

DATA SUMMARY POSTING

Station: Midwest Generation Waukegan Generating Station

Regulated Unit(s): East Pond (IEPA ID No. W0971900021-01)
West Pond (IEPA ID No. W0971900021-02)

In accordance with the new Ill. Adm. Code Title 35, Part 845: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments (State CCR Rule) groundwater monitoring was completed during the 1st quarter 2023 which includes the entire list of parameters specified under Section 845.600(a)(1) and (b). Table 1 is a summary table of all available CCR monitoring data to date including any data generated previously as part of the Federal CCR Rule monitoring. In addition, Table 2 provides a summary of turbidity data which was collected as part of State CCR Rule requirements which is a data parameter that was not required under the Federal CCR Rule.

No background statistics or proposed Groundwater Protection Standards are included on these tables. The background statistics and Proposed Groundwater Protection Standards were submitted to Illinois Environmental Protection Agency (EPA) as part of the Application for Initial Operating Permit submitted on October 31, 2021. Upon Illinois EPA approval of the Operating Permit and Proposed Groundwater Protection Standards, the approved comparison values will be included on the tables for subsequent data comparisons/evaluations.

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

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Radium 226 + 228 Combined	Selenium	Thallium	
MW-09 up-gradient	11/4/2015	13	210	450	0.14	6.60	370	1700	< 0.003	< 0.001	0.015	^< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.081	< 0.0002	0.260	0.1818	< 0.0025	< 0.002	
	3/2/2016	35	380	720	0.11	7.02	970	2800	< 0.003	0.06	0.05	< 0.001	< 0.0005	< 0.043	< 0.001	< 0.00061	0.094	< 0.0002	0.51	< 0.36	0.025	< 0.002	
	5/3/2016	16	310	620	0.12	7.02	740	2500	< 0.003	0.0014	0.025	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.00005	0.083	< 0.0002	0.63	< 0.512	0.024	< 0.002	
	8/25/2016	4.5	130	270	0.21	7.13	190	1100	0.0041	0.042	0.024	< 0.001	0.0011	0.056	0.0027	0.012	0.049	< 0.0002	0.063	0.482	0.039	< 0.002	
	12/8/2016	15	200	330	0.18	7.01	270	1300	< 0.003	0.004	0.016	< 0.001	0.00052	< 0.005	< 0.001	< 0.0005	0.077	< 0.0002	0.24	< 0.72	0.038	< 0.002	
	2/23/2017	14	190	290	0.12	7.68	320	1300	< 0.003	0.0027	0.014	< 0.001	< 0.0005	< 0.059	0.0018	< 0.0005	0.068	< 0.0002	0.26	< 0.461	0.016	< 0.002	
	5/16/2017	27	160	67	0.29	8.15	420	970	< 0.003	< 0.001	0.0094	^< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.045	< 0.0002	0.51	< 0.342	0.0085	< 0.002	
	7/6/2017	21	220	430	0.13	7.18	610	1800	< 0.003	0.002	0.018	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.089	< 0.0002	0.31	< 0.316	0.021	< 0.002	
	9/13/2017	21	250	420	0.14	7.17	520	1800	< 0.003	0.0067	0.019	< 0.001	< 0.0005	0.0052	0.0017	< 0.0005	0.069	< 0.0002	0.33	0.944	0.0041	< 0.002	
	11/29/2017	26	200	390	0.13	7.05	390	1600	< 0.003	0.0017	0.015	< ^ 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.086	< 0.0002	0.47	0.625	0.042	< 0.002	
	5/31/2018	32	200	29	0.1	6.85	490	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/6/2018	30	170	23	0.11	7.33	290	930	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/15/2019	26	120	260	0.13	7.53	31	1000	< 0.003	< 0.001	0.0073	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.035	< 0.0002	0.54	< 0.433	< 0.0025	< 0.002	
	11/19/2019	22	160	17	0.16	8.04	300	750	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/22/2020	22	140	9.2	0.18	7.81	360	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/18/2020	28	250	290	0.18	7.43	420	1700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/6/2021	31	170	35	0.12	7.51	420	910	< 0.003	< 0.001	0.0075	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.04	< 0.0002	0.47	< 0.614	0.023	< 0.002	
	8/19/2021	7.2	150	170	0.13	7.01	210	350	< 0.003	0.0019	0.015	< 0.001	< 0.0005	< 0.005	< ^+ 0.001	0.015	0.066	< 0.0002	0.12	< 0.457	0.071	< ^+ 0.002	
	11/4/2021	10	150	160	0.24	7.07	180	980	< 0.003	0.0026	0.074	< ^+ 0.001	< 0.0005	< 0.005	0.0011	< 0.0005	0.06	< 0.0002	0.12	< 0.775	0.097	< 0.002	
	2/10/2022	9.5	190	220	0.17	7.11	270	1300	< 0.003	0.015	0.033	< 0.001	0.00076	< 0.005	0.0038	< 0.0005	0.065	< 0.0002	0.21	< 0.523	0.036	< 0.002	
	5/24/2022	5.3	150	180	0.23	7.15	200	940	< 0.003	0.0019	0.02	< ^+ 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.054	< 0.0002	0.18	< 0.444	< 0.0025	< 0.002	
	8/23/2022	12	170	170	0.22	7.14	290	1100	< 0.003	0.0012	0.046	< ^+ 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.048	< 0.0002	0.21	0.487	0.034	< 0.002	
	11/7/2022	6.4	160	200	0.51	6.98	220	1100	< 0.003	0.0083	0.14	< ^+ ^+ 0.001	< 0.0005	< 0.005	0.0013	0.034	0.057	< 0.0002	0.088	2.58	< 0.0025	< 0.002	
	12/21/2022 (R)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/13/2023	B	2.8	280	220	0.12	6.97	490	1500	< 0.0030	0.0011	0.074	< 0.0010	< 0.00050	< 0.0050	< 0.0010	< 0.00050	0.062	< 0.00020	0.46	1.01	0.029	< 0.0020
MW-11 up-gradient	11/5/2015	5.2	140	240	0.13	6.51	190	1100	< 0.003	0.77	0.039	^< 0.001	< 0.005	< 0.001	< 0.001	0.01	0.055	< 0.0002	< 0.0050	0.656	< 0.0025	< 0.002	
	3/2/2016	4.0	170	240	0.1	7.16	210	1200	< 0.003	0.55	0.048	< 0.001	< 0.0005	0.0058	< 0.001	0.011	0.049	< 0.0002	< 0.0050	1.09	< 0.0025	< 0.002	
	5/5/2016	5.0	140	280	0.11	7.17	160	1000	< 0.003	0.51	0.038	< 0.001	< 0.0005	< 0.005	< 0.001	0.057	0.057	< 0.0002	< 0.005	1.24	< 0.0025	< 0.002	
	8/26/2016	3.5	180	240	0.13	6.97	110	1100	< 0.003	1.1	0.05	< 0.001	< 0.0005	0.0055	< 0.001	0.0005	0.055	< 0.0002	< 0.005	1.04	< 0.0025	< 0.002	
	12/7/2016	3.0	170	270	0.12	7.06	110	1200	< 0.003	0.87	0.049	< 0.001	< 0.0005	< 0.005	< 0.001	0.038	< 0.0002	< 0.005	1.87	< 0.0025	< 0.002		
	2/24/2017	2.4	180	220	4.9	6.61	170	1200	< 0.003	0.58	0.047	< 0.001	< 0.0005	< 0.005	< 0.001	0.039	< 0.0002	< 0.005	0.982	< 0.0025	< 0.002		
	5/18/2017	1.8	160	170	0.12	7.42	120	1000	< 0.003	0.5	0.047	^< 0.001	< 0.0005	< 0.0056	< 0.001	< 0.0005	0.036	< 0.0002	< 0.005	1.31	< 0.0025	< 0.002	
	7/6/2017	2.4	160	190	0.14	7.33	130	1100	< 0.003	0.69	0.056	< 0.001	< 0.0005	0.0057	< 0.001	< 0.0005	0.041	< 0.0002	< 0.005	0.889	< 0.0025	< 0.002	
	9/13/2017	1.9	140	150	0.26	7.16	96	870	< 0.003	0.86	0.036	< 0.001	< 0.0005	0.008	< 0.001	0.037	< 0.0002	0.0054	0.718	< 0.0025	< 0.002		
	11/30/2017	2.2	170	200	0.14	6.99	93	1100	< 0.003	0.59	0.05	< ^ 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.041	< 0.0002	< 0.005	1.21	< 0.0025	< 0.002	
	5/31/2018	1.5	210	160	0.1	6.74	130	1100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/6/2018	2.3	170	150	0.12	7.21	71	990	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/15/2019	3.2	120	260	0.13	7.14	31	1000	< 0.003	0.3	0.048	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.038	< 0.0002	< 0.005	1.5	< 0.0025	< 0.002	
	11/19/2019	4.1	130	200	0.15	7.51	29	860	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/22/2020	3.2	110	150	0.15	7.16	47	740	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/19/2020	2.3	140	130	0.2	7.00	28	800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/6/2021	2.4	130	120	0.15	7.13	45	770	< 0.003	0.44	0.044	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.038	< 0.0002	< 0.005	1.7	< 0.0025	< 0.002	
	8/19/2021	1.3	140	88	0.16	6.95	45	730	< 0.003	1.1	0.055	< 0.001	< 0.0005	0.0057	< ^+ 0.001	< 0.0005	0.033	< 0.0002	< 0.005	1.89	< 0.0025	< ^+ 0.002	
	11/4/2021	1.6	130	100	0.16	6.80	45	740	< 0.003	0.9	0.052	< ^+ 0.001	< 0.0005	< 0.005	< 0.001	0.037	< 0.0002	0.0058	1.35	< ^+ 0.0025	< 0.002		
	2/10/2022	1.2	150	87	0.17	7.12	44	860	< 0.003	0.68	0.051	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.032	< 0.0002	< 0.005	0.839	< 0.0025	< 0.002	
	5/24/2022	1.8	150	95	0.14	6.78	21	820	< 0.003	0.18	0.041	< ^+ 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.037	< 0.0002	< 0.005	1.21	< 0.0025	< 0.002	
	8/23/2022	1.4	140	97	0.18	7.01	30	780	< 0.003	0.43	0.053	< ^+ 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.031	< 0.0002	< 0.005	1.05	< 0.0025	< 0.002	
	11/8/2022	1.4	150	100	0.21	6.87	26	790	< 0.003	0.55	0.064	< ^+ ^+ 0.001	< 0.0005	< 0.005	< 0.001	0.032	0.034	< 0.0002	< 0.005	2.02	< 0.0025		

Table 2. Groundwater Turbidity - Midwest Generation, LLC, Waukegan Station, Waukegan, IL.

Well	Date	Turbidity (NTU)
MW-09	3/3/2021	4.70
	3/30/2021	10.15
	5/6/2021	3.44
	5/27/2021	12.41
	6/18/2021	27.7
	7/8/2021	28.77
	8/19/2021	77.36
	9/29/2021	18.41
	11/4/2021	12.66
	2/10/2022	34.39
	5/24/2022	170.87
	8/23/2022	34.9
	11/7/2022	195.02
2/14/2023	20.46	
MW-11	3/2/2021	2.20
	3/30/2021	6.08
	5/6/2021	2.34
	5/27/2021	2.69
	6/18/2021	13.7
	7/8/2021	4.71
	8/19/2021	139.34
	9/29/2021	402.9
	11/4/2021	152.7
	2/10/2022	13.8
	5/24/2022	2.18
	8/23/2022	3.17
	11/8/2022	7771.57*
2/14/2023	5.12	
MW-14	3/2/2021	2035
	3/30/2021	151.5
	5/6/2021	901.4
	5/27/2021	2385.61
	6/18/2021	69.25
	7/8/2021	73.18
	8/19/2021	77.04
	9/29/2021	8.42
	11/4/2021	7.42
	2/10/2022	81.72
	5/24/2022	43.52
	8/23/2022	24.76
	11/8/2022	311.78
	2/14/2023	660.17

Table 2. Groundwater Turbidity - Midwest Generation, LLC, Waukegan Station, Waukegan, IL.

Well	Date	Turbidity (NTU)
MW-01	3/1/2021	0.59
	3/30/2021	5.72
	5/5/2021	1.42
	5/27/2021	2.02
	6/18/2021	2.33
	7/8/2021	3.60
	8/18/2021	2.33
	9/29/2021	3.03
	11/3/2021	3.05
	2/8/2022	4.60
	5/23/2022	2.92
	8/22/2022	1.31
	11/7/2022	41.21
	2/13/2023	2.90
MW-02	3/1/2021	0.69
	3/30/2021	5.66
	5/5/2021	1.65
	5/27/2021	2.95
	6/18/2021	2.71
	7/8/2021	4.20
	8/18/2021	9.03
	9/29/2021	3.42
	11/3/2021	4.05
	2/8/2022	13.4
	5/23/2022	30.54
	8/22/2022	25.43
	11/7/2022	23.82
	2/13/2023	5.25
MW-03	3/1/2021	0.75
	3/30/2021	5.73
	5/5/2021	1.71
	5/27/2021	2.02
	6/18/2021	2.56
	7/8/2021	3.74
	8/18/2021	2.60
	9/29/2021	2.82
	11/3/2021	3.26
	2/8/2022	8.27
	5/23/2022	4.11
	8/22/2022	1.91
	11/7/2022	2.27
	2/13/2023	2.86

Table 2. Groundwater Turbidity - Midwest Generation, LLC, Waukegan Station, Waukegan, IL.

Well	Date	Turbidity (NTU)
MW-04	3/1/2021	1.30
	3/30/2021	6.21
	5/5/2021	1.77
	5/27/2021	2.73
	6/18/2021	3.69
	7/8/2021	5.36
	8/18/2021	40.61
	9/29/2021	3.48
	11/3/2021	4.26
	2/8/2022	13.32
	5/23/2022	28.94
	8/22/2022	2.57
	11/7/2022	41.15
	2/13/2023	3.76
MW-16	3/1/2021	0.77
	3/30/2021	6.07
	5/6/2021	1.63
	5/27/2021	2.00
	6/18/2021	2.59
	7/8/2021	3.58
	8/18/2021	3.22
	9/29/2021	6.05
	11/4/2021	4.00
	2/8/2022	21.6
	5/23/2022	11.75
	8/22/2022	3.54
	11/7/2022	42.55
	2/13/2023	32.31

* - MW-11 November 2022 turbidity is a field recording error.

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

Attn: Richard Gnat
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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.

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Authorization



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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
- 4
- 5
- 6
- 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

Lab Sample ID: 500-229428-6

Date Collected: 02/13/23 00:00

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 19:27	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

Lab Sample ID: 500-229428-7

Date Collected: 02/14/23 11:26

Matrix: Water

Date Received: 02/15/23 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		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	
	Result			Result	Qualifier				Limits	RPD	Limit	
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	RPD	
	Result		Result	Qualifier				Limit	
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	

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: 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	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

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: 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

Eurofins Chicago

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

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

Lab Sample ID: MB 500-698858/1
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
INVT: REF: DEPT:

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

5
12 00

A
8330
02 14



500-229428 Waybi

Part # 156297-435
RRDB2 EXP 07/23

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: REF: DEPT:

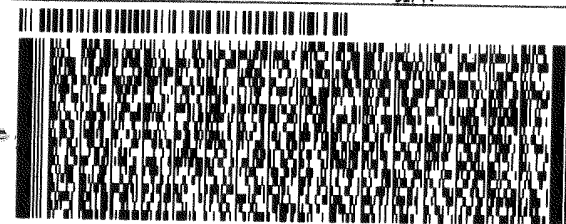
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BILL THIRD PARTY

Part # 156297-435 RRDB2 EXP 07/23



FedEx
Express



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



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 # 1562928839-20820121-65XP 07/23

TO EUROFINS CHICAGO
EUROFINS CHICAGO
2417 BOND ST



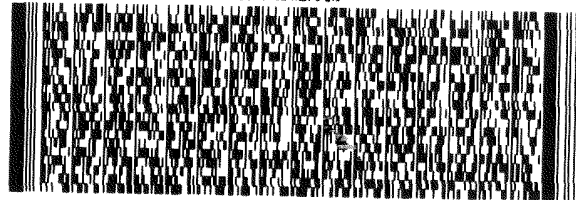
500-229428 Waybr

UNIVERSITY PARK IL 60484

(708) 634-6200
INV:
PD:

REF:

DEPT:



FedEx
Express



AN101108201527

3 of 3

MPS# 3946 2614 0380
0263

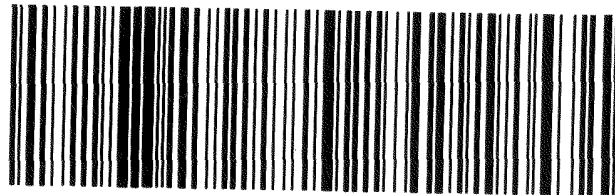
Mstr# 3946 2614 0369

0201

WED - 15 FEB 10:30A
PRIORITY OVERNIGHT

79 JOTA

60484
IL-US ORD



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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Authorized for release by
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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	
Ba Carrier	%Yield	Qualifier	30 - 110				02/22/23 09:54		03/17/23 14:41	
	97.7								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							
Ba Carrier	%Yield	Qualifier	30 - 110							
	95.4									

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	
Ba Carrier	%Yield	Qualifier	30 - 110				02/22/23 10:31		03/01/23 11:55	
	97.7								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							
Ba Carrier	%Yield	Qualifier	30 - 110							
	95.4									
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

eurofins

Client Information		Sampler <i>Kaelyn Sperle</i>		Lab PM Mockler Diana J		Carrier Tracking No's		COI No 500-109810-44027 1		
Client Contact Mitche Dolan		Phone <i>262-278-1621</i>		E-Mail Diana.Mockler@eurofinsus.com		State of 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 500-229428 COC		
Email mitcheld@kprgnc.com		Project Name Waukegan CCR Event Desc: Quarterly Waukegan CCR		Site Illinois		Analysis Requested		Job # <i>500-229428</i>		
Date Requested <i>Standard</i>		T Requested (days) <i>Standard</i>		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Field Filtered Sample (Yes or No)		Preservation Codes		
WO # 502102435		Project # 50011597		SSOW#		Perform MS/MSD (Yes or 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 Ascorbic Acid T TSP Dodecahyd rate I ce L Acetone U MCAA J DI Water W pH 4-5 K EDTA Y Trizma L EDA Z Other (specify)		
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	903.0 904.0	6010C 6020A, 7470A	2540C 4500_F_C, SMA500_CI_E, SMA500_SO4_E	Total Number of Containers	Special Instructions/Note
						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
					Water					
					Water					
					Water					
					Water					
<i>789</i>		MW-09	2/14/23 1126	G	Water	N	N	X	X	X
		MW 11	2/14/23 1350	↓	Water	↓	↓	↓	↓	↓
		MW 14	2/14/23 1015	↓	Water	↓	↓	↓	↓	↓
					Water					
					Water					
					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 Requisitioned by		Date		Time		Method of Shipment				
Requisitioned by <i>Kaelyn Sperle</i>		Date/Time <i>2/14/23/1600</i>		Company KPRG		Received by <i>FedEx</i>		Date/Time <i>2/14/23/1600</i>		Company FedEx
Requisitioned by		Date/Time		Company		Received by <i>John Smith</i>		Date/Time <i>2/15/23 1010</i>		Company <i>BBTA</i>
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No		Cooler Temperatures and Other Remarks		<i>1.9-7.17</i>				

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:
PO:

REF:

DEPT:

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

5
12 00

A
8330
02 14



500-229428 Waybi

Part # 156297-435
R0DB2 EXP 07/23
G23/208R/1185

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:
PO:

REF:

DEPT:

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

BILL THIRD PARTY

Part # 156297-435 R0DB2 EXP 07/23
G23/208R/1185



FedEx
Express



AN1011108201327

4 of 4
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0263

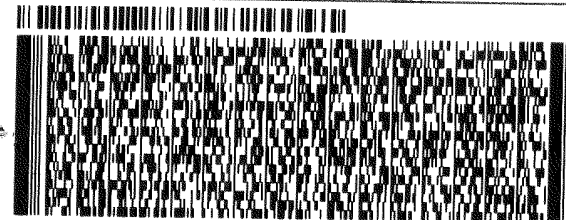
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79 JOTA

0201

TUE - 14 FEB 10:30A
PRIORITY OVERNIGHT

AHS
60484
IL-US ORD



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 # 1562978889-2082012165XP 07/23

TO EUROFINS CHICAGO
EUROFINS CHICAGO
2417 BOND ST



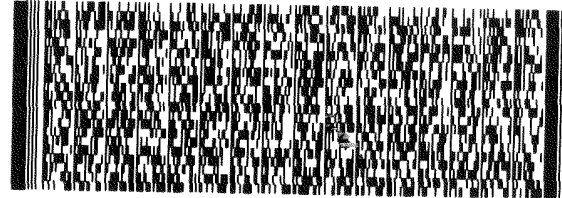
500-229428 Waybr

UNIVERSITY PARK IL 60484

(708) 634-6200
INV:
PD:

REF:

DEPT:



FedEx
Express



AN101108201527

3 of 3

MPS# 3946 2614 0380
0263

Mstr# 3946 2614 0369

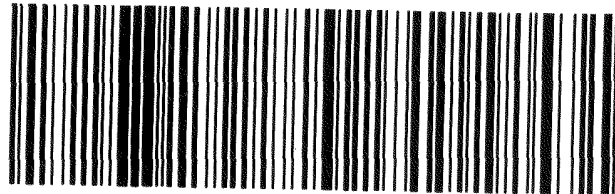
0201

79 JOTA

WED - 15 FEB 10:30A
PRIORITY OVERNIGHT

60484

IL-US ORD



Chain of Custody Record



Client Information (Sub Contract Lab)
 Client Contact: **Mockler, Diana J**
 Shipping/Receiving: **Diana.Mockler@et.eurofins.com**
 Company: **TestAmerica Laboratories, Inc.**
 Address: **13715 Rider Trail North, Earth City, MO, 63045**
 Phone: **314-298-8566(Tel) 314-298-8757(Fax)**
 Email:
 Project Name: **Waukegan CCR**
 Site: **NRG Midwest Generation Waukegan**

Sampler: **Mockler, Diana J**
Phone:
Lab PM: **Diana.Mockler@et.eurofins.com**
E-Mail:
Accreditations Required (See note): **NELAP - Illinois**

Carrier Tracking No(s): **500-170938.1**
State of Origin: **Illinois**
Page: **Page 1 of 1**
Job #: **500-229428-2**

Due Date Requested: **3/6/2023**
TAT Requested (days):
PO #:
WO #:
Project #: **50011597**
SSOW#:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Swallow, Sewage, Oil, Bacteria, 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		R226R228_GFPc	Total Number of Containers	Special Instructions/Note:
					Yes	No	Yes	No	Yes	No	Yes	No			
MW-09 (500-229428-7)	2/14/23	11:26 Central		Water	X		X	X	X	X			3	Batch QC must be performed (dup. spikes, etc) - no NCMs concerning limited volume.	
MW-11 (500-229428-8)	2/14/23	13:50 Central		Water	X		X	X	X	X			3	Batch QC must be performed (dup. spikes, etc) - no NCMs concerning limited volume.	
MW-14 (500-229428-9)	2/14/23	10:15 Central		Water	X		X	X	X	X			3	Batch QC must be performed (dup. spikes, etc) - no NCMs concerning limited volume.	

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)

Other:

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:

Primary Deliverable Rank: 2

Empty Kit Relinquished by: **Shirley Smith** **FEDEX**
 Date/Time: **2/15/23 14:15**
 Company: **FEDEX**

Relinquished by: **Diana Mockler**
 Date/Time: **2/16/23 10:40**
 Company: **STATL**

Relinquished by:
 Date/Time:
 Company:

Custody Seals Intact: **Yes** **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: University Park, IL 60484		Phone:	Mockler, Diana J	State of Origin:	500-170886-1
Shipping/Receiving Company: TestAmerica Laboratories, Inc.		E-Mail: Diana.Mockler@et.eurofins.com		Page:	Page 1 of 1
Address: 13715 Rider Trail North, Earth City, MO, 63045		Accreditations Required (See note): NELAP - Illinois		Job #:	500-229428-1
Phone: 314-298-8566 (Tel) 314-298-8757 (Fax)		Due Date Requested:	Preservation Codes:		
Email:		TAT Requested (days):	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)		
Project Name: Waukegan CCR		PO #:	Other:		
Site: NRG Midwest Generation Waukegan		WO #:			
Project #: 50011597		Project #:			
SSOW#:		SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=solid, O=swab, 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	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	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	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	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	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	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
 Return To Client
 Disposal By Lab
 Archive For _____ Months

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

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

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

Custody Seals Intact: Yes 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 </= 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: 500-229428-2

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/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

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/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

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/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

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/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
- 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: 500-229428-2

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)
500-229428-1	MW-01	86.0
500-229428-2	MW-02	97.7
500-229428-3	MW-03	97.1
500-229428-4	MW-04	90.9
500-229428-5	MW-16	88.6
500-229428-6	Duplicate	90.3
500-229428-7	MW-09	90.0
500-229428-8	MW-11	98.9
500-229428-9	MW-14	91.7
LCS 160-601179/2-A	Lab Control Sample	95.4
MB 160-601179/1-A	Method Blank	97.7

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)
500-229428-1	MW-01	86.0	90.1
500-229428-2	MW-02	97.7	85.6
500-229428-3	MW-03	97.1	86.0
500-229428-4	MW-04	90.9	89.0
500-229428-5	MW-16	88.6	82.6
500-229428-6	Duplicate	90.3	88.2
500-229428-7	MW-09	90.0	87.5
500-229428-8	MW-11	98.9	87.5
500-229428-9	MW-14	91.7	86.7
LCS 160-601181/2-A	Lab Control Sample	95.4	86.0
MB 160-601181/1-A	Method Blank	97.7	87.1

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

PROJECT NAME	NRG - WAUKEGAN STATION -- #12313.2		DATE	2/13/23
Sample Name	MW-01	Start Time	1042	
Condition of Well	good			
Water Level	21.76	Total Depth	-	
Well Diameter	PVC - 2 inch	Volume in Well	-	
Method of Purge	Low-Flow Bladder Pump	Purge Characteristics	clear	
Volume Removed	4.5 gts	WL at Sample Time	21.76	
Method of Sample	Low-Flow Bladder Pump	Sample Characteristics	clear	
Sample Analysis	CCR & permit	Sample Time	1054	
Water Quality Meter	YSI ProDss			

Time	Depth to Water (ft)	ph (SU)	Temp (°C)	Spec. Cond (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
1044	21.76	7.89	13.6	.698	4.37	102.4	4.82
1047	-	8.28	13.5	.669	2.50	96.7	3.07
1050	-	8.42	13.7	.664	1.96	93.2	3.04
1053	21.76	8.58	13.6	.659	1.63	89.9	2.90

SAMPLING NOTES:

Sampler Name and Company:

KPRG and Associates

KLS

PROJECT NAME	NRG - WAUKEGAN STATION -- #12313.2		DATE	2/13/23
Sample Name	MW-02	Start Time	1137	
Condition of Well	good			
Water Level	21.69	Total Depth	-	
Well Diameter	PVC - 2 inch	Volume in Well	-	
Method of Purge	Low-Flow Bladder Pump	Purge Characteristics	clear	
Volume Removed	4 gts	WL at Sample Time	21.70	
Method of Sample	Low-Flow Bladder Pump	Sample Characteristics	clear	
Sample Analysis	CCR & permit	Sample Time	1149	
Water Quality Meter	YSI ProDss			

Time	Depth to Water (ft)	ph (SU)	Temp (°C)	Spec. Cond (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
1139	21.69	7.66	11.6	.900	8.42	112.8	6.11
1142	-	7.79	13.1	.666	3.18	103.6	25.80
1145	-	7.96	13.0	.675	1.91	100.0	8.50
1148	21.70	7.90	13.1	.705	1.46	99.3	5.25

SAMPLING NOTES:

Sampler Name and Company:

KPRG and Associates

KLS

PROJECT NAME	NRG - WAUKEGAN STATION -- #12313.2		DATE	2/13/23
Sample Name	MW-03	Start Time	1233	
Condition of Well	good			
Water Level	22.00	Total Depth	-	
Well Diameter	PVC - 2 inch	Volume in Well	-	
Method of Purge	Low-Flow Bladder Pump	Purge Characteristics	clear	
Volume Removed	3.5 gts	WL at Sample Time	22.00	
Method of Sample	Low-Flow Bladder Pump	Sample Characteristics	clear	
Sample Analysis	CCR & permit	Sample Time	1245	
Water Quality Meter	YSI ProDss			

Time	Depth to Water (ft)	ph (SU)	Temp (°C)	Spec. Cond (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
1235	22.00	7.40	12.7	.723	8.41	109.4	6.29
1238	-	7.12	14.0	.779	3.95	115.5	6.20
1241	-	7.13	14.1	.780	2.38	114.2	3.40
1244	22.00	7.13	14.0	.776	1.84	111.8	2.86

SAMPLING NOTES:

Sampler Name and Company:

KPRG and Associates

KLS

PROJECT NAME	NRG - WAUKEGAN STATION -- #12313.2		DATE	2/13/23
Sample Name	MW-04	Start Time	1346	
Condition of Well	good			
Water Level	21.76	Total Depth	-	
Well Diameter	PVC - 2 inch	Volume in Well	-	
Method of Purge	Low-Flow Bladder Pump	Purge Characteristics	clear	
Volume Removed	4 gts	WL at Sample Time	21.76	
Method of Sample	Low-Flow Bladder Pump	Sample Characteristics	clear	
Sample Analysis	CCR & permit	Sample Time	1357	
Water Quality Meter	YSI ProDss			

Time	Depth to Water (ft)	ph (SU)	Temp (°C)	Spec. Cond (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
1347	21.76	7.27	11.8	.713	7.05	117.1	20.14
1350	-	7.39	11.9	.720	3.23	111.5	13.60
1353	-	7.54	11.9	.722	1.95	105.3	4.08
1356	21.76	7.58	11.9	.732	1.50	100.0	3.76

SAMPLING NOTES:

CCR duplicate

Sampler Name and Company:

KPRG and Associates

KLS

PROJECT NAME	NRG - WAUKEGAN STATION -- #12313.2		DATE	2/13/23
Sample Name	MW-116	Start Time	1455	
Condition of Well	good			
Water Level	27.67	Total Depth	-	
Well Diameter	PVC - 2 inch	Volume in Well	-	
Method of Purge	Low-Flow Bladder Pump	Purge Characteristics	Clear	
Volume Removed	2 gts	WL at Sample Time	27.67	
Method of Sample	Low-Flow Bladder Pump	Sample Characteristics	Clear w/ slight orange tint	
Sample Analysis	CCR	Sample Time	1508	
Water Quality Meter	YSI ProDss			

Time	Depth to Water (ft)	ph (SU)	Temp (°C)	Spec. Cond (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
1458	27.67	7.62	12.6	.980	8.98	112.8	7.74
1501	-	7.15	13.1	.967	4.04	113.1	44.40
1504	-	7.22	13.1	.966	2.24	108.7	46.62
1507	27.67	7.28	13.0	.964	1.68	106.2	32.31

SAMPLING NOTES:

Sampler Name and Company:

KPRG and Associates

KL5

PROJECT NAME	NRG - WAUKEGAN STATION -- #12313.2		DATE	2/14/23
Sample Name	MW-14	Start Time	0958	
Condition of Well	good			
Water Level	5.21	Total Depth	-	
Well Diameter	PVC - 2 inch	Volume in Well	-	
Method of Purge	Low-Flow Bladder Pump	Purge Characteristics	Cloudy, orange, w/ visible orange particles	
Volume Removed	2.5 gts	WL at Sample Time		
Method of Sample	Low-Flow Bladder Pump	Sample Characteristics	Cloudy, orange	
Sample Analysis	CCR & permit (ELUC)	Sample Time	1015 -	
Water Quality Meter	YSI ProDss			

Time	Depth to Water (ft)	ph (SU)	Temp (°C)	Spec. Cond (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
1002	5.21	6.29	7.8	.781	6.64	131.3	960.51
1005	-	6.53	7.7	.778	4.62	138.9	1382.65
1008	-	6.63	7.6	.784	4.17	139.5	1125.22
1011	-	6.76	7.5	.793	3.77	139.6	1215.17
1014	-	6.83	7.3	.800	3.45	138.1	468.44
1017	5.24	6.87	7.3	.806	3.23	137.0	660.17

SAMPLING NOTES:

Sampler Name and Company:

KPRG and Associates

KLS

PROJECT NAME	NRG - WAUKEGAN STATION -- #12313.2		DATE	2/14/23
Sample Name	MW-09	Start Time	1113	
Condition of Well	good			
Water Level	10.06	Total Depth	-	
Well Diameter	PVC - 2 inch	Volume in Well	-	
Method of Purge	Low-Flow Bladder Pump	Purge Characteristics	sl. cloudy, gray	
Volume Removed	2 qts	WL at Sample Time	10.21	
Method of Sample	Low-Flow Bladder Pump	Sample Characteristics	clear	
Sample Analysis	CCR & permit	Sample Time	1126	
Water Quality Meter	YSI ProDss			

Time	Depth to Water (ft)	ph (SU)	Temp (°C)	Spec. Cond (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
1116	10.06	6.70	10.9	1.686	7.40	145.4	122.43
1119	-	6.89	11.0	1.768	4.85	145.3	83.62
1122	-	6.95	10.8	1.787	4.07	142.4	31.80
1125	10.21	6.97	10.7	1.793	3.71	140.8	20.46

SAMPLING NOTES:

Sampler Name and Company:

KPRG and Associates

KLS

PROJECT NAME	NRG - WAUKEGAN STATION -- #12313.2		DATE	2/14/23
Sample Name	MW-11	Start Time	1338	
Condition of Well	good			
Water Level	6.25	Total Depth	-	
Well Diameter	PVC - 2 inch	Volume in Well	-	
Method of Purge	Low-Flow Bladder Pump	Purge Characteristics	clear	
Volume Removed	2 gts	WL at Sample Time	6.26	
Method of Sample	Low-Flow Bladder Pump	Sample Characteristics	clear	
Sample Analysis	permit (ELUC) & CCR	Sample Time	1350	
Water Quality Meter	YSI ProDss			

Time	Depth to Water (ft)	ph (SU)	Temp (°C)	Spec. Cond (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
1340	6.25	7.00	10.8	1.349	9.11	131.9	25.32
1343	-	6.910	10.5	1.414	3.28	118.8	7.45
1346	-	6.91	10.5	1.414	2.21	95.5	5.22
1349	-	6.92	10.4	1.420	1.68	66.7	4.81
1352	6.26	6.92	10.5	1.418	1.39	46.6	5.12

SAMPLING NOTES:

permit duplicate

Sampler Name and Company:

KPRG and Associates

KLS