2020 NC1 Landfill Annual Groundwater Report

Nebraska City Station NC1 Ash Disposal Area

Nebraska City, Nebraska

January 29, 2021

Professional Engineer Certification

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am duly licensed Professional Engineer under the laws of the Sate of Nebraska.

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Signature: Megan B. Seymour

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My license renewal date is December 31, 2022.

Table of Contents

List of Figures

List of Tables

List of Appendices

Executive Summary

Omaha Public Power District (OPPD) owns and operates a two-unit fossil fuel-fired generating station (NC1 and NC2), located 5.5 miles southeast of Nebraska City, Nebraska, along the west shore of the Missouri River. This generating station (Station or Site) has two (2) existing coal combustion residual (CCR) landfills for fossil fuel combustion ash disposal: the NC1 Ash Disposal Area and the NC2 Ash Disposal Area. On April 17, 2015, the United States Environmental Protection Agency (EPA) published the final rule for the regulation and management of coal combustion residuals (CCR) under Subtitle D of the Resource Conservation and Recovery Act. The rule is formally promulgated in the U.S. Code of Federal Regulations (CFR), Title 40, Part 257. The purpose of this report is to provide a summary of CCR groundwater monitoring system activities for calendar year 2020 for the assessment monitoring program under 40 CFR §257.95.

The NC1 Ash Disposal Area transitioned from detection monitoring to assessment monitoring following the fall 2017 sampling event due to statistically significant increases (SSIs) above the background threshold values (BTVs) in downgradient monitoring wells. The alternate source demonstration (ASD), dated May 1, 2018, confirmed the SSIs above BTVs, and an assessment monitoring program was initiated in June 2018, as required by 40 CFR §257.95.

The October 2018 statistical analysis indicated one statistically significant level (SSL) for arsenic in monitoring well NC1MW-3. Another ASD was conducted in April 2019 to evaluate variation in groundwater quality (HDR, 2019b). The ASD indicated that natural variation of groundwater quality is present. Arsenic in upgradient monitoring well MW-14 is present at higher concentrations than both the EPA's maximum contaminant level and Nebraska Department of Environment and Energy (NDEE) groundwater protection standards (GWPS) established under Title 118 – Groundwater Quality Standards and Use Classification. As a result of the variability and detected arsenic concentrations in the background monitoring well, the previously published SSL for arsenic at NC1MW-3 was not considered an SSL, and the NC1 Ash Disposal Area remained in assessment monitoring. The monitoring network was sampled and analyzed semi-annually in 2019 as part of the assessment monitoring program and did not indicate an SSL; therefore, assessment monitoring continued in 2020.

Assessment monitoring samples were collected in April and October 2020 to assess whether there were SSIs or SSLs. This report covers the results of the 2020 sampling events. For the April 2020 sampling event, results of the analysis indicated 10 SSIs for Appendix III constituents and two SSIs for Appendix IV constituents.

- Boron in NC1MW-3
- Boron in NC1MW-4
- Boron in NC1MW-9
- Calcium in NC1MW-3
- Calcium in NC1MW-9
- Sulfate in NC1MW-3
- Sulfate in NC1MW-4
- Sulfate in NC1MW-9
- TDS in NC1MW-3
- TDS in NC1MW-9
- Molybdenum in NC1MW-2
- Molybdenum in NC1MW-9

For the October 2020 sampling event, results of the analysis indicated 12 SSIs for Appendix III constituents and three SSIs for Appendix IV constituents.

- Boron in NC1MW-3
- Boron in NC1MW-4
- Boron in NC1MW-9
- Calcium in NC1MW-3
- Calcium in NC1MW-4
- Calcium in NC1MW-9
- Sulfate in NC1MW-3
- Sulfate in NC1MW-4
- Sulfate in NC1MW-9
- TDS in NC1MW-3
- TDS in NC1MW-4
- TDS in NC1MW-9
- Molybdenum in NC1MW-2
- Molybdenum in NC1MW-9
- Selenium in NC1MW-9

Analysis of the Appendix IV constituents indicated there were no SSLs detected above the GWPS for either the April 2020 or October 2020 sampling events. OPPD will continue to monitor groundwater in accordance with the assessment monitoring program as specified in 40 CFR §257.96(b), and the next semi-annual sampling event is anticipated to occur in April 2021.

1 Introduction

On April 17, 2015, the United States Environmental Protection Agency (EPA) published the final rule for the regulation and management of coal combustion residuals (CCR) under Subtitle D of the Resource Conservation and Recovery Act. The CCR rule is formally promulgated in the United States Code of Federal Regulations (CFR), Title 40, Part 257 (EPA, 2015). The CCR rule – effective on October 19, 2015 – applies to electric utilities and independent power producers that fall within North American Industry Codes System code 221112, and facilities that produce or store CCR materials in surface impoundments or landfills. The CCR rule defines a set of requirements for the disposal and handling of CCR within units (defined as either landfills or surface impoundments). This regulation applies to the Omaha Public Power District (OPPD), Nebraska City Generating Station (Station or Site).

1.1 Purpose

Specified in 40 CFR §257.90(e), an owner or operator of an existing CCR landfill must prepare an annual groundwater monitoring and corrective action report to summarize key actions completed, problems encountered, and upcoming activities related to the groundwater monitoring system. The information included in this report complies with the requirements established in 40 CFR §257.90(e) and provides a summary of CCR groundwater monitoring system activities for calendar year 2020.

1.2 Facility Information

OPPD owns and operates a two-unit fossil fuel-fired generating station (NC1 and NC2), located 5.5 miles southeast of Nebraska City, Nebraska, along the west shore of the Missouri River. This Station has two (2) existing CCR landfills: the NC1 Ash Disposal Area and the NC2 Ash Disposal Area. The CCR landfills are permitted under the current Nebraska Department of Environment and Energy (NDEE) Title 132 and CCR regulations for fossil fuel combustion ash disposal. This annual report covers the NC1 Ash Disposal Area (NDEE Permit No. NE0054712, Facility ID 58343).

The NC1 Ash Disposal Area is an unlined CCR landfill of approximately 52 acres that was originally constructed as 16 acres in 1979. In 1982, the Station received a state permit to expand the disposal area from the original 16 acres to the current 52 acres. The NC1 Ash Disposal Area has in-situ soils underneath the compacted fly ash and bottom ash. Phase 1 closure was completed in 2015. Final closure for the landfill was completed in November 2020. **Figure 1** (attached) identifies the relevant CCR unit for this report and the supporting monitoring well network.

2 Monitoring Program Summary

The groundwater monitoring system currently consists of four upgradient/background monitoring wells (NC2MW-4, MW-11, MW-13, MW-14), three downgradient monitoring wells (NC1MW-2, NC1MW-4, NC1MW-9), and one cross-gradient monitoring well (NC1MW-3). Monitoring well details for the monitoring network, including the date of installation, is provided in **Table 1**

(attached). The locations of the monitoring wells in the groundwater monitoring program with respect to the CCR unit, NC1 Ash Disposal Area, are shown in the attached **Figure 1**.

2.1 Transition of Monitoring Programs

On January 31, 2018, OPPD published statistically significant increases (SSIs) above the calculated background threshold values (BTVs) for Appendix III constituents in downgradient monitoring wells at the NC1 Ash Disposal Area. An alternate source demonstration (ASD) evaluation was conducted for the published SSIs (dated May 1, 2018). The ASD confirmed the SSIs for the NC1 CCR unit. As a result, OPPD initiated an assessment monitoring program for the NC1 Ash Disposal Area in June 2018, as required in 40 CFR §257.95 and NDEE Title 132, Chapter 7. A statistical evaluation for statistically significant levels (SSLs) over the groundwater protection standards (GWPS) was conducted for the October 2018 assessment monitoring data. The October 2018 statistical analysis indicated one SSL for arsenic in monitoring well NC1MW-3.

An additional upgradient monitoring well (MW-14) was installed in July 2018. Due to the SSL detected in October 2018, another ASD was conducted in April 2019 to evaluate whether the SSL published in the 2018 Annual Groundwater Report and 2018 Fall NDEE Title 132 Report resulted from natural variation in groundwater. The statistical re-evaluation of the monitoring data indicated that natural variation of groundwater quality is present (HDR, 2019b). The ASD showed that arsenic in upgradient monitoring well MW-14 is present at higher concentrations than both the EPA's maximum contaminant level and NDEE Title 118 GWPS. As a result of the variability and detected arsenic concentrations in the background monitoring well, the previously published SSL for arsenic at NC1MW-3 was not considered an SSL, and the NC1 Ash Disposal Area remained in assessment monitoring. The monitoring network was sampled and analyzed semi-annually in 2019 as part of the assessment monitoring program. Results of the semi-annual sampling events (April and October 2019) did not indicate an SSL; therefore, assessment monitoring continued in 2020.

2.2 Groundwater Monitoring Network Condition Assessment

OPPD personnel evaluated the condition of each monitoring well in the groundwater monitoring network during the semi-annual sampling events in April 2020 and October 2020. During this time period, no repairs were required. The wells were noted in good working condition, concrete pads were intact, and no damage was observed to the protective well casings. No monitoring wells were added to or abandoned from the certified groundwater monitoring system in 2020.

3 Data Evaluation and Summary

3.1 Summary of Sampling Activities

Groundwater sampling events were conducted by OPPD personnel in April 2020 and October 2020 as continuation of the assessment monitoring program. Samples were collected in general compliance with 40 CFR §257.90(c), which requires groundwater monitoring be conducted throughout the active life and post-closure care period of the CCR unit for each well in the

monitoring network. The number of samples collected for the background and downgradient wells during each groundwater sample event, whether the sample was collected during detection or assessment monitoring programs, and the date of each event is summarized in **Table 2**.

Groundwater sampling was conducted by OPPD personnel in general accordance with the facility's NDEE Title 132 Groundwater Sampling and Analysis Plan (OPPD, 2016) and the Groundwater Monitoring System Certification (HDR, 2019a). Samples were collected from the certified network wells and were analyzed for Appendix III and Appendix IV constituents during both the April and October 2020 sampling events. Field sampling forms from the 2020 sampling events are provided in **Appendix A**. The collected groundwater samples were analyzed by Eurofins TestAmerica in Cedar Falls, Iowa. The laboratory analytical reports are provided in **Appendix B**.

3.2 Groundwater Elevations & Flow Direction

Static groundwater level measurements were recorded at the monitoring wells specified in **Table 1** prior to purging and sampling activities conducted during the groundwater sampling events. Groundwater measurements of both monitoring network wells and groundwater elevation only wells, as defined in the CCR Groundwater Monitoring System *(*HDR, 2019a) were used to develop groundwater contours. Monitoring well static groundwater elevations are provided in **Table 3**. Groundwater measurements collected during the April 2020 sampling event indicated a flow direction to the south/southeast and an average flow velocity of 0.00636 ft/day to 0.063 ft/day. Groundwater measurement collected during the October 2020 sampling event indicated a flow direction to the south/southeast and an average flow velocity of 0.00553 ft/day to 0.0312 ft/day. The April 2020 and October 2020 flow velocities are based on a range of hydraulic conductivity at the Site of 6.96 ft/day to 39.4 ft/day, respectively (HDR, 2019a).

3.3 Assessment Monitoring Groundwater Sampling

The NC1 Ash Disposal Area was monitored semi-annually in 2020 as continuation of the assessment monitoring program in accordance with 40 CFR §257.95(b). Appendix III and Appendix IV constituents were analyzed for both the April 2020 and October 2020 sampling events, meeting the requirements of 40 CFR §257.95. The results of the assessment monitoring events in April 2020 and October 2020 are presented in **Table 4** (Appendix III constituents) and **Table 5** (Appendix IV constituents).

3.4 Statistical Analysis Results

In the assessment monitoring program, Appendix III and IV constituents are statistically analyzed to evaluate for SSIs above the calculated BTVs, and Appendix IV constituents are statistically analyzed to evaluate for SSLs above the GWPS. Statistical analysis was performed with Sanitas™ statistical analysis software in accordance with the methods described in the Groundwater Monitoring Statistical Certification (HDR, 2018). Statistically derived BTVs for Appendix III and IV constituents for detection monitoring are provided in **Table 6**. The BTVs were established with data from March 2016 through April 2019. BTVs are updated every two

years or during a monitoring program transition, in accordance with Chapter 21 of the Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance (EPA, 2009). The established GWPS for all Appendix IV constituents are provided in **Table 7**. Results of the statistical analysis of designated in-network downgradient monitoring wells from the April and October 2020 sampling events are provided in **Appendix C**.

Results of the analysis for the April 2020 sampling event indicated 10 constituent/well pairs as SSIs for Appendix III constituents and two constituent-well pairs as SSIs for Appendix IV constituents.

- Boron in NC1MW-3
- Boron in NC1MW-4
- Boron in NC1MW-9
- Calcium in NC1MW-3
- Calcium in NC1MW-9
- Sulfate in NC1MW-3
- Sulfate in NC1MW-4
- Sulfate in NC1MW-9
- TDS in NC1MW-3
- TDS in NC1MW-9
- Molybdenum in NC1MW-2
- Molybdenum in NC1MW-9

The analysis for the October 2020 sampling event indicated 12 constituent/well pairs as SSIs for Appendix III constituents and three constituent/well pairs as SSIs for Appendix IV constituents.

- Boron in NC1MW-3
- Boron in NC1MW-4
- Boron in NC1MW-9
- Calcium in NC1MW-3
- Calcium in NC1MW-4
- Calcium in NC1MW-9
- Sulfate in NC1MW-3
- Sulfate in NC1MW-4
- Sulfate in NC1MW-9
- TDS in NC1MW-3
- TDS in NC1MW-4
- TDS in NC1MW-9
- Molybdenum in NC1MW-2
- Molybdenum in NC1MW-9
- Selenium in NC1MW-9

Analysis of the Appendix IV constituents indicated there were no SSLs detected above the GWPS during either the April 2020 or October 2020 sampling events.

3.5 Other Information Required under 40 CFR §257.90-98

No other information is required under 40 CFR §257.90-98 at this time.

4 Key Activities for Upcoming Year

OPPD will continue to monitor the NC1 Ash Disposal Area in accordance with the assessment monitoring program, as specified in 40 CFR §257.95(b). The next semi-annual assessment monitoring sampling event is anticipated to occur in April 2021.

5 References

EPA, 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities: Unified Guidance*. Environmental Protection Agency Office of Resource Conservation and Recovery. EPA 530/R-09-007. March 2009.

EPA, 2015. 40 CFR Part 257; *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities*; Final Rule, Federal Register vol. 80, no. 74. Environmental Protection Agency. April 17, 2015.

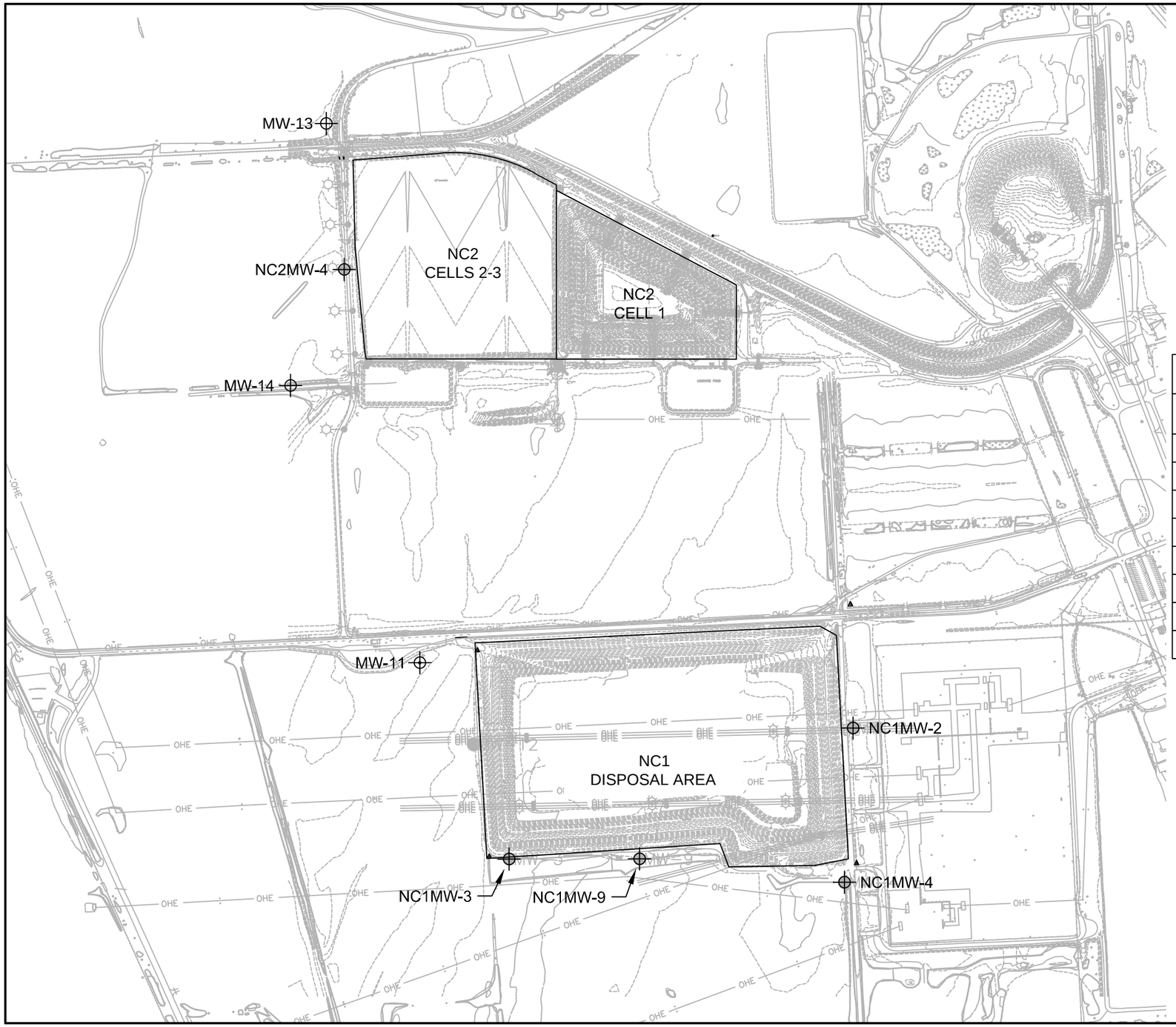
HDR, 2016. *Groundwater Sampling and Analysis Plan*. NC1 Ash Disposal Area. Nebraska City, Nebraska. Revised February 2016.

HDR, 2018. *Groundwater Monitoring Statistical Certification.* NC1 Ash Disposal Area. Nebraska City, Nebraska. Revised July 2018.

HDR, 2019a. *Groundwater Monitoring System Certification.* NC1 Ash Disposal Area. Nebraska City, Nebraska. Revised June 2019.

HDR, 2019b. *Alternate Source Demonstration Evaluation for SSLs Memo.* NC1 Ash Disposal Area. Nebraska City, Nebraska. April 2019.

Figures



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600 0 600 1200

SCALE IN FEET

MONITORING WELL NETWORK

WELL ID	NORTHING	EASTING	ELEVATION (TOC)	WELL DEPTH	LOCATION WITH RESPECT TO NC1 ASH DISPOSAL AREA
MW-11	315305.14	2808934.31	918.44	20.00	BACKGROUND / UPGRADIENT
MW-13	318186.64	2808434.68	918.05	13.00	BACKGROUND / UPGRADIENT
MW-14	316786.47	2808244.03	920.99	18.00	BACKGROUND / UPGRADIENT
NC1MW-2	314956.72	2811249.03	919.42	17.80	DOWNGRADIENT
NC1MW-3	314256.45	2809411.68	919.85	19.50	DOWNGRADIENT / CROSS GRADIENT
NC1MW-4	314132.49	2811203.55	919.63	20.30	DOWNGRADIENT
NC1MW-9	314257.38	208108.93	920.09	20.00	DOWNGRADIENT
NC2MW-4	317405.90	2808530.80	919.62	14.00	BACKGROUND / UPGRADIENT

NOTES:

1. TOC = TOP OF CASING
2. TOP OF CASING ELEVATION DETERMINED BY SURVEY DATA OBTAINED JUNE 2019.
3. BGS = BELOW GROUND SURFACE.
4. NORTHING AND EASTING COORDINATES ARE NEBRASKA STATE PLANE WHICH HAVE BEEN TRANSLATED BY THE SURVEYOR.

Omaha Public Power District

OPPD NEBRASKA CITY ASH LANDFILL
NEBRASKA CITY UNIT 1 - NC1
MONITORING WELL LOCATION MAP

2020 GROUNDWATER MONITORING

DATE
JANUARY 2021

FIGURE
01

Tables

Table 1 - Groundwater Monitoring System
Omaha Public Power District - NC1 Ash Disposal Area

Monitoring Well ID	Date Installed	Well Depth (feet bgs)	Location w/ respect to NC1 Ash Disposal Area	Ground Surface Elevation (feet AMSL)	Top of Well Casing Elevation (feet AMSL)
CCR Monitoring Network Wells					
NC2MW-4	9/8/2004	14.0	Background/Upgradient	917.07	919.62
MW-11	1/16/2004	20.0	Background/Upgradient	911.90	918.44
MW-13	1/26/2016	13.0	Background/Upgradient	915.97	918.05
MW-14	7/12/2018	18.0	Background/Upgradient	917.99	920.99
NC1MW-2	3/14/1995	17.8	Downgradient	917.23	919.42
NC1MW-3	3/13/1995	19.5	Downgradient/Cross-gradient	917.10	919.85
NC1MW-4	3/13/1995	20.3	Downgradient	916.79	919.63
NC1MW-9	1/21/1999	20.0	Downgradient	917.52	920.09
Water Level Only Wells					
NC1MW-5	3/17/1995	16.6	Downgradient/Cross-gradient	917.61	920.70
NC1MW-6	3/13/1995	16.5	Downgradient	914.01	916.67
NC1MW-7	1/20/1999	40.5	Upgradient/Cross-gradient	917.12	919.20
NC1MW-8	1/21/1999	20.0	Upgradient/Cross-gradient	917.19	919.68
NC2MW-2	9/8/2004	17	Upgradient	919.80	922.55
NC2MW-3	9/8/2004	16	Upgradient	913.30	916.22
NC2MW-5	9/16/2004	16	Upgradient	919.34	922.76
NC2MW-5A	9/16/2019	17.2	Upgradient	919.13	922.05
NC2MW-6	9/7/2004	14	Upgradient	916.30	919.72
NC2MW-7	11/6/2013	24	Upgradient	915.11	918.37
NC2MW-8	7/9/2018	15	Upgradient	915.20	918.18
NC2MW-9	9/17/2019	18.0	Upgradient	917.49	920.35
MW-12	3/26/2004	18.1	Cross-gradient	917.91	920.36

Notes:
bgs - below ground surface
AMSL - above mean sea level

Table 2 - Groundwater Sampling Event Summary
Omaha Public Power District - NC1 Ash Disposal Area

Monitoring Well ID	# of Background Samples	Background Sample Dates	# of Detection Monitoring Samples	Detection Monitoring Sample Dates[1]	# of Assessment Monitoring Samples	Assessment Monitoring Sample Dates[2] [3] [5] [6]
Current Background Monitoring Wells						
NC2MW-4 [7]	8	3/9/2016, 6/7/2016, 10/3/2016, 11/18/2016, 2/14/2017, 4/25/2017, 6/20/2017, 7/13/2017	2	11/8/2017, 3/13/2018	8	6/6/2018, 10/4/2018, 4/8/2019, 10/15/2019, 1/30/2020, 4/20/2020, 4/27/2020, 10/5/2020
MW-11	8	3/9/2016, 6/7/2016, 10/3/2016, 11/18/2016, 2/14/2017, 4/25/2017, 6/20/2017, 7/13/2017	2	11/8/2017, 3/13/2018	6	6/6/2018, 10/4/2018, 4/8/2019, 10/16/2019, 4/20/2020, 10/6/2020
MW-13[3], [7]	8	3/9/2016, 6/7/2016, 10/3/2016, 11/18/2016, 2/14/2017, 4/25/2017, 6/20/2017, 7/13/2017	2	11/8/2017, 3/13/2018	6	6/6/2018, 10/4/2018, 1/30/2020, 4/20/2020, 4/27/2020, 10/5/2020
MW-14[4]	8	1/15/2019, 3/5/2019, 10/4/2018, 4/8/2019, 10/16/2019, 1/30/2020, 4/20/2020, 10/5/2020	0	N/A	0	N/A
Downgradient Monitoring Wells						
NC1MW-2	8	3/9/2016, 6/7/2016, 10/3/2016, 11/18/2016, 2/14/2017, 4/25/2017, 6/20/2017, 7/13/2017	2	11/8/2017, 3/13/2018	6	6/6/2018, 10/4/2018, 4/8/2019, 10/18/2019, 4/20/2020, 10/6/2020
NC1MW-3	8	3/9/2016, 6/7/2016, 10/3/2016, 11/18/2016, 2/14/2017, 4/25/2017, 6/20/2017, 7/13/2017	2	11/8/2017, 3/13/2018	6	6/6/2018, 10/4/2018, 4/9/2019, 10/18/2019, 4/21/2020, 10/6/2020
NC1MW-4	8	3/9/2016, 6/7/2016, 10/3/2016, 11/18/2016, 2/14/2017, 4/25/2017, 6/20/2017, 7/13/2017	2	11/8/2017, 3/13/2018	6	6/6/2018, 10/4/2018, 4/9/2019, 10/18/2019, 4/21/2020, 10/6/2020
NC1MW-9	8	3/9/2016, 6/7/2016, 10/3/2016, 11/18/2016, 2/14/2017, 4/25/2017, 6/20/2017, 7/13/2017	2	11/8/2017, 3/13/2018	6	6/6/2018, 10/4/2018, 4/10/2019, 10/18/2019, 4/21/2020, 10/6/2020

Notes:

[1] The March 13, 2018 Detection Monitoring event was completed as an Alternate Source Demonstration (ASD) due to detected SSIs in November 2017.

[2] The June 6, 2018 sampling event was completed for initiation of the Assessment Monitoring Program.

[3] MW-13 submerged under water during April and October 2019 sampling events.

[4] Monitoring well MW-14 was installed in July 2018.

[5] The January 30, 2020 Assessment Monitoring event was completed as a verification sampling event due to detected SSIs in October 2019.

[6] The April 27, 2020 sampling was conducted for the NC2 Monitoring Network, but data has been included into the NC1 database.

[7] Background wells have been sampled on more dates during the same sampling event than are listed for the initial background and detection monitoring sample dates. This is due to two background wells (NC2MW-4 and MW-13) being sampled for both NC1 and NC2 Ash Disposal Areas. Sampling dates for the NC1 Ash Disposal Area have not been included in the sampling event summary, but are included within the dataset used for statistical analysis.

Table 3 - Groundwater Elevations
Omaha Public Power District - NC1 Ash Disposal Area

	CCR Monitoring Network Wells															
	NC2MW-4		MW-11		MW-13		MW-14		NC1MW-2		NC1MW-3		NC1MW-4		NC1MW-9	
	TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation	
	919.62		918.44		918.05		920.99		919.42		919.85		919.63		920.09	
Date	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)
3/9/2016	6.95	912.67	6.90	911.54	4.61	913.44	*MW-14 installed 7/12/2018*		8.90	910.52	8.95	910.90	9.50	910.13	9.30	910.79
6/7/2016	6.06	913.56	5.85	912.59	3.95	914.10			7.04	912.38	7.75	912.10	7.41	NM	7.88	912.21
10/3/2016	6.25	913.37	6.34	912.10	4.03	914.02			8.45	910.97	8.35	911.50	9.10	NM	8.76	911.33
11/18/2016	6.79	912.83	7.37	911.07	4.43	913.62			9.30	910.12	9.36	910.49	10.10	909.53	7.75	912.34
2/14/2017	7.52	912.10	7.95	910.49	5.20	912.85			10.10	909.32	9.91	909.94	10.85	908.78	10.41	909.68
4/25/2017	6.20	913.42	6.24	912.20	4.02	914.03			8.10	911.32	8.25	911.60	8.84	910.79	8.65	911.44
6/20/2017	6.75	912.87	7.85	910.59	4.72	913.33			7.60	911.82	7.95	911.90	8.20	911.43	8.15	911.94
7/13/2017	7.10	912.52	6.25	912.19	5.00	913.05			8.40	911.02	8.75	911.10	9.10	910.53	9.10	910.99
11/8/2017	12.20	907.42	10.95	907.49	8.25	909.80			11.55	907.87	11.90	907.95	11.60	908.03	12.10	907.99
3/13/2018	10.18	909.44	9.85	908.59	8.10	909.95			11.50	907.92	11.85	908.00	12.16	907.47	12.22	907.87
6/6/2018	6.80	912.82	6.80	911.64	4.56	913.49			5.30	914.12	7.15	912.70	7.10	912.53	8.90	911.19
10/4/2018	4.14	915.48	4.45	913.99	1.63	916.42	7.35	913.64	5.78	913.64	6.60	913.25	6.66	912.97	6.87	913.22
1/15/2019	NM	NM	NM	NM	NM	NM	8.15	912.84	NM	NM	NM	NM	NM	NM	NM	NM
3/5/2019	NM	NM	NM	NM	NM	NM	8.75	912.24	NM	NM	NM	NM	NM	NM	NM	NM
4/8/2019 [1]	3.53	916.09	3.04	915.40	NM	NM	5.73	915.26	4.17	915.25	4.69	915.16	4.58	915.05	4.85	915.24
10/14/2019 [2]	3.47	916.15	2.90	915.54	NM	NM	5.75	915.24	3.64	915.78	4.56	915.29	4.33	915.30	4.65	915.44
4/20/2020	5.24	914.38	5.48	912.96	2.94	915.11	7.59	913.40	6.82	912.60	7.42	912.43	7.60	912.03	7.69	912.40
10/2/2020	9.65	909.97	9.37	909.07	7.76	910.29	11.47	909.52	10.52	908.90	11.13	908.72	11.17	908.46	11.35	908.74

Notes:

TOC: Top of PVC well casing

NM = not measured

AMSL = above mean sea level

[1] MW-13, NC2-MW-3, and NC2-MW-8 submerged under water during April 2019 sampling event and were not measured.

[2] MW-13 submerged under water during October 2019 sampling event and was not measured.

Table 3 - Groundwater Elevations

Omaha Public Power District - NC1 Ash Disposal Area

	Water Level Only Wells																			
	NC1MW-5		NC1MW-6		NC1MW-7		NC1MW-8		NC2MW-2		NC2MW-3		NC2MW-5		NC2MW-6		NC2MW-7		NC2MW-8	
	TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation	
	920.70		914.01		919.20		919.68		922.55		916.22		922.76		919.72		918.37		918.18	
Date	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft)	GW Elevation (AMSL)	Measured Depth to Water (ft)	GW Elevation (AMSL)	Measured Depth to Water (ft)	GW Elevation (AMSL)	Measured Depth to Water (ft)	GW Elevation (AMSL)	Measured Depth to Water (ft)	GW Elevation (AMSL)	Measured Depth to Water (ft)	GW Elevation (AMSL)
3/9/2016	10.82	909.88	7.55	906.46	8.25	910.95	8.60	911.08	10.80	911.75	4.05	912.17	6.98	915.78	7.95	911.77	7.04	911.33		
6/7/2016	9.67	911.03	6.31	907.70	6.43	912.77	6.80	912.88	8.96	913.59	2.55	913.67	7.67	915.09	6.02	913.70	4.80	913.57		
10/3/2016	12.99	907.71	6.86	907.15	7.94	911.26	8.53	911.15	8.91	913.64	2.31	913.91	5.30	917.46	5.95	913.77	5.40	912.97		
11/18/2016	11.25	909.45	8.20	905.81	8.72	910.48	9.10	910.58	10.90	911.65	4.10	912.12	9.25	913.51	8.10	911.62	7.20	911.17		
2/14/2017	11.70	909.00	8.80	905.21	9.60	909.60	10.00	909.68	11.70	910.85	4.95	911.27	10.20	912.56	9.00	910.72	8.15	910.22		
4/25/2017	10.30	910.40	7.02	906.99	7.41	911.79	7.75	911.93	9.85	912.70	3.21	913.01	8.48	914.28	7.00	912.72	5.96	912.41	*Well Installed 7/9/2018*	
6/20/2017	10.72	909.98	7.42	906.59	7.85	911.35	8.04	911.64	10.30	912.25	3.42	912.80	9.82	912.94	7.35	912.37	6.35	912.02		
7/13/2017	10.50	910.20	8.10	905.91	8.32	910.88	8.89	910.79	10.76	911.79	4.25	911.97	10.15	912.61	7.90	911.82	6.80	911.57		
11/8/2017	10.90	909.80	8.70	905.31	9.05	910.15	9.18	910.50	15.10	907.45	12.10	904.12	14.20	908.56	11.20	908.52	10.50	907.87		
3/13/2018	NM	NM	NM	NM	NM	NM	NM	NM	13.90	908.65	7.15	909.07	12.95	909.81	10.88	908.84	10.00	908.37		
6/6/2018	NM	NM	NM	NM	NM	NM	NM	NM	10.35	912.20	3.70	912.52	9.70	913.06	7.25	912.47	6.35	912.02		
10/4/2018	8.85	911.85	5.41	908.60	4.48	914.72	5.14	914.54	7.39	915.16	0.80	915.42	4.95	917.81	4.30	915.42	3.20	915.17	3.15	915.03
1/15/2019	10.06	910.64	6.56	907.45	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	6.67	911.51
3/5/2019	NM	NM	8.08	905.93	NM	NM	NM	NM	6.70	915.85	NM	NM	4.56	918.20	4.18	915.54	2.74	915.63	NM	NM
4/8/2019 [1]	NM	NM	NM	NM	3.68	915.52	3.98	915.70	6.34	916.21	0.21	916.01	4.48	918.28	3.75	915.97	2.27	916.10	2.38	915.80
10/14/2019 [2]	NM	NM	NM	NM	3.01	916.19	3.33	916.35	9.09	913.46	2.56	913.66	5.81	916.95	6.11	913.61	5.37	913.00	4.75	913.43
4/20/2020	9.70	911.00	6.16	907.85	6.05	913.15	6.36	913.32	8.83	913.72	2.36	913.86	6.37	916.39	5.97	913.75	4.99	913.38	4.59	913.59
10/2/2020	12.90	907.80	9.11	904.90	10.06	909.14	10.36	909.32	12.92	909.63	10.34	905.88	12.63	910.13	9.90	909.82	8.81	909.56	8.68	909.50

Notes:

TOC: Top of PVC well casing

NM = not measured

AMSL = above mean sea level

[1] MW-13, NC2-MW-3, and NC2-MW-8 submerged under water during April 2019 sampling event and were not measured.

[2] MW-13 submerged under water during October 2019 sampling event and was not measured.

Table 3 - Groundwater Elevations

Omaha Public Power District - NC1 Ash Disposal Area

	Water Level Only Wells					
	NC2MW-5A		NC2MW-9		MW-12	
	TOC Elevation		TOC Elevation		TOC Elevation	
	922.05		920.35		920.36	
Date	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)
3/9/2016					9.00	911.36
6/7/2016					7.80	912.56
10/3/2016					8.40	911.96
11/18/2016					9.35	911.01
2/14/2017					9.95	910.41
4/25/2017					8.20	912.16
6/20/2017					8.40	911.96
7/13/2017	*Well Installed 9/16/2019*		*Well Installed 9/17/2019*		8.52	911.84
11/8/2017					12.55	907.81
3/13/2018					NM	NM
6/6/2018					NM	NM
10/4/2018					6.55	913.81
1/15/2019					NM	NM
3/5/2019					NM	NM
4/8/2019 [1]					4.89	915.47
10/14/2019 [2]	4.38	917.67	4.19	916.16	4.77	915.59
4/20/2020	7.49	914.56	6.76	913.59	7.41	912.95
10/2/2020	11.88	910.17	10.81	909.54	11.29	909.07

Notes:

TOC: Top of PVC well casing

NM = not measured

AMSL = above mean sea level

[1] MW-13, NC2-MW-3, and NC2-MW-8 submerged under water during April 2019 sampling event and were not measured.

[2] MW-13 submerged under water during October 2019 sampling event and was not measured.

Table 4 - Appendix III (Detection Monitoring) Constituents in Groundwater
Omaha Public Power District - NC1 Ash Disposal Area

		Appendix III (Detection Monitoring) Constituents						
	Constituent	Boron	Calcium	Chloride	Fluoride*	pH	Sulfate	TDS
	Reporting Unit	mg/L	mg/L	mg/L	mg/L	S.U.	mg/L	mg/L
NC2MW-4	3/9/2016	<0.2	131	<5	<0.5	6.94	46.2	546
	3/14/2016	<0.2	126	6.27	0.213	6.84	48.3	536
	6/3/2016	<0.2	130	<5	<0.5	6.9	46.8	668
	6/7/2016	<0.2	129	<5	<0.5	6.95	45.6	660
	8/31/2016	<0.2	91.1	7.13	0.646	7.20	29.7	574
	10/3/2016	<0.2	127	<5	<0.5	7.33	32	542
	11/17/2016	<0.2	130	<5	1.28	7.19	34	548
	11/18/2016	<0.2	132	<5	1.1	7.30	33.6	574
	2/14/2017	<0.2	148	<5	<0.5	7.72	39.3	544
	2/15/2017	<0.2	142	10.8	2.43	7.63	39.7	526
	4/24/2017	<0.2	126	<5	1.08	7.08	38.6	574
	4/25/2017	<0.2	122	<5	<0.5	7.28	38.3	594
	6/15/2017	<0.2	122	<5	<0.5	7.09	32.2	552
	6/20/2017	<0.2	119	<5	<0.5	7.13	33.1	558
	7/12/2017	<0.2	104	<5	<0.5	7.88	32.7	580
	7/13/2017	<0.2	112	<5	<0.5	7.98	32.7	664
	11/8/2017	<0.2	133	<5	<0.5	7.15	43.5	556
	11/9/2017	<0.2	134	<5	<0.5	7.18	42.8	568
	3/13/2018	<0.2	138	<5	0.53	6.71 / 7.28 **	42.6	478
	6/6/2018	<0.2	128	<5	<0.5	7.15	43.9	542
	10/4/2018	<0.2	117	<5	<0.5	6.81	42.4	520
	4/8/2019	<0.2	137	<5	<0.5	6.71	40.9	560
	10/15/2019	<0.2	142	5.38	<0.5	6.57	35.0	528
	1/30/2020	0.115J	142	<5	<0.5	6.54	44.5	544
	4/20/2020	<0.1	127	5.05	0.421J	6.61	51.9	526
	4/27/2020	<0.073	134	5.37	0.315J	6.88	52.6	550
	10/5/2020	0.0996J	154	5.60	<0.23	6.81	46.1	608
MW-11	3/9/2016	0.811	99.6	<5	<0.5	7.07	128	468
	6/7/2016	0.704	93.4	5.16	<0.5	7.16	27.1	536
	10/3/2016	1.35	107	<5	<0.5	7.36	122	528
	11/18/2016	1.38	115	<5	0.95	7.32	119	512
	2/14/2017	1.25	118	8.57	2.09	7.18	113	532
	4/25/2017	1.02	102	6.17	1.44	7.26	94.7	508
	6/20/2017	0.843	76.1	<5	0.562	7.19	80.4	400
	7/13/2017	1.01	69.9	<5	0.538	7.62	74.2	520
	11/8/2017	1.05	87.2	<5	0.62	6.95	120	492
	3/13/2018	0.63	77.1	<5	<0.5	7.00 / 7.69 **	109	302
	6/6/2018	0.737	86.5	5.09	<0.5	7.16	145	428
	10/4/2018	1.14	96.5	5.60	0.568	6.93	148	486
	4/8/2019	0.698	91.3	14.3	<0.5	7.41	126	470
	10/16/2019	1.53	132	15.3	0.558	6.64	164	608
	4/20/2020	1.04	116	14.3	0.430J	6.78	170	556
	10/6/2020	1.16	84.3	6.82	0.444J	6.82	127	410

Table 4 - Appendix III (Detection Monitoring) Constituents in Groundwater
Omaha Public Power District - NC1 Ash Disposal Area

		Appendix III (Detection Monitoring) Constituents						
Constituent		Boron	Calcium	Chloride	Fluoride*	pH	Sulfate	TDS
Reporting Unit		mg/L	mg/L	mg/L	mg/L	S.U.	mg/L	mg/L
MW-13	3/9/2016	<0.2	96.3	11.8	<0.5	7.20	44.8	408
	3/14/2016	<0.2	90.6	11.4	<0.5	6.97	47.7	438
	6/3/2016	<0.2	87.9	12	<0.5	7.11	37.6	360
	6/7/2016	<0.2	87.1	11.7	<0.5	7.14	39.3	484
	8/31/2016	<0.2	66.6	11.1	<0.5	7.71	31.3	414
	10/3/2016	<0.2	85.4	10.7	<0.5	7.37	29.7	388
	11/17/2016	<0.2	84.2	9.33	0.803	7.79	34.7	430
	11/18/2016	<0.2	86.2	9.65	0.647	7.14	34.4	410
	2/14/2017	<0.2	106	20.7	3.64	7.29	39.9	472
	2/15/2017	<0.2	94.9	11.2	<0.5	7.21	40.9	448
	4/24/2017	<0.2	94.1	12	0.789	7.27	39.5	520
	4/25/2017	<0.2	93.5	12.1	0.80	7.36	38.9	430
	6/15/2017	<0.2	91.1	12.4	<0.5	7.28	34.2	454
	6/20/2017	<0.2	88.6	12.7	0.51	7.17	35.6	456
	7/12/2017	<0.2	95.8	16.8	<0.5	8.1	42	676
	7/13/2017	<0.2	94.1	12.5	<0.5	8.09	39.8	592
	11/8/2017	<0.2	90.2	12.7	0.608	7.00	37.4	498
	11/9/2017	<0.2	95.2	12.4	0.55	7.12	36.4	488
	3/13/2018	<0.2	93.8	12.7	<0.5	6.89 / 7.51**	38.2	388
	6/6/2018	<0.2	99.4	12.6	<0.5	6.84	70.4	504
	10/4/2018	<0.2	87.3	14.1	0.738	6.88	33.6	410
	4/8/2019[1]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/15/2019[1]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/30/2020[2]	0.121J	93.7	17.2	<0.5	6.96	44.5	464
	4/20/2020	0.133J	120	17.3	0.399J	6.93	371	742
	4/27/2020	0.134	102	17.2	0.383J	6.87	271	622
	10/5/2020	0.0955J	118	12.8	<0.23	6.90	46.2	508
MW-14	10/4/2018	0.226	129	9.07	0.751	6.85	59.1	700
	1/15/2019	0.257	116	8.61	<0.5	6.53	51.9	730
	3/5/2019	0.231	155	9.76	<0.5	6.70	59.8	752
	4/8/2019	0.296	156	8.46	<0.5	6.81	43.2	840
	10/15/2019	0.272	155	6.99	<0.5	6.52	24.2	600
	1/30/2020[2]	0.235	128	7.05	0.298J	6.6	25.4	708
	4/20/2020	0.278	158	7.95	0.52	6.85	27.7	678
	10/5/2020	0.322	157	8.73	0.339J	6.65	19.9	702
NC1MW-2	3/9/2016	0.301	122	<5	0.664	6.84	90.2	456
	6/7/2016	0.205	94.4	<5	<0.5	6.99	60.1	404
	10/3/2016	0.327	103	<5	<0.5	7.29	39.8	370
	11/18/2016	0.333	121	<5	1.82	7.01	59.5	516
	2/14/2017	0.427	122	<5	<0.5	7.48	99.1	580
	4/25/2017	0.226	87	<5	1.4	7.40	59.8	536
	6/20/2017	<0.2	112	<5	<0.5	7.12	54.4	496

Table 4 - Appendix III (Detection Monitoring) Constituents in Groundwater
Omaha Public Power District - NC1 Ash Disposal Area

		Appendix III (Detection Monitoring) Constituents						
Constituent		Boron	Calcium	Chloride	Fluoride*	pH	Sulfate	TDS
Reporting Unit		mg/L	mg/L	mg/L	mg/L	S.U.	mg/L	mg/L
NC1MW-2	7/13/2017	0.225	110	<5	<0.5	7.48	44.5	524
	11/8/2017	<0.2	135	<5	0.55	7.02	121	592
	3/13/2018	<0.2	94	<5	0.57	6.85 / 7.53 **	61	362
	6/6/2018	0.27	88.8	<5	<0.5	7.06	48.3	344
	10/4/2018	<0.2	115	<5	<0.5	6.78	70.0	400
	4/8/2019	<0.2	111	<5	<0.5	6.68	66.3	418
	10/18/2019	0.305	112	<5	<0.5	6.84	52.0	332
	4/20/2020	<0.1	119	2.81J	0.614	6.78	54.4	424
	10/6/2020	0.141	77.7	4.61J	0.301J	6.81	57.4	272
NC1MW-3	3/9/2016	1.88	227	14.3	0.508	6.73	457	1150
	6/7/2016	2.56	213	18.4	<0.5	6.9	446	1180
	10/3/2016	1.63	147	10.5	<0.5	7.33	326	794
	11/18/2016	1.66	156	9	3.91	7.05	149	732
	2/14/2017	1.66	170	11	2.97	7.56	286	852
	4/25/2017	1.97	166	10.1	0.974	7.27	338	924
	6/20/2017	2.42	155	10.5	0.591	6.99	361	1070
	7/13/2017	2.55	169	7.81	0.603	7.85	334	1080
	11/8/2017	2.04	144	9.53	0.648	7.14	339	852
	3/13/2018	1.97	154	10.8	<0.5	6.85 / 7.42 **	362	846
	6/6/2018	2.6	155	12.5	<0.5	6.40	324	948
	10/4/2018	2.32	163	8.88	0.541	7.15	432	944
	4/9/2019	2.33	186	7.96	<0.5	7.32	427	1040
	10/18/2019	2.42	166	9.91	0.527	7.08	361	760
	4/21/2020	2.98	169	9.09	0.693	6.92	346	916
	10/6/2020	2.57	173	7.13	0.520	6.76	354	976
NC1MW-4	3/9/2016	1.83	227	10.5	<0.5	7.25	373	896
	6/7/2016	1.22	107	<5	<0.5	7.29	344	667
	10/3/2016	1.29	104	<5	<0.5	7.52	262	546
	11/18/2016	1.4	124	<5	0.876	7.25	310	712
	2/14/2017	1.59	139	<5	<0.5	7.48	295	760
	4/25/2017	1.39	102	5.19	<0.5	7.39	244	582
	6/20/2017	1.16	89.9	<5	<0.5	7.22	210	448
	7/13/2017	1.41	88.2	<5	<0.5	7.62	196	696
	11/8/2017	1.13	97.6	6.39	<0.5	7.05	234	480
	3/13/2018	1.21	111	6.04	<0.5	7.16 / 7.31 **	250	560
	6/6/2018	1.45	145	<5	<0.5	7.60	294	822
	10/4/2018	1.15	115	5.39	0.569	7.41	263	580
	4/9/2019	1.28	120	5.78	<0.5	7.65	231	586
	10/18/2019	1.34	151	5.64	0.501	7.33	238	572
	4/21/2020	1.53	145	5.68	0.507	7.11	229	658
	10/6/2020	1.77	172	6.65	0.535	6.86	272	778

Table 4 - Appendix III (Detection Monitoring) Constituents in Groundwater
Omaha Public Power District - NC1 Ash Disposal Area

		Appendix III (Detection Monitoring) Constituents						
Constituent		Boron	Calcium	Chloride	Fluoride*	pH	Sulfate	TDS
Reporting Unit		mg/L	mg/L	mg/L	mg/L	S.U.	mg/L	mg/L
NC1MW-9	3/9/2016	3.7	125	<5	0.547	7.08	284	808
	6/7/2016	2.44	126	<5	<0.5	6.90	133	660
	10/3/2016	3.57	149	<5	0.578	7.58	244	740
	11/18/2016	4.44	181	6.31	3.4	7.08	270	944
	2/14/2017	2.5	139	5.95	1.78	7.52	247	770
	4/25/2017	2.5	164	5.8	0.934	7.12	291	1100
	6/20/2017	1.39	174	5.69	<0.5	7.06	218	870
	7/13/2017	1.68	144	<5	0.68	7.58	159	792
	11/8/2017	2.65	167	5.77	0.735	7.16	344	846
	3/13/2018	2.6	132	5.74	<0.5	6.93 / 7.48 **	276	754
	6/6/2018	2.45	149.0	<5	0.732	5.80	221	708
	10/4/2018	1.28	148	8.56	0.777	7.27	158	678
	4/10/2019	2.59	164	5.34	<0.5	7.03	184	756
	10/18/2019	1.31	157	5.13	0.605	7.06	206	780
	4/21/2020	1.46	169	5.9	0.68	7.1	177	802
	10/6/2020	2.60	160	5.35	0.739	6.87	234	882

Notes:

[1] MW-13 was submerged under water during April and October 2019 sampling events, therfore N/A designates well was not sa

[2]MW-13 and MW-14 were sampled as part of the NC2 verification sampling event in January 2020.

< for the period of March 2016 through October 2019, the symbol indicates analyte not detected above the reporting limit, which is the value shown following the "<" symbol. Starting in January 2020, the symbol indicates analyte not detected above the method detection limit, which is the value shown following the "<" symbol.

* Fluoride is listed in both Appendix III and Appendix IV of the CCR Final Rule (40 CFR Part 257).

** The first pH value obtained in the field during the ASD sampling event on March 13, 2018 and was found to be an outlier due to equipment errors. The second pH value was a verification sample obtained in the field on March 19, 2018.

J - Denotes result is less than the Reporting Limit but greater than the Method Detection Limit, therefore the concentration is an approximate value.

Table 5 - Appendix IV (Assessment Monitoring) Constituents in Groundwater
Omaha Public Power District - NC1 Ash Disposal Area

		Appendix IV (Assessment Monitoring) Constituents														
	Constituent	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Combined Radium (Ra 226 + Ra 228)	Selenium	Thallium
	Reporting Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L
NC2MW-4	3/9/2016	<0.001	<0.002	0.281	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.00199	<0.05	<0.0002	0.00272	1.54	<0.005	<0.001
	3/14/2016	<0.001	<0.002	0.276	<0.001	<0.0005	<0.005	<0.0005	0.213	0.00065	<0.05	<0.0002	0.00239	0.563	<0.005	<0.001
	6/3/2016	<0.001	<0.002	0.288	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.000737	<0.05	<0.0002	0.00252	0.739	<0.005	<0.001
	6/7/2016	<0.001	<0.002	0.293	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.000951	<0.05	<0.0002	0.00283	1.21	<0.005	<0.001
	8/31/2016	<0.001	<0.002	0.296	<0.001	<0.0005	<0.005	<0.0005	0.646	0.00162	<0.05	<0.0002	0.00597	1.04	<0.005	<0.001
	10/3/2016	<0.001	<0.002	0.283	<0.001	<0.0005	<0.005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.00421	1.19	<0.005	<0.001
	11/17/2016	<0.001	<0.002	0.284	<0.001	<0.0005	<0.005	<0.0005	1.28	0.000536	<0.05	<0.0002	0.00393	1.03	<0.005	<0.001
	11/18/2016	<0.001	<0.002	0.283	<0.001	<0.0005	<0.005	<0.0005	1.1	0.00127	<0.05	<0.0002	0.00288	0.984	<0.005	<0.001
	2/14/2017	<0.001	<0.002	0.300	<0.001	<0.0005	<0.005	0.00129	<0.5	0.0032	<0.05	<0.0002	0.0028	0.894	<0.005	<0.001
	2/15/2017	<0.001	<0.002	0.272	<0.001	<0.0005	<0.005	0.000584	2.43	0.00196	<0.05	<0.0002	0.00224	0.647	<0.005	<0.001
	4/24/2017	<0.001	<0.002	0.287	<0.001	<0.0005	<0.005	<0.0005	1.08	0.000802	<0.05	<0.0002	0.00422	1.08	<0.005	<0.001
	4/25/2017	<0.001	<0.002	0.300	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.000714	<0.05	<0.0002	0.00323	1.23	<0.005	<0.001
	6/15/2017	<0.001	<0.002	0.249	<0.001	<0.0005	<0.005	0.000521	<0.5	0.00165	<0.05	<0.0002	0.00233	1.29	<0.005	<0.001
	6/20/2017	<0.001	<0.002	0.258	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.000754	<0.05	<0.0002	0.00551	1.16	0.00593	<0.001
	7/12/2017	<0.001	<0.002	0.232	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.000549	<0.05	<0.0002	0.00587	1.42	<0.005	<0.001
	7/13/2017	<0.001	<0.002	0.236	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.000787	<0.05	<0.0002	0.00326	0.76	<0.005	<0.001
	3/13/2018	<0.001	<0.002	0.297	<0.001	<0.0005	<0.005	<0.0005	0.53	0.00192	0.0318	<0.0002	<0.002	1.71	0.0112	<0.001
	6/6/2018	<0.001	<0.002	0.329	<0.001	<0.0005	<0.005	0.000502	<0.5	0.00154	0.0292	<0.0002	0.0049	1.9	0.008	<0.001
	10/4/2018	N.S.[1]	<0.002	0.321	N.S.[1]	N.S.[1]	N.S.[1]	<0.0005	<0.5	0.000565	0.0332	N.S.[1]	0.00707	1.13	<0.005	N.S.[1]
	4/8/2019	<0.001	<0.002	0.351	<0.001	<0.0005	<0.005	<0.0005	<0.5	<0.0005	0.0351	<0.0002	0.00283	0.980	<0.005	<0.001
	10/15/2019	<0.001	<0.002	0.39	<0.001	0.000138	<0.005	<0.0005	<0.5	<0.0005	0.0343	<0.0002	0.00412	1.22	<0.005	<0.001
	1/30/2020	<0.00058	0.00109J	0.34	<0.00027	0.0000720J	<0.0011	0.000531	<0.5	0.00167	0.0347	<0.0001	0.00177J	0.610	<0.001	<0.00026
	4/20/2020	0.000609J	<0.00088	0.303	<0.00027	<0.000039	<0.0011	0.000167J	0.421J	0.000624	0.0305	<0.0001	0.00191J	0.684	<0.001	<0.00026
	4/27/2020 [4]	<0.00058	<0.00088	0.335	<0.00027	0.0000470J	<0.0011	0.000121J	0.315J	0.000398J	0.0284	<0.0001	0.00192J	0.743	<0.001	<0.00026
	10/5/2020	<0.00051	0.00348	<0.00051	<0.00027	0.0000970J	0.00164J	0.00122	<0.23	0.00243	0.0349	<0.0001	0.00272	-0.927U	<0.001	<0.00026
MW-11	3/9/2016	<0.001	<0.002	0.215	<0.001	<0.0005	<0.005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.00361	0.714	<0.005	<0.001
	6/7/2016	<0.001	<0.002	0.212	<0.001	<0.0005	<0.005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.00477	0.589	<0.005	<0.001
	10/3/2016	<0.001	<0.002	0.233	<0.001	<0.0005	<0.005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0082	1.1	<0.005	<0.001
	11/18/2016	<0.001	<0.002	0.251	<0.001	<0.0005	<0.005	<0.0005	0.95	<0.0005	<0.05	<0.0002	0.00659	1.13	<0.005	<0.001
	2/14/2017	<0.001	<0.002	0.246	<0.001	<0.0005	<0.005	<0.0005	2.09	<0.0005	<0.05	<0.0002	0.00471	0.225	<0.005	<0.001
	4/25/2017	<0.001	<0.002	0.249	<0.001	<0.0005	<0.005	<0.0005	1.44	<0.0005	<0.05	<0.0002	0.005	0.358	<0.005	<0.001
	6/20/2017	0.00235	<0.002	0.156	<0.001	<0.0005	<0.005	0.000549	0.562	<0.0005	<0.05	<0.0002	0.00788	0.398	<0.005	<0.001
	7/13/2017	<0.001	<0.002	0.146	<0.001	<0.0005	<0.005	0.00085	0.538	<0.0005	<0.05	0.000262	0.00905	0.397	<0.005	<0.001
	3/13/2018	<0.001	0.00272	0.154	<0.001	<0.0005	<0.005	0.00104	<0.5	<0.0005	0.0143	<0.0002	0.00269	0.414	0.00503	<0.001
	6/6/2018	<0.001	<0.002	0.172	<0.001	<0.0005	<0.005	0.000779	<0.5	0.00118	0.0123	<0.0002	0.00996	0.494	0.0071	<0.001
	10/4/2018	N.S.[1]	<0.002	0.185	N.S.[1]	N.S.[1]	N.S.[1]	<0.0005	0.568	<0.0005	0.0197	N.S.[1]	0.00883	0.958	<0.005	N.S.[1]
	4/8/2019	<0.001	<0.002	0.162	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.000519	0.0162	<0.0002	0.00609	0.228	<0.005	<0.001
	10/16/2019	<0.001	0.00497	0.255	<0.001	<0.0001	<0.005	0.00305	0.558	<0.0005	0.0201	<0.0002	0.0120	0.684	<0.00500	<0.001
	4/20/2020	<0.00058	0.00201	0.184	<0.00027	<0.000039	<0.0011	0.000452J	0.430J	<0.00027	0.0168	<0.0001	0.00990	0.134U	<0.001	<0.00026
	10/6/2020	<0.00051	0.00983	0.159	<0.00027	<0.000049	<0.0011	0.00375	0.444J	0.000301J	0.0112	<0.0001	0.0164	0.326U	<0.001	<0.00026
MW-13	3/9/2016	<0.001	0.00492	0.302	<0.001	<0.0005	<0.005	0.000817	<0.5	<0.0005	<0.05	<0.0002	<0.002	1.14	<0.005	<0.001
	3/14/2016	<0.001	0.00545	0.288	<0.001	<0.0005	<0.005	0.00105	<0.5	<0.0005	<0.05	<0.0002	<0.002	0.741	<0.005	<0.001
	6/3/2016	<0.001	0.00607	0.324	<0.001	<0.0005	<0.005	0.00122	<0.5	0.000704	<0.05	<0.0002	0.00216	1.01	<0.005	<0.001
	6/7/2016	<0.001	0.00591	0.317	<0.001	<0.0005	<0.005	0.00118	<0.5	0.000623	<0.05	<0.0002	<0.002	0.69	<0.005	<0.001
	8/31/2016	<0.001	0.00623	0.342	<0.001	<0.0005	<0.005	0.00107	<0.5	<0.0005	<0.05	<0.0002	0.00258	1.09	<0.005	<0.001
	10/3/2016	<0.001	0.00709	0.319	<0.001	<0.0005	<0.005	0.00103	<0.5	<0.0005	<0.05	<0.0002	0.00264	1.01	<0.005	<0.001
	11/17/2016	<0.001	0.00515	0.322	<0.001	<0.0005	<0.005	0.000873	0.803	0.00089	<0.05	<0.0002	0.00221	1.37	<0.005	<0.001

Table 5 - Appendix IV (Assessment Monitoring) Constituents in Groundwater
Omaha Public Power District - NC1 Ash Disposal Area

		Appendix IV (Assessment Monitoring) Constituents														
	Constituent	**Antimony**	**Arsenic**	**Barium**	**Beryllium**	**Cadmium**	**Chromium**	**Cobalt**	**Fluoride***	**Lead**	**Lithium**	**Mercury**	**Molybdenum**	**Combined Radium (Ra 226 + Ra 228)**	**Selenium**	**Thallium**
	Reporting Unit	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**pCi/L**	**mg/L**	**mg/L**
MW-13	11/18/2016	<0.001	0.0058	0.333	<0.001	<0.0005	<0.005	0.000916	0.647	<0.0005	<0.05	<0.0002	0.00235	0.745	<0.005	<0.001
	2/14/2017	<0.001	0.00304	0.349	<0.001	<0.0005	<0.005	0.000925	3.64	<0.0005	<0.05	<0.0002	0.00228	0.532	<0.005	<0.001
	2/15/2017	<0.001	0.00289	0.321	<0.001	<0.0005	<0.005	0.000883	<0.5	<0.0005	<0.05	<0.0002	0.00207	0.407	<0.005	<0.001
	4/24/2017	<0.001	0.0024	0.336	<0.001	<0.0005	<0.005	0.00135	0.789	0.000516	<0.05	<0.0002	<0.002	0.579	<0.005	<0.001
	4/25/2017	<0.001	0.00269	0.358	<0.001	<0.0005	<0.005	0.00141	0.80	0.000522	<0.05	<0.0002	<0.002	0.429	<0.005	<0.001
	6/15/2017	<0.001	0.00371	0.318	<0.001	<0.0005	<0.005	0.00127	<0.5	<0.0005	<0.05	<0.0002	0.0021	0.8	<0.005	<0.001
	6/20/2017	<0.001	0.00268	0.311	<0.001	<0.0005	<0.005	0.00119	0.51	0.00171	<0.05	<0.0002	<0.002	0.483	<0.005	<0.001
	7/12/2017	<0.001	0.00263	0.328	<0.001	<0.0005	<0.005	0.00112	<0.5	<0.0005	<0.05	<0.0002	0.00207	1.56	<0.005	<0.001
	7/13/2017	<0.001	0.00325	0.33	<0.001	<0.0005	<0.005	0.00108	<0.5	<0.0005	<0.05	<0.0002	0.00206	0.502	<0.005	<0.001
	3/13/2018	<0.001	0.00283	0.305	<0.001	<0.0005	<0.005	0.00222	<0.5	0.00102	0.0265	<0.0002	<0.002	0.412	<0.005	<0.001
	6/6/2018	<0.001	0.00262	0.282	<0.001	<0.0005	<0.005	0.00236	<0.5	0.00577	0.0423	<0.0002	<0.002	1.89	0.00553	<0.001
	10/4/2018	N.S.[1]	0.00965	0.388	N.S.[1]	N.S.[1]	N.S.[1]	0.00191	0.738	0.00216	0.0316	N.S.[1]	0.00243	1.62	<0.005	N.S.[1]
	4/8/2019[2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/15/2019[2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/30/2020[3]	<0.00058	0.00824	0.230	<0.00027	<0.000039	<0.0011	0.00198	<0.5	0.000335J	0.0273	<0.0001	0.00187J	0.0337U	<0.001	<0.00026
	4/20/2020	<0.00058	0.00867	0.177	<0.00027	<0.000039	<0.0011	0.00193	0.399J	0.000311J	0.0374	<0.0001	0.00457	0.438	<0.001	<0.00026
	4/27/2020 [4]	<0.00058	0.0111	0.167	<0.00027	<0.000039	<0.0011	0.00208	0.383J	0.000297J	0.0348	<0.0001	0.00335	-0.0922	<0.001	<0.00026
	10/5/2020	<0.00051	0.0188	0.225	<0.00027	<0.000049	<0.0011	0.000384J	<0.23	0.000178J	0.0322	<0.0001	<0.0011	0.872	<0.001	<0.00026
MW-14	10/4/2018	<0.001	0.0330	0.306	<0.001	<0.0005	<0.005	0.00290	0.751	<0.0005	0.0480	<0.0002	0.00293	1.48	<0.005	<0.001
	1/15/2019	<0.001	0.0301	0.309	<0.001	<0.0005	<0.005	0.00424	<0.5	<0.0005	0.0507	<0.0002	<0.002	1.20	<0.005	<0.001
	3/5/2019	<0.001	0.0253	0.301	<0.001	<0.0005	<0.005	0.00477	<0.5	<0.0005	0.0569	<0.0002	0.00227	1.75	<0.005	<0.001
	4/8/2019	<0.001	0.0368	0.309	<0.001	<0.0005	<0.005	0.00391	<0.5	<0.0005	0.0557	<0.0002	<0.002	1.03	<0.005	<0.001
	10/16/2019	<0.001	0.0893	0.359	<0.001	<0.0001	<0.005	0.00265	<0.5	<0.0005	0.0528	<0.0002	<0.002	1.81	<0.005	<0.001
	1/30/2020[3]	<0.00058	0.0513	0.266	<0.00027	<0.000039	<0.0011	0.00209	0.298J	<0.00027	0.0453	<0.0001	<0.0011	0.976	<0.001	<0.00026
	4/20/2020	<0.00058	0.0621	0.306	<0.00027	<0.000039	<0.0011	0.00216	0.520	<0.00027	0.0555	<0.0001	<0.0011	1.03	<0.001	<0.00026
	10/5/2020	<0.00051	0.0863	0.335	<0.00027	<0.000049	<0.0011	0.00257	0.339J	<0.000110	0.0497	<0.0001	<0.0011	2.45	<0.001	<0.00026
NC1MW-2	3/9/2016	<0.001	<0.002	0.123	<0.001	<0.0005	<0.0005	<0.0005	0.664	<0.0005	<0.05	<0.0002	0.0444	0.495	<0.005	<0.001
	6/7/2016	<0.001	<0.002	0.0956	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0718	0.305	<0.005	<0.001
	10/3/2016	<0.001	<0.002	0.104	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.12	0.586	<0.005	<0.001
	11/18/2016	<0.001	<0.002	0.126	<0.001	<0.0005	<0.0005	<0.0005	1.82	<0.0005	<0.05	<0.0002	0.095	0.415	<0.005	<0.001
	2/14/2017	<0.001	<0.002	0.123	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0654	0.254	<0.005	<0.001
	4/25/2017	<0.001	<0.002	0.0889	<0.001	<0.0005	<0.0005	<0.0005	1.4	<0.0005	<0.05	<0.0002	0.0489	0.396	<0.005	<0.001
	6/20/2017	<0.001	<0.002	0.116	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.038	0.174	<0.005	<0.001
	7/13/2017	<0.001	<0.002	0.122	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0374	0.375	<0.005	<0.001
	3/13/2018	<0.001	<0.002	0.125	<0.001	<0.0005	<0.0005	<0.0005	0.57	<0.0005	<0.01	<0.0002	0.0446	0.656	<0.005	<0.001
	6/6/2018	<0.001	<0.002	0.122	<0.001	<0.0005	<0.0005	0.00143	<0.5	0.000713	<0.01	<0.0002	0.0711	0.615	<0.005	<0.001
	10/4/2018	N.S.[1]	<0.002	0.153	N.S.[1]	N.S.[1]	N.S.[1]	<0.0005	<0.5	0.000795	<0.01	N.S.[1]	0.0680	1.01	<0.005	N.S.[1]
	4/8/2019	<0.001	<0.002	0.126	<0.001	<0.0005	<0.005	<0.0005	<0.5	<0.0005	<0.01	<0.0002	0.0803	0.494	<0.005	<0.001
	10/18/2019	<0.001	<0.002	0.179	<0.001	0.000230	<0.005	0.000548	<0.5	<0.0005	0.0117	<0.0002	0.0872	0.334	<0.005	<0.001
	4/21/2020	<0.00058	<0.000880	0.128	<0.00027	0.0000930J	<0.0011	<0.0000910	0.614	<0.00027	0.00764J	<0.0001	0.0938	0.192U	<0.001	<0.00026
	10/6/2020	<0.00051	<0.000880	0.108	<0.00027	0.0000650J	<0.0011	0.000133J	0.301J	0.000135J	0.00729J	<0.0001	0.121	0.376U	<0.001	<0.00026
NC1MW-3	3/9/2016	<0.001	0.0135	0.112	<0.001	<0.0005	<0.0005	0.00239	0.508	<0.0005	<0.05	<0.0002	<0.002	0.0759	<0.005	<0.001
	6/7/2016	<0.001	0.00901	0.111	<0.001	<0.0005	<0.0005	0.00364	<0.5	<0.0005	<0.05	<0.0002	<0.002	0.81	<0.005	<0.001
	10/3/2016	<0.001	0.00761	0.0887	<0.001	<0.0005	<0.0005	0.00267	<0.5	<0.0005	<0.05	<0.0002	<0.002	0.15	<0.005	<0.001
	11/18/2016	<0.001	0.031	0.101	<0.001	<0.0005	<0.0005	0.00334	3.91	<0.0005	<0.05	<0.0002	<0.002	0.736	<0.005	<0.001
	2/14/2017	<0.001	0.0248	0.092	<0.001	<0.0005	<0.0005	0.00268	2.97	0.000553	<0.05	<0.0002	<0.002	0.436	<0.005	<0.001

Table 5 - Appendix IV (Assessment Monitoring) Constituents in Groundwater
Omaha Public Power District - NC1 Ash Disposal Area

		Appendix IV (Assessment Monitoring) Constituents														
	Constituent	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Combined Radium (Ra 226 + Ra 228)	Selenium	Thallium
	Reporting Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L
NC1MW-3	4/25/2017	<0.001	0.0131	0.106	<0.001	<0.0005	<0.0005	0.00144	0.974	<0.0005	<0.05	<0.0002	<0.002	0.242	<0.005	<0.001
	6/20/2017	<0.001	0.0195	0.115	<0.001	<0.0005	<0.0005	0.00196	0.591	<0.0005	<0.05	<0.0002	<0.002	0.711	<0.005	<0.001
	7/13/2017	<0.001	0.0302	0.116	<0.001	<0.0005	<0.0005	0.00257	0.603	<0.0005	<0.05	<0.0002	<0.002	0.339	<0.005	<0.001
	3/13/2018	<0.001	0.0111	0.0786	<0.001	<0.0005	<0.0005	0.00192	<0.5	<0.0005	0.0262	<0.0002	<0.002	0.728	<0.005	<0.001
	6/6/2018	<0.001	0.0412	0.128	<0.001	<0.0005	<0.0005	0.00219	<0.5	0.00296	0.0325	<0.0002	0.0021	0.922	<0.005	<0.001
	10/4/2018	N.S.[1]	0.0352	0.141	N.S.[1]	N.S.[1]	N.S.[1]	0.00120	0.541	0.000833	0.0326	N.S.[1]	<0.002	1.12	<0.005	N.S.[1]
	4/9/2019	<0.001	0.0143	0.0938	<0.001	<0.0005	<0.005	0.00250	<0.5	<0.0005	0.0271	<0.0002	<0.002	0.348	<0.005	<0.001
	10/18/2019	<0.001	0.0333	0.135	<0.001	<0.0001	<0.005	0.00182	0.527	<0.0005	0.0316	<0.0002	<0.002	0.146	<0.005	<0.001
	4/21/2020	<0.00058	0.0242	0.103	<0.00027	<0.000039	<0.0011	0.00228	0.693	<0.00027	0.0375	<0.0001	0.00140J	0.0567U	<0.001	<0.00026
	10/6/2020	<0.00051	0.0317	0.126	<0.00027	<0.00027	<0.0011	0.00153	0.520	<0.000110	0.0361	<0.0001	<0.0011	0.994	<0.001	<0.00026
NC1MW-4	3/9/2016	<0.001	0.00336	0.195	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0053	0.753	<0.005	<0.001
	6/7/2016	<0.001	0.0029	0.100	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.017	0.37	<0.005	<0.001
	10/3/2016	<0.001	0.0032	0.090	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0297	0.343	<0.005	<0.001
	11/18/2016	<0.001	0.00254	0.115	<0.001	<0.0005	<0.0005	<0.0005	0.876	<0.0005	<0.05	<0.0002	0.0199	0.182	<0.005	<0.001
	2/14/2017	<0.001	0.00433	0.119	<0.001	<0.0005	<0.0005	<0.0005	<0.5	0.00052	<0.05	<0.0002	0.0139	0.301	<0.005	<0.001
	4/25/2017	<0.001	0.00344	0.0968	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0249	0.313	<0.005	<0.001
	6/20/2017	<0.001	0.00334	0.0679	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0356	0.0408	<0.005	<0.001
	7/13/2017	<0.001	0.00381	0.0687	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0317	0.0901	<0.005	<0.001
	3/13/2018	<0.001	0.00265	0.0781	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	0.0114	<0.0002	0.0207	0.286	<0.005	<0.001
	6/6/2018	<0.001	0.00821	0.129	<0.001	<0.0005	<0.0005	0.000636	<0.5	<0.0005	0.01	<0.0002	0.0422	0.577	<0.005	<0.001
	10/4/2018	N.S.[1]	0.00641	0.0975	N.S.[1]	N.S.[1]	N.S.[1]	<0.0005	0.569	<0.0005	0.0135	N.S.[1]	0.0233	0.802	<0.005	N.S.[1]
	4/9/2019	<0.001	0.00223	0.0652	<0.001	<0.0005	<0.005	<0.0005	<0.5	<0.0005	0.011	<0.0002	0.0269	0.0157	<0.005	<0.001
	10/18/2019	<0.001	0.00347	0.119	<0.001	<0.0001	<0.005	0.000642	0.501	<0.0005	0.0137	<0.0002	0.0183	-0.000469U	<0.005	<0.001
	4/21/2020	<0.00058	0.00162J	0.0878	<0.00027	0.000310	<0.0011	0.000974	0.507	<0.00027	0.0183	<0.0001	0.00302	0.0118U	<0.001	<0.00026
	10/6/2020	<0.00051	0.00120J	0.152	<0.00027	0.000208	<0.0011	0.00138	0.535	<0.000110	0.0238	<0.0001	<0.0011	0.00604U	0.00199J	<0.00026
NC1MW-9	3/9/2016	<0.001	0.00995	0.0865	<0.001	<0.0005	<0.0005	0.00121	0.547	<0.0005	<0.05	<0.0002	0.0111	0.629	0.0634	<0.001
	6/7/2016	<0.001	0.00624	0.0816	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0204	0.577	0.00958	<0.001
	10/3/2016	<0.001	0.00605	0.0847	<0.001	<0.0005	<0.0005	0.000683	0.578	<0.0005	<0.05	<0.0002	0.0435	0.23	0.0388	<0.001
	11/18/2016	<0.001	0.00828	0.106	<0.001	<0.0005	<0.0005	0.000648	3.4	<0.0005	<0.05	<0.0002	0.0222	1.13	0.0162	<0.001
	2/14/2017	<0.001	0.0122	0.0836	<0.001	<0.0005	<0.0005	0.00147	1.78	<0.0005	<0.05	<0.0002	0.0169	0.425	0.0138	<0.001
	4/25/2017	<0.001	0.0164	0.115	<0.001	<0.0005	<0.0005	0.00124	0.934	<0.0005	<0.05	<0.0002	0.0473	0.592	0.0101	<0.001
	6/20/2017	<0.001	0.01	0.114	<0.001	<0.0005	<0.0005	0.00295	<0.5	<0.0005	<0.05	<0.0002	0.0486	0.473	<0.005	<0.001
	7/13/2017	<0.001	0.00885	0.0952	<0.001	<0.0005	<0.0005	0.000878	0.68	<0.0005	<0.05	<0.0002	0.0302	0.294	<0.005	<0.001
	3/13/2018	<0.001	0.0107	0.0838	<0.001	<0.0005	<0.0005	0.00063	<0.5	<0.0005	0.0198	<0.0002	0.0354	0.412	<0.005	<0.001
	6/6/2018	<0.001	0.0114	0.111	<0.001	<0.0005	<0.0005	0.00109	0.732	<0.0005	0.0189	<0.0002	0.0474	0.827	<0.005	<0.001
	10/4/2018	N.S.[1]	0.0101	0.109	N.S.[1]	N.S.[1]	N.S.[1]	0.00492	0.777	<0.0005	0.0201	N.S.[1]	0.0399	1.39	<0.005	N.S.[1]
	4/10/2019	<0.001	0.00681	0.153	<0.001	<0.0005	<0.005	0.00559	<0.5	<0.0005	0.0254	<0.0002	0.0196	0.415	0.0120	<0.001
	10/18/2019	<0.001	0.00784	0.165	<0.001	0.000100	<0.005	0.00323	0.605	<0.0005	0.0310	<0.0002	0.0230	0.695	<0.005	<0.001
	4/21/2020	<0.00058	0.0104	0.125	<0.00027	0.0000440J	<0.0011	0.00114	0.680	<0.00027	0.0314	<0.0001	0.0266	0.687	0.00328J	<0.00026
	10/6/2020	<0.00051	0.0157	0.134	<0.00027	<0.000049	<0.0011	0.00115	0.739	<0.000110	0.0269	<0.0001	0.0315	0.828	0.0188	<0.00026

Notes:

* Fluoride is listed in both Appendix III and Appendix IV of the CCR Final Rule (40 CFR Part 257).

< for the period of March 2016 through October 2019, the symbol indicates analyte not detected above the reporting limit, which is the value shown following the "<" symbol. Starting in January 2020, the symbol indicates analyte not detected above the method detection limit, which is the value shown following the "<" symbol.

"U" data qualifier (radium) indicates parameter was analyzed for but not detected above limiting criteria as defined in the analytical laboratory data package.

N.S. = Not Sampled.

J - Denotes result is less than the Reporting Limit but greater than the Method Detection Limit, therefore the concentration is an approximate value.

[1]Constituent not sampled because only detected Appendix IV constituents were tested, in accordance with 40 CFR

[2]MW-13 was submerged under water during April and October 2019 sampling events, therefore N/A designates well not sampled.

[3]MW-13 and MW-14 were sampled as part of the NC2 verification sampling event in January 2020.

[4]NC2-MW-4 and MW-13 were sampled as part of the NC2 sampling event on April 27, 2020.

Table 6 - Background Threshold Values for Assessment Monitoring
Omaha Public Power District - NC1 Ash Disposal Area

Constituents	Units	Background Threshold Values (BTVs)
Appendix III (Detection Monitoring)		
Boron	mg/l	1.38
Calcium	mg/l	145
Chloride	mg/l	20.7
Fluoride [1]	mg/l	3.51
pH (LPL) [2]	SU	6.57
pH (UPL) [3]	SU	7.83
Sulfate	mg/l	148
TDS	mg/l	680
Appendix IV (Assessment Monitoring)		
Antimony	mg/l	0.00235
Arsenic	mg/l	0.033
Barium	mg/l	0.372
Beryllium	mg/l	0.001
Cadmium	mg/l	0.0005
Chromium	mg/l	0.005
Cobalt	mg/l	0.00477
Lead	mg/l	0.006
Lithium	mg/l	0.0569
Mercury	mg/l	0.000262
Molybdenum	mg/l	0.00996
Radium 226 + 228	pCi/l	2.16
Selenium	mg/l	0.0139
Thallium	mg/l	0.001

Notes:

[1] Fluoride is listed in both Appendix III and Appendix IV of the CCR Final Rule (40 CFR Part 257).

[2] Indicates the lower bound of the range is the lower prediction limit (LPL).

[3] Indicates the upper bound is the upper prediction limit (UPL).

Table 7 - Established Groundwater Protection Standards
Omaha Public Power District - NC1 Ash Disposal Area

Constituents	Units	Established Groundwater Protection Standard (GWPS)[1]
Appendix IV (Assessment Monitoring)		
Antimony	mg/l	0.006
Arsenic	mg/l	0.033[2]
Barium	mg/l	2.0
Beryllium	mg/l	0.004
Cadmium	mg/l	0.005
Chromium	mg/l	0.1
Cobalt	mg/l	0.006
Flouride	mg/l	4.0
Lead	mg/l	0.015
Lithium	mg/l	0.0569[2]
Mercury	mg/l	0.002
Molybdenum	mg/l	0.1
Radium 226 + 228[2]	pCi/l	5.0
Selenium	mg/l	0.05
Thallium	mg/l	0.002

Notes:

[1] GWPS is established as the U.S. EPA Maximum Contaminant Level (MCL) or the GWPS specified in §257.95(h)(2); unless otherwise specified.

[2] GWPS is established as the upper prediction limit (UPL) when the background level is higher than the U.S. EPA MCL or the GWPS specified in §257.95(h)(2).

Appendix A

Field Sampling Forms

NEBRASKA CITY STATION

Water Levels Prior to Purging (Feet Below TOC)

NC1MW2	Date of Sampling	10/2/2020	Time of Sampling	13:54	Static Water Level	10.52
NC1MW3	Date of Sampling	10/2/2020	Time of Sampling	15:01	Static Water Level	11.13
NC1MW4	Date of Sampling	10/2/2020	Time of Sampling	14:51	Static Water Level	11.17
NC1MW5	Date of Sampling	10/2/2020	Time of Sampling	14:15	Static Water Level	12.90
NC1MW6	Date of Sampling	10/2/2020	Time of Sampling	14:26	Static Water Level	9.11
NC1MW7	Date of Sampling	10/2/2020	Time of Sampling	13:41	Static Water Level	10.06
NC1MW8	Date of Sampling	10/2/2020	Time of Sampling	13:40	Static Water Level	10.36
NC1MW9	Date of Sampling	10/2/2020	Time of Sampling	15:06	Static Water Level	11.35
NC2MW2	Date of Sampling	10/2/2020	Time of Sampling	13:21	Static Water Level	12.92
NC2MW3	Date of Sampling	10/2/2020	Time of Sampling	13:18	Static Water Level	10.34
NC2MW4	Date of Sampling	10/2/2020	Time of Sampling	11:09	Static Water Level	9.65
NC2MW5	Date of Sampling	10/2/2020	Time of Sampling	13:00	Static Water Level	12.63
NC2MW6	Date of Sampling	10/2/2020	Time of Sampling	13:08	Static Water Level	9.90
NC2MW7	Date of Sampling	10/2/2020	Time of Sampling	13:25	Static Water Level	8.81
NC2MW8	Date of Sampling	10/2/2020	Time of Sampling	13:15	Static Water Level	8.68
MW11	Date of Sampling	10/2/2020	Time of Sampling	13:47	Static Water Level	9.37
MW12	Date of Sampling	10/2/2020	Time of Sampling	13:50	Static Water Level	11.29
MW13	Date of Sampling	10/2/2020	Time of Sampling	11:05	Static Water Level	7.76
MW14	Date of Sampling	10/2/2020	Time of Sampling	11:13	Static Water Level	11.47

NOTES:

TOC = Top of Casing

NM = Not Measured, Inaccessible

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (79776)
Monitoring Well Identification - Sample Number: **MW2 - 5**	Date: 10/6/2020
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 82°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	14:07	Pump Start Time	14:07
Static Water Level (+/- 0.01 feet)*	Top of Pump	Purge Rate (mL/minute)	300
Bottom of Well Casing (+/- 0.01 feet)*	16.40	Time to Purge Well (hours:minutes)	0:16
Pump Intake Elevation (+/- 0.01 feet)*	905.59	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	Not Measured		
Actual Volume of Water Purged (mL)	4,200		

*Measurement collected from a defined point on the edge of the surveyed top of monitoring well casing using an electronic water level indicator.

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
14:12	1,500	19.19	0.49	26.7	6.85	0.514	Top of Pump
14:17	2,400	19.26	0.45	17.5	6.82	0.513	Top of Pump
14:20	3,300	19.32	0.43	13.9	6.81	0.510	Top of Pump
14:23	4,200	19.38	0.40	12.5	6.81	0.509	Top of Pump

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
14:23	4,200	19.38	0.40	12.5	6.81	0.509	Top of Pump
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		300

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/6/2020, 6:20
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (79776)
Monitoring Well Identification - Sample Number: **MW3 - 8**	Date: 10/6/2020
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 84°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	15:35	Pump Start Time	15:36
Static Water Level (+/- 0.01 feet)*	11.12	Purge Rate (mL/minute)	350
Bottom of Well Casing (+/- 0.01 feet)*	22.20	Time to Purge Well (hours:minutes)	0:32
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	6.84		
Actual Volume of Water Purged (mL)	11,550		

*Measurement collected from a defined point on the edge of the surveyed top of monitoring well casing using an electronic water level indicator.

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
15:41	1,750	16.28	1.70	48.4	6.87	1.51	11.12
15:44	2,800	16.00	1.54	49.8	6.85	1.52	11.12
15:47	3,850	15.59	1.52	38.9	6.85	1.52	11.12
15:50	4,900	15.04	0.97	32.5	6.84	1.53	11.12
15:53	5,950	15.14	1.10	24.7	6.83	1.53	11.12
15:56	7,350	15.33	0.51	22.3	6.79	1.50	11.12
15:59	8,400	15.19	0.47	15.8	6.78	1.51	11.12
16:02	9,450	15.27	0.54	14.5	6.77	1.50	11.12
16:05	10,500	15.05	0.50	13.4	6.77	1.50	11.12
16:08	11,550	14.97	0.51	12.8	6.76	1.49	11.12

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
16:08	11,550	14.97	0.51	12.8	6.76	1.49	11.12
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		200

Sample Physical Characteristics **Equipment Information**

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/6/2020, 6:20
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (79776)
Monitoring Well Identification - Sample Number: **MW4 - 6**	Date: 10/6/2020
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 84°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	14:42	Pump Start Time	14:43
Static Water Level (+/- 0.01 feet)*	11.18	Purge Rate (mL/minute)	300
Bottom of Well Casing (+/- 0.01 feet)*	17.70	Time to Purge Well (hours:minutes)	0:14
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	4.03		
Actual Volume of Water Purged (mL)	4,200		

*Measurement collected from a defined point on the edge of the surveyed top of monitoring well casing using an electronic water level indicator.

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
14:48	1,500	17.93	2.00	77.5	6.86	1.15	11.18
14:51	2,400	17.69	1.99	39.1	6.86	1.18	11.18
14:54	3,300	17.59	1.98	27.0	6.86	1.18	11.18
14:57	4,200	17.55	1.97	23.8	6.86	1.19	11.18

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
14:57	4,200	17.55	1.97	23.8	6.86	1.190	11.18
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		300

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Mostly Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/6/2020, 6:20

Notes / Unusual Occurrences: High Amount of Suspended Sand in Sample

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (79776)
Monitoring Well Identification - Sample Number: **NC2MW4 - 2**	Date: 10/5/2020
Wellhead Inspection (Condition): Compliant (See Notes)	Weather Conditions: Mostly Clear, Breezy, 59°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	10:17	Pump Start Time	10:18
Static Water Level (+/- 0.01 feet)*	9.53	Purge Rate (mL/minute)	150-200
Bottom of Well Casing (+/- 0.01 feet)*	14.50	Time to Purge Well (hours:minutes)	0:44
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	3.07		
Actual Volume of Water Purged (mL)	8,350		

*Measurement collected from a defined point on the edge of the surveyed top of monitoring well casing using an electronic water level indicator.

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
10:23	1,000	16.13	0.90	35.7	6.78	0.975	10.50
10:26	1,600	16.54	0.95	120	6.74	0.974	10.88
10:29	2,200	16.75	0.94	307	6.72	0.974	11.13
10:32	2,800	16.85	0.88	458	6.72	0.974	11.36
10:35	3,400	16.81	0.72	630	6.72	0.975	11.57
10:38	4,000	16.79	0.72	861.0	6.72	0.977	12.04
10:41	4,600	16.78	0.67	<1,000	6.73	0.978	12.77
10:44	5,200	16.77	0.63	<1,000	6.74	0.977	13.09
10:47	5,800	16.69	0.67	<1,000	6.75	0.976	13.80
10:50	6,400	16.67	0.71	<1,000	6.76	0.975	14.18
10:53	7,000	16.73	0.82	<1,000	6.77	0.972	14.25
10:56	7,450	16.67	0.91	<1,000	6.78	0.965	14.46
10:59	7,900	16.65	0.96	<1,000	6.80	0.96	14.69
11:02	8,350	16.69	0.99	<1,000	6.81	0.96	Top of Pump

Well Evacuated to Dryness? Yes Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
11:02	8,350	16.69	0.99	<1,000	6.81	0.958	Top of Pump
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		100

Sample Physical Characteristics / **Equipment Information**

Sample Clarity	Turbid	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Light Brown	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/5/2020, 7:24

Notes / Unusual Occurrences: Purged Well Dry, Sampled Immediately Upon Recharge, Recharge Not Calculated - Top of Pump Measurement

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (79776)
Monitoring Well Identification - Sample Number: **MW9 - 10**	Date: 10/6/2020
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 84^{o}F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	16:33	Pump Start Time	16:36
Static Water Level (+/- 0.01 feet)*	11.35	Purge Rate (mL/minute)	300
Bottom of Well Casing (+/- 0.01 feet)*	22.40	Time to Purge Well (hours:minutes)	0:14
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	6.82		
Actual Volume of Water Purged (mL)	4,200		

*Measurement collected from a defined point on the edge of the surveyed top of monitoring well casing using an electronic water level indicator.

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
16:41	1,500	15.57	1.01	109	6.89	1.39	11.36
16:44	2,400	15.55	1.01	98.8	6.88	1.38	11.36
16:47	3,300	15.60	1.00	21.2	6.88	1.39	11.36
16:50	4,200	15.53	0.98	16.2	6.87	1.38	11.36

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
16:50	4,200	15.53	0.98	16.2	6.87	1.38	11.36
Duplicate?	Yes, DUP2	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		300

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/6/2020, 6:20
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (79776)
Monitoring Well Identification - Sample Number: **MW11 - 4**	Date: 10/6/2020
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 81°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	13:22	Pump Start Time	13:25
Static Water Level (+/- 0.01 feet)*	9.29	Purge Rate (mL/minute)	300
Bottom of Well Casing (+/- 0.01 feet)*	21.85	Time to Purge Well (hours:minutes)	0:11
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	7.76		
Actual Volume of Water Purged (mL)	3,300		

*Measurement collected from a defined point on the edge of the surveyed top of monitoring well casing using an electronic water level indicator.

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
13:30	1,500	16.70	1.18	13.4	6.84	0.695	9.38
13:33	2,400	16.43	1.11	12.9	6.83	0.692	9.38
13:36	3,300	16.67	1.14	10.3	6.82	0.691	9.38

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
13:36	3,300	16.67	1.14	10.3	6.82	0.691	9.38
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		300

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/6/2020, 6:20
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (79776)
Monitoring Well Identification - Sample Number: **MW13 - 1**	Date: 10/5/2020
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Breezy, 54°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:27	Pump Start Time	9:29
Static Water Level (+/- 0.01 feet)*	7.64	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	15.19	Time to Purge Well (hours:minutes)	0:23
Pump Intake Elevation (+/- 0.01 feet)*	908.30	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	4.66		
Actual Volume of Water Purged (mL)	5,750		

*Measurement collected from a defined point on the edge of the surveyed top of monitoring well casing using an electronic water level indicator.

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
9:34	1,250	17.00	1.94	52	6.79	0.895	7.69
9:37	2,000	16.83	2.04	29.8	6.83	0.887	7.69
9:40	2,750	16.85	1.50	18.7	6.86	0.883	7.69
9:43	3,500	16.80	1.45	22.2	6.87	0.873	7.69
9:46	4,250	16.74	1.44	12.8	6.88	0.872	7.69
9:49	5,000	16.73	1.42	15.8	6.89	0.874	7.69
9:52	5,750	16.72	1.40	11.3	6.90	0.876	7.69

Well Evacuated to Dryness? No

Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
9:52	5,750	16.72	1.40	11.3	6.90	0.88	7.69
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		250

Sample Physical Characteristics **Equipment Information**

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/5/2020, 7:24
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (79776)
Monitoring Well Identification - Sample Number: **MW14 - 3**	Date: 10/5/2020
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Clear, Sunny, 68°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	11:50	Pump Start Time	11:52
Static Water Level (+/- 0.01 feet)*	11.36	Purge Rate (mL/minute)	150
Bottom of Well Casing (+/- 0.01 feet)*	Not Measured	Time to Purge Well (hours:minutes)	0:20
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	Not Measured		
Actual Volume of Water Purged (mL)	2,900		

*Measurement collected from a defined point on the edge of the surveyed top of monitoring well casing using an electronic water level indicator.

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
11:57	750	16.32	1.38	96.1	6.62	1.26	11.71
12:00	1,100	16.21	1.07	44.5	6.63	1.26	11.98
12:03	1,550	16.14	1.11	21.7	6.64	1.27	12.11
12:06	2,000	16.21	1.04	24.0	6.64	1.28	12.29
12:09	2,450	16.48	1.12	24.7	6.64	1.27	12.45
12:12	2,900	16.48	1.12	24.1	6.65	1.28	12.56

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
12:12	2,900	16.48	1.12	24.1	6.65	1.28	12.56
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		150

Sample Physical Characteristics / **Equipment Information**

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/5/2020, 7:24
Notes / Unusual Occurrences: None			

Equipment Calibration Sheet

Date: 10/5/2020
Time: 7:24

Person Calibrating Instrument: Kyle K. Uhing

Instrument Type	Instrument Brand	Instrument Model	Instrument Serial Number
Multi-Parameter Water Meter	Horiba	U-5000/U-52	KE3AGWPR/NTKDC76Y

Parameter:	Reading	Units
pH 4	4.00	NA
Conductivity	4.45	µS/cm
Turbidity	0.0	NTU
DO	10.27	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

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Equipment Calibration Sheet

Date: 10/6/2020
Time: 6:20

Person Calibrating Instrument: Kyle K. Uhing

Instrument Type	Instrument Brand	Instrument Model	Instrument Serial Number
Multiparameter Water Meter	Horiba	U-5000/U-52	KE3AGWPR/NTKDC76Y

Parameter:	Reading	Units
pH 4	4.00	NA
Conductivity	4.35	µS/cm
Turbidity	0.0	NTU
DO	10.37	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

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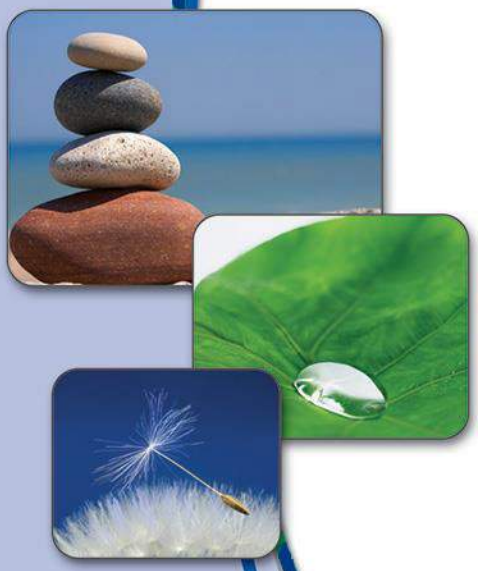
Appendix B

Analytical Laboratory Reports

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-192463-1
Client Project/Site: Nebraska City Unit 1 CCR

For:
Omaha Public Power District
Attn: Accounts Payable, 4E/EP-5
444 South 16th Street Mall
Omaha, Nebraska 68102-2247

Attn: Kyle Uhing

Authorized for release by:
10/16/2020 11:35:02 AM

Shawn Hayes, Senior Project Manager
(319)229-8211
Shawn.Hayes@Eurofinset.com

Table of Contents

Case Narrative

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-1

Job ID: 310-192463-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-192463-1

Comments
No additional comments.

Receipt
The samples were received on 10/8/2020 9:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 0.6º C, 0.9º C, 1.0º C, 1.0º C and 1.2º C.

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

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

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

Sample Summary

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-192463-1	NC1MW2	Water	10/06/20 14:23	10/08/20 09:30	
310-192463-2	NC1MW3	Water	10/06/20 16:08	10/08/20 09:30	
310-192463-3	NC1MW4	Water	10/06/20 14:57	10/08/20 09:30	
310-192463-4	NC1MW9	Water	10/06/20 16:50	10/08/20 09:30	
310-192463-5	MW11	Water	10/06/20 13:36	10/08/20 09:30	
310-192463-6	MW14	Water	10/05/20 12:12	10/08/20 09:30	
310-192463-7	DUP2	Water	10/06/20 00:00	10/08/20 09:30	

Detection Summary

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-1

Client Sample ID: NC1MW2 — Lab Sample ID: 310-192463-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.61	J	5.00	2.00	mg/L	5		9056A	Total/NA
Fluoride	0.301	J	0.500	0.230	mg/L	5		9056A	Total/NA
Sulfate	57.4		5.00	3.55	mg/L	5		9056A	Total/NA
Barium	0.108		0.00200	0.000280	mg/L	1		6020A	Total/NA
Boron	0.141		0.100	0.0800	mg/L	1		6020A	Total/NA
Cadmium	0.0000650	J	0.000100	0.0000490	mg/L	1		6020A	Total/NA
Calcium	77.7		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000133	J	0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lead	0.000135	J	0.000500	0.000110	mg/L	1		6020A	Total/NA
Lithium	0.00729	J	0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.121		0.00200	0.00110	mg/L	1		6020A	Total/NA
Total Dissolved Solids	272		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC1MW3 — Lab Sample ID: 310-192463-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.13		5.00	2.00	mg/L	5		9056A	Total/NA
Fluoride	0.520		0.500	0.230	mg/L	5		9056A	Total/NA
Sulfate	354		5.00	3.55	mg/L	5		9056A	Total/NA
Arsenic	0.0317		0.00200	0.000880	mg/L	1		6020A	Total/NA
Barium	0.126		0.00200	0.000280	mg/L	1		6020A	Total/NA
Boron	2.57		0.100	0.0800	mg/L	1		6020A	Total/NA
Calcium	173		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00153		0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lithium	0.0361		0.0100	0.00250	mg/L	1		6020A	Total/NA
Total Dissolved Solids	976		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC1MW4 — Lab Sample ID: 310-192463-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.65		5.00	2.00	mg/L	5		9056A	Total/NA
Fluoride	0.535		0.500	0.230	mg/L	5		9056A	Total/NA
Sulfate	272		5.00	3.55	mg/L	5		9056A	Total/NA
Arsenic	0.00120	J	0.00200	0.000880	mg/L	1		6020A	Total/NA
Barium	0.152		0.00200	0.000280	mg/L	1		6020A	Total/NA
Boron	1.77		0.100	0.0800	mg/L	1		6020A	Total/NA
Cadmium	0.000208		0.000100	0.0000490	mg/L	1		6020A	Total/NA
Calcium	172		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00138		0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lithium	0.0238		0.0100	0.00250	mg/L	1		6020A	Total/NA
Selenium	0.00199	J	0.00500	0.00100	mg/L	1		6020A	Total/NA
Total Dissolved Solids	778		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC1MW9 — Lab Sample ID: 310-192463-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.35		5.00	2.00	mg/L	5		9056A	Total/NA
Fluoride	0.739		0.500	0.230	mg/L	5		9056A	Total/NA
Sulfate	234		5.00	3.55	mg/L	5		9056A	Total/NA
Arsenic	0.0157		0.00200	0.000880	mg/L	1		6020A	Total/NA
Barium	0.134		0.00200	0.000280	mg/L	1		6020A	Total/NA
Boron	2.60		0.100	0.0800	mg/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: NC1MW9 (Continued) — Lab Sample ID: 310-192463-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	160		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00115		0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lithium	0.0269		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0315		0.00200	0.00110	mg/L	1		6020A	Total/NA
Selenium	0.0188		0.00500	0.00100	mg/L	1		6020A	Total/NA
Total Dissolved Solids	882		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW11 — Lab Sample ID: 310-192463-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.82		5.00	2.00	mg/L	5		9056A	Total/NA
Fluoride	0.444	J	0.500	0.230	mg/L	5		9056A	Total/NA
Sulfate	127		5.00	3.55	mg/L	5		9056A	Total/NA
Arsenic	0.00983		0.00200	0.000880	mg/L	1		6020A	Total/NA
Barium	0.159		0.00200	0.000280	mg/L	1		6020A	Total/NA
Boron	1.16		0.100	0.0800	mg/L	1		6020A	Total/NA
Calcium	84.3		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00375		0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lead	0.000301	J	0.000500	0.000110	mg/L	1		6020A	Total/NA
Lithium	0.0112		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0164		0.00200	0.00110	mg/L	1		6020A	Total/NA
Total Dissolved Solids	410		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW14 — Lab Sample ID: 310-192463-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.73		5.00	2.00	mg/L	5		9056A	Total/NA
Fluoride	0.339	J	0.500	0.230	mg/L	5		9056A	Total/NA
Sulfate	19.9		5.00	3.55	mg/L	5		9056A	Total/NA
Arsenic	0.0863		0.00200	0.000880	mg/L	1		6020A	Total/NA
Barium	0.335		0.00200	0.000280	mg/L	1		6020A	Total/NA
Boron	0.322		0.100	0.0800	mg/L	1		6020A	Total/NA
Calcium	157		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00257		0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lithium	0.0497		0.0100	0.00250	mg/L	1		6020A	Total/NA
Total Dissolved Solids	702		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP2 — Lab Sample ID: 310-192463-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.77	J	5.00	2.00	mg/L	5		9056A	Total/NA
Fluoride	0.407	J	0.500	0.230	mg/L	5		9056A	Total/NA
Sulfate	241		5.00	3.55	mg/L	5		9056A	Total/NA
Arsenic	0.0158		0.00200	0.000880	mg/L	1		6020A	Total/NA
Barium	0.130		0.00200	0.000280	mg/L	1		6020A	Total/NA
Boron	2.62		0.100	0.0800	mg/L	1		6020A	Total/NA
Calcium	160		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00114		0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lithium	0.0263		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0311		0.00200	0.00110	mg/L	1		6020A	Total/NA
Selenium	0.0195		0.00500	0.00100	mg/L	1		6020A	Total/NA
Total Dissolved Solids	880		30.0	26.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-1

Client Sample ID: NC1MW2
Date Collected: 10/06/20 14:23
Date Received: 10/08/20 09:30

Lab Sample ID: 310-192463-1
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4.61**	**J**	5.00	2.00	mg/L			10/10/20 01:14	5
Fluoride	**0.301**	**J**	0.500	0.230	mg/L			10/10/20 01:14	5
Sulfate	**57.4**		5.00	3.55	mg/L			10/10/20 01:14	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000510		0.00100	0.000510	mg/L		10/09/20 08:55	10/14/20 21:16	1
Arsenic	<0.000880		0.00200	0.000880	mg/L		10/09/20 08:55	10/14/20 21:16	1
Barium	**0.108**		0.00200	0.000280	mg/L		10/09/20 08:55	10/14/20 21:16	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/09/20 08:55	10/14/20 21:16	1
Boron	**0.141**		0.100	0.0800	mg/L		10/09/20 08:55	10/14/20 21:16	1
Cadmium	**0.0000650**	**J**	0.000100	0.0000490	mg/L		10/09/20 08:55	10/14/20 21:16	1
Calcium	**77.7**		0.500	0.190	mg/L		10/09/20 08:55	10/14/20 21:16	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/09/20 08:55	10/14/20 21:16	1
Cobalt	**0.000133**	**J**	0.000500	0.0000910	mg/L		10/09/20 08:55	10/14/20 21:16	1
Lead	**0.000135**	**J**	0.000500	0.000110	mg/L		10/09/20 08:55	10/14/20 21:16	1
Lithium	**0.00729**	**J**	0.0100	0.00250	mg/L		10/09/20 08:55	10/14/20 21:16	1
Molybdenum	**0.121**		0.00200	0.00110	mg/L		10/09/20 08:55	10/14/20 21:16	1
Selenium	<0.00100		0.00500	0.00100	mg/L		10/09/20 08:55	10/14/20 21:16	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/09/20 08:55	10/14/20 21:16	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000100		0.000200	0.000100	mg/L		10/09/20 10:14	10/09/20 15:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**272**		30.0	26.0	mg/L			10/12/20 11:43	1

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-1

Client Sample ID: NC1MW3
Date Collected: 10/06/20 16:08
Date Received: 10/08/20 09:30

Lab Sample ID: 310-192463-2
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.13**		5.00	2.00	mg/L			10/10/20 01:31	5
Fluoride	**0.520**		0.500	0.230	mg/L			10/10/20 01:31	5
Sulfate	**354**		5.00	3.55	mg/L			10/10/20 01:31	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000510		0.00100	0.000510	mg/L		10/09/20 08:55	10/14/20 21:19	1
Arsenic	**0.0317**		0.00200	0.000880	mg/L		10/09/20 08:55	10/14/20 21:19	1
Barium	**0.126**		0.00200	0.000280	mg/L		10/09/20 08:55	10/14/20 21:19	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/09/20 08:55	10/14/20 21:19	1
Boron	**2.57**		0.100	0.0800	mg/L		10/09/20 08:55	10/14/20 21:19	1
Cadmium	<0.0000490		0.000100	0.0000490	mg/L		10/09/20 08:55	10/14/20 21:19	1
Calcium	**173**		0.500	0.190	mg/L		10/09/20 08:55	10/14/20 21:19	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/09/20 08:55	10/14/20 21:19	1
Cobalt	**0.00153**		0.000500	0.0000910	mg/L		10/09/20 08:55	10/14/20 21:19	1
Lead	<0.000110		0.000500	0.000110	mg/L		10/09/20 08:55	10/14/20 21:19	1
Lithium	**0.0361**		0.0100	0.00250	mg/L		10/09/20 08:55	10/14/20 21:19	1
Molybdenum	<0.00110		0.00200	0.00110	mg/L		10/09/20 08:55	10/14/20 21:19	1
Selenium	<0.00100		0.00500	0.00100	mg/L		10/09/20 08:55	10/14/20 21:19	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/09/20 08:55	10/14/20 21:19	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000100		0.000200	0.000100	mg/L		10/09/20 10:14	10/09/20 15:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**976**		30.0	26.0	mg/L			10/12/20 11:43	1

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-1

Client Sample ID: NC1MW4

Date Collected: 10/06/20 14:57
Date Received: 10/08/20 09:30

Lab Sample ID: 310-192463-3

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.65**		5.00	2.00	mg/L			10/10/20 01:47	5
Fluoride	**0.535**		0.500	0.230	mg/L			10/10/20 01:47	5
Sulfate	**272**		5.00	3.55	mg/L			10/10/20 01:47	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000510		0.00100	0.000510	mg/L		10/09/20 08:55	10/14/20 21:34	1
Arsenic	**0.00120**	**J**	0.00200	0.000880	mg/L		10/09/20 08:55	10/14/20 21:34	1
Barium	**0.152**		0.00200	0.000280	mg/L		10/09/20 08:55	10/14/20 21:34	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/09/20 08:55	10/14/20 21:34	1
Boron	**1.77**		0.100	0.0800	mg/L		10/09/20 08:55	10/14/20 21:34	1
Cadmium	**0.000208**		0.000100	0.0000490	mg/L		10/09/20 08:55	10/14/20 21:34	1
Calcium	**172**		0.500	0.190	mg/L		10/09/20 08:55	10/14/20 21:34	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/09/20 08:55	10/14/20 21:34	1
Cobalt	**0.00138**		0.000500	0.0000910	mg/L		10/09/20 08:55	10/14/20 21:34	1
Lead	<0.000110		0.000500	0.000110	mg/L		10/09/20 08:55	10/14/20 21:34	1
Lithium	**0.0238**		0.0100	0.00250	mg/L		10/09/20 08:55	10/15/20 14:58	1
Molybdenum	<0.00110		0.00200	0.00110	mg/L		10/09/20 08:55	10/14/20 21:34	1
Selenium	**0.00199**	**J**	0.00500	0.00100	mg/L		10/09/20 08:55	10/14/20 21:34	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/09/20 08:55	10/14/20 21:34	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000100		0.000200	0.000100	mg/L		10/09/20 10:14	10/09/20 15:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**778**		30.0	26.0	mg/L			10/12/20 11:43	1

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-1

Client Sample ID: NC1MW9

Date Collected: 10/06/20 16:50
Date Received: 10/08/20 09:30

Lab Sample ID: 310-192463-4

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.35**		5.00	2.00	mg/L			10/10/20 02:03	5
Fluoride	**0.739**		0.500	0.230	mg/L			10/10/20 02:03	5
Sulfate	**234**		5.00	3.55	mg/L			10/10/20 02:03	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000510		0.00100	0.000510	mg/L		10/09/20 08:55	10/14/20 21:37	1
Arsenic	**0.0157**		0.00200	0.000880	mg/L		10/09/20 08:55	10/14/20 21:37	1
Barium	**0.134**		0.00200	0.000280	mg/L		10/09/20 08:55	10/14/20 21:37	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/09/20 08:55	10/14/20 21:37	1
Boron	**2.60**		0.100	0.0800	mg/L		10/09/20 08:55	10/14/20 21:37	1
Cadmium	<0.0000490		0.000100	0.0000490	mg/L		10/09/20 08:55	10/14/20 21:37	1
Calcium	**160**		0.500	0.190	mg/L		10/09/20 08:55	10/14/20 21:37	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/09/20 08:55	10/14/20 21:37	1
Cobalt	**0.00115**		0.000500	0.0000910	mg/L		10/09/20 08:55	10/14/20 21:37	1
Lead	<0.000110		0.000500	0.000110	mg/L		10/09/20 08:55	10/14/20 21:37	1
Lithium	**0.0269**		0.0100	0.00250	mg/L		10/09/20 08:55	10/15/20 15:01	1
Molybdenum	**0.0315**		0.00200	0.00110	mg/L		10/09/20 08:55	10/14/20 21:37	1
Selenium	**0.0188**		0.00500	0.00100	mg/L		10/09/20 08:55	10/14/20 21:37	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/09/20 08:55	10/14/20 21:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000100		0.000200	0.000100	mg/L		10/09/20 10:14	10/09/20 15:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**882**		30.0	26.0	mg/L			10/12/20 11:43	1

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-1

Client Sample ID: MW11
Date Collected: 10/06/20 13:36
Date Received: 10/08/20 09:30

Lab Sample ID: 310-192463-5
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.82		5.00	2.00	mg/L			10/10/20 02:20	5
Fluoride	0.444	J	0.500	0.230	mg/L			10/10/20 02:20	5
Sulfate	127		5.00	3.55	mg/L			10/10/20 02:20	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000510		0.00100	0.000510	mg/L		10/09/20 08:55	10/14/20 21:40	1
Arsenic	0.00983		0.00200	0.000880	mg/L		10/09/20 08:55	10/14/20 21:40	1
Barium	0.159		0.00200	0.000280	mg/L		10/09/20 08:55	10/14/20 21:40	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/09/20 08:55	10/14/20 21:40	1
Boron	1.16		0.100	0.0800	mg/L		10/09/20 08:55	10/14/20 21:40	1
Cadmium	<0.0000490		0.000100	0.0000490	mg/L		10/09/20 08:55	10/14/20 21:40	1
Calcium	84.3		0.500	0.190	mg/L		10/09/20 08:55	10/14/20 21:40	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/09/20 08:55	10/14/20 21:40	1
Cobalt	0.00375		0.000500	0.0000910	mg/L		10/09/20 08:55	10/14/20 21:40	1
Lead	0.000301	J	0.000500	0.000110	mg/L		10/09/20 08:55	10/14/20 21:40	1
Lithium	0.0112		0.0100	0.00250	mg/L		10/09/20 08:55	10/15/20 15:03	1
Molybdenum	0.0164		0.00200	0.00110	mg/L		10/09/20 08:55	10/14/20 21:40	1
Selenium	<0.00100		0.00500	0.00100	mg/L		10/09/20 08:55	10/14/20 21:40	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/09/20 08:55	10/14/20 21:40	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000100		0.000200	0.000100	mg/L		10/09/20 10:14	10/09/20 15:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	410		30.0	26.0	mg/L			10/12/20 11:43	1

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-1

Client Sample ID: MW14
Date Collected: 10/05/20 12:12
Date Received: 10/08/20 09:30

Lab Sample ID: 310-192463-6
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8.73**		5.00	2.00	mg/L			10/10/20 02:36	5
Fluoride	**0.339**	**J**	0.500	0.230	mg/L			10/10/20 02:36	5
Sulfate	**19.9**		5.00	3.55	mg/L			10/10/20 02:36	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000510		0.00100	0.000510	mg/L		10/09/20 08:55	10/14/20 21:42	1
Arsenic	**0.0863**		0.00200	0.000880	mg/L		10/09/20 08:55	10/14/20 21:42	1
Barium	**0.335**		0.00200	0.000280	mg/L		10/09/20 08:55	10/14/20 21:42	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/09/20 08:55	10/14/20 21:42	1
Boron	**0.322**		0.100	0.0800	mg/L		10/09/20 08:55	10/14/20 21:42	1
Cadmium	<0.0000490		0.000100	0.0000490	mg/L		10/09/20 08:55	10/14/20 21:42	1
Calcium	**157**		0.500	0.190	mg/L		10/09/20 08:55	10/14/20 21:42	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/09/20 08:55	10/14/20 21:42	1
Cobalt	**0.00257**		0.000500	0.0000910	mg/L		10/09/20 08:55	10/14/20 21:42	1
Lead	<0.000110		0.000500	0.000110	mg/L		10/09/20 08:55	10/14/20 21:42	1
Lithium	**0.0497**		0.0100	0.00250	mg/L		10/09/20 08:55	10/15/20 15:06	1
Molybdenum	<0.00110		0.00200	0.00110	mg/L		10/09/20 08:55	10/14/20 21:42	1
Selenium	<0.00100		0.00500	0.00100	mg/L		10/09/20 08:55	10/14/20 21:42	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/09/20 08:55	10/14/20 21:42	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000100		0.000200	0.000100	mg/L		10/09/20 10:14	10/09/20 15:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**702**		30.0	26.0	mg/L			10/09/20 15:34	1

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-1

Client Sample ID: DUP2

Date Collected: 10/06/20 00:00
Date Received: 10/08/20 09:30

Lab Sample ID: 310-192463-7

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4.77**	**J**	5.00	2.00	mg/L			10/10/20 03:25	5
Fluoride	**0.407**	**J**	0.500	0.230	mg/L			10/10/20 03:25	5
Sulfate	**241**		5.00	3.55	mg/L			10/10/20 03:25	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000510		0.00100	0.000510	mg/L		10/09/20 08:55	10/14/20 21:45	1
Arsenic	**0.0158**		0.00200	0.000880	mg/L		10/09/20 08:55	10/14/20 21:45	1
Barium	**0.130**		0.00200	0.000280	mg/L		10/09/20 08:55	10/14/20 21:45	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/09/20 08:55	10/14/20 21:45	1
Boron	**2.62**		0.100	0.0800	mg/L		10/09/20 08:55	10/14/20 21:45	1
Cadmium	<0.0000490		0.000100	0.0000490	mg/L		10/09/20 08:55	10/14/20 21:45	1
Calcium	**160**		0.500	0.190	mg/L		10/09/20 08:55	10/14/20 21:45	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/09/20 08:55	10/14/20 21:45	1
Cobalt	**0.00114**		0.000500	0.0000910	mg/L		10/09/20 08:55	10/14/20 21:45	1
Lead	<0.000110		0.000500	0.000110	mg/L		10/09/20 08:55	10/14/20 21:45	1
Lithium	**0.0263**		0.0100	0.00250	mg/L		10/09/20 08:55	10/15/20 15:09	1
Molybdenum	**0.0311**		0.00200	0.00110	mg/L		10/09/20 08:55	10/14/20 21:45	1
Selenium	**0.0195**		0.00500	0.00100	mg/L		10/09/20 08:55	10/14/20 21:45	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/09/20 08:55	10/14/20 21:45	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000100		0.000200	0.000100	mg/L		10/09/20 10:14	10/09/20 15:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**880**		30.0	26.0	mg/L			10/12/20 11:43	1

Client: Omaha Public Power District
Job ID: 310-192463-1
Project/Site: Nebraska City Unit 1 CCR

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-295120/3
Matrix: Water
Analysis Batch: 295120

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.400		1.00	0.400	mg/L			10/09/20 21:10	1
Fluoride	<0.0460		0.100	0.0460	mg/L			10/09/20 21:10	1
Sulfate	<0.710		1.00	0.710	mg/L			10/09/20 21:10	1

Lab Sample ID: LCS 310-295120/4
Matrix: Water
Analysis Batch: 295120

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.857		mg/L		99	90 - 110
Fluoride	2.00	2.060		mg/L		103	90 - 110
Sulfate	10.0	10.27		mg/L		103	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-294789/1-A
Matrix: Water
Analysis Batch: 295528

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 294789

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000510		0.00100	0.000510	mg/L		10/09/20 08:55	10/14/20 20:27	1
Arsenic	<0.000880		0.00200	0.000880	mg/L		10/09/20 08:55	10/14/20 20:27	1
Barium	<0.000280		0.00200	0.000280	mg/L		10/09/20 08:55	10/14/20 20:27	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/09/20 08:55	10/14/20 20:27	1
Boron	<0.0800		0.100	0.0800	mg/L		10/09/20 08:55	10/14/20 20:27	1
Cadmium	<0.0000490		0.000100	0.0000490	mg/L		10/09/20 08:55	10/14/20 20:27	1
Calcium	<0.190		0.500	0.190	mg/L		10/09/20 08:55	10/14/20 20:27	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/09/20 08:55	10/14/20 20:27	1
Cobalt	<0.0000910		0.000500	0.0000910	mg/L		10/09/20 08:55	10/14/20 20:27	1
Lead	<0.000110		0.000500	0.000110	mg/L		10/09/20 08:55	10/14/20 20:27	1
Lithium	<0.00250		0.0100	0.00250	mg/L		10/09/20 08:55	10/14/20 20:27	1
Molybdenum	<0.00110		0.00200	0.00110	mg/L		10/09/20 08:55	10/14/20 20:27	1
Selenium	<0.00100		0.00500	0.00100	mg/L		10/09/20 08:55	10/14/20 20:27	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/09/20 08:55	10/14/20 20:27	1

Lab Sample ID: LCS 310-294789/2-A
Matrix: Water
Analysis Batch: 295528

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 294789

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.200	0.2096		mg/L		105	80 - 120
Arsenic	0.200	0.2107		mg/L		105	80 - 120
Barium	0.100	0.1076		mg/L		108	80 - 120
Beryllium	0.100	0.1073		mg/L		107	80 - 120
Boron	0.200	0.2046		mg/L		102	80 - 120
Cadmium	0.100	0.1058		mg/L		106	80 - 120
Calcium	2.00	1.857		mg/L		93	80 - 120
Chromium	0.100	0.1012		mg/L		101	80 - 120
Cobalt	0.100	0.1061		mg/L		106	80 - 120

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

Lab Sample ID: LCS 310-294789/2-A
Matrix: Water
Analysis Batch: 295528

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 294789

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.200	0.2203		mg/L		110	80 - 120
Lithium	0.200	0.2116		mg/L		106	80 - 120
Molybdenum	0.200	0.2122		mg/L		106	80 - 120
Selenium	0.400	0.4202		mg/L		105	80 - 120

Lab Sample ID: LCS 310-294789/2-A ^10
Matrix: Water
Analysis Batch: 295528

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 294789

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium	0.200	0.2290		mg/L		115	80 - 120

Lab Sample ID: 310-192463-2 DU
Matrix: Water
Analysis Batch: 295528

Client Sample ID: NC1MW3
Prep Type: Total/NA
Prep Batch: 294789

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.000510		<0.000510		mg/L		NC	20
Arsenic	0.0317		0.03243		mg/L		2	20
Barium	0.126		0.1283		mg/L		1	20
Beryllium	<0.000270		<0.000270		mg/L		NC	20
Boron	2.57		2.591		mg/L		0.6	20
Cadmium	<0.0000490		<0.0000490		mg/L		NC	20
Calcium	173		177.4		mg/L		3	20
Chromium	<0.00110		<0.00110		mg/L		NC	20
Cobalt	0.00153		0.001527		mg/L		0.5	20
Lead	<0.000110		<0.000110		mg/L		NC	20
Molybdenum	<0.00110		<0.00110		mg/L		NC	20
Selenium	<0.00100		<0.00100		mg/L		NC	20
Thallium	<0.000260		<0.000260		mg/L		NC	20

Lab Sample ID: 310-192463-2 DU
Matrix: Water
Analysis Batch: 295753

Client Sample ID: NC1MW3
Prep Type: Total/NA
Prep Batch: 294789

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lithium	0.0361		0.03299		mg/L		9	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-294818/1-A
Matrix: Water
Analysis Batch: 295090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 294818

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000100		0.000200	0.000100	mg/L		10/09/20 10:14	10/09/20 14:39	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 310-294818/2-A
Matrix: Water
Analysis Batch: 295090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 294818

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00167	0.001740		mg/L		104	80 - 120

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

Lab Sample ID: MB 310-294902/1
Matrix: Water
Analysis Batch: 294902

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	<26.0		30.0	26.0	mg/L			10/09/20 15:34	1

Lab Sample ID: LCS 310-294902/2
Matrix: Water
Analysis Batch: 294902

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	992.0		mg/L		99	90 - 110

Lab Sample ID: MB 310-295081/1
Matrix: Water
Analysis Batch: 295081

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	<26.0		30.0	26.0	mg/L			10/12/20 11:43	1

Lab Sample ID: LCS 310-295081/2
Matrix: Water
Analysis Batch: 295081

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	934.0		mg/L		93	90 - 110

HPLC/IC

Analysis Batch: 295120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192463-1	NC1MW2	Total/NA	Water	9056A	
310-192463-2	NC1MW3	Total/NA	Water	9056A	
310-192463-3	NC1MW4	Total/NA	Water	9056A	
310-192463-4	NC1MW9	Total/NA	Water	9056A	
310-192463-5	MW11	Total/NA	Water	9056A	
310-192463-6	MW14	Total/NA	Water	9056A	
310-192463-7	DUP2	Total/NA	Water	9056A	
MB 310-295120/3	Method Blank	Total/NA	Water	9056A	
LCS 310-295120/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 294789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192463-1	NC1MW2	Total/NA	Water	3010A	
310-192463-2	NC1MW3	Total/NA	Water	3010A	
310-192463-3	NC1MW4	Total/NA	Water	3010A	
310-192463-4	NC1MW9	Total/NA	Water	3010A	
310-192463-5	MW11	Total/NA	Water	3010A	
310-192463-6	MW14	Total/NA	Water	3010A	
310-192463-7	DUP2	Total/NA	Water	3010A	
MB 310-294789/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-294789/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCS 310-294789/2-A ^10	Lab Control Sample	Total/NA	Water	3010A	
310-192463-2 DU	NC1MW3	Total/NA	Water	3010A	

Prep Batch: 294818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192463-1	NC1MW2	Total/NA	Water	7470A	
310-192463-2	NC1MW3	Total/NA	Water	7470A	
310-192463-3	NC1MW4	Total/NA	Water	7470A	
310-192463-4	NC1MW9	Total/NA	Water	7470A	
310-192463-5	MW11	Total/NA	Water	7470A	
310-192463-6	MW14	Total/NA	Water	7470A	
310-192463-7	DUP2	Total/NA	Water	7470A	
MB 310-294818/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-294818/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 295090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192463-1	NC1MW2	Total/NA	Water	7470A	294818
310-192463-2	NC1MW3	Total/NA	Water	7470A	294818
310-192463-3	NC1MW4	Total/NA	Water	7470A	294818
310-192463-4	NC1MW9	Total/NA	Water	7470A	294818
310-192463-5	MW11	Total/NA	Water	7470A	294818
310-192463-6	MW14	Total/NA	Water	7470A	294818
310-192463-7	DUP2	Total/NA	Water	7470A	294818
MB 310-294818/1-A	Method Blank	Total/NA	Water	7470A	294818
LCS 310-294818/2-A	Lab Control Sample	Total/NA	Water	7470A	294818

Metals

Analysis Batch: 295528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192463-1	NC1MW2	Total/NA	Water	6020A	294789
310-192463-2	NC1MW3	Total/NA	Water	6020A	294789
310-192463-3	NC1MW4	Total/NA	Water	6020A	294789
310-192463-4	NC1MW9	Total/NA	Water	6020A	294789
310-192463-5	MW11	Total/NA	Water	6020A	294789
310-192463-6	MW14	Total/NA	Water	6020A	294789
310-192463-7	DUP2	Total/NA	Water	6020A	294789
MB 310-294789/1-A	Method Blank	Total/NA	Water	6020A	294789
LCS 310-294789/2-A	Lab Control Sample	Total/NA	Water	6020A	294789
LCS 310-294789/2-A ^10	Lab Control Sample	Total/NA	Water	6020A	294789
310-192463-2 DU	NC1MW3	Total/NA	Water	6020A	294789

Analysis Batch: 295753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192463-3	NC1MW4	Total/NA	Water	6020A	294789
310-192463-4	NC1MW9	Total/NA	Water	6020A	294789
310-192463-5	MW11	Total/NA	Water	6020A	294789
310-192463-6	MW14	Total/NA	Water	6020A	294789
310-192463-7	DUP2	Total/NA	Water	6020A	294789
310-192463-2 DU	NC1MW3	Total/NA	Water	6020A	294789

General Chemistry

Analysis Batch: 294902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192463-6	MW14	Total/NA	Water	SM 2540C	
MB 310-294902/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-294902/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 295081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192463-1	NC1MW2	Total/NA	Water	SM 2540C	
310-192463-2	NC1MW3	Total/NA	Water	SM 2540C	
310-192463-3	NC1MW4	Total/NA	Water	SM 2540C	
310-192463-4	NC1MW9	Total/NA	Water	SM 2540C	
310-192463-5	MW11	Total/NA	Water	SM 2540C	
310-192463-7	DUP2	Total/NA	Water	SM 2540C	
MB 310-295081/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-295081/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-1

Client Sample ID: NC1MW2

Lab Sample ID: 310-192463-1

Date Collected: 10/06/20 14:23

Matrix: Water

Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	295120	10/10/20 01:14	ACJ	TAL CF
Total/NA	Prep	3010A			294789	10/09/20 08:55	HED	TAL CF
Total/NA	Analysis	6020A		1	295528	10/14/20 21:16	SAD	TAL CF
Total/NA	Prep	7470A			294818	10/09/20 10:14	ACJ	TAL CF
Total/NA	Analysis	7470A		1	295090	10/09/20 15:19	ACJ	TAL CF
Total/NA	Analysis	SM 2540C		1	295081	10/12/20 11:43	SAS	TAL CF

Client Sample ID: NC1MW3

Lab Sample ID: 310-192463-2

Date Collected: 10/06/20 16:08

Matrix: Water

Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	295120	10/10/20 01:31	ACJ	TAL CF
Total/NA	Prep	3010A			294789	10/09/20 08:55	HED	TAL CF
Total/NA	Analysis	6020A		1	295528	10/14/20 21:19	SAD	TAL CF
Total/NA	Prep	7470A			294818	10/09/20 10:14	ACJ	TAL CF
Total/NA	Analysis	7470A		1	295090	10/09/20 15:22	ACJ	TAL CF
Total/NA	Analysis	SM 2540C		1	295081	10/12/20 11:43	SAS	TAL CF

Client Sample ID: NC1MW4

Lab Sample ID: 310-192463-3

Date Collected: 10/06/20 14:57

Matrix: Water

Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	295120	10/10/20 01:47	ACJ	TAL CF
Total/NA	Prep	3010A			294789	10/09/20 08:55	HED	TAL CF
Total/NA	Analysis	6020A		1	295528	10/14/20 21:34	SAD	TAL CF
Total/NA	Prep	3010A			294789	10/09/20 08:55	HED	TAL CF
Total/NA	Analysis	6020A		1	295753	10/15/20 14:58	SAD	TAL CF
Total/NA	Prep	7470A			294818	10/09/20 10:14	ACJ	TAL CF
Total/NA	Analysis	7470A		1	295090	10/09/20 15:24	ACJ	TAL CF
Total/NA	Analysis	SM 2540C		1	295081	10/12/20 11:43	SAS	TAL CF

Client Sample ID: NC1MW9

Lab Sample ID: 310-192463-4

Date Collected: 10/06/20 16:50

Matrix: Water

Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	295120	10/10/20 02:03	ACJ	TAL CF
Total/NA	Prep	3010A			294789	10/09/20 08:55	HED	TAL CF
Total/NA	Analysis	6020A		1	295528	10/14/20 21:37	SAD	TAL CF
Total/NA	Prep	3010A			294789	10/09/20 08:55	HED	TAL CF
Total/NA	Analysis	6020A		1	295753	10/15/20 15:01	SAD	TAL CF
Total/NA	Prep	7470A			294818	10/09/20 10:14	ACJ	TAL CF
Total/NA	Analysis	7470A		1	295090	10/09/20 15:26	ACJ	TAL CF

Lab Chronicle

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-1

Client Sample ID: NC1MW9

Lab Sample ID: 310-192463-4

Date Collected: 10/06/20 16:50
Matrix: Water
Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	295081	10/12/20 11:43	SAS	TAL CF

Client Sample ID: MW11

Lab Sample ID: 310-192463-5

Date Collected: 10/06/20 13:36
Matrix: Water
Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	295120	10/10/20 02:20	ACJ	TAL CF
Total/NA	Prep	3010A			294789	10/09/20 08:55	HED	TAL CF
Total/NA	Analysis	6020A		1	295528	10/14/20 21:40	SAD	TAL CF
Total/NA	Prep	3010A			294789	10/09/20 08:55	HED	TAL CF
Total/NA	Analysis	6020A		1	295753	10/15/20 15:03	SAD	TAL CF
Total/NA	Prep	7470A			294818	10/09/20 10:14	ACJ	TAL CF
Total/NA	Analysis	7470A		1	295090	10/09/20 15:28	ACJ	TAL CF
Total/NA	Analysis	SM 2540C		1	295081	10/12/20 11:43	SAS	TAL CF

Client Sample ID: MW14

Lab Sample ID: 310-192463-6

Date Collected: 10/05/20 12:12
Matrix: Water
Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	295120	10/10/20 02:36	ACJ	TAL CF
Total/NA	Prep	3010A			294789	10/09/20 08:55	HED	TAL CF
Total/NA	Analysis	6020A		1	295528	10/14/20 21:42	SAD	TAL CF
Total/NA	Prep	3010A			294789	10/09/20 08:55	HED	TAL CF
Total/NA	Analysis	6020A		1	295753	10/15/20 15:06	SAD	TAL CF
Total/NA	Prep	7470A			294818	10/09/20 10:14	ACJ	TAL CF
Total/NA	Analysis	7470A		1	295090	10/09/20 15:30	ACJ	TAL CF
Total/NA	Analysis	SM 2540C		1	294902	10/09/20 15:34	SAS	TAL CF

Client Sample ID: DUP2

Lab Sample ID: 310-192463-7

Date Collected: 10/06/20 00:00
Matrix: Water
Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	295120	10/10/20 03:25	ACJ	TAL CF
Total/NA	Prep	3010A			294789	10/09/20 08:55	HED	TAL CF
Total/NA	Analysis	6020A		1	295528	10/14/20 21:45	SAD	TAL CF
Total/NA	Prep	3010A			294789	10/09/20 08:55	HED	TAL CF
Total/NA	Analysis	6020A		1	295753	10/15/20 15:09	SAD	TAL CF
Total/NA	Prep	7470A			294818	10/09/20 10:14	ACJ	TAL CF
Total/NA	Analysis	7470A		1	295090	10/09/20 15:32	ACJ	TAL CF
Total/NA	Analysis	SM 2540C		1	295081	10/12/20 11:43	SAS	TAL CF

Lab Chronicle

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-1

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-1

Laboratory: Eurofins TestAmerica, Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
AIHA-LAP, LLC	Industrial Hygiene Laboratory Accreditation Program (IHLAP)	101044	11-01-20
Colorado	Petroleum Storage Tank Program	IA100001 (OR)	09-29-21
Georgia	State	IA100001 (OR)	09-29-21
Illinois	NELAP	200024	11-29-20
Iowa	State	007	12-01-21
Kansas	NELAP	E-10341	01-31-21
Minnesota	NELAP	019-999-319	12-31-20
Minnesota (Petrofund)	State	3349	08-22-21
North Dakota	State	R-186	09-30-20 *
Oregon	NELAP	IA100001	09-29-21
USDA	US Federal Programs	P330-19-00003	01-02-22

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

Method Summary

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

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

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

Laboratory References:

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

eurofins | Environment Testing TestAmerica

310-192463 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE City Station Unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HGD/LB

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

Condition of Cooler/Containers

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

Multiple Coolers? ☒ Yes ☐ No *If yes:* Cooler # 1 of 5

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

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

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

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.9

Corrected Temp (°C): 1.0

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE City Station Unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HED/LB

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

Condition of Cooler/Containers

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

Multiple Coolers? ☒ Yes ☐ No *If yes:* Cooler # 2 of 5

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

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

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

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.9

Corrected Temp (°C): 1.0

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE city Station unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HED/LB

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

Condition of Cooler/Containers

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

Multiple Coolers? ☒ Yes ☐ No *If yes:* Cooler # 3 of 5

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

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

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

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.5

Corrected Temp (°C): 0.6

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE city station unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HED/LB

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 4 of 5
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 1.1

Corrected Temp (°C): 1.2

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha | STATE NE | Project: NE city station unit 2 CCR/Landfi

Receipt Information

Date/Time Received: DATE 10/8/20 | TIME 0930 | Received By: HED/LB

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 5 of 5	
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact?	☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓	

Temperature Record

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

Thermometer ID: M | Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.8 | Corrected Temp (°C): 0.9

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

TestAmerica Omaha SC
268

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Kyle K. Uhing	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: Kyle Uhing	Phone: (402) 226-2515	E-Mail: shawn.hayes@testamericainc.com		Page:
Company: Omaha Public Power District				Job #:
Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:			
City: Omaha	TAT Requested (days):			
State, Zip: NE, 68102-2247				
Phone: (531) 226-2515	PO #:			
Email: kkuhing@oppd.com	WO #:			
Project Name: Nebraska City Station Unit 1 CCR / Landfill	TestAmerica Project #: 31007558			
Site: Nebraska City Station Unit 1	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate										Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N											
NC1MW2	10/6/20	14:23	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC1MW3	10/6/20	16:08	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC1MW4	10/6/20	14:57	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC2MW4	10/5/20	11:05	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC1MW9	10/6/20	16:50	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
MW11	10/6/20	13:36	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
MW13	10/5/20	9:52	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
MW14	10/5/20	12:12	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
DUP2	10/6/20	--	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		10/7/2020 9:52	OPPD		10.7.2020 0952	EHEN
2		10.7.2020 1700	EHEN		10-8-20 0930	ETAC
3						

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

10/16/2020

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-192463-1

Login Number: 192463

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Bovy, Lorrainna L

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	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	

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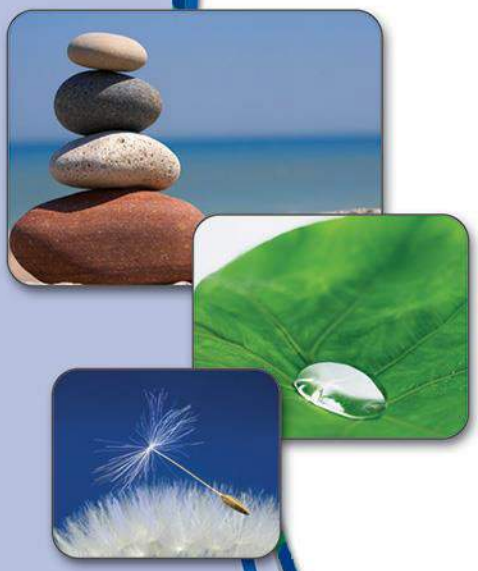

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-192463-2
Client Project/Site: Nebraska City Unit 1 CCR

For:
Omaha Public Power District
Attn: Accounts Payable, 4E/EP-5
444 South 16th Street Mall
Omaha, Nebraska 68102-2247

Attn: Kyle Uhing

Authorized for release by:
11/18/2020 10:44:34 AM

Shawn Hayes, Senior Project Manager
(319)229-8211
Shawn.Hayes@Eurofinset.com

Table of Contents

Case Narrative

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-2

Job ID: 310-192463-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-192463-2

Comments
No additional comments.

Receipt
The samples were received on 10/8/2020 9:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 0.6º C, 0.9º C, 1.0º C, 1.0º C and 1.2º C.

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

Sample Summary

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-192463-1	NC1MW2	Water	10/06/20 14:23	10/08/20 09:30	
310-192463-2	NC1MW3	Water	10/06/20 16:08	10/08/20 09:30	
310-192463-3	NC1MW4	Water	10/06/20 14:57	10/08/20 09:30	
310-192463-4	NC1MW9	Water	10/06/20 16:50	10/08/20 09:30	
310-192463-5	MW11	Water	10/06/20 13:36	10/08/20 09:30	
310-192463-6	MW14	Water	10/05/20 12:12	10/08/20 09:30	
310-192463-7	DUP2	Water	10/06/20 00:00	10/08/20 09:30	

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-2

Client Sample ID: NC1MW2
Date Collected: 10/06/20 14:23
Date Received: 10/08/20 09:30

Lab Sample ID: 310-192463-1
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0363	U	0.228	0.228	1.00	0.460	pCi/L	10/15/20 09:02	11/12/20 19:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.1*		*40 - 110*	*10/15/20 09:02*	*11/12/20 19:34*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.412	U	0.378	0.380	1.00	0.611	pCi/L	10/15/20 09:50	11/12/20 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.1*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:09*	*1*
Y Carrier	*75.5*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:09*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.376	U	0.441	0.443	5.00	0.611	pCi/L		11/18/20 00:38	1

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-2

Client Sample ID: NC1MW3
Date Collected: 10/06/20 16:08
Date Received: 10/08/20 09:30

Lab Sample ID: 310-192463-2
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.120	U	0.248	0.248	1.00	0.441	pCi/L	10/15/20 09:02	11/12/20 19:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.4*		*40 - 110*	*10/15/20 09:02*	*11/12/20 19:34*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.875**		0.385	0.394	1.00	0.553	pCi/L	10/15/20 09:50	11/12/20 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.4*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:09*	*1*
Y Carrier	*73.3*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:09*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.994**		0.458	0.466	5.00	0.553	pCi/L		11/18/20 00:38	1

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-2

Client Sample ID: NC1MW4
Date Collected: 10/06/20 14:57
Date Received: 10/08/20 09:30

Lab Sample ID: 310-192463-3
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.416		0.286	0.288	1.00	0.407	pCi/L	10/15/20 09:02	11/12/20 19:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.0*		*40 - 110*	*10/15/20 09:02*	*11/12/20 19:38*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.410	U	0.304	0.307	1.00	0.611	pCi/L	10/15/20 09:50	11/12/20 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.0*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:09*	*1*
Y Carrier	*77.8*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:09*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.00604	U	0.417	0.421	5.00	0.611	pCi/L		11/18/20 00:38	1

Client Sample ID: NC1MW9

Date Collected: 10/06/20 16:50
Date Received: 10/08/20 09:30

Lab Sample ID: 310-192463-4

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.141	U	0.210	0.211	1.00	0.361	pCi/L	10/15/20 09:02	11/12/20 19:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.3*		*40 - 110*	*10/15/20 09:02*	*11/12/20 19:38*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.687**		0.387	0.393	1.00	0.583	pCi/L	10/15/20 09:50	11/12/20 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.3*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:09*	*1*
Y Carrier	*75.1*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:09*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.828**		0.440	0.446	5.00	0.583	pCi/L		11/18/20 00:38	1

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-2

Client Sample ID: MW11
Date Collected: 10/06/20 13:36
Date Received: 10/08/20 09:30

Lab Sample ID: 310-192463-5
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.311	U	0.270	0.271	1.00	0.414	pCi/L	10/15/20 09:02	11/12/20 19:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.1*		*40 - 110*	*10/15/20 09:02*	*11/12/20 19:38*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0149	U	0.287	0.287	1.00	0.514	pCi/L	10/15/20 09:50	11/12/20 12:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.1*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:22*	*1*
Y Carrier	*78.5*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:22*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.326	U	0.394	0.395	5.00	0.514	pCi/L		11/18/20 00:38	1

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-2

Client Sample ID: MW14
Date Collected: 10/05/20 12:12
Date Received: 10/08/20 09:30

Lab Sample ID: 310-192463-6
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.615		0.265	0.271	1.00	0.274	pCi/L	10/15/20 09:02	11/12/20 19:39	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.0*		*40 - 110*	*10/15/20 09:02*	*11/12/20 19:39*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.84		0.379	0.415	1.00	0.387	pCi/L	10/15/20 09:50	11/12/20 12:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.0*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:22*	*1*
Y Carrier	*83.0*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:22*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.45		0.462	0.496	5.00	0.387	pCi/L		11/18/20 00:38	1

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-2

Client Sample ID: DUP2

Date Collected: 10/06/20 00:00
Date Received: 10/08/20 09:30

Lab Sample ID: 310-192463-7

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.275		0.190	0.191	1.00	0.253	pCi/L	10/15/20 09:02	11/12/20 19:39	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.6*		*40 - 110*	*10/15/20 09:02*	*11/12/20 19:39*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.548		0.304	0.308	1.00	0.457	pCi/L	10/15/20 09:50	11/12/20 12:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.6*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:22*	*1*
Y Carrier	*80.4*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:22*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.823		0.358	0.362	5.00	0.457	pCi/L		11/18/20 00:38	1

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-192463-2
Project/Site: Nebraska City Unit 1 CCR

Qualifiers

Rad

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

Glossary

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

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-485734/24-A
Matrix: Water
Analysis Batch: 488962

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 485734

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1697	U	0.237	0.238	1.00	0.401	pCi/L	10/15/20 09:02	11/12/20 21:21	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.8*		*40 - 110*	*10/15/20 09:02*	*11/12/20 21:21*	*1*

Lab Sample ID: LCS 160-485734/1-A
Matrix: Water
Analysis Batch: 488988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 485734

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	11.56		1.47	1.00	0.305	pCi/L	102	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*83.6*		*40 - 110*

Lab Sample ID: LCSD 160-485734/2-A
Matrix: Water
Analysis Batch: 488989

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 485734

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.3	10.21		1.35	1.00	0.351	pCi/L	90	75 - 125	0.48	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*83.6*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-485742/24-A
Matrix: Water
Analysis Batch: 488987

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 485742

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.9626		0.405	0.414	1.00	0.576	pCi/L	10/15/20 09:50	11/12/20 12:23	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.8*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:23*	*1*
Y Carrier	*77.8*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:23*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-485742/1-A
Matrix: Water
Analysis Batch: 488989

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 485742

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			7.66	8.312		1.04	1.00	0.462	pCi/L	108	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*83.6*		*40 - 110*
Y Carrier	*81.9*		*40 - 110*

Lab Sample ID: LCSD 160-485742/2-A
Matrix: Water
Analysis Batch: 488989

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 485742

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			7.66	7.943		1.02	1.00	0.523	pCi/L	104	75 - 125	0.18	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*83.6*		*40 - 110*
Y Carrier	*81.1*		*40 - 110*

Client: Omaha Public Power District
Job ID: 310-192463-2
Project/Site: Nebraska City Unit 1 CCR

Rad

Prep Batch: 485734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192463-1	NC1MW2	Total/NA	Water	PrecSep-21	
310-192463-2	NC1MW3	Total/NA	Water	PrecSep-21	
310-192463-3	NC1MW4	Total/NA	Water	PrecSep-21	
310-192463-4	NC1MW9	Total/NA	Water	PrecSep-21	
310-192463-5	MW11	Total/NA	Water	PrecSep-21	
310-192463-6	MW14	Total/NA	Water	PrecSep-21	
310-192463-7	DUP2	Total/NA	Water	PrecSep-21	
MB 160-485734/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-485734/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-485734/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 485742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192463-1	NC1MW2	Total/NA	Water	PrecSep_0	
310-192463-2	NC1MW3	Total/NA	Water	PrecSep_0	
310-192463-3	NC1MW4	Total/NA	Water	PrecSep_0	
310-192463-4	NC1MW9	Total/NA	Water	PrecSep_0	
310-192463-5	MW11	Total/NA	Water	PrecSep_0	
310-192463-6	MW14	Total/NA	Water	PrecSep_0	
310-192463-7	DUP2	Total/NA	Water	PrecSep_0	
MB 160-485742/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-485742/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-485742/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-2

Client Sample ID: NC1MW2

Lab Sample ID: 310-192463-1

Date Collected: 10/06/20 14:23

Matrix: Water

Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			485734	10/15/20 09:02	AVB	TAL SL
Total/NA	Analysis	9315		1	488989	11/12/20 19:34	FLC	TAL SL
Total/NA	Prep	PrecSep_0			485742	10/15/20 09:50	AVB	TAL SL
Total/NA	Analysis	9320		1	488989	11/12/20 12:09	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	489417	11/18/20 00:38	SCB	TAL SL

Client Sample ID: NC1MW3

Lab Sample ID: 310-192463-2

Date Collected: 10/06/20 16:08

Matrix: Water

Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			485734	10/15/20 09:02	AVB	TAL SL
Total/NA	Analysis	9315		1	488989	11/12/20 19:34	FLC	TAL SL
Total/NA	Prep	PrecSep_0			485742	10/15/20 09:50	AVB	TAL SL
Total/NA	Analysis	9320		1	488989	11/12/20 12:09	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	489417	11/18/20 00:38	SCB	TAL SL

Client Sample ID: NC1MW4

Lab Sample ID: 310-192463-3

Date Collected: 10/06/20 14:57

Matrix: Water

Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			485734	10/15/20 09:02	AVB	TAL SL
Total/NA	Analysis	9315		1	488962	11/12/20 19:38	FLC	TAL SL
Total/NA	Prep	PrecSep_0			485742	10/15/20 09:50	AVB	TAL SL
Total/NA	Analysis	9320		1	488989	11/12/20 12:09	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	489417	11/18/20 00:38	SCB	TAL SL

Client Sample ID: NC1MW9

Lab Sample ID: 310-192463-4

Date Collected: 10/06/20 16:50

Matrix: Water

Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			485734	10/15/20 09:02	AVB	TAL SL
Total/NA	Analysis	9315		1	488962	11/12/20 19:38	FLC	TAL SL
Total/NA	Prep	PrecSep_0			485742	10/15/20 09:50	AVB	TAL SL
Total/NA	Analysis	9320		1	488989	11/12/20 12:09	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	489417	11/18/20 00:38	SCB	TAL SL

Lab Chronicle

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-2

Client Sample ID: MW11

Lab Sample ID: 310-192463-5

Date Collected: 10/06/20 13:36

Matrix: Water

Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			485734	10/15/20 09:02	AVB	TAL SL
Total/NA	Analysis	9315		1	488962	11/12/20 19:38	FLC	TAL SL
Total/NA	Prep	PrecSep_0			485742	10/15/20 09:50	AVB	TAL SL
Total/NA	Analysis	9320		1	488987	11/12/20 12:22	CMM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	489417	11/18/20 00:38	SCB	TAL SL

Client Sample ID: MW14

Lab Sample ID: 310-192463-6

Date Collected: 10/05/20 12:12

Matrix: Water

Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			485734	10/15/20 09:02	AVB	TAL SL
Total/NA	Analysis	9315		1	488962	11/12/20 19:39	FLC	TAL SL
Total/NA	Prep	PrecSep_0			485742	10/15/20 09:50	AVB	TAL SL
Total/NA	Analysis	9320		1	488987	11/12/20 12:22	CMM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	489417	11/18/20 00:38	SCB	TAL SL

Client Sample ID: DUP2

Lab Sample ID: 310-192463-7

Date Collected: 10/06/20 00:00

Matrix: Water

Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			485734	10/15/20 09:02	AVB	TAL SL
Total/NA	Analysis	9315		1	488962	11/12/20 19:39	FLC	TAL SL
Total/NA	Prep	PrecSep_0			485742	10/15/20 09:50	AVB	TAL SL
Total/NA	Analysis	9320		1	488987	11/12/20 12:22	CMM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	489417	11/18/20 00:38	SCB	TAL SL

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-2

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-20
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-20
Iowa	State	373	12-01-20
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-21
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	02-28-21
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193-19-13	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

Method Summary

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

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

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

Laboratory References:

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

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310-192463 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE City Station Unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HGD/LB

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

Condition of Cooler/Containers

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

Multiple Coolers? ☒ Yes ☐ No *If yes:* Cooler # 1 of 5

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

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

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

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.9

Corrected Temp (°C): 1.0

Sample Container Temperature

Container(s) used:	CONTAINER 1	CONTAINER 2
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE City Station Unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HED/LB

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 2 of 5
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.9

Corrected Temp (°C): 1.0

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE city Station unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HED/LB

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 3 of 5
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.5

Corrected Temp (°C): 0.6

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

eurofins | Environment Testing TestAmerica

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Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE city station unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HED/LB

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 4 of 5
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 1.1

Corrected Temp (°C): 1.2

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

eurofins | Environment Testing TestAmerica

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Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE city station unit 2 CCR/Landfi

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HED/LB

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 5 of 5	
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact?	☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓	

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.8

Corrected Temp (°C): 0.9

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

TestAmerica Omaha SC
268

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Kyle K. Uhing	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: Kyle Uhing	Phone: (402) 226-2515	E-Mail: shawn.hayes@testamericainc.com		Page:
Company: Omaha Public Power District				Job #:
Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:			
City: Omaha	TAT Requested (days):			
State, Zip: NE, 68102-2247				
Phone: (531) 226-2515	PO #:			
Email: kkuhing@oppd.com	WO #:			
Project Name: Nebraska City Station Unit 1 CCR / Landfill	TestAmerica Project #: 31007558			
Site: Nebraska City Station Unit 1	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate										Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N											
NC1MW2	10/6/20	14:23	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC1MW3	10/6/20	16:08	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC1MW4	10/6/20	14:57	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC2MW4	10/5/20	11:05	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC1MW9	10/6/20	16:50	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
MW11	10/6/20	13:36	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
MW13	10/5/20	9:52	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
MW14	10/5/20	12:12	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
DUP2	10/6/20	--	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		10/7/2020 9:52	OPPD		10.7.2020 0952	EHV
2		10.7.2020 1700	EHV		10-8-20 0930	EACF
3						

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

11/18/2020

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-192463-2

Login Number: 192463

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Bovy, Lorrainna L

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

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-192463-2

Login Number: 192463
List Number: 2
Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis
List Creation: 10/09/20 08:09 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	

Tracer/Carrier Summary

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 CCR

Job ID: 310-192463-2

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-192463-1	NC1MW2	82.1
310-192463-2	NC1MW3	80.4
310-192463-3	NC1MW4	76.0
310-192463-4	NC1MW9	73.3
310-192463-5	MW11	77.1
310-192463-6	MW14	83.0
310-192463-7	DUP2	90.6
LCS 160-485734/1-A	Lab Control Sample	83.6
LCSD 160-485734/2-A	Lab Control Sample Dup	83.6
MB 160-485734/24-A	Method Blank	74.8

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

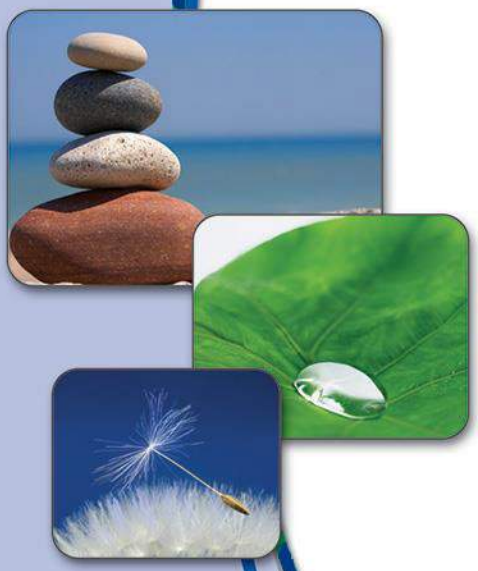
		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
310-192463-1	NC1MW2	82.1	75.5
310-192463-2	NC1MW3	80.4	73.3
310-192463-3	NC1MW4	76.0	77.8
310-192463-4	NC1MW9	73.3	75.1
310-192463-5	MW11	77.1	78.5
310-192463-6	MW14	83.0	83.0
310-192463-7	DUP2	90.6	80.4
LCS 160-485742/1-A	Lab Control Sample	83.6	81.9
LCSD 160-485742/2-A	Lab Control Sample Dup	83.6	81.1
MB 160-485742/24-A	Method Blank	74.8	77.8

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-192466-1
Client Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

For:
Omaha Public Power District
Attn: Accounts Payable, 4E/EP-5
444 South 16th Street Mall
Omaha, Nebraska 68102-2247

Attn: Kyle Uhing

Authorized for release by:
10/14/2020 11:18:31 AM

Shawn Hayes, Senior Project Manager
(319)229-8211
Shawn.Hayes@Eurofinset.com

Table of Contents

Case Narrative

Client: Omaha Public Power District
Job ID: 310-192466-1
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Job ID: 310-192466-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-192466-1

Comments
No additional comments.

Receipt
The samples were received on 10/8/2020 9:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 0.6º C, 0.9º C, 1.0º C, 1.0º C and 1.2º C.

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

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

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

Sample Summary

Client: Omaha Public Power District
Job ID: 310-192466-1
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-192466-1	NC2MW4	Water	10/05/20 11:02	10/08/20 09:30	
310-192466-2	MW13	Water	10/05/20 09:52	10/08/20 09:30	

Detection Summary

Client: Omaha Public Power District
Job ID: 310-192466-1
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Client Sample ID: NC2MW4 — Lab Sample ID: 310-192466-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.60		5.00	2.00	mg/L	5		9056A	Total/NA
Sulfate	46.1		5.00	3.55	mg/L	5		9056A	Total/NA
Arsenic	0.00348		0.00200	0.000880	mg/L	1		6020A	Total/NA
Barium	0.447		0.00200	0.000280	mg/L	1		6020A	Total/NA
Boron	0.0996	J	0.100	0.0800	mg/L	1		6020A	Total/NA
Cadmium	0.0000970	J	0.000100	0.0000490	mg/L	1		6020A	Total/NA
Calcium	154		0.500	0.190	mg/L	1		6020A	Total/NA
Chromium	0.00164	J	0.00500	0.00110	mg/L	1		6020A	Total/NA
Cobalt	0.00122		0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lead	0.00243		0.000500	0.000110	mg/L	1		6020A	Total/NA
Lithium	0.0349		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00272		0.00200	0.00110	mg/L	1		6020A	Total/NA
Total Dissolved Solids	608		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW13 — Lab Sample ID: 310-192466-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12.8		5.00	2.00	mg/L	5		9056A	Total/NA
Sulfate	46.2		5.00	3.55	mg/L	5		9056A	Total/NA
Arsenic	0.0188		0.00200	0.000880	mg/L	1		6020A	Total/NA
Barium	0.225		0.00200	0.000280	mg/L	1		6020A	Total/NA
Boron	0.0955	J	0.100	0.0800	mg/L	1		6020A	Total/NA
Calcium	118		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000384	J	0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lead	0.000178	J	0.000500	0.000110	mg/L	1		6020A	Total/NA
Lithium	0.0322		0.0100	0.00250	mg/L	1		6020A	Total/NA
Total Dissolved Solids	508		30.0	26.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Omaha Public Power District
Job ID: 310-192466-1
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Client Sample ID: NC2MW4
Lab Sample ID: 310-192466-1
Date Collected: 10/05/20 11:02
Matrix: Water
Date Received: 10/08/20 09:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.60**		5.00	2.00	mg/L			10/13/20 02:14	5
Fluoride	<0.230		0.500	0.230	mg/L			10/13/20 02:14	5
Sulfate	**46.1**		5.00	3.55	mg/L			10/13/20 02:14	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000510		0.00100	0.000510	mg/L		10/09/20 08:50	10/12/20 19:08	1
Arsenic	**0.00348**		0.00200	0.000880	mg/L		10/09/20 08:50	10/12/20 19:08	1
Barium	**0.447**		0.00200	0.000280	mg/L		10/09/20 08:50	10/12/20 19:08	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/09/20 08:50	10/12/20 19:08	1
Boron	**0.0996**	**J**	0.100	0.0800	mg/L		10/09/20 08:50	10/12/20 19:08	1
Cadmium	**0.0000970**	**J**	0.000100	0.0000490	mg/L		10/09/20 08:50	10/12/20 19:08	1
Calcium	**154**		0.500	0.190	mg/L		10/09/20 08:50	10/12/20 19:08	1
Chromium	**0.00164**	**J**	0.00500	0.00110	mg/L		10/09/20 08:50	10/12/20 19:08	1
Cobalt	**0.00122**		0.000500	0.0000910	mg/L		10/09/20 08:50	10/12/20 19:08	1
Lead	**0.00243**		0.000500	0.000110	mg/L		10/09/20 08:50	10/12/20 19:08	1
Lithium	**0.0349**		0.0100	0.00250	mg/L		10/09/20 08:50	10/13/20 14:26	1
Molybdenum	**0.00272**		0.00200	0.00110	mg/L		10/09/20 08:50	10/12/20 19:08	1
Selenium	<0.00100		0.00500	0.00100	mg/L		10/09/20 08:50	10/12/20 19:08	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/09/20 08:50	10/12/20 19:08	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000100		0.000200	0.000100	mg/L		10/09/20 10:14	10/09/20 14:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**608**		30.0	26.0	mg/L			10/09/20 15:34	1

Client: Omaha Public Power District
Job ID: 310-192466-1
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Client Sample ID: MW13
Lab Sample ID: 310-192466-2
Date Collected: 10/05/20 09:52
Matrix: Water
Date Received: 10/08/20 09:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**12.8**		5.00	2.00	mg/L			10/13/20 02:31	5
Fluoride	<0.230		0.500	0.230	mg/L			10/13/20 02:31	5
Sulfate	**46.2**		5.00	3.55	mg/L			10/13/20 02:31	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000510		0.00100	0.000510	mg/L		10/09/20 08:50	10/12/20 19:11	1
Arsenic	**0.0188**		0.00200	0.000880	mg/L		10/09/20 08:50	10/12/20 19:11	1
Barium	**0.225**		0.00200	0.000280	mg/L		10/09/20 08:50	10/12/20 19:11	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/09/20 08:50	10/12/20 19:11	1
Boron	**0.0955**	**J**	0.100	0.0800	mg/L		10/09/20 08:50	10/12/20 19:11	1
Cadmium	<0.0000490		0.000100	0.0000490	mg/L		10/09/20 08:50	10/12/20 19:11	1
Calcium	**118**		0.500	0.190	mg/L		10/09/20 08:50	10/12/20 19:11	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/09/20 08:50	10/12/20 19:11	1
Cobalt	**0.000384**	**J**	0.000500	0.0000910	mg/L		10/09/20 08:50	10/12/20 19:11	1
Lead	**0.000178**	**J**	0.000500	0.000110	mg/L		10/09/20 08:50	10/12/20 19:11	1
Lithium	**0.0322**		0.0100	0.00250	mg/L		10/09/20 08:50	10/13/20 14:36	1
Molybdenum	<0.00110		0.00200	0.00110	mg/L		10/09/20 08:50	10/12/20 19:11	1
Selenium	<0.00100		0.00500	0.00100	mg/L		10/09/20 08:50	10/12/20 19:11	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/09/20 08:50	10/12/20 19:11	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000100		0.000200	0.000100	mg/L		10/09/20 10:14	10/09/20 14:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**508**		30.0	26.0	mg/L			10/09/20 15:34	1

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-192466-1
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-295217/3
Matrix: Water
Analysis Batch: 295217

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.400		1.00	0.400	mg/L			10/12/20 21:19	1
Fluoride	<0.0460		0.100	0.0460	mg/L			10/12/20 21:19	1
Sulfate	<0.710		1.00	0.710	mg/L			10/12/20 21:19	1

Lab Sample ID: LCS 310-295217/4
Matrix: Water
Analysis Batch: 295217

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.852		mg/L		99	90 - 110
Fluoride	2.00	1.988		mg/L		99	90 - 110
Sulfate	10.0	10.39		mg/L		104	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-294788/1-A
Matrix: Water
Analysis Batch: 295198

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 294788

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000510		0.00100	0.000510	mg/L		10/09/20 08:50	10/12/20 17:38	1
Arsenic	<0.000880		0.00200	0.000880	mg/L		10/09/20 08:50	10/12/20 17:38	1
Barium	<0.000280		0.00200	0.000280	mg/L		10/09/20 08:50	10/12/20 17:38	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/09/20 08:50	10/12/20 17:38	1
Boron	<0.0800		0.100	0.0800	mg/L		10/09/20 08:50	10/12/20 17:38	1
Cadmium	<0.0000490		0.000100	0.0000490	mg/L		10/09/20 08:50	10/12/20 17:38	1
Calcium	<0.190		0.500	0.190	mg/L		10/09/20 08:50	10/12/20 17:38	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/09/20 08:50	10/12/20 17:38	1
Cobalt	<0.0000910		0.000500	0.0000910	mg/L		10/09/20 08:50	10/12/20 17:38	1
Lead	<0.000110		0.000500	0.000110	mg/L		10/09/20 08:50	10/12/20 17:38	1
Lithium	<0.00250		0.0100	0.00250	mg/L		10/09/20 08:50	10/12/20 17:38	1
Molybdenum	<0.00110		0.00200	0.00110	mg/L		10/09/20 08:50	10/12/20 17:38	1
Selenium	<0.00100		0.00500	0.00100	mg/L		10/09/20 08:50	10/12/20 17:38	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/09/20 08:50	10/12/20 17:38	1

Lab Sample ID: LCS 310-294788/2-A
Matrix: Water
Analysis Batch: 295198

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 294788

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.200	0.2118		mg/L		106	80 - 120
Arsenic	0.200	0.2222		mg/L		111	80 - 120
Barium	0.100	0.1171		mg/L		117	80 - 120
Beryllium	0.100	0.1094		mg/L		109	80 - 120
Boron	0.200	0.2030		mg/L		101	80 - 120
Cadmium	0.100	0.1085		mg/L		108	80 - 120
Calcium	2.00	2.145		mg/L		107	80 - 120
Chromium	0.100	0.1090		mg/L		109	80 - 120
Cobalt	0.100	0.1120		mg/L		112	80 - 120

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

Lab Sample ID: LCS 310-294788/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 295198 — **Prep Batch: 294788**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.200	0.2259		mg/L		113	80 - 120
Lithium	0.200	0.2061		mg/L		103	80 - 120
Molybdenum	0.200	0.2139		mg/L		107	80 - 120
Selenium	0.400	0.4465		mg/L		112	80 - 120

Lab Sample ID: LCS 310-294788/2-A ^10 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 295198 — **Prep Batch: 294788**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium	0.200	0.1831		mg/L		92	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-294818/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 295090 — **Prep Batch: 294818**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000100		0.000200	0.000100	mg/L		10/09/20 10:14	10/09/20 14:39	1

Lab Sample ID: LCS 310-294818/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 295090 — **Prep Batch: 294818**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00167	0.001740		mg/L		104	80 - 120

Lab Sample ID: 310-192466-1 MS — **Client Sample ID: NC2MW4**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 295090 — **Prep Batch: 294818**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.000100		0.00167	0.001776		mg/L		107	80 - 120

Lab Sample ID: 310-192466-1 MSD — **Client Sample ID: NC2MW4**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 295090 — **Prep Batch: 294818**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.000100		0.00167	0.001721		mg/L		103	80 - 120	3	20

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

Lab Sample ID: MB 310-294902/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 294902

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26.0		30.0	26.0	mg/L			10/09/20 15:34	1

Client: Omaha Public Power District
Job ID: 310-192466-1
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

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

Lab Sample ID: LCS 310-294902/2
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 294902

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	992.0		mg/L		99	90 - 110		

Lab Sample ID: 310-192466-2 DU
Client Sample ID: MW13
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 294902

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	508			510.0		mg/L				0.4	24

HPLC/IC

Analysis Batch: 295217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192466-1	NC2MW4	Total/NA	Water	9056A	
310-192466-2	MW13	Total/NA	Water	9056A	
MB 310-295217/3	Method Blank	Total/NA	Water	9056A	
LCS 310-295217/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 294788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192466-1	NC2MW4	Total/NA	Water	3010A	
310-192466-2	MW13	Total/NA	Water	3010A	
MB 310-294788/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-294788/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCS 310-294788/2-A ^10	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 294818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192466-1	NC2MW4	Total/NA	Water	7470A	
310-192466-2	MW13	Total/NA	Water	7470A	
MB 310-294818/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-294818/2-A	Lab Control Sample	Total/NA	Water	7470A	
310-192466-1 MS	NC2MW4	Total/NA	Water	7470A	
310-192466-1 MSD	NC2MW4	Total/NA	Water	7470A	

Analysis Batch: 295090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192466-1	NC2MW4	Total/NA	Water	7470A	294818
310-192466-2	MW13	Total/NA	Water	7470A	294818
MB 310-294818/1-A	Method Blank	Total/NA	Water	7470A	294818
LCS 310-294818/2-A	Lab Control Sample	Total/NA	Water	7470A	294818
310-192466-1 MS	NC2MW4	Total/NA	Water	7470A	294818
310-192466-1 MSD	NC2MW4	Total/NA	Water	7470A	294818

Analysis Batch: 295198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192466-1	NC2MW4	Total/NA	Water	6020A	294788
310-192466-2	MW13	Total/NA	Water	6020A	294788
MB 310-294788/1-A	Method Blank	Total/NA	Water	6020A	294788
LCS 310-294788/2-A	Lab Control Sample	Total/NA	Water	6020A	294788
LCS 310-294788/2-A ^10	Lab Control Sample	Total/NA	Water	6020A	294788

Analysis Batch: 295353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192466-1	NC2MW4	Total/NA	Water	6020A	294788
310-192466-2	MW13	Total/NA	Water	6020A	294788

General Chemistry

Analysis Batch: 294902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192466-1	NC2MW4	Total/NA	Water	SM 2540C	
310-192466-2	MW13	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 294902 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-294902/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-294902/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-192466-2 DU	MW13	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-192466-1
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Client Sample ID: NC2MW4
Lab Sample ID: 310-192466-1

Date Collected: 10/05/20 11:02
Matrix: Water
Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	295217	10/13/20 02:14	ACJ	TAL CF
Total/NA	Prep	3010A			294788	10/09/20 08:50	HED	TAL CF
Total/NA	Analysis	6020A		1	295198	10/12/20 19:08	SAD	TAL CF
Total/NA	Prep	3010A			294788	10/09/20 08:50	HED	TAL CF
Total/NA	Analysis	6020A		1	295353	10/13/20 14:26	SAD	TAL CF
Total/NA	Prep	7470A			294818	10/09/20 10:14	ACJ	TAL CF
Total/NA	Analysis	7470A		1	295090	10/09/20 14:43	ACJ	TAL CF
Total/NA	Analysis	SM 2540C		1	294902	10/09/20 15:34	SAS	TAL CF

Client Sample ID: MW13
Lab Sample ID: 310-192466-2

Date Collected: 10/05/20 09:52
Matrix: Water
Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	295217	10/13/20 02:31	ACJ	TAL CF
Total/NA	Prep	3010A			294788	10/09/20 08:50	HED	TAL CF
Total/NA	Analysis	6020A		1	295198	10/12/20 19:11	SAD	TAL CF
Total/NA	Prep	3010A			294788	10/09/20 08:50	HED	TAL CF
Total/NA	Analysis	6020A		1	295353	10/13/20 14:36	SAD	TAL CF
Total/NA	Prep	7470A			294818	10/09/20 10:14	ACJ	TAL CF
Total/NA	Analysis	7470A		1	295090	10/09/20 14:54	ACJ	TAL CF
Total/NA	Analysis	SM 2540C		1	294902	10/09/20 15:34	SAS	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-192466-1
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Laboratory: Eurofins TestAmerica, Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
AIHA-LAP, LLC	Industrial Hygiene Laboratory Accreditation Program (IHLAP)	101044	11-01-20
Colorado	Petroleum Storage Tank Program	IA100001 (OR)	09-29-21
Georgia	State	IA100001 (OR)	09-29-21
Illinois	NELAP	200024	11-29-20
Iowa	State	007	12-01-21
Kansas	NELAP	E-10341	01-31-21
Minnesota	NELAP	019-999-319	12-31-20
Minnesota (Petrofund)	State	3349	08-22-21
North Dakota	State	R-186	09-30-20 *
Oregon	NELAP	IA100001	09-29-21
USDA	US Federal Programs	P330-19-00003	01-02-22

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

Method Summary

Client: Omaha Public Power District
Job ID: 310-192466-1
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

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

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

Laboratory References:

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

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310-192466 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE city station unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HGD/LB

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 1 of 5	
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact?	☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓	

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.9

Corrected Temp (°C): 1.0

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

For samples NC2 MW4 & MW13 reported to Unit 1 & 2

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE City Station Unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HED/LB

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

Condition of Cooler/Containers

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

Multiple Coolers? ☒ Yes ☐ No *If yes:* Cooler # 2 of 5

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

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☒ No HED 10/10/20

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

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.9

Corrected Temp (°C): 1.0

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE city Station unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HED/LB

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 3 of 5
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.5

Corrected Temp (°C): 0.6

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE city station unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HED/LB

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 4 of 5
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 1.1

Corrected Temp (°C): 1.2

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE city station unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HED/LB

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 5 of 5	
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact?	☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓	

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.8

Corrected Temp (°C): 0.9

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

TestAmerica Omaha
268

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Kyle K. Uhing	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: Kyle Uhing	Phone: (531) 226-2515	E-Mail: shawn.hayes@testamericainc.com		Page:
Company: Omaha Public Power District		**Analysis Requested**		Job #:

Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:	
City: Omaha	TAT Requested (days):	
State, Zip: NE, 68102-2247		
Phone: (531) 226-2515	PO #:	
Email: kkuhing@oppd.com	WO #:	
Project Name: Nebraska City Station Unit 2 CCR / Landfill	TestAmerica Project #: 31007559	
Site: Nebraska City Station Unit 2	SSOW#:	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate										Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N											
NC2MW2	10/5/20	17:49	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC2MW3	10/5/20	16:16	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC2MW4	10/5/20	11:02	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC2MW5	10/5/20	13:34	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC2MW6	10/5/20	15:13	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC2MW7	10/5/20	16:45	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC2MW8	10/5/20	17:06	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
MW13	10/5/20	9:52	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
[redacted] DUP1	10/5/20	—	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents

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

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

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

Special Instructions/QC Requirements:

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

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	10/7/2020 9:52	OPPD		10.7.2020 0952	EHO
Relinquished by:	10/7/2020 1700	EHO		10-8-20 0930	CHF
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Cooler Temperature(s) °C and Other Remarks:

10/14/2020

TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

TestAmerica Omaha SC
268

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Kyle K. Uhing	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: Kyle Uhing	Phone: (402) 226-2515	E-Mail: shawn.hayes@testamericainc.com		Page:
Company: Omaha Public Power District				Job #:
Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:			
City: Omaha	TAT Requested (days):			
State, Zip: NE, 68102-2247				
Phone: (531) 226-2515	PO #:			
Email: kkuhing@oppd.com	WO #:			
Project Name: Nebraska City Station Unit 1 CCR / Landfill	TestAmerica Project #: 31007558			
Site: Nebraska City Station Unit 1	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N		
NC1MW2	10/6/20	14:23	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW3	10/6/20	16:08	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW4	10/6/20	14:57	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW4	10/5/20	11:05	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW9	10/6/20	16:50	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW11	10/6/20	13:36	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW13	10/5/20	9:52	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW14	10/5/20	12:12	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
[redacted] DUP2	10/6/20	—	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	10/7/2020 9:52	OPPD	[signature]	10.7.2020 0952	EHV
2	[signature]	10.7.2020 1700	EHV	[signature]	10-8-20 0930	EHV
3						

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

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-192466-1

Login Number: 192466

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Bovy, Lorrainna L

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	Samples NC2MW4 and MW13 on this job for Unit 1 and 2
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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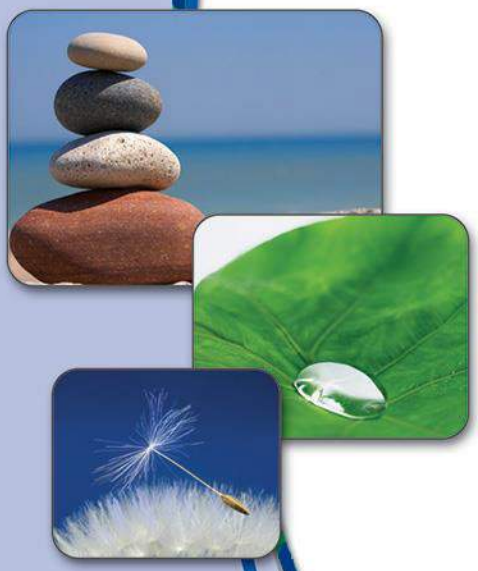

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-192466-2
Client Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

For:
Omaha Public Power District
Attn: Accounts Payable, 4E/EP-5
444 South 16th Street Mall
Omaha, Nebraska 68102-2247

Attn: Kyle Uhing

Authorized for release by:
11/18/2020 10:51:46 AM

Shawn Hayes, Senior Project Manager
(319)229-8211
Shawn.Hayes@Eurofinset.com

Table of Contents

Case Narrative

Client: Omaha Public Power District
Job ID: 310-192466-2
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Job ID: 310-192466-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-192466-2

Comments
No additional comments.

Receipt
The samples were received on 10/8/2020 9:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 0.6º C, 0.9º C, 1.0º C, 1.0º C and 1.2º C.

RAD
Method 9320: 9320 Prep Batch 160-485742
The following sample did not meet the requested limit (RL) due to the reduced sample volume attributed to the presence of matrix interferences: NC2MW4 (310-192466-1)

Method 9320: 9320 Prep Batch 160-485742
The following sample exhibited a negative result greater in magnitude than the 3 sigma TPU. This occurrence was evaluated and determined to be random in nature. Sporadic occurrences such as this are statistically expected: NC2MW4 (310-192466-1).

Method PrecSep_0: Radium 228 Prep Batch 160-485742:
The following samples were prepared at a reduced aliquot due to brown discoloration and a cloudy appearance: NC2MW4 (310-192466-1).

Method PrecSep-21: Radium 226 Prep Batch 160-485734:
The following samples were prepared at a reduced aliquot due to brown discoloration and a cloudy appearance: NC2MW4 (310-192466-1).

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

Sample Summary

Client: Omaha Public Power District
Job ID: 310-192466-2
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-192466-1	NC2MW4	Water	10/05/20 11:02	10/08/20 09:30	
310-192466-2	MW13	Water	10/05/20 09:52	10/08/20 09:30	

Client: Omaha Public Power District
Job ID: 310-192466-2
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Client Sample ID: NC2MW4
Lab Sample ID: 310-192466-1
Date Collected: 10/05/20 11:02
Matrix: Water
Date Received: 10/08/20 09:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.933		0.585	0.591	1.00	0.778	pCi/L	10/15/20 09:02	11/12/20 19:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*67.7*		*40 - 110*	*10/15/20 09:02*	*11/12/20 19:40*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-1.86	U G	0.464	0.494	1.00	1.24	pCi/L	10/15/20 09:50	11/12/20 12:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*67.7*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:22*	*1*
Y Carrier	*77.8*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:22*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.927	U	0.747	0.770	5.00	1.24	pCi/L		11/18/20 00:38	1

Client: Omaha Public Power District
Job ID: 310-192466-2
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Client Sample ID: MW13
Lab Sample ID: 310-192466-2
Date Collected: 10/05/20 09:52
Matrix: Water
Date Received: 10/08/20 09:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.314		0.223	0.225	1.00	0.307	pCi/L	10/15/20 09:02	11/12/20 19:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.9*		*40 - 110*	*10/15/20 09:02*	*11/12/20 19:40*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.558		0.354	0.357	1.00	0.546	pCi/L	10/15/20 09:50	11/12/20 12:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.9*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:23*	*1*
Y Carrier	*77.4*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:23*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.872		0.418	0.422	5.00	0.546	pCi/L		11/18/20 00:38	1

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-192466-2
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

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

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-485734/24-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 488962
Prep Batch: 485734

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1697	U	0.237	0.238	1.00	0.401	pCi/L	10/15/20 09:02	11/12/20 21:21	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.8*		*40 - 110*	*10/15/20 09:02*	*11/12/20 21:21*	*1*

Lab Sample ID: LCS 160-485734/1-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 488988
Prep Batch: 485734

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	11.56		1.47	1.00	0.305	pCi/L	102	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*83.6*		*40 - 110*

Lab Sample ID: LCSD 160-485734/2-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 488989
Prep Batch: 485734

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.3	10.21		1.35	1.00	0.351	pCi/L	90	75 - 125	0.48	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*83.6*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-485742/24-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 488987
Prep Batch: 485742

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.9626		0.405	0.414	1.00	0.576	pCi/L	10/15/20 09:50	11/12/20 12:23	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.8*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:23*	*1*
Y Carrier	*77.8*		*40 - 110*	*10/15/20 09:50*	*11/12/20 12:23*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-485742/1-A
Matrix: Water
Analysis Batch: 488989

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 485742

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			7.66	8.312		1.04	1.00	0.462	pCi/L	108	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*83.6*		*40 - 110*
Y Carrier	*81.9*		*40 - 110*

Lab Sample ID: LCSD 160-485742/2-A
Matrix: Water
Analysis Batch: 488989

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 485742

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			7.66	7.943		1.02	1.00	0.523	pCi/L	104	75 - 125	0.18	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*83.6*		*40 - 110*
Y Carrier	*81.1*		*40 - 110*

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-192466-2
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Rad

Prep Batch: 485734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192466-1	NC2MW4	Total/NA	Water	PrecSep-21	
310-192466-2	MW13	Total/NA	Water	PrecSep-21	
MB 160-485734/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-485734/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-485734/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 485742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-192466-1	NC2MW4	Total/NA	Water	PrecSep_0	
310-192466-2	MW13	Total/NA	Water	PrecSep_0	
MB 160-485742/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-485742/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-485742/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-192466-2
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Client Sample ID: NC2MW4
Lab Sample ID: 310-192466-1

Date Collected: 10/05/20 11:02
Matrix: Water
Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			485734	10/15/20 09:02	AVB	TAL SL
Total/NA	Analysis	9315		1	488962	11/12/20 19:40	FLC	TAL SL
Total/NA	Prep	PrecSep_0			485742	10/15/20 09:50	AVB	TAL SL
Total/NA	Analysis	9320		1	488987	11/12/20 12:22	CMM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	489417	11/18/20 00:38	SCB	TAL SL

Client Sample ID: MW13
Lab Sample ID: 310-192466-2

Date Collected: 10/05/20 09:52
Matrix: Water
Date Received: 10/08/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			485734	10/15/20 09:02	AVB	TAL SL
Total/NA	Analysis	9315		1	488962	11/12/20 19:40	FLC	TAL SL
Total/NA	Prep	PrecSep_0			485742	10/15/20 09:50	AVB	TAL SL
Total/NA	Analysis	9320		1	488987	11/12/20 12:23	CMM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	489417	11/18/20 00:38	SCB	TAL SL

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-192466-2
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-20
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-20
Iowa	State	373	12-01-20
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-21
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	02-28-21
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193-19-13	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

Method Summary

Client: Omaha Public Power District
Job ID: 310-192466-2
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

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

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

Laboratory References:

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

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310-192466 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE city station unit 2 CCR/landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HGD/LB

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

Condition of Cooler/Containers

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

Multiple Coolers? ☒ Yes ☐ No *If yes:* Cooler # 1 of 5

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

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

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

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.9

Corrected Temp (°C): 1.0

Sample Container Temperature

Container(s) used:	CONTAINER 1	CONTAINER 2
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

For samples NC2 MW4 & MW13 reported to Unit 1 & 2

Document: CF-LG-WI-002
Revision: 25
Date: 06/17/2019

Eurofins TestAmerica, Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE City Station Unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HED/LB

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 2 of 5	
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact?	☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact?	☐ Yes ☒ No HED 10/10/20
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓	

Temperature Record

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

Thermometer ID: M | Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.9 | Corrected Temp (°C): 1.0

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE city Station unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HED/LB

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 3 of 5
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.5

Corrected Temp (°C): 0.6

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: NE city station unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930

Received By: HED/LB

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 4 of 5
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

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

Thermometer ID: M

Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 1.1

Corrected Temp (°C): 1.2

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE Project: NE city station unit 2 CCR/Landfill

Receipt Information

Date/Time Received: DATE 10/8/20 TIME 0930 Received By: HED/LB

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 5 of 5	
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact?	☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓	

Temperature Record

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

Thermometer ID: M Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.8 Corrected Temp (°C): 0.9

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

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

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

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

Additional Comments

TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

TestAmerica Omaha
268

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Kyle K. Uhing	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: Kyle Uhing	Phone: (531) 226-2515	E-Mail: shawn.hayes@testamericainc.com		Page:
Company: Omaha Public Power District		**Analysis Requested**		Job #:

Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:	
City: Omaha	TAT Requested (days):	
State, Zip: NE, 68102-2247		
Phone: (531) 226-2515	PO #:	
Email: kkuhing@oppd.com	WO #:	
Project Name: Nebraska City Station Unit 2 CCR / Landfill	TestAmerica Project #: 31007559	
Site: Nebraska City Station Unit 2	SSOW#:	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate										Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N											
NC2MW2	10/5/20	17:49	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC2MW3	10/5/20	16:16	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC2MW4	10/5/20	11:02	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC2MW5	10/5/20	13:34	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC2MW6	10/5/20	15:13	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC2MW7	10/5/20	16:45	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
NC2MW8	10/5/20	17:06	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
MW13	10/5/20	9:52	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents
[redacted] DUP1	10/5/20	—	G	W	N		X	X	X										4	CCR Appendix III and IV Constituents

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	10/7/2020 9:52	OPPD	[signature]	10.7.2020 0952	EHO
2	[signature]	10/7/2020 1700	EHO	[signature]	10-8-20 0930	CHF
3	[signature]	Date/Time:	Company	Received by:	Date/Time:	Company

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

11/18/2020

TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

TestAmerica Omaha SC
268

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Kyle K. Uhing	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: Kyle Uhing	Phone: (402) 226-2515	E-Mail: shawn.hayes@testamericainc.com		Page:
Company: Omaha Public Power District				Job #:
Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:			
City: Omaha	TAT Requested (days):			
State, Zip: NE, 68102-2247				
Phone: (531) 226-2515	PO #:			
Email: kkuhing@oppd.com	WO #:			
Project Name: Nebraska City Station Unit 1 CCR / Landfill	TestAmerica Project #: 31007558			
Site: Nebraska City Station Unit 1	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N		
NC1MW2	10/6/20	14:23	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW3	10/6/20	16:08	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW4	10/6/20	14:57	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW4	10/5/20	11:05	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW9	10/6/20	16:50	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW11	10/6/20	13:36	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW13	10/5/20	9:52	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW14	10/5/20	12:12	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
[redacted] DUP2	10/6/20	—	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	10/7/2020 9:52	OPPD	[signature]	10.7.2020 0952	ELLV
2	[signature]	10.7.2020 1700	ELLV	[signature]	10-8-20 0930	EFCF
3		Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-192466-2

Login Number: 192466

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Bovy, Lorrainna L

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	Samples NC2MW4 and MW13 on this job for Unit 1 and 2
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-192466-2

Login Number: 192466

List Number: 2

Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis

List Creation: 10/09/20 08:09 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	

Tracer/Carrier Summary

Client: Omaha Public Power District
Job ID: 310-192466-2
Project/Site: Nebraska City Unit 1/Unit 2 CCR/Landfill

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-192466-1	NC2MW4	67.7
310-192466-2	MW13	83.9
LCS 160-485734/1-A	Lab Control Sample	83.6
LCSD 160-485734/2-A	Lab Control Sample Dup	83.6
MB 160-485734/24-A	Method Blank	74.8

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
310-192466-1	NC2MW4	67.7	77.8
310-192466-2	MW13	83.9	77.4
LCS 160-485742/1-A	Lab Control Sample	83.6	81.9
LCSD 160-485742/2-A	Lab Control Sample Dup	83.6	81.1
MB 160-485742/24-A	Method Blank	74.8	77.8

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Appendix C

Spring and Fall 2020 Statistical Analysis Memos

Technical Memorandum

Date:	Monday, June 08, 2020
To:	Omaha Public Power District (OPPD)
From:	HDR Engineering, Inc.
Subject:	Summary of Statistical Analysis and Evaluation for SSLs Nebraska City Station Unit 1 - NC1 Ash Disposal Area Spring 2020 NDEE Title 132 Groundwater Monitoring Report

Omaha Public Power District (OPPD) operates a two-unit (Unit 1 and Unit 2) fossil fuel-fired generating plant at the Nebraska City Station (Station) southeast of Nebraska City, Nebraska. The Station has two existing Coal Combustion Residuals (CCR) landfills for fossil fuel combustion ash disposal; the NC1 Ash Disposal Area and the NC2 Ash Disposal Area. Both NC1 and NC2 Ash Disposal Areas are subject to the U.S. Environmental Protection Agency's (USEPA's) final CCR Rule and Nebraska Department of Environment and Energy's (NDEE) Title 132 regulations for fossil fuel combustion ash disposal areas. This memorandum provides a discussion and evaluation of the NC1 Ash Disposal Area. The NC1 Ash Disposal Area is an unlined CCR landfill which encompasses a total area of approximately 52 acres.

Groundwater sampling was completed as part of an assessment monitoring program for the NC1 CCR unit in April 2020 (as specified in §257.95(d) and Title 132 Chapter 7 Section 005.06). The statistical analysis of groundwater data was performed in accordance with the methods described in the *Groundwater Monitoring Statistical Certification* for the Nebraska City Station Unit 1 (NC1), dated July 31, 2018 and the facility's most recent sampling and analysis plan (SAP) as permitted under Title 132. Sampling results used to update background threshold values (BTVs) were obtained during monitoring events performed between March 2016 and April 2019. The upper prediction limits calculated in April 2019 to establish BTVs were provided in the Alternative Source Demonstration Evaluation for SSLs Memo (dated April 7, 2019). Downgradient sampling results from the April 2020 assessment monitoring were used to evaluate for statistically significant increases (SSIs) over background and statistically significant levels (SSLs) over the groundwater protection standard (GWPS). The calculated BTVs and the evaluation for SSIs over background for the Appendix III (detection monitoring) constituents and Appendix IV (assessment monitoring) constituents are provided in **Table D-1**. The most recent sampling event resulted in ten (10) SSIs over background for Appendix III (detection monitoring) constituents and two (2) SSIs over background for Appendix IV (assessment monitoring) constituents. The calculated lower confidence levels (LCLs) and the evaluation for SSLs over the GWPS for the Appendix IV (assessment monitoring) constituents are provided in **Table D-2**. Analysis of the Appendix IV (assessment monitoring) constituents indicated there were no SSLs detected above the GWPS.

Table D-1. Summary of Evaluation for SSIs over Background (April 2020)

		Well ID:	NC1-MW2	NC1-MW3	NC1-MW4	NC1-MW9
Constituent	*BTV (UPL):*	*Unit*	*Assessment Monitoring Results – April 2020*			
Detection Monitoring (Appendix III) Constituents						
Boron	*1.38*	*mg/L*	<0.100	**2.98**	**1.53**	**1.46**
Calcium	*145*	*mg/L*	119	**169**	145	**169**
Chloride	*20.7*	*mg/L*	2.81J	9.09	5.68	5.90
Fluoride	*3.51*	*mg/L*	0.614	0.693	0.507	0.680
pH	*6.57 – 7.83**	*SU*	6.78	6.92	7.11	7.1
Sulfate	*148*	*mg/L*	54.4	**346**	**229**	**177**
TDS	*680*	*mg/L*	424	**916**	658	**802**
Assessment Monitoring (Appendix IV) Constituents						
Antimony	0.00235	*mg/L*	<0.000580	<0.000580	<0.000580	<0.000580
Arsenic	0.033	*mg/L*	<0.000880	0.0242	0.00162J	0.0104
Barium	0.372	*mg/L*	0.128	0.103	0.0878	0.125
Beryllium	0.001	*mg/L*	<0.00027	<0.00027	<0.00027	<0.00027
Cadmium	0.0005	*mg/L*	0.000093J	<0.000039	0.000310	0.000044J
Chromium	0.005	*mg/L*	<0.0011	<0.0011	<0.0011	<0.0011
Cobalt	0.00477	*mg/L*	<0.000091	0.00228	0.000974	0.00114
Fluoride	*3.51*	*mg/L*	0.614	0.693	0.507	0.680
Lead	0.006	*mg/L*	<0.00027	<0.00027	<0.00027	<0.00027
Lithium	0.0569	*mg/L*	0.00764J	0.0375	0.0183	0.0314
Mercury	0.000262	*mg/L*	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.00996	*mg/L*	**0.0938**	0.0014J	0.00302	**0.0266**
Radium 226+228	2.16	*pCi/L*	0.192	0.0567	0.0118	0.687
Selenium	0.0139	*mg/L*	<0.001	<0.001	<0.001	0.00328J
Thallium	0.001	*mg/L*	<0.00026	<0.00026	<0.00026	<0.00026

Bold and underlined concentration indicates an SSI over background.

* indicates the lower bound of the range is the lower prediction limit (LPL). The upper bound is the upper prediction limit (UPL).

J – Value is less than the Reporting Limit but above the Method Detection Limit, therefore value is an approximation.

Table D-2. Summary of Evaluation for SSLs over GWPS (April 2020)

Well ID:			NC1-MW2	NC1-MW3	NC1-MW4	NC1-MW9
Constituent	*GWPS[1]*	*Unit*	*Lower Confidence Levels – Assessment Monitoring (Appendix IV) Constituents – April 2020*			
Antimony	*0.006*	*mg/L*	0.001	0.001	0.001	0.001
Arsenic	*0.033[2]*	*mg/L*	0.002	0.01684	0.002794	0.008375
Barium	*2.00*	*mg/L*	0.1123	0.1002	0.08491	0.09486
Beryllium	*0.004*	*mg/L*	0.001	0.001	0.001	0.001
Cadmium	*0.005*	*mg/L*	0.00093	0.0001	0.0001	0.000044
Chromium	*0.1*	*mg/L*	0.005	0.005	0.005	0.005
Cobalt	*0.006*	*mg/L*	0.0005	0.002015	0.0005	0.0009517
Fluoride	*4.00*	*mg/L*	0.5	0.5	0.5	0.547
Lead	*0.015*	*mg/L*	0.0005	0.0005	0.0005	0.0005
Lithium	*0.0569[2]*	*mg/L*	0.00764	0.01	0.01	0.01
Mercury	*0.002*	*mg/L*	0.0002	0.0002	0.0002	0.0002
Molybdenum	*0.1*	*mg/L*	0.05729	0.0014	0.01718	0.02485
Radium 226+228	*5.0*	*pCi/L*	0.3335	0.3213	0.1824	0.4828
Selenium	*0.05*	*mg/L*	0.005	0.005	0.005	0.005
Thallium	*0.002*	*mg/L*	0.001	0.001	0.001	0.001

Bold and underlined concentration indicates an SSL over the GWPS.

[1] GWPS is established as the U.S. EPA Maximum Contaminant Level (MCL) or the GWPS specified in §257.95(h)(2), unless otherwise specified.

[2] GWPS is established as the upper tolerance limit when the background level is higher than the U.S. EPA MCL.

Technical Memorandum

Date:	Friday, January 29, 2021
To:	Omaha Public Power District (OPPD)
From:	HDR Engineering, Inc.
Subject:	Summary of Statistical Analysis and Evaluation for SSLs Nebraska City Station NC1 Ash Disposal Area Fall 2020 CCR Annual Groundwater Monitoring Report

Omaha Public Power District (OPPD) owns and operates a two-unit (Unit 1 and Unit 2) fossil fuel-fired generating plant at the Nebraska City Station (Station) southeast of Nebraska City, Nebraska. The Station has two existing coal combustion residuals (CCR) landfills for fossil fuel combustion ash disposal: the NC1 Ash Disposal Area and the NC2 Ash Disposal Area. Both NC1 and NC2 Ash Disposal Areas are subject to United States Environmental Protection Agency's (EPA's) final CCR rule promulgated under U.S. Code of Federal Regulations (CFR), Title 40, Part 257 and Nebraska Department of Environment and Energy's (NDEE) Title 132 regulations for fossil fuel combustion ash disposal areas. This memorandum provides a discussion and evaluation of groundwater monitoring for the NC1 Ash Disposal Area. The NC1 Ash Disposal Area is an unlined CCR landfill which encompasses a total area of approximately 52 acres and was closed in November 2020.

Groundwater sampling was completed as part of an assessment monitoring program for the NC1 CCR unit in October 2020 (as specified in 40 CFR §257.95(d) and Title 132 Chapter 7 Section 005.06). The statistical analysis of groundwater data was performed in accordance with the methods described in the Groundwater Monitoring Statistical Certification for the Nebraska City Station – NC1 Combustion Ash Landfill, amended July 31, 2018 and the facility's Groundwater Sampling and Analysis Plan (SAP) Fossil Fuel Combustion Ash Disposal Area – NC1 Ash Disposal *Area* submitted to the NDEE in February 2016. Sampling results used to update background threshold values (BTVs) were obtained during monitoring events performed between March 2016 and April 2019.

Downgradient sampling results from the October 2020 assessment monitoring were used to evaluate for statistically significant increases (SSIs) over background and statistically significant levels (SSLs) over the groundwater protection standard (GWPS). The calculated BTVs and the evaluation for SSIs over background for the Appendix III (Detection Monitoring) constituents and Appendix IV (Assessment Monitoring) constituents are provided in **Table C-1**. The most recent sampling event resulted in twelve (12) SSIs over background for Appendix III constituents and three (3) SSIs over background for Appendix IV constituents. The calculated lower confidence levels (LCLs) and the evaluation for SSLs over the GWPS for the Appendix IV constituents are provided in **Table C-2**. The most recent sampling event resulted in no SSLs.

Table C-1. Summary of Evaluation for SSIs over Background (October 2020)

	Well ID:		NC1MW-2	NC1MW-3	NC1MW-4	NC1MW-9
Constituent	*BTV (UPL):*	*Unit*	*Assessment Monitoring Results – October 2020*			
Detection Monitoring (Appendix III) Constituents						
Boron	*1.38*	*mg/L*	0.141	**2.57**	**1.77**	**2.60**
Calcium	*145*	*mg/L*	77.7	**173**	**172**	**160**
Chloride	*20.7*	*mg/L*	4.61J	7.13	6.65	5.35
Fluoride	*3.51*	*mg/L*	0.301J	0.520	0.535	0.739
pH	*6.57 – 7.83**	*SU*	6.81	6.76	6.86	6.87
Sulfate	*148*	*mg/L*	57.4	**354**	**272**	**234**
TDS	*680*	*mg/L*	272	**976**	**778**	**882**
Assessment Monitoring (Appendix IV) Constituents						
Antimony	0.00235	*mg/L*	<0.000510	<0.000510	<0.000510	<0.000510
Arsenic	0.033	*mg/L*	<0.000880	0.0317	0.00120J	0.0157
Barium	0.372	*mg/L*	0.108	0.126	0.152	0.134
Beryllium	0.001	*mg/L*	<0.000270	<0.000270	<0.000270	<0.000270
Cadmium	0.0005	*mg/L*	0.0000650J	<0.000270	0.000208	<0.0000490
Chromium	0.005	*mg/L*	<0.00110	<0.00110	<0.00110	<0.00110
Cobalt	0.00477	*mg/L*	0.000133J	0.00153	0.00138	0.00115
Fluoride	*3.51*	*mg/L*	0.301J	0.520	0.535	0.739
Lead	0.006	*mg/L*	0.000135J	<0.000110	<0.000110	<0.000110
Lithium	0.0569	*mg/L*	0.00729J	0.0361	0.0238	0.0269
Mercury	0.000262	*mg/L*	<0.000100	<0.000100	<0.000100	<0.000100
Molybdenum	0.00996	*mg/L*	**0.121**	<0.00110	<0.00110	**0.0315**
Radium 226+228	2.16	*pCi/L*	0.376U	0.994	0.00604U	0.828
Selenium	0.0139	*mg/L*	<0.00100	<0.00100	0.00199J	**0.0188**
Thallium	0.001	*mg/L*	<0.000260	<0.000260	<0.000260	<0.000260

Bold and underlined concentration indicates an SSI over background.
* indicates the lower bound of the range is the lower prediction limit (LPL). The upper bound is the upper prediction limit (UPL).
J – Value is less than the Reporting Limit but above the Method Detection Limit, therefore value is an approximation.
U – Parameter was analyzed for but not detected above limiting criteria (such as, but not limited to minimum detectable concentration; total uncertainty; reporting limit) as defined in the analytical laboratory data package.

Table C-2. Summary of Evaluation for SSLs over GWPS (October 2020)

Well ID:			NC1MW-2	NC1MW-3	NC1MW-4	NC1MW-9
Constituent	*GWPS*	*Unit*	*Lower Confidence Levels – Assessment Monitoring (Appendix IV) Constituents – October 2020*			
Antimony	*0.006*[1]	*mg/L*	0.001	0.001	0.001	0.001
Arsenic	*0.033*[2]	*mg/L*	0.002	0.01774	0.002708	0.008677
Barium	*2.00*[1]	*mg/L*	0.112	0.1017	0.08953	0.09808
Beryllium	*0.004*[1]	*mg/L*	0.001	0.001	0.001	0.001
Cadmium	*0.005*[1]	*mg/L*	0.000093	0.0001	0.0001	0.000044
Chromium	*0.1*[1]	*mg/L*	0.005	0.005	0.005	0.005
Cobalt	*0.006*[1]	*mg/L*	0.0005	0.00197	0.0005	0.0009658
Fluoride	*4.00*[1]	*mg/L*	0.5	0.508	0.5	0.547
Lead	*0.015*[1]	*mg/L*	0.0005	0.0005	0.0005	0.0005
Lithium	*0.0569*[2]	*mg/L*	0.00764	0.01	0.01	0.01
Mercury	*0.002*[1]	*mg/L*	0.0002	0.0002	0.0002	0.0002
Molybdenum	*0.1*[1]	*mg/L*	0.06003	0.0014	0.01564	0.02534
Radium 226+228	*5.0*[1]	*pCi/L*	0.3276	0.3592	0.0901	0.507
Selenium	*0.05*[1]	*mg/L*	0.005	0.005	0.005	0.005262
Thallium	*0.002*[1]	*mg/L*	0.001	0.001	0.001	0.001

Bold and underlined concentration indicates an SSL over the GWPS.
[1] GWPS is established as the EPA Maximum Contaminant Level (MCL) or the GWPS specified in 40 CFR §257.95(h)(2).
[2] GWPS is established as the UPL when the background level is higher than the EPA MCL.