583.20
	7/18/2022	594.00	10.80	583.20
	8/22/2022	594.00	10.76	583.24
	9/26/2022	594.00	10.60	583.40
	10/3/2022	594.00	9.70	584.30
	11/7/2022	594.00	10.71	583.29
	12/15/2022	594.00	10.30	583.70
	1/17/2023	594.00	10.35	583.65
	2/13/2023	594.00	10.06	583.94
	3/15/2023	594.00	9.70	584.30
	4/26/2023	594.00	10.40	583.60
	5/8/2023	594.00	10.55	583.45
	6/7/2023	594.00	10.90	583.10
	7/3/2023	594.00	10.70	583.30
	8/7/2023	594.00	10.91	583.09
	9/13/2023	594.00	11.00	583.00
	10/23/2023	594.00	10.65	583.35
	11/27/2023	594.00	11.02	582.98
12/26/2023	594.00	10.80	583.20	
MW-11	11/2/2015	590.35	5.27	585.08
	2/29/2016	590.35	5.54	584.81
	5/2/2016	590.35	5.17	585.18
	8/23/2016	590.35	6.04	584.31
	12/2/2016	590.35	5.86	584.49
	2/21/2017	590.35	5.87	584.48
	5/15/2017	590.35	5.33	585.02
	7/6/2017	590.35	5.62	584.73
	9/11/2017	590.35	5.61	584.74
	11/30/2017	590.35	5.68	584.67
	5/31/2018	590.35	5.41	584.94
	11/6/2018	590.35	5.29	585.06
	5/14/2019	590.35	5.55	584.80
	11/18/2019	590.35	5.80	584.55
	4/21/2020	590.35	5.85	584.50
	11/19/2020	590.35	6.66	583.69
	3/1/2021	590.35	5.46	584.89
	3/30/2021	590.35	6.54	583.81
	5/5/2021	590.35	6.81	583.54
	5/27/2021	590.35	6.76	583.59
	6/18/2021	590.35	6.75	583.60
	7/8/2021	590.35	6.72	583.63
	8/18/2021	590.35	6.90	583.45
	9/29/2021	590.35	7.40	582.95
	10/12/2021	590.35	6.77	583.58
	11/3/2021	590.35	6.61	583.74
	12/14/2021	590.35	6.61	583.74
	1/12/2022	590.35	6.68	583.67
	2/8/2022	590.35	6.85	583.50
	3/10/2022	590.35	6.30	584.05
	4/14/2022	590.35	7.40	582.95
	5/23/2022	590.35	6.40	583.95
	6/28/2022	590.35	6.65	583.70
	7/18/2022	590.35	6.60	583.75
	8/22/2022	590.35	6.35	584.00
	9/26/2022	590.35	5.50	584.85
	10/3/2022	590.35	6.40	583.95
	11/7/2022	590.35	6.36	583.99
	12/15/2022	590.35	5.90	584.45
	1/17/2023	590.35	6.40	583.95
	2/13/2023	590.35	6.16	584.19
	3/15/2023	590.35	5.60	584.75
	4/26/2023	590.35	6.30	584.05
	5/8/2023	590.35	6.34	584.01
	6/7/2023	590.35	6.55	583.80
	7/3/2023	590.35	6.30	584.05
	8/7/2023	590.35	6.60	583.75
	9/13/2023	590.35	6.60	583.75
	10/23/2023	590.35	6.25	584.10
	11/27/2023	590.35	6.33	584.02
12/26/2023	590.35	6.25	584.10	

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

Well ID	Date	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
MW-14	11/2/2015	590.24	5.17	585.07
	2/29/2016	590.24	5.01	585.23
	5/2/2016	590.24	4.49	585.75
	8/23/2016	590.24	6.07	584.17
	12/2/2016	590.24	5.49	584.75
	2/21/2017	590.24	5.33	584.91
	5/15/2017	590.24	4.67	585.57
	7/6/2017	590.24	5.27	584.97
	9/11/2017	590.24	5.78	584.46
	11/30/2017	590.24	5.19	585.05
	6/1/2018	590.24	4.45	585.79
	11/6/2018	590.24	4.32	585.92
	5/14/2019	590.24	4.20	586.04
	11/18/2019	590.24	4.75	585.49
	4/21/2020	590.24	5.00	585.24
	11/19/2020	590.24	5.98	584.26
	3/1/2021	590.24	4.35	585.89
	3/30/2021	590.24	5.60	584.64
	5/5/2021	590.24	6.20	584.04
	5/27/2021	590.24	6.32	583.92
	6/18/2021	590.24	6.60	583.64
	7/8/2021	590.24	6.15	584.09
	8/18/2021	590.24	6.45	583.79
	9/29/2021	590.24	7.14	583.10
	10/12/2021	590.24	6.72	583.52
	11/3/2021	590.24	5.66	584.58
	12/14/2021	590.24	5.74	584.50
	1/12/2022	590.24	5.80	584.44
	2/8/2022	590.24	6.40	583.84
	3/10/2022	590.24	7.00	583.24
	4/14/2022	590.24	7.14	583.10
	5/23/2022	590.24	5.21	585.03
	6/28/2022	590.24	5.60	584.64
	7/18/2022	590.24	6.20	584.04
	8/22/2022	590.24	5.73	584.51
	9/26/2022	590.24	5.70	584.54
	10/3/2022	590.24	5.75	584.49
	11/7/2022	590.24	5.82	584.42
	12/15/2022	590.24	5.10	585.14
	1/17/2023	590.24	5.30	584.94
	2/13/2023	590.24	5.16	585.08
	3/15/2023	590.24	4.70	585.54
	4/26/2023	590.24	5.30	584.94
	5/8/2023	590.24	5.45	584.79
	6/7/2023	590.24	27.00	563.24
	7/3/2023	590.24	5.80	584.44
	8/7/2023	590.24	6.13	584.11
	9/13/2023	590.24	6.20	584.04
	10/23/2023	590.24	5.60	584.64
	11/27/2023	590.24	5.78	584.46
12/26/2023	590.24	5.50	584.74	
MW-16	11/2/2015	607.41	25.13	582.28
	2/29/2016	607.41	24.91	582.50
	5/2/2016	607.41	25.23	582.18
	8/23/2016	607.41	28.33	579.08
	12/2/2016	607.41	28.22	579.19
	2/21/2017	607.41	27.71	579.70
	5/15/2017	607.41	23.99	583.42
	7/6/2017	607.41	27.03	580.38
	9/11/2017	607.41	26.74	580.67
	11/27/2017	607.41	27.49	579.92
	6/1/2018	607.41	23.22	584.19
	11/6/2018	607.41	23.65	583.76
	5/14/2019	607.41	23.40	584.01
	11/18/2019	607.41	23.60	583.81
	4/21/2020	607.41	25.26	582.15
	11/17/2020	607.41	27.50	579.91
	3/1/2021	607.41	27.25	580.16
	3/30/2021	607.41	26.96	580.45
	5/5/2021	607.41	27.50	579.91
	5/27/2021	607.41	27.35	580.06
	6/18/2021	607.41	27.12	580.29
	7/8/2021	607.41	26.41	581.00
	8/18/2021	607.41	26.92	580.49
	9/29/2021	607.41	27.45	579.96
	10/12/2021	607.41	26.99	580.42
	11/3/2021	607.41	27.04	580.37
	12/14/2021	607.41	27.60	579.81
	1/12/2022	607.41	22.80	584.61
	2/8/2022	607.41	28.22	579.19
	3/10/2022	607.41	27.85	579.56
	4/14/2022	607.41	27.40	580.01
	5/23/2022	607.41	25.85	581.56
	6/28/2022	607.41	27.20	580.21
	7/18/2022	607.41	27.30	580.11
	8/22/2022	607.41	27.28	580.13
	9/26/2022	607.41	21.40	580.13
	10/3/2022	607.41	27.40	580.01
	11/7/2022	607.41	28.09	579.32
	12/15/2022	607.41	28.00	579.41
	1/17/2023	607.41	27.80	579.61
	2/13/2023	607.41	27.67	579.74
	3/15/2023	607.41	25.20	582.21
	4/26/2023	607.41	25.40	582.01
	5/8/2023	607.41	25.64	581.77
	6/7/2023	607.41	27.00	580.41
	7/3/2023	607.41	26.65	580.76
	8/7/2023	607.41	27.88	579.53
	9/13/2023	607.41	28.40	579.01
	10/23/2023	607.41	28.00	579.41
	11/27/2023	607.41	28.40	579.01
12/26/2023	607.41	28.25	579.16	

MSL - Mean Sea Level
TOC - Top of Casing

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

DATE	Groundwater Flow Direction	Kavg (ft/sec)*	Average Hydraulic Gradient (ft/ft)	Porosity (unitless)**	Estimated Seepage Velocity (ft/day)
5/23/2022	East-Southeast	1.790E-03	0.0016	0.35	0.71
8/22/2022	East-Southeast	1.790E-03	0.0016	0.35	0.71
11/7/2022	East-Southeast	1.790E-03	0.0015	0.35	0.66
2/13/2023	East-Southeast	1.790E-03	0.0020	0.35	0.87
5/6/2023	East-Southeast	1.790E-03	0.0019	0.35	0.85
8/7/2023	East-Southeast	1.790E-03	0.0016	0.35	0.69
11/27/2023	East-Southeast	1.790E-03	0.0023	0.35	1.03

* Kavg - K values from re-evaluation of slug test data as part of groundwater modeling in support of Application for Construction Permit per Illinois State CCR Rule.

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

Table 3. CCR Groundwater Sample Collection Summary for 2023 - Waukegan Generating Station

Well ID	Number of Groundwater Sampling Events	Dates of Groundwater Sampling Events	Detection Monitoring (D) versus Assessment Monitoring (A)
MW-09 (Background)	4	2/13/2023	D
		5/9/2023	D
		8/8/2023	D
		11/28/2023	D
MW-11 (Background)	4	2/14/2023	D
		5/9/2023	D
		8/8/2023	D
		11/28/2023	D
MW-14 (Background)	4	2/14/2023	D
		5/9/2023	D
		8/8/2023	D
		11/28/2023	D
MW-01 (Downgradient)	4	2/13/2023	D
		5/8/2023	D
		8/7/2023	D
		11/27/2023	D
MW-02 (Downgradient)	4	2/13/2023	D
		5/8/2023	D
		8/7/2023	D
		11/28/2023	D
MW-03 (Downgradient)	4	2/13/2023	D
		5/8/2023	D
		8/7/2023	D
		11/27/2023	D
MW-04 (Downgradient)	4	2/13/2023	D
		5/9/2023	D
		8/7/2023	D
		11/27/2023	D
MW-16 (Downgradient)	4	2/14/2023	D
		5/9/2023	D
		8/8/2023	D
		11/28/2023	D

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

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-09 up-gradient	11/4/2015	13	210	450	0.14	6.60	370	1700
	3/2/2016	35	380	720	0.11	7.02	920	2800
	5/3/2016	16	310	620	0.12	7.02	740	2500
	8/25/2016	4.5	130	270	0.21	7.13	190	1100
	1/28/2016	15	200	330	0.18	7.01	270	1300
	2/23/2017	14	190	290	0.12	7.68	320	1300
	5/16/2017	27	160	67	0.29	8.15	420	970
	7/6/2017	21	220	413	0.13	7.18	610	1800
	Pred. Limit*	43.9	449	963	0.33	8.53-8.92	1214	3499
	9/13/2017	21	250	420	0.14	7.17	520	1800
	11/29/2017	36	200	390	0.13	7.05	390	1600
	5/1/2018	32	200	29	0.1	6.85	490	1000
	11/6/2018	30	170	23	0.11	7.33	290	950
	5/15/2019	26	120	260	0.13	7.53	31	1000
	11/19/2019	22	160	17	0.16	8.04	300	750
	4/22/2020	22	140	9.2	0.18	7.81	360	700
	11/18/2020	28	250	290	0.18	7.43	420	1700
	5/6/2021	31	170	35	0.12	7.51	420	910
	8/19/2021	7.2	150	170	0.13	7.01	210	350
	11/3/2021	10	150	160	0.24	7.07	180	980
	2/10/2022	9.5	190	220	0.17	7.11	270	1300
	5/24/2022	5.3	150	180	0.23	7.15	200	940
	8/23/2022	12	170	170	0.22	7.14	290	1100
	11/7/2022	6.4	160	200	0.51	6.98	220	1100
	12/21/2022 (R)	NS	NS	NS	0.40	NS	NS	NS
	2/13/2023	B 28	280	220	0.12	6.97	490	1500
	5/9/2023	4.7	140	220	0.23	7.08	200	800
8/8/2023	^v 20	270	380	0.23	6.98	510	1800	
11/28/2023	2.6	96	170	0.33	7.15	130	750	
MW-11 up-gradient	11/5/2015	5.2	140	240	0.13	6.51	190	1100
	3/2/2016	4.0	170	240	0.1	7.16	210	1200
	5/5/2016	5.0	140	280	0.11	7.17	160	1000
	8/26/2016	3.5	180	240	0.13	6.97	110	1100
	12/7/2016	3.0	170	270	0.12	7.06	110	1200
	2/24/2017	2.4	180	220	4.9	6.61	170	1200
	5/18/2017	1.8	160	170	0.12	7.42	120	1000
	7/6/2017	2.4	160	190	0.14	7.33	130	1100
	Pred. Limit*	6.83	206	333	4.9	7.91-6.14	255	1341
	9/13/2017	1.9	140	150	0.26	7.16	96	870
	11/30/2017	2.2	170	200	0.14	6.99	93	1100
	5/31/2018	1.5	210	160	0.1	6.74	130	1100
	11/6/2018	2.3	170	150	0.12	7.21	78	990
	5/15/2019	3.2	120	260	0.13	7.14	31	1000
	11/19/2019	4.1	130	200	0.15	7.51	29	890
	4/22/2020	3.2	110	150	0.15	7.16	47	740
	11/19/2020	2.3	140	130	0.2	7.00	28	800
	5/6/2021	2.4	130	120	0.15	7.13	45	770
	8/19/2021	1.3	140	88	0.16	6.95	45	730
	11/4/2021	1.6	130	100	0.16	6.80	45	740
	2/10/2022	1.2	150	87	0.17	7.12	44	860
	5/24/2022	1.8	150	95	0.14	6.78	21	820
	8/23/2022	1.4	140	97	0.18	7.01	30	780
	11/8/2022	1.4	150	100	0.21	6.87	26	790
	2/14/2023	1.0	150	100	0.15	6.92	36	730
	5/9/2023	1.2	140	100	0.15	6.99	55	790
	8/8/2023	1.2	140	90	0.16	6.95	67	800
11/28/2023	1.2	130	82	0.16	7.02	81	790	
MW-14 up-gradient	11/5/2015	1.4	150	190	0.19	6.78	140	1000
	3/2/2016	0.93	150	110	0.17	7.24	150	870
	5/5/2016	1.2	170	120	0.18	7.17	190	980
	8/26/2016	1.5	200	210	0.12	7.00	190	1300
	12/7/2016	0.95	240	340	0.25	6.81	120	1100
	2/23/2017	0.73	150	99	0.19	6.88	110	730
	5/18/2017	0.81	120	130	0.3	7.62	70	590
	7/6/2017	1.2	190	220	0.13	7.29	190	1300
	Pred. Limit*	1.85	274	389	0.35	7.89-6.31	266	1676
	9/13/2017	2.3	180	190	0.15	7.20	270	1200
	11/30/2017	0.85	170	130	0.19	7.33	99	940
	6/1/2018	0.54	100	57	0.28	6.89	42	410
	11/6/2018	0.98	160	110	0.24	7.36	53	630
	5/15/2019	0.69	140	190	0.23	7.25	35	780
	11/19/2019	0.62	130	68	0.16	7.58	21	610
	4/22/2020	0.43	120	20	0.21	7.16	9.5	500
	11/19/2020	0.71	130	40	0.2	7.09	20	520
	5/6/2021	0.45	130	41	0.19	7.16	28	390
	8/19/2021	0.48	130	32	0.13	6.96	34	450
	11/3/2021	0.66	120	37	0.21	7.15	72	580
	2/10/2022	0.5	150	30	0.16	7.29	58	750
	5/24/2022	0.62	120	33	0.17	7.11	43	570
	8/23/2022	0.58	150	52	0.15	7.03	28	740
	11/8/2022	0.65	150	46	0.2	6.99	28	650
	2/14/2023	0.44	120	23	0.14	6.87	36	480
	5/9/2023	0.42	110	17	0.18	7.07	24	460
	8/8/2023	0.48	110	21	0.14	7.11	23	480
11/28/2023	0.52	130	25	0.16	7.05	< 5.0	600	
MW-01 down-gradient	11/2/2015	1.8	64	71	0.46	10.93	310	560
	3/1/2016	V 1.9	58	63	0.26	11.13	270	570
	5/4/2016	2.0	45	60	0.3	11.09	210	490
	8/23/2016	2.0	42	60	0.26	10.49	240	550
	12/5/2016	2.2	55	65	0.34	10.46	180	560
	2/21/2017	2.2	50	61	0.29	11.30	250	540
	5/15/2017	2.1	52	59	0.37	10.69	330	570
	7/5/2017	2.3	44	51	0.34	10.83	320	570
	Pred. Limit	1.83	227**	345**	4.9**	7.70-6.43**	233**	1461**
	Pred. Limit*	2.52	NC	NC	NC	11.7-10.03	411.6	NC
	9/14/2017	2.4	71	47	0.24	10.45	420	770
	11/27/2017	2.7	84	43	0.11	12.85	330	840
	5/29/2018	2.4	54	58	0.33	8.44	350	610
	11/5/2018	2.0	38	43	0.25	8.70	210	630
	5/14/2019	2.2	56	45	0.18	9.85	250	560
	11/19/2019	2.3	38	39	0.24	10.58	240	530
	4/21/2020	2.8	55	25	0.22	9.40	240	470
	11/17/2020	3.3	120	95	0.14	7.97	250	640
	5/5/2021	< 5.0	66	67	0.22	9.00	180	430
	8/18/2021	2.7	72	60	0.17	8.31	170	430
	11/3/2021	2.9	67	60	0.22	8.56	180	440
	2/9/2022	3.4	62	42	0.27	8.62	230	530
	5/23/2022	3.4	94	34	0.24	12.77	300	490
	8/22/2022	2.8	52	43	0.34	8.60	190	430
	11/7/2022	3.0	59	48	0.43	8.45	180	460
	2/13/2023	2.6	46	63	0.24	8.58	170	440
	5/8/2023	2.1	45	54	0.39	8.87	160	370
8/7/2023	^v 1.8	46	50	0.40	9.08	150	340	
11/27/2023	1.6	54	61	0.31	9.00	140	390	

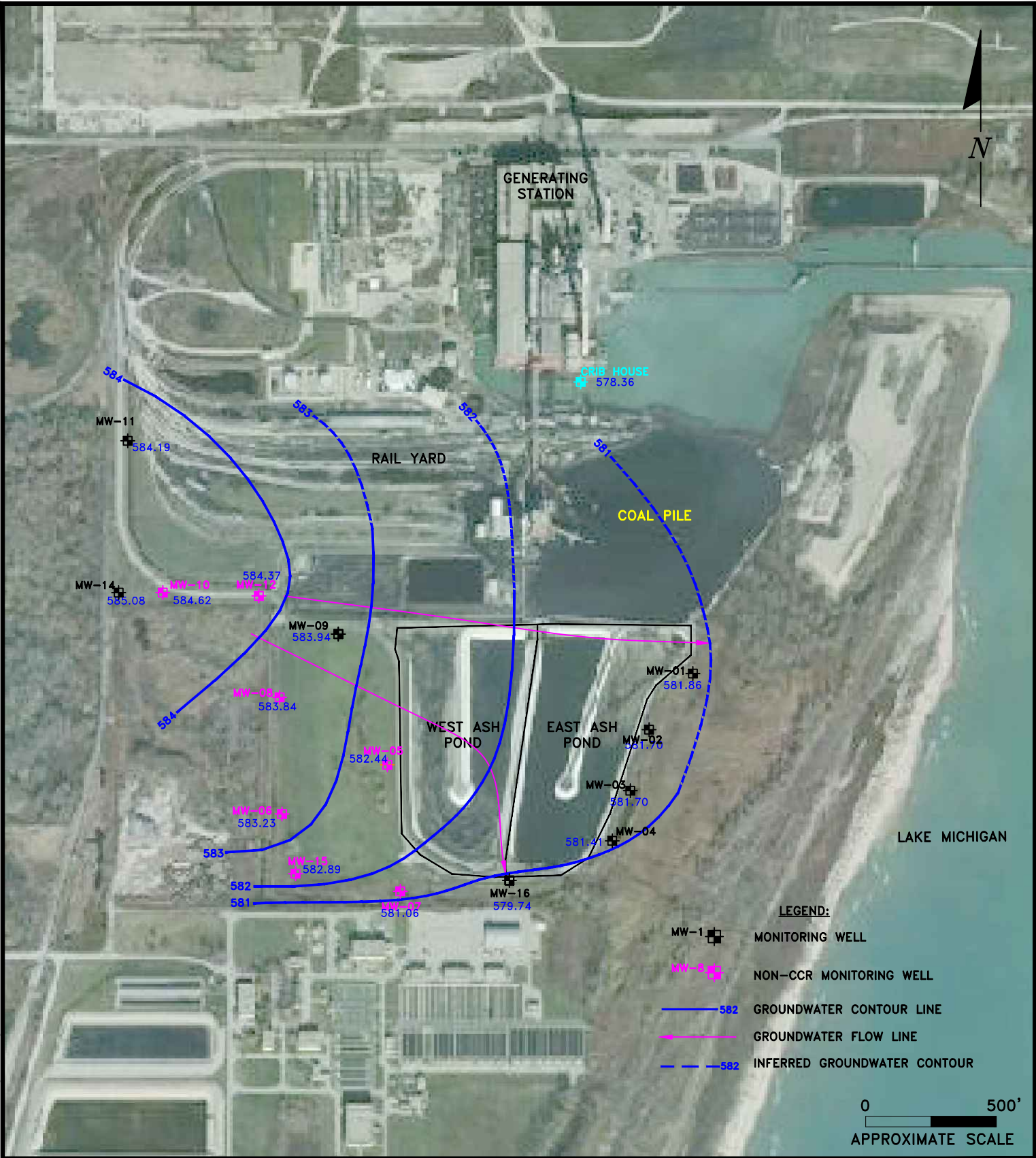
Notes: All units are in mg/l except pH is in standard units.
Pred. Limit - Prediction Limit
Interwell Date - Detection Monitoring and Resample after statistical Background establishment.
 * - Intrawell Prediction Limit. All others are interwell comparisons.
 ** - Based on pooled background from MW-11 & MW-14. All others based on MW-14 as background.
 V - Serial dilution exceeds the control limits.
 R - Resampling event
 NA - Not analyzed. No confirmation Resample required.
Bold - Potential statistically significant increase.
Bold, Italic - Potentially statistically significant increase relative to intrawell Prediction Limit.
Blue - Above both interwell and intrawell Prediction Limits.
 NC - Not Calculated.

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

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
MW-02 down-gradient	11/2/2015	3.0	32	47	0.78	8.27	250	460
	3/1/2016	4.1	29	47	1.3	8.57	220	510
	5/4/2016	3.3	34	51	1.5	8.19	180	440
	8/23/2016	3.1	42	59	1.3	7.52	250	500
	12/5/2016	3.1	28	56	1.0	8.62	160	430
	2/21/2017	3.3	31	52	0.76	8.75	190	420
	5/15/2017	3.6	85	48	0.64	8.33	320	640
	7/5/2017	4.2	100	52	0.42	7.92	300	710
	Pred. Limit*	1.8	227**	345**	4.9**	7.70-6.43**	233**	1461**
	Pred. Limit*	4.7	NC	NC	NC	9.38-7.16	386.6	NC
	9/4/2017	2.5	87	54	0.44	8.19	340	780
	11/27/2017	3.4	69	57	0.62	7.34	200	570
	5/29/2018	4.5	160	43	0.40	6.85	420	990
	11/5/2018	3.1	77	59	0.61	8.06	180	610
	5/4/2019	2.9	47	49	1.0	8.30	140	430
	11/19/2019	4.2	140	43	0.68	7.37	270	900
	4/21/2020	3.4	86	48	0.97	8.02	250	580
	11/17/2020	4.0	79	20	0.82	7.67	310	610
	5/5/2021	4.6	70	37	0.72	8.39	190	420
	8/18/2021	4.1	84	39	0.50	7.92	190	480
	11/3/2021	4.2	59	43	0.63	7.28	170	410
	2/8/2022	0.2	71	34	0.50	8.00	200	580
	5/23/2022	3.5	77	30	0.46	8.12	190	510
	8/22/2022	3.3	84	33	0.28	7.59	220	650
	11/7/2022	3.5	120	36	0.29	7.40	270	700
	2/13/2023	3.8	83	45	0.34	7.90	180	560
	5/8/2023	3.1	62	47	0.39	8.00	210	440
	8/7/2023	3.1	68	51	0.40	8.17	210	510
11/28/2023	2.8	61	67	0.36	7.58	150	480	
MW-03 down-gradient	11/2/2015	2.3	72	87	0.51	9.26	270	570
	3/1/2016	2.9	61	70	0.33	7.33	220	530
	5/4/2016	2.4	42	74	0.56	7.25	170	470
	8/24/2016	2.0	70	59	0.3	9.13	200	430
	12/5/2016	2.4	57	60	0.41	7.62	120	440
	2/21/2017	2.2	56	65	0.33	7.56	180	460
	5/16/2017	3.9	110	61	0.27	7.90	320	820
	7/5/2017	3.0	60	60	0.28	7.46	200	470
	Pred. Limit*	1.83	227**	345**	4.9**	7.70-6.43**	233**	1461**
	Pred. Limit*	4.31	NC	NC	NC	9.26-7.25	378.9	NC
	9/4/2017	2.1	86	57	0.26	7.53	260	680
	11/28/2017	2.6	69	63	0.56	6.96	120	590
	5/29/2018	2.4	67	61	0.38	6.84	190	480
	1/5/2018	2.4	54	54	0.5	8.99	150	500
	5/4/2019	4.2	86	17	0.59	7.21	270	660
	11/19/2019	4.2	130	15	0.25	7.47	300	740
	4/21/2020	3.8	120	23	0.29	6.87	270	660
	11/17/2020	3.8	120	23	0.29	7.05	240	650
	5/5/2021	3.3	110	43	0.23	7.18	210	550
	8/18/2021	3	150	46	0.17	6.90	250	690
	11/3/2021	3.2	120	40	0.18	7.05	250	600
	2/8/2022	2.6	91	31	0.3	7.16	210	580
	5/23/2022	2.4	79	32	0.23	8.22	170	430
	6/30/2022R	NA	NA	NA	NA	7.29	NA	NA
	8/22/2022	1.8	80	45	0.2	7.38	180	570
	11/7/2022	2.3	82	50	0.35	7.35	180	520
	2/13/2023	2.4	74	60	0.21	7.13	150	510
	5/8/2023	2.3	53	53	0.32	8.20	130	340
8/7/2023	2.3	45	54	0.48	7.23	130	380	
11/27/2023	2.4	24	51	0.41	8.06	130	370	
11/3/2015	1.8	66	62	0.51	6.68	240	480	
3/1/2016	2.0	58	51	0.5	7.17	170	450	
5/4/2016	1.6	44	49	0.61	6.92	140	340	
8/24/2016	2.0	46	58	0.56	7.01	120	370	
12/5/2016	3.4	200	60	0.21	7.40	300	1000	
2/22/2017	2.4	150	41	0.17	7.44	290	850	
5/16/2017	2.5	170	29	0.22	7.94	400	970	
7/5/2017	3.6	200	51	0.29	7.09	520	1100	
Pred. Limit*	1.83	227**	345**	4.9**	7.70-6.43**	233**	1461**	
Pred. Limit*	4.42	NC	NC	NC	8.26-6.15	647.3	NC	
9/4/2017	2.5	180	45	0.28	7.04	480	1100	
11/28/2017	2.3	110	32	0.28	7.04	130	560	
5/30/2018	3.0	150	21	0.38	6.57	200	700	
11/6/2018	2.5	150	58	0.37	6.83	240	900	
5/4/2019	3.3	100	58	0.64	7.30	200	730	
11/19/2019	2.9	120	44	0.75	7.27	270	680	
4/21/2020	2.9	100	33	0.9	7.18	290	670	
11/18/2020	3.1	100	18	1.1	7.17	250	690	
5/5/2021	3.3	75	17	0.91	7.46	190	530	
8/18/2021	3.0	92	39	0.8	7.45	200	590	
11/3/2021	2.7	67	50	0.99	7.36	150	550	
2/8/2022	3.1	110	38	0.66	7.61	190	660	
5/23/2022	2.5	81	41	0.61	8.05	150	510	
6/30/2022R	NA	NA	NA	NA	7.41	NA	NA	
8/22/2022	F1 3.1	100	31	0.55	7.82	230	660	
11/7/2022	2.7	63	33	0.62	7.47	180	450	
2/13/2023	2.8	110	28	0.36	7.58	210	610	
5/9/2023	2.3	100	59	0.38	7.16	250	560	
8/8/2023	2.5	58	63	0.40	7.81	150	400	
11/27/2023	2.4	44	58	0.37	7.63	130	360	
MW-04 down-gradient	11/3/2015	4.1	230	87	0.43	6.24	610	1400
	3/2/2016	3.1	360	130	0.35	6.76	990	1700
	5/2/2016	4.9	250	150	0.49	6.99	620	1600
	8/24/2016	3.6	130	53	0.71	7.00	330	830
	12/5/2016	3.8	160	52	0.51	7.03	380	920
	2/24/2017	6.5	200	67	0.2	5.76	570	1100
	5/16/2017	2.6	340	130	0.15	7.57	760	1700
	7/6/2017	9.5	190	70	0.57	7.35	480	1100
	Pred. Limit*	1.83	227**	345**	4.9**	7.70-6.43**	233**	1461**
	Pred. Limit*	10.94	456.4	NC	NC	8.45-6.23	1206	2287
	9/13/2017	2.8	190	55	0.61	7.33	460	970
	11/27/2017	4.2	140	58	0.71	7.16	270	760
	6/1/2018	3	380	130	0.32	6.53	890	1900
	8/22/2018 (R)	NA	190	NA	NA	NA	NA	1200
	11/6/2018	3.9	380	150	0.39	6.78	550	1800
	12/4/2018 (R)	NA	320	NA	NA	NA	NA	1600
	5/15/2019	2.9	400	65	0.31	6.67	990	2000
	11/19/2019	7.2	410	480	0.46	6.89	680	3100
	12/27/2019 (R)	NS	NS	NS	NS	NS	NS	2800
	4/21/2020	7.2	420	200	0.5	6.79	1100	2400
	11/17/2020	3.2	130	54	0.71	7.22	320	990
	5/6/2021	3.1	120	55	0.68	7.33	300	740
	8/18/2021	3.1	140	55	0.66	7.19	320	790
	11/4/2021	3	120	48	0.68	7.32	290	810
	2/8/2022	2.6	110	41	0.65	7.40	280	700
	5/23/2022	3.6	170	62	0.53	6.97	420	1100
	8/22/2022	2.7	110	42	0.62	7.33	280	780
	11/7/2022	3	120	47	0.8	7.20	290	730
2/14/2023	2.6	110	49	0.58	7.28	260	750	
5/9/2023	3.0	140	66	0.58	6.98	350	850	
8/8/2023	2.7	130	46	0.56	7.30	310	770	
11/28/2023	2.7	130	47	0.52	7.14	350	830	

Notes: All units are in mg/l except pH is in standard units.
Bold - Potential statistically significant increase.
Red - Potentially statistically significant increase relative to intrawell Predicto Limit.
Blue - Above both intrawell and intrawell Prediction Limits.
Red - Intrawell Prediction Limit. All others are interwell comparisons.
NC - Not Calculated.
****** - Based on pooled background from MW-11/MW-14. All others based on MW-14 as background.
V - Serial dilution exceeds the control limits.
R - Resampling event
NA - Not analyzed. No confirmation resample required.

ATTACHMENT 1
Groundwater Flow Contour Maps



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

POTENTIOMETRIC MAP 02/2023

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

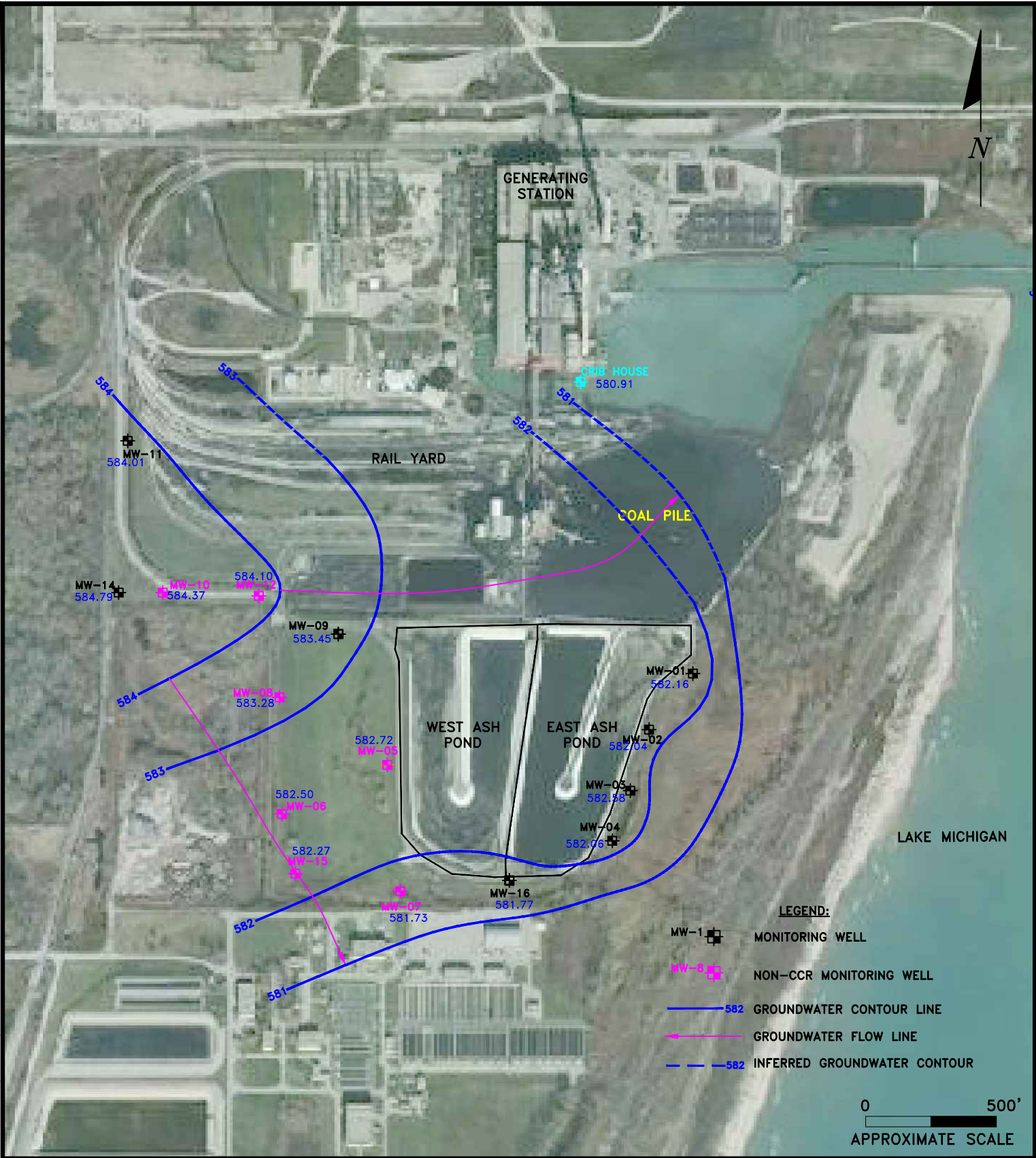
Scale: 1" = 500'

Date: June 22, 2023

KPRG Project No. 12313.2

ATTACHMENT 1

Comment: Projects Midwest Generation 12313 Ash Pond Groundwater Figures Waukegan CCR 2020



ENVIRONMENTAL CONSULTATION & REMEDIATION

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

POTENTIOMETRIC MAP 05/2023

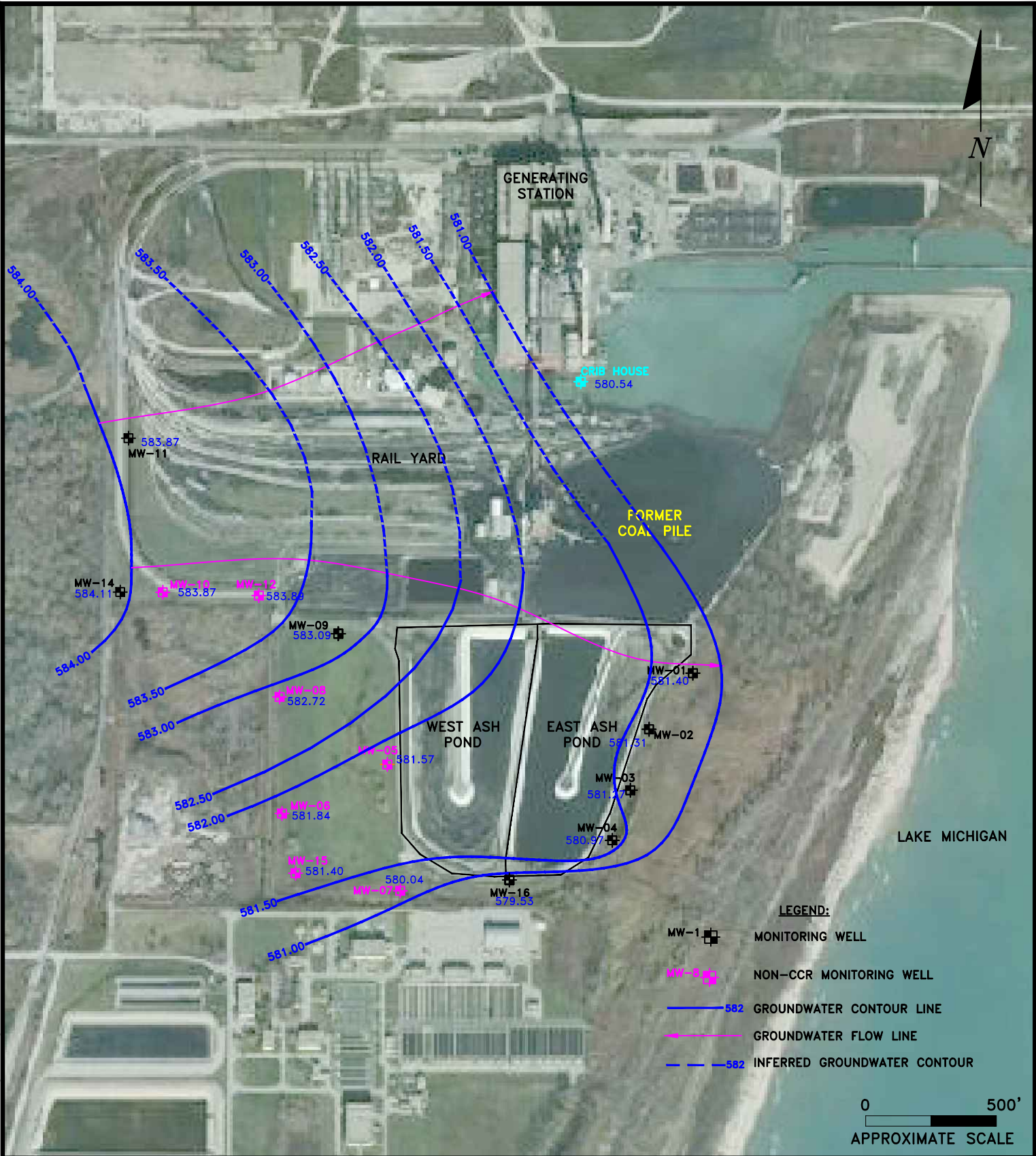
WAUKEGAN STATION
 WAUKEGAN, ILLINOIS

Scale: 1" = 500'

Date: June 22, 2023

KPRG Project No. 12313.2

ATTACHMENT 1



ENVIRONMENTAL CONSULTATION & REMEDIATION

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POTENTIOMETRIC MAP 08/2023

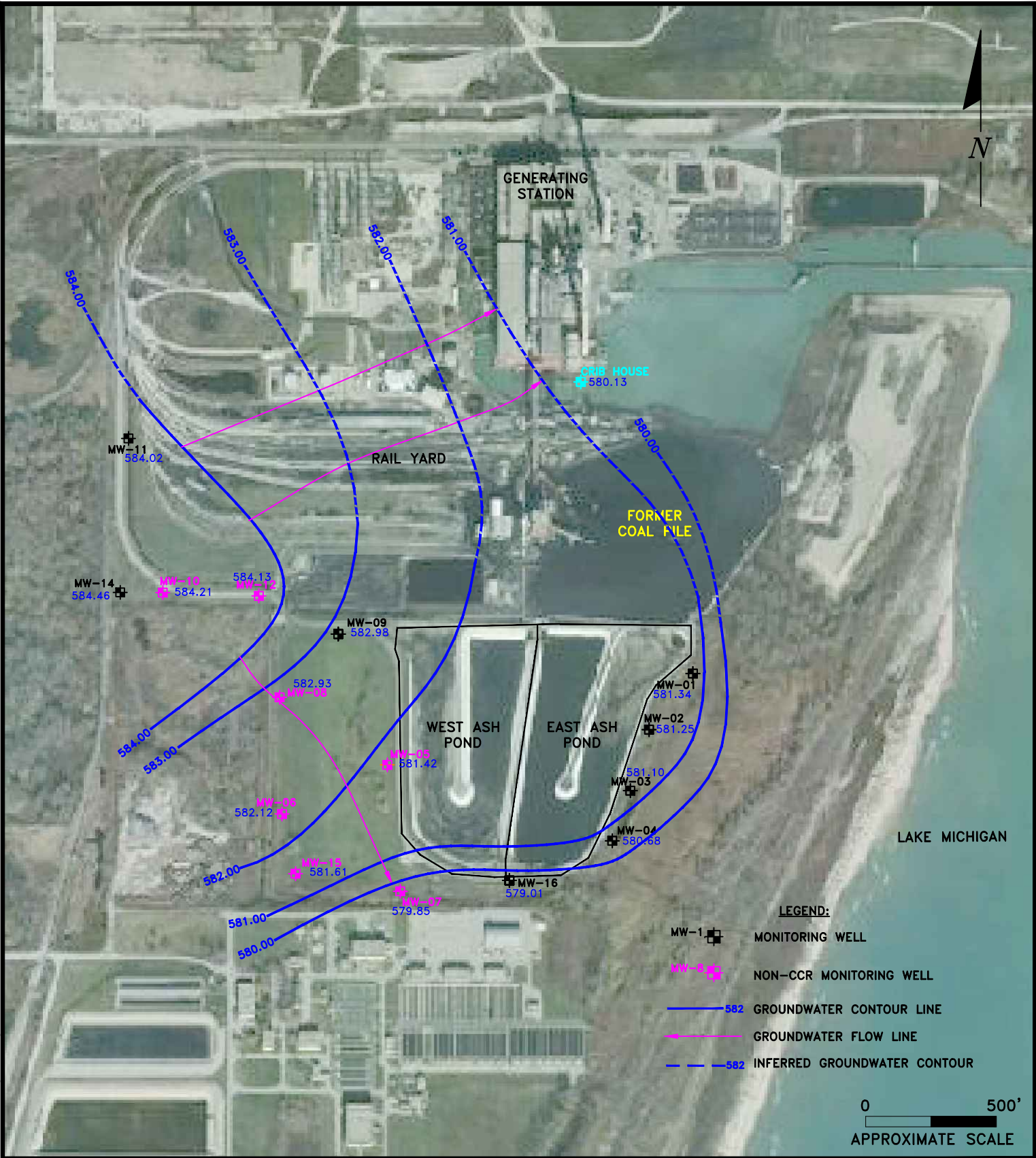
WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 500'

Date: October 2, 2023

KPRG Project No. 12313.2

ATTACHMENT 1



ENVIRONMENTAL CONSULTATION & REMEDIATION

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

POTENTIOMETRIC MAP 11/2023

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 500'

Date: January 3, 2024

KPRG Project No. 12313.2

ATTACHMENT 1

C:\Common\Projects\Midwest Generation\12313.Ash Pond Groundwater\Figures\Waukegan_CCR_2020

ATTACHMENT 2
Analytical Data Packages

 **ANALYTICAL REPORT****PREPARED FOR**

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

Generated 2/23/2023 12:37:48 PM

JOB DESCRIPTION

Waukegan CCR

JOB NUMBER

500-229428-1

Eurofins Chicago

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing North Central, LLC and its client. All questions regarding this report should be directed to the Eurofins Environment Testing North Central, LLC Project Manager who has signed this report.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization



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Authorized for release by
Diana Mockler, Project Manager I
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Case Narrative

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

Job ID: 500-229428-1

Job ID: 500-229428-1

Laboratory: Eurofins Chicago

Narrative

**Job Narrative
500-229428-1**

Comments

No additional comments.

Receipt

The samples were received on 2/14/2023 11:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.2° C, 1.7° C and 2.9° C.

Metals

Method 6020A: The continuing calibration verification (CCV) at line 15 in batch 698939 was outside the control limits for Boron. This CCV bracketed the method blank (MB) and laboratory control sample (LCS). The MB and LCS were within the method control limits. The associated samples were bracketed by CCV that were within control limits 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: Waukegan CCR

Job ID: 500-229428-1

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

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

Sample Summary

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

Job ID: 500-229428-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-229428-1	MW-01	Water	02/13/23 10:54	02/14/23 11:00
500-229428-2	MW-02	Water	02/13/23 11:49	02/14/23 11:00
500-229428-3	MW-03	Water	02/13/23 12:45	02/14/23 11:00
500-229428-4	MW-04	Water	02/13/23 13:57	02/14/23 11:00
500-229428-5	MW-16	Water	02/13/23 15:08	02/14/23 11:00
500-229428-6	Duplicate	Water	02/13/23 00:00	02/14/23 11:00
500-229428-7	MW-09	Water	02/14/23 11:26	02/15/23 10:10
500-229428-8	MW-11	Water	02/14/23 13:50	02/15/23 10:10
500-229428-9	MW-14	Water	02/14/23 10:15	02/15/23 10:10

- 1
- 2
- 3
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- 7
- 8
- 9
- 10
- 11
- 12
- 13

Client Sample Results

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

Job ID: 500-229428-1

Client Sample ID: MW-01

Lab Sample ID: 500-229428-1

Date Collected: 02/13/23 10:54

Matrix: Water

Date Received: 02/14/23 11:00

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/14/23 16:16	02/15/23 19:03	1
Arsenic	0.023		0.0010		mg/L		02/14/23 16:16	02/15/23 19:03	1
Barium	0.026		0.0025		mg/L		02/14/23 16:16	02/15/23 19:03	1
Beryllium	<0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 19:03	1
Boron	2.6		0.50		mg/L		02/14/23 16:16	02/16/23 16:49	10
Cadmium	<0.00050		0.00050		mg/L		02/14/23 16:16	02/15/23 19:03	1
Calcium	46		0.20		mg/L		02/14/23 16:16	02/15/23 19:03	1
Chromium	<0.0050		0.0050		mg/L		02/14/23 16:16	02/15/23 19:03	1
Cobalt	<0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 19:03	1
Lead	<0.00050		0.00050		mg/L		02/14/23 16:16	02/15/23 19:03	1
Lithium	<0.010		0.010		mg/L		02/14/23 16:16	02/15/23 19:03	1
Molybdenum	0.027		0.0050		mg/L		02/14/23 16:16	02/15/23 19:03	1
Selenium	<0.0025		0.0025		mg/L		02/14/23 16:16	02/15/23 19:03	1
Thallium	<0.0020		0.0020		mg/L		02/14/23 16:16	02/15/23 19:03	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/23 11:35	02/21/23 09:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	440		10		mg/L			02/16/23 01:57	1
Chloride (SM 4500 Cl- E)	63		10		mg/L			02/15/23 14:19	5
Fluoride (SM 4500 F C)	0.24		0.10		mg/L			02/15/23 12:31	1
Sulfate (SM 4500 SO4 E)	170		50		mg/L			02/16/23 15:22	10

Client Sample ID: MW-02

Lab Sample ID: 500-229428-2

Date Collected: 02/13/23 11:49

Matrix: Water

Date Received: 02/14/23 11:00

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/14/23 16:16	02/15/23 19:07	1
Arsenic	0.0086		0.0010		mg/L		02/14/23 16:16	02/15/23 19:07	1
Barium	0.029		0.0025		mg/L		02/14/23 16:16	02/15/23 19:07	1
Beryllium	<0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 19:07	1
Boron	3.8		0.50		mg/L		02/14/23 16:16	02/16/23 16:52	10
Cadmium	<0.00050		0.00050		mg/L		02/14/23 16:16	02/15/23 19:07	1
Calcium	83		0.20		mg/L		02/14/23 16:16	02/15/23 19:07	1
Chromium	<0.0050		0.0050		mg/L		02/14/23 16:16	02/15/23 19:07	1
Cobalt	<0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 19:07	1
Lead	<0.00050		0.00050		mg/L		02/14/23 16:16	02/15/23 19:07	1
Lithium	<0.010		0.010		mg/L		02/14/23 16:16	02/15/23 19:07	1
Molybdenum	0.022		0.0050		mg/L		02/14/23 16:16	02/15/23 19:07	1
Selenium	0.0042		0.0025		mg/L		02/14/23 16:16	02/15/23 19:07	1
Thallium	<0.0020		0.0020		mg/L		02/14/23 16:16	02/15/23 19:07	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/23 11:35	02/21/23 09:29	1

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Client Sample Results

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

Job ID: 500-229428-1

Client Sample ID: MW-02
Date Collected: 02/13/23 11:49
Date Received: 02/14/23 11:00

Lab Sample ID: 500-229428-2
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	560		10		mg/L			02/16/23 02:00	1
Chloride (SM 4500 Cl- E)	45		4.0		mg/L			02/15/23 14:22	2
Fluoride (SM 4500 F C)	0.34		0.10		mg/L			02/15/23 12:37	1
Sulfate (SM 4500 SO4 E)	180		50		mg/L			02/16/23 15:22	10

Client Sample ID: MW-03
Date Collected: 02/13/23 12:45
Date Received: 02/14/23 11:00

Lab Sample ID: 500-229428-3
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/14/23 16:16	02/15/23 19:10	1
Arsenic	0.0059		0.0010		mg/L		02/14/23 16:16	02/15/23 19:10	1
Barium	0.022		0.0025		mg/L		02/14/23 16:16	02/15/23 19:10	1
Beryllium	<0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 19:10	1
Boron	2.4		0.50		mg/L		02/14/23 16:16	02/16/23 16:56	10
Cadmium	<0.00050		0.00050		mg/L		02/14/23 16:16	02/15/23 19:10	1
Calcium	74		0.20		mg/L		02/14/23 16:16	02/15/23 19:10	1
Chromium	<0.0050		0.0050		mg/L		02/14/23 16:16	02/15/23 19:10	1
Cobalt	<0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 19:10	1
Lead	<0.00050		0.00050		mg/L		02/14/23 16:16	02/15/23 19:10	1
Lithium	<0.010		0.010		mg/L		02/14/23 16:16	02/15/23 19:10	1
Molybdenum	0.030		0.0050		mg/L		02/14/23 16:16	02/15/23 19:10	1
Selenium	0.0061		0.0025		mg/L		02/14/23 16:16	02/15/23 19:10	1
Thallium	<0.0020		0.0020		mg/L		02/14/23 16:16	02/15/23 19:10	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/23 11:35	02/21/23 09:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	510		10		mg/L			02/16/23 02:03	1
Chloride (SM 4500 Cl- E)	60		10		mg/L			02/15/23 14:22	5
Fluoride (SM 4500 F C)	0.21		0.10		mg/L			02/15/23 12:56	1
Sulfate (SM 4500 SO4 E)	150		50		mg/L			02/16/23 15:23	10

Client Sample ID: MW-04
Date Collected: 02/13/23 13:57
Date Received: 02/14/23 11:00

Lab Sample ID: 500-229428-4
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/14/23 16:16	02/15/23 19:14	1
Arsenic	0.0083		0.0010		mg/L		02/14/23 16:16	02/15/23 19:14	1
Barium	0.045		0.0025		mg/L		02/14/23 16:16	02/15/23 19:14	1
Beryllium	<0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 19:14	1
Boron	2.8		0.50		mg/L		02/14/23 16:16	02/16/23 16:59	10
Cadmium	<0.00050		0.00050		mg/L		02/14/23 16:16	02/15/23 19:14	1
Calcium	110		0.20		mg/L		02/14/23 16:16	02/15/23 19:14	1
Chromium	<0.0050		0.0050		mg/L		02/14/23 16:16	02/15/23 19:14	1

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Client Sample Results

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

Job ID: 500-229428-1

Client Sample ID: MW-04
Date Collected: 02/13/23 13:57
Date Received: 02/14/23 11:00

Lab Sample ID: 500-229428-4
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 19:14	1
Lead	<0.00050		0.00050		mg/L		02/14/23 16:16	02/15/23 19:14	1
Lithium	<0.010		0.010		mg/L		02/14/23 16:16	02/15/23 19:14	1
Molybdenum	0.021		0.0050		mg/L		02/14/23 16:16	02/15/23 19:14	1
Selenium	0.0062		0.0025		mg/L		02/14/23 16:16	02/15/23 19:14	1
Thallium	<0.0020		0.0020		mg/L		02/14/23 16:16	02/15/23 19:14	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/23 11:35	02/21/23 09:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	610		10		mg/L			02/16/23 02:05	1
Chloride (SM 4500 Cl- E)	28		4.0		mg/L			02/15/23 14:22	2
Fluoride (SM 4500 F C)	0.36		0.10		mg/L			02/15/23 13:02	1
Sulfate (SM 4500 SO4 E)	210		50		mg/L			02/16/23 15:24	10

Client Sample ID: MW-16
Date Collected: 02/13/23 15:08
Date Received: 02/14/23 11:00

Lab Sample ID: 500-229428-5
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/14/23 16:16	02/15/23 19:17	1
Arsenic	0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 19:17	1
Barium	0.031		0.0025		mg/L		02/14/23 16:16	02/15/23 19:17	1
Beryllium	<0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 19:17	1
Boron	2.6		0.50		mg/L		02/14/23 16:16	02/16/23 17:02	10
Cadmium	<0.00050		0.00050		mg/L		02/14/23 16:16	02/15/23 19:17	1
Calcium	110		0.20		mg/L		02/14/23 16:16	02/15/23 19:17	1
Chromium	<0.0050		0.0050		mg/L		02/14/23 16:16	02/15/23 19:17	1
Cobalt	<0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 19:17	1
Lead	<0.00050		0.00050		mg/L		02/14/23 16:16	02/15/23 19:17	1
Lithium	0.011		0.010		mg/L		02/14/23 16:16	02/15/23 19:17	1
Molybdenum	0.024		0.0050		mg/L		02/14/23 16:16	02/15/23 19:17	1
Selenium	<0.0025		0.0025		mg/L		02/14/23 16:16	02/15/23 19:17	1
Thallium	<0.0020		0.0020		mg/L		02/14/23 16:16	02/15/23 19:17	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/23 11:35	02/21/23 09:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	750		10		mg/L			02/16/23 02:08	1
Chloride (SM 4500 Cl- E)	49		10		mg/L			02/15/23 14:23	5
Fluoride (SM 4500 F C)	0.58		0.10		mg/L			02/15/23 13:08	1
Sulfate (SM 4500 SO4 E)	260		100		mg/L			02/16/23 15:54	20

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Client Sample Results

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

Job ID: 500-229428-1

Client Sample ID: Duplicate
Date Collected: 02/13/23 00:00
Date Received: 02/14/23 11:00

Lab Sample ID: 500-229428-6
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/14/23 16:16	02/15/23 19:27	1
Arsenic	0.0081		0.0010		mg/L		02/14/23 16:16	02/15/23 19:27	1
Barium	0.045		0.0025		mg/L		02/14/23 16:16	02/15/23 19:27	1
Beryllium	<0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 19:27	1
Boron	2.6		0.050		mg/L		02/14/23 16:16	02/15/23 19:27	1
Cadmium	<0.00050		0.00050		mg/L		02/14/23 16:16	02/15/23 19:27	1
Calcium	110		0.20		mg/L		02/14/23 16:16	02/15/23 19:27	1
Chromium	<0.0050		0.0050		mg/L		02/14/23 16:16	02/15/23 19:27	1
Cobalt	<0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 19:27	1
Lead	<0.00050		0.00050		mg/L		02/14/23 16:16	02/15/23 19:27	1
Lithium	<0.010		0.010		mg/L		02/14/23 16:16	02/15/23 19:27	1
Molybdenum	0.021		0.0050		mg/L		02/14/23 16:16	02/15/23 19:27	1
Selenium	0.0061		0.0025		mg/L		02/14/23 16:16	02/15/23 19:27	1
Thallium	<0.0020		0.0020		mg/L		02/14/23 16:16	02/15/23 19:27	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/23 11:35	02/21/23 09:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	610		10		mg/L			02/16/23 02:10	1
Chloride (SM 4500 Cl- E)	27		10		mg/L			02/15/23 14:23	5
Fluoride (SM 4500 F C)	0.36		0.10		mg/L			02/15/23 13:15	1
Sulfate (SM 4500 SO4 E)	200		50		mg/L			02/16/23 15:24	10

Client Sample ID: MW-09

Date Collected: 02/14/23 11:26
Date Received: 02/15/23 10:10

Lab Sample ID: 500-229428-7
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/16/23 08:08	02/16/23 17:27	1
Arsenic	0.0011		0.0010		mg/L		02/16/23 08:08	02/16/23 17:27	1
Barium	0.074		0.0025		mg/L		02/16/23 08:08	02/16/23 17:27	1
Beryllium	<0.0010		0.0010		mg/L		02/16/23 08:08	02/16/23 17:27	1
Boron	28 B		5.0		mg/L		02/16/23 08:08	02/17/23 13:02	100
Cadmium	<0.00050		0.00050		mg/L		02/16/23 08:08	02/16/23 17:27	1
Calcium	280		20		mg/L		02/16/23 08:08	02/17/23 13:02	100
Chromium	<0.0050		0.0050		mg/L		02/16/23 08:08	02/16/23 17:27	1
Cobalt	<0.0010		0.0010		mg/L		02/16/23 08:08	02/16/23 17:27	1
Lead	<0.00050		0.00050		mg/L		02/16/23 08:08	02/16/23 17:27	1
Lithium	0.062		0.010		mg/L		02/16/23 08:08	02/16/23 17:27	1
Molybdenum	0.46		0.0050		mg/L		02/16/23 08:08	02/16/23 17:27	1
Selenium	0.029		0.0025		mg/L		02/16/23 08:08	02/16/23 17:27	1
Thallium	<0.0020		0.0020		mg/L		02/16/23 08:08	02/16/23 17:27	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/23 11:35	02/21/23 09:39	1

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Client Sample Results

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

Job ID: 500-229428-1

Client Sample ID: MW-09
Date Collected: 02/14/23 11:26
Date Received: 02/15/23 10:10

Lab Sample ID: 500-229428-7
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1500		10		mg/L			02/17/23 02:47	1
Chloride (SM 4500 Cl- E)	220		20		mg/L			02/15/23 14:23	10
Fluoride (SM 4500 F C)	0.12		0.10		mg/L			02/16/23 12:29	1
Sulfate (SM 4500 SO4 E)	490		50		mg/L			02/16/23 15:24	10

Client Sample ID: MW-11
Date Collected: 02/14/23 13:50
Date Received: 02/15/23 10:10

Lab Sample ID: 500-229428-8
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/16/23 08:08	02/16/23 17:51	1
Arsenic	0.26		0.0010		mg/L		02/16/23 08:08	02/16/23 17:51	1
Barium	0.048		0.0025		mg/L		02/16/23 08:08	02/16/23 17:51	1
Beryllium	<0.0010		0.0010		mg/L		02/16/23 08:08	02/16/23 17:51	1
Boron	1.0		0.050		mg/L		02/20/23 15:20	02/21/23 14:42	1
Cadmium	<0.00050		0.00050		mg/L		02/16/23 08:08	02/16/23 17:51	1
Calcium	150		0.20		mg/L		02/16/23 08:08	02/16/23 17:51	1
Chromium	<0.0050		0.0050		mg/L		02/16/23 08:08	02/16/23 17:51	1
Cobalt	<0.0010		0.0010		mg/L		02/16/23 08:08	02/16/23 17:51	1
Lead	<0.00050		0.00050		mg/L		02/16/23 08:08	02/16/23 17:51	1
Lithium	0.030		0.010		mg/L		02/16/23 08:08	02/16/23 17:51	1
Molybdenum	<0.0050		0.0050		mg/L		02/16/23 08:08	02/16/23 17:51	1
Selenium	<0.0025		0.0025		mg/L		02/16/23 08:08	02/16/23 17:51	1
Thallium	<0.0020		0.0020		mg/L		02/16/23 08:08	02/16/23 17:51	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/23 11:35	02/21/23 10:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	730		10		mg/L			02/17/23 02:50	1
Chloride (SM 4500 Cl- E)	100		10		mg/L			02/15/23 14:24	5
Fluoride (SM 4500 F C)	0.15		0.10		mg/L			02/16/23 12:49	1
Sulfate (SM 4500 SO4 E)	36		10		mg/L			02/16/23 15:25	2

Client Sample ID: MW-14
Date Collected: 02/14/23 10:15
Date Received: 02/15/23 10:10

Lab Sample ID: 500-229428-9
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/16/23 08:08	02/16/23 17:54	1
Arsenic	1.7		0.0010		mg/L		02/16/23 08:08	02/16/23 17:54	1
Barium	0.047		0.0025		mg/L		02/16/23 08:08	02/16/23 17:54	1
Beryllium	<0.0010		0.0010		mg/L		02/16/23 08:08	02/16/23 17:54	1
Boron	0.44		0.050		mg/L		02/20/23 15:20	02/21/23 14:48	1
Cadmium	<0.00050		0.00050		mg/L		02/16/23 08:08	02/16/23 17:54	1
Calcium	120		0.20		mg/L		02/16/23 08:08	02/16/23 17:54	1
Chromium	0.71		0.0050		mg/L		02/16/23 08:08	02/16/23 17:54	1

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Client Sample Results

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

Job ID: 500-229428-1

Client Sample ID: MW-14
Date Collected: 02/14/23 10:15
Date Received: 02/15/23 10:10

Lab Sample ID: 500-229428-9
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.0010		0.0010		mg/L		02/16/23 08:08	02/16/23 17:54	1
Lead	<0.00050		0.00050		mg/L		02/16/23 08:08	02/16/23 17:54	1
Lithium	0.012		0.010		mg/L		02/16/23 08:08	02/16/23 17:54	1
Molybdenum	<0.0050		0.0050		mg/L		02/16/23 08:08	02/16/23 17:54	1
Selenium	<0.0025		0.0025		mg/L		02/16/23 08:08	02/16/23 17:54	1
Thallium	<0.0020		0.0020		mg/L		02/16/23 08:08	02/16/23 17:54	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/23 11:35	02/21/23 10:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	480		10		mg/L			02/17/23 02:52	1
Chloride (SM 4500 Cl- E)	23		10		mg/L			02/15/23 14:24	5
Fluoride (SM 4500 F C)	0.14		0.10		mg/L			02/16/23 12:55	1
Sulfate (SM 4500 SO4 E)	36		10		mg/L			02/16/23 15:25	2

Definitions/Glossary

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

Job ID: 500-229428-1

Qualifiers

Metals

Qualifier	Qualifier Description
^-	Continuing Calibration Verification (CCV) is outside acceptance limits, low biased.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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: Waukegan CCR

Job ID: 500-229428-1

Metals

Prep Batch: 698655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-1	MW-01	Total Recoverable	Water	3005A	
500-229428-2	MW-02	Total Recoverable	Water	3005A	
500-229428-3	MW-03	Total Recoverable	Water	3005A	
500-229428-4	MW-04	Total Recoverable	Water	3005A	
500-229428-5	MW-16	Total Recoverable	Water	3005A	
500-229428-6	Duplicate	Total Recoverable	Water	3005A	
MB 500-698655/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-698655/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-229428-6 MS	Duplicate	Total Recoverable	Water	3005A	
500-229428-6 MSD	Duplicate	Total Recoverable	Water	3005A	
500-229428-6 DU	Duplicate	Total Recoverable	Water	3005A	

Prep Batch: 698889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-7	MW-09	Total Recoverable	Water	3005A	
500-229428-8	MW-11	Total Recoverable	Water	3005A	
500-229428-9	MW-14	Total Recoverable	Water	3005A	
MB 500-698889/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-698889/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-229428-7 MS	MW-09	Total Recoverable	Water	3005A	
500-229428-7 MSD	MW-09	Total Recoverable	Water	3005A	
500-229428-7 DU	MW-09	Total Recoverable	Water	3005A	

Analysis Batch: 698939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-1	MW-01	Total Recoverable	Water	6020A	698655
500-229428-2	MW-02	Total Recoverable	Water	6020A	698655
500-229428-3	MW-03	Total Recoverable	Water	6020A	698655
500-229428-4	MW-04	Total Recoverable	Water	6020A	698655
500-229428-5	MW-16	Total Recoverable	Water	6020A	698655
500-229428-6	Duplicate	Total Recoverable	Water	6020A	698655
MB 500-698655/1-A	Method Blank	Total Recoverable	Water	6020A	698655
LCS 500-698655/2-A	Lab Control Sample	Total Recoverable	Water	6020A	698655
500-229428-6 MS	Duplicate	Total Recoverable	Water	6020A	698655
500-229428-6 MSD	Duplicate	Total Recoverable	Water	6020A	698655
500-229428-6 DU	Duplicate	Total Recoverable	Water	6020A	698655

Analysis Batch: 699144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-1	MW-01	Total Recoverable	Water	6020A	698655
500-229428-2	MW-02	Total Recoverable	Water	6020A	698655
500-229428-3	MW-03	Total Recoverable	Water	6020A	698655
500-229428-4	MW-04	Total Recoverable	Water	6020A	698655
500-229428-5	MW-16	Total Recoverable	Water	6020A	698655
500-229428-7	MW-09	Total Recoverable	Water	6020A	698889
500-229428-8	MW-11	Total Recoverable	Water	6020A	698889
500-229428-9	MW-14	Total Recoverable	Water	6020A	698889
MB 500-698655/1-A	Method Blank	Total Recoverable	Water	6020A	698655
MB 500-698889/1-A	Method Blank	Total Recoverable	Water	6020A	698889
LCS 500-698655/2-A	Lab Control Sample	Total Recoverable	Water	6020A	698655
LCS 500-698889/2-A	Lab Control Sample	Total Recoverable	Water	6020A	698889

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QC Association Summary

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

Job ID: 500-229428-1

Metals (Continued)

Analysis Batch: 699144 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-7 MS	MW-09	Total Recoverable	Water	6020A	698889
500-229428-7 MSD	MW-09	Total Recoverable	Water	6020A	698889
500-229428-7 DU	MW-09	Total Recoverable	Water	6020A	698889

Analysis Batch: 699307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-7	MW-09	Total Recoverable	Water	6020A	698889
MB 500-698889/1-A	Method Blank	Total Recoverable	Water	6020A	698889
LCS 500-698889/2-A	Lab Control Sample	Total Recoverable	Water	6020A	698889
500-229428-7 MS	MW-09	Total Recoverable	Water	6020A	698889
500-229428-7 MSD	MW-09	Total Recoverable	Water	6020A	698889
500-229428-7 DU	MW-09	Total Recoverable	Water	6020A	698889

Prep Batch: 699375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-1	MW-01	Total/NA	Water	7470A	
500-229428-2	MW-02	Total/NA	Water	7470A	
500-229428-3	MW-03	Total/NA	Water	7470A	
500-229428-4	MW-04	Total/NA	Water	7470A	
500-229428-5	MW-16	Total/NA	Water	7470A	
500-229428-6	Duplicate	Total/NA	Water	7470A	
500-229428-7	MW-09	Total/NA	Water	7470A	
500-229428-8	MW-11	Total/NA	Water	7470A	
500-229428-9	MW-14	Total/NA	Water	7470A	
MB 500-699375/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-699375/13-A	Lab Control Sample	Total/NA	Water	7470A	
500-229428-8 MS	MW-11	Total/NA	Water	7470A	
500-229428-8 MSD	MW-11	Total/NA	Water	7470A	
500-229428-8 DU	MW-11	Total/NA	Water	7470A	

Prep Batch: 699407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-8	MW-11	Total Recoverable	Water	3005A	
500-229428-9	MW-14	Total Recoverable	Water	3005A	
MB 500-699407/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-699407/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 699567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-1	MW-01	Total/NA	Water	7470A	699375
500-229428-2	MW-02	Total/NA	Water	7470A	699375
500-229428-3	MW-03	Total/NA	Water	7470A	699375
500-229428-4	MW-04	Total/NA	Water	7470A	699375
500-229428-5	MW-16	Total/NA	Water	7470A	699375
500-229428-6	Duplicate	Total/NA	Water	7470A	699375
500-229428-7	MW-09	Total/NA	Water	7470A	699375
500-229428-8	MW-11	Total/NA	Water	7470A	699375
500-229428-9	MW-14	Total/NA	Water	7470A	699375
MB 500-699375/12-A	Method Blank	Total/NA	Water	7470A	699375
LCS 500-699375/13-A	Lab Control Sample	Total/NA	Water	7470A	699375
500-229428-8 MS	MW-11	Total/NA	Water	7470A	699375

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QC Association Summary

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

Job ID: 500-229428-1

Metals (Continued)

Analysis Batch: 699567 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-8 MSD	MW-11	Total/NA	Water	7470A	699375
500-229428-8 DU	MW-11	Total/NA	Water	7470A	699375

Analysis Batch: 699717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-8	MW-11	Total Recoverable	Water	6020A	699407
500-229428-9	MW-14	Total Recoverable	Water	6020A	699407
MB 500-699407/1-A	Method Blank	Total Recoverable	Water	6020A	699407
LCS 500-699407/2-A	Lab Control Sample	Total Recoverable	Water	6020A	699407

General Chemistry

Analysis Batch: 698814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-1	MW-01	Total/NA	Water	SM 4500 F C	
500-229428-2	MW-02	Total/NA	Water	SM 4500 F C	
500-229428-3	MW-03	Total/NA	Water	SM 4500 F C	
500-229428-4	MW-04	Total/NA	Water	SM 4500 F C	
500-229428-5	MW-16	Total/NA	Water	SM 4500 F C	
500-229428-6	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-698814/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-698814/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 698825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-1	MW-01	Total/NA	Water	SM 4500 Cl- E	
500-229428-2	MW-02	Total/NA	Water	SM 4500 Cl- E	
500-229428-3	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-229428-4	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-229428-5	MW-16	Total/NA	Water	SM 4500 Cl- E	
500-229428-6	Duplicate	Total/NA	Water	SM 4500 Cl- E	
500-229428-7	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-229428-8	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-229428-9	MW-14	Total/NA	Water	SM 4500 Cl- E	
MB 500-698825/16	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-698825/17	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-229428-1 MS	MW-01	Total/NA	Water	SM 4500 Cl- E	
500-229428-1 MSD	MW-01	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 698858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-1	MW-01	Total/NA	Water	SM 2540C	
500-229428-2	MW-02	Total/NA	Water	SM 2540C	
500-229428-3	MW-03	Total/NA	Water	SM 2540C	
500-229428-4	MW-04	Total/NA	Water	SM 2540C	
500-229428-5	MW-16	Total/NA	Water	SM 2540C	
500-229428-6	Duplicate	Total/NA	Water	SM 2540C	
MB 500-698858/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-698858/2	Lab Control Sample	Total/NA	Water	SM 2540C	

QC Association Summary

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

Job ID: 500-229428-1

General Chemistry

Analysis Batch: 699021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-7	MW-09	Total/NA	Water	SM 4500 F C	
500-229428-8	MW-11	Total/NA	Water	SM 4500 F C	
500-229428-9	MW-14	Total/NA	Water	SM 4500 F C	
MB 500-699021/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-699021/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-229428-7 MS	MW-09	Total/NA	Water	SM 4500 F C	
500-229428-7 MSD	MW-09	Total/NA	Water	SM 4500 F C	

Analysis Batch: 699031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-1	MW-01	Total/NA	Water	SM 4500 SO4 E	
500-229428-2	MW-02	Total/NA	Water	SM 4500 SO4 E	
500-229428-3	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-229428-4	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-229428-5	MW-16	Total/NA	Water	SM 4500 SO4 E	
500-229428-6	Duplicate	Total/NA	Water	SM 4500 SO4 E	
500-229428-7	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-229428-8	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-229428-9	MW-14	Total/NA	Water	SM 4500 SO4 E	
MB 500-699031/17	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-699031/19	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 699046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-7	MW-09	Total/NA	Water	SM 2540C	
500-229428-8	MW-11	Total/NA	Water	SM 2540C	
500-229428-9	MW-14	Total/NA	Water	SM 2540C	
MB 500-699046/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-699046/2	Lab Control Sample	Total/NA	Water	SM 2540C	

QC Sample Results

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

Job ID: 500-229428-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-698655/1-A
Matrix: Water
Analysis Batch: 698939

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 698655

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<0.0030		0.0030		mg/L		02/14/23 16:16	02/15/23 18:56	1
Arsenic	<0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 18:56	1
Barium	<0.0025		0.0025		mg/L		02/14/23 16:16	02/15/23 18:56	1
Beryllium	<0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 18:56	1
Cadmium	<0.00050		0.00050		mg/L		02/14/23 16:16	02/15/23 18:56	1
Calcium	<0.20		0.20		mg/L		02/14/23 16:16	02/15/23 18:56	1
Chromium	<0.0050		0.0050		mg/L		02/14/23 16:16	02/15/23 18:56	1
Cobalt	<0.0010		0.0010		mg/L		02/14/23 16:16	02/15/23 18:56	1
Lead	<0.00050		0.00050		mg/L		02/14/23 16:16	02/15/23 18:56	1
Lithium	<0.010		0.010		mg/L		02/14/23 16:16	02/15/23 18:56	1
Molybdenum	<0.0050		0.0050		mg/L		02/14/23 16:16	02/15/23 18:56	1
Selenium	<0.0025		0.0025		mg/L		02/14/23 16:16	02/15/23 18:56	1
Thallium	<0.0020		0.0020		mg/L		02/14/23 16:16	02/15/23 18:56	1

Lab Sample ID: MB 500-698655/1-A
Matrix: Water
Analysis Batch: 699144

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 698655

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Boron	<0.050		0.050		mg/L		02/14/23 16:16	02/16/23 16:42	1

Lab Sample ID: LCS 500-698655/2-A
Matrix: Water
Analysis Batch: 698939

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 698655

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.0970		mg/L		97	80 - 120
Barium	2.00	2.03		mg/L		102	80 - 120
Beryllium	0.0500	0.0487		mg/L		97	80 - 120
Cadmium	0.0500	0.0510		mg/L		102	80 - 120
Calcium	10.0	9.82		mg/L		98	80 - 120
Chromium	0.200	0.205		mg/L		103	80 - 120
Cobalt	0.500	0.516		mg/L		103	80 - 120
Lead	0.100	0.105		mg/L		105	80 - 120
Lithium	0.500	0.479		mg/L		96	80 - 120
Molybdenum	1.00	0.975		mg/L		97	80 - 120
Selenium	0.100	0.102		mg/L		102	80 - 120
Thallium	0.100	0.107		mg/L		107	80 - 120

Lab Sample ID: LCS 500-698655/2-A
Matrix: Water
Analysis Batch: 699144

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 698655

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits

QC Sample Results

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

Job ID: 500-229428-1

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

Lab Sample ID: 500-229428-6 MS
Matrix: Water
Analysis Batch: 698939

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 698655

Analyte	Sample	Sample Qualifier	Spike Added	MS	MS	Unit	D	%Rec	%Rec	
	Result			Result	Qualifier				Limits	
Antimony	<0.0030		0.500	0.540		mg/L		108	75 - 125	
Arsenic	0.0081		0.100	0.108		mg/L		100	75 - 125	
Barium	0.045		2.00	2.05		mg/L		100	75 - 125	
Beryllium	<0.0010		0.0500	0.0467		mg/L		93	75 - 125	
Boron	2.6		1.00	3.51		mg/L		89	75 - 125	
Cadmium	<0.00050		0.0500	0.0502		mg/L		100	75 - 125	
Calcium	110		10.0	113	4	mg/L		46	75 - 125	
Chromium	<0.0050		0.200	0.198		mg/L		99	75 - 125	
Cobalt	<0.0010		0.500	0.490		mg/L		98	75 - 125	
Lead	<0.00050		0.100	0.102		mg/L		102	75 - 125	
Lithium	<0.010		0.500	0.461		mg/L		91	75 - 125	
Molybdenum	0.021		1.00	1.01		mg/L		99	75 - 125	
Selenium	0.0061		0.100	0.110		mg/L		104	75 - 125	
Thallium	<0.0020		0.100	0.104		mg/L		104	75 - 125	

Lab Sample ID: 500-229428-6 MSD
Matrix: Water
Analysis Batch: 698939

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 698655

Analyte	Sample	Sample Qualifier	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec		RPD	Limit
	Result			Result	Qualifier				Limits			
Antimony	<0.0030		0.500	0.527		mg/L		105	75 - 125	2	20	
Arsenic	0.0081		0.100	0.106		mg/L		98	75 - 125	2	20	
Barium	0.045		2.00	2.04		mg/L		100	75 - 125	1	20	
Beryllium	<0.0010		0.0500	0.0473		mg/L		95	75 - 125	1	20	
Boron	2.6		1.00	3.51		mg/L		89	75 - 125	0	20	
Cadmium	<0.00050		0.0500	0.0496		mg/L		99	75 - 125	1	20	
Calcium	110		10.0	112	4	mg/L		44	75 - 125	0	20	
Chromium	<0.0050		0.200	0.196		mg/L		98	75 - 125	1	20	
Cobalt	<0.0010		0.500	0.493		mg/L		99	75 - 125	1	20	
Lead	<0.00050		0.100	0.102		mg/L		102	75 - 125	0	20	
Lithium	<0.010		0.500	0.473		mg/L		94	75 - 125	2	20	
Molybdenum	0.021		1.00	1.00		mg/L		98	75 - 125	1	20	
Selenium	0.0061		0.100	0.108		mg/L		102	75 - 125	2	20	
Thallium	<0.0020		0.100	0.104		mg/L		104	75 - 125	0	20	

Lab Sample ID: 500-229428-6 DU
Matrix: Water
Analysis Batch: 698939

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 698655

Analyte	Sample	Sample Qualifier	DU	DU	Unit	D	RPD	Limit
	Result		Result	Qualifier				
Antimony	<0.0030		<0.0030		mg/L		NC	20
Arsenic	0.0081		0.00826		mg/L		2	20
Barium	0.045		0.0456		mg/L		1	20
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Boron	2.6		2.66		mg/L		2	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Calcium	110		109		mg/L		0.6	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20

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QC Sample Results

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

Job ID: 500-229428-1

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

Lab Sample ID: 500-229428-6 DU
Matrix: Water
Analysis Batch: 698939

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 698655

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Lead	<0.00050		<0.00050		mg/L		NC	20
Lithium	<0.010		<0.010		mg/L		NC	20
Molybdenum	0.021		0.0210		mg/L		2	20
Selenium	0.0061		0.00646		mg/L		5	20
Thallium	<0.0020		<0.0020		mg/L		NC	20

Lab Sample ID: MB 500-698889/1-A
Matrix: Water
Analysis Batch: 699144

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 698889

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/16/23 08:08	02/16/23 17:20	1
Arsenic	<0.0010		0.0010		mg/L		02/16/23 08:08	02/16/23 17:20	1
Barium	<0.0025		0.0025		mg/L		02/16/23 08:08	02/16/23 17:20	1
Beryllium	<0.0010		0.0010		mg/L		02/16/23 08:08	02/16/23 17:20	1
Cadmium	<0.00050		0.00050		mg/L		02/16/23 08:08	02/16/23 17:20	1
Calcium	<0.20		0.20		mg/L		02/16/23 08:08	02/16/23 17:20	1
Chromium	<0.0050		0.0050		mg/L		02/16/23 08:08	02/16/23 17:20	1
Cobalt	<0.0010		0.0010		mg/L		02/16/23 08:08	02/16/23 17:20	1
Lead	<0.00050		0.00050		mg/L		02/16/23 08:08	02/16/23 17:20	1
Lithium	<0.010		0.010		mg/L		02/16/23 08:08	02/16/23 17:20	1
Molybdenum	<0.0050		0.0050		mg/L		02/16/23 08:08	02/16/23 17:20	1
Selenium	<0.0025		0.0025		mg/L		02/16/23 08:08	02/16/23 17:20	1
Thallium	<0.0020		0.0020		mg/L		02/16/23 08:08	02/16/23 17:20	1

Lab Sample ID: MB 500-698889/1-A
Matrix: Water
Analysis Batch: 699307

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 698889

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0607		0.050		mg/L		02/16/23 08:08	02/17/23 12:55	1

Lab Sample ID: LCS 500-698889/2-A
Matrix: Water
Analysis Batch: 699144

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 698889

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.500	0.509		mg/L		102	80 - 120
Arsenic	0.100	0.0948		mg/L		95	80 - 120
Barium	2.00	1.99		mg/L		99	80 - 120
Beryllium	0.0500	0.0458		mg/L		92	80 - 120
Cadmium	0.0500	0.0488		mg/L		98	80 - 120
Calcium	10.0	9.72		mg/L		97	80 - 120
Chromium	0.200	0.205		mg/L		102	80 - 120
Cobalt	0.500	0.511		mg/L		102	80 - 120
Lead	0.100	0.103		mg/L		103	80 - 120
Lithium	0.500	0.474		mg/L		95	80 - 120
Molybdenum	1.00	0.946		mg/L		95	80 - 120
Selenium	0.100	0.0990		mg/L		99	80 - 120

Eurofins Chicago

QC Sample Results

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

Job ID: 500-229428-1

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

Lab Sample ID: LCS 500-698889/2-A
Matrix: Water
Analysis Batch: 699144

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 698889

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.100	0.105		mg/L		105	80 - 120

Lab Sample ID: LCS 500-698889/2-A
Matrix: Water
Analysis Batch: 699307

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 698889

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.958		mg/L		96	80 - 120

Lab Sample ID: 500-229428-7 MS
Matrix: Water
Analysis Batch: 699144

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 698889

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.0030		0.500	0.522		mg/L		104	75 - 125
Arsenic	0.0011		0.100	0.100		mg/L		99	75 - 125
Barium	0.074		2.00	2.03		mg/L		98	75 - 125
Beryllium	<0.0010		0.0500	0.0445		mg/L		89	75 - 125
Cadmium	<0.00050		0.0500	0.0479		mg/L		96	75 - 125
Chromium	<0.0050		0.200	0.199		mg/L		99	75 - 125
Cobalt	<0.0010		0.500	0.488		mg/L		98	75 - 125
Lead	<0.00050		0.100	0.0967		mg/L		97	75 - 125
Lithium	0.062		0.500	0.507		mg/L		89	75 - 125
Molybdenum	0.46		1.00	1.40		mg/L		94	75 - 125
Selenium	0.029		0.100	0.130		mg/L		101	75 - 125
Thallium	<0.0020		0.100	0.101		mg/L		101	75 - 125

Lab Sample ID: 500-229428-7 MS
Matrix: Water
Analysis Batch: 699307

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 698889

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	28	B	1.00	26.6	4	mg/L		-142	75 - 125
Calcium	280		10.0	282	4	mg/L		-23	75 - 125

Lab Sample ID: 500-229428-7 MSD
Matrix: Water
Analysis Batch: 699144

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 698889

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.510		mg/L		102	75 - 125	2	20
Arsenic	0.0011		0.100	0.0975		mg/L		96	75 - 125	3	20
Barium	0.074		2.00	1.97		mg/L		95	75 - 125	3	20
Beryllium	<0.0010		0.0500	0.0415		mg/L		83	75 - 125	7	20
Cadmium	<0.00050		0.0500	0.0461		mg/L		92	75 - 125	4	20
Chromium	<0.0050		0.200	0.195		mg/L		97	75 - 125	2	20
Cobalt	<0.0010		0.500	0.477		mg/L		95	75 - 125	2	20
Lead	<0.00050		0.100	0.0945		mg/L		95	75 - 125	2	20
Lithium	0.062		0.500	0.498		mg/L		87	75 - 125	2	20
Molybdenum	0.46		1.00	1.38		mg/L		92	75 - 125	2	20

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QC Sample Results

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

Job ID: 500-229428-1

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

Lab Sample ID: 500-229428-7 MSD
Matrix: Water
Analysis Batch: 699144

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 698889

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.029		0.100	0.128		mg/L		100	75 - 125	1	20
Thallium	<0.0020		0.100	0.0987		mg/L		99	75 - 125	3	20

Lab Sample ID: 500-229428-7 MSD
Matrix: Water
Analysis Batch: 699307

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 698889

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	28	B	1.00	25.0	4	mg/L		-296	75 - 125	6	20
Calcium	280		10.0	267	4	mg/L		-175	75 - 125	6	20

Lab Sample ID: 500-229428-7 DU
Matrix: Water
Analysis Batch: 699144

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 698889

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030		<0.0030		mg/L		NC	20
Arsenic	0.0011		<0.0010		mg/L		NC	20
Barium	0.074		0.0736		mg/L		0.8	20
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Lead	<0.00050		<0.00050		mg/L		NC	20
Lithium	0.062		0.0584		mg/L		7	20
Molybdenum	0.46		0.451		mg/L		2	20
Selenium	0.029		0.0288		mg/L		0	20
Thallium	<0.0020		<0.0020		mg/L		NC	20

Lab Sample ID: 500-229428-7 DU
Matrix: Water
Analysis Batch: 699307

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 698889

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	28	B	24.7		mg/L		12	20
Calcium	280		258		mg/L		10	20

Lab Sample ID: MB 500-699407/1-A
Matrix: Water
Analysis Batch: 699717

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 699407

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050	^	0.050		mg/L		02/20/23 15:20	02/21/23 13:19	1

Lab Sample ID: LCS 500-699407/2-A
Matrix: Water
Analysis Batch: 699717

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 699407

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.919	^	mg/L		92	80 - 120

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QC Sample Results

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

Job ID: 500-229428-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-699375/12-A
Matrix: Water
Analysis Batch: 699567

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 699375

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/23 11:35	02/21/23 09:22	1

Lab Sample ID: LCS 500-699375/13-A
Matrix: Water
Analysis Batch: 699567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 699375

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00198	0.00196		mg/L		99	80 - 120

Lab Sample ID: 500-229428-8 MS
Matrix: Water
Analysis Batch: 699567

Client Sample ID: MW-11
Prep Type: Total/NA
Prep Batch: 699375

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

Lab Sample ID: 500-229428-8 MSD
Matrix: Water
Analysis Batch: 699567

Client Sample ID: MW-11
Prep Type: Total/NA
Prep Batch: 699375

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.00020		0.00100	0.00101		mg/L		101	75 - 125	0	20

Lab Sample ID: 500-229428-8 DU
Matrix: Water
Analysis Batch: 699567

Client Sample ID: MW-11
Prep Type: Total/NA
Prep Batch: 699375

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.00020			<0.00020		mg/L				NC	20

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

Lab Sample ID: MB 500-698858/1
Matrix: Water
Analysis Batch: 698858

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/16/23 01:32	1

Lab Sample ID: LCS 500-698858/2
Matrix: Water
Analysis Batch: 698858

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	242		mg/L		97	80 - 120

QC Sample Results

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

Job ID: 500-229428-1

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

Lab Sample ID: MB 500-699046/1
Matrix: Water
Analysis Batch: 699046

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/17/23 02:27	1

Lab Sample ID: LCS 500-699046/2
Matrix: Water
Analysis Batch: 699046

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	270		mg/L		108	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-698825/16
Matrix: Water
Analysis Batch: 698825

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			02/15/23 14:19	1

Lab Sample ID: LCS 500-698825/17
Matrix: Water
Analysis Batch: 698825

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	20.0		mg/L		100	85 - 115

Lab Sample ID: 500-229428-1 MS
Matrix: Water
Analysis Batch: 698825

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	63		20.0	80.5		mg/L		89	75 - 125

Lab Sample ID: 500-229428-1 MSD
Matrix: Water
Analysis Batch: 698825

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	63		20.0	80.6		mg/L		90	75 - 125	0	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-698814/3
Matrix: Water
Analysis Batch: 698814

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			02/15/23 11:40	1

QC Sample Results

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

Job ID: 500-229428-1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: LCS 500-698814/4
Matrix: Water
Analysis Batch: 698814

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	10.1		mg/L		101	90 - 119

Lab Sample ID: MB 500-699021/3
Matrix: Water
Analysis Batch: 699021

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			02/16/23 12:16	1

Lab Sample ID: LCS 500-699021/4
Matrix: Water
Analysis Batch: 699021

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	10.5		mg/L		105	90 - 119

Lab Sample ID: 500-229428-7 MS
Matrix: Water
Analysis Batch: 699021

Client Sample ID: MW-09
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.12		5.00	5.04		mg/L		98	75 - 125

Lab Sample ID: 500-229428-7 MSD
Matrix: Water
Analysis Batch: 699021

Client Sample ID: MW-09
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.12		5.00	5.04		mg/L		98	75 - 125	0	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-699031/17
Matrix: Water
Analysis Batch: 699031

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			02/16/23 15:17	1

Lab Sample ID: LCS 500-699031/19
Matrix: Water
Analysis Batch: 699031

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	20.0	21.8		mg/L		109	88 - 123

ORIGIN ID:FEPA (262) 278-1621

KPRG AND ASSOCIATES
414 PLAZA DR STE 106

WESTMONT, IL 60559
UNITED STATES US

TO **EUROFINS CHICAGO**

2417 BOND ST

UNIVERSITY PARK IL 60484

(708) 634-5200
THU: P0:

REF:

DEPT:

RT **519**
ST **29**

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500-229428 Waybi

Part # 156297-435
RRDB2 EXP 07/23
0231/208R/11785



FedEx
Express



AN1011108201327

4 of 4
MPS# **3945 8123 8330**
0263

Mstr# 3945 8123 8307

79 JOTA

0201

TUE - 14 FEB 10:30A
PRIORITY OVERNIGHT

AHS
60484
IL-US ORD



ORIGIN ID:FEPA (262) 278-1621

KPRG AND ASSOCIATES
414 PLAZA DR STE 106

WESTMONT, IL 60559
UNITED STATES US

TO **EUROFINS CHICAGO**

2417 BOND ST

UNIVERSITY PARK IL 60484

(708) 634-5200
THU: P0:

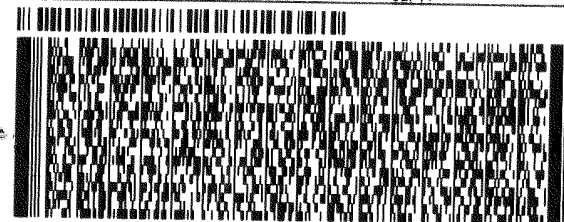
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DEPT:

SHIP DATE: 13FEB23
ACTWGT: 47.60 LB
CAD: 6994085/SSFE2401
DIMS: 24x14x14 IN

BILL THIRD PARTY

Part # 156297-435 RRDB2 EXP 07/23
0231/208R/11785



FedEx
Express



AN1011108201327

3 of 4
MPS# **3945 8123 8329**
0263

Mstr# 3945 8123 8307

79 JOTA

0201

TUE - 14 FEB 10:30A
PRIORITY OVERNIGHT

AHS
60484
IL-US ORD



IGIN ID:FEP (262) 278-1621
KPRG AND ASSOCIATES
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 14FEB23
ACTWGT: 48.65 LB
CAD: 6994083/SSFE2401
DIMS: 25x14x14 IN
BILL THIRD PARTY

Part # 1562978889-20820121-65XP 07/23

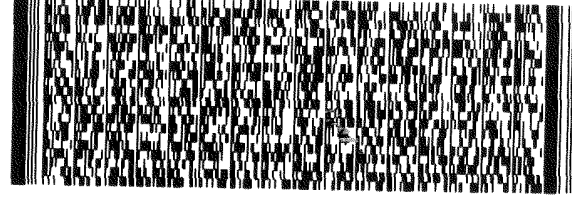
TO EUROFINS CHICAGO
EUROFINS CHICAGO
2417 BOND ST



500-229428 Waybr

UNIVERSITY PARK IL 60484

(708) 634-6200 REF:
INV: DEPT:
PD:



FedEx
Express



AN101108201527

3 of 3
MPS# 3946 2614 0380
0263
Mstr# 3946 2614 0369

0201

WED - 15 FEB 10:30A
PRIORITY OVERNIGHT

79 JOTA

60484
IL-US ORD



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Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-229428-1

Login Number: 229428

List Number: 1

Creator: Scott, Sherri L

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	2.9,1.2,1.7
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 <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Lab Chronicle

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

Job ID: 500-229428-1

Client Sample ID: MW-01
Date Collected: 02/13/23 10:54
Date Received: 02/14/23 11:00

Lab Sample ID: 500-229428-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			698655	RN	EET CHI	02/14/23 16:16 - 02/14/23 16:46 ¹
Total Recoverable	Analysis	6020A		1	698939	FXG	EET CHI	02/15/23 19:03
Total Recoverable	Prep	3005A			698655	RN	EET CHI	02/14/23 16:16 - 02/14/23 16:46 ¹
Total Recoverable	Analysis	6020A		10	699144	FXG	EET CHI	02/16/23 16:49
Total/NA	Prep	7470A			699375	MJG	EET CHI	02/20/23 11:35 - 02/20/23 13:35 ¹
Total/NA	Analysis	7470A		1	699567	MJG	EET CHI	02/21/23 09:27
Total/NA	Analysis	SM 2540C		1	698858	CLB	EET CHI	02/16/23 01:57
Total/NA	Analysis	SM 4500 CI- E		5	698825	AJP	EET CHI	02/15/23 14:19
Total/NA	Analysis	SM 4500 F C		1	698814	EH	EET CHI	02/15/23 12:31
Total/NA	Analysis	SM 4500 SO4 E		10	699031	AJP	EET CHI	02/16/23 15:22

Client Sample ID: MW-02
Date Collected: 02/13/23 11:49
Date Received: 02/14/23 11:00

Lab Sample ID: 500-229428-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			698655	RN	EET CHI	02/14/23 16:16 - 02/14/23 16:46 ¹
Total Recoverable	Analysis	6020A		1	698939	FXG	EET CHI	02/15/23 19:07
Total Recoverable	Prep	3005A			698655	RN	EET CHI	02/14/23 16:16 - 02/14/23 16:46 ¹
Total Recoverable	Analysis	6020A		10	699144	FXG	EET CHI	02/16/23 16:52
Total/NA	Prep	7470A			699375	MJG	EET CHI	02/20/23 11:35 - 02/20/23 13:35 ¹
Total/NA	Analysis	7470A		1	699567	MJG	EET CHI	02/21/23 09:29
Total/NA	Analysis	SM 2540C		1	698858	CLB	EET CHI	02/16/23 02:00
Total/NA	Analysis	SM 4500 CI- E		2	698825	AJP	EET CHI	02/15/23 14:22
Total/NA	Analysis	SM 4500 F C		1	698814	EH	EET CHI	02/15/23 12:37
Total/NA	Analysis	SM 4500 SO4 E		10	699031	AJP	EET CHI	02/16/23 15:22

Client Sample ID: MW-03
Date Collected: 02/13/23 12:45
Date Received: 02/14/23 11:00

Lab Sample ID: 500-229428-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			698655	RN	EET CHI	02/14/23 16:16 - 02/14/23 16:46 ¹
Total Recoverable	Analysis	6020A		1	698939	FXG	EET CHI	02/15/23 19:10
Total Recoverable	Prep	3005A			698655	RN	EET CHI	02/14/23 16:16 - 02/14/23 16:46 ¹
Total Recoverable	Analysis	6020A		10	699144	FXG	EET CHI	02/16/23 16:56
Total/NA	Prep	7470A			699375	MJG	EET CHI	02/20/23 11:35 - 02/20/23 13:35 ¹
Total/NA	Analysis	7470A		1	699567	MJG	EET CHI	02/21/23 09:31
Total/NA	Analysis	SM 2540C		1	698858	CLB	EET CHI	02/16/23 02:03
Total/NA	Analysis	SM 4500 CI- E		5	698825	AJP	EET CHI	02/15/23 14:22
Total/NA	Analysis	SM 4500 F C		1	698814	EH	EET CHI	02/15/23 12:56
Total/NA	Analysis	SM 4500 SO4 E		10	699031	AJP	EET CHI	02/16/23 15:23

Lab Chronicle

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

Job ID: 500-229428-1

Client Sample ID: MW-04
Date Collected: 02/13/23 13:57
Date Received: 02/14/23 11:00

Lab Sample ID: 500-229428-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			698655	RN	EET CHI	02/14/23 16:16 - 02/14/23 16:46 ¹
Total Recoverable	Analysis	6020A		1	698939	FXG	EET CHI	02/15/23 19:14
Total Recoverable	Prep	3005A			698655	RN	EET CHI	02/14/23 16:16 - 02/14/23 16:46 ¹
Total Recoverable	Analysis	6020A		10	699144	FXG	EET CHI	02/16/23 16:59
Total/NA	Prep	7470A			699375	MJG	EET CHI	02/20/23 11:35 - 02/20/23 13:35 ¹
Total/NA	Analysis	7470A		1	699567	MJG	EET CHI	02/21/23 09:33
Total/NA	Analysis	SM 2540C		1	698858	CLB	EET CHI	02/16/23 02:05
Total/NA	Analysis	SM 4500 Cl- E		2	698825	AJP	EET CHI	02/15/23 14:22
Total/NA	Analysis	SM 4500 F C		1	698814	EH	EET CHI	02/15/23 13:02
Total/NA	Analysis	SM 4500 SO4 E		10	699031	AJP	EET CHI	02/16/23 15:24

Client Sample ID: MW-16
Date Collected: 02/13/23 15:08
Date Received: 02/14/23 11:00

Lab Sample ID: 500-229428-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			698655	RN	EET CHI	02/14/23 16:16 - 02/14/23 16:46 ¹
Total Recoverable	Analysis	6020A		1	698939	FXG	EET CHI	02/15/23 19:17
Total Recoverable	Prep	3005A			698655	RN	EET CHI	02/14/23 16:16 - 02/14/23 16:46 ¹
Total Recoverable	Analysis	6020A		10	699144	FXG	EET CHI	02/16/23 17:02
Total/NA	Prep	7470A			699375	MJG	EET CHI	02/20/23 11:35 - 02/20/23 13:35 ¹
Total/NA	Analysis	7470A		1	699567	MJG	EET CHI	02/21/23 09:35
Total/NA	Analysis	SM 2540C		1	698858	CLB	EET CHI	02/16/23 02:08
Total/NA	Analysis	SM 4500 Cl- E		5	698825	AJP	EET CHI	02/15/23 14:23
Total/NA	Analysis	SM 4500 F C		1	698814	EH	EET CHI	02/15/23 13:08
Total/NA	Analysis	SM 4500 SO4 E		20	699031	AJP	EET CHI	02/16/23 15:54

Client Sample ID: Duplicate
Date Collected: 02/13/23 00:00
Date Received: 02/14/23 11:00

Lab Sample ID: 500-229428-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			698655	RN	EET CHI	02/14/23 16:16 - 02/14/23 16:46 ¹
Total Recoverable	Analysis	6020A		1	698939	FXG	EET CHI	02/15/23 19:27
Total/NA	Prep	7470A			699375	MJG	EET CHI	02/20/23 11:35 - 02/20/23 13:35 ¹
Total/NA	Analysis	7470A		1	699567	MJG	EET CHI	02/21/23 09:37
Total/NA	Analysis	SM 2540C		1	698858	CLB	EET CHI	02/16/23 02:10
Total/NA	Analysis	SM 4500 Cl- E		5	698825	AJP	EET CHI	02/15/23 14:23
Total/NA	Analysis	SM 4500 F C		1	698814	EH	EET CHI	02/15/23 13:15
Total/NA	Analysis	SM 4500 SO4 E		10	699031	AJP	EET CHI	02/16/23 15:24

Lab Chronicle

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

Job ID: 500-229428-1

Client Sample ID: MW-09
Date Collected: 02/14/23 11:26
Date Received: 02/15/23 10:10

Lab Sample ID: 500-229428-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			698889	BDE	EET CHI	02/16/23 08:08 - 02/16/23 08:38 ¹
Total Recoverable	Analysis	6020A		1	699144	FXG	EET CHI	02/16/23 17:27
Total Recoverable	Prep	3005A			698889	BDE	EET CHI	02/16/23 08:08 - 02/16/23 08:38 ¹
Total Recoverable	Analysis	6020A		100	699307	FXG	EET CHI	02/17/23 13:02
Total/NA	Prep	7470A			699375	MJG	EET CHI	02/20/23 11:35 - 02/20/23 13:35 ¹
Total/NA	Analysis	7470A		1	699567	MJG	EET CHI	02/21/23 09:39
Total/NA	Analysis	SM 2540C		1	699046	CLB	EET CHI	02/17/23 02:47
Total/NA	Analysis	SM 4500 CI- E		10	698825	AJP	EET CHI	02/15/23 14:23
Total/NA	Analysis	SM 4500 F C		1	699021	EH	EET CHI	02/16/23 12:29
Total/NA	Analysis	SM 4500 SO4 E		10	699031	AJP	EET CHI	02/16/23 15:24

Client Sample ID: MW-11
Date Collected: 02/14/23 13:50
Date Received: 02/15/23 10:10

Lab Sample ID: 500-229428-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			698889	BDE	EET CHI	02/16/23 08:08 - 02/16/23 08:38 ¹
Total Recoverable	Analysis	6020A		1	699144	FXG	EET CHI	02/16/23 17:51
Total Recoverable	Prep	3005A			699407	RN	EET CHI	02/20/23 15:20 - 02/20/23 15:50 ¹
Total Recoverable	Analysis	6020A		1	699717	FXG	EET CHI	02/21/23 14:42
Total/NA	Prep	7470A			699375	MJG	EET CHI	02/20/23 11:35 - 02/20/23 13:35 ¹
Total/NA	Analysis	7470A		1	699567	MJG	EET CHI	02/21/23 10:10
Total/NA	Analysis	SM 2540C		1	699046	CLB	EET CHI	02/17/23 02:50
Total/NA	Analysis	SM 4500 CI- E		5	698825	AJP	EET CHI	02/15/23 14:24
Total/NA	Analysis	SM 4500 F C		1	699021	EH	EET CHI	02/16/23 12:49
Total/NA	Analysis	SM 4500 SO4 E		2	699031	AJP	EET CHI	02/16/23 15:25

Client Sample ID: MW-14
Date Collected: 02/14/23 10:15
Date Received: 02/15/23 10:10

Lab Sample ID: 500-229428-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			698889	BDE	EET CHI	02/16/23 08:08 - 02/16/23 08:38 ¹
Total Recoverable	Analysis	6020A		1	699144	FXG	EET CHI	02/16/23 17:54
Total Recoverable	Prep	3005A			699407	RN	EET CHI	02/20/23 15:20 - 02/20/23 15:50 ¹
Total Recoverable	Analysis	6020A		1	699717	FXG	EET CHI	02/21/23 14:48
Total/NA	Prep	7470A			699375	MJG	EET CHI	02/20/23 11:35 - 02/20/23 13:35 ¹
Total/NA	Analysis	7470A		1	699567	MJG	EET CHI	02/21/23 10:56
Total/NA	Analysis	SM 2540C		1	699046	CLB	EET CHI	02/17/23 02:52
Total/NA	Analysis	SM 4500 CI- E		5	698825	AJP	EET CHI	02/15/23 14:24
Total/NA	Analysis	SM 4500 F C		1	699021	EH	EET CHI	02/16/23 12:55
Total/NA	Analysis	SM 4500 SO4 E		2	699031	AJP	EET CHI	02/16/23 15:25

¹ Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Lab Chronicle

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

Job ID: 500-229428-1

Laboratory References:

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

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Accreditation/Certification Summary

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

Job ID: 500-229428-1

Laboratory: Eurofins Chicago

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

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	04-30-23

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 3/20/2023 4:01:27 PM

JOB DESCRIPTION

Waukegan CCR (RAD)

JOB NUMBER

500-229428-2

Eurofins Chicago

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing North Central, LLC and its client. All questions regarding this report should be directed to the Eurofins Environment Testing North Central, LLC Project Manager who has signed this report.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization



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Case Narrative

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

Job ID: 500-229428-2

Job ID: 500-229428-2

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-229428-2

Comments

No additional comments.

Receipt

The samples were received on 2/14/2023 11:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.2° C, 1.7° C and 2.9° C.

RAD

Method 903.0: Radium-226 prep batch 160-601179:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

MW-01 (500-229428-1), MW-02 (500-229428-2), MW-03 (500-229428-3), MW-04 (500-229428-4), MW-16 (500-229428-5), Duplicate (500-229428-6), MW-09 (500-229428-7), MW-11 (500-229428-8), MW-14 (500-229428-9), (LCS 160-601179/2-A), (MB 160-601179/1-A), (500-229420-G-4-A) and (500-229420-F-4-A DU)

Method 904.0: Radium-228 prep batch 160-601181:

The Ra-228 laboratory control sample (LCS) associated with the following samples recovered at 127%. The limits in our LIMS system at (75-125%) reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (62-148%) per method requirements. The LCS is within criteria and no further action is required.(LCS 160-601181/2-A)

Method 904.0: Radium-228 prep batch 160-601181:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

MW-01 (500-229428-1), MW-02 (500-229428-2), MW-03 (500-229428-3), MW-04 (500-229428-4), MW-16 (500-229428-5), Duplicate (500-229428-6), MW-09 (500-229428-7), MW-11 (500-229428-8), MW-14 (500-229428-9), (LCS 160-601181/2-A), (MB 160-601181/1-A), (500-229420-G-4-B) and (500-229420-F-4-B DU)

Method PrecSep_0:

Method PrecSep-21:

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: Waukegan CCR (RAD)

Job ID: 500-229428-2

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

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

Laboratory References:

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

Sample Summary

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

Job ID: 500-229428-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-229428-1	MW-01	Water	02/13/23 10:54	02/14/23 11:00
500-229428-2	MW-02	Water	02/13/23 11:49	02/14/23 11:00
500-229428-3	MW-03	Water	02/13/23 12:45	02/14/23 11:00
500-229428-4	MW-04	Water	02/13/23 13:57	02/14/23 11:00
500-229428-5	MW-16	Water	02/13/23 15:08	02/14/23 11:00
500-229428-6	Duplicate	Water	02/13/23 00:00	02/14/23 11:00
500-229428-7	MW-09	Water	02/14/23 11:26	02/15/23 10:10
500-229428-8	MW-11	Water	02/14/23 13:50	02/15/23 10:10
500-229428-9	MW-14	Water	02/14/23 10:15	02/15/23 10:10

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Client Sample Results

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

Job ID: 500-229428-2

Client Sample ID: MW-01

Lab Sample ID: 500-229428-1

Date Collected: 02/13/23 10:54

Matrix: Water

Date Received: 02/14/23 11:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0967		0.0655	0.0661	1.00	0.0871	pCi/L	02/22/23 09:54	03/17/23 14:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.0		30 - 110					02/22/23 09:54	03/17/23 14:42	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.529	U	0.306	0.306	1.00	0.529	pCi/L	02/22/23 10:31	03/01/23 12:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.0		30 - 110					02/22/23 10:31	03/01/23 12:06	1
Y Carrier	90.1		30 - 110					02/22/23 10:31	03/01/23 12:06	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.529	U	0.313	0.313	5.00	0.529	pCi/L		03/20/23 15:26	1

Client Sample ID: MW-02

Lab Sample ID: 500-229428-2

Date Collected: 02/13/23 11:49

Matrix: Water

Date Received: 02/14/23 11:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.0972	U	0.0648	0.0652	1.00	0.0972	pCi/L	02/22/23 09:54	03/17/23 14:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.7		30 - 110					02/22/23 09:54	03/17/23 14:43	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.563		0.328	0.332	1.00	0.470	pCi/L	02/22/23 10:31	03/01/23 12:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.7		30 - 110					02/22/23 10:31	03/01/23 12:06	1
Y Carrier	85.6		30 - 110					02/22/23 10:31	03/01/23 12:06	1

Client Sample Results

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

Job ID: 500-229428-2

Client Sample ID: MW-02

Lab Sample ID: 500-229428-2

Date Collected: 02/13/23 11:49

Matrix: Water

Date Received: 02/14/23 11:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.640		0.334	0.338	5.00	0.470	pCi/L		03/20/23 15:26	1

Client Sample ID: MW-03

Lab Sample ID: 500-229428-3

Date Collected: 02/13/23 12:45

Matrix: Water

Date Received: 02/14/23 11:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.119	U	0.0648	0.0648	1.00	0.119	pCi/L	02/22/23 09:54	03/17/23 14:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		30 - 110					02/22/23 09:54	03/17/23 14:43	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.524		0.310	0.313	1.00	0.442	pCi/L	02/22/23 10:31	03/01/23 12:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		30 - 110					02/22/23 10:31	03/01/23 12:06	1
Y Carrier	86.0		30 - 110					02/22/23 10:31	03/01/23 12:06	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.545		0.317	0.320	5.00	0.442	pCi/L		03/20/23 15:26	1

Client Sample ID: MW-04

Lab Sample ID: 500-229428-4

Date Collected: 02/13/23 13:57

Matrix: Water

Date Received: 02/14/23 11:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.105	U	0.0731	0.0737	1.00	0.105	pCi/L	02/22/23 09:54	03/17/23 14:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.9		30 - 110					02/22/23 09:54	03/17/23 14:45	1

Client Sample Results

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

Job ID: 500-229428-2

Client Sample ID: MW-04

Lab Sample ID: 500-229428-4

Date Collected: 02/13/23 13:57

Matrix: Water

Date Received: 02/14/23 11:00

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.456	U	0.299	0.301	1.00	0.456	pCi/L	02/22/23 10:31	03/01/23 12:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.9		30 - 110					02/22/23 10:31	03/01/23 12:07	1
Y Carrier	89.0		30 - 110					02/22/23 10:31	03/01/23 12:07	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.489		0.308	0.310	5.00	0.456	pCi/L		03/20/23 15:26	1

Client Sample ID: MW-16

Lab Sample ID: 500-229428-5

Date Collected: 02/13/23 15:08

Matrix: Water

Date Received: 02/14/23 11:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.150		0.0823	0.0834	1.00	0.108	pCi/L	02/22/23 09:54	03/17/23 14:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.6		30 - 110					02/22/23 09:54	03/17/23 14:45	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.518		0.348	0.351	1.00	0.515	pCi/L	02/22/23 10:31	03/01/23 12:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.6		30 - 110					02/22/23 10:31	03/01/23 12:07	1
Y Carrier	82.6		30 - 110					02/22/23 10:31	03/01/23 12:07	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.668		0.358	0.361	5.00	0.515	pCi/L		03/20/23 15:26	1

Client Sample Results

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

Job ID: 500-229428-2

Client Sample ID: Duplicate

Lab Sample ID: 500-229428-6

Date Collected: 02/13/23 00:00

Matrix: Water

Date Received: 02/14/23 11:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.133		0.0750	0.0760	1.00	0.0972	pCi/L	02/22/23 09:54	03/17/23 14:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		30 - 110					02/22/23 09:54	03/17/23 14:45	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.432	U	0.271	0.272	1.00	0.432	pCi/L	02/22/23 10:31	03/01/23 12:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		30 - 110					02/22/23 10:31	03/01/23 12:07	1
Y Carrier	88.2		30 - 110					02/22/23 10:31	03/01/23 12:07	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.432	U	0.281	0.282	5.00	0.432	pCi/L		03/20/23 15:26	1

Client Sample ID: MW-09

Lab Sample ID: 500-229428-7

Date Collected: 02/14/23 11:26

Matrix: Water

Date Received: 02/15/23 10:10

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.256		0.0932	0.0960	1.00	0.0952	pCi/L	02/22/23 09:54	03/17/23 14:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		30 - 110					02/22/23 09:54	03/17/23 14:45	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.758		0.375	0.382	1.00	0.517	pCi/L	02/22/23 10:31	03/01/23 12:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		30 - 110					02/22/23 10:31	03/01/23 12:07	1
Y Carrier	87.5		30 - 110					02/22/23 10:31	03/01/23 12:07	1

Client Sample Results

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

Job ID: 500-229428-2

Client Sample ID: MW-09
Date Collected: 02/14/23 11:26
Date Received: 02/15/23 10:10

Lab Sample ID: 500-229428-7
Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.01		0.386	0.394	5.00	0.517	pCi/L		03/20/23 15:26	1

Client Sample ID: MW-11
Date Collected: 02/14/23 13:50
Date Received: 02/15/23 10:10

Lab Sample ID: 500-229428-8
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.404		0.128	0.133	1.00	0.123	pCi/L	02/22/23 09:54	03/17/23 14:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.9		30 - 110					02/22/23 09:54	03/17/23 14:45	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.07		0.516	0.525	1.00	0.722	pCi/L	02/22/23 10:31	03/01/23 12:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.9		30 - 110					02/22/23 10:31	03/01/23 12:07	1
Y Carrier	87.5		30 - 110					02/22/23 10:31	03/01/23 12:07	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.48		0.532	0.542	5.00	0.722	pCi/L		03/20/23 15:26	1

Client Sample ID: MW-14
Date Collected: 02/14/23 10:15
Date Received: 02/15/23 10:10

Lab Sample ID: 500-229428-9
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.226		0.102	0.104	1.00	0.111	pCi/L	02/22/23 09:54	03/17/23 14:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		30 - 110					02/22/23 09:54	03/17/23 14:45	1

Client Sample Results

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

Job ID: 500-229428-2

Client Sample ID: MW-14
Date Collected: 02/14/23 10:15
Date Received: 02/15/23 10:10

Lab Sample ID: 500-229428-9
Matrix: Water

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.896		0.455	0.462	1.00	0.618	pCi/L	02/22/23 10:31	03/01/23 12:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		30 - 110					02/22/23 10:31	03/01/23 12:07	1
Y Carrier	86.7		30 - 110					02/22/23 10:31	03/01/23 12:07	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.12		0.466	0.474	5.00	0.618	pCi/L		03/20/23 15:26	1



Definitions/Glossary

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

Job ID: 500-229428-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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: Waukegan CCR (RAD)

Job ID: 500-229428-2

Rad

Prep Batch: 601179

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-1	MW-01	Total/NA	Water	PrecSep-21	
500-229428-2	MW-02	Total/NA	Water	PrecSep-21	
500-229428-3	MW-03	Total/NA	Water	PrecSep-21	
500-229428-4	MW-04	Total/NA	Water	PrecSep-21	
500-229428-5	MW-16	Total/NA	Water	PrecSep-21	
500-229428-6	Duplicate	Total/NA	Water	PrecSep-21	
500-229428-7	MW-09	Total/NA	Water	PrecSep-21	
500-229428-8	MW-11	Total/NA	Water	PrecSep-21	
500-229428-9	MW-14	Total/NA	Water	PrecSep-21	
MB 160-601179/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-601179/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 601181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-229428-1	MW-01	Total/NA	Water	PrecSep_0	
500-229428-2	MW-02	Total/NA	Water	PrecSep_0	
500-229428-3	MW-03	Total/NA	Water	PrecSep_0	
500-229428-4	MW-04	Total/NA	Water	PrecSep_0	
500-229428-5	MW-16	Total/NA	Water	PrecSep_0	
500-229428-6	Duplicate	Total/NA	Water	PrecSep_0	
500-229428-7	MW-09	Total/NA	Water	PrecSep_0	
500-229428-8	MW-11	Total/NA	Water	PrecSep_0	
500-229428-9	MW-14	Total/NA	Water	PrecSep_0	
MB 160-601181/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-601181/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

QC Sample Results

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

Job ID: 500-229428-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-601179/1-A
Matrix: Water
Analysis Batch: 604030

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 601179

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	<0.100	U	0.0516	0.0516	1.00	0.100	pCi/L	02/22/23 09:54	03/17/23 14:41	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	97.7		30 - 110			02/22/23 09:54	03/17/23 14:41	1		

Lab Sample ID: LCS 160-601179/2-A
Matrix: Water
Analysis Batch: 604030

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 601179

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	11.15		1.14	1.00	0.0983	pCi/L	98	75 - 125
Carrier	LCS LCS		Limits			Prepared	Analyzed	Dil Fac	
	%Yield	Qualifier							
Ba Carrier	95.4		30 - 110						

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-601181/1-A
Matrix: Water
Analysis Batch: 602057

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 601181

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	<0.464	U	0.311	0.314	1.00	0.464	pCi/L	02/22/23 10:31	03/01/23 11:55	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	97.7		30 - 110			02/22/23 10:31	03/01/23 11:55	1		
Y Carrier	87.1		30 - 110			02/22/23 10:31	03/01/23 11:55	1		

Lab Sample ID: LCS 160-601181/2-A
Matrix: Water
Analysis Batch: 602057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 601181

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-228	8.15	10.37		1.34	1.00	0.443	pCi/L	127	75 - 125
Carrier	LCS LCS		Limits			Prepared	Analyzed	Dil Fac	
	%Yield	Qualifier							
Ba Carrier	95.4		30 - 110						
Y Carrier	86.0		30 - 110						

Eurofins Chicago

2417 Bond Street
 University Park IL 60484
 Phone 708-534-5200 Fax. 708-534-5211

Chain of Custody Record

MKE 232



Environment Testing

Client Information		Sampler <i>Kaelyn Sperle</i>		Lab PM Mockler Diana J		Carrier Tracking No(s)		COC No: 500-109810-44027 1															
Client Contact: Mitchel Dolan		Phone <i>262-278-1621</i>		E-Mail Diana.Mockler@et.eurofinsus.com		State of Origin: <i>IL</i>		Page Page 1 of 1															
Company KPRG and Associates, Inc.		PWSID		Analysis Requested						Job #: <i>500-229428</i>													
Address: 14665 West Lisbon Road, Suite 1A		Due Date Requested <i>Standard</i>		<table border="1"> <tr> <td colspan="2">TAT Requested (days): <i>standard</i></td> <td colspan="2">Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td colspan="2">PO #: 4502102435</td> <td colspan="2">WO #</td> <td colspan="2">Project #: 50011597</td> <td colspan="2">SSOW#</td> </tr> </table>						TAT Requested (days): <i>standard</i>		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		PO #: 4502102435		WO #		Project #: 50011597		SSOW#		Preservation Codes	
TAT Requested (days): <i>standard</i>		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No								PO #: 4502102435		WO #		Project #: 50011597		SSOW#							
City Brookfield		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No								Matrix (W=water, S=solid, O=waste/soil, BT=Tissue, A=Air)		Total Number of Containers		A - HCL		M Hexane							
State, Zip: WI, 53005		PO #: 4502102435								W=water		903.0, 904.0		B NaOH		N None							
Phone: 262-781-0475(Tel)		WO #								S=solid		8010C, 8020A, 7470A		C Zn Acetate		O - AsNaO2							
Email: mitcheld@kprginc.com		Project #: 50011597		O=waste/soil		2640C, 4500_F_C, SM4500_CJ_E, SM4500_SO4_E		D Nitric Acid		P Na2O4S													
Project Name: Waukegan CCR Event Desc: Quarterly Waukegan CCR		SSOW#		BT=Tissue, A=Air		Special Instructions/Note:		E NaHSO4		Q - Na2SO3													
Site: Illinois		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		F MeOH		R Na2S2O3													
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		G Amchlor		S - H2SO4													
MW-01		2/13/23		1054		G		H Ascorbic Acid		T - TSP Dodecahydrate													
MW-02		2/13/23		1149		G		I - Ice		U - Acetone													
MW-03		2/13/23		1245		G		J DI Water		V - MCAA													
MW-04		2/13/23		1357		G		K EDTA		W - pH 4-5													
Duplicate		2/13/23		-		G		L EDA		Y Trizma													
MW-16		2/13/23		1508		G		Z other (specify)															
Duplicate		2/13/23		-		G																	

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: <i>Kaelyn Sperle</i>	Date/Time: <i>2/13/23/1630</i>	Company: KPRG	Received by: <i>FedEx</i>
Relinquished by:	Date/Time:	Company:	Received by: <i>Rhonda</i>
Relinquished by:	Date/Time:	Company:	Received by: <i>1106</i>

Custody Seals Intact Yes No Cooler Temperature(s) °C and Other Remarks: *3.9 → 22, 2.2 → 10*



ORIGIN ID:FEPA (262) 278-1621

KPRG AND ASSOCIATES
414 PLAZA DR STE 106

WESTMONT, IL 60559
UNITED STATES US

TO **EUROFINS CHICAGO**

2417 BOND ST

UNIVERSITY PARK IL 60484

(708) 634-5200

INVT
P0:

REF:

DEPT:

RT **519**
ST **29**

5
12 00

A
8330
02 14



500-229428 Waybl

Part # 156297-435
RRDB2 EXP 07/23
G23/208R/1T185



FedEx
Express



4 of 4
MPS# **3945 8123 8330**
0263

Mstr# 3945 8123 8307

79 JOTA

0201

TUE - 14 FEB 10:30A
PRIORITY OVERNIGHT

AHS
60484
IL-US ORD



ORIGIN ID:FEPA (262) 278-1621

KPRG AND ASSOCIATES
414 PLAZA DR STE 106

WESTMONT, IL 60559
UNITED STATES US

TO **EUROFINS CHICAGO**

2417 BOND ST

UNIVERSITY PARK IL 60484

(708) 634-5200

INVT
P0:

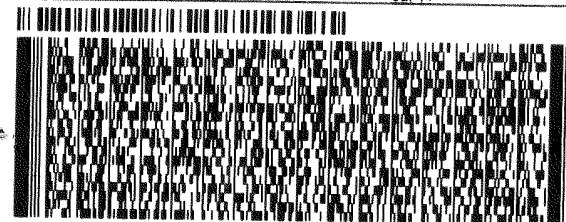
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DEPT:

SHIP DATE: 13FEB23
ACTWGT: 47.60 LB
CAD: 6994085/SSFE2401
DIMS: 24x14x14 IN

BILL THIRD PARTY

Part # 156297-435 RRDB2 EXP 07/23
G23/208R/1T185



FedEx
Express



3 of 4
MPS# **3945 8123 8329**
0263

Mstr# 3945 8123 8307

79 JOTA

0201

TUE - 14 FEB 10:30A
PRIORITY OVERNIGHT

AHS
60484
IL-US ORD



IGIN ID:FEP (262) 278-1621
KPRG AND ASSOCIATES
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 14FEB23
ACTWGT: 48.65 LB
CAD: 6994083/SSFE2401
DIMS: 25x14x14 IN
BILL THIRD PARTY

Part # 1562978889-2082012165XP 07/23

TO EUROFINS CHICAGO
EUROFINS CHICAGO
2417 BOND ST



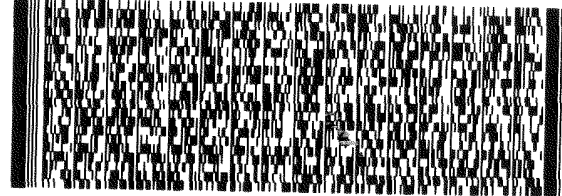
500-229428 Waybr

UNIVERSITY PARK IL 60484

(708) 634-6200
INV:
PD:

REF:

DEPT:



FedEx
Express



an1011108201527

3 of 3

MPS# 3946 2614 0380
0263

Mstr# 3946 2614 0369

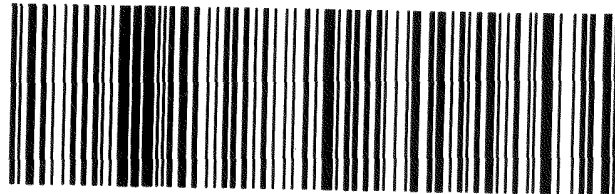
0201

79 JOTA

WED - 15 FEB 10:30A
PRIORITY OVERNIGHT

60484

IL-US ORD



Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler: Mockler, Diana J		Lab PM: Mockler, Diana J		Carrier Tracking No(s): 500-170938.1		COC No: 500-170938.1	
Client Contact: TestAmerica Laboratories, Inc.		Phone: Diana Mockler@et.eurofinsus.com		E-Mail: Diana.Mockler@et.eurofinsus.com		State of Origin: Illinois		Page: Page 1 of 1	
Shipping/Receiving: 13715 Rider Trail North, Earth City, MO, 63045		Due Date Requested: 3/6/2023		TAT Requested (days):		Job #: 500-229428-2		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA 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 Y - Trizma Z - other (specify)	
Address: 314-298-8566(Tel) 314-298-8757(Fax)		PO #:		WO #:		Project #: 50011597		Other:	
Email:		Site: NRG Midwest Generation Waukegan		SSOW#:		Perform MS/MSD (Yes or No)		Total Number of Containers	
Project Name: Waukegan CCR		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, B=leachate, A=air)	
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, B=leachate, A=air)	
MW-09 (500-229428-7)		2/14/23		11:26 Central		Water		Water	
MW-11 (500-229428-8)		2/14/23		13:50 Central		Water		Water	
MW-14 (500-229428-9)		2/14/23		10:15 Central		Water		Water	
Field Filtered Sample (Yes or No)		903.0/PreSep_21 Standard Target List		904.0/PreSep_0 Standard Target List		R226R228_GFPc		Special Instructions/Note: Batch QC must be performed (dup. spikes, etc) - no NCMs concerning limited volume; Batch QC must be performed (dup. spikes, etc) - no NCMs concerning limited volume; Batch QC must be performed (dup. spikes, etc) - no NCMs concerning limited volume;	

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

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:

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

Relinquished by: *Shirley Smith* Date: 2/15/23 Time: 1415 Company: *FEDEX*

Relinquished by: *Diana Shanley* Date: 2/16/23 Time: 1040 Company: *STATL*

Relinquished by: _____ Date: _____ Time: _____ Company: _____

Custody Seals Intact: _____ Custody Seal No.: _____
 Δ Yes Δ No

Cooler Temperature(s) °C and Other Remarks:



Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:						
Client Contact: Shipping/Receiving Company: TestAmerica Laboratories, Inc.		Phone:	Mockler, Diana J	State of Origin: Illinois	500-170886-1						
Address: 13715 Rider Trail North, City: Earth City State, Zip: MO, 63045 Phone: 314-298-8566(Tel) 314-298-8757(Fax) Email:		Due Date Requested: 3/6/2023 TAT Requested (days):	E-Mail: Diana.Mockler@et.eurofins.com	Job #: 500-229428-1	Page: Page 1 of 1						
Project Name: Waukegan CCR Site: NRG Midwest Generation Waukegan		PO #: WO #: Project #: 50011597 SSOW#:	Accreditations Required (See note): NELAP - Illinois	Preservation Codes: 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 Y - Trizma 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=swab/roll, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	90.0%PreSep_21 Standard Target List	90.0%PreSep_0 Standard Target List	Ra226Ra228 GFC	Total Number of Containers	Special Instructions/Note:
MW-01 (500-229428-1)	2/13/23	10:54 Central	Water	Water	X	X	X	X		8	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-02 (500-229428-2)	2/13/23	11:49 Central	Water	Water	X	X	X	X		3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-03 (500-229428-3)	2/13/23	12:45 Central	Water	Water	X	X	X	X		3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-04 (500-229428-4)	2/13/23	13:57 Central	Water	Water	X	X	X	X		3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-16 (500-229428-5)	2/13/23	15:08 Central	Water	Water	X	X	X	X		3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
Duplicate (500-229428-6)	2/13/23	Central	Water	Water	X	X	X	X		3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
											18

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

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:

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

Relinquished by: *Shirley Scotts* Date: 2/14/23 Time: 1410 Company: *FEDEX*

Relinquished by: *FEDEX* Date: _____ Time: _____ Company: _____

Relinquished by: _____ Date: _____ Time: _____ Company: _____

Custody Seals Intact: _____ Custody Seal No.: _____
 Δ Yes Δ No

Cooler Temperature(s) °C and Other Remarks: _____



Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-229428-2

Login Number: 229428

List Number: 1

Creator: Scott, Sherri L

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	2.9,1.2,1.7
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 <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-229428-2

Login Number: 229428

List Number: 2

Creator: Sharkey-Gonzalez, Briana L

List Source: Eurofins St. Louis

List Creation: 02/16/23 02:35 PM

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



Lab Chronicle

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

Job ID: 500-229428-2

Client Sample ID: MW-01

Lab Sample ID: 500-229428-1

Date Collected: 02/13/23 10:54

Matrix: Water

Date Received: 02/14/23 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			601179	DJP	EET SL	02/22/23 09:54
Total/NA	Analysis	903.0		1	604030	FLC	EET SL	03/17/23 14:42
Total/NA	Prep	PrecSep_0			601181	DJP	EET SL	02/22/23 10:31
Total/NA	Analysis	904.0		1	602059	SCB	EET SL	03/01/23 12:06
Total/NA	Analysis	Ra226_Ra228		1	604384	CAH	EET SL	03/20/23 15:26

Client Sample ID: MW-02

Lab Sample ID: 500-229428-2

Date Collected: 02/13/23 11:49

Matrix: Water

Date Received: 02/14/23 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			601179	DJP	EET SL	02/22/23 09:54
Total/NA	Analysis	903.0		1	604030	FLC	EET SL	03/17/23 14:43
Total/NA	Prep	PrecSep_0			601181	DJP	EET SL	02/22/23 10:31
Total/NA	Analysis	904.0		1	602059	SCB	EET SL	03/01/23 12:06
Total/NA	Analysis	Ra226_Ra228		1	604384	CAH	EET SL	03/20/23 15:26

Client Sample ID: MW-03

Lab Sample ID: 500-229428-3

Date Collected: 02/13/23 12:45

Matrix: Water

Date Received: 02/14/23 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			601179	DJP	EET SL	02/22/23 09:54
Total/NA	Analysis	903.0		1	604030	FLC	EET SL	03/17/23 14:43
Total/NA	Prep	PrecSep_0			601181	DJP	EET SL	02/22/23 10:31
Total/NA	Analysis	904.0		1	602059	SCB	EET SL	03/01/23 12:06
Total/NA	Analysis	Ra226_Ra228		1	604384	CAH	EET SL	03/20/23 15:26

Client Sample ID: MW-04

Lab Sample ID: 500-229428-4

Date Collected: 02/13/23 13:57

Matrix: Water

Date Received: 02/14/23 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			601179	DJP	EET SL	02/22/23 09:54
Total/NA	Analysis	903.0		1	603986	FLC	EET SL	03/17/23 14:45
Total/NA	Prep	PrecSep_0			601181	DJP	EET SL	02/22/23 10:31
Total/NA	Analysis	904.0		1	602059	SCB	EET SL	03/01/23 12:07
Total/NA	Analysis	Ra226_Ra228		1	604384	CAH	EET SL	03/20/23 15:26

Lab Chronicle

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

Job ID: 500-229428-2

Client Sample ID: MW-16
Date Collected: 02/13/23 15:08
Date Received: 02/14/23 11:00

Lab Sample ID: 500-229428-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			601179	DJP	EET SL	02/22/23 09:54
Total/NA	Analysis	903.0		1	603986	FLC	EET SL	03/17/23 14:45
Total/NA	Prep	PrecSep_0			601181	DJP	EET SL	02/22/23 10:31
Total/NA	Analysis	904.0		1	602059	SCB	EET SL	03/01/23 12:07
Total/NA	Analysis	Ra226_Ra228		1	604384	CAH	EET SL	03/20/23 15:26

Client Sample ID: Duplicate
Date Collected: 02/13/23 00:00
Date Received: 02/14/23 11:00

Lab Sample ID: 500-229428-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			601179	DJP	EET SL	02/22/23 09:54
Total/NA	Analysis	903.0		1	603986	FLC	EET SL	03/17/23 14:45
Total/NA	Prep	PrecSep_0			601181	DJP	EET SL	02/22/23 10:31
Total/NA	Analysis	904.0		1	602059	SCB	EET SL	03/01/23 12:07
Total/NA	Analysis	Ra226_Ra228		1	604384	CAH	EET SL	03/20/23 15:26

Client Sample ID: MW-09
Date Collected: 02/14/23 11:26
Date Received: 02/15/23 10:10

Lab Sample ID: 500-229428-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			601179	DJP	EET SL	02/22/23 09:54
Total/NA	Analysis	903.0		1	603986	FLC	EET SL	03/17/23 14:45
Total/NA	Prep	PrecSep_0			601181	DJP	EET SL	02/22/23 10:31
Total/NA	Analysis	904.0		1	602059	SCB	EET SL	03/01/23 12:07
Total/NA	Analysis	Ra226_Ra228		1	604384	CAH	EET SL	03/20/23 15:26

Client Sample ID: MW-11
Date Collected: 02/14/23 13:50
Date Received: 02/15/23 10:10

Lab Sample ID: 500-229428-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			601179	DJP	EET SL	02/22/23 09:54
Total/NA	Analysis	903.0		1	603986	FLC	EET SL	03/17/23 14:45
Total/NA	Prep	PrecSep_0			601181	DJP	EET SL	02/22/23 10:31
Total/NA	Analysis	904.0		1	602059	SCB	EET SL	03/01/23 12:07
Total/NA	Analysis	Ra226_Ra228		1	604384	CAH	EET SL	03/20/23 15:26

Lab Chronicle

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

Job ID: 500-229428-2

Client Sample ID: MW-14
Date Collected: 02/14/23 10:15
Date Received: 02/15/23 10:10

Lab Sample ID: 500-229428-9
Matrix: Water

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Total/NA	Prep	PrecSep-21			601179	DJP	EET SL	02/22/23 09:54
Total/NA	Analysis	903.0		1	603986	FLC	EET SL	03/17/23 14:45
Total/NA	Prep	PrecSep_0			601181	DJP	EET SL	02/22/23 10:31
Total/NA	Analysis	904.0		1	602059	SCB	EET SL	03/01/23 12:07
Total/NA	Analysis	Ra226_Ra228		1	604384	CAH	EET SL	03/20/23 15:26

Laboratory References:

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



Accreditation/Certification Summary

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

Job ID: 500-229428-2

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	200023	11-30-23

- 1
- 2
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- 8
- 9
- 10
- 11
- 12
- 13
- 14

 **ANALYTICAL REPORT****PREPARED FOR**

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

Generated 5/24/2023 10:02:05 AM

JOB DESCRIPTION

Waukegan CCR
Quarterly Waukegan CCR

JOB NUMBER

500-233495-1

Eurofins Chicago

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization



Generated
5/24/2023 10:02:05 AM

Authorized for release by
Diana Mockler, Project Manager I
Diana.Mockler@et.eurofinsus.com
(219)252-7570



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Case Narrative

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

Job ID: 500-233495-1

Job ID: 500-233495-1

Laboratory: Eurofins Chicago

Narrative

**Job Narrative
500-233495-1**

Receipt

The samples were received on 5/9/2023 10:05 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.2° C, 4.3° C and 5.2° C.

Metals

Method 6020A: The continuing calibration verification (CCV) associated with batch 714296 recovered above the upper control limit for Beryllium. The samples associated with this CCV 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

Method SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 500-713522 were outside control limits for sulfat. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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: Waukegan CCR

Job ID: 500-233495-1

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

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

Sample Summary

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

Job ID: 500-233495-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-233495-1	MW-01	Water	05/08/23 10:42	05/09/23 10:05
500-233495-2	MW-02	Water	05/08/23 11:56	05/09/23 10:05
500-233495-3	MW-03	Water	05/08/23 13:00	05/09/23 10:05
500-233495-4	MW-04	Water	05/09/23 09:43	05/10/23 10:10
500-233495-5	MW-09	Water	05/09/23 14:28	05/10/23 10:10
500-233495-6	MW-11	Water	05/09/23 12:03	05/10/23 10:10
500-233495-7	MW-14	Water	05/09/23 13:14	05/10/23 10:10
500-233495-8	MW-16	Water	05/09/23 11:00	05/10/23 10:10
500-233495-9	Duplicate	Water	05/09/23 00:00	05/10/23 10:10

- 1
- 2
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- 13

Client Sample Results

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

Job ID: 500-233495-1

Client Sample ID: MW-01

Lab Sample ID: 500-233495-1

Date Collected: 05/08/23 10:42

Matrix: Water

Date Received: 05/09/23 10:05

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/17/23 09:11	05/18/23 01:09	1
Arsenic	0.022		0.0010		mg/L		05/17/23 09:11	05/18/23 01:09	1
Barium	0.027		0.0025		mg/L		05/17/23 09:11	05/18/23 01:09	1
Beryllium	<0.0010	^+	0.0010		mg/L		05/17/23 09:11	05/19/23 03:19	1
Boron	2.1		0.25		mg/L		05/17/23 09:11	05/19/23 18:24	5
Cadmium	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:09	1
Calcium	45		0.20		mg/L		05/17/23 09:11	05/19/23 03:19	1
Chromium	<0.0050		0.0050		mg/L		05/17/23 09:11	05/18/23 01:09	1
Cobalt	<0.0010		0.0010		mg/L		05/17/23 09:11	05/18/23 01:09	1
Lead	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:09	1
Lithium	<0.010		0.010		mg/L		05/17/23 09:11	05/19/23 03:19	1
Molybdenum	0.023		0.0050		mg/L		05/17/23 09:11	05/18/23 01:09	1
Selenium	<0.0025		0.0025		mg/L		05/17/23 09:11	05/18/23 01:09	1
Thallium	<0.0020		0.0020		mg/L		05/17/23 09:11	05/18/23 01:09	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/22/23 11:50	05/23/23 07:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	370		10		mg/L			05/09/23 17:01	1
Chloride (SM 4500 Cl- E)	54		4.0		mg/L			05/18/23 16:31	2
Fluoride (SM 4500 F C)	0.39		0.10		mg/L			05/14/23 08:17	1
Sulfate (SM 4500 SO4 E)	160		50		mg/L			05/16/23 11:19	10

Client Sample ID: MW-02

Lab Sample ID: 500-233495-2

Date Collected: 05/08/23 11:56

Matrix: Water

Date Received: 05/09/23 10:05

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/17/23 09:11	05/18/23 01:13	1
Arsenic	0.0090		0.0010		mg/L		05/17/23 09:11	05/18/23 01:13	1
Barium	0.027		0.0025		mg/L		05/17/23 09:11	05/18/23 01:13	1
Beryllium	<0.0010	^+	0.0010		mg/L		05/17/23 09:11	05/19/23 03:23	1
Boron	3.1		0.50		mg/L		05/17/23 09:11	05/19/23 18:27	10
Cadmium	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:13	1
Calcium	62		0.20		mg/L		05/17/23 09:11	05/19/23 03:23	1
Chromium	<0.0050		0.0050		mg/L		05/17/23 09:11	05/18/23 01:13	1
Cobalt	<0.0010		0.0010		mg/L		05/17/23 09:11	05/18/23 01:13	1
Lead	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:13	1
Lithium	<0.010		0.010		mg/L		05/17/23 09:11	05/19/23 03:23	1
Molybdenum	0.030		0.0050		mg/L		05/17/23 09:11	05/18/23 01:13	1
Selenium	0.0038		0.0025		mg/L		05/17/23 09:11	05/18/23 01:13	1
Thallium	<0.0020		0.0020		mg/L		05/17/23 09:11	05/18/23 01:13	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/22/23 11:50	05/23/23 07:31	1

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Client Sample Results

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

Job ID: 500-233495-1

Client Sample ID: MW-02
Date Collected: 05/08/23 11:56
Date Received: 05/09/23 10:05

Lab Sample ID: 500-233495-2
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	440		10		mg/L			05/09/23 17:04	1
Chloride (SM 4500 Cl- E)	47		4.0		mg/L			05/18/23 16:31	2
Fluoride (SM 4500 F C)	0.39		0.10		mg/L			05/14/23 08:17	1
Sulfate (SM 4500 SO4 E)	210		50		mg/L			05/16/23 11:19	10

Client Sample ID: MW-03
Date Collected: 05/08/23 13:00
Date Received: 05/09/23 10:05

Lab Sample ID: 500-233495-3
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/17/23 09:11	05/18/23 01:16	1
Arsenic	0.010		0.0010		mg/L		05/17/23 09:11	05/18/23 01:16	1
Barium	0.013		0.0025		mg/L		05/17/23 09:11	05/18/23 01:16	1
Beryllium	<0.0010	^+	0.0010		mg/L		05/17/23 09:11	05/19/23 03:26	1
Boron	2.3		0.25		mg/L		05/17/23 09:11	05/19/23 18:31	5
Cadmium	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:16	1
Calcium	53		0.20		mg/L		05/17/23 09:11	05/19/23 03:26	1
Chromium	<0.0050		0.0050		mg/L		05/17/23 09:11	05/18/23 01:16	1
Cobalt	<0.0010		0.0010		mg/L		05/17/23 09:11	05/18/23 01:16	1
Lead	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:16	1
Lithium	<0.010		0.010		mg/L		05/17/23 09:11	05/19/23 03:26	1
Molybdenum	0.046		0.0050		mg/L		05/17/23 09:11	05/18/23 01:16	1
Selenium	0.0057		0.0025		mg/L		05/17/23 09:11	05/18/23 01:16	1
Thallium	<0.0020		0.0020		mg/L		05/17/23 09:11	05/18/23 01:16	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/22/23 11:50	05/23/23 07:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	340		10		mg/L			05/09/23 17:06	1
Chloride (SM 4500 Cl- E)	53		4.0		mg/L			05/18/23 16:16	2
Fluoride (SM 4500 F C)	0.32		0.10		mg/L			05/14/23 08:17	1
Sulfate (SM 4500 SO4 E)	130		50		mg/L			05/16/23 11:21	10

Client Sample ID: MW-04
Date Collected: 05/09/23 09:43
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-4
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/17/23 09:11	05/18/23 01:20	1
Arsenic	0.0073		0.0010		mg/L		05/17/23 09:11	05/18/23 01:20	1
Barium	0.049		0.0025		mg/L		05/17/23 09:11	05/18/23 01:20	1
Beryllium	<0.0010	^+	0.0010		mg/L		05/17/23 09:11	05/19/23 03:29	1
Boron	2.3		0.25		mg/L		05/17/23 09:11	05/19/23 18:34	5
Cadmium	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:20	1
Calcium	100		0.20		mg/L		05/17/23 09:11	05/19/23 03:29	1
Chromium	<0.0050		0.0050		mg/L		05/17/23 09:11	05/18/23 01:20	1

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Client Sample Results

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

Job ID: 500-233495-1

Client Sample ID: MW-04
Date Collected: 05/09/23 09:43
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-4
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.0010		0.0010		mg/L		05/17/23 09:11	05/18/23 01:20	1
Lead	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:20	1
Lithium	<0.010		0.010		mg/L		05/17/23 09:11	05/19/23 03:29	1
Molybdenum	0.034		0.0050		mg/L		05/17/23 09:11	05/18/23 01:20	1
Selenium	0.0072		0.0025		mg/L		05/17/23 09:11	05/18/23 01:20	1
Thallium	<0.0020		0.0020		mg/L		05/17/23 09:11	05/18/23 01:20	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/22/23 11:50	05/23/23 07:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	560		10		mg/L			05/10/23 17:48	1
Chloride (SM 4500 Cl- E)	59		4.0		mg/L			05/18/23 16:31	2
Fluoride (SM 4500 F C)	0.38		0.10		mg/L			05/14/23 08:17	1
Sulfate (SM 4500 SO4 E)	250		50		mg/L			05/16/23 11:21	10

Client Sample ID: MW-09
Date Collected: 05/09/23 14:28
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-5
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/17/23 09:11	05/18/23 01:30	1
Arsenic	0.0011		0.0010		mg/L		05/17/23 09:11	05/18/23 01:30	1
Barium	0.021		0.0025		mg/L		05/17/23 09:11	05/18/23 01:30	1
Beryllium	<0.0010	^+	0.0010		mg/L		05/17/23 09:11	05/19/23 03:33	1
Boron	4.7		1.0		mg/L		05/17/23 09:11	05/19/23 18:38	20
Cadmium	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:30	1
Calcium	140		0.20		mg/L		05/17/23 09:11	05/19/23 03:33	1
Chromium	<0.0050		0.0050		mg/L		05/17/23 09:11	05/18/23 01:30	1
Cobalt	<0.0010		0.0010		mg/L		05/17/23 09:11	05/18/23 01:30	1
Lead	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:30	1
Lithium	0.045		0.010		mg/L		05/17/23 09:11	05/19/23 03:33	1
Molybdenum	0.15		0.0050		mg/L		05/17/23 09:11	05/18/23 01:30	1
Selenium	<0.0025		0.0025		mg/L		05/17/23 09:11	05/18/23 01:30	1
Thallium	<0.0020		0.0020		mg/L		05/17/23 09:11	05/18/23 01:30	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/22/23 11:50	05/23/23 07:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	890		10		mg/L			05/10/23 17:51	1
Chloride (SM 4500 Cl- E)	220		20		mg/L			05/18/23 16:17	10
Fluoride (SM 4500 F C)	0.23		0.10		mg/L			05/14/23 08:17	1
Sulfate (SM 4500 SO4 E)	200		100		mg/L			05/16/23 11:21	20

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Client Sample Results

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

Job ID: 500-233495-1

Client Sample ID: MW-11

Lab Sample ID: 500-233495-6

Date Collected: 05/09/23 12:03

Matrix: Water

Date Received: 05/10/23 10:10

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/17/23 09:11	05/18/23 01:34	1
Arsenic	0.14		0.0010		mg/L		05/17/23 09:11	05/18/23 01:34	1
Barium	0.051		0.0025		mg/L		05/17/23 09:11	05/18/23 01:34	1
Beryllium	<0.0010	^+	0.0010		mg/L		05/17/23 09:11	05/19/23 03:36	1
Boron	1.2		0.25		mg/L		05/17/23 09:11	05/19/23 18:48	5
Cadmium	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:34	1
Calcium	140		0.20		mg/L		05/17/23 09:11	05/19/23 03:36	1
Chromium	0.0051		0.0050		mg/L		05/17/23 09:11	05/18/23 01:34	1
Cobalt	<0.0010		0.0010		mg/L		05/17/23 09:11	05/18/23 01:34	1
Lead	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:34	1
Lithium	0.026		0.010		mg/L		05/17/23 09:11	05/19/23 03:36	1
Molybdenum	<0.0050		0.0050		mg/L		05/17/23 09:11	05/18/23 01:34	1
Selenium	<0.0025		0.0025		mg/L		05/17/23 09:11	05/18/23 01:34	1
Thallium	<0.0020		0.0020		mg/L		05/17/23 09:11	05/18/23 01:34	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/22/23 11:50	05/23/23 07:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	790		10		mg/L			05/10/23 17:54	1
Chloride (SM 4500 Cl- E)	100		10		mg/L			05/18/23 16:17	5
Fluoride (SM 4500 F C)	0.15		0.10		mg/L			05/14/23 08:17	1
Sulfate (SM 4500 SO4 E)	55		25		mg/L			05/16/23 11:34	5

Client Sample ID: MW-14

Lab Sample ID: 500-233495-7

Date Collected: 05/09/23 13:14

Matrix: Water

Date Received: 05/10/23 10:10

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0030		0.0030		mg/L		05/17/23 09:11	05/18/23 01:37	1
Arsenic	0.33		0.0010		mg/L		05/17/23 09:11	05/18/23 01:37	1
Barium	0.038		0.0025		mg/L		05/17/23 09:11	05/18/23 01:37	1
Beryllium	<0.0010	^+	0.0010		mg/L		05/17/23 09:11	05/19/23 03:47	1
Boron	0.42		0.050		mg/L		05/17/23 09:11	05/19/23 18:51	1
Cadmium	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:37	1
Calcium	110		0.20		mg/L		05/17/23 09:11	05/19/23 03:47	1
Chromium	0.039		0.0050		mg/L		05/17/23 09:11	05/18/23 01:37	1
Cobalt	<0.0010		0.0010		mg/L		05/17/23 09:11	05/18/23 01:37	1
Lead	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:37	1
Lithium	0.013		0.010		mg/L		05/17/23 09:11	05/19/23 03:47	1
Molybdenum	<0.0050		0.0050		mg/L		05/17/23 09:11	05/18/23 01:37	1
Selenium	<0.0025		0.0025		mg/L		05/17/23 09:11	05/18/23 01:37	1
Thallium	<0.0020		0.0020		mg/L		05/17/23 09:11	05/18/23 01:37	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/22/23 11:50	05/23/23 07:41	1

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Client Sample Results

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

Job ID: 500-233495-1

Client Sample ID: MW-14
Date Collected: 05/09/23 13:14
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-7
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	460		10		mg/L			05/10/23 17:56	1
Chloride (SM 4500 Cl- E)	17		2.0		mg/L			05/18/23 16:18	1
Fluoride (SM 4500 F C)	0.18		0.10		mg/L			05/14/23 08:17	1
Sulfate (SM 4500 SO4 E)	24		5.0		mg/L			05/16/23 11:20	1

Client Sample ID: MW-16
Date Collected: 05/09/23 11:00
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-8
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/17/23 18:25	05/18/23 01:40	1
Arsenic	<0.0010		0.0010		mg/L		05/17/23 18:25	05/18/23 01:40	1
Barium	0.026		0.0025		mg/L		05/17/23 18:25	05/18/23 01:40	1
Beryllium	<0.0010	^+	0.0010		mg/L		05/17/23 18:25	05/19/23 03:50	1
Boron	3.0		0.50		mg/L		05/17/23 16:17	05/19/23 18:55	10
Cadmium	<0.00050		0.00050		mg/L		05/17/23 18:25	05/18/23 01:40	1
Calcium	140		0.20		mg/L		05/17/23 18:25	05/19/23 03:50	1
Chromium	<0.0050		0.0050		mg/L		05/17/23 18:25	05/18/23 01:40	1
Cobalt	<0.0010		0.0010		mg/L		05/17/23 18:25	05/18/23 01:40	1
Lead	<0.00050		0.00050		mg/L		05/17/23 18:25	05/18/23 01:40	1
Lithium	0.032		0.010		mg/L		05/17/23 18:25	05/19/23 03:50	1
Molybdenum	0.027		0.0050		mg/L		05/17/23 18:25	05/18/23 01:40	1
Selenium	0.011		0.0025		mg/L		05/17/23 18:25	05/18/23 01:40	1
Thallium	<0.0020		0.0020		mg/L		05/17/23 18:25	05/18/23 01:40	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/22/23 11:50	05/23/23 07:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	850		10		mg/L			05/10/23 17:59	1
Chloride (SM 4500 Cl- E)	66		4.0		mg/L			05/18/23 16:18	2
Fluoride (SM 4500 F C)	0.58		0.10		mg/L			05/14/23 08:17	1
Sulfate (SM 4500 SO4 E)	350		50		mg/L			05/16/23 11:22	10

Client Sample ID: Duplicate
Date Collected: 05/09/23 00:00
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-9
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/17/23 09:11	05/18/23 01:44	1
Arsenic	0.0071		0.0010		mg/L		05/17/23 09:11	05/18/23 01:44	1
Barium	0.050		0.0025		mg/L		05/17/23 09:11	05/18/23 01:44	1
Beryllium	<0.0010	^+	0.0010		mg/L		05/17/23 09:11	05/19/23 03:53	1
Boron	2.3		0.25		mg/L		05/17/23 09:11	05/19/23 18:58	5
Cadmium	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:44	1
Calcium	100		0.20		mg/L		05/17/23 09:11	05/19/23 03:53	1
Chromium	<0.0050		0.0050		mg/L		05/17/23 09:11	05/18/23 01:44	1

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Client Sample Results

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

Job ID: 500-233495-1

Client Sample ID: Duplicate

Lab Sample ID: 500-233495-9

Date Collected: 05/09/23 00:00

Matrix: Water

Date Received: 05/10/23 10:10

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.0010		0.0010		mg/L		05/17/23 09:11	05/18/23 01:44	1
Lead	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 01:44	1
Lithium	<0.010		0.010		mg/L		05/17/23 09:11	05/19/23 03:53	1
Molybdenum	0.035		0.0050		mg/L		05/17/23 09:11	05/18/23 01:44	1
Selenium	0.0072		0.0025		mg/L		05/17/23 09:11	05/18/23 01:44	1
Thallium	<0.0020		0.0020		mg/L		05/17/23 09:11	05/18/23 01:44	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/22/23 11:50	05/23/23 07:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	600		10		mg/L			05/10/23 18:01	1
Chloride (SM 4500 Cl- E)	58		4.0		mg/L			05/18/23 16:20	2
Fluoride (SM 4500 F C)	0.38		0.10		mg/L			05/14/23 08:17	1
Sulfate (SM 4500 SO4 E)	250		50		mg/L			05/16/23 11:22	10

Definitions/Glossary

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

Job ID: 500-233495-1

Qualifiers

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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: Waukegan CCR

Job ID: 500-233495-1

Metals

Prep Batch: 713746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-1	MW-01	Total Recoverable	Water	3005A	
500-233495-2	MW-02	Total Recoverable	Water	3005A	
500-233495-3	MW-03	Total Recoverable	Water	3005A	
500-233495-4	MW-04	Total Recoverable	Water	3005A	
500-233495-5	MW-09	Total Recoverable	Water	3005A	
500-233495-6	MW-11	Total Recoverable	Water	3005A	
500-233495-7	MW-14	Total Recoverable	Water	3005A	
500-233495-8	MW-16	Total Recoverable	Water	3005A	
500-233495-9	Duplicate	Total Recoverable	Water	3005A	
MB 500-713746/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-713746/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 713853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-8	MW-16	Total Recoverable	Water	3005A	

Analysis Batch: 714026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-1	MW-01	Total Recoverable	Water	6020A	713746
500-233495-2	MW-02	Total Recoverable	Water	6020A	713746
500-233495-3	MW-03	Total Recoverable	Water	6020A	713746
500-233495-4	MW-04	Total Recoverable	Water	6020A	713746
500-233495-5	MW-09	Total Recoverable	Water	6020A	713746
500-233495-6	MW-11	Total Recoverable	Water	6020A	713746
500-233495-7	MW-14	Total Recoverable	Water	6020A	713746
500-233495-8	MW-16	Total Recoverable	Water	6020A	713746
500-233495-9	Duplicate	Total Recoverable	Water	6020A	713746
MB 500-713746/1-A	Method Blank	Total Recoverable	Water	6020A	713746
LCS 500-713746/2-A	Lab Control Sample	Total Recoverable	Water	6020A	713746

Analysis Batch: 714296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-1	MW-01	Total Recoverable	Water	6020A	713746
500-233495-2	MW-02	Total Recoverable	Water	6020A	713746
500-233495-3	MW-03	Total Recoverable	Water	6020A	713746
500-233495-4	MW-04	Total Recoverable	Water	6020A	713746
500-233495-5	MW-09	Total Recoverable	Water	6020A	713746
500-233495-6	MW-11	Total Recoverable	Water	6020A	713746
500-233495-7	MW-14	Total Recoverable	Water	6020A	713746
500-233495-8	MW-16	Total Recoverable	Water	6020A	713746
500-233495-9	Duplicate	Total Recoverable	Water	6020A	713746
MB 500-713746/1-A	Method Blank	Total Recoverable	Water	6020A	713746
LCS 500-713746/2-A	Lab Control Sample	Total Recoverable	Water	6020A	713746

Analysis Batch: 714537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-1	MW-01	Total Recoverable	Water	6020A	713746
500-233495-2	MW-02	Total Recoverable	Water	6020A	713746
500-233495-3	MW-03	Total Recoverable	Water	6020A	713746
500-233495-4	MW-04	Total Recoverable	Water	6020A	713746
500-233495-5	MW-09	Total Recoverable	Water	6020A	713746

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QC Association Summary

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

Job ID: 500-233495-1

Metals (Continued)

Analysis Batch: 714537 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-6	MW-11	Total Recoverable	Water	6020A	713746
500-233495-7	MW-14	Total Recoverable	Water	6020A	713746
500-233495-8	MW-16	Total Recoverable	Water	6020A	713853
500-233495-9	Duplicate	Total Recoverable	Water	6020A	713746
MB 500-713746/1-A	Method Blank	Total Recoverable	Water	6020A	713746
LCS 500-713746/2-A	Lab Control Sample	Total Recoverable	Water	6020A	713746

Prep Batch: 714584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-1	MW-01	Total/NA	Water	7470A	
500-233495-2	MW-02	Total/NA	Water	7470A	
500-233495-3	MW-03	Total/NA	Water	7470A	
500-233495-4	MW-04	Total/NA	Water	7470A	
500-233495-5	MW-09	Total/NA	Water	7470A	
500-233495-6	MW-11	Total/NA	Water	7470A	
500-233495-7	MW-14	Total/NA	Water	7470A	
500-233495-8	MW-16	Total/NA	Water	7470A	
500-233495-9	Duplicate	Total/NA	Water	7470A	
MB 500-714584/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-714584/13-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 714794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-1	MW-01	Total/NA	Water	7470A	714584
500-233495-2	MW-02	Total/NA	Water	7470A	714584
500-233495-3	MW-03	Total/NA	Water	7470A	714584
500-233495-4	MW-04	Total/NA	Water	7470A	714584
500-233495-5	MW-09	Total/NA	Water	7470A	714584
500-233495-6	MW-11	Total/NA	Water	7470A	714584
500-233495-7	MW-14	Total/NA	Water	7470A	714584
500-233495-8	MW-16	Total/NA	Water	7470A	714584
500-233495-9	Duplicate	Total/NA	Water	7470A	714584
MB 500-714584/12-A	Method Blank	Total/NA	Water	7470A	714584
LCS 500-714584/13-A	Lab Control Sample	Total/NA	Water	7470A	714584

General Chemistry

Analysis Batch: 712285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-1	MW-01	Total/NA	Water	SM 2540C	
500-233495-2	MW-02	Total/NA	Water	SM 2540C	
500-233495-3	MW-03	Total/NA	Water	SM 2540C	
MB 500-712285/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-712285/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 712531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-4	MW-04	Total/NA	Water	SM 2540C	
500-233495-5	MW-09	Total/NA	Water	SM 2540C	
500-233495-6	MW-11	Total/NA	Water	SM 2540C	
500-233495-7	MW-14	Total/NA	Water	SM 2540C	

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QC Association Summary

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

Job ID: 500-233495-1

General Chemistry (Continued)

Analysis Batch: 712531 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-8	MW-16	Total/NA	Water	SM 2540C	
500-233495-9	Duplicate	Total/NA	Water	SM 2540C	
MB 500-712531/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-712531/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 713198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-1	MW-01	Total/NA	Water	SM 4500 F C	
500-233495-2	MW-02	Total/NA	Water	SM 4500 F C	
500-233495-3	MW-03	Total/NA	Water	SM 4500 F C	
500-233495-4	MW-04	Total/NA	Water	SM 4500 F C	
500-233495-5	MW-09	Total/NA	Water	SM 4500 F C	
500-233495-6	MW-11	Total/NA	Water	SM 4500 F C	
500-233495-7	MW-14	Total/NA	Water	SM 4500 F C	
500-233495-8	MW-16	Total/NA	Water	SM 4500 F C	
500-233495-9	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-713198/31	Method Blank	Total/NA	Water	SM 4500 F C	
MB 500-713198/59	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-713198/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCS 500-713198/60	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 713522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-1	MW-01	Total/NA	Water	SM 4500 SO4 E	
500-233495-2	MW-02	Total/NA	Water	SM 4500 SO4 E	
500-233495-3	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-233495-4	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-233495-5	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-233495-6	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-233495-7	MW-14	Total/NA	Water	SM 4500 SO4 E	
500-233495-8	MW-16	Total/NA	Water	SM 4500 SO4 E	
500-233495-9	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-713522/94	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-713522/95	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-233495-9 MS	Duplicate	Total/NA	Water	SM 4500 SO4 E	
500-233495-9 MSD	Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 714103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-1	MW-01	Total/NA	Water	SM 4500 Cl- E	
500-233495-2	MW-02	Total/NA	Water	SM 4500 Cl- E	
500-233495-3	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-233495-4	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-233495-5	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-233495-6	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-233495-7	MW-14	Total/NA	Water	SM 4500 Cl- E	
500-233495-8	MW-16	Total/NA	Water	SM 4500 Cl- E	
500-233495-9	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-714103/16	Method Blank	Total/NA	Water	SM 4500 Cl- E	
MB 500-714103/40	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-714103/17	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

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QC Association Summary

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

Job ID: 500-233495-1

General Chemistry (Continued)

Analysis Batch: 714103 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-714103/41	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-233495-8 MS	MW-16	Total/NA	Water	SM 4500 Cl- E	
500-233495-8 MSD	MW-16	Total/NA	Water	SM 4500 Cl- E	

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- 11
- 12
- 13

QC Sample Results

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

Job ID: 500-233495-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-713746/1-A
Matrix: Water
Analysis Batch: 714026

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 713746

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<0.0030		0.0030		mg/L		05/17/23 09:11	05/18/23 00:15	1
Arsenic	<0.0010		0.0010		mg/L		05/17/23 09:11	05/18/23 00:15	1
Barium	<0.0025		0.0025		mg/L		05/17/23 09:11	05/18/23 00:15	1
Cadmium	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 00:15	1
Chromium	<0.0050		0.0050		mg/L		05/17/23 09:11	05/18/23 00:15	1
Cobalt	<0.0010		0.0010		mg/L		05/17/23 09:11	05/18/23 00:15	1
Lead	<0.00050		0.00050		mg/L		05/17/23 09:11	05/18/23 00:15	1
Molybdenum	<0.0050		0.0050		mg/L		05/17/23 09:11	05/18/23 00:15	1
Selenium	<0.0025		0.0025		mg/L		05/17/23 09:11	05/18/23 00:15	1
Thallium	<0.0020		0.0020		mg/L		05/17/23 09:11	05/18/23 00:15	1

Lab Sample ID: MB 500-713746/1-A
Matrix: Water
Analysis Batch: 714296

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 713746

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Beryllium	<0.0010	^+	0.0010		mg/L		05/17/23 09:11	05/19/23 02:24	1
Calcium	<0.20		0.20		mg/L		05/17/23 09:11	05/19/23 02:24	1
Lithium	<0.010		0.010		mg/L		05/17/23 09:11	05/19/23 02:24	1

Lab Sample ID: MB 500-713746/1-A
Matrix: Water
Analysis Batch: 714537

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 713746

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Boron	<0.050		0.050		mg/L		05/17/23 09:11	05/19/23 17:10	1

Lab Sample ID: LCS 500-713746/2-A
Matrix: Water
Analysis Batch: 714026

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 713746

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Antimony	0.500	0.553		mg/L		111	80 - 120
Arsenic	0.100	0.105		mg/L		105	80 - 120
Barium	2.00	2.22		mg/L		111	80 - 120
Cadmium	0.0500	0.0543		mg/L		109	80 - 120
Chromium	0.200	0.226		mg/L		113	80 - 120
Cobalt	0.500	0.575		mg/L		115	80 - 120
Lead	0.100	0.113		mg/L		113	80 - 120
Molybdenum	1.00	1.08		mg/L		108	80 - 120
Selenium	0.100	0.105		mg/L		105	80 - 120
Thallium	0.100	0.112		mg/L		112	80 - 120

Lab Sample ID: LCS 500-713746/2-A
Matrix: Water
Analysis Batch: 714296

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 713746

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Beryllium	0.0500	0.0554	^+	mg/L		111	80 - 120

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QC Sample Results

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

Job ID: 500-233495-1

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

Lab Sample ID: LCS 500-713746/2-A
Matrix: Water
Analysis Batch: 714296

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 713746

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	10.0	11.6		mg/L		116	80 - 120
Lithium	0.500	0.543		mg/L		109	80 - 120

Lab Sample ID: LCS 500-713746/2-A
Matrix: Water
Analysis Batch: 714537

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 713746

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.970		mg/L		97	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-714584/12-A
Matrix: Water
Analysis Batch: 714794

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 714584

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/22/23 11:50	05/23/23 07:24	1

Lab Sample ID: LCS 500-714584/13-A
Matrix: Water
Analysis Batch: 714794

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 714584

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00198	0.00198		mg/L		100	80 - 120

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

Lab Sample ID: MB 500-712285/1
Matrix: Water
Analysis Batch: 712285

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			05/09/23 16:41	1

Lab Sample ID: LCS 500-712285/2
Matrix: Water
Analysis Batch: 712285

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	262		mg/L		105	80 - 120

Lab Sample ID: MB 500-712531/1
Matrix: Water
Analysis Batch: 712531

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/10/23 17:23	1

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QC Sample Results

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

Job ID: 500-233495-1

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

Lab Sample ID: LCS 500-712531/2
Matrix: Water
Analysis Batch: 712531

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	244		mg/L		98	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-714103/16
Matrix: Water
Analysis Batch: 714103

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/18/23 16:13	1

Lab Sample ID: MB 500-714103/40
Matrix: Water
Analysis Batch: 714103

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/18/23 16:19	1

Lab Sample ID: LCS 500-714103/17
Matrix: Water
Analysis Batch: 714103

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	19.0		mg/L		95	85 - 115

Lab Sample ID: LCS 500-714103/41
Matrix: Water
Analysis Batch: 714103

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	19.2		mg/L		96	85 - 115

Lab Sample ID: 500-233495-8 MS
Matrix: Water
Analysis Batch: 714103

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	66		20.0	84.1		mg/L		89	75 - 125

Lab Sample ID: 500-233495-8 MSD
Matrix: Water
Analysis Batch: 714103

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	66		20.0	83.6		mg/L		86	75 - 125	1	20

QC Sample Results

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

Job ID: 500-233495-1

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-713198/31
Matrix: Water
Analysis Batch: 713198

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			05/14/23 08:17	1

Lab Sample ID: MB 500-713198/59
Matrix: Water
Analysis Batch: 713198

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			05/14/23 08:17	1

Lab Sample ID: LCS 500-713198/32
Matrix: Water
Analysis Batch: 713198

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	10.2		mg/L		102	90 - 119

Lab Sample ID: LCS 500-713198/60
Matrix: Water
Analysis Batch: 713198

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	10.3		mg/L		103	90 - 119

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-713522/94
Matrix: Water
Analysis Batch: 713522

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/16/23 11:16	1

Lab Sample ID: LCS 500-713522/95
Matrix: Water
Analysis Batch: 713522

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	20.0	21.4		mg/L		107	88 - 123

Lab Sample ID: 500-233495-9 MS
Matrix: Water
Analysis Batch: 713522

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	250		20.0	269	4	mg/L		74	75 - 125

QC Sample Results

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

Job ID: 500-233495-1

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

Lab Sample ID: 500-233495-9 MSD
Matrix: Water
Analysis Batch: 713522

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	250		20.0	270	4	mg/L		83	75 - 125	1	20

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2417 Bond Street
 University Park IL 60484
 Ph ne 708-534-5200 Fax: 708 534 5211

Chain of Custody Record



232 eurofins

Client Information		Sampler <i>Kallyn Sperle</i>		Lab PV Mockler Diana J		500-233495 COC		Notes IL		COC No 500-112082-44027 1	
Client Contact Mitchel Dolan		Phone <i>262-278-1621</i>		E Mail Diana.Mockler@eurofins.com						Page Page 1 of 1	
Company KPRG and Associates Inc		Address 14665 West Lisbon Road Suite 1A		City Brookfield		State Zip WI 53005		Phone 262-781-0475(Te)		Email mitcheid@kprg.nc.com	
Due Date Requested <i>Standard</i>		TAT Requested (days) <i>Standard</i>		Compliance Project <input type="checkbox"/> Yes <input type="checkbox"/> No		PO # 4502102435		WO #		Analysis Requested <i>500-233495</i>	
Project Name Waukegan CCR Event Desc Quarterly Waukegan CCR		Projec # 50011597		SSOW#		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of Containers	
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=wastewater)		Preservation Codes	
										A HCL M Hexane B NaOH N None C Zn Acetate O As/Ni/Cu D Nitric Acid P Na2O4S E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G Amchlor S H2SO4 H Ascorbic Acid T TSP Doocetyl d'rate I Ice U Acetone J D Water V MCAA K EDTA W pH 4-5 L EDA Y Trizma Z other (sp. cify)	
										Special Instructions/Note	
<i>1</i>		<i>5/8/23</i>		<i>1042</i>		<i>G</i>		<i>Water</i>		<i>N N X X X</i>	
<i>2</i>		<i>5/8/23</i>		<i>1156</i>		<i>G</i>		<i>Water</i>		<i>N N X X X</i>	
<i>3</i>		<i>5/8/23</i>		<i>1300</i>		<i>G</i>		<i>Water</i>		<i>N N X X X</i>	
<i>MW 04</i>								<i>Water</i>			
<i>MW 09</i>								<i>Water</i>			
<i>MW 11</i>								<i>Water</i>			
<i>MW 14</i>								<i>Water</i>			
<i>MW 16</i>								<i>Water</i>			
<i>Duplicate</i>								<i>Water</i>			
<i>Water</i>								<i>Water</i>			
Possible Hazard Identification		<input checked="" type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant		<input type="checkbox"/> Poison B		<input type="checkbox"/> Unknown	
		<input type="checkbox"/> Radological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		<input type="checkbox"/> Return To Client		<input checked="" type="checkbox"/> Disposal By Lab		<input type="checkbox"/> Archive For _____ Months	
Deliverable Requested I II IV Other (specify)										Special Instructions/QC Requirements	
Empty Kit Reinquished by		Date		Time		Method of Shipment					
Requished by <i>Kallyn Sperle</i>		Date/Time <i>5/8/23/1445</i>		Company <i>KPRG</i>		Received by <i>FedEx</i>		Date/Time <i>5/8/23/1445</i>		Company <i>KPR Fedex</i>	
Requished by		Date/Time		Company		Received by <i>[Signature]</i>		Date/Time <i>5/9/23 1005</i>		Company <i>EETA</i>	
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No				Cooler Temperature and other Remarks <i>2.3 - 22</i>					

Eurofins Chicago

2417 Bond Street
University Park IL 60484
Phone 708-534-5200 Fax 708-534-5211



500-233495 COC

Chain of Custody Record

MKE 232 eurofins

NEW YORK

Client Information		ampler <i>Kaelyn Sperte</i>		Lab PM Mockler Diana J		Carrier Tracking No(s)		COC No: 500-112082-44027 1			
Client Contact <i>Kaelyn Sperte</i>		Phone <i>262-278-1621</i>		E-Mail Diana.Mockler@et.eurofinsus.com		State of Origin <i>IL</i>		Page: Page 1 of 1			
Company KPRG and Associates Inc.		PWS/D		Analysis Requested						Job # <i>500-233495</i>	
Address 14665 West Lisbon Road Suite 1A		Due Date Requested <i>Standard</i>		Field Filtered Sample (Yes or No) Performs MS/MSD (Yes or No) <i>903.0, 904.0</i> <i>6010C, 6020A, 7470A</i> <i>2540C, 4500_F, C, SM4500_CLF, SM4500_SO4_E</i> <i>100% Parity</i>		Total Number of Containers		Preservation Codes			
City Brookfield		TAT Requested (days) <i>Standard</i>						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 Y - Trizma Z other (specify)			
State Zip WI 53005		Compliance Project Δ Yes Δ No						Other:			
Phone 262-781-0475(Tel)		PO # 4502102435									
Email <i>kaelyns@kprginc.com</i>		WO #		Project # 50011597		SSOW#		Site Illinois			
Project Name Waukegan CCR Event Desc: Quarterly Waukegan CCR		Project #		SSOW#		Site		Illinois			
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=wash/roll, BT=tissue, A=air)		Special Instructions/Note	
										Preservation Code	
MW-01										Water	
MW-02										Water	
MW-03										Water	
<i>4</i> MW-04		<i>5/9/23</i>		<i>0943</i>		<i>G</i>		<i>Water</i>		<i>N N X X X</i>	
<i>5</i> MW-09		<i>5/9/23</i>		<i>1428</i>				<i>Water</i>		<i>N N</i>	
<i>6</i> MW-11		<i>5/9/23</i>		<i>1203</i>				<i>Water</i>		<i>N N</i>	
<i>7</i> MW-14		<i>5/9/23</i>		<i>1314</i>				<i>Water</i>		<i>N N</i>	
<i>8</i> MW-16		<i>5/9/23</i>		<i>1100</i>				<i>Water</i>		<i>N N</i>	
<i>9</i> Duplicate		<i>5/9/23</i>		<i>-</i>				<i>Water</i>		<i>N N</i>	
										Water	
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Deliverable Requested I II III IV Other (specify)						Special Instructions/QC Requirements					
Empty Kit Relinquished by				Date		Time		Method of Shipment:			
Reinquired by <i>Kaelyn Sperte</i>				Date/Time <i>5/9/23/1615</i>		Company KPRG		Received by <i>FedEx</i>		Date/Time <i>5/9/23/1615</i>	
Reinquired by				Date/Time		Company		Received by <i>[Signature]</i>		Date/Time <i>5/10/23 1010</i>	
Reinquired by				Date/Time		Company		Received by		Date/Time	
Custody Seals Intact. Δ Yes Δ No		Custody Seal No		Cooler Temperature(s) °C and Other Remarks <i>(4.4 4.3)(5.3, 5.2)</i>							

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Part # 156297-435 RRDB2 EXP 07/23

SHIP DATE: 08MAY23
ACTWGT: 53.70 LB
CRD: 6994083/SSFE2420
DIMS: 25x14x14 IN

BILL THIRD PARTY

ORIGIN ID: FE02
KAELYN SPEER
PRG AND ASSN
4 PLAZA DR
WESTMONT
UNITED STATES

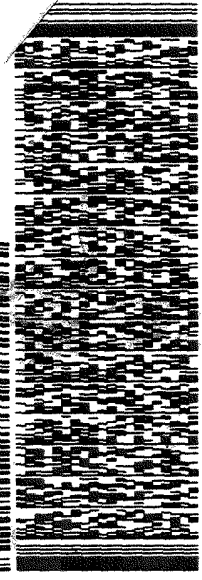
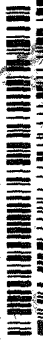
60359
US

TO
EJOC IN CHICAGO
2417 BOND ST

UNIVERSITY PARK HIL 60
REF: DEPT:

(708) 584-5200
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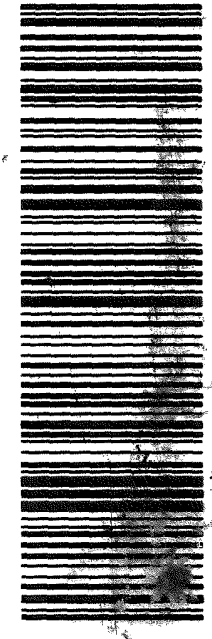
TUE - 09 MAY 10:30A
PRIORITY OVERNIGHT

2 of 2
MPS# 3980 2538 7251
0263

Mistr# 3980 2538 7240
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500-233495 Waybi

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ORIGIN ID:EEPA (262) 278-1621
CARELYN SPEER
CPKG AND ASSOCIATES
414 PLACA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 09MAY23
ACTIVITY: 301B
CNO: 6994063/SSFE2420
DINS: 24x14x14 IN
BILL THIRD PARTY

Part # 156297-435 RRDB2 EXP 07/23
23313/28CA/FE23

**EUROFINS CHICAGO
2417 BOND ST**

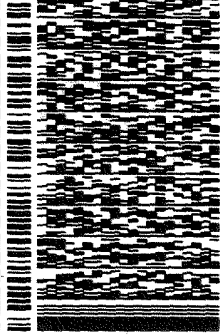
UNIVERSITY PARK IL 60484

(709) 634-6200 REF:
THU: PS:

DEPT:



500-233495 Waybi



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Express



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3 of 6
WED - 10 MAY 10:30A
PRIORITY OVERNIGHT

MPS# 3980 9019 8567

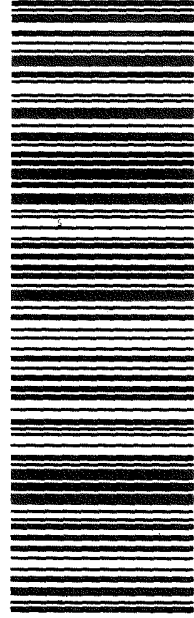
0263

Mstr# 3980 9019 8545

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79 JOTA

60484
IL-US ORD



Do Not Lift Using This Tag

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Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-233495-1

Login Number: 233495

List Number: 1

Creator: James, Jeff A

List Source: Eurofins 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	2.2,4.3,5.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Lab Chronicle

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

Job ID: 500-233495-1

Client Sample ID: MW-01
Date Collected: 05/08/23 10:42
Date Received: 05/09/23 10:05

Lab Sample ID: 500-233495-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714026	FXG	EET CHI	05/18/23 01:09
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714296	FXG	EET CHI	05/19/23 03:19
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		5	714537	FXG	EET CHI	05/19/23 18:24
Total/NA	Prep	7470A			714584	MJG	EET CHI	05/22/23 11:50 - 05/22/23 13:50 ¹
Total/NA	Analysis	7470A		1	714794	MJG	EET CHI	05/23/23 07:28
Total/NA	Analysis	SM 2540C		1	712285	CLB	EET CHI	05/09/23 17:01
Total/NA	Analysis	SM 4500 CI- E		2	714103	MM	EET CHI	05/18/23 16:31
Total/NA	Analysis	SM 4500 F C		1	713198	EH	EET CHI	05/14/23 08:17
Total/NA	Analysis	SM 4500 SO4 E		10	713522	MM	EET CHI	05/16/23 11:19

Client Sample ID: MW-02
Date Collected: 05/08/23 11:56
Date Received: 05/09/23 10:05

Lab Sample ID: 500-233495-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714026	FXG	EET CHI	05/18/23 01:13
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714296	FXG	EET CHI	05/19/23 03:23
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		10	714537	FXG	EET CHI	05/19/23 18:27
Total/NA	Prep	7470A			714584	MJG	EET CHI	05/22/23 11:50 - 05/22/23 13:50 ¹
Total/NA	Analysis	7470A		1	714794	MJG	EET CHI	05/23/23 07:31
Total/NA	Analysis	SM 2540C		1	712285	CLB	EET CHI	05/09/23 17:04
Total/NA	Analysis	SM 4500 CI- E		2	714103	MM	EET CHI	05/18/23 16:31
Total/NA	Analysis	SM 4500 F C		1	713198	EH	EET CHI	05/14/23 08:17
Total/NA	Analysis	SM 4500 SO4 E		10	713522	MM	EET CHI	05/16/23 11:19

Client Sample ID: MW-03
Date Collected: 05/08/23 13:00
Date Received: 05/09/23 10:05

Lab Sample ID: 500-233495-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714026	FXG	EET CHI	05/18/23 01:16
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714296	FXG	EET CHI	05/19/23 03:26
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		5	714537	FXG	EET CHI	05/19/23 18:31
Total/NA	Prep	7470A			714584	MJG	EET CHI	05/22/23 11:50 - 05/22/23 13:50 ¹
Total/NA	Analysis	7470A		1	714794	MJG	EET CHI	05/23/23 07:33

Eurofins Chicago

Lab Chronicle

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

Job ID: 500-233495-1

Client Sample ID: MW-03

Date Collected: 05/08/23 13:00

Date Received: 05/09/23 10:05

Lab Sample ID: 500-233495-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	712285	CLB	EET CHI	05/09/23 17:06
Total/NA	Analysis	SM 4500 CI- E		2	714103	MM	EET CHI	05/18/23 16:16
Total/NA	Analysis	SM 4500 F C		1	713198	EH	EET CHI	05/14/23 08:17
Total/NA	Analysis	SM 4500 SO4 E		10	713522	MM	EET CHI	05/16/23 11:21

Client Sample ID: MW-04

Date Collected: 05/09/23 09:43

Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714026	FXG	EET CHI	05/18/23 01:20
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714296	FXG	EET CHI	05/19/23 03:29
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		5	714537	FXG	EET CHI	05/19/23 18:34
Total/NA	Prep	7470A			714584	MJG	EET CHI	05/22/23 11:50 - 05/22/23 13:50 ¹
Total/NA	Analysis	7470A		1	714794	MJG	EET CHI	05/23/23 07:35
Total/NA	Analysis	SM 2540C		1	712531	CLB	EET CHI	05/10/23 17:48
Total/NA	Analysis	SM 4500 CI- E		2	714103	MM	EET CHI	05/18/23 16:31
Total/NA	Analysis	SM 4500 F C		1	713198	EH	EET CHI	05/14/23 08:17
Total/NA	Analysis	SM 4500 SO4 E		10	713522	MM	EET CHI	05/16/23 11:21

Client Sample ID: MW-09

Date Collected: 05/09/23 14:28

Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714026	FXG	EET CHI	05/18/23 01:30
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714296	FXG	EET CHI	05/19/23 03:33
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		20	714537	FXG	EET CHI	05/19/23 18:38
Total/NA	Prep	7470A			714584	MJG	EET CHI	05/22/23 11:50 - 05/22/23 13:50 ¹
Total/NA	Analysis	7470A		1	714794	MJG	EET CHI	05/23/23 07:37
Total/NA	Analysis	SM 2540C		1	712531	CLB	EET CHI	05/10/23 17:51
Total/NA	Analysis	SM 4500 CI- E		10	714103	MM	EET CHI	05/18/23 16:17
Total/NA	Analysis	SM 4500 F C		1	713198	EH	EET CHI	05/14/23 08:17
Total/NA	Analysis	SM 4500 SO4 E		20	713522	MM	EET CHI	05/16/23 11:21

Lab Chronicle

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

Job ID: 500-233495-1

Client Sample ID: MW-11
Date Collected: 05/09/23 12:03
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714026	FXG	EET CHI	05/18/23 01:34
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714296	FXG	EET CHI	05/19/23 03:36
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		5	714537	FXG	EET CHI	05/19/23 18:48
Total/NA	Prep	7470A			714584	MJG	EET CHI	05/22/23 11:50 - 05/22/23 13:50 ¹
Total/NA	Analysis	7470A		1	714794	MJG	EET CHI	05/23/23 07:39
Total/NA	Analysis	SM 2540C		1	712531	CLB	EET CHI	05/10/23 17:54
Total/NA	Analysis	SM 4500 CI- E		5	714103	MM	EET CHI	05/18/23 16:17
Total/NA	Analysis	SM 4500 F C		1	713198	EH	EET CHI	05/14/23 08:17
Total/NA	Analysis	SM 4500 SO4 E		5	713522	MM	EET CHI	05/16/23 11:34

Client Sample ID: MW-14
Date Collected: 05/09/23 13:14
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714026	FXG	EET CHI	05/18/23 01:37
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714296	FXG	EET CHI	05/19/23 03:47
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714537	FXG	EET CHI	05/19/23 18:51
Total/NA	Prep	7470A			714584	MJG	EET CHI	05/22/23 11:50 - 05/22/23 13:50 ¹
Total/NA	Analysis	7470A		1	714794	MJG	EET CHI	05/23/23 07:41
Total/NA	Analysis	SM 2540C		1	712531	CLB	EET CHI	05/10/23 17:56
Total/NA	Analysis	SM 4500 CI- E		1	714103	MM	EET CHI	05/18/23 16:18
Total/NA	Analysis	SM 4500 F C		1	713198	EH	EET CHI	05/14/23 08:17
Total/NA	Analysis	SM 4500 SO4 E		1	713522	MM	EET CHI	05/16/23 11:20

Client Sample ID: MW-16
Date Collected: 05/09/23 11:00
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 18:25 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714026	FXG	EET CHI	05/18/23 01:40
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 18:25 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714296	FXG	EET CHI	05/19/23 03:50
Total Recoverable	Prep	3005A			713853	RN	EET CHI	05/17/23 16:17 - 05/17/23 16:47 ¹
Total Recoverable	Analysis	6020A		10	714537	FXG	EET CHI	05/19/23 18:55
Total/NA	Prep	7470A			714584	MJG	EET CHI	05/22/23 11:50 - 05/22/23 13:50 ¹
Total/NA	Analysis	7470A		1	714794	MJG	EET CHI	05/23/23 07:48

Eurofins Chicago

Lab Chronicle

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

Job ID: 500-233495-1

Client Sample ID: MW-16
Date Collected: 05/09/23 11:00
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	712531	CLB	EET CHI	05/10/23 17:59
Total/NA	Analysis	SM 4500 CI- E		2	714103	MM	EET CHI	05/18/23 16:18
Total/NA	Analysis	SM 4500 F C		1	713198	EH	EET CHI	05/14/23 08:17
Total/NA	Analysis	SM 4500 SO4 E		10	713522	MM	EET CHI	05/16/23 11:22

Client Sample ID: Duplicate
Date Collected: 05/09/23 00:00
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714026	FXG	EET CHI	05/18/23 01:44
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		1	714296	FXG	EET CHI	05/19/23 03:53
Total Recoverable	Prep	3005A			713746	BDE	EET CHI	05/17/23 09:11 - 05/17/23 09:41 ¹
Total Recoverable	Analysis	6020A		5	714537	FXG	EET CHI	05/19/23 18:58
Total/NA	Prep	7470A			714584	MJG	EET CHI	05/22/23 11:50 - 05/22/23 13:50 ¹
Total/NA	Analysis	7470A		1	714794	MJG	EET CHI	05/23/23 07:50
Total/NA	Analysis	SM 2540C		1	712531	CLB	EET CHI	05/10/23 18:01
Total/NA	Analysis	SM 4500 CI- E		2	714103	MM	EET CHI	05/18/23 16:20
Total/NA	Analysis	SM 4500 F C		1	713198	EH	EET CHI	05/14/23 08:17
Total/NA	Analysis	SM 4500 SO4 E		10	713522	MM	EET CHI	05/16/23 11:22

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 500-233495-1

Laboratory: Eurofins Chicago

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

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	04-29-23 *

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 6/13/2023 8:11:33 AM

JOB DESCRIPTION

Waukegan CCR (RAD)
Quarterly Waukegan CCR

JOB NUMBER

500-233495-2

Eurofins Chicago

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization



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Authorized for release by
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(219)252-7570



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Case Narrative

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

Job ID: 500-233495-2

Job ID: 500-233495-2

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-233495-2

Receipt

The samples were received on 5/9/2023 10:05 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.2° C, 4.3° C and 5.2° C.

RAD

Method 903.0: Radium-226 batch 611874

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

MW-01 (500-233495-1), MW-02 (500-233495-2), MW-03 (500-233495-3), MW-04 (500-233495-4), MW-09 (500-233495-5), MW-11 (500-233495-6), MW-14 (500-233495-7), MW-16 (500-233495-8), Duplicate (500-233495-9), (LCS 160-611874/2-A), (MB 160-611874/1-A) and (500-233495-E-1-A DU)

Method 904.0: Radium-228 prep batch 160-611935:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-01 (500-233495-1), MW-02 (500-233495-2), MW-03 (500-233495-3), MW-04 (500-233495-4), MW-09 (500-233495-5), MW-11 (500-233495-6), MW-14 (500-233495-7), MW-16 (500-233495-8), Duplicate (500-233495-9), (LCS 160-611935/2-A), (MB 160-611935/1-A) and (500-233495-E-1-B DU)

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: Waukegan CCR (RAD)

Job ID: 500-233495-2

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

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

Laboratory References:

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

Sample Summary

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

Job ID: 500-233495-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-233495-1	MW-01	Water	05/08/23 10:42	05/09/23 10:05
500-233495-2	MW-02	Water	05/08/23 11:56	05/09/23 10:05
500-233495-3	MW-03	Water	05/08/23 13:00	05/09/23 10:05
500-233495-4	MW-04	Water	05/09/23 09:43	05/10/23 10:10
500-233495-5	MW-09	Water	05/09/23 14:28	05/10/23 10:10
500-233495-6	MW-11	Water	05/09/23 12:03	05/10/23 10:10
500-233495-7	MW-14	Water	05/09/23 13:14	05/10/23 10:10
500-233495-8	MW-16	Water	05/09/23 11:00	05/10/23 10:10
500-233495-9	Duplicate	Water	05/09/23 00:00	05/10/23 10:10

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Client Sample Results

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

Job ID: 500-233495-2

Client Sample ID: MW-01

Lab Sample ID: 500-233495-1

Date Collected: 05/08/23 10:42

Matrix: Water

Date Received: 05/09/23 10:05

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.276	U	0.122	0.122	1.00	0.276	pCi/L	05/17/23 09:46	06/10/23 06:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.3		30 - 110					05/17/23 09:46	06/10/23 06:11	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.507	U	0.240	0.240	1.00	0.507	pCi/L	05/17/23 14:18	06/09/23 14:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.3		30 - 110					05/17/23 14:18	06/09/23 14:26	1
Y Carrier	83.4		30 - 110					05/17/23 14:18	06/09/23 14:26	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.507	U	0.269	0.269	5.00	0.507	pCi/L		06/12/23 16:15	1

Client Sample ID: MW-02

Lab Sample ID: 500-233495-2

Date Collected: 05/08/23 11:56

Matrix: Water

Date Received: 05/09/23 10:05

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.252	U	0.158	0.159	1.00	0.252	pCi/L	05/17/23 09:46	06/10/23 06:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.8		30 - 110					05/17/23 09:46	06/10/23 06:11	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.659	U	0.364	0.364	1.00	0.659	pCi/L	05/17/23 14:18	06/09/23 14:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.8		30 - 110					05/17/23 14:18	06/09/23 14:26	1
Y Carrier	81.2		30 - 110					05/17/23 14:18	06/09/23 14:26	1

Client Sample Results

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

Job ID: 500-233495-2

Client Sample ID: MW-02

Lab Sample ID: 500-233495-2

Date Collected: 05/08/23 11:56

Matrix: Water

Date Received: 05/09/23 10:05

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.659	U	0.397	0.397	5.00	0.659	pCi/L		06/12/23 16:15	1

Client Sample ID: MW-03

Lab Sample ID: 500-233495-3

Date Collected: 05/08/23 13:00

Matrix: Water

Date Received: 05/09/23 10:05

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.262	U	0.105	0.105	1.00	0.262	pCi/L	05/17/23 09:46	06/10/23 06:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.0		30 - 110					05/17/23 09:46	06/10/23 06:11	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.808		0.401	0.408	1.00	0.550	pCi/L	05/17/23 14:18	06/09/23 14:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.0		30 - 110					05/17/23 14:18	06/09/23 14:26	1
Y Carrier	82.9		30 - 110					05/17/23 14:18	06/09/23 14:26	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.758		0.415	0.421	5.00	0.550	pCi/L		06/12/23 16:15	1

Client Sample ID: MW-04

Lab Sample ID: 500-233495-4

Date Collected: 05/09/23 09:43

Matrix: Water

Date Received: 05/10/23 10:10

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.291	U	0.159	0.159	1.00	0.291	pCi/L	05/17/23 09:46	06/10/23 06:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.3		30 - 110					05/17/23 09:46	06/10/23 06:12	1

Client Sample Results

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

Job ID: 500-233495-2

Client Sample ID: MW-04

Lab Sample ID: 500-233495-4

Date Collected: 05/09/23 09:43

Matrix: Water

Date Received: 05/10/23 10:10

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.549	U	0.358	0.360	1.00	0.549	pCi/L	05/17/23 14:18	06/09/23 14:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.3		30 - 110					05/17/23 14:18	06/09/23 14:26	1
Y Carrier	81.2		30 - 110					05/17/23 14:18	06/09/23 14:26	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.549	U	0.392	0.394	5.00	0.549	pCi/L		06/12/23 16:15	1

Client Sample ID: MW-09

Lab Sample ID: 500-233495-5

Date Collected: 05/09/23 14:28

Matrix: Water

Date Received: 05/10/23 10:10

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.266	U	0.142	0.142	1.00	0.266	pCi/L	05/17/23 09:46	06/10/23 06:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.5		30 - 110					05/17/23 09:46	06/10/23 06:12	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.557	U	0.305	0.305	1.00	0.557	pCi/L	05/17/23 14:18	06/09/23 14:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.5		30 - 110					05/17/23 14:18	06/09/23 14:26	1
Y Carrier	83.4		30 - 110					05/17/23 14:18	06/09/23 14:26	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.557	U	0.336	0.336	5.00	0.557	pCi/L		06/12/23 16:15	1

Client Sample Results

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

Job ID: 500-233495-2

Client Sample ID: MW-11
Date Collected: 05/09/23 12:03
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-6
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.300	U	0.212	0.214	1.00	0.300	pCi/L	05/17/23 09:46	06/10/23 06:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.5		30 - 110					05/17/23 09:46	06/10/23 06:12	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.646		0.415	0.419	1.00	0.611	pCi/L	05/17/23 14:18	06/09/23 14:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.5		30 - 110					05/17/23 14:18	06/09/23 14:26	1
Y Carrier	84.0		30 - 110					05/17/23 14:18	06/09/23 14:26	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.927		0.466	0.470	5.00	0.611	pCi/L		06/12/23 16:15	1

Client Sample ID: MW-14
Date Collected: 05/09/23 13:14
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-7
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.265	U	0.155	0.155	1.00	0.265	pCi/L	05/17/23 09:46	06/10/23 06:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.0		30 - 110					05/17/23 09:46	06/10/23 06:08	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.562		0.363	0.367	1.00	0.532	pCi/L	05/17/23 14:18	06/09/23 14:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.0		30 - 110					05/17/23 14:18	06/09/23 14:26	1
Y Carrier	79.8		30 - 110					05/17/23 14:18	06/09/23 14:26	1

Client Sample Results

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

Job ID: 500-233495-2

Client Sample ID: MW-14
Date Collected: 05/09/23 13:14
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-7
Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.666		0.395	0.398	5.00	0.532	pCi/L		06/12/23 16:15	1

Client Sample ID: MW-16
Date Collected: 05/09/23 11:00
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-8
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.271	U	0.156	0.156	1.00	0.271	pCi/L	05/17/23 09:46	06/10/23 06:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.0		30 - 110					05/17/23 09:46	06/10/23 06:08	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.594	U	0.307	0.307	1.00	0.594	pCi/L	05/17/23 14:18	06/09/23 14:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.0		30 - 110					05/17/23 14:18	06/09/23 14:27	1
Y Carrier	81.5		30 - 110					05/17/23 14:18	06/09/23 14:27	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.594	U	0.344	0.344	5.00	0.594	pCi/L		06/12/23 16:15	1

Client Sample ID: Duplicate
Date Collected: 05/09/23 00:00
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-9
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.237	U	0.154	0.154	1.00	0.237	pCi/L	05/17/23 09:46	06/10/23 06:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.5		30 - 110					05/17/23 09:46	06/10/23 06:09	1

Client Sample Results

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

Job ID: 500-233495-2

Client Sample ID: Duplicate
Date Collected: 05/09/23 00:00
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-9
Matrix: Water

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.620	U	0.374	0.375	1.00	0.620	pCi/L	05/17/23 14:18	06/09/23 14:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.5		30 - 110					05/17/23 14:18	06/09/23 14:27	1
Y Carrier	78.9		30 - 110					05/17/23 14:18	06/09/23 14:27	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.620	U	0.404	0.405	5.00	0.620	pCi/L		06/12/23 16:15	1



Definitions/Glossary

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

Job ID: 500-233495-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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: Waukegan CCR (RAD)

Job ID: 500-233495-2

Rad

Prep Batch: 611874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-1	MW-01	Total/NA	Water	PrecSep-21	
500-233495-2	MW-02	Total/NA	Water	PrecSep-21	
500-233495-3	MW-03	Total/NA	Water	PrecSep-21	
500-233495-4	MW-04	Total/NA	Water	PrecSep-21	
500-233495-5	MW-09	Total/NA	Water	PrecSep-21	
500-233495-6	MW-11	Total/NA	Water	PrecSep-21	
500-233495-7	MW-14	Total/NA	Water	PrecSep-21	
500-233495-8	MW-16	Total/NA	Water	PrecSep-21	
500-233495-9	Duplicate	Total/NA	Water	PrecSep-21	
MB 160-611874/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-611874/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
500-233495-1 DU	MW-01	Total/NA	Water	PrecSep-21	

Prep Batch: 611935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233495-1	MW-01	Total/NA	Water	PrecSep_0	
500-233495-2	MW-02	Total/NA	Water	PrecSep_0	
500-233495-3	MW-03	Total/NA	Water	PrecSep_0	
500-233495-4	MW-04	Total/NA	Water	PrecSep_0	
500-233495-5	MW-09	Total/NA	Water	PrecSep_0	
500-233495-6	MW-11	Total/NA	Water	PrecSep_0	
500-233495-7	MW-14	Total/NA	Water	PrecSep_0	
500-233495-8	MW-16	Total/NA	Water	PrecSep_0	
500-233495-9	Duplicate	Total/NA	Water	PrecSep_0	
MB 160-611935/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-611935/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
500-233495-1 DU	MW-01	Total/NA	Water	PrecSep_0	

QC Sample Results

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

Job ID: 500-233495-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-611874/1-A
Matrix: Water
Analysis Batch: 615345

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 611874

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	<0.308	U	0.183	0.184	1.00	0.308	pCi/L	05/17/23 09:46	06/10/23 06:13	1
Carrier	MB	MB	Limits				Prepared		Analyzed	
Ba Carrier	%Yield	Qualifier	30 - 110				05/17/23 09:46		06/10/23 06:13	
	83.0									

Lab Sample ID: LCS 160-611874/2-A
Matrix: Water
Analysis Batch: 615345

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 611874

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	11.06		1.38	1.00	0.241	pCi/L	98	75 - 113
Carrier	LCS	LCS	Limits						
Ba Carrier	%Yield	Qualifier	30 - 110						
	82.8								

Lab Sample ID: 500-233495-1 DU
Matrix: Water
Analysis Batch: 615345

Client Sample ID: MW-01
Prep Type: Total/NA
Prep Batch: 611874

Analyte	Sample	Sample	DU	DU	Total	RL	MDC	Unit	RER	RER Limit
	Result	Qual	Result	Qual	Uncert. (2σ+/-)					
Radium-226	<0.276	U	<0.272	U	0.146	1.00	0.272	pCi/L	0.33	1
Carrier	DU	DU	Limits							
Ba Carrier	%Yield	Qualifier	30 - 110							
	80.0									

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-611935/1-A
Matrix: Water
Analysis Batch: 615294

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 611935

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	<0.582	U	0.281	0.282	1.00	0.582	pCi/L	05/17/23 14:18	06/09/23 14:25	1
Carrier	MB	MB	Limits				Prepared		Analyzed	
Ba Carrier	%Yield	Qualifier	30 - 110				05/17/23 14:18		06/09/23 14:25	
Y Carrier	81.5						05/17/23 14:18		06/09/23 14:25	

QC Sample Results

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

Job ID: 500-233495-2

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

Lab Sample ID: LCS 160-611935/2-A
Matrix: Water
Analysis Batch: 615294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 611935

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	8.13	7.791		1.14	1.00	0.503	pCi/L	96	75 - 125
LCS LCS									
Carrier	%Yield	Qualifier	Limits						
Ba Carrier	82.8		30 - 110						
Y Carrier	85.7		30 - 110						

Lab Sample ID: 500-233495-1 DU
Matrix: Water
Analysis Batch: 615294

Client Sample ID: MW-01
Prep Type: Total/NA
Prep Batch: 611935

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	<0.507	U	<0.551	U	0.354	1.00	0.551	pCi/L	0.88	1
DU DU										
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	80.0		30 - 110							
Y Carrier	82.6		30 - 110							

Eurofins Chicago

2417 Bond Street
 University Park IL 60484
 Ph ne 708-534-5200 Fax: 708 534 5211

Chain of Custody Record



232 eurofins

Client Information		Sampler <i>Kallyn Sperle</i>		Lab PV Mockler Diana J		500-233495 COC		Norsj		COC No 500-112082-44027 1																											
Client Contact Mitchel Dolan		Phone <i>262-278-1621</i>		E Mail Diana.Mockler@eurofins.com		State or Origin <i>IL</i>				Page Page 1 of 1																											
Company KPRG and Associates Inc		Address 14665 West Lisbon Road Suite 1A		City Brookfield		State Zip WI 53005		Phone 262-781-0475(Te)		Email mitcheid@kprg.nc.com																											
Due Date Requested <i>Standard</i>		TAT Requested (days) <i>Standard</i>		Compliance Project <input type="checkbox"/> Yes <input type="checkbox"/> No		PO # 4502102435		WO #		Analysis Requested <i>500-233495</i>																											
Project Name Waukegan CCR Event Desc Quarterly Waukegan CCR		Projec # 50011597		SSOW#		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Preservation Codes																											
Site Illinois		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, D=wastefoil)		<table border="0"> <tr><td>A HCL</td><td>M Hexane</td></tr> <tr><td>B NaOH</td><td>N None</td></tr> <tr><td>C Zn Acetate</td><td>O As/Ni/cu?</td></tr> <tr><td>D Nitric Acid</td><td>P Na2O4S</td></tr> <tr><td>E NaHSO4</td><td>Q Na2SO3</td></tr> <tr><td>F MeOH</td><td>R Na2S2O3</td></tr> <tr><td>G Amchlor</td><td>S H2SO4</td></tr> <tr><td>H Ascorbic Acid</td><td>T TSP Dooccal yd rate</td></tr> <tr><td>I ce</td><td>U Acetone</td></tr> <tr><td>J D Water</td><td>V MCAA</td></tr> <tr><td>K EDTA</td><td>W pH 4-5</td></tr> <tr><td>L EDA</td><td>Y Trizma</td></tr> <tr><td></td><td>Z other (sp. cify)</td></tr> </table>		A HCL	M Hexane	B NaOH	N None	C Zn Acetate	O As/Ni/cu?	D Nitric Acid	P Na2O4S	E NaHSO4	Q Na2SO3	F MeOH	R Na2S2O3	G Amchlor	S H2SO4	H Ascorbic Acid	T TSP Dooccal yd rate	I ce	U Acetone	J D Water	V MCAA	K EDTA	W pH 4-5	L EDA	Y Trizma		Z other (sp. cify)
A HCL	M Hexane																																				
B NaOH	N None																																				
C Zn Acetate	O As/Ni/cu?																																				
D Nitric Acid	P Na2O4S																																				
E NaHSO4	Q Na2SO3																																				
F MeOH	R Na2S2O3																																				
G Amchlor	S H2SO4																																				
H Ascorbic Acid	T TSP Dooccal yd rate																																				
I ce	U Acetone																																				
J D Water	V MCAA																																				
K EDTA	W pH 4-5																																				
L EDA	Y Trizma																																				
	Z other (sp. cify)																																				
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, D=wastefoil)		Special Instructions/Note																											
						BT-Tissue, A-A		Field Filtered Sample (Yes or No)		Total Number of containers																											
						Preservation Code		903.0, 904.0																													
								6010C, 6020A 7470A																													
								2540C 4500_F_C SH4500_CL_E SH4500_SO4_E																													
								100.1 Turbidity																													
<i>1</i>		<i>5/8/23</i>		<i>1042</i>		<i>G</i>		<i>Water</i>		<i>N N X X X</i>																											
<i>2</i>		<i>5/8/23</i>		<i>1156</i>		<i>G</i>		<i>Water</i>		<i>N N X X X</i>																											
<i>3</i>		<i>5/8/23</i>		<i>1300</i>		<i>G</i>		<i>Water</i>		<i>N N X X X</i>																											
<i>MW 04</i>								<i>Water</i>																													
<i>MW 09</i>								<i>Water</i>																													
<i>MW 11</i>								<i>Water</i>																													
<i>MW 14</i>								<i>Water</i>																													
<i>MW 16</i>								<i>Water</i>																													
<i>Duplicate</i>								<i>Water</i>																													
<i>Water</i>								<i>Water</i>																													
<i>Water</i>								<i>Water</i>																													
Possible Hazard Identification		<input checked="" type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant		<input type="checkbox"/> Poison B		<input type="checkbox"/> Unknown																											
		<input type="checkbox"/> Radological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		<input type="checkbox"/> Return To Client		<input checked="" type="checkbox"/> Disposal By Lab		<input type="checkbox"/> Archive For _____ Months																											
Deliverable Requested I II III IV Other (specify)										Special Instructions/QC Requirements																											
Empty Kit Reinquished by		Date		Time		Method of Shipment																															
Requished by <i>Kallyn Sperle</i>		Date/Time <i>5/8/23/1445</i>		Company <i>KPRG</i>		Received by <i>FedEx</i>		Date/Time <i>5/8/23/1445</i>		Company <i>KPR FedEx</i>																											
Requished by		Date/Time		Company		Received by <i>[Signature]</i>		Date/Time <i>5/9/23 1005</i>		Company <i>EETA</i>																											
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No		Custody Seal No		Custody Seal No		Custody Seal No		Custody Seal No																											
										Custody Seal No <i>2.3-22</i>																											

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University Park IL 60484
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500-233495 COC

Chain of Custody Record

MKE 232 eurofins

NEW YORK

Client Information		ampler <i>Kaelyn Sperte</i>		Lab PM Mockler Diana J		Carrier Tracking No(s)		COC No: 500-112082-44027 1			
Client Contact <i>Kaelyn Sperte</i>		Phone <i>262-278-1621</i>		E-Mail Diana.Mockler@et.eurofinsus.com		State of Origin <i>IL</i>		Page: Page 1 of 1			
Company KPRG and Associates Inc.		PWS/D		Analysis Requested						Job # <i>500-233495</i>	
Address 14665 West Lisbon Road Suite 1A		Due Date Requested <i>Standard</i>		Field Filtered Sample (Yes or No) Performs MS/MSD (Yes or No) <i>903.0, 904.0</i> <i>6010C, 6020A, 7470A</i> <i>2540C, 4500_F, C, SM4500_CLF, SM4500_SO4_E</i> <i>100% Parity</i>		Total Number of Containers		Preservation Codes			
City Brookfield		TAT Requested (days) <i>Standard</i>						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 Y - Trizma Z - other (specify)			
State Zip WI 53005		Compliance Project Δ Yes Δ No						Other:			
Phone 262-781-0475(Tel)		PO # 4502102435									
Email <i>kaelyns@kprginc.com</i>		WO #:									
Project Name Waukegan CCR Event Desc: Quarterly Waukegan CCR		Project # 50011597		SSOW#:							
Site Illinois											
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=wash/roll, BT=tissue, A=air)		Special Instructions/Note	
						Preservation Code		X X D D N			
MW-01						Water					
MW-02						Water					
MW-03						Water					
4 MW-04		5/9/23		0943		G		Water		N N X X X	
5 MW-09		5/9/23		1428				Water		N N	
6 MW-11		5/9/23		1203				Water		N N	
7 MW-14		5/9/23		1314				Water		N N	
8 MW-16		5/9/23		1100				Water		N N	
9 Duplicate		5/9/23		-				Water		N N	
								Water			
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Deliverable Requested I II III IV Other (specify)						Special Instructions/QC Requirements					
Empty Kit Relinquished by				Date		Time		Method of Shipment:			
Re inquired by <i>Kaelyn Sperte</i>				Date/Time 5/9/23/1615		Company KPRG		Received by <i>FedEx</i>		Date/Time 5/9/23/1615	
Reinquired by				Date/Time		Company		Received by <i>[Signature]</i>		Date/Time 5/10/23 1010	
Reinquired by				Date/Time		Company		Received by		Date/Time	
Custody Seals Intact. Δ Yes Δ No		Custody Seal No		Cooler Temperature(s) °C and Other Remarks <i>(4.4 4.3)(5.3 5.2)</i>							

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ift L'ng

ORIGIN ID: FE02
 KAELYN SPEER
 PRG AND ASSN
 4 PLAZA DR
 WESTMONT
 UNITED STATES US
 60559

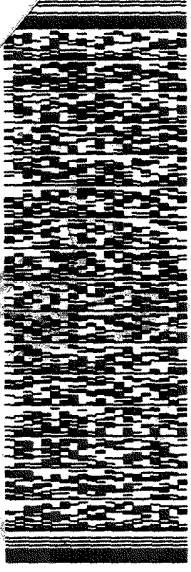
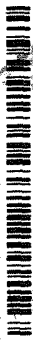
SHIP DATE: 08MAY23
 ACTWGT: 53.70 LB
 CRD: 6994083/SSFE2420
 DIMS: 25x14x14 IN
 BILL THIRD PARTY

Part # 156297-435 RRDB2 EXP 07/23

TO
 EJC IN CHICAGO
 2417 BOND ST
 UNIVERSITY PARK IL 60634

5
 10-30
 519
 22

(708) 584-5200
 REF: DEPT:



TUE - 09 MAY 10:30A
 PRIORITY OVERNIGHT

2 of 2
 MPS# 3980 2538 7251
 0263

Mstr# 3980 2538 7240
 0201

79 JOTA

60484
 IL-US ORD



500-233495 Waybl

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- 14

ORIGIN ID:EEPA (262) 278-1621
CAREY, SHELLE
CPKG AND ASSOCIATES
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 09MAY23
ACTIVITY: 301B
CNO: 6994063/SSFE2420
DINS: 24x14x14 IN
BILL THIRD PARTY

Part # 156297-435 RRDB2 EXP 07/23
23313/28CA/FE23

**EUROFINS CHICAGO
2417 BOND ST**

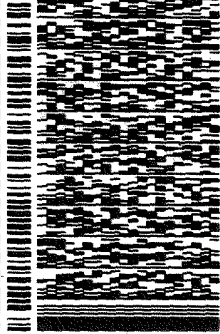
UNIVERSITY PARK IL 60484

(709) 634-6200 REF:
THU: PS:

DEPT:



500-233495 Waybi



FedEx
Express



1222023040501 BY

WED - 10 MAY 10:30A
PRIORITY OVERNIGHT

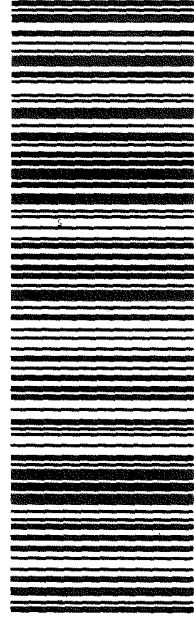
3 of 6
MPS# 3980 9019 8567
0263

Mstr# 3980 9019 8545

0201

79 JOTA

60484
IL-US ORD



Do Not Lift Using This Tag

- 1
- 2
- 3
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- 11
- 12
- 13
- 14

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-233495-2

Login Number: 233495

List Number: 1

Creator: James, Jeff A

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	2.2,4.3,5.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-233495-2

Login Number: 233495

List Number: 2

Creator: Farrell, Conor P

List Source: Eurofins St. Louis

List Creation: 05/10/23 11:59 AM

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



Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-233495-2

Login Number: 233495

List Number: 3

Creator: Farrell, Conor P

List Source: Eurofins St. Louis

List Creation: 05/11/23 01:12 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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: Waukegan CCR (RAD)

Job ID: 500-233495-2

Client Sample ID: MW-01

Date Collected: 05/08/23 10:42

Date Received: 05/09/23 10:05

Lab Sample ID: 500-233495-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			611874	KAC	EET SL	05/17/23 09:46
Total/NA	Analysis	903.0		1	615345	FLC	EET SL	06/10/23 06:11
Total/NA	Prep	PrecSep_0			611935	KAC	EET SL	05/17/23 14:18
Total/NA	Analysis	904.0		1	615294	FLC	EET SL	06/09/23 14:26
Total/NA	Analysis	Ra226_Ra228		1	615680	EMH	EET SL	06/12/23 16:15

Client Sample ID: MW-02

Date Collected: 05/08/23 11:56

Date Received: 05/09/23 10:05

Lab Sample ID: 500-233495-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			611874	KAC	EET SL	05/17/23 09:46
Total/NA	Analysis	903.0		1	615345	FLC	EET SL	06/10/23 06:11
Total/NA	Prep	PrecSep_0			611935	KAC	EET SL	05/17/23 14:18
Total/NA	Analysis	904.0		1	615294	FLC	EET SL	06/09/23 14:26
Total/NA	Analysis	Ra226_Ra228		1	615680	EMH	EET SL	06/12/23 16:15

Client Sample ID: MW-03

Date Collected: 05/08/23 13:00

Date Received: 05/09/23 10:05

Lab Sample ID: 500-233495-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			611874	KAC	EET SL	05/17/23 09:46
Total/NA	Analysis	903.0		1	615345	FLC	EET SL	06/10/23 06:11
Total/NA	Prep	PrecSep_0			611935	KAC	EET SL	05/17/23 14:18
Total/NA	Analysis	904.0		1	615294	FLC	EET SL	06/09/23 14:26
Total/NA	Analysis	Ra226_Ra228		1	615680	EMH	EET SL	06/12/23 16:15

Client Sample ID: MW-04

Date Collected: 05/09/23 09:43

Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			611874	KAC	EET SL	05/17/23 09:46
Total/NA	Analysis	903.0		1	615345	FLC	EET SL	06/10/23 06:12
Total/NA	Prep	PrecSep_0			611935	KAC	EET SL	05/17/23 14:18
Total/NA	Analysis	904.0		1	615294	FLC	EET SL	06/09/23 14:26
Total/NA	Analysis	Ra226_Ra228		1	615680	EMH	EET SL	06/12/23 16:15

Lab Chronicle

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

Job ID: 500-233495-2

Client Sample ID: MW-09

Date Collected: 05/09/23 14:28

Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			611874	KAC	EET SL	05/17/23 09:46
Total/NA	Analysis	903.0		1	615345	FLC	EET SL	06/10/23 06:12
Total/NA	Prep	PrecSep_0			611935	KAC	EET SL	05/17/23 14:18
Total/NA	Analysis	904.0		1	615294	FLC	EET SL	06/09/23 14:26
Total/NA	Analysis	Ra226_Ra228		1	615680	EMH	EET SL	06/12/23 16:15

Client Sample ID: MW-11

Date Collected: 05/09/23 12:03

Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			611874	KAC	EET SL	05/17/23 09:46
Total/NA	Analysis	903.0		1	615345	FLC	EET SL	06/10/23 06:12
Total/NA	Prep	PrecSep_0			611935	KAC	EET SL	05/17/23 14:18
Total/NA	Analysis	904.0		1	615294	FLC	EET SL	06/09/23 14:26
Total/NA	Analysis	Ra226_Ra228		1	615680	EMH	EET SL	06/12/23 16:15

Client Sample ID: MW-14

Date Collected: 05/09/23 13:14

Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			611874	KAC	EET SL	05/17/23 09:46
Total/NA	Analysis	903.0		1	615345	FLC	EET SL	06/10/23 06:08
Total/NA	Prep	PrecSep_0			611935	KAC	EET SL	05/17/23 14:18
Total/NA	Analysis	904.0		1	615294	FLC	EET SL	06/09/23 14:26
Total/NA	Analysis	Ra226_Ra228		1	615680	EMH	EET SL	06/12/23 16:15

Client Sample ID: MW-16

Date Collected: 05/09/23 11:00

Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			611874	KAC	EET SL	05/17/23 09:46
Total/NA	Analysis	903.0		1	615345	FLC	EET SL	06/10/23 06:08
Total/NA	Prep	PrecSep_0			611935	KAC	EET SL	05/17/23 14:18
Total/NA	Analysis	904.0		1	615294	FLC	EET SL	06/09/23 14:27
Total/NA	Analysis	Ra226_Ra228		1	615680	EMH	EET SL	06/12/23 16:15

Lab Chronicle

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

Job ID: 500-233495-2

Client Sample ID: Duplicate
Date Collected: 05/09/23 00:00
Date Received: 05/10/23 10:10

Lab Sample ID: 500-233495-9
Matrix: Water

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Total/NA	Prep	PrecSep-21			611874	KAC	EET SL	05/17/23 09:46
Total/NA	Analysis	903.0		1	615345	FLC	EET SL	06/10/23 06:09
Total/NA	Prep	PrecSep_0			611935	KAC	EET SL	05/17/23 14:18
Total/NA	Analysis	904.0		1	615294	FLC	EET SL	06/09/23 14:27
Total/NA	Analysis	Ra226_Ra228		1	615680	EMH	EET SL	06/12/23 16:15

Laboratory References:

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



Accreditation/Certification Summary

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

Job ID: 500-233495-2

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	200023	11-30-23

- 1
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Tracer/Carrier Summary

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

Job ID: 500-233495-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba	
		(30-110)	
500-233495-1	MW-01	81.3	
500-233495-1 DU	MW-01	80.0	
500-233495-2	MW-02	78.8	
500-233495-3	MW-03	84.0	
500-233495-4	MW-04	84.3	
500-233495-5	MW-09	85.5	
500-233495-6	MW-11	74.5	
500-233495-7	MW-14	86.0	
500-233495-8	MW-16	74.0	
500-233495-9	Duplicate	75.5	
LCS 160-611874/2-A	Lab Control Sample	82.8	
MB 160-611874/1-A	Method Blank	83.0	

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba	Y
		(30-110)	(30-110)
500-233495-1	MW-01	81.3	83.4
500-233495-1 DU	MW-01	80.0	82.6
500-233495-2	MW-02	78.8	81.2
500-233495-3	MW-03	84.0	82.9
500-233495-4	MW-04	84.3	81.2
500-233495-5	MW-09	85.5	83.4
500-233495-6	MW-11	74.5	84.0
500-233495-7	MW-14	86.0	79.8
500-233495-8	MW-16	74.0	81.5
500-233495-9	Duplicate	75.5	78.9
LCS 160-611935/2-A	Lab Control Sample	82.8	85.7
MB 160-611935/1-A	Method Blank	83.0	81.5

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier



ANALYTICAL REPORT

PREPARED FOR

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

Generated 8/29/2023 11:39:35 AM

JOB DESCRIPTION

Waukegan CCR

JOB NUMBER

500-237767-1

Eurofins Chicago

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization



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Authorized for release by
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Case Narrative

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

Job ID: 500-237767-1

Job ID: 500-237767-1

Laboratory: Eurofins Chicago

Narrative

**Job Narrative
500-237767-1**

Receipt

The samples were received on 8/8/2023 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.5° C, 0.7° C and 3.2° C.

Metals

Method 6020A: The continuing calibration verification (CCV) at line 27 in AD batch 729191 recovered above the upper control limit for B-. An initial and closing CCV were both within range as well as all other batch QC. The samples associated with this CCV were also run in three different analytical batches and all have corresponding result. The data have been qualified and reported.

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

General Chemistry

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



Method Summary

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

Job ID: 500-237767-1

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

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

Sample Summary

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

Job ID: 500-237767-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-237767-1	MW-01	Water	08/07/23 13:13	08/08/23 10:10
500-237767-2	MW-02	Water	08/07/23 14:23	08/08/23 10:10
500-237767-3	MW-03	Water	08/07/23 15:22	08/08/23 10:10
500-237767-4	Duplicate	Water	08/07/23 00:00	08/08/23 10:10
500-237767-5	MW-04	Water	08/08/23 13:04	08/09/23 09:30
500-237767-6	MW-09	Water	08/08/23 11:28	08/09/23 09:30
500-237767-7	MW-11	Water	08/08/23 09:15	08/09/23 09:30
500-237767-8	MW-14	Water	08/08/23 10:15	08/09/23 09:30
500-237767-9	MW-16	Water	08/08/23 15:07	08/09/23 09:30

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Client Sample Results

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

Job ID: 500-237767-1

Client Sample ID: MW-01

Lab Sample ID: 500-237767-1

Date Collected: 08/07/23 13:13

Matrix: Water

Date Received: 08/08/23 10:10

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/16/23 08:54	08/17/23 15:16	1
Arsenic	0.022		0.0010		mg/L		08/16/23 08:54	08/17/23 15:16	1
Barium	0.027		0.0025		mg/L		08/16/23 08:54	08/17/23 15:16	1
Beryllium	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:16	1
Boron	1.8	^+	0.050		mg/L		08/16/23 08:54	08/23/23 18:06	1
Cadmium	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:16	1
Calcium	46		0.20		mg/L		08/16/23 08:54	08/23/23 18:06	1
Chromium	<0.0050		0.0050		mg/L		08/16/23 08:54	08/17/23 15:16	1
Cobalt	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:16	1
Lead	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:16	1
Lithium	<0.010		0.010		mg/L		08/16/23 08:54	08/17/23 15:16	1
Molybdenum	0.020		0.0050		mg/L		08/16/23 08:54	08/17/23 15:16	1
Selenium	<0.0025		0.0025		mg/L		08/16/23 08:54	08/17/23 15:16	1
Thallium	<0.0020		0.0020		mg/L		08/16/23 08:54	08/17/23 15:16	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/24/23 12:49	08/25/23 09:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	340		10		mg/L			08/08/23 19:03	1
Chloride (SM 4500 Cl- E)	50		4.0		mg/L			08/11/23 12:25	2
Fluoride (SM 4500 F C)	0.40		0.10		mg/L			08/16/23 10:42	1
Sulfate (SM 4500 SO4 E)	150		50		mg/L			08/15/23 14:13	10

Client Sample Results

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

Job ID: 500-237767-1

Client Sample ID: MW-02

Lab Sample ID: 500-237767-2

Date Collected: 08/07/23 14:23

Matrix: Water

Date Received: 08/08/23 10:10

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/16/23 08:54	08/17/23 15:33	1
Arsenic	0.0089		0.0010		mg/L		08/16/23 08:54	08/17/23 15:33	1
Barium	0.022		0.0025		mg/L		08/16/23 08:54	08/17/23 15:33	1
Beryllium	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:33	1
Boron	3.1	^+	0.050		mg/L		08/16/23 08:54	08/23/23 18:09	1
Cadmium	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:33	1
Calcium	68		0.20		mg/L		08/16/23 08:54	08/23/23 18:09	1
Chromium	<0.0050		0.0050		mg/L		08/16/23 08:54	08/17/23 15:33	1
Cobalt	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:33	1
Lead	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:33	1
Lithium	<0.010		0.010		mg/L		08/16/23 08:54	08/17/23 15:33	1
Molybdenum	0.032		0.0050		mg/L		08/16/23 08:54	08/17/23 15:33	1
Selenium	<0.0025		0.0025		mg/L		08/16/23 08:54	08/17/23 15:33	1
Thallium	<0.0020		0.0020		mg/L		08/16/23 08:54	08/17/23 15:33	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/24/23 12:49	08/25/23 09:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	510		10		mg/L			08/08/23 19:05	1
Chloride (SM 4500 Cl- E)	51		4.0		mg/L			08/11/23 12:25	2
Fluoride (SM 4500 F C)	0.40		0.10		mg/L			08/16/23 10:47	1
Sulfate (SM 4500 SO4 E)	210		50		mg/L			08/15/23 14:13	10

Client Sample Results

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

Job ID: 500-237767-1

Client Sample ID: MW-03

Lab Sample ID: 500-237767-3

Date Collected: 08/07/23 15:22

Matrix: Water

Date Received: 08/08/23 10:10

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/16/23 08:54	08/17/23 15:36	1
Arsenic	0.014		0.0010		mg/L		08/16/23 08:54	08/17/23 15:36	1
Barium	0.012		0.0025		mg/L		08/16/23 08:54	08/17/23 15:36	1
Beryllium	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:36	1
Boron	2.3	^+	0.050		mg/L		08/16/23 08:54	08/23/23 18:13	1
Cadmium	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:36	1
Calcium	45		0.20		mg/L		08/16/23 08:54	08/23/23 18:13	1
Chromium	<0.0050		0.0050		mg/L		08/16/23 08:54	08/17/23 15:36	1
Cobalt	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:36	1
Lead	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:36	1
Lithium	<0.010		0.010		mg/L		08/16/23 08:54	08/17/23 15:36	1
Molybdenum	0.053		0.0050		mg/L		08/16/23 08:54	08/17/23 15:36	1
Selenium	0.0042		0.0025		mg/L		08/16/23 08:54	08/17/23 15:36	1
Thallium	<0.0020		0.0020		mg/L		08/16/23 08:54	08/17/23 15:36	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/24/23 12:49	08/25/23 09:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	380		10		mg/L			08/08/23 19:08	1
Chloride (SM 4500 Cl- E)	54		4.0		mg/L			08/11/23 12:26	2
Fluoride (SM 4500 F C)	0.48		0.10		mg/L			08/16/23 10:51	1
Sulfate (SM 4500 SO4 E)	130		50		mg/L			08/15/23 14:14	10

Client Sample Results

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

Job ID: 500-237767-1

Client Sample ID: Duplicate
Date Collected: 08/07/23 00:00
Date Received: 08/08/23 10:10

Lab Sample ID: 500-237767-4
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/16/23 08:54	08/17/23 15:40	1
Arsenic	0.015		0.0010		mg/L		08/16/23 08:54	08/17/23 15:40	1
Barium	0.011		0.0025		mg/L		08/16/23 08:54	08/17/23 15:40	1
Beryllium	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:40	1
Boron	2.4	^+	0.050		mg/L		08/16/23 08:54	08/23/23 18:16	1
Cadmium	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:40	1
Calcium	44		0.20		mg/L		08/16/23 08:54	08/23/23 18:16	1
Chromium	<0.0050		0.0050		mg/L		08/16/23 08:54	08/17/23 15:40	1
Cobalt	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:40	1
Lead	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:40	1
Lithium	<0.010		0.010		mg/L		08/16/23 08:54	08/17/23 15:40	1
Molybdenum	0.054		0.0050		mg/L		08/16/23 08:54	08/17/23 15:40	1
Selenium	0.0040		0.0025		mg/L		08/16/23 08:54	08/17/23 15:40	1
Thallium	<0.0020		0.0020		mg/L		08/16/23 08:54	08/17/23 15:40	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/24/23 12:49	08/25/23 09:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	410		10		mg/L			08/08/23 19:10	1
Chloride (SM 4500 Cl- E)	55		4.0		mg/L			08/11/23 12:43	2
Fluoride (SM 4500 F C)	0.49		0.10		mg/L			08/16/23 10:56	1
Sulfate (SM 4500 SO4 E)	130		25		mg/L			08/15/23 14:14	5

Client Sample Results

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

Job ID: 500-237767-1

Client Sample ID: MW-04
Date Collected: 08/08/23 13:04
Date Received: 08/09/23 09:30

Lab Sample ID: 500-237767-5
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/16/23 08:54	08/17/23 15:43	1
Arsenic	0.0088		0.0010		mg/L		08/16/23 08:54	08/17/23 15:43	1
Barium	0.026		0.0025		mg/L		08/16/23 08:54	08/17/23 15:43	1
Beryllium	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:43	1
Boron	2.5	^+	0.050		mg/L		08/16/23 08:54	08/23/23 18:20	1
Cadmium	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:43	1
Calcium	58		0.20		mg/L		08/16/23 08:54	08/23/23 18:20	1
Chromium	<0.0050		0.0050		mg/L		08/16/23 08:54	08/17/23 15:43	1
Cobalt	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:43	1
Lead	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:43	1
Lithium	<0.010		0.010		mg/L		08/16/23 08:54	08/17/23 15:43	1
Molybdenum	0.041		0.0050		mg/L		08/16/23 08:54	08/17/23 15:43	1
Selenium	<0.0025		0.0025		mg/L		08/16/23 08:54	08/17/23 15:43	1
Thallium	<0.0020		0.0020		mg/L		08/16/23 08:54	08/17/23 15:43	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/24/23 12:49	08/25/23 09:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	400		10		mg/L			08/09/23 21:49	1
Chloride (SM 4500 Cl- E)	63		4.0		mg/L			08/11/23 12:26	2
Fluoride (SM 4500 F C)	0.40		0.10		mg/L			08/16/23 11:01	1
Sulfate (SM 4500 SO4 E)	150		50		mg/L			08/15/23 14:15	10

Client Sample Results

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

Job ID: 500-237767-1

Client Sample ID: MW-09

Lab Sample ID: 500-237767-6

Date Collected: 08/08/23 11:28

Matrix: Water

Date Received: 08/09/23 09:30

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/16/23 08:54	08/17/23 15:47	1
Arsenic	0.0021		0.0010		mg/L		08/16/23 08:54	08/17/23 15:47	1
Barium	0.11		0.0025		mg/L		08/16/23 08:54	08/17/23 15:47	1
Beryllium	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:47	1
Boron	20	^+	0.25		mg/L		08/16/23 08:54	08/23/23 18:23	5
Cadmium	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:47	1
Calcium	270		1.0		mg/L		08/16/23 08:54	08/23/23 18:23	5
Chromium	<0.0050		0.0050		mg/L		08/16/23 08:54	08/17/23 15:47	1
Cobalt	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:47	1
Lead	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:47	1
Lithium	0.062		0.010		mg/L		08/16/23 08:54	08/17/23 15:47	1
Molybdenum	0.35		0.0050		mg/L		08/16/23 08:54	08/17/23 15:47	1
Selenium	0.022		0.0025		mg/L		08/16/23 08:54	08/17/23 15:47	1
Thallium	<0.0020		0.0020		mg/L		08/16/23 08:54	08/17/23 15:47	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/24/23 12:49	08/25/23 09:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1800		10		mg/L			08/09/23 21:51	1
Chloride (SM 4500 Cl- E)	380		20		mg/L			08/11/23 12:27	10
Fluoride (SM 4500 F C)	0.23		0.10		mg/L			08/16/23 11:05	1
Sulfate (SM 4500 SO4 E)	510		100		mg/L			08/15/23 13:38	20

Client Sample Results

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

Job ID: 500-237767-1

Client Sample ID: MW-11

Lab Sample ID: 500-237767-7

Date Collected: 08/08/23 09:15

Matrix: Water

Date Received: 08/09/23 09:30

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/16/23 08:54	08/17/23 15:50	1
Arsenic	0.46		0.0010		mg/L		08/16/23 08:54	08/17/23 15:50	1
Barium	0.059		0.0025		mg/L		08/16/23 08:54	08/17/23 15:50	1
Beryllium	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:50	1
Boron	1.2	^+	0.050		mg/L		08/16/23 08:54	08/23/23 18:27	1
Cadmium	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:50	1
Calcium	140		0.20		mg/L		08/16/23 08:54	08/23/23 18:27	1
Chromium	<0.0050		0.0050		mg/L		08/16/23 08:54	08/17/23 15:50	1
Cobalt	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:50	1
Lead	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:50	1
Lithium	0.025		0.010		mg/L		08/16/23 08:54	08/17/23 15:50	1
Molybdenum	<0.0050		0.0050		mg/L		08/16/23 08:54	08/17/23 15:50	1
Selenium	<0.0025		0.0025		mg/L		08/16/23 08:54	08/17/23 15:50	1
Thallium	<0.0020		0.0020		mg/L		08/16/23 08:54	08/17/23 15:50	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/24/23 12:49	08/25/23 09:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	800		10		mg/L			08/09/23 21:54	1
Chloride (SM 4500 Cl- E)	90		10		mg/L			08/11/23 12:27	5
Fluoride (SM 4500 F C)	0.16		0.10		mg/L			08/16/23 11:10	1
Sulfate (SM 4500 SO4 E)	67		10		mg/L			08/15/23 13:39	2

Client Sample Results

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

Job ID: 500-237767-1

Client Sample ID: MW-14
Date Collected: 08/08/23 10:15
Date Received: 08/09/23 09:30

Lab Sample ID: 500-237767-8
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/16/23 08:54	08/17/23 15:54	1
Arsenic	3.5		0.0010		mg/L		08/16/23 08:54	08/17/23 15:54	1
Barium	0.048		0.0025		mg/L		08/16/23 08:54	08/17/23 15:54	1
Beryllium	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:54	1
Boron	0.48	^+	0.050		mg/L		08/16/23 08:54	08/23/23 18:30	1
Cadmium	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:54	1
Calcium	110		0.20		mg/L		08/16/23 08:54	08/23/23 18:30	1
Chromium	0.13		0.0050		mg/L		08/16/23 08:54	08/17/23 15:54	1
Cobalt	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:54	1
Lead	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:54	1
Lithium	0.010		0.010		mg/L		08/16/23 08:54	08/17/23 15:54	1
Molybdenum	<0.0050		0.0050		mg/L		08/16/23 08:54	08/17/23 15:54	1
Selenium	<0.0025		0.0025		mg/L		08/16/23 08:54	08/17/23 15:54	1
Thallium	<0.0020		0.0020		mg/L		08/16/23 08:54	08/17/23 15:54	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/24/23 12:49	08/25/23 09:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	480		10		mg/L			08/09/23 21:57	1
Chloride (SM 4500 Cl- E)	21		4.0		mg/L			08/11/23 12:27	2
Fluoride (SM 4500 F C)	0.14		0.10		mg/L			08/16/23 11:15	1
Sulfate (SM 4500 SO4 E)	23		5.0		mg/L			08/15/23 14:15	1

Client Sample Results

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

Job ID: 500-237767-1

Client Sample ID: MW-16
Date Collected: 08/08/23 15:07
Date Received: 08/09/23 09:30

Lab Sample ID: 500-237767-9
Matrix: Water

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/16/23 08:54	08/17/23 15:57	1
Arsenic	0.0019		0.0010		mg/L		08/16/23 08:54	08/17/23 15:57	1
Barium	0.036		0.0025		mg/L		08/16/23 08:54	08/17/23 15:57	1
Beryllium	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:57	1
Boron	2.7	^+	0.050		mg/L		08/16/23 08:54	08/23/23 18:40	1
Cadmium	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:57	1
Calcium	130		0.20		mg/L		08/16/23 08:54	08/23/23 18:40	1
Chromium	<0.0050		0.0050		mg/L		08/16/23 08:54	08/17/23 15:57	1
Cobalt	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:57	1
Lead	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:57	1
Lithium	0.013		0.010		mg/L		08/16/23 08:54	08/17/23 15:57	1
Molybdenum	0.024		0.0050		mg/L		08/16/23 08:54	08/17/23 15:57	1
Selenium	<0.0025		0.0025		mg/L		08/16/23 08:54	08/17/23 15:57	1
Thallium	<0.0020		0.0020		mg/L		08/16/23 08:54	08/17/23 15:57	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/24/23 12:49	08/25/23 09:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	770		10		mg/L			08/09/23 21:59	1
Chloride (SM 4500 Cl- E)	46		4.0		mg/L			08/11/23 12:27	2
Fluoride (SM 4500 F C)	0.56		0.10		mg/L			08/16/23 11:30	1
Sulfate (SM 4500 SO4 E)	310		100		mg/L			08/15/23 14:16	20

Definitions/Glossary

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

Job ID: 500-237767-1

Qualifiers

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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: Waukegan CCR

Job ID: 500-237767-1

Metals

Prep Batch: 728035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-237767-1	MW-01	Total Recoverable	Water	3005A	
500-237767-2	MW-02	Total Recoverable	Water	3005A	
500-237767-3	MW-03	Total Recoverable	Water	3005A	
500-237767-4	Duplicate	Total Recoverable	Water	3005A	
500-237767-5	MW-04	Total Recoverable	Water	3005A	
500-237767-6	MW-09	Total Recoverable	Water	3005A	
500-237767-7	MW-11	Total Recoverable	Water	3005A	
500-237767-8	MW-14	Total Recoverable	Water	3005A	
500-237767-9	MW-16	Total Recoverable	Water	3005A	
MB 500-728035/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-728035/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 728500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-237767-1	MW-01	Total Recoverable	Water	6020A	728035
500-237767-2	MW-02	Total Recoverable	Water	6020A	728035
500-237767-3	MW-03	Total Recoverable	Water	6020A	728035
500-237767-4	Duplicate	Total Recoverable	Water	6020A	728035
500-237767-5	MW-04	Total Recoverable	Water	6020A	728035
500-237767-6	MW-09	Total Recoverable	Water	6020A	728035
500-237767-7	MW-11	Total Recoverable	Water	6020A	728035
500-237767-8	MW-14	Total Recoverable	Water	6020A	728035
500-237767-9	MW-16	Total Recoverable	Water	6020A	728035
MB 500-728035/1-A	Method Blank	Total Recoverable	Water	6020A	728035
LCS 500-728035/2-A	Lab Control Sample	Total Recoverable	Water	6020A	728035

Analysis Batch: 729191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-237767-1	MW-01	Total Recoverable	Water	6020A	728035
500-237767-2	MW-02	Total Recoverable	Water	6020A	728035
500-237767-3	MW-03	Total Recoverable	Water	6020A	728035
500-237767-4	Duplicate	Total Recoverable	Water	6020A	728035
500-237767-5	MW-04	Total Recoverable	Water	6020A	728035
500-237767-6	MW-09	Total Recoverable	Water	6020A	728035
500-237767-7	MW-11	Total Recoverable	Water	6020A	728035
500-237767-8	MW-14	Total Recoverable	Water	6020A	728035
500-237767-9	MW-16	Total Recoverable	Water	6020A	728035
MB 500-728035/1-A	Method Blank	Total Recoverable	Water	6020A	728035
LCS 500-728035/2-A	Lab Control Sample	Total Recoverable	Water	6020A	728035

Prep Batch: 729272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-237767-1	MW-01	Total/NA	Water	7470A	
500-237767-2	MW-02	Total/NA	Water	7470A	
500-237767-3	MW-03	Total/NA	Water	7470A	
500-237767-4	Duplicate	Total/NA	Water	7470A	
500-237767-5	MW-04	Total/NA	Water	7470A	
500-237767-6	MW-09	Total/NA	Water	7470A	
500-237767-7	MW-11	Total/NA	Water	7470A	
500-237767-8	MW-14	Total/NA	Water	7470A	
500-237767-9	MW-16	Total/NA	Water	7470A	

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QC Association Summary

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

Job ID: 500-237767-1

Metals (Continued)

Prep Batch: 729272 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-729272/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-729272/13-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 729499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-237767-1	MW-01	Total/NA	Water	7470A	729272
500-237767-2	MW-02	Total/NA	Water	7470A	729272
500-237767-3	MW-03	Total/NA	Water	7470A	729272
500-237767-4	Duplicate	Total/NA	Water	7470A	729272
500-237767-5	MW-04	Total/NA	Water	7470A	729272
500-237767-6	MW-09	Total/NA	Water	7470A	729272
500-237767-7	MW-11	Total/NA	Water	7470A	729272
500-237767-8	MW-14	Total/NA	Water	7470A	729272
500-237767-9	MW-16	Total/NA	Water	7470A	729272
MB 500-729272/12-A	Method Blank	Total/NA	Water	7470A	729272
LCS 500-729272/13-A	Lab Control Sample	Total/NA	Water	7470A	729272

General Chemistry

Analysis Batch: 726965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-237767-1	MW-01	Total/NA	Water	SM 2540C	
500-237767-2	MW-02	Total/NA	Water	SM 2540C	
500-237767-3	MW-03	Total/NA	Water	SM 2540C	
500-237767-4	Duplicate	Total/NA	Water	SM 2540C	
MB 500-726965/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-726965/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 727194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-237767-5	MW-04	Total/NA	Water	SM 2540C	
500-237767-6	MW-09	Total/NA	Water	SM 2540C	
500-237767-7	MW-11	Total/NA	Water	SM 2540C	
500-237767-8	MW-14	Total/NA	Water	SM 2540C	
500-237767-9	MW-16	Total/NA	Water	SM 2540C	
MB 500-727194/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-727194/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 727773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-237767-1	MW-01	Total/NA	Water	SM 4500 CI- E	
500-237767-2	MW-02	Total/NA	Water	SM 4500 CI- E	
500-237767-3	MW-03	Total/NA	Water	SM 4500 CI- E	
500-237767-4	Duplicate	Total/NA	Water	SM 4500 CI- E	
500-237767-5	MW-04	Total/NA	Water	SM 4500 CI- E	
500-237767-6	MW-09	Total/NA	Water	SM 4500 CI- E	
500-237767-7	MW-11	Total/NA	Water	SM 4500 CI- E	
500-237767-8	MW-14	Total/NA	Water	SM 4500 CI- E	
500-237767-9	MW-16	Total/NA	Water	SM 4500 CI- E	
MB 500-727773/4	Method Blank	Total/NA	Water	SM 4500 CI- E	
LCS 500-727773/5	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	

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QC Association Summary

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

Job ID: 500-237767-1

General Chemistry

Analysis Batch: 727914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-237767-1	MW-01	Total/NA	Water	SM 4500 SO4 E	
500-237767-2	MW-02	Total/NA	Water	SM 4500 SO4 E	
500-237767-3	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-237767-4	Duplicate	Total/NA	Water	SM 4500 SO4 E	
500-237767-5	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-237767-6	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-237767-7	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-237767-8	MW-14	Total/NA	Water	SM 4500 SO4 E	
500-237767-9	MW-16	Total/NA	Water	SM 4500 SO4 E	
LB3 500-727914/69	Method Blank	Total/NA	Water	SM 4500 SO4 E	
MB 500-727914/16	Method Blank	Total/NA	Water	SM 4500 SO4 E	
MB 500-727914/53	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-727914/17	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
LCS 500-727914/54	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-237767-8 MS	MW-14	Total/NA	Water	SM 4500 SO4 E	
500-237767-8 MSD	MW-14	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 728112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-237767-1	MW-01	Total/NA	Water	SM 4500 F C	
500-237767-2	MW-02	Total/NA	Water	SM 4500 F C	
500-237767-3	MW-03	Total/NA	Water	SM 4500 F C	
500-237767-4	Duplicate	Total/NA	Water	SM 4500 F C	
500-237767-5	MW-04	Total/NA	Water	SM 4500 F C	
500-237767-6	MW-09	Total/NA	Water	SM 4500 F C	
500-237767-7	MW-11	Total/NA	Water	SM 4500 F C	
500-237767-8	MW-14	Total/NA	Water	SM 4500 F C	
500-237767-9	MW-16	Total/NA	Water	SM 4500 F C	
MB 500-728112/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-728112/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

QC Sample Results

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

Job ID: 500-237767-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-728035/1-A
Matrix: Water
Analysis Batch: 728500

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 728035

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<0.0030		0.0030		mg/L		08/16/23 08:54	08/17/23 15:26	1
Arsenic	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:26	1
Barium	<0.0025		0.0025		mg/L		08/16/23 08:54	08/17/23 15:26	1
Beryllium	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:26	1
Cadmium	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:26	1
Chromium	<0.0050		0.0050		mg/L		08/16/23 08:54	08/17/23 15:26	1
Cobalt	<0.0010		0.0010		mg/L		08/16/23 08:54	08/17/23 15:26	1
Lead	<0.00050		0.00050		mg/L		08/16/23 08:54	08/17/23 15:26	1
Lithium	<0.010		0.010		mg/L		08/16/23 08:54	08/17/23 15:26	1
Molybdenum	<0.0050		0.0050		mg/L		08/16/23 08:54	08/17/23 15:26	1
Selenium	<0.0025		0.0025		mg/L		08/16/23 08:54	08/17/23 15:26	1
Thallium	<0.0020		0.0020		mg/L		08/16/23 08:54	08/17/23 15:26	1

Lab Sample ID: MB 500-728035/1-A
Matrix: Water
Analysis Batch: 729191

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 728035

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Boron	<0.050	^+	0.050		mg/L		08/16/23 08:54	08/23/23 17:59	1
Calcium	<0.20		0.20		mg/L		08/16/23 08:54	08/23/23 17:59	1

Lab Sample ID: LCS 500-728035/2-A
Matrix: Water
Analysis Batch: 728500

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 728035

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.0864		mg/L		86	80 - 120
Barium	2.00	1.98		mg/L		99	80 - 120
Beryllium	0.0500	0.0451		mg/L		90	80 - 120
Cadmium	0.0500	0.0487		mg/L		97	80 - 120
Chromium	0.200	0.206		mg/L		103	80 - 120
Cobalt	0.500	0.515		mg/L		103	80 - 120
Lead	0.100	0.104		mg/L		104	80 - 120
Lithium	0.500	0.480		mg/L		96	80 - 120
Molybdenum	1.00	0.956		mg/L		96	80 - 120
Selenium	0.100	0.0958		mg/L		96	80 - 120
Thallium	0.100	0.106		mg/L		106	80 - 120

Lab Sample ID: LCS 500-728035/2-A
Matrix: Water
Analysis Batch: 729191

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 728035

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	10.0	9.80		mg/L		98	80 - 120

QC Sample Results

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

Job ID: 500-237767-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-729272/12-A
Matrix: Water
Analysis Batch: 729499

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 729272

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/24/23 12:49	08/25/23 09:11	1

Lab Sample ID: LCS 500-729272/13-A
Matrix: Water
Analysis Batch: 729499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 729272

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00201	0.00207		mg/L		103	80 - 120

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

Lab Sample ID: MB 500-726965/1
Matrix: Water
Analysis Batch: 726965

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			08/08/23 18:27	1

Lab Sample ID: LCS 500-726965/2
Matrix: Water
Analysis Batch: 726965

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	240		mg/L		96	80 - 120

Lab Sample ID: MB 500-727194/1
Matrix: Water
Analysis Batch: 727194

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			08/09/23 21:08	1

Lab Sample ID: LCS 500-727194/2
Matrix: Water
Analysis Batch: 727194

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

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

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-727773/4
Matrix: Water
Analysis Batch: 727773

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			08/11/23 12:22	1

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QC Sample Results

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

Job ID: 500-237767-1

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

Lab Sample ID: LCS 500-727773/5
Matrix: Water
Analysis Batch: 727773

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	20.2		mg/L		101	85 - 115

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-728112/3
Matrix: Water
Analysis Batch: 728112

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			08/16/23 09:39	1

Lab Sample ID: LCS 500-728112/4
Matrix: Water
Analysis Batch: 728112

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	10.2		mg/L		102	90 - 119

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: LB3 500-727914/69
Matrix: Water
Analysis Batch: 727914

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

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			08/15/23 14:19	1

Lab Sample ID: MB 500-727914/16
Matrix: Water
Analysis Batch: 727914

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			08/15/23 13:31	1

Lab Sample ID: MB 500-727914/53
Matrix: Water
Analysis Batch: 727914

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			08/15/23 14:15	1

Lab Sample ID: LCS 500-727914/17
Matrix: Water
Analysis Batch: 727914

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	20.0	21.0		mg/L		105	88 - 123

QC Sample Results

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

Job ID: 500-237767-1

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

Lab Sample ID: LCS 500-727914/54
Matrix: Water
Analysis Batch: 727914

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	20.0	20.9		mg/L		105	88 - 123

Lab Sample ID: 500-237767-8 MS
Matrix: Water
Analysis Batch: 727914

Client Sample ID: MW-14
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	23		20.0	43.2		mg/L		103	75 - 125

Lab Sample ID: 500-237767-8 MSD
Matrix: Water
Analysis Batch: 727914

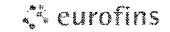
Client Sample ID: MW-14
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	23		20.0	42.2		mg/L		98	75 - 125	2	20

Eurofins Chicago

2417 Bond Street
University Park IL 60484
Phone 708-534-5200 Fax 708-534-5211

Chain of Custody Record



Client Information		Sampler Kaelyn Sperle		Lab PM Mockler Diana J		Carrier Tracking No(s)		COC No 500 114454-44027 1	
Client Contact Mitchel Dolen Kaelyn Sperle		Phone 262-278-1621		E-Mail Diana.Mockler@et.eurofinsus.com		State of Origin IL		Page Page 1 of 1	
Company KPRG and Associates Inc		Address 14665 West Lisbon Road Suite 1A Brookfield WI 53005		Due Date Requested Standard		TAT Requested (days) Standard		Analysis Requested	
Phone 262-781-0475 (Te)		FAX 500-237767 COC		Compliance Project. <input type="checkbox"/> Yes <input type="checkbox"/> No		PO # 4502102435		Job # 500-237767	
FAX 262-781-0475 (Te)		E-Mail kaelyns@kprginc.com		Project # 50011597		SSG#		Preservation Codes	
Project Name Waukegan CCR Event Desc. Quarterly Waukegan CCR		Site Illinois		Matrix (W=water, S=solid, O=wastewater, BT=Tissue Anal)		Field Filtered Sample (Yes or No)		Other	
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Total Number of Containers	
								Special Instructions/Note	
1 MW-01		8/7/23		1313		G Water		5	
2 MW-02		8/7/23		1423		↓ Water		5	
3 MW-03		8/7/23		1522		↓ Water		5	
MW-04						Water			
MW-05						Water			
MW-06						Water			
MW-07						Water			
Duplicate		8/7/23		-		G Water		5	
						Water			
Possible Hazard Identification		<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
Deliverable Requested I II III IV Other (specify)				<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Empty Kit Relinquished by		Date		Time		Method of Shipment			
Relinquished by Kaelyn Sperle		Date/Time 8/7/23/1650		Company KPRG		Received by FedEx		Date/Time 8/7/23/1650	
Relinquished by		Date/Time		Company		Received by Ali Roots		Date/Time 8/7/23 1010	
Relinquished by		Date/Time		Company		Received by		Date/Time	
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No		Cooler Temperature and Other Remarks 0.8 → 0.5					



Eurofins Chicago

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

Chain of Custody Record

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Client Information		Sampler: <u>Kaelyn Sperle</u>		Lab PM: Mockler, Diana J		Carrier Tracking No(s):		COC No: 500-114454-44027.1	
Client Contact: <u>Mitchel Dulan - Kaelyn Sperle</u>		Phone: <u>262-278-1621</u>		E-Mail: Diana.Mockler@et.eurofinsus.com		State of Origin: <u>IL</u>		Page: Page 1 of 1	
Company: KPRG and Associates, Inc.		PWSID:		Analysis Requested		Job # <u>510-237767</u>		Preservation Codes:	
Address: 14665 West Lisbon Road, Suite 1A		Due Date Requested: <u>Standard</u>		TAT Requested (days): <u>Standard</u>		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		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 - Ascrobic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - Di Water V - MCAA K - EDTA W - pH 4-5 L - EDTA Y - Trizma Z - other (specify)	
City: Brookfield		PO #: 4502102435		WO #:		Project #:		SSOW#:	
State, Zip: WI, 53005		Phone: 262-781-0475(Tel)		Project Name: Waukegan CCR Event Desc: Quarterly Waukegan CCR		Site: Illinois		Special Instructions/Note:	
Email: mitcheld@kprginc.com		Email: kaelyns@kprginc.com		Sample Date		Sample Time		Sample Type (C=comp, G=grab)	
Matrix (W=water, S=solid, O=wastewat, BT=Tissue, A=Air)		Field Filtered Sample (Yes or No)		Parform MS/MSD (Yes or No)		903.0, 904.0		6010C, 6020A, 7470A	
903.0, 904.0		2540C, 4500_F_C, SM4500_CL_E, SM4500_S04_E		189.1 - Turbidity		Total Number of Containers			
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> 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: <u>Kaelyn Sperle</u>		Date/Time: <u>8/8/23/1615</u>		Company: <u>KPRG</u>		Received by: <u>FedEx</u>		Date/Time: <u>8/8/23/1615</u>	
Relinquished by:		Date/Time:		Company:		Received by: <u>[Signature]</u>		Date/Time: <u>8/9/23 0930</u>	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <u>1.0-20.7, 3.6 → 3.2</u>					

5
6
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1
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13

ORIGIN ID:FEPA (262) 278-1621

KPRG AND ASSOCIATES
414 PLAZA DR STE 106

WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 08AUG23
ACTWTG: 27.00 LB
CAD: 6994083/SSFE2422
DIMS: 19x13x15 IN

BILL THIRD PARTY

TO

EUROFINS INC
2417 BOND ST

UNIVERSITY PARK IL 60484

(708) 634-5200
INU: PO:

REF:

DEPT:

500-237767 Waybl



Part # 156297316-57770-09EXP 01/24



2 of 5

MPS# 7822 3499 2465
0263

Mstr# 7822 3499 2454

79 JOTA

0201

WED - 09 AUG 10:30A
PRIORITY OVERNIGHT

AHS
60484

IL-US ORD



ORIGIN ID:FEPA (262) 278-1621

KPRG AND ASSOCIATES
414 PLAZA DR STE 106

WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 08AUG23
ACTWTG: 65.50 LB
CAD: 6994083/SSFE2422
DIMS: 25x14x14 IN

BILL THIRD PARTY

TO

EUROFINS INC
2417 BOND ST

UNIVERSITY PARK IL 60484

(708) 634-5200
INU: PO:

REF:

DEPT:



5 of 5

MPS# 7822 3499 2498
0263

Mstr# 7822 3499 2454

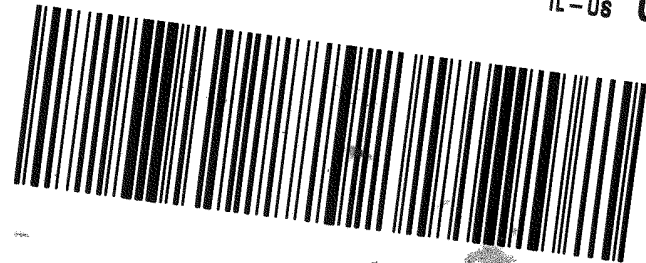
79 JOTA

0201

WED - 09 AUG 10:30A
PRIORITY OVERNIGHT

60484

IL-US ORD



Part # 156297316-57770-09EXP 01/24

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-237767-1

Login Number: 237767

List Number: 1

Creator: Scott, Sherri L

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.5,0.7,3.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Lab Chronicle

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

Job ID: 500-237767-1

Client Sample ID: MW-01
Date Collected: 08/07/23 13:13
Date Received: 08/08/23 10:10

Lab Sample ID: 500-237767-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	728500	PFK	EET CHI	08/17/23 15:16
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	729191	EH	EET CHI	08/23/23 18:06
Total/NA	Prep	7470A			729272	SS	EET CHI	08/24/23 12:49 - 08/24/23 14:49 ¹
Total/NA	Analysis	7470A		1	729499	MJG	EET CHI	08/25/23 09:15
Total/NA	Analysis	SM 2540C		1	726965	CLB	EET CHI	08/08/23 19:03
Total/NA	Analysis	SM 4500 CI- E		2	727773	MM	EET CHI	08/11/23 12:25
Total/NA	Analysis	SM 4500 F C		1	728112	EH	EET CHI	08/16/23 10:42
Total/NA	Analysis	SM 4500 SO4 E		10	727914	MM	EET CHI	08/15/23 14:13

Client Sample ID: MW-02
Date Collected: 08/07/23 14:23
Date Received: 08/08/23 10:10

Lab Sample ID: 500-237767-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	728500	PFK	EET CHI	08/17/23 15:33
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	729191	EH	EET CHI	08/23/23 18:09
Total/NA	Prep	7470A			729272	SS	EET CHI	08/24/23 12:49 - 08/24/23 14:49 ¹
Total/NA	Analysis	7470A		1	729499	MJG	EET CHI	08/25/23 09:17
Total/NA	Analysis	SM 2540C		1	726965	CLB	EET CHI	08/08/23 19:05
Total/NA	Analysis	SM 4500 CI- E		2	727773	MM	EET CHI	08/11/23 12:25
Total/NA	Analysis	SM 4500 F C		1	728112	EH	EET CHI	08/16/23 10:47
Total/NA	Analysis	SM 4500 SO4 E		10	727914	MM	EET CHI	08/15/23 14:13

Client Sample ID: MW-03
Date Collected: 08/07/23 15:22
Date Received: 08/08/23 10:10

Lab Sample ID: 500-237767-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	728500	PFK	EET CHI	08/17/23 15:36
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	729191	EH	EET CHI	08/23/23 18:13
Total/NA	Prep	7470A			729272	SS	EET CHI	08/24/23 12:49 - 08/24/23 14:49 ¹
Total/NA	Analysis	7470A		1	729499	MJG	EET CHI	08/25/23 09:19
Total/NA	Analysis	SM 2540C		1	726965	CLB	EET CHI	08/08/23 19:08
Total/NA	Analysis	SM 4500 CI- E		2	727773	MM	EET CHI	08/11/23 12:26
Total/NA	Analysis	SM 4500 F C		1	728112	EH	EET CHI	08/16/23 10:51
Total/NA	Analysis	SM 4500 SO4 E		10	727914	MM	EET CHI	08/15/23 14:14

Lab Chronicle

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

Job ID: 500-237767-1

Client Sample ID: Duplicate
Date Collected: 08/07/23 00:00
Date Received: 08/08/23 10:10

Lab Sample ID: 500-237767-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	728500	PFK	EET CHI	08/17/23 15:40
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	729191	EH	EET CHI	08/23/23 18:16
Total/NA	Prep	7470A			729272	SS	EET CHI	08/24/23 12:49 - 08/24/23 14:49 ¹
Total/NA	Analysis	7470A		1	729499	MJG	EET CHI	08/25/23 09:21
Total/NA	Analysis	SM 2540C		1	726965	CLB	EET CHI	08/08/23 19:10
Total/NA	Analysis	SM 4500 CI- E		2	727773	MM	EET CHI	08/11/23 12:43
Total/NA	Analysis	SM 4500 F C		1	728112	EH	EET CHI	08/16/23 10:56
Total/NA	Analysis	SM 4500 SO4 E		5	727914	MM	EET CHI	08/15/23 14:14

Client Sample ID: MW-04
Date Collected: 08/08/23 13:04
Date Received: 08/09/23 09:30

Lab Sample ID: 500-237767-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	728500	PFK	EET CHI	08/17/23 15:43
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	729191	EH	EET CHI	08/23/23 18:20
Total/NA	Prep	7470A			729272	SS	EET CHI	08/24/23 12:49 - 08/24/23 14:49 ¹
Total/NA	Analysis	7470A		1	729499	MJG	EET CHI	08/25/23 09:23
Total/NA	Analysis	SM 2540C		1	727194	CLB	EET CHI	08/09/23 21:49
Total/NA	Analysis	SM 4500 CI- E		2	727773	MM	EET CHI	08/11/23 12:26
Total/NA	Analysis	SM 4500 F C		1	728112	EH	EET CHI	08/16/23 11:01
Total/NA	Analysis	SM 4500 SO4 E		10	727914	MM	EET CHI	08/15/23 14:15

Client Sample ID: MW-09
Date Collected: 08/08/23 11:28
Date Received: 08/09/23 09:30

Lab Sample ID: 500-237767-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	728500	PFK	EET CHI	08/17/23 15:47
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		5	729191	EH	EET CHI	08/23/23 18:23
Total/NA	Prep	7470A			729272	SS	EET CHI	08/24/23 12:49 - 08/24/23 14:49 ¹
Total/NA	Analysis	7470A		1	729499	MJG	EET CHI	08/25/23 09:25
Total/NA	Analysis	SM 2540C		1	727194	CLB	EET CHI	08/09/23 21:51
Total/NA	Analysis	SM 4500 CI- E		10	727773	MM	EET CHI	08/11/23 12:27
Total/NA	Analysis	SM 4500 F C		1	728112	EH	EET CHI	08/16/23 11:05
Total/NA	Analysis	SM 4500 SO4 E		20	727914	MM	EET CHI	08/15/23 13:38

Lab Chronicle

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

Job ID: 500-237767-1

Client Sample ID: MW-11
Date Collected: 08/08/23 09:15
Date Received: 08/09/23 09:30

Lab Sample ID: 500-237767-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	728500	PFK	EET CHI	08/17/23 15:50
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	729191	EH	EET CHI	08/23/23 18:27
Total/NA	Prep	7470A			729272	SS	EET CHI	08/24/23 12:49 - 08/24/23 14:49 ¹
Total/NA	Analysis	7470A		1	729499	MJG	EET CHI	08/25/23 09:28
Total/NA	Analysis	SM 2540C		1	727194	CLB	EET CHI	08/09/23 21:54
Total/NA	Analysis	SM 4500 Cl- E		5	727773	MM	EET CHI	08/11/23 12:27
Total/NA	Analysis	SM 4500 F C		1	728112	EH	EET CHI	08/16/23 11:10
Total/NA	Analysis	SM 4500 SO4 E		2	727914	MM	EET CHI	08/15/23 13:39

Client Sample ID: MW-14
Date Collected: 08/08/23 10:15
Date Received: 08/09/23 09:30

Lab Sample ID: 500-237767-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	728500	PFK	EET CHI	08/17/23 15:54
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	729191	EH	EET CHI	08/23/23 18:30
Total/NA	Prep	7470A			729272	SS	EET CHI	08/24/23 12:49 - 08/24/23 14:49 ¹
Total/NA	Analysis	7470A		1	729499	MJG	EET CHI	08/25/23 09:30
Total/NA	Analysis	SM 2540C		1	727194	CLB	EET CHI	08/09/23 21:57
Total/NA	Analysis	SM 4500 Cl- E		2	727773	MM	EET CHI	08/11/23 12:27
Total/NA	Analysis	SM 4500 F C		1	728112	EH	EET CHI	08/16/23 11:15
Total/NA	Analysis	SM 4500 SO4 E		1	727914	MM	EET CHI	08/15/23 14:15

Client Sample ID: MW-16
Date Collected: 08/08/23 15:07
Date Received: 08/09/23 09:30

Lab Sample ID: 500-237767-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	728500	PFK	EET CHI	08/17/23 15:57
Total Recoverable	Prep	3005A			728035	BDE	EET CHI	08/16/23 08:54 - 08/16/23 09:24 ¹
Total Recoverable	Analysis	6020A		1	729191	EH	EET CHI	08/23/23 18:40
Total/NA	Prep	7470A			729272	SS	EET CHI	08/24/23 12:49 - 08/24/23 14:49 ¹
Total/NA	Analysis	7470A		1	729499	MJG	EET CHI	08/25/23 09:36
Total/NA	Analysis	SM 2540C		1	727194	CLB	EET CHI	08/09/23 21:59
Total/NA	Analysis	SM 4500 Cl- E		2	727773	MM	EET CHI	08/11/23 12:27
Total/NA	Analysis	SM 4500 F C		1	728112	EH	EET CHI	08/16/23 11:30
Total/NA	Analysis	SM 4500 SO4 E		20	727914	MM	EET CHI	08/15/23 14:16

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Lab Chronicle

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

Job ID: 500-237767-1

Laboratory References:

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

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Accreditation/Certification Summary

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

Job ID: 500-237767-1

Laboratory: Eurofins Chicago

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

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	04-29-24

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 9/7/2023 8:11:00 AM

JOB DESCRIPTION

Waukegan CCR (RAD)

JOB NUMBER

500-237767-2

Eurofins Chicago

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization



Generated
9/7/2023 8:11:00 AM

Authorized for release by
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Case Narrative

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

Job ID: 500-237767-2

Job ID: 500-237767-2

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-237767-2

Receipt

The samples were received on 8/8/2023 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.5° C, 0.7° C and 3.2° C.

RAD

Method 903.0: Radium-226 prep batch 160-623799:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-01 (500-237767-1), MW-02 (500-237767-2), MW-03 (500-237767-3), Duplicate (500-237767-4), MW-04 (500-237767-5), MW-09 (500-237767-6), MW-11 (500-237767-7), MW-14 (500-237767-8), MW-16 (500-237767-9), (LCS 160-623799/2-A), (MB 160-623799/1-A) and (500-237767-E-1-C DU)

Method 904.0: Radium-228 prep batch 160-623802:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-01 (500-237767-1), MW-02 (500-237767-2), MW-03 (500-237767-3), Duplicate (500-237767-4), MW-04 (500-237767-5), MW-09 (500-237767-6), MW-11 (500-237767-7), MW-14 (500-237767-8), MW-16 (500-237767-9), (LCS 160-623802/2-A), (MB 160-623802/1-A) and (500-237767-E-1-D DU)

Method PrecSep_0:

Method PrecSep_0:

Method PrecSep-21:

Method PrecSep-21:

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: Waukegan CCR (RAD)

Job ID: 500-237767-2

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

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

Laboratory References:

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

Sample Summary

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

Job ID: 500-237767-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-237767-1	MW-01	Water	08/07/23 13:13	08/08/23 10:10
500-237767-2	MW-02	Water	08/07/23 14:23	08/08/23 10:10
500-237767-3	MW-03	Water	08/07/23 15:22	08/08/23 10:10
500-237767-4	Duplicate	Water	08/07/23 00:00	08/08/23 10:10
500-237767-5	MW-04	Water	08/08/23 13:04	08/09/23 09:30
500-237767-6	MW-09	Water	08/08/23 11:28	08/09/23 09:30
500-237767-7	MW-11	Water	08/08/23 09:15	08/09/23 09:30
500-237767-8	MW-14	Water	08/08/23 10:15	08/09/23 09:30
500-237767-9	MW-16	Water	08/08/23 15:07	08/09/23 09:30

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Client Sample Results

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

Job ID: 500-237767-2

Client Sample ID: MW-01

Lab Sample ID: 500-237767-1

Date Collected: 08/07/23 13:13

Matrix: Water

Date Received: 08/08/23 10:10

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.114		0.0790	0.0797	1.00	0.111	pCi/L	08/11/23 10:03	09/05/23 18:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.5		30 - 110					08/11/23 10:03	09/05/23 18:06	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.474	U	0.272	0.273	1.00	0.474	pCi/L	08/11/23 10:08	08/24/23 11:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.5		30 - 110					08/11/23 10:08	08/24/23 11:35	1
Y Carrier	92.3		30 - 110					08/11/23 10:08	08/24/23 11:35	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.474	U	0.283	0.284	5.00	0.474	pCi/L		09/05/23 11:37	1

Client Sample Results

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

Job ID: 500-237767-2

Client Sample ID: MW-02

Lab Sample ID: 500-237767-2

Date Collected: 08/07/23 14:23

Matrix: Water

Date Received: 08/08/23 10:10

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.121	U	0.0729	0.0731	1.00	0.121	pCi/L	08/11/23 10:03	09/05/23 18:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.3		30 - 110					08/11/23 10:03	09/05/23 18:07	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.588	U	0.318	0.318	1.00	0.588	pCi/L	08/11/23 10:08	08/24/23 11:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.3		30 - 110					08/11/23 10:08	08/24/23 11:35	1
Y Carrier	88.6		30 - 110					08/11/23 10:08	08/24/23 11:35	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.588	U	0.326	0.326	5.00	0.588	pCi/L		09/05/23 11:37	1

Client Sample Results

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

Job ID: 500-237767-2

Client Sample ID: MW-03
Date Collected: 08/07/23 15:22
Date Received: 08/08/23 10:10

Lab Sample ID: 500-237767-3
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.178		0.0950	0.0963	1.00	0.123	pCi/L	08/11/23 10:03	09/05/23 18:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.6		30 - 110					08/11/23 10:03	09/05/23 18:07	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.627	U	0.370	0.370	1.00	0.627	pCi/L	08/11/23 10:08	08/24/23 11:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.6		30 - 110					08/11/23 10:08	08/24/23 11:35	1
Y Carrier	87.9		30 - 110					08/11/23 10:08	08/24/23 11:35	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.627	U	0.382	0.382	5.00	0.627	pCi/L		09/06/23 15:22	1

Client Sample Results

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

Job ID: 500-237767-2

Client Sample ID: Duplicate

Lab Sample ID: 500-237767-4

Date Collected: 08/07/23 00:00

Matrix: Water

Date Received: 08/08/23 10:10

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.120	U	0.0683	0.0684	1.00	0.120	pCi/L	08/11/23 10:03	09/05/23 18:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.0		30 - 110					08/11/23 10:03	09/05/23 18:07	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.643	U	0.408	0.411	1.00	0.643	pCi/L	08/11/23 10:08	08/24/23 11:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.0		30 - 110					08/11/23 10:08	08/24/23 11:35	1
Y Carrier	92.0		30 - 110					08/11/23 10:08	08/24/23 11:35	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.643	U	0.414	0.417	5.00	0.643	pCi/L		09/06/23 15:22	1

Client Sample Results

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

Job ID: 500-237767-2

Client Sample ID: MW-04
Date Collected: 08/08/23 13:04
Date Received: 08/09/23 09:30

Lab Sample ID: 500-237767-5
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.168		0.0881	0.0894	1.00	0.107	pCi/L	08/11/23 10:03	09/05/23 18:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.4		30 - 110					08/11/23 10:03	09/05/23 18:07	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.639		0.406	0.410	1.00	0.604	pCi/L	08/11/23 10:08	08/24/23 11:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.4		30 - 110					08/11/23 10:08	08/24/23 11:35	1
Y Carrier	90.5		30 - 110					08/11/23 10:08	08/24/23 11:35	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.807		0.415	0.420	5.00	0.604	pCi/L		09/06/23 15:22	1

Client Sample Results

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

Job ID: 500-237767-2

Client Sample ID: MW-09
Date Collected: 08/08/23 11:28
Date Received: 08/09/23 09:30

Lab Sample ID: 500-237767-6
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.239		0.107	0.109	1.00	0.123	pCi/L	08/11/23 10:03	09/05/23 18:07	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	88.5		30 - 110					08/11/23 10:03	09/05/23 18:07	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.734	U	0.460	0.463	1.00	0.734	pCi/L	08/11/23 10:08	08/24/23 11:35	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	88.5		30 - 110					08/11/23 10:08	08/24/23 11:35	1
Y Carrier	92.3		30 - 110					08/11/23 10:08	08/24/23 11:35	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.754		0.472	0.476	5.00	0.734	pCi/L		09/06/23 15:22	1

Client Sample Results

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

Job ID: 500-237767-2

Client Sample ID: MW-11
Date Collected: 08/08/23 09:15
Date Received: 08/09/23 09:30

Lab Sample ID: 500-237767-7
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.334		0.126	0.130	1.00	0.133	pCi/L	08/11/23 10:03	09/05/23 18:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.8		30 - 110					08/11/23 10:03	09/05/23 18:07	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.03		0.649	0.676	1.00	0.818	pCi/L	08/11/23 10:08	08/24/23 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.8		30 - 110					08/11/23 10:08	08/24/23 11:36	1
Y Carrier	89.7		30 - 110					08/11/23 10:08	08/24/23 11:36	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.37		0.661	0.688	5.00	0.818	pCi/L		09/06/23 15:22	1

Client Sample Results

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

Job ID: 500-237767-2

Client Sample ID: MW-14

Lab Sample ID: 500-237767-8

Date Collected: 08/08/23 10:15

Matrix: Water

Date Received: 08/09/23 09:30

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.145	U	0.0992	0.0999	1.00	0.145	pCi/L	08/11/23 10:03	09/05/23 18:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.8		30 - 110					08/11/23 10:03	09/05/23 18:07	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.772	U	0.433	0.433	1.00	0.772	pCi/L	08/11/23 10:08	08/24/23 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.8		30 - 110					08/11/23 10:08	08/24/23 11:36	1
Y Carrier	91.6		30 - 110					08/11/23 10:08	08/24/23 11:36	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.772	U	0.444	0.444	5.00	0.772	pCi/L		09/06/23 15:22	1

Client Sample Results

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

Job ID: 500-237767-2

Client Sample ID: MW-16

Lab Sample ID: 500-237767-9

Date Collected: 08/08/23 15:07

Matrix: Water

Date Received: 08/09/23 09:30

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.100	U	0.0638	0.0640	1.00	0.100	pCi/L	08/11/23 10:03	09/05/23 18:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.0		30 - 110					08/11/23 10:03	09/05/23 18:07	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.495	U	0.315	0.317	1.00	0.495	pCi/L	08/11/23 10:08	08/24/23 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.0		30 - 110					08/11/23 10:08	08/24/23 11:36	1
Y Carrier	94.6		30 - 110					08/11/23 10:08	08/24/23 11:36	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.495	U	0.321	0.323	5.00	0.495	pCi/L		09/06/23 15:22	1

Definitions/Glossary

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

Job ID: 500-237767-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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: Waukegan CCR (RAD)

Job ID: 500-237767-2

Rad

Prep Batch: 623799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-237767-1	MW-01	Total/NA	Water	PrecSep-21	
500-237767-2	MW-02	Total/NA	Water	PrecSep-21	
500-237767-3	MW-03	Total/NA	Water	PrecSep-21	
500-237767-4	Duplicate	Total/NA	Water	PrecSep-21	
500-237767-5	MW-04	Total/NA	Water	PrecSep-21	
500-237767-6	MW-09	Total/NA	Water	PrecSep-21	
500-237767-7	MW-11	Total/NA	Water	PrecSep-21	
500-237767-8	MW-14	Total/NA	Water	PrecSep-21	
500-237767-9	MW-16	Total/NA	Water	PrecSep-21	
MB 160-623799/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-623799/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
500-237767-1 DU	MW-01	Total/NA	Water	PrecSep-21	

Prep Batch: 623802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-237767-1	MW-01	Total/NA	Water	PrecSep_0	
500-237767-2	MW-02	Total/NA	Water	PrecSep_0	
500-237767-3	MW-03	Total/NA	Water	PrecSep_0	
500-237767-4	Duplicate	Total/NA	Water	PrecSep_0	
500-237767-5	MW-04	Total/NA	Water	PrecSep_0	
500-237767-6	MW-09	Total/NA	Water	PrecSep_0	
500-237767-7	MW-11	Total/NA	Water	PrecSep_0	
500-237767-8	MW-14	Total/NA	Water	PrecSep_0	
500-237767-9	MW-16	Total/NA	Water	PrecSep_0	
MB 160-623802/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-623802/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
500-237767-1 DU	MW-01	Total/NA	Water	PrecSep_0	

QC Sample Results

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

Job ID: 500-237767-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-623799/1-A
Matrix: Water
Analysis Batch: 626664

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 623799

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	<0.116	U	0.0419	0.0421	1.00	0.116	pCi/L	08/11/23 10:03	09/05/23 18:05	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	88.2		30 - 110			08/11/23 10:03	09/05/23 18:05	1		

Lab Sample ID: LCS 160-623799/2-A
Matrix: Water
Analysis Batch: 626664

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 623799

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	9.810		1.03	1.00	0.125	pCi/L	87	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Ba Carrier	90.0		30 - 110						

Lab Sample ID: 500-237767-1 DU
Matrix: Water
Analysis Batch: 626664

Client Sample ID: MW-01
Prep Type: Total/NA
Prep Batch: 623799

Analyte	Sample Sample		DU	DU	Total	RL	MDC	Unit	RER	RER Limit
	Result	Qual	Result	Qual	Uncert. (2σ+/-)					
Radium-226	0.114		<0.135	U	0.0804	1.00	0.135	pCi/L	0.35	1
Carrier	DU %Yield	DU Qualifier	Limits			Prepared	Analyzed	Dil Fac		
Ba Carrier	87.3		30 - 110							

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-623802/1-A
Matrix: Water
Analysis Batch: 625438

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 623802

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.8955		0.390	0.399	1.00	0.517	pCi/L	08/11/23 10:08	08/24/23 11:27	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	88.2		30 - 110			08/11/23 10:08	08/24/23 11:27	1		
Y Carrier	89.7		30 - 110			08/11/23 10:08	08/24/23 11:27	1		

QC Sample Results

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

Job ID: 500-237767-2

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

Lab Sample ID: LCS 160-623802/2-A
Matrix: Water
Analysis Batch: 625438

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 623802

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits													
Radium-228	7.93	9.393		1.26	1.00	0.482	pCi/L	118	75 - 125													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Carrier</th> <th>LCS %Yield</th> <th>LCS Qualifier</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td>Ba Carrier</td> <td>90.0</td> <td></td> <td>30 - 110</td> </tr> <tr> <td>Y Carrier</td> <td>92.3</td> <td></td> <td>30 - 110</td> </tr> </tbody> </table>											Carrier	LCS %Yield	LCS Qualifier	Limits	Ba Carrier	90.0		30 - 110	Y Carrier	92.3		30 - 110
Carrier	LCS %Yield	LCS Qualifier	Limits																			
Ba Carrier	90.0		30 - 110																			
Y Carrier	92.3		30 - 110																			

Lab Sample ID: 500-237767-1 DU
Matrix: Water
Analysis Batch: 625439

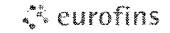
Client Sample ID: MW-01
Prep Type: Total/NA
Prep Batch: 623802

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit												
										1												
Radium-228	<0.474	U	0.5955		0.385	1.00	0.569	pCi/L	0.69	1												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Carrier</th> <th>DU %Yield</th> <th>DU Qualifier</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td>Ba Carrier</td> <td>87.3</td> <td></td> <td>30 - 110</td> </tr> <tr> <td>Y Carrier</td> <td>90.8</td> <td></td> <td>30 - 110</td> </tr> </tbody> </table>											Carrier	DU %Yield	DU Qualifier	Limits	Ba Carrier	87.3		30 - 110	Y Carrier	90.8		30 - 110
Carrier	DU %Yield	DU Qualifier	Limits																			
Ba Carrier	87.3		30 - 110																			
Y Carrier	90.8		30 - 110																			

Eurofins Chicago

2417 Bond Street
 University Park IL 60484
 Phone 708-534-5200 Fax 708-534-5211

Chain of Custody Record



Client Information				Sampler <i>Kaelyn Sperle</i>		Lab PM Mockler Diana J		Carrier Tracking No(s)		COC No 500 114454-44027 1			
Client Contact Mitchel Dolen <i>Kaelyn Sperle</i>				Phone <i>262-278-1621</i>		E-Mail Diana.Mockler@et.eurofinsus.com		State of Origin <i>IL</i>		Page Page 1 of 1			
Company KPRG and Associates Inc				Due Date Requested <i>Standard</i>		Analysis Requested		Job # <i>500-237767</i>		Preservation Codes			
Address 14665 West Lisbon Road Suite 1A				TAT Requested (days) <i>Standard</i>		Field Filtered Sample (Yes or No) Perform (MS/MSD) (Yes or No) 903.0, 904.0 6010C, 6020A, 7470A 2540C 4500_F_C, SM4500_CL_E, SM4500_SO4_E 180.1 Turbidity		Total Number of Containers		A HCL M Hexane B NaOH N None C Zn Acetate O Ashac D Nitri Acid P Na2O4 E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G Amthor S H2SO4 H Ascorbic Acid T S ² Doodecal yurate I ce U Acetone J D Water MUA K EDTA W pH 4.2 L EDA Y Tnzma Z other (specify)			
City Brookfield				Compliance Project. <input type="checkbox"/> Yes <input type="checkbox"/> No						Other			
State Zip WI 53005				PO # 4502102435									
Phone 262-781-0475 (Te) 500-237767 COC				WR #									
Email <i>kaelyns@kprginc.com</i>				Projec # 50011597									
Project Name Waukegan CCR Event Desc. Quarterly Waukegan CCR				SSGN#									
Site Illinois													
Sample Identification				Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=wastefoil, BT-Tissue Anal)			
				Preservation Code						Special Instructions/Note			
1 MW-01				8/7/23		1313		G Water		D X N X N X 5			
2 MW-02				8/7/23		1423		↓ Water		D ↓ N ↓ N ↓ 5			
3 MW-03				8/7/23		1522		↓ Water		D ↓ N ↓ N ↓ 5			
MW-04								Water					
MW-05								Water					
MW-06								Water					
MW-07								Water					
Duplicate				8/7/23		-		G Water		D X N X N X 5			
								Water					
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)							
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> 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 <i>Kaelyn Sperle</i>				Date/Time 8/7/23/1650		Company KPRG		Received by <i>Ali Roots</i>		Date/Time 8/7/23/1010		Company FedEx	
Relinquished by				Date/Time		Company		Received by		Date/Time		Company	
Relinquished by				Date/Time		Company		Received by		Date/Time		Company	
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No		Cooler Temperature and Other Remarks <i>0.8 → 0.5</i>									

ORIGIN ID:FEPA (262) 278-1621
KPRG AND ASSOCIATES
414 PLAZA DR STE 106
WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 07AUG23
ACTWGT: 88.95 LB
CAD: 6994085/SSFE2422
DIMS: 24x14x14 IN
BILL THIRD PARTY

Part # 156297-6986-00100-0000-01/24

TO EUROFINS

2417 BOND ST



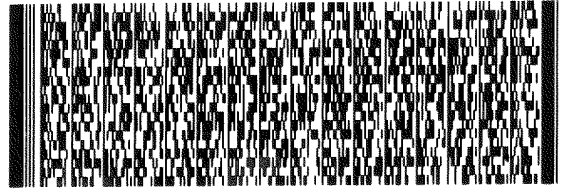
UNIVERSITY PARK IL 60484

500-237767 Waybr

(999) 999-9999
JNU:
PD:

REF:

DEPT:



FedEx
Express



1010527092103227

2 of 2

MPS# 7821 8001 1739
0263

Mstr# 7821 8001 1728

0201

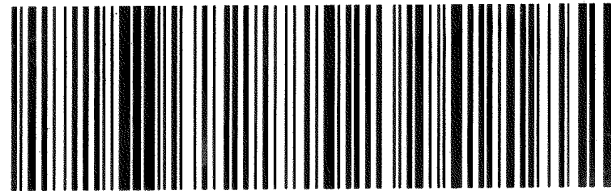
79 JOTA

TUE - 08 AUG 10:30A
PRIORITY OVERNIGHT

AHS

60484

IL-US ORD



ORIGIN ID:FEPA (262) 278-1621

KPRG AND ASSOCIATES
414 PLAZA DR STE 106

WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 08AUG23
ACTWTG: 27.00 LB
CAD: 6994083/SSFE2422
DIMS: 19x13x15 IN

BILL THIRD PARTY

TO

EUROFINS INC
2417 BOND ST

UNIVERSITY PARK IL 60484

(708) 634-5200
INU: PO:

REF:

DEPT:

500-237767 Waybl



Part # 156297316-57770-09EXP 01/24

ORIGIN ID:FEPA (262) 278-1621

KPRG AND ASSOCIATES
414 PLAZA DR STE 106

WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 08AUG23
ACTWTG: 65.50 LB
CAD: 6994083/SSFE2422
DIMS: 25x14x14 IN

BILL THIRD PARTY

TO

EUROFINS INC
2417 BOND ST

UNIVERSITY PARK IL 60484

(708) 634-5200
INU: PO:

REF:

DEPT:

500-237767 Waybl



Part # 156297316-57770-09EXP 01/24

2 of 5

MPS# 7822 3499 2465
0263

Mstr# 7822 3499 2454

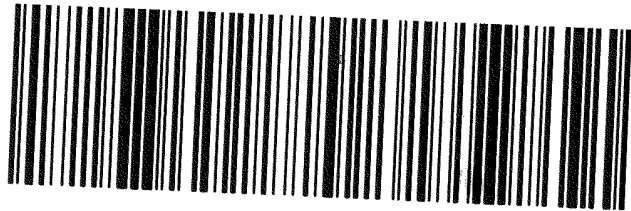
79 JOTA

0201

WED - 09 AUG 10:30A
PRIORITY OVERNIGHT

AHS
60484

IL-US ORD



5 of 5

MPS# 7822 3499 2498
0263

Mstr# 7822 3499 2454

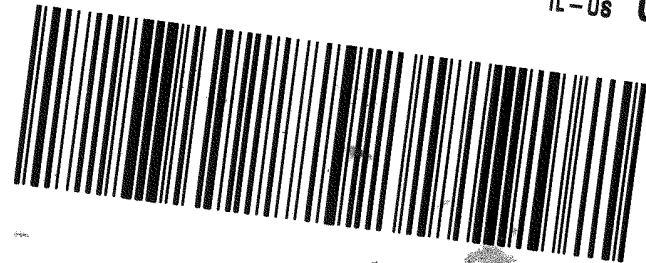
79 JOTA

0201

WED - 09 AUG 10:30A
PRIORITY OVERNIGHT

60484

IL-US ORD



Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Camera Tracking No(s):		GOC No:						
Client Contact: Shipping/Receiving		Phone:	Mockler, Diana J	State of Origin: Illinois		500-177603-1						
Company: TestAmerica Laboratories, Inc.		E-Mail: Diana.Mockler@et.eurofins.com		Page 1 of 1								
Address: 13715 Rider Trail North,		Accreditations Required (See note): NELAP - Illinois		Job #: 500-237767-1								
City: Earth City		Due Date Requested: 8/29/2023		Preservation Codes:								
State, Zip: MO, 63045		TAT Requested (days):		A - HCL		M - Hexane						
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		PO #:		B - NaOH		N - None						
Email:		WO #:		C - Zn Acetate		O - AsNaO2						
Project #: 50011597		Project #:		D - Nitric Acid		P - Na2O4S						
Site: NRG Midwest Generation Waukegan		SSOW#:		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		Y - Trizma						
				Other:		Z - other (specify)						
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=swastool, B=issue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreSep, 21 Standard Target List	904.0/PreSep, 0 Standard Target List	Ra226Ra228 GPC	Analysis Requested	Total Number of Containers	Special Instructions/Note:
MW-04 (500-237767-5)	8/8/23	13:04 Central	Water	Water	X	X	X	X			3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-09 (500-237767-6)	8/8/23	11:28 Central	Water	Water	X	X	X	X			3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-11 (500-237767-7)	8/8/23	09:15 Central	Water	Water	X	X	X	X			3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-14 (500-237767-8)	8/8/23	10:15 Central	Water	Water	X	X	X	X			3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-16 (500-237767-9)	8/8/23	15:07 Central	Water	Water	X	X	X	X			3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

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

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2
 Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: *[Signature]* Date/Time: 8/9/23 1450 Company: _____
 Relinquished by: _____ Date/Time: _____ Company: _____
 Relinquished by: _____ Date/Time: _____ Company: _____
 Custody Seals Intact: _____ Custody Seal No.: _____
 Δ Yes Δ No

Special Instructions/QC Requirements:
 Return To Client Disposal By Lab Archive For _____ Months
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Method of Shipment: _____
 Received by: _____ Date/Time: _____ Company: _____
 Received by: *Diana Wethington* Date/Time: 8/10/23 Company: _____
 Received by: _____ Date/Time: _____ Company: _____
 Cooler Temperature(s) °C and Other Remarks: _____



Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-237767-2

Login Number: 237767

List Number: 1

Creator: Scott, Sherri L

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.5,0.7,3.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-237767-2

Login Number: 237767

List Number: 2

Creator: Pinette, Meadow L

List Source: Eurofins St. Louis

List Creation: 08/09/23 01:36 PM

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



Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-237767-2

Login Number: 237767

List Number: 3

Creator: Pinette, Meadow L

List Source: Eurofins St. Louis

List Creation: 08/10/23 01:50 PM

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



Lab Chronicle

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

Job ID: 500-237767-2

Client Sample ID: MW-01
Date Collected: 08/07/23 13:13
Date Received: 08/08/23 10:10

Lab Sample ID: 500-237767-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			623799	KAC	EET SL	08/11/23 10:03
Total/NA	Analysis	903.0		1	626664	SCB	EET SL	09/05/23 18:06
Total/NA	Prep	PrecSep_0			623802	KAC	EET SL	08/11/23 10:08
Total/NA	Analysis	904.0		1	625439	SCB	EET SL	08/24/23 11:35
Total/NA	Analysis	Ra226_Ra228		1	626553	EMH	EET SL	09/05/23 11:37

Client Sample ID: MW-02
Date Collected: 08/07/23 14:23
Date Received: 08/08/23 10:10

Lab Sample ID: 500-237767-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			623799	KAC	EET SL	08/11/23 10:03
Total/NA	Analysis	903.0		1	626662	SCB	EET SL	09/05/23 18:07
Total/NA	Prep	PrecSep_0			623802	KAC	EET SL	08/11/23 10:08
Total/NA	Analysis	904.0		1	625439	SCB	EET SL	08/24/23 11:35
Total/NA	Analysis	Ra226_Ra228		1	626553	EMH	EET SL	09/05/23 11:37

Client Sample ID: MW-03
Date Collected: 08/07/23 15:22
Date Received: 08/08/23 10:10

Lab Sample ID: 500-237767-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			623799	KAC	EET SL	08/11/23 10:03
Total/NA	Analysis	903.0		1	626662	SCB	EET SL	09/05/23 18:07
Total/NA	Prep	PrecSep_0			623802	KAC	EET SL	08/11/23 10:08
Total/NA	Analysis	904.0		1	625439	SCB	EET SL	08/24/23 11:35
Total/NA	Analysis	Ra226_Ra228		1	626553	EMH	EET SL	09/06/23 15:22

Client Sample ID: Duplicate
Date Collected: 08/07/23 00:00
Date Received: 08/08/23 10:10

Lab Sample ID: 500-237767-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			623799	KAC	EET SL	08/11/23 10:03
Total/NA	Analysis	903.0		1	626662	SCB	EET SL	09/05/23 18:07
Total/NA	Prep	PrecSep_0			623802	KAC	EET SL	08/11/23 10:08
Total/NA	Analysis	904.0		1	625439	SCB	EET SL	08/24/23 11:35
Total/NA	Analysis	Ra226_Ra228		1	626553	EMH	EET SL	09/06/23 15:22

Lab Chronicle

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

Job ID: 500-237767-2

Client Sample ID: MW-04

Date Collected: 08/08/23 13:04

Date Received: 08/09/23 09:30

Lab Sample ID: 500-237767-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			623799	KAC	EET SL	08/11/23 10:03
Total/NA	Analysis	903.0		1	626662	SCB	EET SL	09/05/23 18:07
Total/NA	Prep	PrecSep_0			623802	KAC	EET SL	08/11/23 10:08
Total/NA	Analysis	904.0		1	625439	SCB	EET SL	08/24/23 11:35
Total/NA	Analysis	Ra226_Ra228		1	626553	EMH	EET SL	09/06/23 15:22

Client Sample ID: MW-09

Date Collected: 08/08/23 11:28

Date Received: 08/09/23 09:30

Lab Sample ID: 500-237767-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			623799	KAC	EET SL	08/11/23 10:03
Total/NA	Analysis	903.0		1	626662	SCB	EET SL	09/05/23 18:07
Total/NA	Prep	PrecSep_0			623802	KAC	EET SL	08/11/23 10:08
Total/NA	Analysis	904.0		1	625439	SCB	EET SL	08/24/23 11:35
Total/NA	Analysis	Ra226_Ra228		1	626553	EMH	EET SL	09/06/23 15:22

Client Sample ID: MW-11

Date Collected: 08/08/23 09:15

Date Received: 08/09/23 09:30

Lab Sample ID: 500-237767-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			623799	KAC	EET SL	08/11/23 10:03
Total/NA	Analysis	903.0		1	626662	SCB	EET SL	09/05/23 18:07
Total/NA	Prep	PrecSep_0			623802	KAC	EET SL	08/11/23 10:08
Total/NA	Analysis	904.0		1	625439	SCB	EET SL	08/24/23 11:36
Total/NA	Analysis	Ra226_Ra228		1	626553	EMH	EET SL	09/06/23 15:22

Client Sample ID: MW-14

Date Collected: 08/08/23 10:15

Date Received: 08/09/23 09:30

Lab Sample ID: 500-237767-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			623799	KAC	EET SL	08/11/23 10:03
Total/NA	Analysis	903.0		1	626662	SCB	EET SL	09/05/23 18:07
Total/NA	Prep	PrecSep_0			623802	KAC	EET SL	08/11/23 10:08
Total/NA	Analysis	904.0		1	625440	SCB	EET SL	08/24/23 11:36
Total/NA	Analysis	Ra226_Ra228		1	626553	EMH	EET SL	09/06/23 15:22

Lab Chronicle

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

Job ID: 500-237767-2

Client Sample ID: MW-16

Lab Sample ID: 500-237767-9

Date Collected: 08/08/23 15:07

Matrix: Water

Date Received: 08/09/23 09:30

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Total/NA	Prep	PrecSep-21			623799	KAC	EET SL	08/11/23 10:03
Total/NA	Analysis	903.0		1	626662	SCB	EET SL	09/05/23 18:07
Total/NA	Prep	PrecSep_0			623802	KAC	EET SL	08/11/23 10:08
Total/NA	Analysis	904.0		1	625440	SCB	EET SL	08/24/23 11:36
Total/NA	Analysis	Ra226_Ra228		1	626553	EMH	EET SL	09/06/23 15:22

Laboratory References:

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



Accreditation/Certification Summary

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

Job ID: 500-237767-2

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	200023	11-30-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Tracer/Carrier Summary

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

Job ID: 500-237767-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)
500-237767-1	MW-01	86.5
500-237767-1 DU	MW-01	87.3
500-237767-2	MW-02	85.3
500-237767-3	MW-03	80.6
500-237767-4	Duplicate	86.0
500-237767-5	MW-04	79.4
500-237767-6	MW-09	88.5
500-237767-7	MW-11	84.8
500-237767-8	MW-14	83.8
500-237767-9	MW-16	88.0
LCS 160-623799/2-A	Lab Control Sample	90.0
MB 160-623799/1-A	Method Blank	88.2

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
500-237767-1	MW-01	86.5	92.3
500-237767-1 DU	MW-01	87.3	90.8
500-237767-2	MW-02	85.3	88.6
500-237767-3	MW-03	80.6	87.9
500-237767-4	Duplicate	86.0	92.0
500-237767-5	MW-04	79.4	90.5
500-237767-6	MW-09	88.5	92.3
500-237767-7	MW-11	84.8	89.7
500-237767-8	MW-14	83.8	91.6
500-237767-9	MW-16	88.0	94.6
LCS 160-623802/2-A	Lab Control Sample	90.0	92.3
MB 160-623802/1-A	Method Blank	88.2	89.7

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

 **ANALYTICAL REPORT****PREPARED FOR**

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

Generated 1/2/2024 9:31:00 AM

JOB DESCRIPTION

Waukegan CCR

JOB NUMBER

500-243011-1

Eurofins Chicago

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization



Generated
1/2/2024 9:31:00 AM

Authorized for release by
Diana Mockler, Project Manager I
Diana.Mockler@et.eurofinsus.com
(219)252-7570



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Case Narrative

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

Job ID: 500-243011-1

Job ID: 500-243011-1

Eurofins Chicago

Job Narrative 500-243011-1

Receipt

The samples were received on 11/28/2023 9:30 AM and 11/29/2023 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.0°C, 4.4°C and 5.3°C

Metals

Method 6020B: The initial low level calibration verification (ICVL) result for batch 747971 was above the upper control limit for Be. Sample results were non-detects, and have been reported as qualified data.

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

General Chemistry

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: Waukegan CCR

Job ID: 500-243011-1

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

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

Sample Summary

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

Job ID: 500-243011-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-243011-1	MW-01	Water	11/27/23 12:12	11/28/23 09:30
500-243011-2	MW-03	Water	11/27/23 14:34	11/28/23 09:30
500-243011-3	MW-04	Water	11/27/23 13:22	11/28/23 09:30
500-243011-4	MW-02	Water	11/28/23 09:17	11/29/23 09:30
500-243011-5	MW-09	Water	11/28/23 13:59	11/29/23 09:30
500-243011-6	MW-11	Water	11/28/23 11:18	11/29/23 09:30
500-243011-7	MW-14	Water	11/28/23 12:35	11/29/23 09:30
500-243011-8	MW-16	Water	11/28/23 10:10	11/29/23 09:30
500-243011-9	Duplicate	Water	11/28/23 00:00	11/29/23 09:30

- 1
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- 11
- 12
- 13

Client Sample Results

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

Job ID: 500-243011-1

Client Sample ID: MW-01
Date Collected: 11/27/23 12:12
Date Received: 11/28/23 09:30

Lab Sample ID: 500-243011-1
Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/19/23 18:32	12/20/23 19:35	1
Arsenic	0.023		0.0010		mg/L		12/19/23 18:32	12/20/23 19:35	1
Barium	0.033		0.0025		mg/L		12/19/23 18:32	12/20/23 19:35	1
Beryllium	<0.0010	^1+	0.0010		mg/L		12/19/23 18:32	12/21/23 18:36	1
Boron	1.6		0.050		mg/L		12/19/23 18:32	12/22/23 14:48	1
Cadmium	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 19:35	1
Calcium	54		0.20		mg/L		12/19/23 18:32	12/20/23 19:35	1
Chromium	<0.0050		0.0050		mg/L		12/19/23 18:32	12/20/23 19:35	1
Cobalt	<0.0010		0.0010		mg/L		12/19/23 18:32	12/20/23 19:35	1
Lead	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 19:35	1
Lithium	<0.010		0.010		mg/L		12/19/23 18:32	12/20/23 19:35	1
Molybdenum	0.018		0.0050		mg/L		12/19/23 18:32	12/20/23 19:35	1
Selenium	<0.0025		0.0025		mg/L		12/19/23 18:32	12/21/23 18:36	1
Thallium	<0.0020		0.0020		mg/L		12/19/23 18:32	12/20/23 19:35	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/13/23 10:25	12/14/23 08:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	390		10		mg/L			11/28/23 21:14	1
Chloride (SM 4500 Cl- E)	61		4.0		mg/L			12/04/23 17:13	2
Fluoride (SM 4500 F C)	0.31		0.10		mg/L			12/07/23 17:02	1
Sulfate (SM 4500 SO4 E)	140		50		mg/L			12/03/23 13:17	10

Client Sample Results

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

Job ID: 500-243011-1

Client Sample ID: MW-03

Lab Sample ID: 500-243011-2

Date Collected: 11/27/23 14:34

Matrix: Water

Date Received: 11/28/23 09:30

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/19/23 18:32	12/20/23 19:46	1
Arsenic	0.020		0.0010		mg/L		12/19/23 18:32	12/20/23 19:46	1
Barium	0.010		0.0025		mg/L		12/19/23 18:32	12/20/23 19:46	1
Beryllium	<0.0010	^1+	0.0010		mg/L		12/19/23 18:32	12/21/23 18:40	1
Boron	2.1		0.050		mg/L		12/19/23 18:32	12/20/23 19:46	1
Cadmium	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 19:46	1
Calcium	34		0.20		mg/L		12/19/23 18:32	12/20/23 19:46	1
Chromium	<0.0050		0.0050		mg/L		12/19/23 18:32	12/20/23 19:46	1
Cobalt	<0.0010		0.0010		mg/L		12/19/23 18:32	12/20/23 19:46	1
Lead	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 19:46	1
Lithium	<0.010		0.010		mg/L		12/19/23 18:32	12/20/23 19:46	1
Molybdenum	0.037		0.0050		mg/L		12/19/23 18:32	12/20/23 19:46	1
Selenium	<0.0025		0.0025		mg/L		12/19/23 18:32	12/21/23 18:40	1
Thallium	<0.0020		0.0020		mg/L		12/19/23 18:32	12/20/23 19:46	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/13/23 10:25	12/14/23 08:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	370		10		mg/L			11/28/23 21:17	1
Chloride (SM 4500 Cl- E)	51		4.0		mg/L			12/04/23 17:13	2
Fluoride (SM 4500 F C)	0.41		0.10		mg/L			12/07/23 17:26	1
Sulfate (SM 4500 SO4 E)	130		50		mg/L			12/03/23 13:18	10

Client Sample Results

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

Job ID: 500-243011-1

Client Sample ID: MW-04
Date Collected: 11/27/23 13:22
Date Received: 11/28/23 09:30

Lab Sample ID: 500-243011-3
Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/19/23 18:32	12/20/23 19:49	1
Arsenic	0.0089		0.0010		mg/L		12/19/23 18:32	12/20/23 19:49	1
Barium	0.023		0.0025		mg/L		12/19/23 18:32	12/20/23 19:49	1
Beryllium	<0.0010	^1+	0.0010		mg/L		12/19/23 18:32	12/21/23 18:43	1
Boron	2.4		0.050		mg/L		12/19/23 18:32	12/20/23 19:49	1
Cadmium	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 19:49	1
Calcium	44		0.20		mg/L		12/19/23 18:32	12/20/23 19:49	1
Chromium	<0.0050		0.0050		mg/L		12/19/23 18:32	12/20/23 19:49	1
Cobalt	<0.0010		0.0010		mg/L		12/19/23 18:32	12/20/23 19:49	1
Lead	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 19:49	1
Lithium	<0.010		0.010		mg/L		12/19/23 18:32	12/20/23 19:49	1
Molybdenum	0.062		0.0050		mg/L		12/19/23 18:32	12/20/23 19:49	1
Selenium	<0.0025		0.0025		mg/L		12/19/23 18:32	12/21/23 18:43	1
Thallium	<0.0020		0.0020		mg/L		12/19/23 18:32	12/20/23 19:49	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/13/23 10:25	12/14/23 08:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	360		10		mg/L			11/28/23 21:19	1
Chloride (SM 4500 Cl- E)	58		4.0		mg/L			12/04/23 18:44	2
Fluoride (SM 4500 F C)	0.37		0.10		mg/L			12/07/23 17:31	1
Sulfate (SM 4500 SO4 E)	130		50		mg/L			12/03/23 13:19	10

Client Sample Results

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

Job ID: 500-243011-1

Client Sample ID: MW-02
Date Collected: 11/28/23 09:17
Date Received: 11/29/23 09:30

Lab Sample ID: 500-243011-4
Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/19/23 18:32	12/20/23 19:53	1
Arsenic	0.0082		0.0010		mg/L		12/19/23 18:32	12/20/23 19:53	1
Barium	0.021		0.0025		mg/L		12/19/23 18:32	12/20/23 19:53	1
Beryllium	<0.0010	^1+	0.0010		mg/L		12/19/23 18:32	12/21/23 18:47	1
Boron	2.8		0.050		mg/L		12/19/23 18:32	12/20/23 19:53	1
Cadmium	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 19:53	1
Calcium	61		0.20		mg/L		12/19/23 18:32	12/20/23 19:53	1
Chromium	<0.0050		0.0050		mg/L		12/19/23 18:32	12/20/23 19:53	1
Cobalt	<0.0010		0.0010		mg/L		12/19/23 18:32	12/20/23 19:53	1
Lead	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 19:53	1
Lithium	<0.010		0.010		mg/L		12/19/23 18:32	12/20/23 19:53	1
Molybdenum	0.017		0.0050		mg/L		12/19/23 18:32	12/20/23 19:53	1
Selenium	0.0054		0.0025		mg/L		12/19/23 18:32	12/21/23 18:47	1
Thallium	<0.0020		0.0020		mg/L		12/19/23 18:32	12/20/23 19:53	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/13/23 10:25	12/14/23 08:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	480		10		mg/L			11/29/23 22:51	1
Chloride (SM 4500 Cl- E)	67		4.0		mg/L			12/04/23 16:52	2
Fluoride (SM 4500 F C)	0.36		0.10		mg/L			12/07/23 17:35	1
Sulfate (SM 4500 SO4 E)	150		50		mg/L			12/03/23 13:18	10

Client Sample Results

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

Job ID: 500-243011-1

Client Sample ID: MW-09

Lab Sample ID: 500-243011-5

Date Collected: 11/28/23 13:59

Matrix: Water

Date Received: 11/29/23 09:30

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/19/23 18:32	12/20/23 19:56	1
Arsenic	0.0071		0.0010		mg/L		12/19/23 18:32	12/20/23 19:56	1
Barium	0.061		0.0025		mg/L		12/19/23 18:32	12/20/23 19:56	1
Beryllium	<0.0010	^1+	0.0010		mg/L		12/19/23 18:32	12/21/23 18:51	1
Boron	2.6		0.050		mg/L		12/19/23 18:32	12/20/23 19:56	1
Cadmium	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 19:56	1
Calcium	96		0.20		mg/L		12/19/23 18:32	12/20/23 19:56	1
Chromium	<0.0050		0.0050		mg/L		12/19/23 18:32	12/20/23 19:56	1
Cobalt	<0.0010		0.0010		mg/L		12/19/23 18:32	12/20/23 19:56	1
Lead	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 19:56	1
Lithium	0.053		0.010		mg/L		12/19/23 18:32	12/20/23 19:56	1
Molybdenum	0.049		0.0050		mg/L		12/19/23 18:32	12/20/23 19:56	1
Selenium	<0.0025		0.0025		mg/L		12/19/23 18:32	12/21/23 18:51	1
Thallium	<0.0020		0.0020		mg/L		12/19/23 18:32	12/20/23 19:56	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/13/23 10:25	12/14/23 08:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	750		10		mg/L			11/29/23 22:53	1
Chloride (SM 4500 Cl- E)	170		20		mg/L			12/04/23 16:52	10
Fluoride (SM 4500 F C)	0.33		0.10		mg/L			12/07/23 17:40	1
Sulfate (SM 4500 SO4 E)	130		50		mg/L			12/03/23 13:18	10

Client Sample Results

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

Job ID: 500-243011-1

Client Sample ID: MW-11
Date Collected: 11/28/23 11:18
Date Received: 11/29/23 09:30

Lab Sample ID: 500-243011-6
Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/19/23 18:32	12/20/23 19:59	1
Arsenic	0.52		0.0010		mg/L		12/19/23 18:32	12/20/23 19:59	1
Barium	0.069		0.0025		mg/L		12/19/23 18:32	12/20/23 19:59	1
Beryllium	<0.0010	^1+	0.0010		mg/L		12/19/23 18:32	12/21/23 18:55	1
Boron	1.2		0.050		mg/L		12/19/23 18:32	12/20/23 19:59	1
Cadmium	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 19:59	1
Calcium	130		0.20		mg/L		12/19/23 18:32	12/20/23 19:59	1
Chromium	<0.0050		0.0050		mg/L		12/19/23 18:32	12/20/23 19:59	1
Cobalt	<0.0010		0.0010		mg/L		12/19/23 18:32	12/20/23 19:59	1
Lead	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 19:59	1
Lithium	0.026		0.010		mg/L		12/19/23 18:32	12/20/23 19:59	1
Molybdenum	<0.0050		0.0050		mg/L		12/19/23 18:32	12/20/23 19:59	1
Selenium	<0.0025		0.0025		mg/L		12/19/23 18:32	12/21/23 18:55	1
Thallium	<0.0020		0.0020		mg/L		12/19/23 18:32	12/20/23 19:59	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/13/23 10:25	12/14/23 08:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	790		10		mg/L			11/29/23 22:56	1
Chloride (SM 4500 Cl- E)	82		4.0		mg/L			12/04/23 16:52	2
Fluoride (SM 4500 F C)	0.16		0.10		mg/L			12/07/23 17:45	1
Sulfate (SM 4500 SO4 E)	81		10		mg/L			12/03/23 13:19	2

Client Sample Results

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

Job ID: 500-243011-1

Client Sample ID: MW-14
Date Collected: 11/28/23 12:35
Date Received: 11/29/23 09:30

Lab Sample ID: 500-243011-7
Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/19/23 18:32	12/20/23 20:03	1
Arsenic	1.4		0.0010		mg/L		12/19/23 18:32	12/20/23 20:03	1
Barium	0.035		0.0025		mg/L		12/19/23 18:32	12/20/23 20:03	1
Beryllium	<0.0010	^1+	0.0010		mg/L		12/19/23 18:32	12/21/23 18:59	1
Boron	0.52		0.050		mg/L		12/19/23 18:32	12/20/23 20:03	1
Cadmium	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 20:03	1
Calcium	130		0.20		mg/L		12/19/23 18:32	12/20/23 20:03	1
Chromium	0.17		0.0050		mg/L		12/19/23 18:32	12/20/23 20:03	1
Cobalt	<0.0010		0.0010		mg/L		12/19/23 18:32	12/20/23 20:03	1
Lead	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 20:03	1
Lithium	0.013		0.010		mg/L		12/19/23 18:32	12/20/23 20:03	1
Molybdenum	<0.0050		0.0050		mg/L		12/19/23 18:32	12/20/23 20:03	1
Selenium	<0.0025		0.0025		mg/L		12/19/23 18:32	12/21/23 18:59	1
Thallium	<0.0020		0.0020		mg/L		12/19/23 18:32	12/20/23 20:03	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/13/23 10:25	12/14/23 08:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	600		10		mg/L			11/29/23 22:58	1
Chloride (SM 4500 Cl- E)	25		2.0		mg/L			12/04/23 16:52	1
Fluoride (SM 4500 F C)	0.16		0.10		mg/L			12/07/23 17:50	1
Sulfate (SM 4500 SO4 E)	<5.0		5.0		mg/L			12/03/23 13:03	1

Client Sample Results

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

Job ID: 500-243011-1

Client Sample ID: MW-16
Date Collected: 11/28/23 10:10
Date Received: 11/29/23 09:30

Lab Sample ID: 500-243011-8
Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/19/23 18:32	12/20/23 20:06	1
Arsenic	0.0015		0.0010		mg/L		12/19/23 18:32	12/20/23 20:06	1
Barium	0.039		0.0025		mg/L		12/19/23 18:32	12/20/23 20:06	1
Beryllium	<0.0010	^1+	0.0010		mg/L		12/19/23 18:32	12/21/23 19:02	1
Boron	2.7		0.050		mg/L		12/19/23 18:32	12/20/23 20:06	1
Cadmium	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 20:06	1
Calcium	130		0.20		mg/L		12/19/23 18:32	12/20/23 20:06	1
Chromium	<0.0050		0.0050		mg/L		12/19/23 18:32	12/20/23 20:06	1
Cobalt	0.0016		0.0010		mg/L		12/19/23 18:32	12/20/23 20:06	1
Lead	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 20:06	1
Lithium	0.012		0.010		mg/L		12/19/23 18:32	12/20/23 20:06	1
Molybdenum	0.023		0.0050		mg/L		12/19/23 18:32	12/20/23 20:06	1
Selenium	<0.0025		0.0025		mg/L		12/19/23 18:32	12/21/23 19:02	1
Thallium	<0.0020		0.0020		mg/L		12/19/23 18:32	12/20/23 20:06	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/13/23 10:25	12/14/23 08:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	830		10		mg/L			11/29/23 23:01	1
Chloride (SM 4500 Cl- E)	47		2.0		mg/L			12/04/23 16:53	1
Fluoride (SM 4500 F C)	0.52		0.10		mg/L			12/07/23 17:55	1
Sulfate (SM 4500 SO4 E)	350		50		mg/L			12/03/23 13:19	10

Client Sample Results

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

Job ID: 500-243011-1

Client Sample ID: Duplicate

Lab Sample ID: 500-243011-9

Date Collected: 11/28/23 00:00

Matrix: Water

Date Received: 11/29/23 09:30

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/19/23 18:32	12/20/23 20:10	1
Arsenic	<0.0010		0.0010		mg/L		12/19/23 18:32	12/20/23 20:10	1
Barium	0.039		0.0025		mg/L		12/19/23 18:32	12/20/23 20:10	1
Beryllium	<0.0010	^1+	0.0010		mg/L		12/19/23 18:32	12/21/23 19:06	1
Boron	2.9		0.050		mg/L		12/19/23 18:32	12/20/23 20:10	1
Cadmium	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 20:10	1
Calcium	140		0.20		mg/L		12/19/23 18:32	12/20/23 20:10	1
Chromium	<0.0050		0.0050		mg/L		12/19/23 18:32	12/20/23 20:10	1
Cobalt	0.0015		0.0010		mg/L		12/19/23 18:32	12/20/23 20:10	1
Lead	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 20:10	1
Lithium	0.013		0.010		mg/L		12/19/23 18:32	12/20/23 20:10	1
Molybdenum	0.024		0.0050		mg/L		12/19/23 18:32	12/20/23 20:10	1
Selenium	<0.0025		0.0025		mg/L		12/19/23 18:32	12/21/23 19:06	1
Thallium	<0.0020		0.0020		mg/L		12/19/23 18:32	12/20/23 20:10	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/13/23 10:25	12/14/23 08:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	800		10		mg/L			11/29/23 23:04	1
Chloride (SM 4500 Cl- E)	47		2.0		mg/L			12/04/23 16:43	1
Fluoride (SM 4500 F C)	0.53		0.10		mg/L			12/07/23 18:26	1
Sulfate (SM 4500 SO4 E)	320		50		mg/L			12/03/23 13:19	10

Definitions/Glossary

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

Job ID: 500-243011-1

Qualifiers

Metals

Qualifier	Qualifier Description
^1+	Initial Calibration Verification (ICV) is outside acceptance limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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: Waukegan CCR

Job ID: 500-243011-1

Metals

Prep Batch: 746502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-1	MW-01	Total/NA	Water	7470A	
500-243011-2	MW-03	Total/NA	Water	7470A	
500-243011-3	MW-04	Total/NA	Water	7470A	
500-243011-4	MW-02	Total/NA	Water	7470A	
500-243011-5	MW-09	Total/NA	Water	7470A	
500-243011-6	MW-11	Total/NA	Water	7470A	
500-243011-7	MW-14	Total/NA	Water	7470A	
500-243011-8	MW-16	Total/NA	Water	7470A	
500-243011-9	Duplicate	Total/NA	Water	7470A	
MB 500-746502/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-746502/13-A	Lab Control Sample	Total/NA	Water	7470A	
500-243011-9 MS	Duplicate	Total/NA	Water	7470A	
500-243011-9 MSD	Duplicate	Total/NA	Water	7470A	
500-243011-9 DU	Duplicate	Total/NA	Water	7470A	

Analysis Batch: 746723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-1	MW-01	Total/NA	Water	7470A	746502
500-243011-2	MW-03	Total/NA	Water	7470A	746502
500-243011-3	MW-04	Total/NA	Water	7470A	746502
500-243011-4	MW-02	Total/NA	Water	7470A	746502
500-243011-5	MW-09	Total/NA	Water	7470A	746502
500-243011-6	MW-11	Total/NA	Water	7470A	746502
500-243011-7	MW-14	Total/NA	Water	7470A	746502
500-243011-8	MW-16	Total/NA	Water	7470A	746502
500-243011-9	Duplicate	Total/NA	Water	7470A	746502
MB 500-746502/12-A	Method Blank	Total/NA	Water	7470A	746502
LCS 500-746502/13-A	Lab Control Sample	Total/NA	Water	7470A	746502
500-243011-9 MS	Duplicate	Total/NA	Water	7470A	746502
500-243011-9 MSD	Duplicate	Total/NA	Water	7470A	746502
500-243011-9 DU	Duplicate	Total/NA	Water	7470A	746502

Prep Batch: 747410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-1	MW-01	Total Recoverable	Water	3005A	
500-243011-2	MW-03	Total Recoverable	Water	3005A	
500-243011-3	MW-04	Total Recoverable	Water	3005A	
500-243011-4	MW-02	Total Recoverable	Water	3005A	
500-243011-5	MW-09	Total Recoverable	Water	3005A	
500-243011-6	MW-11	Total Recoverable	Water	3005A	
500-243011-7	MW-14	Total Recoverable	Water	3005A	
500-243011-8	MW-16	Total Recoverable	Water	3005A	
500-243011-9	Duplicate	Total Recoverable	Water	3005A	
MB 500-747410/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-747410/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 747720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-1	MW-01	Total Recoverable	Water	6020B	747410
500-243011-2	MW-03	Total Recoverable	Water	6020B	747410
500-243011-3	MW-04	Total Recoverable	Water	6020B	747410

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QC Association Summary

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

Job ID: 500-243011-1

Metals (Continued)

Analysis Batch: 747720 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-4	MW-02	Total Recoverable	Water	6020B	747410
500-243011-5	MW-09	Total Recoverable	Water	6020B	747410
500-243011-6	MW-11	Total Recoverable	Water	6020B	747410
500-243011-7	MW-14	Total Recoverable	Water	6020B	747410
500-243011-8	MW-16	Total Recoverable	Water	6020B	747410
500-243011-9	Duplicate	Total Recoverable	Water	6020B	747410
MB 500-747410/1-A	Method Blank	Total Recoverable	Water	6020B	747410
LCS 500-747410/2-A	Lab Control Sample	Total Recoverable	Water	6020B	747410

Analysis Batch: 747971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-1	MW-01	Total Recoverable	Water	6020B	747410
500-243011-2	MW-03	Total Recoverable	Water	6020B	747410
500-243011-3	MW-04	Total Recoverable	Water	6020B	747410
500-243011-4	MW-02	Total Recoverable	Water	6020B	747410
500-243011-5	MW-09	Total Recoverable	Water	6020B	747410
500-243011-6	MW-11	Total Recoverable	Water	6020B	747410
500-243011-7	MW-14	Total Recoverable	Water	6020B	747410
500-243011-8	MW-16	Total Recoverable	Water	6020B	747410
500-243011-9	Duplicate	Total Recoverable	Water	6020B	747410
MB 500-747410/1-A	Method Blank	Total Recoverable	Water	6020B	747410
LCS 500-747410/2-A	Lab Control Sample	Total Recoverable	Water	6020B	747410

Analysis Batch: 748512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-1	MW-01	Total Recoverable	Water	6020B	747410
MB 500-747410/1-A	Method Blank	Total Recoverable	Water	6020B	747410
LCS 500-747410/2-A	Lab Control Sample	Total Recoverable	Water	6020B	747410

General Chemistry

Analysis Batch: 744097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-1	MW-01	Total/NA	Water	SM 2540C	
500-243011-2	MW-03	Total/NA	Water	SM 2540C	
500-243011-3	MW-04	Total/NA	Water	SM 2540C	
MB 500-744097/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-744097/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 744338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-4	MW-02	Total/NA	Water	SM 2540C	
500-243011-5	MW-09	Total/NA	Water	SM 2540C	
500-243011-6	MW-11	Total/NA	Water	SM 2540C	
500-243011-7	MW-14	Total/NA	Water	SM 2540C	
500-243011-8	MW-16	Total/NA	Water	SM 2540C	
500-243011-9	Duplicate	Total/NA	Water	SM 2540C	
MB 500-744338/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-744338/2	Lab Control Sample	Total/NA	Water	SM 2540C	

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QC Association Summary

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

Job ID: 500-243011-1

General Chemistry

Analysis Batch: 744844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-1	MW-01	Total/NA	Water	SM 4500 SO4 E	
500-243011-2	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-243011-3	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-243011-4	MW-02	Total/NA	Water	SM 4500 SO4 E	
500-243011-5	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-243011-6	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-243011-7	MW-14	Total/NA	Water	SM 4500 SO4 E	
500-243011-8	MW-16	Total/NA	Water	SM 4500 SO4 E	
500-243011-9	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-744844/120	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-744844/121	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 745043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-1	MW-01	Total/NA	Water	SM 4500 Cl- E	
500-243011-2	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-243011-4	MW-02	Total/NA	Water	SM 4500 Cl- E	
500-243011-5	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-243011-6	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-243011-7	MW-14	Total/NA	Water	SM 4500 Cl- E	
500-243011-8	MW-16	Total/NA	Water	SM 4500 Cl- E	
500-243011-9	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-745043/122	Method Blank	Total/NA	Water	SM 4500 Cl- E	
MB 500-745043/69	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-745043/123	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
LCS 500-745043/70	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 745131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-3	MW-04	Total/NA	Water	SM 4500 Cl- E	
MB 500-745131/170	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-745131/171	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 745789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-1	MW-01	Total/NA	Water	SM 4500 F C	
500-243011-2	MW-03	Total/NA	Water	SM 4500 F C	
500-243011-3	MW-04	Total/NA	Water	SM 4500 F C	
500-243011-4	MW-02	Total/NA	Water	SM 4500 F C	
500-243011-5	MW-09	Total/NA	Water	SM 4500 F C	
500-243011-6	MW-11	Total/NA	Water	SM 4500 F C	
500-243011-7	MW-14	Total/NA	Water	SM 4500 F C	
500-243011-8	MW-16	Total/NA	Water	SM 4500 F C	
500-243011-9	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-745789/31	Method Blank	Total/NA	Water	SM 4500 F C	
MB 500-745789/59	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-745789/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCS 500-745789/60	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-243011-1 MS	MW-01	Total/NA	Water	SM 4500 F C	
500-243011-1 MSD	MW-01	Total/NA	Water	SM 4500 F C	
500-243011-9 MS	Duplicate	Total/NA	Water	SM 4500 F C	

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QC Association Summary

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

Job ID: 500-243011-1

General Chemistry (Continued)

Analysis Batch: 745789 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-9 MSD	Duplicate	Total/NA	Water	SM 4500 F C	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

QC Sample Results

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

Job ID: 500-243011-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 500-747410/1-A
Matrix: Water
Analysis Batch: 747720

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 747410

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<0.0030		0.0030		mg/L		12/19/23 18:32	12/20/23 19:28	1
Arsenic	<0.0010		0.0010		mg/L		12/19/23 18:32	12/20/23 19:28	1
Barium	<0.0025		0.0025		mg/L		12/19/23 18:32	12/20/23 19:28	1
Cadmium	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 19:28	1
Calcium	<0.20		0.20		mg/L		12/19/23 18:32	12/20/23 19:28	1
Chromium	<0.0050		0.0050		mg/L		12/19/23 18:32	12/20/23 19:28	1
Cobalt	<0.0010		0.0010		mg/L		12/19/23 18:32	12/20/23 19:28	1
Lead	<0.00050		0.00050		mg/L		12/19/23 18:32	12/20/23 19:28	1
Lithium	<0.010		0.010		mg/L		12/19/23 18:32	12/20/23 19:28	1
Molybdenum	<0.0050		0.0050		mg/L		12/19/23 18:32	12/20/23 19:28	1
Thallium	<0.0020		0.0020		mg/L		12/19/23 18:32	12/20/23 19:28	1

Lab Sample ID: MB 500-747410/1-A
Matrix: Water
Analysis Batch: 747971

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 747410

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Beryllium	<0.0010	^1+	0.0010		mg/L		12/19/23 18:32	12/21/23 18:17	1
Selenium	<0.0025		0.0025		mg/L		12/19/23 18:32	12/21/23 18:17	1

Lab Sample ID: MB 500-747410/1-A
Matrix: Water
Analysis Batch: 748512

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 747410

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Boron	<0.050		0.050		mg/L		12/19/23 18:32	12/22/23 14:40	1

Lab Sample ID: LCS 500-747410/2-A
Matrix: Water
Analysis Batch: 747720

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 747410

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Antimony	0.500	0.492		mg/L		98	80 - 120
Arsenic	0.100	0.0931		mg/L		93	80 - 120
Barium	2.00	1.99		mg/L		99	80 - 120
Cadmium	0.0500	0.0454		mg/L		91	80 - 120
Calcium	10.0	8.29		mg/L		83	80 - 120
Chromium	0.200	0.188		mg/L		94	80 - 120
Cobalt	0.500	0.462		mg/L		92	80 - 120
Lead	0.100	0.0983		mg/L		98	80 - 120
Lithium	0.500	0.465		mg/L		93	80 - 120
Molybdenum	1.00	0.930		mg/L		93	80 - 120
Thallium	0.100	0.0958		mg/L		96	80 - 120

QC Sample Results

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

Job ID: 500-243011-1

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

Lab Sample ID: LCS 500-747410/2-A
Matrix: Water
Analysis Batch: 747971

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 747410

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	0.0500	0.0476	^1+	mg/L		95	80 - 120
Selenium	0.100	0.0943		mg/L		94	80 - 120

Lab Sample ID: LCS 500-747410/2-A
Matrix: Water
Analysis Batch: 748512

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 747410

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.989		mg/L		99	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-746502/12-A
Matrix: Water
Analysis Batch: 746723

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 746502

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/13/23 10:25	12/14/23 08:25	1

Lab Sample ID: LCS 500-746502/13-A
Matrix: Water
Analysis Batch: 746723

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 746502

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00201	0.00210		mg/L		105	80 - 120

Lab Sample ID: 500-243011-9 MS
Matrix: Water
Analysis Batch: 746723

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 746502

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.00020		0.00100	0.000982		mg/L		98	75 - 125

Lab Sample ID: 500-243011-9 MSD
Matrix: Water
Analysis Batch: 746723

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 746502

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.00020		0.00100	0.00102		mg/L		102	75 - 125	4	20

Lab Sample ID: 500-243011-9 DU
Matrix: Water
Analysis Batch: 746723

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 746502

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

QC Sample Results

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

Job ID: 500-243011-1

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

Lab Sample ID: MB 500-744097/1
Matrix: Water
Analysis Batch: 744097

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/28/23 20:36	1

Lab Sample ID: LCS 500-744097/2
Matrix: Water
Analysis Batch: 744097

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 500-744338/1
Matrix: Water
Analysis Batch: 744338

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/29/23 22:33	1

Lab Sample ID: LCS 500-744338/2
Matrix: Water
Analysis Batch: 744338

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

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

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-745043/122
Matrix: Water
Analysis Batch: 745043

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			12/04/23 16:51	1

Lab Sample ID: MB 500-745043/69
Matrix: Water
Analysis Batch: 745043

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			12/04/23 15:12	1

Lab Sample ID: LCS 500-745043/123
Matrix: Water
Analysis Batch: 745043

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	21.3		mg/L		107	85 - 115

QC Sample Results

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

Job ID: 500-243011-1

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

Lab Sample ID: LCS 500-745043/70
Matrix: Water
Analysis Batch: 745043

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	21.1		mg/L		105	85 - 115

Lab Sample ID: MB 500-745131/170
Matrix: Water
Analysis Batch: 745131

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			12/04/23 18:43	1

Lab Sample ID: LCS 500-745131/171
Matrix: Water
Analysis Batch: 745131

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	20.4		mg/L		102	85 - 115

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-745789/31
Matrix: Water
Analysis Batch: 745789

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			12/07/23 15:45	1

Lab Sample ID: MB 500-745789/59
Matrix: Water
Analysis Batch: 745789

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			12/07/23 18:05	1

Lab Sample ID: LCS 500-745789/32
Matrix: Water
Analysis Batch: 745789

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	10.1		mg/L		101	90 - 119

Lab Sample ID: LCS 500-745789/60
Matrix: Water
Analysis Batch: 745789

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	10.1		mg/L		101	90 - 119

QC Sample Results

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

Job ID: 500-243011-1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 500-243011-1 MS
Matrix: Water
Analysis Batch: 745789

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.31		5.00	5.20		mg/L		98	75 - 125

Lab Sample ID: 500-243011-1 MSD
Matrix: Water
Analysis Batch: 745789

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.31		5.00	5.18		mg/L		97	75 - 125	0	20

Lab Sample ID: 500-243011-9 MS
Matrix: Water
Analysis Batch: 745789

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.53		5.00	5.80		mg/L		105	75 - 125

Lab Sample ID: 500-243011-9 MSD
Matrix: Water
Analysis Batch: 745789

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.53		5.00	5.51		mg/L		100	75 - 125	5	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-744844/120
Matrix: Water
Analysis Batch: 744844

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			12/03/23 13:01	1

Lab Sample ID: LCS 500-744844/121
Matrix: Water
Analysis Batch: 744844

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	20.0	21.8		mg/L		109	88 - 123

Chain of Custody Record

541622




Environment Testing
TestAmerica

Address _____

Regulatory Program: DW NPDES RCRA Other

TAL-8210

Client Contact Company Name <u>KPRG and Associates</u> Address <u>14165 W. Lisbon Rd, Ste 2A</u> City/State/Zip <u>Brookfield, WI 53005</u> Phone <u>262-781-0475</u> Fax _____ Project Name <u>Midwest Generation-</u> Site <u>Waukegan CCR</u> PO# <u>4502140739</u>		Project Manager: Diana Mockler Tel/Email: <u>diana.mockler@eurofins.us</u> Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below _____ <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <u>Standard</u> <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact Date: _____ Carrier: _____ Lab Contact: _____ COC No _____ of _____ COCs		Sampler _____ For Lab Use Only: Walk-in Client <input type="checkbox"/> Lab Sampling <input type="checkbox"/> Job / SDG No <u>500-243011</u>					
		Filtered Sample (Y/N) _____ Perform MS / MSD (Y/N) _____ Rad, v.v.m. <u>ILG, JLG</u> Total Metals _____ Total Cl, F, S, H, TDS _____		 500-243011 COC		Sample Specific Notes _____					
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Rad, v.v.m.	Total Metals	Total Cl, F, S, H, TDS	Sample Specific Notes
<u>MW-02</u>	<u>11/28/23</u>	<u>0917</u>	<u>G</u>	<u>Water</u>	<u>5</u>	<u>N</u>	<u>N</u>	<u>X</u>	<u>X</u>	<u>X</u>	
<u>MW-09</u>	↓	<u>1359</u>	↓	↓	↓	<u>N</u>	<u>N</u>	↓	↓	↓	
<u>MW-11</u>	↓	<u>1118</u>	↓	↓	↓	<u>N</u>	<u>N</u>	↓	↓	↓	
<u>MW-14</u>	↓	<u>1235</u>	↓	↓	↓	<u>N</u>	<u>N</u>	↓	↓	↓	
<u>MW-16</u>	↓	<u>1010</u>	↓	↓	↓	<u>N</u>	<u>N</u>	↓	↓	↓	
<u>Duplicate</u>	<u>11/28/23</u>	<u>-</u>	<u>G</u>	<u>Water</u>	<u>5</u>	<u>N</u>	<u>N</u>	<u>X</u>	<u>X</u>	<u>X</u>	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other <u>NONE</u>						<u>446</u>					
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample <input checked="" type="checkbox"/> Non Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months					
Special Instructions/QC Requirements & Comments: <p style="text-align: right; font-size: 1.2em;"><u>4.6 → 4.4, 5.5 → 5.3</u></p>											
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No _____		Cooler Temp (°C) Obs'd _____ Corr'd _____		Therm ID No _____					
Relinquished by <u>Josh Trisnet</u>		Company <u>KPRG</u>		Date/Time <u>11/28/23 1715</u>		Received by _____		Company _____		Date/Time _____	
Relinquished by _____		Company _____		Date/Time _____		Received by _____		Company _____		Date/Time _____	
Relinquished by _____		Company _____		Date/Time _____		Received in Laboratory by <u>Shirley Scott</u>		Company <u>ETA</u>		Date/Time <u>11/29/23 0930</u>	

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ORIGIN ID: FEPA (262) 278-1621
KPRG AND ASSOCIATES
KPRG AND ASSOCIATES
414 PLAZA DR STE 106

SHIP DATE: 27NOV23
ACTWGT: 53.45 LB
CAD: 6994085/SSFE2460
DIMS: 26x14x13 IN

WESTMONT, IL 60559
UNITED STATES US

BILL THIRD PARTY

TO **SAMPLE RECIEVING**
EUROFINS CHICAGO
2417 BOND ST



UNIVERSITY PARK IL 60484

500-243011 Waybi

(999) 999-9999
INV:
PO:

REF:

DEPT:



FedEx
Express



AN1091013208227

1 of 2
TRK# 7870 3959 1797
0201
MASTER

TUE - 28 NOV 12:00P
PRIORITY OVERNIGHT

79 JOTA

AHS
60484

IL-US ORD



ST 21
1797
11.28

RT 519
S
A 12:00

Part # 186287435 HFD03 Exp 07/24

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

SHIP DATE: 28NOV23
ACTWGT: 53.90 LB
CAD: 6994084/SSFE2460
DIMS: 26x14x14 IN
BILL THIRD PARTY

Part # 156297-435 RRDB EXP 07/24

TO EUROFINS CHICAGO

2417 BOND ST



500-243011 Waybi

UNIVERSITY PARK

(999) 999-9999
INU:
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RT 519 5 12:00 A



ST 23

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FedEx
Express

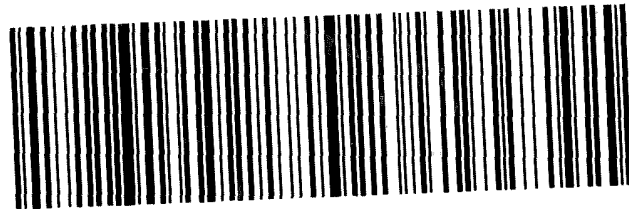


REL#
3785346

1 of 5
TRK# 7871 3235 3674
0201
MASTER

79 JOTA

WED - 29 NOV 12:00P
PRIORITY OVERNIGHT
AHS
60484
IL-US ORD



ORIGIN ID: FEPA (262) 622-1143
KPRG
KPRG AND ASSOCIATES
414 PLAZA DR STE 106

SHIP DATE: 28NOV23
ACTWGT: 52.85 LB
CAD: 6994084/SSFE2460
DIMS: 26x14x14 IN

WESTMONT, IL 60559
UNITED STATES US

BILL THIRD PARTY

TO EUROFINS CHICAGO

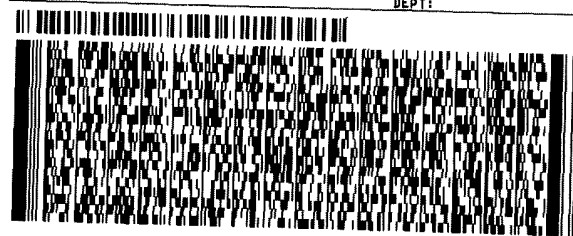
2417 BOND ST

UNIVERSITY PARK IL 60484

(999) 999-9999
INU:
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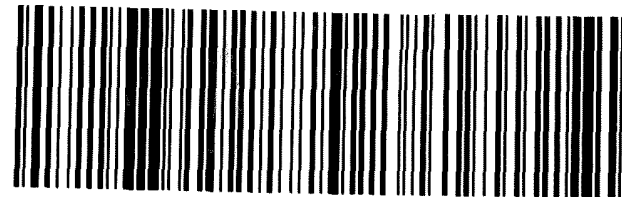
REL#
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4 of 5
MPS# 7871 3235 3700
0263
Mstr# 7871 3235 3674

0201

79 JOTA

WED - 29 NOV 12:00P
PRIORITY OVERNIGHT
AHS
60484
IL-US ORD



Part # 156297-435 RRDB EXP 07/24

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Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler: Mockler, Diana J		Carrier Tracking No(s): 500-182066.1	
Client Contact: Diana.Mockler@et.eurofins.com		E-Mail: Diana.Mockler@et.eurofins.com		Page: 1 of 1	
Shipping/Receiving		State of Origin: Illinois		Job #: 500-243011-2	
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Address: 13715 Rider Trail North, Earth City, MO, 63045		Due Date Requested: 12/18/2023		Analysis Requested	
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		TAT Requested (days):		Total Number of Containers	
Email:		PO #:		903.0/PreSep_21 Standard Target List	
WO #:		Project #:		904.0/PreSep_0 Standard Target List	
Project Name: Waukegan CCR (RAD)		50011597		Field Filtered Sample (Yes or No)	
Site: NRG Midwest Generation Waukegan		SSOW#:		Perform MS/MSD (Yes or No)	
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time	
MW-01 (500-243011-1)		11/27/23		12:12 Central	
MW-03 (500-243011-2)		11/27/23		14:34 Central	
MW-04 (500-243011-3)		11/27/23		13:22 Central	
Matrix (Water, Solid, Organic, Inorganic, etc.)		Sample Type (C=Comp, G=grab)		Preservation Code:	
Water		Water		Water	
Water		Water		Water	
Water		Water		Water	
Batch QC must be performed (dup. spikes, etc) - no NCMs concerning limited volume.		3		Batch QC must be performed (dup. spikes, etc) - no NCMs concerning limited volume.	
Batch QC must be performed (dup. spikes, etc) - no NCMs concerning limited volume.		3		Batch QC must be performed (dup. spikes, etc) - no NCMs concerning limited volume.	
Batch QC must be performed (dup. spikes, etc) - no NCMs concerning limited volume.		3		Batch QC must be performed (dup. spikes, etc) - no NCMs concerning limited volume.	
<p>Note: Since laboratory accreditations are subject to change, Eurofins Chicago places the ownership of method, analyte & accreditation compliance upon our subcontractor laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Chicago laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Chicago attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Chicago.</p>					
<p>Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2</p>					
<p>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months</p>					
Empty Kit Relinquished by:		Date:		Method of Shipment:	
Relinquished by: <i>Shai Brooks</i>		11/28/23		Company	
Relinquished by:		Date/Time: 14:40		Company	
Relinquished by:		Date/Time:		Company	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-243011-1

Login Number: 243011

List Number: 1

Creator: Scott, Sherri L

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	1.0,4.4,5.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Lab Chronicle

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

Job ID: 500-243011-1

Client Sample ID: MW-01
Date Collected: 11/27/23 12:12
Date Received: 11/28/23 09:30

Lab Sample ID: 500-243011-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747720	RN	EET CHI	12/20/23 19:35
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747971	SJ	EET CHI	12/21/23 18:36
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	748512	RN	EET CHI	12/22/23 14:48
Total/NA	Prep	7470A			746502	MJG	EET CHI	12/13/23 10:25 - 12/13/23 12:25 ¹
Total/NA	Analysis	7470A		1	746723	MJG	EET CHI	12/14/23 08:29
Total/NA	Analysis	SM 2540C		1	744097	CLB	EET CHI	11/28/23 21:14
Total/NA	Analysis	SM 4500 CI- E		2	745043	TR	EET CHI	12/04/23 17:13
Total/NA	Analysis	SM 4500 F C		1	745789	SO	EET CHI	12/07/23 17:02
Total/NA	Analysis	SM 4500 SO4 E		10	744844	TR	EET CHI	12/03/23 13:17

Client Sample ID: MW-03
Date Collected: 11/27/23 14:34
Date Received: 11/28/23 09:30

Lab Sample ID: 500-243011-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747720	RN	EET CHI	12/20/23 19:46
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747971	SJ	EET CHI	12/21/23 18:40
Total/NA	Prep	7470A			746502	MJG	EET CHI	12/13/23 10:25 - 12/13/23 12:25 ¹
Total/NA	Analysis	7470A		1	746723	MJG	EET CHI	12/14/23 08:31
Total/NA	Analysis	SM 2540C		1	744097	CLB	EET CHI	11/28/23 21:17
Total/NA	Analysis	SM 4500 CI- E		2	745043	TR	EET CHI	12/04/23 17:13
Total/NA	Analysis	SM 4500 F C		1	745789	SO	EET CHI	12/07/23 17:26
Total/NA	Analysis	SM 4500 SO4 E		10	744844	TR	EET CHI	12/03/23 13:18

Client Sample ID: MW-04
Date Collected: 11/27/23 13:22
Date Received: 11/28/23 09:30

Lab Sample ID: 500-243011-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747720	RN	EET CHI	12/20/23 19:49
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747971	SJ	EET CHI	12/21/23 18:43
Total/NA	Prep	7470A			746502	MJG	EET CHI	12/13/23 10:25 - 12/13/23 12:25 ¹
Total/NA	Analysis	7470A		1	746723	MJG	EET CHI	12/14/23 08:33
Total/NA	Analysis	SM 2540C		1	744097	CLB	EET CHI	11/28/23 21:19
Total/NA	Analysis	SM 4500 CI- E		2	745131	TR	EET CHI	12/04/23 18:44
Total/NA	Analysis	SM 4500 F C		1	745789	SO	EET CHI	12/07/23 17:31
Total/NA	Analysis	SM 4500 SO4 E		10	744844	TR	EET CHI	12/03/23 13:19

Eurofins Chicago

Lab Chronicle

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

Job ID: 500-243011-1

Client Sample ID: MW-02
Date Collected: 11/28/23 09:17
Date Received: 11/29/23 09:30

Lab Sample ID: 500-243011-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747720	RN	EET CHI	12/20/23 19:53
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747971	SJ	EET CHI	12/21/23 18:47
Total/NA	Prep	7470A			746502	MJG	EET CHI	12/13/23 10:25 - 12/13/23 12:25 ¹
Total/NA	Analysis	7470A		1	746723	MJG	EET CHI	12/14/23 08:35
Total/NA	Analysis	SM 2540C		1	744338	CLB	EET CHI	11/29/23 22:51
Total/NA	Analysis	SM 4500 CI- E		2	745043	TR	EET CHI	12/04/23 16:52
Total/NA	Analysis	SM 4500 F C		1	745789	SO	EET CHI	12/07/23 17:35
Total/NA	Analysis	SM 4500 SO4 E		10	744844	TR	EET CHI	12/03/23 13:18

Client Sample ID: MW-09
Date Collected: 11/28/23 13:59
Date Received: 11/29/23 09:30

Lab Sample ID: 500-243011-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747720	RN	EET CHI	12/20/23 19:56
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747971	SJ	EET CHI	12/21/23 18:51
Total/NA	Prep	7470A			746502	MJG	EET CHI	12/13/23 10:25 - 12/13/23 12:25 ¹
Total/NA	Analysis	7470A		1	746723	MJG	EET CHI	12/14/23 08:37
Total/NA	Analysis	SM 2540C		1	744338	CLB	EET CHI	11/29/23 22:53
Total/NA	Analysis	SM 4500 CI- E		10	745043	TR	EET CHI	12/04/23 16:52
Total/NA	Analysis	SM 4500 F C		1	745789	SO	EET CHI	12/07/23 17:40
Total/NA	Analysis	SM 4500 SO4 E		10	744844	TR	EET CHI	12/03/23 13:18

Client Sample ID: MW-11
Date Collected: 11/28/23 11:18
Date Received: 11/29/23 09:30

Lab Sample ID: 500-243011-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747720	RN	EET CHI	12/20/23 19:59
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747971	SJ	EET CHI	12/21/23 18:55
Total/NA	Prep	7470A			746502	MJG	EET CHI	12/13/23 10:25 - 12/13/23 12:25 ¹
Total/NA	Analysis	7470A		1	746723	MJG	EET CHI	12/14/23 08:40
Total/NA	Analysis	SM 2540C		1	744338	CLB	EET CHI	11/29/23 22:56
Total/NA	Analysis	SM 4500 CI- E		2	745043	TR	EET CHI	12/04/23 16:52
Total/NA	Analysis	SM 4500 F C		1	745789	SO	EET CHI	12/07/23 17:45
Total/NA	Analysis	SM 4500 SO4 E		2	744844	TR	EET CHI	12/03/23 13:19

Lab Chronicle

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

Job ID: 500-243011-1

Client Sample ID: MW-14
Date Collected: 11/28/23 12:35
Date Received: 11/29/23 09:30

Lab Sample ID: 500-243011-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747720	RN	EET CHI	12/20/23 20:03
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747971	SJ	EET CHI	12/21/23 18:59
Total/NA	Prep	7470A			746502	MJG	EET CHI	12/13/23 10:25 - 12/13/23 12:25 ¹
Total/NA	Analysis	7470A		1	746723	MJG	EET CHI	12/14/23 08:42
Total/NA	Analysis	SM 2540C		1	744338	CLB	EET CHI	11/29/23 22:58
Total/NA	Analysis	SM 4500 Cl- E		1	745043	TR	EET CHI	12/04/23 16:52
Total/NA	Analysis	SM 4500 F C		1	745789	SO	EET CHI	12/07/23 17:50
Total/NA	Analysis	SM 4500 SO4 E		1	744844	TR	EET CHI	12/03/23 13:03

Client Sample ID: MW-16
Date Collected: 11/28/23 10:10
Date Received: 11/29/23 09:30

Lab Sample ID: 500-243011-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747720	RN	EET CHI	12/20/23 20:06
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747971	SJ	EET CHI	12/21/23 19:02
Total/NA	Prep	7470A			746502	MJG	EET CHI	12/13/23 10:25 - 12/13/23 12:25 ¹
Total/NA	Analysis	7470A		1	746723	MJG	EET CHI	12/14/23 08:48
Total/NA	Analysis	SM 2540C		1	744338	CLB	EET CHI	11/29/23 23:01
Total/NA	Analysis	SM 4500 Cl- E		1	745043	TR	EET CHI	12/04/23 16:53
Total/NA	Analysis	SM 4500 F C		1	745789	SO	EET CHI	12/07/23 17:55
Total/NA	Analysis	SM 4500 SO4 E		10	744844	TR	EET CHI	12/03/23 13:19

Client Sample ID: Duplicate
Date Collected: 11/28/23 00:00
Date Received: 11/29/23 09:30

Lab Sample ID: 500-243011-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747720	RN	EET CHI	12/20/23 20:10
Total Recoverable	Prep	3005A			747410	MC	EET CHI	12/19/23 18:32 - 12/19/23 23:32 ¹
Total Recoverable	Analysis	6020B		1	747971	SJ	EET CHI	12/21/23 19:06
Total/NA	Prep	7470A			746502	MJG	EET CHI	12/13/23 10:25 - 12/13/23 12:25 ¹
Total/NA	Analysis	7470A		1	746723	MJG	EET CHI	12/14/23 08:50
Total/NA	Analysis	SM 2540C		1	744338	CLB	EET CHI	11/29/23 23:04
Total/NA	Analysis	SM 4500 Cl- E		1	745043	TR	EET CHI	12/04/23 16:43
Total/NA	Analysis	SM 4500 F C		1	745789	SO	EET CHI	12/07/23 18:26
Total/NA	Analysis	SM 4500 SO4 E		10	744844	TR	EET CHI	12/03/23 13:19

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Lab Chronicle

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

Job ID: 500-243011-1

Laboratory References:

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

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Accreditation/Certification Summary

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

Job ID: 500-243011-1

Laboratory: Eurofins Chicago

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

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	04-29-24

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 1/3/2024 7:50:12 AM

JOB DESCRIPTION

Waukegan CCR (RAD)

JOB NUMBER

500-243011-2

Eurofins Chicago

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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Authorization



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Authorized for release by
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Case Narrative

Client: KPRG and Associates, Inc.
Project: Waukegan CCR (RAD)

Job ID: 500-243011-2

Job ID: 500-243011-2

Eurofins Chicago

Job Narrative
500-243011-2

Receipt

The samples were received on 11/28/2023 9:30 AM and 11/29/2023 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.0°C, 4.4°C and 5.3°C

Gas Flow Proportional Counter

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

Rad

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

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Method Summary

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

Job ID: 500-243011-2

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

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

Laboratory References:

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



Sample Summary

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

Job ID: 500-243011-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-243011-1	MW-01	Water	11/27/23 12:12	11/28/23 09:30
500-243011-2	MW-03	Water	11/27/23 14:34	11/28/23 09:30
500-243011-3	MW-04	Water	11/27/23 13:22	11/28/23 09:30
500-243011-4	MW-02	Water	11/28/23 09:17	11/29/23 09:30
500-243011-5	MW-09	Water	11/28/23 13:59	11/29/23 09:30
500-243011-6	MW-11	Water	11/28/23 11:18	11/29/23 09:30
500-243011-7	MW-14	Water	11/28/23 12:35	11/29/23 09:30
500-243011-8	MW-16	Water	11/28/23 10:10	11/29/23 09:30
500-243011-9	Duplicate	Water	11/28/23 00:00	11/29/23 09:30

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Client Sample Results

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

Job ID: 500-243011-2

Client Sample ID: MW-01

Lab Sample ID: 500-243011-1

Date Collected: 11/27/23 12:12

Matrix: Water

Date Received: 11/28/23 09:30

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.152	U	0.0962	0.0966	1.00	0.152	pCi/L	11/30/23 09:53	12/27/23 14:34	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.3		30 - 110					11/30/23 09:53	12/27/23 14:34	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.560	U	0.362	0.364	1.00	0.560	pCi/L	11/30/23 10:01	12/22/23 11:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.3		30 - 110					11/30/23 10:01	12/22/23 11:14	1
Y Carrier	80.7		30 - 110					11/30/23 10:01	12/22/23 11:14	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.560	U	0.375	0.377	5.00	0.560	pCi/L		01/02/24 16:50	1

Client Sample Results

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

Job ID: 500-243011-2

Client Sample ID: MW-03

Lab Sample ID: 500-243011-2

Date Collected: 11/27/23 14:34

Matrix: Water

Date Received: 11/28/23 09:30

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.159	U	0.0935	0.0937	1.00	0.159	pCi/L	11/30/23 09:53	12/27/23 14:34	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.8		30 - 110					11/30/23 09:53	12/27/23 14:34	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.648	U	0.411	0.413	1.00	0.648	pCi/L	11/30/23 10:01	12/22/23 11:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.8		30 - 110					11/30/23 10:01	12/22/23 11:14	1
Y Carrier	83.0		30 - 110					11/30/23 10:01	12/22/23 11:14	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.648	U	0.422	0.423	5.00	0.648	pCi/L		01/02/24 16:50	1

Client Sample Results

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

Job ID: 500-243011-2

Client Sample ID: MW-04
Date Collected: 11/27/23 13:22
Date Received: 11/28/23 09:30

Lab Sample ID: 500-243011-3
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.156	U	0.104	0.104	1.00	0.156	pCi/L	11/30/23 09:53	12/27/23 14:34	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		30 - 110					11/30/23 09:53	12/27/23 14:34	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.546	U	0.362	0.365	1.00	0.546	pCi/L	11/30/23 10:01	12/22/23 11:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		30 - 110					11/30/23 10:01	12/22/23 11:15	1
Y Carrier	83.4		30 - 110					11/30/23 10:01	12/22/23 11:15	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.642		0.377	0.380	5.00	0.546	pCi/L		01/02/24 16:50	1

Client Sample Results

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

Job ID: 500-243011-2

Client Sample ID: MW-02
Date Collected: 11/28/23 09:17
Date Received: 11/29/23 09:30

Lab Sample ID: 500-243011-4
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.204	U	0.105	0.105	1.00	0.204	pCi/L	12/01/23 09:46	12/29/23 07:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.3		30 - 110					12/01/23 09:46	12/29/23 07:36	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.557	U	0.341	0.342	1.00	0.557	pCi/L	12/01/23 09:56	12/27/23 11:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.3		30 - 110					12/01/23 09:56	12/27/23 11:33	1
Y Carrier	72.1		30 - 110					12/01/23 09:56	12/27/23 11:33	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.557	U	0.357	0.358	5.00	0.557	pCi/L		01/02/24 16:50	1

Client Sample Results

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

Job ID: 500-243011-2

Client Sample ID: MW-09

Lab Sample ID: 500-243011-5

Date Collected: 11/28/23 13:59

Matrix: Water

Date Received: 11/29/23 09:30

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.289		0.167	0.169	1.00	0.221	pCi/L	12/01/23 09:46	12/29/23 09:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		30 - 110					12/01/23 09:46	12/29/23 09:18	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.539	U	0.340	0.342	1.00	0.539	pCi/L	12/01/23 09:56	12/27/23 11:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		30 - 110					12/01/23 09:56	12/27/23 11:33	1
Y Carrier	74.4		30 - 110					12/01/23 09:56	12/27/23 11:33	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.652		0.379	0.381	5.00	0.539	pCi/L		01/02/24 16:50	1

Client Sample Results

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

Job ID: 500-243011-2

Client Sample ID: MW-11
Date Collected: 11/28/23 11:18
Date Received: 11/29/23 09:30

Lab Sample ID: 500-243011-6
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.358		0.171	0.174	1.00	0.198	pCi/L	12/01/23 09:46	12/29/23 09:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.8		30 - 110					12/01/23 09:46	12/29/23 09:18	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.01		0.544	0.575	1.00	0.600	pCi/L	12/01/23 09:56	12/27/23 11:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.8		30 - 110					12/01/23 09:56	12/27/23 11:33	1
Y Carrier	75.5		30 - 110					12/01/23 09:56	12/27/23 11:33	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.37		0.570	0.601	5.00	0.600	pCi/L		01/02/24 16:50	1

Client Sample Results

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

Job ID: 500-243011-2

Client Sample ID: MW-14
Date Collected: 11/28/23 12:35
Date Received: 11/29/23 09:30

Lab Sample ID: 500-243011-7
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.320	U	0.166	0.166	1.00	0.320	pCi/L	12/01/23 09:46	12/29/23 09:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.3		30 - 110					12/01/23 09:46	12/29/23 09:18	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.885		0.489	0.496	1.00	0.689	pCi/L	12/01/23 09:56	12/27/23 11:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.3		30 - 110					12/01/23 09:56	12/27/23 11:33	1
Y Carrier	83.0		30 - 110					12/01/23 09:56	12/27/23 11:33	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.914		0.516	0.523	5.00	0.689	pCi/L		01/02/24 16:50	1

Client Sample Results

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

Job ID: 500-243011-2

Client Sample ID: MW-16

Lab Sample ID: 500-243011-8

Date Collected: 11/28/23 10:10

Matrix: Water

Date Received: 11/29/23 09:30

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.230	U	0.159	0.161	1.00	0.230	pCi/L	12/01/23 09:46	12/29/23 09:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.8		30 - 110					12/01/23 09:46	12/29/23 09:18	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.457	U	0.302	0.305	1.00	0.457	pCi/L	12/01/23 09:56	12/27/23 11:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.8		30 - 110					12/01/23 09:56	12/27/23 11:33	1
Y Carrier	87.1		30 - 110					12/01/23 09:56	12/27/23 11:33	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.615		0.341	0.345	5.00	0.457	pCi/L		01/02/24 16:50	1

Client Sample Results

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

Job ID: 500-243011-2

Client Sample ID: Duplicate
Date Collected: 11/28/23 00:00
Date Received: 11/29/23 09:30

Lab Sample ID: 500-243011-9
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.181	U	0.122	0.122	1.00	0.181	pCi/L	12/01/23 09:46	12/29/23 09:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.5		30 - 110					12/01/23 09:46	12/29/23 09:18	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.891		0.366	0.375	1.00	0.471	pCi/L	12/01/23 09:56	12/27/23 11:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.5		30 - 110					12/01/23 09:56	12/27/23 11:33	1
Y Carrier	84.1		30 - 110					12/01/23 09:56	12/27/23 11:33	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.03		0.386	0.394	5.00	0.471	pCi/L		01/02/24 16:50	1

Definitions/Glossary

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

Job ID: 500-243011-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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: Waukegan CCR (RAD)

Job ID: 500-243011-2

Rad

Prep Batch: 638914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-1	MW-01	Total/NA	Water	PrecSep-21	
500-243011-2	MW-03	Total/NA	Water	PrecSep-21	
500-243011-3	MW-04	Total/NA	Water	PrecSep-21	
MB 160-638914/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-638914/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
500-243011-2 DU	MW-03	Total/NA	Water	PrecSep-21	

Prep Batch: 638915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-1	MW-01	Total/NA	Water	PrecSep_0	
500-243011-2	MW-03	Total/NA	Water	PrecSep_0	
500-243011-3	MW-04	Total/NA	Water	PrecSep_0	
MB 160-638915/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-638915/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
500-243011-2 DU	MW-03	Total/NA	Water	PrecSep_0	

Prep Batch: 639124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-4	MW-02	Total/NA	Water	PrecSep-21	
500-243011-5	MW-09	Total/NA	Water	PrecSep-21	
500-243011-6	MW-11	Total/NA	Water	PrecSep-21	
500-243011-7	MW-14	Total/NA	Water	PrecSep-21	
500-243011-8	MW-16	Total/NA	Water	PrecSep-21	
500-243011-9	Duplicate	Total/NA	Water	PrecSep-21	
MB 160-639124/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-639124/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 639126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-243011-4	MW-02	Total/NA	Water	PrecSep_0	
500-243011-5	MW-09	Total/NA	Water	PrecSep_0	
500-243011-6	MW-11	Total/NA	Water	PrecSep_0	
500-243011-7	MW-14	Total/NA	Water	PrecSep_0	
500-243011-8	MW-16	Total/NA	Water	PrecSep_0	
500-243011-9	Duplicate	Total/NA	Water	PrecSep_0	
MB 160-639126/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-639126/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

QC Sample Results

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

Job ID: 500-243011-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-638914/1-A
Matrix: Water
Analysis Batch: 642137

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 638914

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	<0.125	U	0.0882	0.0889	1.00	0.125	pCi/L	11/30/23 09:53	12/27/23 09:48	1
Carrier	MB		Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	%Yield	MB Qualifier	30 - 110					11/30/23 09:53	12/27/23 09:48	1
	87.8									

Lab Sample ID: LCS 160-638914/2-A
Matrix: Water
Analysis Batch: 642353

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 638914

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	10.50		1.11	1.00	0.120	pCi/L	93	75 - 125
Carrier	LCS	LCS	Limits						
Ba Carrier	%Yield	Qualifier	30 - 110						
	99.5								

Lab Sample ID: 500-243011-2 DU
Matrix: Water
Analysis Batch: 642137

Client Sample ID: MW-03
Prep Type: Total/NA
Prep Batch: 638914

Analyte	Sample		DU	DU	Total	RL	MDC	Unit	RER	RER Limit
	Result	Sample Qual	Result	Qual	Uncert. (2σ+/-)					
Radium-226	<0.159	U	<0.121	U	0.0762	1.00	0.121	pCi/L	0.03	1
Carrier	DU	DU	Limits							
Ba Carrier	%Yield	Qualifier	30 - 110							
	96.0									

Lab Sample ID: MB 160-639124/1-A
Matrix: Water
Analysis Batch: 642235

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 639124

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	<0.168	U	0.0735	0.0735	1.00	0.168	pCi/L	12/01/23 09:46	12/28/23 17:05	1
Carrier	MB		Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	%Yield	MB Qualifier	30 - 110					12/01/23 09:46	12/28/23 17:05	1
	89.3									

Lab Sample ID: LCS 160-639124/2-A
Matrix: Water
Analysis Batch: 642706

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 639124

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	11.05		1.16	1.00	0.111	pCi/L	98	75 - 125

Euromins Chicago

QC Sample Results

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

Job ID: 500-243011-2

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

Lab Sample ID: LCS 160-639124/2-A
Matrix: Water
Analysis Batch: 642706

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 639124

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	95.3		30 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-638915/1-A
Matrix: Water
Analysis Batch: 641882

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 638915

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.5367		0.358	0.361	1.00	0.530	pCi/L	11/30/23 10:01	12/22/23 11:07	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.8		30 - 110					11/30/23 10:01	12/22/23 11:07	1
Y Carrier	81.5		30 - 110					11/30/23 10:01	12/22/23 11:07	1

Lab Sample ID: LCS 160-638915/2-A
Matrix: Water
Analysis Batch: 641882

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 638915

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	9.38	8.483		1.17	1.00	0.498	pCi/L	90	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	99.5		30 - 110						
Y Carrier	81.9		30 - 110						

Lab Sample ID: 500-243011-2 DU
Matrix: Water
Analysis Batch: 641897

Client Sample ID: MW-03
Prep Type: Total/NA
Prep Batch: 638915

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	<0.648	U	<0.585	U	0.309	1.00	0.585	pCi/L	0.73	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	96.0		30 - 110							
Y Carrier	83.4		30 - 110							

Lab Sample ID: MB 160-639126/1-A
Matrix: Water
Analysis Batch: 641942

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 639126

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.529	U	0.350	0.353	1.00	0.529	pCi/L	12/01/23 09:56	12/27/23 11:29	1

Eurofins Chicago

QC Sample Results

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

Job ID: 500-243011-2

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

Lab Sample ID: MB 160-639126/1-A
Matrix: Water
Analysis Batch: 641942

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 639126

Carrier	MB MB		Limits
	%Yield	Qualifier	
Ba Carrier	89.3		30 - 110
Y Carrier	81.5		30 - 110

Prepared	Analyzed	Dil Fac
12/01/23 09:56	12/27/23 11:29	1
12/01/23 09:56	12/27/23 11:29	1

Lab Sample ID: LCS 160-639126/2-A
Matrix: Water
Analysis Batch: 641942

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 639126

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec
									Limits
Radium-228	9.36	10.57		1.37	1.00	0.447	pCi/L	113	75 - 125

Carrier	LCS LCS		Limits
	%Yield	Qualifier	
Ba Carrier	95.3		30 - 110
Y Carrier	81.9		30 - 110

Chain of Custody Record

541622




Environment Testing
TestAmerica

Address _____

Regulatory Program: DW NPDES RCRA Other

TAL-8210

Client Contact Company Name <u>KPRG and Associates</u> Address <u>14145 W. Lisbon Rd, Ste 2A</u> City/State/Zip <u>Brookfield, WI 53005</u> Phone <u>262-781-0475</u> Fax _____ Project Name <u>Midwest Generation-</u> Site <u>Waukegan CCR</u> PO# <u>4502140739</u>		Project Manager: Diana Mockler Tel/Email: <u>diana.mockler@eurofins.us</u> Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below _____ <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <u>Standard</u> <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact Date: _____ Carrier: _____ Lab Contact: _____ COC No _____ of _____ COCs		Sampler _____ For Lab Use Only: Walk-in Client <input type="checkbox"/> Lab Sampling <input type="checkbox"/> Job / SDG No <u>500-243011</u>					
		Filtered Sample (Y/N) _____ Perform MS / MSD (Y/N) _____ Rad, v.v.m. <u>ILG, JLG</u> Total Metals _____ Total Cl, Fl, SO ₄ , TDS _____		 500-243011 COC		Sample Specific Notes					
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Rad, v.v.m.	Total Metals	Total Cl, Fl, SO ₄ , TDS	Sample Specific Notes
<u>MW-02</u>	<u>11/28/23</u>	<u>0917</u>	<u>G</u>	<u>Water</u>	<u>5</u>	<u>N</u>	<u>N</u>	<u>X</u>	<u>X</u>	<u>X</u>	
<u>MW-09</u>	↓	<u>1359</u>	↓	↓	↓	<u>N</u>	<u>N</u>	↓	↓	↓	
<u>MW-11</u>	↓	<u>1118</u>	↓	↓	↓	<u>N</u>	<u>N</u>	↓	↓	↓	
<u>MW-14</u>	↓	<u>1235</u>	↓	↓	↓	<u>N</u>	<u>N</u>	↓	↓	↓	
<u>MW-16</u>	↓	<u>1010</u>	↓	↓	↓	<u>N</u>	<u>N</u>	↓	↓	↓	
<u>Duplicate</u>	<u>11/28/23</u>	<u>-</u>	<u>G</u>	<u>Water</u>	<u>5</u>	<u>N</u>	<u>N</u>	<u>X</u>	<u>X</u>	<u>X</u>	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other <u>NONE</u>						<u>446</u>					
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample <input checked="" type="checkbox"/> Non Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months					
Special Instructions/QC Requirements & Comments: <u>4.6 → 4.4, 5.5 → 5.3</u>											
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No _____		Cooler Temp (°C) Obs'd _____ Corr'd _____		Therm ID No _____					
Relinquished by <u>Jayla Tringali</u>		Company <u>KPRG</u>		Date/Time <u>11/28/23 1715</u>		Received by _____		Company _____		Date/Time _____	
Relinquished by _____		Company _____		Date/Time _____		Received by _____		Company _____		Date/Time _____	
Relinquished by _____		Company _____		Date/Time _____		Received in Laboratory by <u>Shirley Scott</u>		Company <u>ETA</u>		Date/Time <u>11/29/23 0930</u>	

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ORIGIN ID: FEPA (262) 278-1621
KPRG AND ASSOCIATES
KPRG AND ASSOCIATES
414 PLAZA DR STE 106

SHIP DATE: 27NOV23
ACTWGT: 53.45 LB
CAD: 6994085/SSFE2460
DIMS: 26x14x13 IN

WESTMONT, IL 60559
UNITED STATES US

BILL THIRD PARTY

TO **SAMPLE RECIEVING**
EUROFINS CHICAGO
2417 BOND ST



UNIVERSITY PARK IL 60484

500-243011 Waybi

(999) 999-9999
INV:
PO:

REF:

DEPT:



FedEx
Express



AN1091013208227

1 of 2

TRK# 7870 3959 1797
0201
MASTER

79 JOTA

TUE - 28 NOV 12:00P
PRIORITY OVERNIGHT

AHS
60484

IL-US ORD



ST 21
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RT 519
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Part # 166287435 HFD03 Exp 07/24

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

SHIP DATE: 28NOV23
ACTWGT: 53.90 LB
CAD: 6994084/SSFE2460
DIMS: 26x14x14 IN
BILL THIRD PARTY

Part # 156297-435 RRDB EXP 07/24

TO EUROFINS CHICAGO

2417 BOND ST



500-243011 Waybi

UNIVERSITY PARK

(999) 999-9999
INU:
PO:

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REL#
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1 of 5
TRK# 7871 3235 3674
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WED - 29 NOV 12:00P
PRIORITY OVERNIGHT
AHS
60484
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ORIGIN ID: FEPA (262) 622-1143
KPRG
KPRG AND ASSOCIATES
414 PLAZA DR STE 106

SHIP DATE: 28NOV23
ACTWGT: 52.85 LB
CAD: 6994084/SSFE2460
DIMS: 26x14x14 IN

WESTMONT, IL 60559
UNITED STATES US

BILL THIRD PARTY

TO EUROFINS CHICAGO

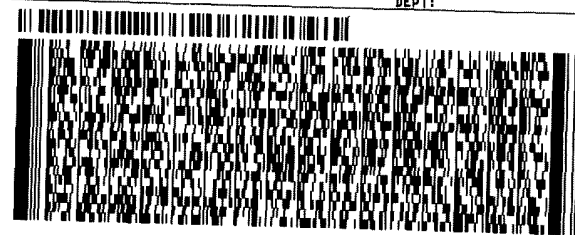
2417 BOND ST

UNIVERSITY PARK IL 60484

(999) 999-9999
INU:
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DEPT:



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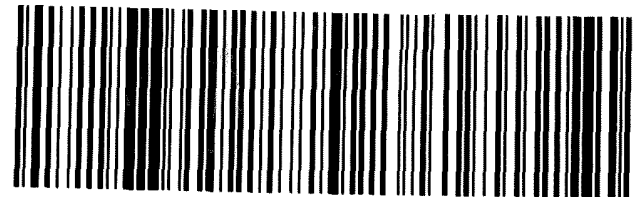


REL#
3785346

4 of 5
MPS# 7871 3235 3700
0263
Mstr# 7871 3235 3674

WED - 29 NOV 12:00P
PRIORITY OVERNIGHT
AHS
60484
IL-US ORD

79 JOTA



Part # 156297-435 RRDB EXP 07/24

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Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-243011-2

Login Number: 243011

List Number: 1

Creator: Scott, Sherri L

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	1.0,4.4,5.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-243011-2

Login Number: 243011

List Number: 2

Creator: Pinette, Meadow L

List Source: Eurofins St. Louis

List Creation: 11/29/23 12:04 PM

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



Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-243011-2

Login Number: 243011

List Number: 3

Creator: Pinette, Meadow L

List Source: Eurofins St. Louis

List Creation: 11/30/23 02:06 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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: Waukegan CCR (RAD)

Job ID: 500-243011-2

Client Sample ID: MW-01
Date Collected: 11/27/23 12:12
Date Received: 11/28/23 09:30

Lab Sample ID: 500-243011-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			638914	KAC	EET SL	11/30/23 09:53
Total/NA	Analysis	903.0		1	642137	FLC	EET SL	12/27/23 14:34
Total/NA	Prep	PrecSep_0			638915	KAC	EET SL	11/30/23 10:01
Total/NA	Analysis	904.0		1	641897	SCB	EET SL	12/22/23 11:14
Total/NA	Analysis	Ra226_Ra228		1	642742	EMH	EET SL	01/02/24 16:50

Client Sample ID: MW-03
Date Collected: 11/27/23 14:34
Date Received: 11/28/23 09:30

Lab Sample ID: 500-243011-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			638914	KAC	EET SL	11/30/23 09:53
Total/NA	Analysis	903.0		1	642137	FLC	EET SL	12/27/23 14:34
Total/NA	Prep	PrecSep_0			638915	KAC	EET SL	11/30/23 10:01
Total/NA	Analysis	904.0		1	641897	SCB	EET SL	12/22/23 11:14
Total/NA	Analysis	Ra226_Ra228		1	642742	EMH	EET SL	01/02/24 16:50

Client Sample ID: MW-04
Date Collected: 11/27/23 13:22
Date Received: 11/28/23 09:30

Lab Sample ID: 500-243011-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			638914	KAC	EET SL	11/30/23 09:53
Total/NA	Analysis	903.0		1	642137	FLC	EET SL	12/27/23 14:34
Total/NA	Prep	PrecSep_0			638915	KAC	EET SL	11/30/23 10:01
Total/NA	Analysis	904.0		1	641897	SCB	EET SL	12/22/23 11:15
Total/NA	Analysis	Ra226_Ra228		1	642742	EMH	EET SL	01/02/24 16:50

Client Sample ID: MW-02
Date Collected: 11/28/23 09:17
Date Received: 11/29/23 09:30

Lab Sample ID: 500-243011-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			639124	KAC	EET SL	12/01/23 09:46
Total/NA	Analysis	903.0		1	642534	FLC	EET SL	12/29/23 07:36
Total/NA	Prep	PrecSep_0			639126	KAC	EET SL	12/01/23 09:56
Total/NA	Analysis	904.0		1	641942	FLC	EET SL	12/27/23 11:33
Total/NA	Analysis	Ra226_Ra228		1	642742	EMH	EET SL	01/02/24 16:50

Lab Chronicle

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

Job ID: 500-243011-2

Client Sample ID: MW-09

Lab Sample ID: 500-243011-5

Date Collected: 11/28/23 13:59

Matrix: Water

Date Received: 11/29/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			639124	KAC	EET SL	12/01/23 09:46
Total/NA	Analysis	903.0		1	642534	FLC	EET SL	12/29/23 09:18
Total/NA	Prep	PrecSep_0			639126	KAC	EET SL	12/01/23 09:56
Total/NA	Analysis	904.0		1	641942	FLC	EET SL	12/27/23 11:33
Total/NA	Analysis	Ra226_Ra228		1	642742	EMH	EET SL	01/02/24 16:50

Client Sample ID: MW-11

Lab Sample ID: 500-243011-6

Date Collected: 11/28/23 11:18

Matrix: Water

Date Received: 11/29/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			639124	KAC	EET SL	12/01/23 09:46
Total/NA	Analysis	903.0		1	642534	FLC	EET SL	12/29/23 09:18
Total/NA	Prep	PrecSep_0			639126	KAC	EET SL	12/01/23 09:56
Total/NA	Analysis	904.0		1	641942	FLC	EET SL	12/27/23 11:33
Total/NA	Analysis	Ra226_Ra228		1	642742	EMH	EET SL	01/02/24 16:50

Client Sample ID: MW-14

Lab Sample ID: 500-243011-7

Date Collected: 11/28/23 12:35

Matrix: Water

Date Received: 11/29/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			639124	KAC	EET SL	12/01/23 09:46
Total/NA	Analysis	903.0		1	642534	FLC	EET SL	12/29/23 09:18
Total/NA	Prep	PrecSep_0			639126	KAC	EET SL	12/01/23 09:56
Total/NA	Analysis	904.0		1	641942	FLC	EET SL	12/27/23 11:33
Total/NA	Analysis	Ra226_Ra228		1	642742	EMH	EET SL	01/02/24 16:50

Client Sample ID: MW-16

Lab Sample ID: 500-243011-8

Date Collected: 11/28/23 10:10

Matrix: Water

Date Received: 11/29/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			639124	KAC	EET SL	12/01/23 09:46
Total/NA	Analysis	903.0		1	642534	FLC	EET SL	12/29/23 09:18
Total/NA	Prep	PrecSep_0			639126	KAC	EET SL	12/01/23 09:56
Total/NA	Analysis	904.0		1	641942	FLC	EET SL	12/27/23 11:33
Total/NA	Analysis	Ra226_Ra228		1	642742	EMH	EET SL	01/02/24 16:50

Lab Chronicle

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

Job ID: 500-243011-2

Client Sample ID: Duplicate

Lab Sample ID: 500-243011-9

Date Collected: 11/28/23 00:00

Matrix: Water

Date Received: 11/29/23 09:30

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Total/NA	Prep	PrecSep-21			639124	KAC	EET SL	12/01/23 09:46
Total/NA	Analysis	903.0		1	642534	FLC	EET SL	12/29/23 09:18
Total/NA	Prep	PrecSep_0			639126	KAC	EET SL	12/01/23 09:56
Total/NA	Analysis	904.0		1	641942	FLC	EET SL	12/27/23 11:33
Total/NA	Analysis	Ra226_Ra228		1	642742	EMH	EET SL	01/02/24 16:50

Laboratory References:

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



Accreditation/Certification Summary

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

Job ID: 500-243011-2

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	200023	11-30-24

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Tracer/Carrier Summary

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

Job ID: 500-243011-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	
500-243011-1	MW-01	83.3	
500-243011-2	MW-03	80.8	
500-243011-2 DU	MW-03	96.0	
500-243011-3	MW-04	90.3	
500-243011-4	MW-02	91.3	
500-243011-5	MW-09	89.1	
500-243011-6	MW-11	86.8	
500-243011-7	MW-14	87.3	
500-243011-8	MW-16	85.8	
500-243011-9	Duplicate	94.5	
LCS 160-638914/2-A	Lab Control Sample	99.5	
LCS 160-639124/2-A	Lab Control Sample	95.3	
MB 160-638914/1-A	Method Blank	87.8	
MB 160-639124/1-A	Method Blank	89.3	
Tracer/Carrier Legend			
Ba = Ba Carrier			

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
500-243011-1	MW-01	83.3	80.7
500-243011-2	MW-03	80.8	83.0
500-243011-2 DU	MW-03	96.0	83.4
500-243011-3	MW-04	90.3	83.4
500-243011-4	MW-02	91.3	72.1
500-243011-5	MW-09	89.1	74.4
500-243011-6	MW-11	86.8	75.5
500-243011-7	MW-14	87.3	83.0
500-243011-8	MW-16	85.8	87.1
500-243011-9	Duplicate	94.5	84.1
LCS 160-638915/2-A	Lab Control Sample	99.5	81.9
LCS 160-639126/2-A	Lab Control Sample	95.3	81.9
MB 160-638915/1-A	Method Blank	87.8	81.5
MB 160-639126/1-A	Method Blank	89.3	81.5
Tracer/Carrier Legend			
Ba = Ba Carrier			
Y = Y Carrier			