2021 NC1 CCR Landfill Annual Groundwater Report

Nebraska City Station NC1
Ash Disposal Area

Nebraska City, Nebraska
January 31, 2022

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Professional Engineer Certification

I hereby certify that to the best of my knowledge that this groundwater monitoring annual report is designed to meet the performance standard in 40 CFR Part 257 of the Federal Coal Combustion Residuals (CCR) rule.

I am duly licensed Professional Engineer under the laws of the Sate of Nebraska.

Print Name: Megan B. Seymour

Signature: Megan B Seymour

Date: 1-31-2022

License #: E-15931

My license renewal date is December 31, 2022.

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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 2021 for the assessment monitoring program under 40 CFR §257.95 for the NC1 Ash Disposal Area. Final closure for this CCR landfill was completed in November 2020.

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. An 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 whether the SSL resulted from natural variation in groundwater quality (HDR, 2019b). 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 and 2020 as part of the assessment monitoring program and did not indicate an SSL; therefore, assessment monitoring continued in 2021.

Assessment monitoring samples were collected in April and October 2021 to assess whether there were SSIs and/or SSLs. This report covers the results of the 2021 sampling events. For the April 2021 sampling event, results of the analysis indicated nine (9) SSIs for Appendix III and Appendix IV constituents.

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

For the October 2021 sampling event, results of the analysis indicated twelve (12) SSIs for Appendix III and Appendix IV constituents.

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

Analysis of the Appendix IV constituents indicated there were no SSLs detected above the GWPS for either the April 2021 or October 2021 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 2022.

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 the NC1 Ash Disposal Area for calendar year 2021.

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 (**Figure 1**). 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 2** 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**. 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 2**.

2.1 Summary of Monitoring Program Transitions

OPPD complies with Nebraska State regulations (NDEE Title 132) and the EPA's regulations for the disposal of CCR, as specified in 40 CFR Part 257 (CCR rule). As part of these regulatory programs, the NC1 Ash Disposal Area is monitored semi-annually under detection or assessment monitoring programs. Under the detection monitoring program, constituents listed in Appendix III of 40 CFR Part 257 are evaluated for statistically significant increases (SSIs) above background. Under the assessment monitoring program, constituents listed in Appendix IV of 40 CFR Part 257 are evaluated for SSIs above background and for statistically significant levels (SSLs) over groundwater protection standards (GWPS). The following table outlines the transition of groundwater monitoring programs and subsequent actions and reports.

Date	Groundwater Compliance Monitoring Milestones
01/31/2018	Detection monitoring SSIs detected in November 2017 in downgradient monitoring for 11 monitoring well/constituent pairs. Constituents included boron, calcium, chloride, sulfate, and total dissolved solids (TDS).
05/29/2018	Alternate source demonstration (ASD) to evaluate potential error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Notification published for unsuccessful ASD.
06/06/2018	Initiation of assessment monitoring program in accordance with 40 CFR §257.95.
07/12/2018	Installed additional upgradient monitoring well (MW-14).
10/04/2018	Subsequent assessment monitoring sampling conducted in accordance with 40 CFR §257.95.
02/14/2019	Notification of SSLs above GWPS for arsenic in MW-3.
04/08/2019	ASD to evaluate potential error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Notification published for successful ASD.
04/10/2019	Semi-annual assessment monitoring. SSIs detected for 13 monitoring well/constituent pairs. Constituents included boron, calcium, sulfate, TDS, arsenic, and molybdenum. There were no SSLs detected.
10/18/2019	Semi-annual assessment monitoring. SSIs detected for 13 monitoring well/constituent pairs. Constituents included boron, calcium, sulfate, TDS, cobalt, and molybdenum. There were no SSLs detected.
04/21/2020	Semi-annual assessment monitoring. SSIs detected for 12 monitoring well/constituent pairs. Constituents included boron, calcium, sulfate, TDS, and molybdenum. There were no SSLs detected.
10/06/2020	Semi-annual assessment monitoring. SSIs detected for 15 monitoring well/constituent pairs. Constituents included boron, calcium, sulfate, TDS, molybdenum, and selenium. There were no SSLs detected.
04/13/2021	Semi-annual assessment monitoring. SSIs detected for 9 monitoring well/constituent pairs. Constituents included boron, calcium, sulfate, TDS, molybdenum, and thallium. There were no SSLs detected.
10/12/2021	Semi-annual assessment monitoring. SSIs detected for 12 monitoring well/constituent pairs. Constituents included boron, cadmium, calcium, sulfate, TDS, molybdenum, and thallium. There were no SSLs detected.

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 2021 and October 2021. 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 2021.

3 Data Evaluation and Summary

3.1 Summary of Sampling Activities

Groundwater sampling events were conducted by OPPD personnel in April 2021 and October 2021 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 NC1 Ash Disposal Area is currently in the post-closure care period. 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 2021 sampling events. Field sampling forms 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 (**Figure 3** and **Figure 4**). Monitoring well static groundwater elevations are provided in **Table 3**. Groundwater flow estimated from measurements collected on April 6, 2021 indicated a flow direction to the southeast with an average flow velocity of 0.0128 ft/day to 0.0723 ft/day. Groundwater flow estimated from measurements collected on October 4, 2021 indicated a flow direction to the southeast with an average flow velocity of 0.00809 ft/day to 0.0458 ft/day. The April 2021 and October 2021 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 2021 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 semi-annual sampling events, meeting the requirements of 40 CFR §257.95. The results of the assessment monitoring events in April 2021 and October 2021 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 background threshold values (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 are provided in **Table 6**. The BTVs were updated following the April 2021 sampling and include data from March 2016 through April 2021. 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 2021 sampling events are provided in **Appendix C**.

Assessment monitoring samples were collected in April and October 2021 to assess whether there were SSIs or SSLs. This report covers the results of the 2021 sampling events. For the April 2021 sampling event, results of the analysis indicated five (5) SSIs for Appendix III constituents and four (4) SSIs for Appendix IV constituents.

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

For the October 2021 sampling event, results of the analysis indicated eight (8) SSIs for Appendix III constituents and four (4) SSIs for Appendix IV constituents.

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

Analysis of the Appendix IV constituents indicated there were no SSLs detected above the GWPS for either the April 2021 or October 2021 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 2022.

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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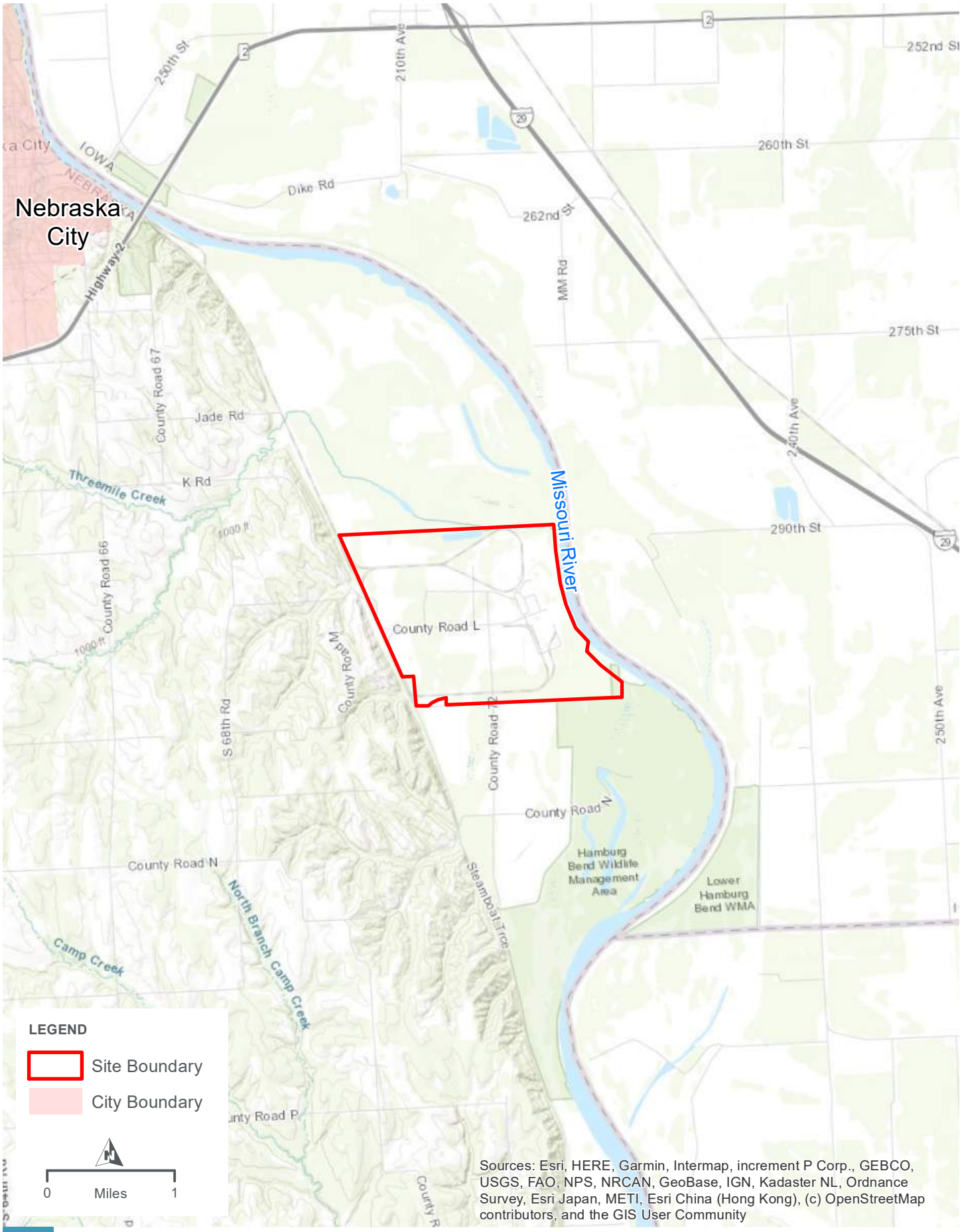

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

SITE LOCATION MAP

OPPD - NEBRASKA CITY STATION

FIGURE 1

PATH: D:\TEMP\AZIGLER\OPPD\NEBRASKA_CITY\FIG1_SITEMAP.MXD - USER: AZIGLER - DATE: 7/31/2019

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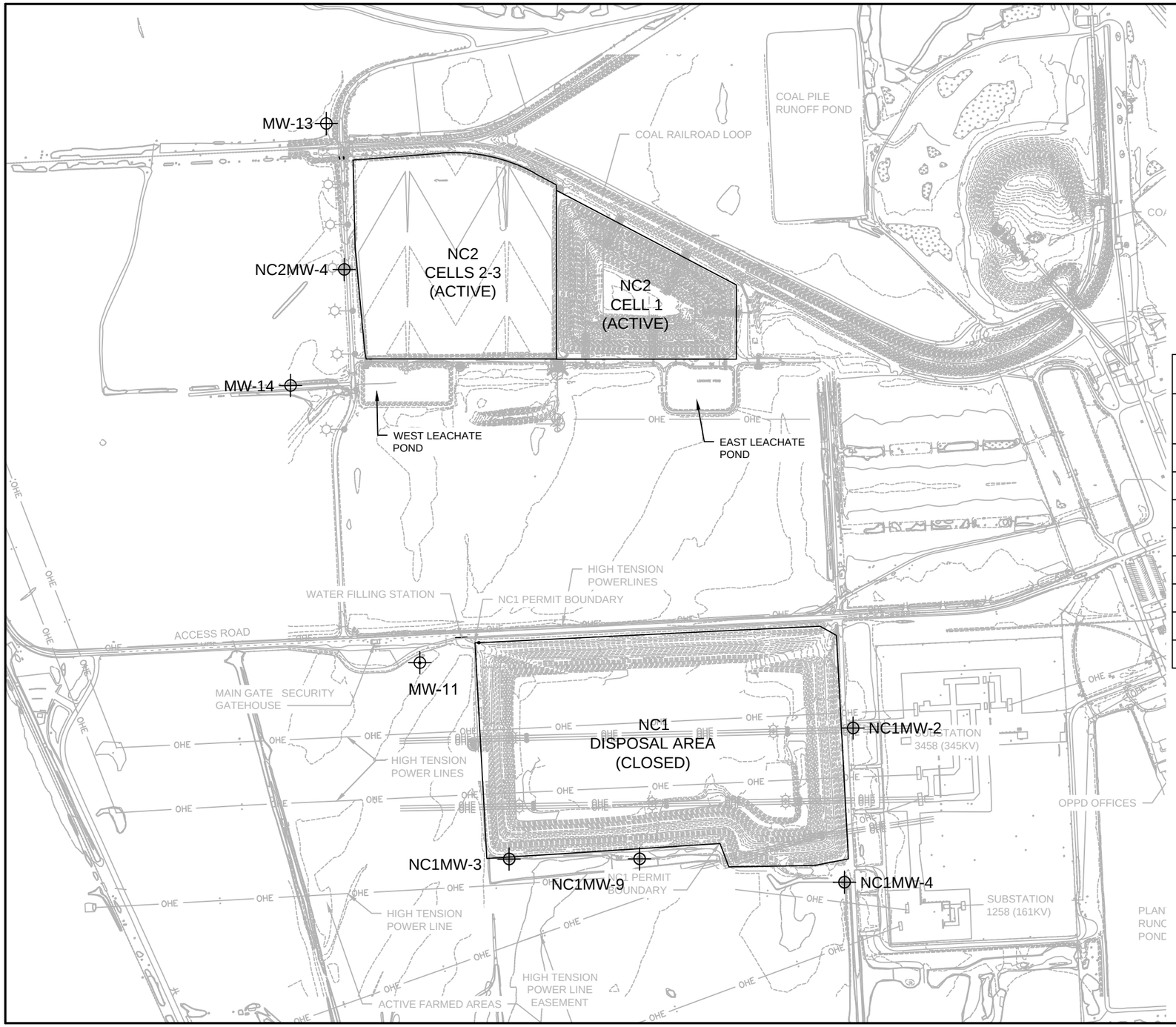

N

600 0 600 1200

SCALE IN FEET

MONITORING WELL NETWORK

WELL ID	NORTHING	EASTING	ELEVATION (TOC)	WELL DEPTH (BGS)	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.

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HDR

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

2021 GROUNDWATER MONITORING

DATE
JANUARY 2022

FIGURE
02

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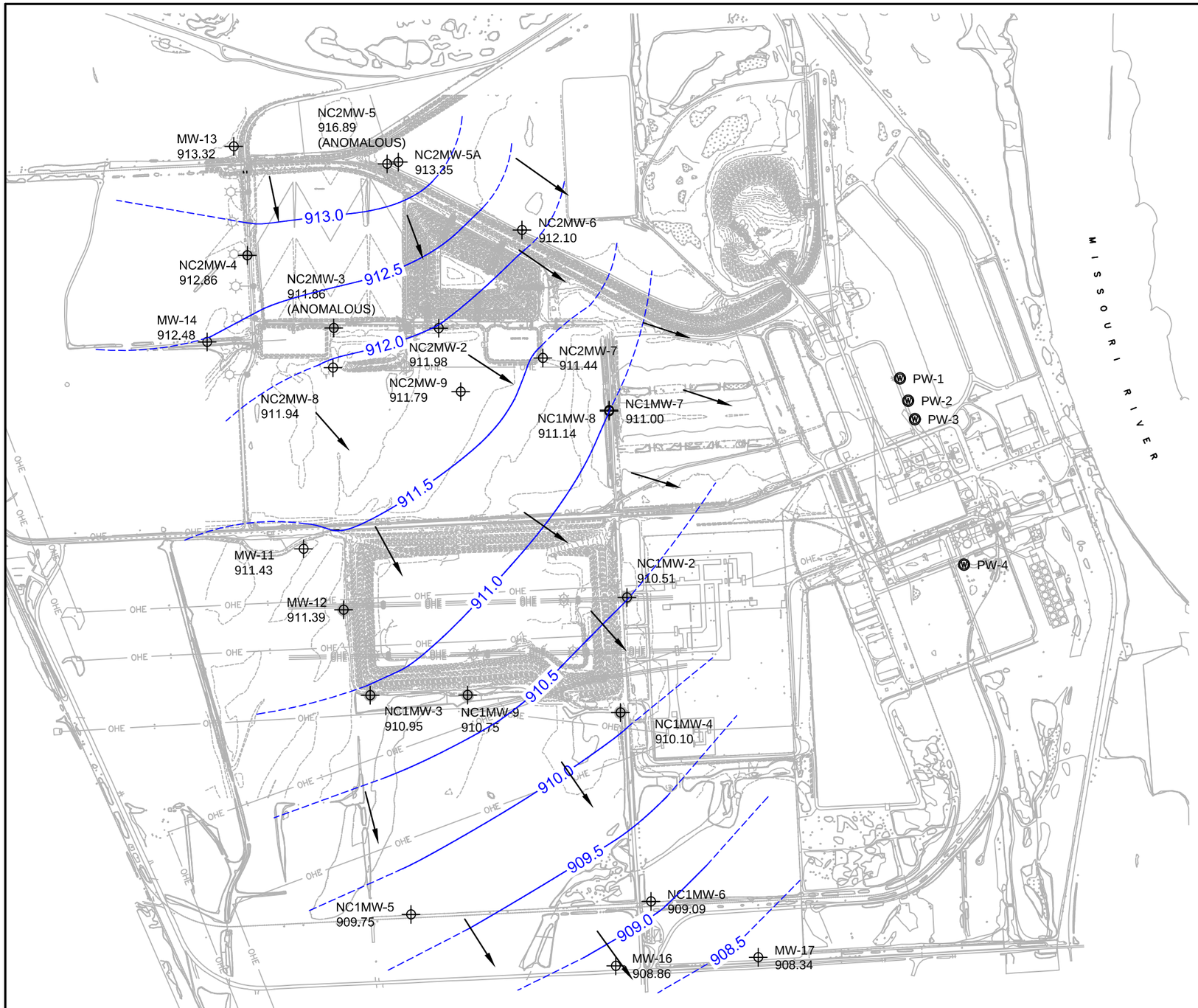

N

800 0 800 1600

SCALE IN FEET

LEGEND:

Ⓦ	PRODUCTION WELL
⊕	MONITORING WELL
909.39	GROUNDWATER ELEVATION
910	GROUNDWATER CONTOUR
	INFERRED GROUNDWATER CONTOUR
→	INFERRED GROUNDWATER FLOW DIRECTION

NOTES:

1. ANOMALOUS - WATER LEVELS LABELED AS SUCH HAVE BEEN OMITTED FROM THE GROUNDWATER CONTOUR DUE TO VAST VARIATIONS IN GROUNDWATER ELEVATIONS BETWEEN WELLS WITH CLOSE PROXIMITY.
2. MONITORING WELL NC1MW-7 WAS NOT USED IN GENERATION OF CONTOUR MAP DUE TO BEING SCREENED AT A DEEPER INTERVAL.

VELOCITY COMPUTATIONS

TRACER VELOCITY = $V_T = \frac{Ki}{n}$

K = HYDRAULIC CONDUCTIVITY (SEE TABLE)

i = GRADIENT = $\frac{0.743\ FT}{1{,}000\ FT}$ = 0.000743 FT/FT

n = POROSITY = 0.405

	K	V_T
LOW	6.96 FT/DAY	0.0128 FT/DAY
HIGH	39.4 FT/DAY	0.0723 FT/DAY

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OPPD NEBRASKA CITY ASH LANDFILL GROUNDWATER CONTOUR MAP APRIL 2021

2021 GROUNDWATER MONITORING

DATE
JANUARY 2022

FIGURE
03

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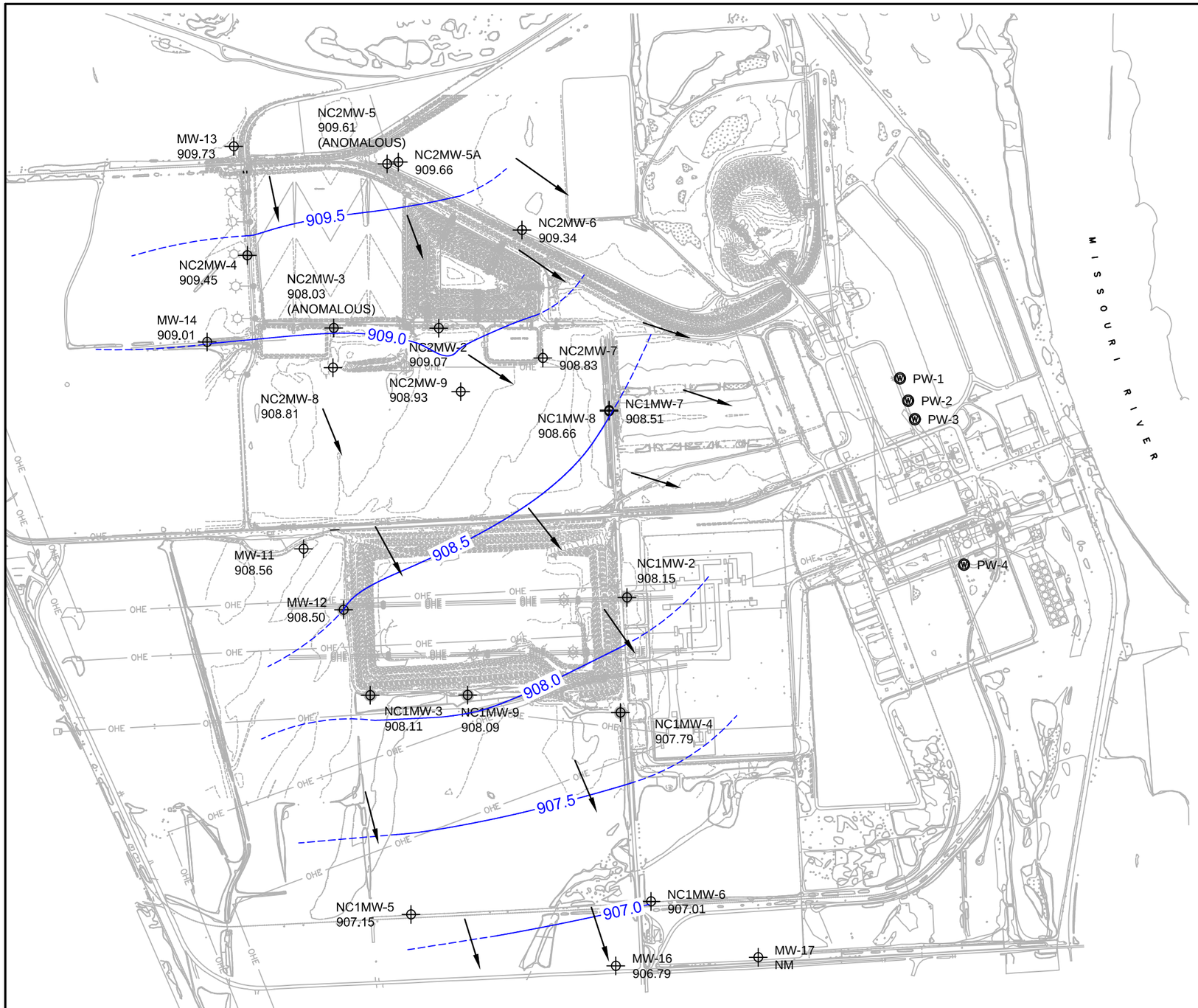

N

800 0 800 1600

SCALE IN FEET

LEGEND:

Ⓦ	PRODUCTION WELL
⊕	MONITORING WELL
908.83	GROUNDWATER ELEVATION
909.0	GROUNDWATER CONTOUR
	INFERRED GROUNDWATER CONTOUR
→	INFERRED GROUNDWATER FLOW DIRECTION

NOTES:

1. ANOMALOUS - WATER LEVELS LABELED AS SUCH HAVE BEEN OMITTED FROM THE GROUNDWATER CONTOUR DUE TO VAST VARIATIONS IN GROUNDWATER ELEVATIONS BETWEEN WELLS WITH CLOSE PROXIMITY.
2. MONITORING WELL NC1MW-7 WAS NOT USED IN GENERATION OF CONTOUR MAP DUE TO BEING SCREENED AT A DEEPER INTERVAL.
3. NM - STATIC WATER LEVEL NOT OBTAINED FROM MONITORING WELL.

VELOCITY COMPUTATIONS

TRACER VELOCITY = $V_T = \frac{Ki}{n}$

K = HYDRAULIC CONDUCTIVITY (SEE TABLE)

i = GRADIENT = $\frac{0.471\ FT}{1{,}000\ FT}$ = 0.000471 FT/FT

n = POROSITY = 0.405

	K	V_T
LOW	6.96 FT/DAY	0.00809 FT/DAY
HIGH	39.4 FT/DAY	0.0458 FT/DAY

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OPPD NEBRASKA CITY ASH LANDFILL GROUNDWATER CONTOUR MAP OCTOBER 2021

2021 GROUNDWATER MONITORING

DATE

JANUARY 2022

FIGURE

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Tables

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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	919.58
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	918.20
NC2MW-8	7/9/2018	15	Upgradient	915.20	917.97
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

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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	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	10	6/6/2018, 10/4/2018, 4/8/2019, 10/15/2019, 1/30/2020, 4/20/2020, 4/27/2020, 10/5/2020, 4/12/2021, 10/4/2021
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	8	6/6/2018, 10/4/2018, 4/8/2019, 10/16/2019, 4/20/2020, 10/6/2020, 4/13/2021, 10/5/2021
MW-13[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	8	6/6/2018, 10/4/2018, 1/30/2020, 4/20/2020, 4/27/2020, 10/5/2020, 4/12/2021, 10/4/2021
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	2	4/13/2021, 10/4/2021
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	8	6/6/2018, 10/4/2018, 4/8/2019, 10/18/2019, 4/20/2020, 10/6/2020, 4/13/2021, 10/5/2021
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	8	6/6/2018, 10/4/2018, 4/9/2019, 10/18/2019, 4/21/2020, 10/6/2020, 4/13/2021, 10/6/2021
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	8	6/6/2018, 10/4/2018, 4/9/2019, 10/18/2019, 4/21/2020, 10/6/2020, 4/13/2021, 10/5/2021
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	8	6/6/2018, 10/4/2018, 4/10/2019, 10/18/2019, 4/21/2020, 10/6/2020, 4/13/2021, 10/6/2021

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.

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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	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	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
4/6/2021	6.76	912.86	7.01	911.43	4.73	913.32	8.51	912.48	8.91	910.51	8.90	910.95	9.53	910.10	9.34	910.75
10/1/2021	10.17	909.45	9.88	908.56	8.32	909.73	11.98	909.01	11.27	908.15	11.74	908.11	11.84	907.79	12.00	908.09

Notes:

TOC: Top of PVC well casing

NM = not measured

AMSL = above mean sea level

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	
	TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation	
	920.70		916.67		919.20		919.68		922.55		916.58		922.76		919.72		918.20	
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)
3/9/2016	10.82	909.88	7.55	909.12	8.25	910.95	8.60	911.08	10.80	911.75	4.05	912.53	6.98	915.78	7.95	911.77	7.04	911.16
6/7/2016	9.67	911.03	6.31	910.36	6.43	912.77	6.80	912.88	8.96	913.59	2.55	914.03	7.67	915.09	6.02	913.70	4.80	913.40
10/3/2016	12.99	907.71	6.86	909.81	7.94	911.26	8.53	911.15	8.91	913.64	2.31	914.27	5.30	917.46	5.95	913.77	5.40	912.80
11/18/2016	11.25	909.45	8.20	908.47	8.72	910.48	9.10	910.58	10.90	911.65	4.10	912.48	9.25	913.51	8.10	911.62	7.20	911.00
2/14/2017	11.70	909.00	8.80	907.87	9.60	909.60	10.00	909.68	11.70	910.85	4.95	911.63	10.20	912.56	9.00	910.72	8.15	910.05
4/25/2017	10.30	910.40	7.02	909.65	7.41	911.79	7.75	911.93	9.85	912.70	3.21	913.37	8.48	914.28	7.00	912.72	5.96	912.24
6/20/2017	10.72	909.98	7.42	909.25	7.85	911.35	8.04	911.64	10.30	912.25	3.42	913.16	9.82	912.94	7.35	912.37	6.35	911.85
7/13/2017	10.50	910.20	8.10	908.57	8.32	910.88	8.89	910.79	10.76	911.79	4.25	912.33	10.15	912.61	7.90	911.82	6.80	911.40
11/8/2017	10.90	909.80	8.70	907.97	9.05	910.15	9.18	910.50	15.10	907.45	12.10	904.48	14.20	908.56	11.20	908.52	10.50	907.70
3/13/2018	NM	NM	NM	NM	NM	NM	NM	NM	13.90	908.65	7.15	909.43	12.95	909.81	10.88	908.84	10.00	908.20
6/6/2018	NM	NM	NM	NM	NM	NM	NM	NM	10.35	912.20	3.70	912.88	9.70	913.06	7.25	912.47	6.35	911.85
10/4/2018	8.85	911.85	5.41	911.26	4.48	914.72	5.14	914.54	7.39	915.16	0.80	915.78	4.95	917.81	4.30	915.42	3.20	915.00
1/15/2019	10.06	910.64	6.56	910.11	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3/5/2019	NM	NM	8.08	908.59	NM	NM	NM	NM	6.70	915.85	NM	NM	4.56	918.20	4.18	915.54	2.74	915.46
4/8/2019	NM	NM	NM	NM	3.68	915.52	3.98	915.70	6.34	916.21	0.21	916.37	4.48	918.28	3.75	915.97	2.27	915.93
10/14/2019	NM	NM	NM	NM	3.01	916.19	3.33	916.35	9.09	913.46	2.56	914.02	5.81	916.95	6.11	913.61	5.37	912.83
4/20/2020	9.70	911.00	6.16	910.51	6.05	913.15	6.36	913.32	8.83	913.72	2.36	914.22	6.37	916.39	5.97	913.75	4.99	913.21
10/2/2020	12.90	907.80	9.11	907.56	10.06	909.14	10.36	909.32	12.92	909.63	10.34	906.24	12.63	910.13	9.90	909.82	8.81	909.39
4/6/2021	10.95	909.75	7.58	909.09	8.20	911.00	8.54	911.14	10.57	911.98	7.72	908.86	5.87	916.89	7.62	912.10	6.76	911.44
10/1/2021	13.54	907.16	9.66	907.01	10.69	908.51	11.02	908.66	13.48	909.07	11.55	905.03	13.15	909.61	10.38	909.34	9.37	908.83

Notes:

TOC: Top of PVC well casing

NM = not measured

AMSL = above mean sea level

Table 3 - Groundwater Elevations

Omaha Public Power District - NC1 Ash Disposal Area

	Water Level Only Wells											
	NC2MW-8		NC2MW-5A		NC2MW-9		MW-12		MW-16		MW-17	
	TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation	
	917.97		922.05		920.35		920.36		916.77		913.53	
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)
3/9/2016	*Well Installed 7/9/2018*		*Well Installed 9/16/2019*		*Well Installed 9/17/2019*		9.00	911.36	9.00	907.77	NM	NM
6/7/2016							7.80	912.56	7.80	908.97	NM	NM
10/3/2016							8.40	911.96	8.40	908.37	NM	NM
11/18/2016							9.35	911.01	9.35	907.42	NM	NM
2/14/2017							9.95	910.41	9.95	906.82	NM	NM
4/25/2017							8.20	912.16	8.20	908.57	NM	NM
6/20/2017							8.40	911.96	8.40	908.37	NM	NM
7/13/2017							8.52	911.84	8.52	908.25	NM	NM
11/8/2017							12.55	907.81	12.55	904.22	NM	NM
3/13/2018							NM	NM	NM	NM	NM	NM
6/6/2018							NM	NM	NM	NM	NM	NM
10/4/2018	3.15	914.82					6.55	913.81	8.49	908.28	8.59	904.94
1/15/2019	6.67	911.30					NM	NM	7.14	NM	4.00	909.53
3/5/2019	NM	NM					NM	NM	8.45	908.32	9.29	904.24
4/8/2019	2.38	915.59					4.89	915.47	NM	NM	NM	NM
10/14/2019	4.75	913.22	4.38	917.67	4.19	916.16	4.77	915.59	NM	NM	NM	NM
4/20/2020	4.59	913.38	7.49	914.56	6.76	913.59	7.41	912.95	NM	NM	NM	NM
10/2/2020	8.68	909.29	11.88	910.17	10.81	909.54	11.29	909.07	NM	NM	NM	NM
4/6/2021	6.03	911.94	8.70	913.35	8.56	911.79	8.97	911.39	7.91	908.86	5.19	908.34
10/1/2021	9.16	908.81	12.39	909.66	11.42	908.93	11.86	908.50	9.98	906.79	NM[1]	NM

Notes:

[1] Monitoring Well MW-17 was damaged; therefore, no water level was obtained during the October 2021 sampling event.

TOC: Top of PVC well casing

NM = not measured

AMSL = above mean sea level

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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
	4/12/2021	0.0838J	103	4.93J	0.311J	6.27	61.6	448
	10/4/2021	0.119	128	4.86J	<0.275	6.53	62.6	486
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

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-11	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
	4/13/2021	0.474	52.4	5.42	0.323J	6.78	35.1	212
	10/5/2021	0.335	79.5	5.82	<0.275	6.53	<2.45	240
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	6.9	46.2	508
	4/12/2021	0.0653J	66.9	5.5	0.441J	6.58	101	350
	10/4/2021	0.105	126	11.5	<0.275	6.99	47.4	510
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

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-14	4/13/2021	0.263	152	8.57	0.495J	6.17	12.3	672
	10/4/2021	0.246	168	9.65	<0.275	7.07	36.0	706
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
	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
	4/13/2021	0.233	91.6	3.82J	0.294J	6.69	54.4	318
	10/5/2021	0.430	103	5.31	<0.275	6.54	72.1	340
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
	4/13/2021	3.14	180	9.11	0.557	6.63	372	1000
	10/6/2021	2.77	181	9.86	<0.275	6.34	395	998
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

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-4	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
	4/13/2021	1.44	98.4	5.71	0.441J	6.87	165	498
	10/5/2021	1.25	114	6.82	<0.275	6.68	210	518
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
	4/13/2021	1.50	160	6.5	0.504	6.7	162	768
	10/6/2021	1.45	174	6.84	<0.275	6.41	219	822

Notes:

[1] MW-13 was surrounded by ponding water during the April and October 2019 sampling events, therfore N/A designates the well was not sampled.

[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 and was not used as a statistically significant detection.

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
	4/12/2021	<0.00110	0.00113J	0.268	<0.000270	0.0000580J	<0.00110	0.000256J	0.311J	0.000833	0.023	<0.000150	0.0112	0.984	0.0111	<0.000260
	10/4/2021	<0.00110	0.00275	0.420	0.000571J	0.000469	0.00110J	0.00203	<0.275	0.0061	0.0324	<0.000150	0.00154J	8.39	0.00391J	0.000527J
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
	4/13/2021	<0.00110	0.00452	0.131	<0.000270	0.0000900J	<0.00110	0.000873	0.323J	0.000572	0.00252J	<0.000150	0.0299	0.570	0.00138J	<0.000260
	10/5/2021	<0.00110	0.0237	0.253	<0.000270	0.000179	<0.00110	0.00131	<2.45	0.000537	<0.00250	<0.000150	0.0201	0.378U	.00125J	<0.000260

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	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
	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
	4/12/2021	<0.00110	0.00487	0.0815	<0.000270	<0.0000510	<0.00110	0.00099	0.441J	0.000353J	0.0199	<0.000150	0.00443	0.429U	0.00194J	<0.000260
	10/4/2021	<0.00110	0.0402	0.257	<0.000270	<0.0000510	<0.00110	0.00102	<0.275	<0.000260	0.0330	<0.000150	<0.00130	1.84	<0.000960	<0.000260
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
	4/13/2021	<0.00110	0.0455	0.318	<0.000270	<0.0000510	<0.00110	0.00116	0.495J	<0.000210	0.0548	<0.000150	<0.00130	1.51	<0.000960	<0.000260
	10/4/2021	<0.00110	0.0494	0.367	<0.000270	<0.0000510	<0.00110	0.00167	<0.275	0.000211J	0.0525	<0.000150	<0.00130	3.90	<0.000960	<0.000260
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	0.552	<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

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-2	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
	4/13/2021	<0.00110	0.000878J	0.134	<0.000270	0.000176	<0.00110	0.000238J	0.264J	0.000463J	0.00998J	<0.000150	0.0886	0.552	<0.000960	0.00278
	10/5/2021	0.00111J	0.00179J	0.154	0.000387J	0.000592	<0.00110	0.000568	<0.275	0.000968	0.0124	<0.000150	0.102	0.536U	0.00346J	0.00106
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
	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
	4/13/2021	<0.00110	0.0354	0.144	<0.000270	0.0000830J	<0.00110	0.00191	0.557	<0.00210	0.0435	<0.000150	0.00293	0.743	<0.000960	0.0032
	10/6/2021	<0.00110	0.0368	0.144	<0.000270	<0.0000510	<0.00110	0.00137	<0.275	<0.000210	0.0361	<0.000510	0.00179J	0.470U	<0.000960	<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
	4/13/2021	<0.00110	0.00190J	0.0768	<0.000270	0.000133	<0.00110	0.000976	0.441J	<0.000210	0.019	<0.000150	0.00154J	0.151U	<0.000960	0.000313J
	10/5/2021	<0.00110	0.00125J	0.111	<0.000270	0.000134	<0.00110	0.00200	<0.275	<0.000210	0.0187	<0.000150	0.00664	1.08	<0.000960	<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

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-9	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	<0.000270	0.0000440J	<0.0011	0.00114	0.680	<0.00027	0.0314	<0.0001	0.0266	0.687	0.00328J	<0.000260
	10/6/2020	<0.00051	0.0157	0.134	<0.000270	<0.000049	<0.0011	0.00115	0.739	<0.000110	0.0269	<0.0001	0.0315	0.828	0.0188	<0.000260
	4/13/2021	<0.00110	0.011	0.12	<0.000270	0.0000890J	<0.00110	0.00143	0.504	<0.000210	0.0343	<0.000150	0.0234	0.205U	0.00280J	<0.000260
	10/6/2021	<0.00110	0.0121	0.139	<0.000270	0.0000780J	<0.00110	0.00202	<0.275	<0.00020	0.0318	<0.000150	0.0243	1.54	0.00115J	<0.000260

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 and was not used as a statistically significant detection.

[1]Constituent not sampled because only detected Appendix IV constituents were tested, in accordance with 40 CFR 257.95(d)(1).

[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	1.53
Calcium	mg/l	163
Chloride	mg/l	17.3
Fluoride [1]	mg/l	1.18
pH (LPL) [2]	SU	6.27
pH (UPL) [3]	SU	7.86
Sulfate	mg/l	170
TDS	mg/l	747
Appendix IV (Assessment Monitoring)		
Antimony	mg/l	0.00235
Arsenic	mg/l	0.0893
Barium	mg/l	0.391
Beryllium	mg/l	0.001
Cadmium	mg/l	0.0005
Chromium	mg/l	0.005
Cobalt	mg/l	0.00477
Fluoride [1]	mg/l	1.18
Lead	mg/l	0.0032
Lithium	mg/l	0.0569
Mercury	mg/l	0.000262
Molybdenum	mg/l	0.0164
Radium 226 + 228	pCi/l	2.04
Selenium	mg/l	0.0112
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).

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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	0.0893[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
Fluoride	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	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).

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Appendix A

Field Sampling Forms

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NEBRASKA CITY STATION

Water Levels Prior to Purging (Feet Below TOC)

NC1MW2	Date of Sampling	4/6/2021	Time of Sampling	15:07	Static Water Level	8.91
NC1MW3	Date of Sampling	4/6/2021	Time of Sampling	15:33	Static Water Level	8.90
NC1MW4	Date of Sampling	4/6/2021	Time of Sampling	15:25	Static Water Level	9.53
NC1MW5	Date of Sampling	4/6/2021	Time of Sampling	11:00	Static Water Level	10.95
NC1MW6	Date of Sampling	4/6/2021	Time of Sampling	11:33	Static Water Level	7.58
NC1MW7	Date of Sampling	4/6/2021	Time of Sampling	14:51	Static Water Level	8.20
NC1MW8	Date of Sampling	4/6/2021	Time of Sampling	14:50	Static Water Level	8.54
NC1MW9	Date of Sampling	4/6/2021	Time of Sampling	15:40	Static Water Level	9.34
NC2MW2	Date of Sampling	4/6/2021	Time of Sampling	14:33	Static Water Level	10.57
NC2MW3	Date of Sampling	4/6/2021	Time of Sampling	14:29	Static Water Level	7.72
NC2MW4	Date of Sampling	4/6/2021	Time of Sampling	10:41	Static Water Level	6.76
NC2MW5	Date of Sampling	4/6/2021	Time of Sampling	14:14	Static Water Level	5.87
NC2MW6	Date of Sampling	4/6/2021	Time of Sampling	14:20	Static Water Level	7.62
NC2MW7	Date of Sampling	4/6/2021	Time of Sampling	14:38	Static Water Level	6.76
NC2MW8	Date of Sampling	4/6/2021	Time of Sampling	14:27	Static Water Level	6.03
MW11	Date of Sampling	4/6/2021	Time of Sampling	14:58	Static Water Level	7.01
MW12	Date of Sampling	4/6/2021	Time of Sampling	15:02	Static Water Level	8.97
MW13	Date of Sampling	4/6/2021	Time of Sampling	10:38	Static Water Level	4.73
MW14	Date of Sampling	4/6/2021	Time of Sampling	10:46	Static Water Level	8.51

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 (29481)
Monitoring Well Identification - Sample Number: **MW2 - 5**	Date: 4/13/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, Breezy, 46°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	10:27	Pump Start Time	10:30
Static Water Level (+/- 0.01 feet)*	8.91	Purge Rate (mL/minute)	300
Bottom of Well Casing (+/- 0.01 feet)*	16.40	Time to Purge Well (hours:minutes)	0:17
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)	4.62		
Actual Volume of Water Purged (mL)	5,100		

*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)
10:35	1,500	11.04	0.96	82.7	6.73	0.655	Top of Pump
10:38	2,400	11.09	0.93	61.8	6.70	0.658	Top of Pump
10:41	3,300	11.14	0.90	44.7	6.70	0.660	Top of Pump
10:44	4,200	11.17	0.83	32.7	6.69	0.663	Top of Pump
10:47	5,100	11.18	0.80	24.7	6.69	0.665	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)
10:47	5,100	11.18	0.80	24.7	6.69	0.665	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	4/13/2021, 6:30

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW3 - 8**	Date: 4/13/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Sunny, 47°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	11:48	Pump Start Time	11:50
Static Water Level (+/- 0.01 feet)*	8.74	Purge Rate (mL/minute)	400
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)	8.31		
Actual Volume of Water Purged (mL)	12,800		

*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)
11:55	2,000	11.72	1.52	490	6.67	1.49	8.74
11:58	3,200	11.73	1.54	468	6.64	1.53	8.74
12:01	4,400	11.66	0.68	245	6.63	1.55	8.74
12:04	5,600	11.54	0.37	145	6.63	1.57	8.74
12:07	6,800	11.51	0.37	83.8	6.63	1.58	8.74
12:10	8,000	11.55	0.32	54.9	6.63	1.59	8.74
12:13	9,200	11.59	0.30	38.4	6.63	1.60	8.74
12:16	10,400	11.60	0.29	34.2	6.63	1.60	8.74
12:19	11,600	11.60	0.27	27.0	6.63	1.60	8.74
12:22	12,800	11.61	0.27	23.7	6.63	1.61	8.74

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)
12:22	12,800	11.61	0.27	23.7	6.63	1.61	8.74
Duplicate?	Yes, DUP1	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	4/13/2021, 6:30

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW4 - 6**	Date: 4/13/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, Breezy, 46^{o}F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	11:03	Pump Start Time	11:06
Static Water Level (+/- 0.01 feet)*	9.38	Purge Rate (mL/minute)	300
Bottom of Well Casing (+/- 0.01 feet)*	17.70	Time to Purge Well (hours:minutes)	0:23
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)	5.14		
Actual Volume of Water Purged (mL)	6,900		

*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)
11:11	1,500	11.73	3.20	72.2	6.90	1.01	9.39
11:14	2,400	11.80	2.04	73.1	6.89	0.925	9.39
11:17	3,300	11.83	1.50	56.2	6.88	0.891	9.39
11:20	4,200	11.87	0.97	41.3	6.87	0.890	9.39
11:23	5,100	11.91	0.77	29.1	6.87	0.888	9.39
11:26	6,000	11.94	0.75	22.9	6.87	0.889	9.39
11:29	6,900	11.92	0.72	18.9	6.87	0.889	9.39

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)
11:29	6,900	11.92	0.72	18.9	6.87	0.889	9.39
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		300

Sample Physical Characteristics **Equipment Information**

Sample Clarity	Suspended Sand	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	4/13/2021, 6:30

Notes / Unusual Occurrences: None - Suspended Sand in Sample

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **NC2MW4 - 2**	Date: 4/12/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Clear, Sunny, Windy, 46°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:53	Pump Start Time	9:57
Static Water Level (+/- 0.01 feet)*	6.46	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	14.50	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)	4.96		
Actual Volume of Water Purged (mL)	2,750		

*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)
10:02	1,250	11.33	6.33	51.5	6.32	0.880	7.22
10:05	2,000	11.27	6.31	29.8	6.29	0.881	7.38
10:08	2,750	11.24	6.31	23.8	6.27	0.882	7.58

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)
10:08	2,750	11.24	6.31	23.8	6.27	0.882	7.58
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	4/12/2021, 6:26
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW9 - 10**	Date: 4/13/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Sunny, Breezy, 52°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	12:43	Pump Start Time	12:44
Static Water Level (+/- 0.01 feet)*	9.17	Purge Rate (mL/minute)	350
Bottom of Well Casing (+/- 0.01 feet)*	22.40	Time to Purge Well (hours:minutes)	0:17
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)	8.17		
Actual Volume of Water Purged (mL)	5,950		

*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)
12:49	1,750	11.73	1.20	151	6.74	1.33	9.17
12:52	2,800	11.67	0.63	82.8	6.71	1.33	9.17
12:55	3,850	11.64	0.61	39.3	6.71	1.33	9.17
12:58	4,900	11.68	0.55	28.4	6.70	1.34	9.17
13:01	5,950	11.73	0.51	22.9	6.70	1.34	9.17

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)
13:01	5,950	11.73	0.51	22.9	6.70	1.34	9.17
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		350

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	4/13/2021, 6:30
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW11 - 4**	Date: 4/13/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, Breezy, 45^{o}F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:41	Pump Start Time	9:44
Static Water Level (+/- 0.01 feet)*	6.83	Purge Rate (mL/minute)	300
Bottom of Well Casing (+/- 0.01 feet)*	21.85	Time to Purge Well (hours:minutes)	0:26
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)	9.27		
Actual Volume of Water Purged (mL)	7,800		

*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)
9:49	1,500	9.18	2.50	103	6.80	0.443	7.01
9:52	2,400	8.99	2.44	67.3	6.82	0.440	7.01
9:55	3,300	8.90	2.38	53.3	6.81	0.442	7.01
9:58	4,200	8.86	2.03	47.2	6.81	0.444	7.01
10:01	5,100	8.86	2.05	42.4	6.80	0.446	7.01
10:04	6,000	8.87	2.07	34.6	6.79	0.449	7.01
10:07	6,900	8.88	2.07	30.3	6.79	0.451	7.01
10:10	7,800	8.89	2.07	20.4	6.78	0.452	7.01

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)
10:10	7,800	8.89	2.07	20.4	6.78	0.452	7.01
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	4/13/2021, 6:30
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW13 - 1**	Date: 4/12/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Sunny, Windy, 45^{o}F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:11	Pump Start Time	9:13
Static Water Level (+/- 0.01 feet)*	4.43	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	15.19	Time to Purge Well (hours:minutes)	0:11
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)	6.64		
Actual Volume of Water Purged (mL)	2,750		

*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)
9:18	1,250	11.40	0.99	34.2	6.70	0.640	4.48
9:21	2,000	11.20	0.93	24.1	6.59	0.638	4.49
9:24	2,750	11.12	0.98	23.1	6.58	0.640	4.49

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)
9:24	2,750	11.12	0.98	23.1	6.58	0.640	4.49
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	4/12/2021, 6:26
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW14 - 3**	Date: 4/12/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Clear, Sunny, Windy, 48°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	10:36	Pump Start Time	10:38
Static Water Level (+/- 0.01 feet)*	8.24	Purge Rate (mL/minute)	150-250
Bottom of Well Casing (+/- 0.01 feet)*	Not Measured	Time to Purge Well (hours:minutes)	0:23
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)	4,550		

*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)
10:43	1,250	10.80	4.06	136	6.17	1.26	9.48
10:46	2,000	10.64	4.00	89.9	6.18	1.27	9.78
10:49	2,750	10.58	1.60	57.0	6.17	1.28	10.19
10:52	3,200	10.53	1.58	50.3	6.18	1.29	10.36
10:55	3,650	10.48	1.50	40.6	6.18	1.29	10.45
10:58	4,100	10.46	1.46	33.7	6.17	1.29	10.53
11:01	4,550	10.53	1.41	22.4	6.17	1.29	10.58

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)
11:01	4,550	10.53	1.41	22.4	6.17	1.29	10.58
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	Light Sulfur	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/12/2021, 6:26
Notes / Unusual Occurrences: None			

Equipment Calibration Sheet

Date: 4/12/2021
Time: 6:26

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	4.46	µS/cm
Turbidity	0.0	NTU
DO	9.96	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

.

Equipment Calibration Sheet

Date: 4/13/2021
Time: 6:30

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	4.27	µS/cm
Turbidity	0.0	NTU
DO	8.97	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

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NEBRASKA CITY STATION

Water Levels Prior to Purging (Feet Below TOC)

NC1MW2	Date of Sampling	10/1/2021	Time of Sampling	13:50	Static Water Level	11.27
NC1MW3	Date of Sampling	10/1/2021	Time of Sampling	14:11	Static Water Level	11.74
NC1MW4	Date of Sampling	10/1/2021	Time of Sampling	13:54	Static Water Level	11.84
NC1MW5	Date of Sampling	10/1/2021	Time of Sampling	14:35	Static Water Level	13.54
NC1MW6	Date of Sampling	10/1/2021	Time of Sampling	14:26	Static Water Level	9.66
NC1MW7	Date of Sampling	10/1/2021	Time of Sampling	13:24	Static Water Level	10.69
NC1MW8	Date of Sampling	10/1/2021	Time of Sampling	13:25	Static Water Level	11.02
NC1MW9	Date of Sampling	10/1/2021	Time of Sampling	14:16	Static Water Level	12.00
NC2MW2	Date of Sampling	10/1/2021	Time of Sampling	13:03	Static Water Level	13.48
NC2MW3	Date of Sampling	10/1/2021	Time of Sampling	12:55	Static Water Level	11.55
NC2MW4	Date of Sampling	10/1/2021	Time of Sampling	12:19	Static Water Level	10.17
NC2MW5	Date of Sampling	10/1/2021	Time of Sampling	12:42	Static Water Level	13.15
NC2MW6	Date of Sampling	10/1/2021	Time of Sampling	12:48	Static Water Level	10.38
NC2MW7	Date of Sampling	10/1/2021	Time of Sampling	13:10	Static Water Level	9.37
NC2MW8	Date of Sampling	10/1/2021	Time of Sampling	13:00	Static Water Level	9.16
MW11	Date of Sampling	10/1/2021	Time of Sampling	13:31	Static Water Level	9.88
MW12	Date of Sampling	10/1/2021	Time of Sampling	13:35	Static Water Level	11.86
MW13	Date of Sampling	10/1/2021	Time of Sampling	12:13	Static Water Level	8.32
MW14	Date of Sampling	10/1/2021	Time of Sampling	12:24	Static Water Level	11.98

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 (29481)
Monitoring Well Identification - Sample Number: **MW2 - 5**	Date: 10/5/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Sunny, 75°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	13:27	Pump Start Time	13:27
Static Water Level (+/- 0.01 feet)*	11.40	Purge Rate (mL/minute)	300
Bottom of Well Casing (+/- 0.01 feet)*	16.40	Time to Purge Well (hours:minutes)	0:17
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)	3.09		
Actual Volume of Water Purged (mL)	5,100		

*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)
13:32	1,500	18.19	2.01	37.9	6.64	0.667	11.40
13:35	2,400	18.11	0.91	16.8	6.56	0.718	11.40
13:38	3,300	18.04	0.62	6.9	6.55	0.727	11.40
13:41	4,200	17.90	0.58	4.9	6.54	0.727	11.40
13:44	5,100	17.84	0.55	3.7	6.54	0.727	11.40

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)
13:44	5,100	17.84	0.55	3.7	6.54	0.727	11.40
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	10/5/2021, 11:26
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW3 - 8**	Date: 10/6/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Overcast, 61°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	10:42	Pump Start Time	10:44
Static Water Level (+/- 0.01 feet)*	11.72	Purge Rate (mL/minute)	400
Bottom of Well Casing (+/- 0.01 feet)*	22.20	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)	6.47		
Actual Volume of Water Purged (mL)	8,000		

*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)
10:49	2,000	15.02	0.65	144	6.34	1.65	11.72
10:52	3,200	14.80	0.41	77.2	6.33	1.64	11.72
10:55	4,400	14.82	0.39	57.0	6.33	1.63	11.72
10:58	5,600	14.77	0.41	28.6	6.35	1.63	11.72
11:01	6,800	14.68	0.39	23.8	6.35	1.62	11.72
11:04	8,000	14.75	0.36	22.7	6.34	1.62	11.72

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)
11:04	8,000	14.75	0.36	22.7	6.34	1.62	11.72
Duplicate?	Yes, DUP1	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	10/6/2021, 8:28
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW4 - 6**	Date: 10/5/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Cloudy, 77°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	14:01	Pump Start Time	14:01
Static Water Level (+/- 0.01 feet)*	11.88	Purge Rate (mL/minute)	300
Bottom of Well Casing (+/- 0.01 feet)*	17.70	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)	3.59		
Actual Volume of Water Purged (mL)	6,000		

*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)
14:06	1,500	17.57	1.24	29.9	6.70	0.92	11.88
14:09	2,400	17.17	0.80	33.3	6.70	0.935	11.88
14:12	3,300	17.17	0.52	20.0	6.69	0.945	11.88
14:15	4,200	17.02	0.41	14.8	6.70	0.948	11.88
14:18	5,100	17.00	0.44	10.2	6.69	0.951	11.88
14:21	6,000	16.95	0.40	7.2	6.68	0.955	11.88

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)
14:21	6,000	16.95	0.40	7.2	6.68	0.955	11.88
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		300

Sample Physical Characteristics **Equipment Information**

Sample Clarity	Clear, Sandy	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	10/5/2021, 11:26
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **NC2MW4 - 2**	Date: 10/4/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 65°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	10:21	Pump Start Time	10:24
Static Water Level (+/- 0.01 feet)*	10.11	Purge Rate (mL/minute)	125-350
Bottom of Well Casing (+/- 0.01 feet)*	14.50	Time to Purge Well (hours:minutes)	0:29
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)	2.71		
Actual Volume of Water Purged (mL)	4,750		

*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)
10:29	1,750	16.69	1.19	76.6	7.04	0.924	10.80
10:32	2,125	16.96	1.00	66.9	6.99	0.928	10.90
10:35	2,500	17.27	2.01	142	6.97	0.924	11.01
10:38	2,875	17.53	2.15	196	6.96	0.921	11.12
10:41	3,250	17.61	2.36	280	6.97	0.919	11.25
10:44	3,625	17.64	2.39	313	6.95	0.917	11.36
10:47	4,000	17.54	2.44	317	6.94	0.919	11.48
10:50	4,375	17.58	2.39	322	6.93	0.919	11.60
10:53	4,750	17.63	2.34	335	6.93	0.920	11.70

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)
10:53	4,750	17.63	2.34	335	6.93	0.920	11.70
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		125

Sample Physical Characteristics / **Equipment Information**

Sample Clarity	Mostly Clear	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	10/4/2021, 6:09
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW9 - 10**	Date: 10/6/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Overcast, 64°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	11:33	Pump Start Time	11:36
Static Water Level (+/- 0.01 feet)*	12.01	Purge Rate (mL/minute)	350
Bottom of Well Casing (+/- 0.01 feet)*	22.40	Time to Purge Well (hours:minutes)	0:17
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)	6.42		
Actual Volume of Water Purged (mL)	5,950		

*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)
11:41	1,750	15.17	0.77	22.6	6.46	1.44	12.01
11:44	2,800	15.11	0.58	13.7	6.41	1.44	12.01
11:47	3,850	15.07	0.40	8.0	6.42	1.43	12.01
11:50	4,900	15.05	0.41	6.5	6.41	1.43	12.01
11:53	5,950	15.05	0.39	5.3	6.41	1.43	12.01

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)
11:53	5,950	15.05	0.39	5.3	6.41	1.43	12.01
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		350

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	10/6/2021, 8:28

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW11 - 4**	Date: 10/5/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, 73°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	12:15	Pump Start Time	12:16
Static Water Level (+/- 0.01 feet)*	9.90	Purge Rate (mL/minute)	200-250
Bottom of Well Casing (+/- 0.01 feet)*	21.85	Time to Purge Well (hours:minutes)	0:50
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)	7.38		
Actual Volume of Water Purged (mL)	10,250		

*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)
12:21	1,250	17.27	1.72	44.8	6.59	0.545	11.75
12:24	1,850	17.60	0.72	64.6	6.60	0.555	11.44
12:27	2,450	18.20	0.69	72.2	6.56	0.551	11.02
12:30	3,050	18.16	0.76	76.6	6.56	0.548	11.10
12:33	3,650	17.94	0.82	72.3	6.56	0.545	11.28
12:36	4,250	17.95	1.19	63.7	6.52	0.548	11.32
12:39	4,850	17.92	1.38	60.8	6.51	0.550	11.33
12:42	5,450	17.87	1.41	53.5	6.51	0.555	11.33
12:45	6,050	17.94	1.45	52.8	6.52	0.557	11.32
12:48	6,650	17.95	1.51	51.7	6.52	0.560	11.32
12:51	7,250	17.91	1.62	48.5	6.52	0.566	11.31
12:54	7,850	17.88	1.66	46.2	6.51	0.569	11.31
12:57	8,450	17.93	1.72	45.3	6.51	0.569	11.31
13:00	9,050	17.99	1.84	36.4	6.51	0.568	11.31
13:03	9,650	18.08	1.88	36.2	6.52	0.568	11.29
13:06	10,250	18.11	1.90	37.3	6.53	0.568	11.29

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)
13:06	10,250	18.11	1.90	37.3	6.53	0.568	11.29
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	10/5/2021, 11:26
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW13 - 1**	Date: 10/4/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 61°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:33	Pump Start Time	9:39
Static Water Level (+/- 0.01 feet)*	8.23	Purge Rate (mL/minute)	200
Bottom of Well Casing (+/- 0.01 feet)*	15.19	Time to Purge Well (hours:minutes)	0:20
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)	4.30		
Actual Volume of Water Purged (mL)	4,000		

*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)
9:44	1,000	17.13	1.47	21.5	7.05	1.03	8.27
9:47	1,600	17.06	1.22	11.5	7.01	1.04	8.27
9:50	2,200	17.07	0.97	7.4	6.99	1.04	8.27
9:53	2,800	17.09	0.95	6.2	6.99	1.03	8.27
9:56	3,400	17.10	0.90	5.3	6.99	1.03	8.27
9:59	4,000	17.09	0.89	5.0	6.99	1.02	8.27

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)
9:59	4,000	17.09	0.89	5.0	6.99	1.02	8.27
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	10/4/2021, 6:09
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW14 - 3**	Date: 10/4/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 73°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	11:48	Pump Start Time	11:39
Static Water Level (+/- 0.01 feet)*	11.89	Purge Rate (mL/minute)	200
Bottom of Well Casing (+/- 0.01 feet)*	Not Measured	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)	Not Measured		
Actual Volume of Water Purged (mL)	2,800		

*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)
11:44	1,000	15.90	1.17	24.3	7.08	1.33	12.50
11:47	1,600	15.87	0.99	16.5	7.08	1.33	12.64
11:50	2,200	15.94	0.96	12.6	7.07	1.33	12.78
11:53	2,800	16.02	0.90	19.1	7.07	1.33	12.89

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)
11:53	2,800	16.02	0.90	19.1	7.07	1.33	12.89
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	10/4/2021, 6:09
Notes / Unusual Occurrences: None			

Equipment Calibration Sheet

Date: 10/4/2021
Time: 6:09

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	4.46	µS/cm
Turbidity	0.0	NTU
DO	10.09	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

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Equipment Calibration Sheet

Date: 10/5/2021
Time: 11:26

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	4.28	µS/cm
Turbidity	0.0	NTU
DO	10.62	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

.

Equipment Calibration Sheet

Date: 10/6/2021
Time: 8:28

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	4.54	µS/cm
Turbidity	0.0	NTU
DO	9.48	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

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Appendix B

Analytical Laboratory Reports

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eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-204259-1
Client Project/Site: Nebraska City Unit 1 and 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:
4/27/2021 9:56:40 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 and 2 CCR/Landfill

Job ID: 310-204259-1

Job ID: 310-204259-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-204259-1

Comments
No additional comments.

Receipt
The samples were received on 4/14/2021 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.0° C and 0.7° 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 and 2 CCR/Landfill

Job ID: 310-204259-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-204259-1	NC2MW4	Water	04/12/21 10:08	04/14/21 09:30	
310-204259-2	MW13	Water	04/12/21 09:24	04/14/21 09:30	

Detection Summary

Client: Omaha Public Power District
Job ID: 310-204259-1
Project/Site: Nebraska City Unit 1 and 2 CCR/Landfill

Client Sample ID: NC2MW4
Lab Sample ID: 310-204259-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.93	J	5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	0.311	J	0.500	0.275	mg/L	5		9056A	Total/NA
Sulfate	61.6		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.00113	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.268		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	0.0838	J	0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.0000580	J	0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	103		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000256	J	0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lead	0.000833		0.000500	0.000210	mg/L	1		6020A	Total/NA
Lithium	0.0230		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0112		0.00200	0.00130	mg/L	1		6020A	Total/NA
Selenium	0.0111		0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	448		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW13
Lab Sample ID: 310-204259-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.50		5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	0.441	J	0.500	0.275	mg/L	5		9056A	Total/NA
Sulfate	101		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.00487		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.0815		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	0.0653	J	0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	66.9		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000990		0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lead	0.000353	J	0.000500	0.000210	mg/L	1		6020A	Total/NA
Lithium	0.0199		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00443		0.00200	0.00130	mg/L	1		6020A	Total/NA
Selenium	0.00194	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	350		30.0	26.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-204259-1
Project/Site: Nebraska City Unit 1 and 2 CCR/Landfill

Client Sample ID: NC2MW4
Lab Sample ID: 310-204259-1
Date Collected: 04/12/21 10:08
Matrix: Water
Date Received: 04/14/21 09:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.93	J	5.00	2.15	mg/L			04/19/21 21:43	5
Fluoride	0.311	J	0.500	0.275	mg/L			04/19/21 21:43	5
Sulfate	61.6		5.00	2.45	mg/L			04/19/21 21:43	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/16/21 08:45	04/20/21 21:11	1
Arsenic	0.00113	J	0.00200	0.000750	mg/L		04/16/21 08:45	04/20/21 21:11	1
Barium	0.268		0.00200	0.000300	mg/L		04/16/21 08:45	04/20/21 21:11	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/16/21 08:45	04/20/21 21:11	1
Boron	0.0838	J	0.100	0.0580	mg/L		04/16/21 08:45	04/20/21 21:11	1
Cadmium	0.0000580	J	0.000100	0.0000510	mg/L		04/16/21 08:45	04/20/21 21:11	1
Calcium	103		0.500	0.190	mg/L		04/16/21 08:45	04/20/21 21:11	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/16/21 08:45	04/20/21 21:11	1
Cobalt	0.000256	J	0.000500	0.0000910	mg/L		04/16/21 08:45	04/20/21 21:11	1
Lead	0.000833		0.000500	0.000210	mg/L		04/16/21 08:45	04/20/21 21:11	1
Lithium	0.0230		0.0100	0.00250	mg/L		04/16/21 08:45	04/20/21 21:11	1
Molybdenum	0.0112		0.00200	0.00130	mg/L		04/16/21 08:45	04/20/21 21:11	1
Selenium	0.0111		0.00500	0.000960	mg/L		04/16/21 08:45	04/20/21 21:11	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/16/21 08:45	04/20/21 21:11	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:04	04/21/21 12:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	448		30.0	26.0	mg/L			04/15/21 13:32	1

Client Sample ID: MW13
Lab Sample ID: 310-204259-2
Date Collected: 04/12/21 09:24
Matrix: Water
Date Received: 04/14/21 09:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.50**		5.00	2.15	mg/L			04/19/21 21:59	5
Fluoride	**0.441**	**J**	0.500	0.275	mg/L			04/19/21 21:59	5
Sulfate	**101**		5.00	2.45	mg/L			04/19/21 21:59	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/16/21 08:45	04/20/21 21:14	1
Arsenic	**0.00487**		0.00200	0.000750	mg/L		04/16/21 08:45	04/20/21 21:14	1
Barium	**0.0815**		0.00200	0.000300	mg/L		04/16/21 08:45	04/20/21 21:14	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/16/21 08:45	04/20/21 21:14	1
Boron	**0.0653**	**J**	0.100	0.0580	mg/L		04/16/21 08:45	04/20/21 21:14	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		04/16/21 08:45	04/20/21 21:14	1
Calcium	**66.9**		0.500	0.190	mg/L		04/16/21 08:45	04/20/21 21:14	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/16/21 08:45	04/20/21 21:14	1
Cobalt	**0.000990**		0.000500	0.0000910	mg/L		04/16/21 08:45	04/20/21 21:14	1
Lead	**0.000353**	**J**	0.000500	0.000210	mg/L		04/16/21 08:45	04/20/21 21:14	1
Lithium	**0.0199**		0.0100	0.00250	mg/L		04/16/21 08:45	04/20/21 21:14	1
Molybdenum	**0.00443**		0.00200	0.00130	mg/L		04/16/21 08:45	04/20/21 21:14	1
Selenium	**0.00194**	**J**	0.00500	0.000960	mg/L		04/16/21 08:45	04/20/21 21:14	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/16/21 08:45	04/20/21 21:14	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:04	04/21/21 12:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**350**		30.0	26.0	mg/L			04/15/21 13:32	1

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 310-313953/3
Matrix: Water
Analysis Batch: 313953
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.430		1.00	0.430	mg/L			04/19/21 18:36	1
Fluoride	<0.0550		0.100	0.0550	mg/L			04/19/21 18:36	1
Sulfate	<0.490		1.00	0.490	mg/L			04/19/21 18:36	1

Lab Sample ID: LCS 310-313953/4
Matrix: Water
Analysis Batch: 313953
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	9.751		mg/L		98	90 - 110
Fluoride	2.00	2.180		mg/L		109	90 - 110
Sulfate	10.0	10.47		mg/L		105	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-312812/1-A
Matrix: Water
Analysis Batch: 313453
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312812

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/16/21 08:45	04/20/21 20:02	1
Arsenic	<0.000750		0.00200	0.000750	mg/L		04/16/21 08:45	04/20/21 20:02	1
Barium	0.0006360	J	0.00200	0.000300	mg/L		04/16/21 08:45	04/20/21 20:02	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/16/21 08:45	04/20/21 20:02	1
Boron	<0.0580		0.100	0.0580	mg/L		04/16/21 08:45	04/20/21 20:02	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		04/16/21 08:45	04/20/21 20:02	1
Calcium	<0.190		0.500	0.190	mg/L		04/16/21 08:45	04/20/21 20:02	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/16/21 08:45	04/20/21 20:02	1
Cobalt	<0.0000910		0.000500	0.0000910	mg/L		04/16/21 08:45	04/20/21 20:02	1
Lead	<0.000210		0.000500	0.000210	mg/L		04/16/21 08:45	04/20/21 20:02	1
Lithium	<0.00250		0.0100	0.00250	mg/L		04/16/21 08:45	04/20/21 20:02	1
Molybdenum	<0.00130		0.00200	0.00130	mg/L		04/16/21 08:45	04/20/21 20:02	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/16/21 08:45	04/20/21 20:02	1

Lab Sample ID: MB 310-312812/1-A
Matrix: Water
Analysis Batch: 313497
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312812

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.0006770	J	0.00100	0.000260	mg/L		04/16/21 08:45	04/21/21 14:27	1

Lab Sample ID: LCS 310-312812/2-A
Matrix: Water
Analysis Batch: 313453
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.200	0.1946		mg/L		97	80 - 120
Arsenic	0.200	0.1978		mg/L		99	80 - 120
Barium	0.100	0.1049		mg/L		105	80 - 120
Beryllium	0.100	0.08988		mg/L		90	80 - 120

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

Lab Sample ID: LCS 310-312812/2-A
Matrix: Water
Analysis Batch: 313453
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.200	0.2067		mg/L		103	80 - 120
Cadmium	0.100	0.09903		mg/L		99	80 - 120
Calcium	2.00	1.659		mg/L		83	80 - 120
Chromium	0.100	0.09726		mg/L		97	80 - 120
Cobalt	0.100	0.09749		mg/L		97	80 - 120
Lead	0.200	0.1937		mg/L		97	80 - 120
Lithium	0.200	0.1753		mg/L		88	80 - 120
Molybdenum	0.200	0.1925		mg/L		96	80 - 120
Selenium	0.400	0.3976		mg/L		99	80 - 120

Lab Sample ID: LCS 310-312812/2-A
Matrix: Water
Analysis Batch: 313497
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium	0.200	0.2039		mg/L		102	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-313366/1-A
Matrix: Water
Analysis Batch: 313498
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 313366

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:04	04/21/21 11:50	1

Lab Sample ID: LCS 310-313366/2-A
Matrix: Water
Analysis Batch: 313498
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 313366

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00167	0.001752		mg/L		105	80 - 120

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

Lab Sample ID: MB 310-312885/1
Matrix: Water
Analysis Batch: 312885
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			04/15/21 13:32	1

Lab Sample ID: LCS 310-312885/2
Matrix: Water
Analysis Batch: 312885
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	974.0		mg/L		97	90 - 110

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-204259-1
Project/Site: Nebraska City Unit 1 and 2 CCR/Landfill

HPLC/IC

Analysis Batch: 313953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204259-1	NC2MW4	Total/NA	Water	9056A	
310-204259-2	MW13	Total/NA	Water	9056A	
MB 310-313953/3	Method Blank	Total/NA	Water	9056A	
LCS 310-313953/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 312812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204259-1	NC2MW4	Total/NA	Water	3010A	
310-204259-2	MW13	Total/NA	Water	3010A	
MB 310-312812/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-312812/2-A	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 313366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204259-1	NC2MW4	Total/NA	Water	7470A	
310-204259-2	MW13	Total/NA	Water	7470A	
MB 310-313366/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-313366/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 313453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204259-1	NC2MW4	Total/NA	Water	6020A	312812
310-204259-2	MW13	Total/NA	Water	6020A	312812
MB 310-312812/1-A	Method Blank	Total/NA	Water	6020A	312812
LCS 310-312812/2-A	Lab Control Sample	Total/NA	Water	6020A	312812

Analysis Batch: 313497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-312812/1-A	Method Blank	Total/NA	Water	6020A	312812
LCS 310-312812/2-A	Lab Control Sample	Total/NA	Water	6020A	312812

Analysis Batch: 313498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204259-1	NC2MW4	Total/NA	Water	7470A	313366
310-204259-2	MW13	Total/NA	Water	7470A	313366
MB 310-313366/1-A	Method Blank	Total/NA	Water	7470A	313366
LCS 310-313366/2-A	Lab Control Sample	Total/NA	Water	7470A	313366

General Chemistry

Analysis Batch: 312885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204259-1	NC2MW4	Total/NA	Water	SM 2540C	
310-204259-2	MW13	Total/NA	Water	SM 2540C	
MB 310-312885/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-312885/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-204259-1
Project/Site: Nebraska City Unit 1 and 2 CCR/Landfill

Client Sample ID: NC2MW4 — **Lab Sample ID: 310-204259-1**
Date Collected: 04/12/21 10:08 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313953	04/19/21 21:43	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 21:11	SAD	TAL CF
Total/NA	Prep	7470A			313366	04/20/21 14:04	HED	TAL CF
Total/NA	Analysis	7470A		1	313498	04/21/21 12:41	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312885	04/15/21 13:32	SAS	TAL CF

Client Sample ID: MW13 — **Lab Sample ID: 310-204259-2**
Date Collected: 04/12/21 09:24 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313953	04/19/21 21:59	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 21:14	SAD	TAL CF
Total/NA	Prep	7470A			313366	04/20/21 14:04	HED	TAL CF
Total/NA	Analysis	7470A		1	313498	04/21/21 12:43	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312885	04/15/21 13:32	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: 310-204259-1
Project/Site: Nebraska City Unit 1 and 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
Colorado	Petroleum Storage Tank Program	IA100001 (OR)	09-29-21
Georgia	State	IA100001 (OR)	09-29-21
Illinois	NELAP	200024	11-29-21
Iowa	State	007	12-01-21
Kansas	NELAP	E-10341	01-31-22
Minnesota	NELAP	019-999-319	12-31-21
Minnesota (Petrofund)	State	3349	08-22-21
North Dakota	State	R-186	09-29-21
Oregon	NELAP	IA100001	09-29-21
USDA	US Federal Programs	P330-19-00003	01-02-22

Method Summary

Client: Omaha Public Power District
Job ID: 310-204259-1
Project/Site: Nebraska City Unit 1 and 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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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

City/State: CITY Omaha STATE NE Project: Nebraska City

Receipt Information

Date/Time Received: DATE 4/13/21 TIME 0930 Received By: AM

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: P 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): 0.6 Corrected Temp (°C): 0.7

• 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

MW13 MW14
Dup 1
NC1MW4

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

City/State: CITY Omaha STATE NE Project: Nebraska City

Receipt Information

Date/Time Received: DATE 4/13/21 TIME 0930 Received By: AM

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: P 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): -0.1 Corrected Temp (°C): +0.0

• 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

NC2MW4 NC1MW8
NC2MW6
NC2MW8

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

Page 16 of 18 4/27/2021

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: (531) 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:	Analysis Requested	Preservation Codes:
City: Omaha	TAT Requested (days):		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)
State, Zip: NE, 68102-2247			
Phone: (531) 226-2515	PO #:		
Email: kkuhing@oppd.com	WO #:		Other:
Project Name: Nebraska City Station Unit 1 and 2 CCR / Landfill	TestAmerica Project #: 31007559		
Site: Nebraska City Station Unit 1 and 2	SSOW#:		

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)	6010 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		
NC2MW4	4/12/21	10:08	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW13	4/12/21	9:24	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		4/13/2021 1440	OPPD		4-13-2021 1440	Eurofins
2		4-13-2021 1700	Eurofins			
3					4/14/21 0823	

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

Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-204259-1
SDG Number:

Login Number: 204259
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins TestAmerica, Cedar Falls

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: 310-204259-2
Client Project/Site: Nebraska City Unit 1 and 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:
5/13/2021 4:04:04 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Case Narrative

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 and 2 CCR/Landfill

Job ID: 310-204259-2

Job ID: 310-204259-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-204259-2

Comments
No additional comments.

Receipt
The samples were received on 4/14/2021 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.0° C and 0.7° C.

RAD
Method PrecSep_0: Radium 228 Prep batch 160-506115:

The following samples were prepared at a reduced aliquot due to Matrix: NC2MW4 (310-204259-1) and MW13 (310-204259-2).

Method PrecSep_0: Radium 228 Prep Batch 160-506115:

During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: NC2MW4 (310-204259-1) and MW13 (310-204259-2). This is an indicator of matrix interference.

Method PrecSep-21: Radium 226 Prep Batch 160-506114:

The following samples were prepared at a reduced aliquot due to Matrix: NC2MW4 (310-204259-1) and MW13 (310-204259-2).

Method PrecSep-21: Radium 226 Prep Batch 160-506114:

During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: NC2MW4 (310-204259-1) and MW13 (310-204259-2). This is an indicator of matrix interference.

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
Project/Site: Nebraska City Unit 1 and 2 CCR/Landfill

Job ID: 310-204259-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-204259-1	NC2MW4	Water	04/12/21 10:08	04/14/21 09:30	
310-204259-2	MW13	Water	04/12/21 09:24	04/14/21 09:30	

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-204259-2
Project/Site: Nebraska City Unit 1 and 2 CCR/Landfill

Client Sample ID: NC2MW4
Lab Sample ID: 310-204259-1
Date Collected: 04/12/21 10:08
Matrix: Water
Date Received: 04/14/21 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	0.279		0.142	0.144	1.00	0.165	pCi/L	04/19/21 11:16	05/11/21 09:58	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	85.8		40 - 110	04/19/21 11:16	05/11/21 09:58	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.705		0.374	0.380	1.00	0.554	pCi/L	04/19/21 11:53	05/06/21 14:24	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	85.8		40 - 110	04/19/21 11:53	05/06/21 14:24	1
Y Carrier	86.0		40 - 110	04/19/21 11:53	05/06/21 14:24	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.984		0.400	0.406	5.00	0.554	pCi/L		05/11/21 23:07	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-204259-2
Project/Site: Nebraska City Unit 1 and 2 CCR/Landfill

Client Sample ID: MW13
Lab Sample ID: 310-204259-2
Date Collected: 04/12/21 09:24
Matrix: Water
Date Received: 04/14/21 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	0.00130	U	0.0821	0.0821	1.00	0.173	pCi/L	04/19/21 11:16	05/11/21 09:59	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	83.0		40 - 110	04/19/21 11:16	05/11/21 09:59	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.428	U	0.375	0.377	1.00	0.600	pCi/L	04/19/21 11:53	05/06/21 14:24	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	83.0		40 - 110	04/19/21 11:53	05/06/21 14:24	1
Y Carrier	86.0		40 - 110	04/19/21 11:53	05/06/21 14:24	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.429	U	0.384	0.386	5.00	0.600	pCi/L		05/11/21 23:07	1

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-204259-2
Project/Site: Nebraska City Unit 1 and 2 CCR/Landfill

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

QC Sample Results

Client: Omaha Public Power District
Job ID: 310-204259-2
Project/Site: Nebraska City Unit 1 and 2 CCR/Landfill

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-506114/23-A
Matrix: Water
Analysis Batch: 509146

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 506114

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.5137		0.153	0.159	1.00	0.137	pCi/L	04/19/21 11:16	05/11/21 17:27	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.0		40 - 110	04/19/21 11:16	05/11/21 17:27	1

Lab Sample ID: LCS 160-506114/1-A
Matrix: Water
Analysis Batch: 509145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506114

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.3	11.48		1.23	1.00	0.141	pCi/L	101	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	80.0		40 - 110

Lab Sample ID: LCSD 160-506114/2-A
Matrix: Water
Analysis Batch: 509146

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506114

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	11.3	11.13		1.20	1.00	0.137	pCi/L	98	75 - 125	0.14	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	84.8		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-506115/23-A
Matrix: Water
Analysis Batch: 508608

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 506115

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1570	U	0.260	0.261	1.00	0.439	pCi/L	04/19/21 11:53	05/06/21 14:35	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.0		40 - 110	04/19/21 11:53	05/06/21 14:35	1
Y Carrier	90.8		40 - 110	04/19/21 11:53	05/06/21 14:35	1

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

Lab Sample ID: LCS 160-506115/1-A
Matrix: Water
Analysis Batch: 508606

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506115

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			7.23	7.498		0.959	1.00	0.480	pCi/L	104	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	80.0		40 - 110
Y Carrier	90.5		40 - 110

Lab Sample ID: LCSD 160-506115/2-A
Matrix: Water
Analysis Batch: 508606

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506115

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			7.23	7.543		0.952	1.00	0.441	pCi/L	104	75 - 125	0.02	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	84.8		40 - 110
Y Carrier	88.6		40 - 110

Rad

Prep Batch: 506114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204259-1	NC2MW4	Total/NA	Water	PrecSep-21	
310-204259-2	MW13	Total/NA	Water	PrecSep-21	
MB 160-506114/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-506114/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-506114/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 506115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204259-1	NC2MW4	Total/NA	Water	PrecSep_0	
310-204259-2	MW13	Total/NA	Water	PrecSep_0	
MB 160-506115/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-506115/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-506115/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-204259-2
Project/Site: Nebraska City Unit 1 and 2 CCR/Landfill

Client Sample ID: NC2MW4
Lab Sample ID: 310-204259-1
Date Collected: 04/12/21 10:08
Matrix: Water
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	9315		1	509146	05/11/21 09:58	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	9320		1	508606	05/06/21 14:24	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509278	05/11/21 23:07	SCB	TAL SL

Client Sample ID: MW13
Lab Sample ID: 310-204259-2
Date Collected: 04/12/21 09:24
Matrix: Water
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	9315		1	509146	05/11/21 09:59	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	9320		1	508606	05/06/21 14:24	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509278	05/11/21 23:07	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: 310-204259-2
Project/Site: Nebraska City Unit 1 and 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	12-08-21
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	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
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	04-01-22
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	03-01-22
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193	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

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

Method Summary

Client: Omaha Public Power District
Project/Site: Nebraska City Unit 1 and 2 CCR/Landfill

Job ID: 310-204259-2

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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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

City/State: Omaha / NE

Project: Nebraska City

Receipt Information

Date/Time Received: 4/13/21 0930

Received By: AM

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: P

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): 0.6

Corrected Temp (°C): 0.7

• 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

MW13 MW14

Dup / NC1 MW4

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

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

City/State: CITY Omaha STATE NE Project: Nebraska City

Receipt Information

Date/Time Received: DATE 4/13/21 TIME 0930 Received By: AM

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

Condition of Cooler/Container

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: P 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): -0.1 Corrected Temp (°C): +0.0

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

NC2MW4 NC1MW8
NC2MW6
NC2MW8

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Chain of Custody Record

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

TestAmerica Omaha SC
268

COC No:
Page:
Job #:

Client Information
Client Contact: Kyle Uhling
Company: Omaha Public Power District
Address: 444 South 16th Street Mall 9E/EP1
City: Omaha
State, Zip: NE, 68102-2247
Phone: (531) 226-2515
Email: kluhling@oppd.com
Project Name: Nebraska City Station Unit 1 and 2 CCR / Landfill
Site: Nebraska City Station Unit 1 and 2

Sampler: Kyle K. Uhling
Phone: (531) 226-2515
Lab PM: Hayes, Shawn M
E-Mail: shawn.hayes@testamericainc.com
Carrier Tracking No(s):

Due Date Requested:
TAT Requested (days):
PO #:
WO #:
TestAmerica Project #: 310007559
SSOW#:

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - NaOH4, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify), Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Wwater, Ssolid, Oowaste/oil, BTissue, Aair)	Preservation Code:	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:
NC2MW4	4/13/21	10:08	G	W	N			D	X	X	4	CCR Appendix III and IV Constituents
MW13	4/13/21	1204	G	W	N			D	X	X	4	CCR Appendix III and IV Constituents

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

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

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

Special Instructions/QC Requirements:

Method of Shipment:

Empty Kit Relinquished by: Date: Time: Date/Time: 4-13-2021 1440 Company: Euro

Relinquished by: Date/Time: 4-13-2021 1700 Company: Euro Received by: Date/Time: Company:

Relinquished by: Date/Time: Company: Received by: Date/Time: Company:

Custody Seals Intact: △ Yes △ No Custody Seal No.: Cooler Temperature(s) °C and Other Remarks: 4/14/21 0723 CTK

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-204259-2
SDG Number:

Login Number: 204259
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins TestAmerica, Cedar Falls

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: 310-204259-2
SDG Number:

Login Number: 204259
List Number: 2
Creator: Worthington, Sierra M

List Source: Eurofins TestAmerica, St. Louis
List Creation: 04/15/21 01:00 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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: 310-204259-2
Project/Site: Nebraska City Unit 1 and 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)
310-204259-1	NC2MW4	85.8
310-204259-2	MW13	83.0
LCS 160-506114/1-A	Lab Control Sample	80.0
LCSD 160-506114/2-A	Lab Control Sample Dup	84.8
MB 160-506114/23-A	Method Blank	87.0

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)
310-204259-1	NC2MW4	85.8	86.0
310-204259-2	MW13	83.0	86.0
LCS 160-506115/1-A	Lab Control Sample	80.0	90.5
LCSD 160-506115/2-A	Lab Control Sample Dup	84.8	88.6
MB 160-506115/23-A	Method Blank	87.0	90.8

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-204263-1
Client Project/Site: Nebraska City Unit 1 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:
4/27/2021 9:57:59 AM

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

Table of Contents

Case Narrative

Job ID: 310-204263-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-204263-1

Comments
No additional comments.

Receipt
The samples were received on 4/14/2021 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were -0.8° C, -0.4° C and 0.7° 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/Landfill

Job ID: 310-204263-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-204263-1	NC1MW2	Water	04/13/21 10:47	04/14/21 09:30	
310-204263-2	NC1MW3	Water	04/13/21 12:22	04/14/21 09:30	
310-204263-3	NC1MW4	Water	04/13/21 11:29	04/14/21 09:30	
310-204263-4	NC1MW9	Water	04/13/21 13:01	04/14/21 09:30	
310-204263-5	MW11	Water	04/13/21 10:10	04/14/21 09:30	
310-204263-6	MW14	Water	04/13/21 11:01	04/14/21 09:30	
310-204263-7	DUP1	Water	04/13/21 00:00	04/14/21 09:30	

Detection Summary

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

Job ID: 310-204263-1

Client Sample ID: NC1MW2 — Lab Sample ID: 310-204263-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3.82	J	5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	0.294	J	0.500	0.275	mg/L	5		9056A	Total/NA
Sulfate	54.4		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.000878	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.134		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	0.233		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.000176		0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	91.6		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000238	J	0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lead	0.000463	J	0.000500	0.000210	mg/L	1		6020A	Total/NA
Lithium	0.00998	J	0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0886		0.00200	0.00130	mg/L	1		6020A	Total/NA
Thallium	0.00278		0.00100	0.000260	mg/L	1		6020A	Total/NA
Total Dissolved Solids	318		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC1MW3 — Lab Sample ID: 310-204263-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.11		5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	0.557		0.500	0.275	mg/L	5		9056A	Total/NA
Sulfate	372		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.0354		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.144		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	3.14		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.0000830	J	0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	180		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00191		0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lithium	0.0435		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00293		0.00200	0.00130	mg/L	1		6020A	Total/NA
Thallium	0.00320		0.00100	0.000260	mg/L	1		6020A	Total/NA
Total Dissolved Solids	1000		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC1MW4 — Lab Sample ID: 310-204263-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.71		5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	0.441	J	0.500	0.275	mg/L	5		9056A	Total/NA
Sulfate	165		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.00109	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.0768		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	1.44		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.000133		0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	98.4		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000976		0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lithium	0.0190		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00154	J	0.00200	0.00130	mg/L	1		6020A	Total/NA
Thallium	0.000313	J	0.00100	0.000260	mg/L	1		6020A	Total/NA
Total Dissolved Solids	498		30.0	26.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Omaha Public Power District
Job ID: 310-204263-1
Project/Site: Nebraska City Unit 1 CCR/Landfill

Client Sample ID: NC1MW9
Lab Sample ID: 310-204263-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.50		5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	0.504		0.500	0.275	mg/L	5		9056A	Total/NA
Sulfate	162		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.0110		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.120		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	1.50		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.0000890	J	0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	160		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00143		0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lithium	0.0343		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0234		0.00200	0.00130	mg/L	1		6020A	Total/NA
Selenium	0.00280	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	768		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW11
Lab Sample ID: 310-204263-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.42		5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	0.323	J	0.500	0.275	mg/L	5		9056A	Total/NA
Sulfate	35.1		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.00452		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.131		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	0.474		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.0000900	J	0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	52.4		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000873		0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lead	0.000572		0.000500	0.000210	mg/L	1		6020A	Total/NA
Lithium	0.00252	J	0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0299		0.00200	0.00130	mg/L	1		6020A	Total/NA
Selenium	0.00138	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	212		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW14
Lab Sample ID: 310-204263-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.57		5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	0.495	J	0.500	0.275	mg/L	5		9056A	Total/NA
Sulfate	12.3		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.0455		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.318		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	0.263		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	152		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00116		0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lithium	0.0548		0.0100	0.00250	mg/L	1		6020A	Total/NA
Total Dissolved Solids	672		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP1
Lab Sample ID: 310-204263-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.14		5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	0.549		0.500	0.275	mg/L	5		9056A	Total/NA
Sulfate	372		5.00	2.45	mg/L	5		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Omaha Public Power District
Job ID: 310-204263-1
Project/Site: Nebraska City Unit 1 CCR/Landfill

Client Sample ID: DUP1 (Continued)
Lab Sample ID: 310-204263-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0347		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.138		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	3.05		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	176		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00178		0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lithium	0.0417		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00136	J	0.00200	0.00130	mg/L	1		6020A	Total/NA
Total Dissolved Solids	1000		30.0	26.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-204263-1
Project/Site: Nebraska City Unit 1 CCR/Landfill

Client Sample ID: NC1MW2
Lab Sample ID: 310-204263-1
Date Collected: 04/13/21 10:47
Matrix: Water
Date Received: 04/14/21 09:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.82	J	5.00	2.15	mg/L			04/20/21 00:04	5
Fluoride	0.294	J	0.500	0.275	mg/L			04/20/21 00:04	5
Sulfate	54.4		5.00	2.45	mg/L			04/20/21 00:04	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/15/21 09:19	04/21/21 20:58	1
Arsenic	0.000878	J	0.00200	0.000750	mg/L		04/15/21 09:19	04/21/21 20:58	1
Barium	0.134		0.00200	0.000300	mg/L		04/15/21 09:19	04/21/21 20:58	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/15/21 09:19	04/21/21 20:58	1
Boron	0.233		0.100	0.0580	mg/L		04/15/21 09:19	04/21/21 20:58	1
Cadmium	0.000176		0.000100	0.0000510	mg/L		04/15/21 09:19	04/21/21 20:58	1
Calcium	91.6		0.500	0.190	mg/L		04/15/21 09:19	04/21/21 20:58	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/15/21 09:19	04/21/21 20:58	1
Cobalt	0.000238	J	0.000500	0.0000910	mg/L		04/15/21 09:19	04/21/21 20:58	1
Lead	0.000463	J	0.000500	0.000210	mg/L		04/15/21 09:19	04/21/21 20:58	1
Lithium	0.00998	J	0.0100	0.00250	mg/L		04/15/21 09:19	04/21/21 20:58	1
Molybdenum	0.0886		0.00200	0.00130	mg/L		04/15/21 09:19	04/21/21 20:58	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/15/21 09:19	04/21/21 20:58	1
Thallium	0.00278		0.00100	0.000260	mg/L		04/15/21 09:19	04/21/21 20:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:33	04/21/21 15:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	318		30.0	26.0	mg/L			04/19/21 09:05	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-204263-1
Project/Site: Nebraska City Unit 1 CCR/Landfill

Client Sample ID: NC1MW3
Lab Sample ID: 310-204263-2
Date Collected: 04/13/21 12:22
Matrix: Water
Date Received: 04/14/21 09:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.11		5.00	2.15	mg/L			04/20/21 00:19	5
Fluoride	0.557		0.500	0.275	mg/L			04/20/21 00:19	5
Sulfate	372		5.00	2.45	mg/L			04/20/21 00:19	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/15/21 09:19	04/21/21 21:08	1
Arsenic	0.0354		0.00200	0.000750	mg/L		04/15/21 09:19	04/21/21 21:08	1
Barium	0.144		0.00200	0.000300	mg/L		04/15/21 09:19	04/21/21 21:08	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/15/21 09:19	04/21/21 21:08	1
Boron	3.14		0.100	0.0580	mg/L		04/15/21 09:19	04/21/21 21:08	1
Cadmium	0.0000830	J	0.000100	0.0000510	mg/L		04/15/21 09:19	04/21/21 21:08	1
Calcium	180		0.500	0.190	mg/L		04/15/21 09:19	04/21/21 21:08	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/15/21 09:19	04/21/21 21:08	1
Cobalt	0.00191		0.000500	0.0000910	mg/L		04/15/21 09:19	04/21/21 21:08	1
Lead	<0.000210		0.000500	0.000210	mg/L		04/15/21 09:19	04/21/21 21:08	1
Lithium	0.0435		0.0100	0.00250	mg/L		04/15/21 09:19	04/21/21 21:08	1
Molybdenum	0.00293		0.00200	0.00130	mg/L		04/15/21 09:19	04/21/21 21:08	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/15/21 09:19	04/21/21 21:08	1
Thallium	0.00320		0.00100	0.000260	mg/L		04/15/21 09:19	04/21/21 21:08	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:33	04/21/21 16:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		30.0	26.0	mg/L			04/19/21 09:05	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-204263-1
Project/Site: Nebraska City Unit 1 CCR/Landfill

Client Sample ID: NC1MW4
Lab Sample ID: 310-204263-3
Matrix: Water
Date Collected: 04/13/21 11:29
Date Received: 04/14/21 09:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.71**		5.00	2.15	mg/L			04/20/21 00:35	5
Fluoride	**0.441**	**J**	0.500	0.275	mg/L			04/20/21 00:35	5
Sulfate	**165**		5.00	2.45	mg/L			04/20/21 00:35	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/15/21 09:19	04/21/21 21:11	1
Arsenic	**0.00109**	**J**	0.00200	0.000750	mg/L		04/15/21 09:19	04/21/21 21:11	1
Barium	**0.0768**		0.00200	0.000300	mg/L		04/15/21 09:19	04/21/21 21:11	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/15/21 09:19	04/21/21 21:11	1
Boron	**1.44**		0.100	0.0580	mg/L		04/15/21 09:19	04/21/21 21:11	1
Cadmium	**0.000133**		0.000100	0.0000510	mg/L		04/15/21 09:19	04/21/21 21:11	1
Calcium	**98.4**		0.500	0.190	mg/L		04/15/21 09:19	04/21/21 21:11	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/15/21 09:19	04/21/21 21:11	1
Cobalt	**0.000976**		0.000500	0.0000910	mg/L		04/15/21 09:19	04/21/21 21:11	1
Lead	<0.000210		0.000500	0.000210	mg/L		04/15/21 09:19	04/21/21 21:11	1
Lithium	**0.0190**		0.0100	0.00250	mg/L		04/15/21 09:19	04/21/21 21:11	1
Molybdenum	**0.00154**	**J**	0.00200	0.00130	mg/L		04/15/21 09:19	04/21/21 21:11	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/15/21 09:19	04/21/21 21:11	1
Thallium	**0.000313**	**J**	0.00100	0.000260	mg/L		04/15/21 09:19	04/21/21 21:11	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:33	04/21/21 16:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**498**		30.0	26.0	mg/L			04/19/21 09:05	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-204263-1
Project/Site: Nebraska City Unit 1 CCR/Landfill

Client Sample ID: NC1MW9
Lab Sample ID: 310-204263-4
Matrix: Water
Date Collected: 04/13/21 13:01
Date Received: 04/14/21 09:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.50**		5.00	2.15	mg/L			04/20/21 00:51	5
Fluoride	**0.504**		0.500	0.275	mg/L			04/20/21 00:51	5
Sulfate	**162**		5.00	2.45	mg/L			04/20/21 00:51	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/15/21 09:19	04/21/21 21:24	1
Arsenic	**0.0110**		0.00200	0.000750	mg/L		04/15/21 09:19	04/21/21 21:24	1
Barium	**0.120**		0.00200	0.000300	mg/L		04/15/21 09:19	04/21/21 21:24	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/15/21 09:19	04/21/21 21:24	1
Boron	**1.50**		0.100	0.0580	mg/L		04/15/21 09:19	04/21/21 21:24	1
Cadmium	**0.0000890**	**J**	0.000100	0.0000510	mg/L		04/15/21 09:19	04/21/21 21:24	1
Calcium	**160**		0.500	0.190	mg/L		04/15/21 09:19	04/21/21 21:24	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/15/21 09:19	04/21/21 21:24	1
Cobalt	**0.00143**		0.000500	0.0000910	mg/L		04/15/21 09:19	04/21/21 21:24	1
Lead	<0.000210		0.000500	0.000210	mg/L		04/15/21 09:19	04/21/21 21:24	1
Lithium	**0.0343**		0.0100	0.00250	mg/L		04/15/21 09:19	04/21/21 21:24	1
Molybdenum	**0.0234**		0.00200	0.00130	mg/L		04/15/21 09:19	04/21/21 21:24	1
Selenium	**0.00280**	**J**	0.00500	0.000960	mg/L		04/15/21 09:19	04/21/21 21:24	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/15/21 09:19	04/21/21 21:24	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:33	04/21/21 16:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**768**		30.0	26.0	mg/L			04/19/21 09:05	1

Client Sample Results

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

Job ID: 310-204263-1

Client Sample ID: MW11
Date Collected: 04/13/21 10:10
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204263-5
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.42		5.00	2.15	mg/L			04/20/21 01:06	5
Fluoride	0.323	J	0.500	0.275	mg/L			04/20/21 01:06	5
Sulfate	35.1		5.00	2.45	mg/L			04/20/21 01:06	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/15/21 09:19	04/21/21 21:27	1
Arsenic	0.00452		0.00200	0.000750	mg/L		04/15/21 09:19	04/21/21 21:27	1
Barium	0.131		0.00200	0.000300	mg/L		04/15/21 09:19	04/21/21 21:27	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/15/21 09:19	04/21/21 21:27	1
Boron	0.474		0.100	0.0580	mg/L		04/15/21 09:19	04/21/21 21:27	1
Cadmium	0.0000900	J	0.000100	0.0000510	mg/L		04/15/21 09:19	04/21/21 21:27	1
Calcium	52.4		0.500	0.190	mg/L		04/15/21 09:19	04/21/21 21:27	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/15/21 09:19	04/21/21 21:27	1
Cobalt	0.000873		0.000500	0.0000910	mg/L		04/15/21 09:19	04/21/21 21:27	1
Lead	0.000572		0.000500	0.000210	mg/L		04/15/21 09:19	04/21/21 21:27	1
Lithium	0.00252	J	0.0100	0.00250	mg/L		04/15/21 09:19	04/21/21 21:27	1
Molybdenum	0.0299		0.00200	0.00130	mg/L		04/15/21 09:19	04/21/21 21:27	1
Selenium	0.00138	J	0.00500	0.000960	mg/L		04/15/21 09:19	04/21/21 21:27	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/15/21 09:19	04/21/21 21:27	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:33	04/21/21 16:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	212		30.0	26.0	mg/L			04/19/21 09:05	1

Client Sample Results

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

Job ID: 310-204263-1

Client Sample ID: MW14
Date Collected: 04/13/21 11:01
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204263-6
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.57		5.00	2.15	mg/L			04/20/21 01:22	5
Fluoride	0.495	J	0.500	0.275	mg/L			04/20/21 01:22	5
Sulfate	12.3		5.00	2.45	mg/L			04/20/21 01:22	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/15/21 09:19	04/21/21 21:30	1
Arsenic	0.0455		0.00200	0.000750	mg/L		04/15/21 09:19	04/21/21 21:30	1
Barium	0.318		0.00200	0.000300	mg/L		04/15/21 09:19	04/21/21 21:30	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/15/21 09:19	04/21/21 21:30	1
Boron	0.263		0.100	0.0580	mg/L		04/15/21 09:19	04/21/21 21:30	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		04/15/21 09:19	04/21/21 21:30	1
Calcium	152		0.500	0.190	mg/L		04/15/21 09:19	04/21/21 21:30	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/15/21 09:19	04/21/21 21:30	1
Cobalt	0.00116		0.000500	0.0000910	mg/L		04/15/21 09:19	04/21/21 21:30	1
Lead	<0.000210		0.000500	0.000210	mg/L		04/15/21 09:19	04/21/21 21:30	1
Lithium	0.0548		0.0100	0.00250	mg/L		04/15/21 09:19	04/21/21 21:30	1
Molybdenum	<0.00130		0.00200	0.00130	mg/L		04/15/21 09:19	04/21/21 21:30	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/15/21 09:19	04/21/21 21:30	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/15/21 09:19	04/21/21 21:30	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:33	04/21/21 16:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	672		30.0	26.0	mg/L			04/19/21 09:05	1

Client Sample Results

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

Job ID: 310-204263-1

Client Sample ID: DUP1

Lab Sample ID: 310-204263-7

Date Collected: 04/13/21 00:00
Matrix: Water
Date Received: 04/14/21 09:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.14**		5.00	2.15	mg/L			04/20/21 01:37	5
Fluoride	**0.549**		0.500	0.275	mg/L			04/20/21 01:37	5
Sulfate	**372**		5.00	2.45	mg/L			04/20/21 01:37	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/15/21 09:19	04/21/21 21:32	1
Arsenic	**0.0347**		0.00200	0.000750	mg/L		04/15/21 09:19	04/21/21 21:32	1
Barium	**0.138**		0.00200	0.000300	mg/L		04/15/21 09:19	04/21/21 21:32	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/15/21 09:19	04/21/21 21:32	1
Boron	**3.05**		0.100	0.0580	mg/L		04/15/21 09:19	04/21/21 21:32	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		04/15/21 09:19	04/21/21 21:32	1
Calcium	**176**		0.500	0.190	mg/L		04/15/21 09:19	04/21/21 21:32	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/15/21 09:19	04/21/21 21:32	1
Cobalt	**0.00178**		0.000500	0.0000910	mg/L		04/15/21 09:19	04/21/21 21:32	1
Lead	<0.000210		0.000500	0.000210	mg/L		04/15/21 09:19	04/21/21 21:32	1
Lithium	**0.0417**		0.0100	0.00250	mg/L		04/15/21 09:19	04/21/21 21:32	1
Molybdenum	**0.00136**	J	0.00200	0.00130	mg/L		04/15/21 09:19	04/21/21 21:32	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/15/21 09:19	04/21/21 21:32	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/15/21 09:19	04/21/21 21:32	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:33	04/21/21 16:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1000**		30.0	26.0	mg/L			04/19/21 09:05	1

Definitions/Glossary

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

Job ID: 310-204263-1

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
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
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 310-313953/3
Matrix: Water
Analysis Batch: 313953

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.430		1.00	0.430	mg/L			04/19/21 18:36	1
Fluoride	<0.0550		0.100	0.0550	mg/L			04/19/21 18:36	1
Sulfate	<0.490		1.00	0.490	mg/L			04/19/21 18:36	1

Lab Sample ID: LCS 310-313953/4
Matrix: Water
Analysis Batch: 313953

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	9.751		mg/L		98	90 - 110
Fluoride	2.00	2.180		mg/L		109	90 - 110
Sulfate	10.0	10.47		mg/L		105	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-312828/1-A
Matrix: Water
Analysis Batch: 313546

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312828

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/15/21 09:19	04/21/21 20:52	1
Arsenic	<0.000750		0.00200	0.000750	mg/L		04/15/21 09:19	04/21/21 20:52	1
Barium	<0.000300		0.00200	0.000300	mg/L		04/15/21 09:19	04/21/21 20:52	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/15/21 09:19	04/21/21 20:52	1
Boron	<0.0580		0.100	0.0580	mg/L		04/15/21 09:19	04/21/21 20:52	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		04/15/21 09:19	04/21/21 20:52	1
Calcium	<0.190		0.500	0.190	mg/L		04/15/21 09:19	04/21/21 20:52	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/15/21 09:19	04/21/21 20:52	1
Cobalt	<0.0000910		0.000500	0.0000910	mg/L		04/15/21 09:19	04/21/21 20:52	1
Lead	<0.000210		0.000500	0.000210	mg/L		04/15/21 09:19	04/21/21 20:52	1
Lithium	<0.00250		0.0100	0.00250	mg/L		04/15/21 09:19	04/21/21 20:52	1
Molybdenum	<0.00130		0.00200	0.00130	mg/L		04/15/21 09:19	04/21/21 20:52	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/15/21 09:19	04/21/21 20:52	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/15/21 09:19	04/21/21 20:52	1

Lab Sample ID: LCS 310-312828/2-A
Matrix: Water
Analysis Batch: 313546

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312828

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.200	0.1869		mg/L		93	80 - 120
Arsenic	0.200	0.1968		mg/L		98	80 - 120
Barium	0.100	0.09920		mg/L		99	80 - 120
Beryllium	0.100	0.1012		mg/L		101	80 - 120
Boron	0.200	0.1811		mg/L		91	80 - 120
Cadmium	0.100	0.09523		mg/L		95	80 - 120
Calcium	2.00	1.721		mg/L		86	80 - 120
Chromium	0.100	0.09888		mg/L		99	80 - 120
Cobalt	0.100	0.09555		mg/L		96	80 - 120

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

Lab Sample ID: LCS 310-312828/2-A
Matrix: Water
Analysis Batch: 313546

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312828

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.200	0.1907		mg/L		95	80 - 120
Lithium	0.200	0.1970		mg/L		98	80 - 120
Molybdenum	0.200	0.1862		mg/L		93	80 - 120
Selenium	0.400	0.3817		mg/L		95	80 - 120
Thallium	0.200	0.1767		mg/L		88	80 - 120

Lab Sample ID: 310-204263-1 MS
Matrix: Water
Analysis Batch: 313546

Client Sample ID: NC1MW2
Prep Type: Total/NA
Prep Batch: 312828

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.00110		0.200	0.1862		mg/L		93	75 - 125
Arsenic	0.000878	J	0.200	0.1945		mg/L		97	75 - 125
Barium	0.134		0.100	0.2336		mg/L		99	75 - 125
Beryllium	<0.000270		0.100	0.09832		mg/L		98	75 - 125
Boron	0.233		0.200	0.4238		mg/L		96	75 - 125
Cadmium	0.000176		0.100	0.09384		mg/L		94	75 - 125
Calcium	91.6		2.00	95.72	4	mg/L		206	75 - 125
Chromium	<0.00110		0.100	0.09443		mg/L		94	75 - 125
Cobalt	0.000238	J	0.100	0.09299		mg/L		93	75 - 125
Lead	0.000463	J	0.200	0.1905		mg/L		95	75 - 125
Lithium	0.00998	J	0.200	0.1996		mg/L		95	75 - 125
Molybdenum	0.0886		0.200	0.2762		mg/L		94	75 - 125
Selenium	<0.000960		0.400	0.3733		mg/L		93	75 - 125
Thallium	0.00278		0.200	0.1688		mg/L		83	75 - 125

Lab Sample ID: 310-204263-1 MSD
Matrix: Water
Analysis Batch: 313546

Client Sample ID: NC1MW2
Prep Type: Total/NA
Prep Batch: 312828

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.00110		0.200	0.1860		mg/L		93	75 - 125	0	20
Arsenic	0.000878	J	0.200	0.1943		mg/L		97	75 - 125	0	20
Barium	0.134		0.100	0.2344		mg/L		100	75 - 125	0	20
Beryllium	<0.000270		0.100	0.09828		mg/L		98	75 - 125	0	20
Boron	0.233		0.200	0.4318		mg/L		100	75 - 125	2	20
Cadmium	0.000176		0.100	0.09399		mg/L		94	75 - 125	0	20
Calcium	91.6		2.00	95.29	4	mg/L		184	75 - 125	0	20
Chromium	<0.00110		0.100	0.09567		mg/L		96	75 - 125	1	20
Cobalt	0.000238	J	0.100	0.09272		mg/L		92	75 - 125	0	20
Lead	0.000463	J	0.200	0.1920		mg/L		96	75 - 125	1	20
Lithium	0.00998	J	0.200	0.1994		mg/L		95	75 - 125	0	20
Molybdenum	0.0886		0.200	0.2778		mg/L		95	75 - 125	1	20
Selenium	<0.000960		0.400	0.3705		mg/L		93	75 - 125	1	20
Thallium	0.00278		0.200	0.1733		mg/L		85	75 - 125	3	20

QC Sample Results

Client: Omaha Public Power District
Job ID: 310-204263-1
Project/Site: Nebraska City Unit 1 CCR/Landfill

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-313369/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 313511 — **Prep Batch: 313369**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:33	04/21/21 15:30	1

Lab Sample ID: LCS 310-313369/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 313511 — **Prep Batch: 313369**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00167	0.001760		mg/L		106	80 - 120

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

Lab Sample ID: MB 310-313155/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 313155

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26.0		30.0	26.0	mg/L			04/19/21 09:05	1

Lab Sample ID: LCS 310-313155/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 313155

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	982.0		mg/L		98	90 - 110

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-204263-1
Project/Site: Nebraska City Unit 1 CCR/Landfill

HPLC/IC

Analysis Batch: 313953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204263-1	NC1MW2	Total/NA	Water	9056A	
310-204263-2	NC1MW3	Total/NA	Water	9056A	
310-204263-3	NC1MW4	Total/NA	Water	9056A	
310-204263-4	NC1MW9	Total/NA	Water	9056A	
310-204263-5	MW11	Total/NA	Water	9056A	
310-204263-6	MW14	Total/NA	Water	9056A	
310-204263-7	DUP1	Total/NA	Water	9056A	
MB 310-313953/3	Method Blank	Total/NA	Water	9056A	
LCS 310-313953/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 312828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204263-1	NC1MW2	Total/NA	Water	3010A	
310-204263-2	NC1MW3	Total/NA	Water	3010A	
310-204263-3	NC1MW4	Total/NA	Water	3010A	
310-204263-4	NC1MW9	Total/NA	Water	3010A	
310-204263-5	MW11	Total/NA	Water	3010A	
310-204263-6	MW14	Total/NA	Water	3010A	
310-204263-7	DUP1	Total/NA	Water	3010A	
MB 310-312828/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-312828/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-204263-1 MS	NC1MW2	Total/NA	Water	3010A	
310-204263-1 MSD	NC1MW2	Total/NA	Water	3010A	

Prep Batch: 313369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204263-1	NC1MW2	Total/NA	Water	7470A	
310-204263-2	NC1MW3	Total/NA	Water	7470A	
310-204263-3	NC1MW4	Total/NA	Water	7470A	
310-204263-4	NC1MW9	Total/NA	Water	7470A	
310-204263-5	MW11	Total/NA	Water	7470A	
310-204263-6	MW14	Total/NA	Water	7470A	
310-204263-7	DUP1	Total/NA	Water	7470A	
MB 310-313369/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-313369/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 313511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204263-1	NC1MW2	Total/NA	Water	7470A	313369
310-204263-2	NC1MW3	Total/NA	Water	7470A	313369
310-204263-3	NC1MW4	Total/NA	Water	7470A	313369
310-204263-4	NC1MW9	Total/NA	Water	7470A	313369
310-204263-5	MW11	Total/NA	Water	7470A	313369
310-204263-6	MW14	Total/NA	Water	7470A	313369
310-204263-7	DUP1	Total/NA	Water	7470A	313369
MB 310-313369/1-A	Method Blank	Total/NA	Water	7470A	313369
LCS 310-313369/2-A	Lab Control Sample	Total/NA	Water	7470A	313369

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-204263-1
Project/Site: Nebraska City Unit 1 CCR/Landfill

Metals

Analysis Batch: 313546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204263-1	NC1MW2	Total/NA	Water	6020A	312828
310-204263-2	NC1MW3	Total/NA	Water	6020A	312828
310-204263-3	NC1MW4	Total/NA	Water	6020A	312828
310-204263-4	NC1MW9	Total/NA	Water	6020A	312828
310-204263-5	MW11	Total/NA	Water	6020A	312828
310-204263-6	MW14	Total/NA	Water	6020A	312828
310-204263-7	DUP1	Total/NA	Water	6020A	312828
MB 310-312828/1-A	Method Blank	Total/NA	Water	6020A	312828
LCS 310-312828/2-A	Lab Control Sample	Total/NA	Water	6020A	312828
310-204263-1 MS	NC1MW2	Total/NA	Water	6020A	312828
310-204263-1 MSD	NC1MW2	Total/NA	Water	6020A	312828

General Chemistry

Analysis Batch: 313155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204263-1	NC1MW2	Total/NA	Water	SM 2540C	
310-204263-2	NC1MW3	Total/NA	Water	SM 2540C	
310-204263-3	NC1MW4	Total/NA	Water	SM 2540C	
310-204263-4	NC1MW9	Total/NA	Water	SM 2540C	
310-204263-5	MW11	Total/NA	Water	SM 2540C	
310-204263-6	MW14	Total/NA	Water	SM 2540C	
310-204263-7	DUP1	Total/NA	Water	SM 2540C	
MB 310-313155/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-313155/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-204263-1
Project/Site: Nebraska City Unit 1 CCR/Landfill

Client Sample ID: NC1MW2
Lab Sample ID: 310-204263-1
Date Collected: 04/13/21 10:47
Matrix: Water
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313953	04/20/21 00:04	SAD	TAL CF
Total/NA	Prep	3010A			312828	04/15/21 09:19	CJT	TAL CF
Total/NA	Analysis	6020A		1	313546	04/21/21 20:58	SAD	TAL CF
Total/NA	Prep	7470A			313369	04/20/21 14:33	HED	TAL CF
Total/NA	Analysis	7470A		1	313511	04/21/21 15:58	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	313155	04/19/21 09:05	ARG	TAL CF

Client Sample ID: NC1MW3
Lab Sample ID: 310-204263-2
Date Collected: 04/13/21 12:22
Matrix: Water
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313953	04/20/21 00:19	SAD	TAL CF
Total/NA	Prep	3010A			312828	04/15/21 09:19	CJT	TAL CF
Total/NA	Analysis	6020A		1	313546	04/21/21 21:08	SAD	TAL CF
Total/NA	Prep	7470A			313369	04/20/21 14:33	HED	TAL CF
Total/NA	Analysis	7470A		1	313511	04/21/21 16:00	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	313155	04/19/21 09:05	ARG	TAL CF

Client Sample ID: NC1MW4
Lab Sample ID: 310-204263-3
Date Collected: 04/13/21 11:29
Matrix: Water
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313953	04/20/21 00:35	SAD	TAL CF
Total/NA	Prep	3010A			312828	04/15/21 09:19	CJT	TAL CF
Total/NA	Analysis	6020A		1	313546	04/21/21 21:11	SAD	TAL CF
Total/NA	Prep	7470A			313369	04/20/21 14:33	HED	TAL CF
Total/NA	Analysis	7470A		1	313511	04/21/21 16:02	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	313155	04/19/21 09:05	ARG	TAL CF

Client Sample ID: NC1MW9
Lab Sample ID: 310-204263-4
Date Collected: 04/13/21 13:01
Matrix: Water
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313953	04/20/21 00:51	SAD	TAL CF
Total/NA	Prep	3010A			312828	04/15/21 09:19	CJT	TAL CF
Total/NA	Analysis	6020A		1	313546	04/21/21 21:24	SAD	TAL CF
Total/NA	Prep	7470A			313369	04/20/21 14:33	HED	TAL CF
Total/NA	Analysis	7470A		1	313511	04/21/21 16:04	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	313155	04/19/21 09:05	ARG	TAL CF

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-204263-1
Project/Site: Nebraska City Unit 1 CCR/Landfill

Client Sample ID: MW11
Lab Sample ID: 310-204263-5
Date Collected: 04/13/21 10:10
Matrix: Water
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313953	04/20/21 01:06	SAD	TAL CF
Total/NA	Prep	3010A			312828	04/15/21 09:19	CJT	TAL CF
Total/NA	Analysis	6020A		1	313546	04/21/21 21:27	SAD	TAL CF
Total/NA	Prep	7470A			313369	04/20/21 14:33	HED	TAL CF
Total/NA	Analysis	7470A		1	313511	04/21/21 16:06	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	313155	04/19/21 09:05	ARG	TAL CF

Client Sample ID: MW14
Lab Sample ID: 310-204263-6
Date Collected: 04/13/21 11:01
Matrix: Water
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313953	04/20/21 01:22	SAD	TAL CF
Total/NA	Prep	3010A			312828	04/15/21 09:19	CJT	TAL CF
Total/NA	Analysis	6020A		1	313546	04/21/21 21:30	SAD	TAL CF
Total/NA	Prep	7470A			313369	04/20/21 14:33	HED	TAL CF
Total/NA	Analysis	7470A		1	313511	04/21/21 16:08	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	313155	04/19/21 09:05	ARG	TAL CF

Client Sample ID: DUP1
Lab Sample ID: 310-204263-7
Date Collected: 04/13/21 00:00
Matrix: Water
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313953	04/20/21 01:37	SAD	TAL CF
Total/NA	Prep	3010A			312828	04/15/21 09:19	CJT	TAL CF
Total/NA	Analysis	6020A		1	313546	04/21/21 21:32	SAD	TAL CF
Total/NA	Prep	7470A			313369	04/20/21 14:33	HED	TAL CF
Total/NA	Analysis	7470A		1	313511	04/21/21 16:11	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	313155	04/19/21 09:05	ARG	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: 310-204263-1
Project/Site: Nebraska City Unit 1 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
Colorado	Petroleum Storage Tank Program	IA100001 (OR)	09-29-21
Georgia	State	IA100001 (OR)	09-29-21
Illinois	NELAP	200024	11-29-21
Iowa	State	007	12-01-21
Kansas	NELAP	E-10341	01-31-22
Minnesota	NELAP	019-999-319	12-31-21
Minnesota (Petrofund)	State	3349	08-22-21
North Dakota	State	R-186	09-29-21
Oregon	NELAP	IA100001	09-29-21
USDA	US Federal Programs	P330-19-00003	01-02-22

Method Summary

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

Job ID: 310-204263-1

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

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310-204285 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

City/State: Omaha CITY NE STATE

Project: Nebraska City

Receipt Information

Date/Time Received: DATE 4/13/21 TIME 0930

Received By: AM

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: P

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): -0.8

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

NC1MW2 NC1MW7
NC2MW2 MW11
NC2MW3

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

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

City/State: CITY Omaha STATE NE Project: Nebraska City

Receipt Information

Date/Time Received: DATE 4/23/21 TIME 0930 Received By: AM

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: P 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): 0.6 Corrected Temp (°C): 0.7

• 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

MW13 MW14

Dup 1 NC1 MW4

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

City/State: CITY Omaha STATE NE Project: Nebraska City

Receipt Information

Date/Time Received: DATE 4/23/21 TIME 0930 Received By: AM

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: P 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): −0.4

• 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

NC1MW9

NC2MW9

NC1MW3

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

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4/27/2021

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 288

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information			
Client Contact: Kyle Uhing	Sampler: Kyle K. Uhing	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):
Company: Omaha Public Power District	Phone: (531) 226-2515	E-Mail: shawn.hayes@testamericainc.com	COC No:
Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:		Page:
City: Omaha	TAT Requested (days):		Job #:
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 #: 31007559		
Site: Nebraska City Station Unit 1	SSOW#:		

Analysis Requested: Field Filtered Sample (Yes or No); Perform MS/MSD (Yes or No); 6020A Total Metals CCR/Title 132 List, 7470A Mercury, See Attached CCR/Title 132 List (D); 2540C TDS, 9056A Chloride, Fluoride, Sulfate (N); 9315 and 9320 Radium 226+228 Combined (D); Total Number of containers

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix	Field Filtered	MS/MSD	6020A/7470A	2540C/9056A	9315/9320	Total Number of containers	Special Instructions/Note
			Preservation Code:				D	N	D		
NC1MW2	4/13/21	10:47	G	W	N		X	X	X	4	See attached list for specific analytes
NC1MW3	4/13/21	12:22	G	W	N		X	X	X	4	See attached list for specific analytes
NC1MW4	4/13/21	11:29	G	W	N		X	X	X	4	See attached list for specific analytes
NC1MW9	4/13/21	13:01	G	W	N		X	X	X	4	See attached list for specific analytes
MW11	4/13/21	10:10	G	W	N		X	X	X	4	See attached list for specific analytes
MW14	4/13/21	11:01	G	W	N		X	X	X	4	See attached list for specific analytes
DUP1	4/13/21	—	G	W	N		X	X	X	4	See attached list for specific analytes

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
[signature]	4/13/2021 14:40	OPPD	[signature]	4.13.2021 1440	Euro
[signature]	4.13.2021 1700	Euro			
			[signature]	4/14/21 0930	ETA

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: 310-204263-1
SDG Number:

Login Number: 204263
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins TestAmerica, Cedar Falls

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: 310-204263-2
Client Project/Site: Nebraska City Unit 1 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:
5/17/2021 2:44:15 PM

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/Landfill

Job ID: 310-204263-2

Job ID: 310-204263-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-204263-2

Comments
No additional comments.

Receipt
The samples were received on 4/14/2021 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were -0.8° C, -0.4° C and 0.7° C.

RAD
Method 9320: Radium 228 prep batch 160-506619
The LCS recovered at (128%) for (Ra228). The limits in our LIMS system at 75-125 reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (61-138) per method requirements. The LCS passes, no further action is required
(LCSD 160-506619/2-A)

Method PrecSep_0: Radium 228 Prep batch 160-506115:
The following samples were prepared at a reduced aliquot due to Matrix: NC1MW4 (310-204263-3), MW11 (310-204263-5) and MW14 (310-204263-6).

Method PrecSep_0: Radium 228 Prep Batch 160-506115:
During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: NC1MW2 (310-204263-1) and MW11 (310-204263-5). This is an indicator of matrix interference.

Method PrecSep-21: Radium 226 Prep Batch 160-506114:
The following samples were prepared at a reduced aliquot due to Matrix: NC1MW4 (310-204263-3), MW11 (310-204263-5) and MW14 (310-204263-6).

Method PrecSep-21: Radium 226 Prep Batch 160-506114:
During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: NC1MW2 (310-204263-1) and MW11 (310-204263-5). This is an indicator of matrix interference.

Sample Summary

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

Job ID: 310-204263-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-204263-1	NC1MW2	Water	04/13/21 10:47	04/14/21 09:30	
310-204263-2	NC1MW3	Water	04/13/21 12:22	04/14/21 09:30	
310-204263-3	NC1MW4	Water	04/13/21 11:29	04/14/21 09:30	
310-204263-4	NC1MW9	Water	04/13/21 13:01	04/14/21 09:30	
310-204263-5	MW11	Water	04/13/21 10:10	04/14/21 09:30	
310-204263-6	MW14	Water	04/13/21 11:01	04/14/21 09:30	
310-204263-7	DUP1	Water	04/13/21 00:00	04/14/21 09:30	

Client Sample Results

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

Job ID: 310-204263-2

Client Sample ID: NC1MW2
Date Collected: 04/13/21 10:47
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204263-1
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	0.0410	U	0.0816	0.0816	1.00	0.146	pCi/L	04/19/21 11:16	05/11/21 09:59	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	84.5		40 - 110	04/19/21 11:16	05/11/21 09:59	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.511**		0.259	0.263	1.00	0.374	pCi/L	04/19/21 11:53	05/06/21 14:25	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	84.5		40 - 110	04/19/21 11:53	05/06/21 14:25	1
Y Carrier	90.1		40 - 110	04/19/21 11:53	05/06/21 14:25	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.552**		0.272	0.275	5.00	0.374	pCi/L		05/11/21 23:07	1

Client Sample Results

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

Job ID: 310-204263-2

Client Sample ID: NC1MW3
Date Collected: 04/13/21 12:22
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204263-2
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	**0.262**		0.135	0.137	1.00	0.175	pCi/L	04/22/21 18:34	05/14/21 20:40	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	80.6		40 - 110	04/22/21 18:34	05/14/21 20:40	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.481**		0.279	0.283	1.00	0.416	pCi/L	04/22/21 19:47	05/10/21 13:10	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	80.6		40 - 110	04/22/21 19:47	05/10/21 13:10	1
Y Carrier	88.2		40 - 110	04/22/21 19:47	05/10/21 13:10	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	**0.743**		0.310	0.314	5.00	0.416	pCi/L		05/17/21 12:24	1

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

Job ID: 310-204263-2

Client Sample ID: NC1MW4
Date Collected: 04/13/21 11:29
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204263-3
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	0.151	U	0.150	0.150	1.00	0.236	pCi/L	04/19/21 11:16	05/11/21 10:00	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	83.3		40 - 110	04/19/21 11:16	05/11/21 10:00	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0263	U	0.280	0.280	1.00	0.514	pCi/L	04/19/21 11:53	05/06/21 14:34	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	83.3		40 - 110	04/19/21 11:53	05/06/21 14:34	1
Y Carrier	90.5		40 - 110	04/19/21 11:53	05/06/21 14:34	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	0.151	U	0.318	0.318	5.00	0.514	pCi/L		05/11/21 23:09	1

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

Job ID: 310-204263-2

Client Sample ID: NC1MW9
Date Collected: 04/13/21 13:01
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204263-4
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	0.102	U	0.119	0.119	1.00	0.195	pCi/L	04/19/21 11:16	05/11/21 10:00	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	73.9		40 - 110	04/19/21 11:16	05/11/21 10:00	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.104	U	0.260	0.260	1.00	0.451	pCi/L	04/19/21 11:53	05/06/21 14:34	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	73.9		40 - 110	04/19/21 11:53	05/06/21 14:34	1
Y Carrier	89.0		40 - 110	04/19/21 11:53	05/06/21 14:34	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	0.205	U	0.286	0.286	5.00	0.451	pCi/L		05/11/21 23:07	1

Client Sample Results

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

Job ID: 310-204263-2

Client Sample ID: MW11
Date Collected: 04/13/21 10:10
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204263-5
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	0.216	U	0.164	0.165	1.00	0.241	pCi/L	04/19/21 11:16	05/11/21 10:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.4*		*40 - 110*	*04/19/21 11:16*	*05/11/21 10:00*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.353	U	0.341	0.342	1.00	0.550	pCi/L	04/19/21 11:53	05/06/21 14:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.4*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:34*	*1*
Y Carrier	*89.3*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:34*	*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	**0.570**		0.378	0.380	5.00	0.550	pCi/L		05/11/21 23:07	1

Client Sample Results

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

Job ID: 310-204263-2

Client Sample ID: MW14
Date Collected: 04/13/21 11:01
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204263-6
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	**0.423**		0.175	0.180	1.00	0.191	pCi/L	04/19/21 11:16	05/11/21 17:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.2*		*40 - 110*	*04/19/21 11:16*	*05/11/21 17:27*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.09**		0.431	0.443	1.00	0.598	pCi/L	04/19/21 11:53	05/06/21 14:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.2*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:35*	*1*
Y Carrier	*89.7*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:35*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.51**		0.465	0.478	5.00	0.598	pCi/L		05/11/21 23:07	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-204263-2
Project/Site: Nebraska City Unit 1 CCR/Landfill

Client Sample ID: DUP1
Lab Sample ID: 310-204263-7
Date Collected: 04/13/21 00:00
Matrix: Water
Date Received: 04/14/21 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	0.217		0.132	0.133	1.00	0.173	pCi/L	04/19/21 11:16	05/11/21 17:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*63.9*		*40 - 110*	*04/19/21 11:16*	*05/11/21 17:27*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.261	U	0.349	0.350	1.00	0.582	pCi/L	04/19/21 11:53	05/06/21 14:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*63.9*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:35*	*1*
Y Carrier	*90.1*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:35*	*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	0.478	U	0.373	0.374	5.00	0.582	pCi/L		05/11/21 23:07	1

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-204263-2
Project/Site: Nebraska City Unit 1 CCR/Landfill

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 160-506114/23-A
Matrix: Water
Analysis Batch: 509146
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 506114

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.5137		0.153	0.159	1.00	0.137	pCi/L	04/19/21 11:16	05/11/21 17:27	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.0		40 - 110	04/19/21 11:16	05/11/21 17:27	1

Lab Sample ID: LCS 160-506114/1-A
Matrix: Water
Analysis Batch: 509145
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506114

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.3	11.48		1.23	1.00	0.141	pCi/L	101	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	80.0		40 - 110

Lab Sample ID: LCSD 160-506114/2-A
Matrix: Water
Analysis Batch: 509146
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506114

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	11.3	11.13		1.20	1.00	0.137	pCi/L	98	75 - 125	0.14	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	84.8		40 - 110

Lab Sample ID: MB 160-506615/23-A
Matrix: Water
Analysis Batch: 509878
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 506615

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.006772	U	0.0835	0.0835	1.00	0.164	pCi/L	04/22/21 18:34	05/14/21 22:27	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	88.5		40 - 110	04/22/21 18:34	05/14/21 22:27	1

Lab Sample ID: LCS 160-506615/1-A
Matrix: Water
Analysis Batch: 509542
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506615

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.3	11.43		1.22	1.00	0.152	pCi/L	101	75 - 125

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-506615/1-A
Matrix: Water
Analysis Batch: 509542
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506615

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	83.0		40 - 110

Lab Sample ID: LCSD 160-506615/2-A
Matrix: Water
Analysis Batch: 509542
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506615

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	11.3	11.85		1.27	1.00	0.157	pCi/L	105	75 - 125	0.17	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	81.5		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-506115/23-A
Matrix: Water
Analysis Batch: 508608
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 506115

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1570	U	0.260	0.261	1.00	0.439	pCi/L	04/19/21 11:53	05/06/21 14:35	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.0		40 - 110	04/19/21 11:53	05/06/21 14:35	1
Y Carrier	90.8		40 - 110	04/19/21 11:53	05/06/21 14:35	1

Lab Sample ID: LCS 160-506115/1-A
Matrix: Water
Analysis Batch: 508606
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506115

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	7.23	7.498		0.959	1.00	0.480	pCi/L	104	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	80.0		40 - 110
Y Carrier	90.5		40 - 110

Lab Sample ID: LCSD 160-506115/2-A
Matrix: Water
Analysis Batch: 508606
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506115

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	7.23	7.543		0.952	1.00	0.441	pCi/L	104	75 - 125	0.02	1

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

Lab Sample ID: LCSD 160-506115/2-A
Matrix: Water
Analysis Batch: 508606

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506115

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	84.8		40 - 110
Y Carrier	88.6		40 - 110

Lab Sample ID: MB 160-506619/23-A
Matrix: Water
Analysis Batch: 508981

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 506619

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.07700	U	0.263	0.263	1.00	0.479	pCi/L	04/22/21 19:47	05/10/21 13:18	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	88.5		40 - 110	04/22/21 19:47	05/10/21 13:18	1
Y Carrier	91.2		40 - 110	04/22/21 19:47	05/10/21 13:18	1

Lab Sample ID: LCS 160-506619/1-A
Matrix: Water
Analysis Batch: 508982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506619

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	7.22	8.130		1.03	1.00	0.477	pCi/L	113	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	83.0		40 - 110
Y Carrier	85.2		40 - 110

Lab Sample ID: LCSD 160-506619/2-A
Matrix: Water
Analysis Batch: 508982

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506619

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	7.22	9.259		1.14	1.00	0.536	pCi/L	128	75 - 125	0.52	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	81.5		40 - 110
Y Carrier	86.0		40 - 110

Rad

Prep Batch: 506114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204263-1	NC1MW2	Total/NA	Water	PrecSep-21	
310-204263-3	NC1MW4	Total/NA	Water	PrecSep-21	
310-204263-4	NC1MW9	Total/NA	Water	PrecSep-21	
310-204263-5	MW11	Total/NA	Water	PrecSep-21	
310-204263-6	MW14	Total/NA	Water	PrecSep-21	
310-204263-7	DUP1	Total/NA	Water	PrecSep-21	
MB 160-506114/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-506114/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-506114/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 506115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204263-1	NC1MW2	Total/NA	Water	PrecSep_0	
310-204263-3	NC1MW4	Total/NA	Water	PrecSep_0	
310-204263-4	NC1MW9	Total/NA	Water	PrecSep_0	
310-204263-5	MW11	Total/NA	Water	PrecSep_0	
310-204263-6	MW14	Total/NA	Water	PrecSep_0	
310-204263-7	DUP1	Total/NA	Water	PrecSep_0	
MB 160-506115/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-506115/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-506115/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 506615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204263-2	NC1MW3	Total/NA	Water	PrecSep-21	
MB 160-506615/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-506615/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-506615/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 506619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204263-2	NC1MW3	Total/NA	Water	PrecSep_0	
MB 160-506619/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-506619/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-506619/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-204263-2
Project/Site: Nebraska City Unit 1 CCR/Landfill

Client Sample ID: NC1MW2 — **Lab Sample ID: 310-204263-1**
Date Collected: 04/13/21 10:47 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	9315		1	509146	05/11/21 09:59	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	9320		1	508606	05/06/21 14:25	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509278	05/11/21 23:07	SCB	TAL SL

Client Sample ID: NC1MW3 — **Lab Sample ID: 310-204263-2**
Date Collected: 04/13/21 12:22 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506615	04/22/21 18:34	RMW	TAL SL
Total/NA	Analysis	9315		1	509542	05/14/21 20:40	AK	TAL SL
Total/NA	Prep	PrecSep_0			506619	04/22/21 19:47	RMW	TAL SL
Total/NA	Analysis	9320		1	508982	05/10/21 13:10	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	510105	05/17/21 12:24	GRW	TAL SL

Client Sample ID: NC1MW4 — **Lab Sample ID: 310-204263-3**
Date Collected: 04/13/21 11:29 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	9315		1	509146	05/11/21 10:00	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	9320		1	508608	05/06/21 14:34	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509279	05/11/21 23:09	SCB	TAL SL

Client Sample ID: NC1MW9 — **Lab Sample ID: 310-204263-4**
Date Collected: 04/13/21 13:01 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	9315		1	509146	05/11/21 10:00	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	9320		1	508608	05/06/21 14:34	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509278	05/11/21 23:07	SCB	TAL SL

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-204263-2
Project/Site: Nebraska City Unit 1 CCR/Landfill

Client Sample ID: MW11 — **Lab Sample ID: 310-204263-5**
Date Collected: 04/13/21 10:10 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	9315		1	509146	05/11/21 10:00	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	9320		1	508608	05/06/21 14:34	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509278	05/11/21 23:07	SCB	TAL SL

Client Sample ID: MW14 — **Lab Sample ID: 310-204263-6**
Date Collected: 04/13/21 11:01 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	9315		1	509146	05/11/21 17:27	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	9320		1	508608	05/06/21 14:35	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509278	05/11/21 23:07	SCB	TAL SL

Client Sample ID: DUP1 — **Lab Sample ID: 310-204263-7**
Date Collected: 04/13/21 00:00 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	9315		1	509146	05/11/21 17:27	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	9320		1	508608	05/06/21 14:35	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509278	05/11/21 23:07	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: 310-204263-2
Project/Site: Nebraska City Unit 1 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	12-08-21
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	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
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	04-01-22
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	03-01-22
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193	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

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

Method Summary

Client: Omaha Public Power District
Job ID: 310-204263-2
Project/Site: Nebraska City Unit 1 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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310-204285 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

City/State: Omaha NE Project: Nebraska City

Receipt Information

Date/Time Received: 4/13/21 0930 Received By: AM

Delivery Type: [X] 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?	[X] Yes [ ] No	*If yes:* Cooler ID:
Multiple Coolers?	[X] Yes [ ] No	*If yes:* Cooler # 1 of 5
Cooler Custody Seals Present?	[X] Yes [ ] No	*If yes:* Cooler custody seals intact? [X] Yes [ ] No
Sample Custody Seals Present?	[ ] Yes [X] No	*If yes:* Sample custody seals intact? [ ] Yes [ ] No
Trip Blank Present?	[ ] Yes [X] No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: [X] Wet Ice [ ] Blue ice [ ] Dry ice [ ] Other: [ ] NONE

Thermometer ID: P 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): -0.8

• 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

NC1MW2 NC1MW7
NC2MW2 MW11
NC2MW3

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

City/State: Omaha NE Project: Nebraska City

Receipt Information

Date/Time Received: 4/13/21 0930 Received By: AM

Delivery Type: [X] 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?	[X] Yes [ ] No	*If yes:* Cooler ID:
Multiple Coolers?	[X] Yes [ ] No	*If yes:* Cooler # 2 of 5
Cooler Custody Seals Present?	[X] Yes [ ] No	*If yes:* Cooler custody seals intact? [X] Yes [ ] No
Sample Custody Seals Present?	[ ] Yes [X] No	*If yes:* Sample custody seals intact? [ ] Yes [ ] No
Trip Blank Present?	[ ] Yes [X] No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: [X] Wet ice [ ] Blue ice [ ] Dry ice [ ] Other: [ ] NONE

Thermometer ID: P 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): 0.6 Corrected Temp (°C): 0.7

• 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

MW13 MW14
Dup1
NC1MW4

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

City/State: CITY Omaha STATE NE Project: Nebraska City

Receipt Information

Date/Time Received: DATE 4/13/21 TIME 0930 Received By: AM

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: P | 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): –0.4

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

NC1MW9
NC2MW9
NC1MW3

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

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: (531) 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 #: 31007559			
Site: Nebraska City Station Unit 1	SSOW#:			

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

Other:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A Total Metals CCR/Title 132 List, 7470A Mercury, See Attached CCR/Title 132 List	2540C TDS, 9056A Chloride, Fluoride, Sulfate	9315 and 9320 Radium 226+228 Combined	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D		
NC1MW2	4/13/21	10:47	G	W	N		X	X	X	4	See attached list for specific analysis
NC1MW3	4/13/21	12:22	G	W	N		X	X	X	4	See attached list for specific analysis
NC1MW4	4/13/21	11:29	G	W	N		X	X	X	4	See attached list for specific analysis
NC1MW9	4/13/21	13:01	G	W	N		X	X	X	4	See attached list for specific analysis
MW11	4/13/21	10:10	G	W	N		X	X	X	4	See attached list for specific analysis
MW14	4/12/21	11:01	G	W	N		X	X	X	4	See attached list for specific analysis
DUP1	4/13/21	—	G	W	N		X	X	X	4	See attached list for specific analysis

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
[signature]	4/13/2021 14:40	OPPD	[signature]	4.13.2021 1440	Euro
[signature]	4.13.2021 1700	Euro	[signature]		
			[signature]	4/14/21 0930	ETA

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: 310-204263-2
SDG Number:

Login Number: 204263
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins TestAmerica, Cedar Falls

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: 310-204263-2
SDG Number:

Login Number: 204263
List Number: 2
Creator: Worthington, Sierra M

List Source: Eurofins TestAmerica, St. Louis
List Creation: 04/15/21 01:00 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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: 310-204263-2
Project/Site: Nebraska City Unit 1 CCR/Landfill

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
310-204263-1	NC1MW2	84.5
310-204263-2	NC1MW3	80.6
310-204263-3	NC1MW4	83.3
310-204263-4	NC1MW9	73.9
310-204263-5	MW11	82.4
310-204263-6	MW14	78.2
310-204263-7	DUP1	63.9
LCS 160-506114/1-A	Lab Control Sample	80.0
LCS 160-506615/1-A	Lab Control Sample	83.0
LCSD 160-506114/2-A	Lab Control Sample Dup	84.8
LCSD 160-506615/2-A	Lab Control Sample Dup	81.5
MB 160-506114/23-A	Method Blank	87.0
MB 160-506615/23-A	Method Blank	88.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
310-204263-1	NC1MW2	84.5	90.1
310-204263-2	NC1MW3	80.6	88.2
310-204263-3	NC1MW4	83.3	90.5
310-204263-4	NC1MW9	73.9	89.0
310-204263-5	MW11	82.4	89.3
310-204263-6	MW14	78.2	89.7
310-204263-7	DUP1	63.9	90.1
LCS 160-506115/1-A	Lab Control Sample	80.0	90.5
LCS 160-506619/1-A	Lab Control Sample	83.0	85.2
LCSD 160-506115/2-A	Lab Control Sample Dup	84.8	88.6
LCSD 160-506619/2-A	Lab Control Sample Dup	81.5	86.0
MB 160-506115/23-A	Method Blank	87.0	90.8
MB 160-506619/23-A	Method Blank	88.5	91.2

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-216812-1
Client Project/Site: Nebraska City Station Unit 1/2 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:
10/25/2021 6:19:26 PM

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 Station Unit 1/2 CCR

Job ID: 310-216812-1

Job ID: 310-216812-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-216812-1

Comments
No additional comments.

Receipt
The samples were received on 10/7/2021 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1° 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 Station Unit 1/2 CCR

Job ID: 310-216812-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-216812-1	NC2MW4	Water	10/04/21 10:53	10/07/21 09:40
310-216812-2	MW13	Water	10/04/21 09:59	10/07/21 09:40

Detection Summary

Client: Omaha Public Power District
Job ID: 310-216812-1
Project/Site: Nebraska City Station Unit 1/2 CCR

Client Sample ID: NC2MW4
Lab Sample ID: 310-216812-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.86	J	5.00	2.15	mg/L	5		9056A	Total/NA
Sulfate	62.6		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.00275		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.420		0.00200	0.000370	mg/L	1		6020A	Total/NA
Beryllium	0.000571	J	0.00100	0.000270	mg/L	1		6020A	Total/NA
Boron	0.119		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.000469		0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	128		0.500	0.190	mg/L	1		6020A	Total/NA
Chromium	0.00110	J	0.00500	0.00110	mg/L	1		6020A	Total/NA
Cobalt	0.00203		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.00610		0.000500	0.000210	mg/L	1		6020A	Total/NA
Lithium	0.0324		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00154	J	0.00200	0.00130	mg/L	1		6020A	Total/NA
Selenium	0.00391	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Thallium	0.000527	J	0.00100	0.000260	mg/L	1		6020A	Total/NA
Total Dissolved Solids	486		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW13
Lab Sample ID: 310-216812-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11.5		5.00	2.15	mg/L	5		9056A	Total/NA
Sulfate	47.4		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.0402		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.257	F1	0.00200	0.000370	mg/L	1		6020A	Total/NA
Boron	0.105		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	126		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00102		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0330		0.0100	0.00250	mg/L	1		6020A	Total/NA
Total Dissolved Solids	510		50.0	26.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-216812-1
Project/Site: Nebraska City Station Unit 1/2 CCR

Client Sample ID: NC2MW4
Lab Sample ID: 310-216812-1
Date Collected: 10/04/21 10:53
Matrix: Water
Date Received: 10/07/21 09:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4.86**	**J**	5.00	2.15	mg/L			10/12/21 03:23	5
Fluoride	<0.275		0.500	0.275	mg/L			10/12/21 03:23	5
Sulfate	**62.6**		5.00	2.45	mg/L			10/12/21 03:23	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 18:46	1
Arsenic	**0.00275**		0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 18:46	1
Barium	**0.420**		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 18:46	1
Beryllium	**0.000571**	**J**	0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 18:46	1
Boron	**0.119**		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 18:46	1
Cadmium	**0.000469**		0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 18:46	1
Calcium	**128**		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 18:46	1
Chromium	**0.00110**	**J**	0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 18:46	1
Cobalt	**0.00203**		0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 18:46	1
Lead	**0.00610**		0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 18:46	1
Lithium	**0.0324**		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 18:46	1
Molybdenum	**0.00154**	**J**	0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 18:46	1
Selenium	**0.00391**	**J**	0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 18:46	1
Thallium	**0.000527**	**J**	0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 18:46	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:22	10/12/21 11:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**486**		50.0	26.0	mg/L			10/08/21 15:24	1

Client Sample ID: MW13
Lab Sample ID: 310-216812-2
Date Collected: 10/04/21 09:59
Matrix: Water
Date Received: 10/07/21 09:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11.5**		5.00	2.15	mg/L			10/12/21 03:39	5
Fluoride	<0.275		0.500	0.275	mg/L			10/12/21 03:39	5
Sulfate	**47.4**		5.00	2.45	mg/L			10/12/21 03:39	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 18:49	1
Arsenic	**0.0402**		0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 18:49	1
Barium	**0.257**	F1	0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 18:49	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 18:49	1
Boron	**0.105**		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 18:49	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 18:49	1
Calcium	**126**		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 18:49	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 18:49	1
Cobalt	**0.00102**		0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 18:49	1
Lead	<0.000210		0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 18:49	1
Lithium	**0.0330**		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 18:49	1
Molybdenum	<0.00130		0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 18:49	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 18:49	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 18:49	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:22	10/12/21 11:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**510**		50.0	26.0	mg/L			10/08/21 15:24	1

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
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
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 310-331496/3
Matrix: Water
Analysis Batch: 331496

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.430		1.00	0.430	mg/L			10/12/21 00:31	1
Fluoride	<0.0550		0.100	0.0550	mg/L			10/12/21 00:31	1
Sulfate	<0.490		1.00	0.490	mg/L			10/12/21 00:31	1

Lab Sample ID: LCS 310-331496/33
Matrix: Water
Analysis Batch: 331496

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	10.06		mg/L		101	90 - 110
Fluoride	2.00	2.168		mg/L		108	90 - 110
Sulfate	10.0	10.54		mg/L		105	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-330872/1-A
Matrix: Water
Analysis Batch: 332689

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 330872

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 18:31	1
Arsenic	<0.000750		0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 18:31	1
Barium	<0.000370		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 18:31	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 18:31	1
Boron	<0.0580		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 18:31	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 18:31	1
Calcium	<0.190		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 18:31	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 18:31	1
Cobalt	<0.000190		0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 18:31	1
Lead	<0.000210		0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 18:31	1
Lithium	<0.00250		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 18:31	1
Molybdenum	<0.00130		0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 18:31	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 18:31	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 18:31	1

Lab Sample ID: LCS 310-330872/2-A
Matrix: Water
Analysis Batch: 332689

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 330872

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.200	0.2000		mg/L		100	80 - 120
Arsenic	0.200	0.1937		mg/L		97	80 - 120
Barium	0.100	0.1078		mg/L		108	80 - 120
Beryllium	0.100	0.09649		mg/L		96	80 - 120
Boron	0.200	0.2066		mg/L		103	80 - 120
Cadmium	0.100	0.1002		mg/L		100	80 - 120
Calcium	2.00	2.164		mg/L		108	80 - 120
Chromium	0.100	0.09767		mg/L		98	80 - 120
Cobalt	0.100	0.1033		mg/L		103	80 - 120

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

Lab Sample ID: LCS 310-330872/2-A
Matrix: Water
Analysis Batch: 332689

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 330872

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.200	0.2076		mg/L		104	80 - 120
Lithium	0.200	0.2018		mg/L		101	80 - 120
Molybdenum	0.200	0.1978		mg/L		99	80 - 120
Selenium	0.400	0.3830		mg/L		96	80 - 120
Thallium	0.200	0.1975		mg/L		99	80 - 120

Lab Sample ID: 310-216812-2 MS
Matrix: Water
Analysis Batch: 332689

Client Sample ID: MW13
Prep Type: Total/NA
Prep Batch: 330872

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.00110		0.200	0.2042		mg/L		102	75 - 125
Arsenic	0.0402		0.200	0.2425		mg/L		101	75 - 125
Barium	0.257	F1	0.100	0.3947	F1	mg/L		137	75 - 125
Beryllium	<0.000270		0.100	0.09586		mg/L		96	75 - 125
Boron	0.105		0.200	0.2795		mg/L		87	75 - 125
Cadmium	<0.0000510		0.100	0.1028		mg/L		103	75 - 125
Calcium	126		2.00	134.3	4	mg/L		392	75 - 125
Chromium	<0.00110		0.100	0.09720		mg/L		97	75 - 125
Cobalt	0.00102		0.100	0.09995		mg/L		99	75 - 125
Lead	<0.000210		0.200	0.2029		mg/L		101	75 - 125
Lithium	0.0330		0.200	0.2257		mg/L		96	75 - 125
Molybdenum	<0.00130		0.200	0.2117		mg/L		106	75 - 125
Selenium	<0.000960		0.400	0.4038		mg/L		101	75 - 125
Thallium	<0.000260		0.200	0.1973		mg/L		99	75 - 125

Lab Sample ID: 310-216812-2 MSD
Matrix: Water
Analysis Batch: 332689

Client Sample ID: MW13
Prep Type: Total/NA
Prep Batch: 330872

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.00110		0.200	0.2031		mg/L		102	75 - 125	1	20
Arsenic	0.0402		0.200	0.2434		mg/L		102	75 - 125	0	20
Barium	0.257	F1	0.100	0.3913	F1	mg/L		134	75 - 125	1	20
Beryllium	<0.000270		0.100	0.09465		mg/L		95	75 - 125	1	20
Boron	0.105		0.200	0.2855		mg/L		90	75 - 125	2	20
Cadmium	<0.0000510		0.100	0.1026		mg/L		103	75 - 125	0	20
Calcium	126		2.00	136.9	4	mg/L		520	75 - 125	2	20
Chromium	<0.00110		0.100	0.09733		mg/L		97	75 - 125	0	20
Cobalt	0.00102		0.100	0.09785		mg/L		97	75 - 125	2	20
Lead	<0.000210		0.200	0.2012		mg/L		101	75 - 125	1	20
Lithium	0.0330		0.200	0.2220		mg/L		95	75 - 125	2	20
Molybdenum	<0.00130		0.200	0.2098		mg/L		105	75 - 125	1	20
Selenium	<0.000960		0.400	0.4034		mg/L		101	75 - 125	0	20
Thallium	<0.000260		0.200	0.1966		mg/L		98	75 - 125	0	20

QC Sample Results

Client: Omaha Public Power District
Job ID: 310-216812-1
Project/Site: Nebraska City Station Unit 1/2 CCR

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-331208/1-A
Matrix: Water
Analysis Batch: 331367

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 331208

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:22	10/12/21 10:13	1

Lab Sample ID: LCS 310-331208/2-A
Matrix: Water
Analysis Batch: 331367

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 331208

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00167	0.001622		mg/L		97	80 - 120

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

Lab Sample ID: MB 310-331052/1
Matrix: Water
Analysis Batch: 331052

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		50.0	26.0	mg/L			10/08/21 15:24	1

Lab Sample ID: LCS 310-331052/2
Matrix: Water
Analysis Batch: 331052

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	910.0		mg/L		91	90 - 110

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-216812-1
Project/Site: Nebraska City Station Unit 1/2 CCR

HPLC/IC

Analysis Batch: 331496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216812-1	NC2MW4	Total/NA	Water	9056A	
310-216812-2	MW13	Total/NA	Water	9056A	
MB 310-331496/3	Method Blank	Total/NA	Water	9056A	
LCS 310-331496/33	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 330872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216812-1	NC2MW4	Total/NA	Water	3010A	
310-216812-2	MW13	Total/NA	Water	3010A	
MB 310-330872/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-330872/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-216812-2 MS	MW13	Total/NA	Water	3010A	
310-216812-2 MSD	MW13	Total/NA	Water	3010A	

Prep Batch: 331208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216812-1	NC2MW4	Total/NA	Water	7470A	
310-216812-2	MW13	Total/NA	Water	7470A	
MB 310-331208/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-331208/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 331367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216812-1	NC2MW4	Total/NA	Water	7470A	331208
310-216812-2	MW13	Total/NA	Water	7470A	331208
MB 310-331208/1-A	Method Blank	Total/NA	Water	7470A	331208
LCS 310-331208/2-A	Lab Control Sample	Total/NA	Water	7470A	331208

Analysis Batch: 332689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216812-1	NC2MW4	Total/NA	Water	6020A	330872
310-216812-2	MW13	Total/NA	Water	6020A	330872
MB 310-330872/1-A	Method Blank	Total/NA	Water	6020A	330872
LCS 310-330872/2-A	Lab Control Sample	Total/NA	Water	6020A	330872
310-216812-2 MS	MW13	Total/NA	Water	6020A	330872
310-216812-2 MSD	MW13	Total/NA	Water	6020A	330872

General Chemistry

Analysis Batch: 331052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216812-1	NC2MW4	Total/NA	Water	SM 2540C	
310-216812-2	MW13	Total/NA	Water	SM 2540C	
MB 310-331052/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-331052/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-216812-1
Project/Site: Nebraska City Station Unit 1/2 CCR

Client Sample ID: NC2MW4
Lab Sample ID: 310-216812-1
Date Collected: 10/04/21 10:53
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331496	10/12/21 03:23	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 18:46	SAP	TAL CF
Total/NA	Prep	7470A			331208	10/11/21 11:22	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:06	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331052	10/08/21 15:24	ARG	TAL CF

Client Sample ID: MW13
Lab Sample ID: 310-216812-2
Date Collected: 10/04/21 09:59
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331496	10/12/21 03:39	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 18:49	SAP	TAL CF
Total/NA	Prep	7470A			331208	10/11/21 11:22	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:08	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331052	10/08/21 15:24	ARG	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: 310-216812-1
Project/Site: Nebraska City Station Unit 1/2 CCR

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
Colorado	Petroleum Storage Tank Program	IA100001 (OR)	09-29-22
Georgia	State	IA100001 (OR)	09-29-22
Illinois	NELAP	200024	11-29-21
Iowa	State	007	12-01-21
Kansas	NELAP	E-10341	01-31-22
Minnesota	NELAP	019-999-319	12-31-21
Minnesota (Petrofund)	State	3349	04-06-23
North Dakota	State	R-186	09-29-21 *
Oregon	NELAP	IA100001	09-29-22
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 Station Unit 1/2 CCR

Job ID: 310-216812-1

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

310-216812 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE Project: Nebraska City Station Unit 1/2

Receipt Information

Date/Time Received: DATE 10-7-21 TIME 0940 Received By: HED

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 CC 10-7-21 *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: N Correction Factor (°C): 0

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

Uncorrected Temp (°C): 2.1 Corrected Temp (°C): 2.1

• 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

contained: MW13, NC2MW4, NC1MW3, NC1MW9, DUP1

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

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

Chain of Custody Record

TestAmerica

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				Job #

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	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		
[redacted]											[redacted]
[redacted]											[redacted]
NC2MW4	10/4/21	10:53	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
[redacted]											[redacted]
[redacted]											[redacted]
[redacted]											[redacted]
[redacted]											[redacted]
MW13	10/4/21	9:59	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
[redacted]											[redacted]

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
Relinquished by:	Date/Time: 10/6/2021 15:30	OPPD	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 10-7-21 0940	Company

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

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-216812-1

Login Number: 216812
List Number: 1
Creator: Muehling, Angela C

List Source: Eurofins TestAmerica, Cedar Falls

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: 310-216812-2
Client Project/Site: Nebraska City Station Unit 1/2 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:
11/8/2021 2:30:41 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Case Narrative

Client: Omaha Public Power District
Project/Site: Nebraska City Station Unit 1/2 CCR

Job ID: 310-216812-2

Job ID: 310-216812-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-216812-2

Comments
No additional comments.

Receipt
The samples were received on 10/7/2021 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1° C.

RAD
Method PrecSep_0: Radium-228 Prep Batch 160-530648
The following samples were prepared at a reduced aliquot due to Matrix: NC2MW4 (310-216812-1) and MW13 (310-216812-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-530645
The following samples were prepared at a reduced aliquot due to Matrix: NC2MW4 (310-216812-1) and MW13 (310-216812-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

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
Project/Site: Nebraska City Station Unit 1/2 CCR

Job ID: 310-216812-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-216812-1	NC2MW4	Water	10/04/21 10:53	10/07/21 09:40
310-216812-2	MW13	Water	10/04/21 09:59	10/07/21 09:40

Client Sample Results

Client: Omaha Public Power District
Project/Site: Nebraska City Station Unit 1/2 CCR

Job ID: 310-216812-2

Client Sample ID: NC2MW4
Date Collected: 10/04/21 10:53
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216812-1
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	2.23	G	1.40	1.41	1.00	1.96	pCi/L	10/11/21 10:03	11/03/21 22:48	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	70.7		40 - 110	10/11/21 10:03	11/03/21 22:48	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	6.16	G	1.87	1.96	1.00	2.45	pCi/L	10/11/21 10:40	11/03/21 13:13	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	70.7		40 - 110	10/11/21 10:40	11/03/21 13:13	1
Y Carrier	80.7		40 - 110	10/11/21 10:40	11/03/21 13:13	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	8.39		2.34	2.41	5.00	2.45	pCi/L		11/05/21 19:08	1

Client Sample Results

Client: Omaha Public Power District
Project/Site: Nebraska City Station Unit 1/2 CCR

Job ID: 310-216812-2

Client Sample ID: MW13
Date Collected: 10/04/21 09:59
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216812-2
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	0.419	U	0.375	0.377	1.00	0.586	pCi/L	10/11/21 10:03	11/03/21 22:48	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		40 - 110	10/11/21 10:03	11/03/21 22:48	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.42		0.511	0.527	1.00	0.716	pCi/L	10/11/21 10:40	11/03/21 13:13	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		40 - 110	10/11/21 10:40	11/03/21 13:13	1
Y Carrier	81.1		40 - 110	10/11/21 10:40	11/03/21 13:13	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.84		0.634	0.648	5.00	0.716	pCi/L		11/05/21 19:08	1

Definitions/Glossary

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

QC Sample Results

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-530645/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 535165 — **Prep Batch: 530645**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.2362	U	0.259	0.260	1.00	0.418	pCi/L	10/11/21 10:03	11/04/21 08:21	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.2*		*40 - 110*	*10/11/21 10:03*	*11/04/21 08:21*	*1*

Lab Sample ID: LCS 160-530645/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 534853 — **Prep Batch: 530645**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	14.07		1.80	1.00	0.489	pCi/L	93	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*97.4*		*40 - 110*

Lab Sample ID: LCSD 160-530645/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 534853 — **Prep Batch: 530645**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	15.1	13.33		1.70	1.00	0.422	pCi/L	88	75 - 125	0.21	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*97.4*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-530648/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 534860 — **Prep Batch: 530648**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.6923		0.415	0.420	1.00	0.635	pCi/L	10/11/21 10:40	11/03/21 13:11	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.2*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:11*	*1*
Y Carrier	*89.3*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:11*	*1*

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

Lab Sample ID: LCS 160-530648/1-A
Matrix: Water
Analysis Batch: 534851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 530648

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			12.2	12.37		1.47	1.00	0.488	pCi/L	101	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	97.4		40 - 110
Y Carrier	80.4		40 - 110

Lab Sample ID: LCSD 160-530648/2-A
Matrix: Water
Analysis Batch: 535010

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 530648

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			12.2	12.80		1.51	1.00	0.557	pCi/L	105	75 - 125	0.15	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	97.4		40 - 110
Y Carrier	81.5		40 - 110

Rad

Prep Batch: 530645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216812-1	NC2MW4	Total/NA	Water	PrecSep-21	
310-216812-2	MW13	Total/NA	Water	PrecSep-21	
MB 160-530645/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-530645/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-530645/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 530648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216812-1	NC2MW4	Total/NA	Water	PrecSep_0	
310-216812-2	MW13	Total/NA	Water	PrecSep_0	
MB 160-530648/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-530648/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-530648/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-216812-2
Project/Site: Nebraska City Station Unit 1/2 CCR

Client Sample ID: NC2MW4
Lab Sample ID: 310-216812-1
Date Collected: 10/04/21 10:53
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			530645	10/11/21 10:03	BMP	TAL SL
Total/NA	Analysis	9315		1	534853	11/03/21 22:48	FLC	TAL SL
Total/NA	Prep	PrecSep_0			530648	10/11/21 10:40	BMP	TAL SL
Total/NA	Analysis	9320		1	534853	11/03/21 13:13	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	535296	11/05/21 19:08	MLK	TAL SL

Client Sample ID: MW13
Lab Sample ID: 310-216812-2
Date Collected: 10/04/21 09:59
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			530645	10/11/21 10:03	BMP	TAL SL
Total/NA	Analysis	9315		1	534853	11/03/21 22:48	FLC	TAL SL
Total/NA	Prep	PrecSep_0			530648	10/11/21 10:40	BMP	TAL SL
Total/NA	Analysis	9320		1	534853	11/03/21 13:13	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	535296	11/05/21 19:08	MLK	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: 310-216812-2
Project/Site: Nebraska City Station Unit 1/2 CCR

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	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21 *
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

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

Method Summary

Client: Omaha Public Power District
Project/Site: Nebraska City Station Unit 1/2 CCR

Job ID: 310-216812-2

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

eurofins | Environment Testing TestAmerica

310-216812 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: Nebraska City Station Unit 1/2

Receipt Information

Date/Time Received: DATE 10-7-21 TIME 0940

Received By: HED

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 CC 10-7-21 *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: N

Correction Factor (°C): 0

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

Uncorrected Temp (°C): 2.1

Corrected Temp (°C): 2.1

• 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

contained: MW13, NC2MW4, NC1MW3, NC1MW9, DUP1

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

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

Chain of Custody Record

TestAmerica

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				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#:

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	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		
[redacted]											[redacted]
[redacted]											[redacted]
NC2MW4	10/4/21	10:53	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
[redacted]											[redacted]
[redacted]											[redacted]
[redacted]											[redacted]
[redacted]											[redacted]
MW13	10/4/21	9:59	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
[redacted]											[redacted]

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
Relinquished by:	Date/Time: 10/6/2021 15:30	OPPD	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 10-7-21 0940	Company

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

Login Sample Receipt Checklist

Client: Omaha Public Power District
Job Number: 310-216812-2

Login Number: 216812
List Number: 1
List Source: Eurofins TestAmerica, Cedar Falls
Creator: Muehling, Angela C

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: 310-216812-2

Login Number: 216812
List Number: 2
Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis
List Creation: 10/08/21 06:18 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 Station Unit 1/2 CCR

Job ID: 310-216812-2

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-216812-1	NC2MW4	70.7
310-216812-2	MW13	91.2
LCS 160-530645/1-A	Lab Control Sample	97.4
LCSD 160-530645/2-A	Lab Control Sample Dup	97.4
MB 160-530645/23-A	Method Blank	84.2

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)
310-216812-1	NC2MW4	70.7	80.7
310-216812-2	MW13	91.2	81.1
LCS 160-530648/1-A	Lab Control Sample	97.4	80.4
LCSD 160-530648/2-A	Lab Control Sample Dup	97.4	81.5
MB 160-530648/23-A	Method Blank	84.2	89.3

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: 310-216813-1
Client Project/Site: Nebraska City Station 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:
10/25/2021 6:23:07 PM

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 Station Unit 1 CCR

Job ID: 310-216813-1

Job ID: 310-216813-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-216813-1

Comments
No additional comments.

Receipt
The samples were received on 10/7/2021 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.9° C and 2.1° 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 Station Unit 1 CCR

Job ID: 310-216813-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-216813-1	NC1MW2	Water	10/05/21 13:44	10/07/21 09:40
310-216813-2	NC1MW3	Water	10/06/21 11:04	10/07/21 09:40
310-216813-3	NC1MW4	Water	10/05/21 14:21	10/07/21 09:40
310-216813-4	NC1MW9	Water	10/06/21 11:53	10/07/21 09:40
310-216813-5	MW11	Water	10/05/21 13:06	10/07/21 09:40
310-216813-6	MW14	Water	10/04/21 11:53	10/07/21 09:40
310-216813-7	DUP1	Water	10/06/21 00:00	10/07/21 09:40

Detection Summary

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

Job ID: 310-216813-1

Client Sample ID: NC1MW2 — Lab Sample ID: 310-216813-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.31		5.00	2.15	mg/L	5		9056A	Total/NA
Sulfate	72.1		5.00	2.45	mg/L	5		9056A	Total/NA
Antimony	0.00111	J	0.00200	0.00110	mg/L	1		6020A	Total/NA
Arsenic	0.00179	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.154		0.00200	0.000370	mg/L	1		6020A	Total/NA
Beryllium	0.000387	J	0.00100	0.000270	mg/L	1		6020A	Total/NA
Boron	0.430		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.000592		0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	103		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000568		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.000968		0.000500	0.000210	mg/L	1		6020A	Total/NA
Lithium	0.0124		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.102		0.00200	0.00130	mg/L	1		6020A	Total/NA
Selenium	0.00346	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Thallium	0.00106		0.00100	0.000260	mg/L	1		6020A	Total/NA
Total Dissolved Solids	340		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC1MW3 — Lab Sample ID: 310-216813-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.86		5.00	2.15	mg/L	5		9056A	Total/NA
Sulfate	395		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.0368		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.144		0.00200	0.000370	mg/L	1		6020A	Total/NA
Boron	2.77		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	181		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00137		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0361		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00179	J	0.00200	0.00130	mg/L	1		6020A	Total/NA
Total Dissolved Solids	998		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC1MW4 — Lab Sample ID: 310-216813-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.82		5.00	2.15	mg/L	5		9056A	Total/NA
Sulfate	210		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.00125	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.111		0.00200	0.000370	mg/L	1		6020A	Total/NA
Boron	1.25		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.000134		0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	114		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00200		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0187		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00664		0.00200	0.00130	mg/L	1		6020A	Total/NA
Total Dissolved Solids	518		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC1MW9 — Lab Sample ID: 310-216813-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.84		5.00	2.15	mg/L	5		9056A	Total/NA
Sulfate	219		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.0121		0.00200	0.000750	mg/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: NC1MW9 (Continued) — Lab Sample ID: 310-216813-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.139		0.00200	0.000370	mg/L	1		6020A	Total/NA
Boron	1.45		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.0000780	J	0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	174		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00202		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0318		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0243		0.00200	0.00130	mg/L	1		6020A	Total/NA
Selenium	0.00115	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	822		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW11 — Lab Sample ID: 310-216813-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.82		5.00	2.15	mg/L	5		9056A	Total/NA
Arsenic	0.0237		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.253		0.00200	0.000370	mg/L	1		6020A	Total/NA
Boron	0.335		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.000179		0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	79.5		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00131		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.000537		0.000500	0.000210	mg/L	1		6020A	Total/NA
Molybdenum	0.0201		0.00200	0.00130	mg/L	1		6020A	Total/NA
Selenium	0.00125	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	240		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW14 — Lab Sample ID: 310-216813-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.65		5.00	2.15	mg/L	5		9056A	Total/NA
Sulfate	36.0		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.0494		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.367		0.00200	0.000370	mg/L	1		6020A	Total/NA
Boron	0.246		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	168		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00167		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.000211	J	0.000500	0.000210	mg/L	1		6020A	Total/NA
Lithium	0.0525		0.0100	0.00250	mg/L	1		6020A	Total/NA
Total Dissolved Solids	706		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP1 — Lab Sample ID: 310-216813-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	10.3		5.00	2.15	mg/L	5		9056A	Total/NA
Sulfate	397		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.0376		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.146		0.00200	0.000370	mg/L	1		6020A	Total/NA
Boron	2.80		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	186		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00143		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0373		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00139	J	0.00200	0.00130	mg/L	1		6020A	Total/NA
Total Dissolved Solids	1010		50.0	26.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

Job ID: 310-216813-1

Client Sample ID: NC1MW2
Date Collected: 10/05/21 13:44
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216813-1
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.31**		5.00	2.15	mg/L			10/12/21 21:24	5
Fluoride	<0.275		0.500	0.275	mg/L			10/12/21 21:24	5
Sulfate	**72.1**		5.00	2.45	mg/L			10/12/21 21:24	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00111**	**J**	0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 18:59	1
Arsenic	**0.00179**	**J**	0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 18:59	1
Barium	**0.154**		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 18:59	1
Beryllium	**0.000387**	**J**	0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 18:59	1
Boron	**0.430**		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 18:59	1
Cadmium	**0.000592**		0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 18:59	1
Calcium	**103**		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 18:59	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 18:59	1
Cobalt	**0.000568**		0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 18:59	1
Lead	**0.000968**		0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 18:59	1
Lithium	**0.0124**		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 18:59	1
Molybdenum	**0.102**		0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 18:59	1
Selenium	**0.00346**	**J**	0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 18:59	1
Thallium	**0.00106**		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 18:59	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:22	10/12/21 11:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**340**		50.0	26.0	mg/L			10/11/21 15:55	1

Client Sample Results

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

Job ID: 310-216813-1

Client Sample ID: NC1MW3
Date Collected: 10/06/21 11:04
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216813-2
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.86**		5.00	2.15	mg/L			10/12/21 21:40	5
Fluoride	<0.275		0.500	0.275	mg/L			10/12/21 21:40	5
Sulfate	**395**		5.00	2.45	mg/L			10/12/21 21:40	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 19:01	1
Arsenic	**0.0368**		0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 19:01	1
Barium	**0.144**		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 19:01	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 19:01	1
Boron	**2.77**		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 19:01	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 19:01	1
Calcium	**181**		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 19:01	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 19:01	1
Cobalt	**0.00137**		0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 19:01	1
Lead	<0.000210		0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 19:01	1
Lithium	**0.0361**		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 19:01	1
Molybdenum	**0.00179**	**J**	0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 19:01	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 19:01	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 19:01	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:22	10/12/21 11:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**998**		50.0	26.0	mg/L			10/12/21 10:06	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-216813-1
Project/Site: Nebraska City Station Unit 1 CCR

Client Sample ID: NC1MW4
Lab Sample ID: 310-216813-3
Date Collected: 10/05/21 14:21
Matrix: Water
Date Received: 10/07/21 09:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.82**		5.00	2.15	mg/L			10/12/21 21:55	5
Fluoride	<0.275		0.500	0.275	mg/L			10/12/21 21:55	5
Sulfate	**210**		5.00	2.45	mg/L			10/12/21 21:55	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 19:04	1
Arsenic	**0.00125**	**J**	0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 19:04	1
Barium	**0.111**		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 19:04	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 19:04	1
Boron	**1.25**		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 19:04	1
Cadmium	**0.000134**		0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 19:04	1
Calcium	**114**		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 19:04	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 19:04	1
Cobalt	**0.00200**		0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 19:04	1
Lead	<0.000210		0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 19:04	1
Lithium	**0.0187**		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 19:04	1
Molybdenum	**0.00664**		0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 19:04	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 19:04	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 19:04	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:25	10/12/21 11:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**518**		50.0	26.0	mg/L			10/11/21 15:55	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-216813-1
Project/Site: Nebraska City Station Unit 1 CCR

Client Sample ID: NC1MW9
Lab Sample ID: 310-216813-4
Date Collected: 10/06/21 11:53
Matrix: Water
Date Received: 10/07/21 09:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.84**		5.00	2.15	mg/L			10/12/21 22:11	5
Fluoride	<0.275		0.500	0.275	mg/L			10/12/21 22:11	5
Sulfate	**219**		5.00	2.45	mg/L			10/12/21 22:11	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 19:07	1
Arsenic	**0.0121**		0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 19:07	1
Barium	**0.139**		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 19:07	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 19:07	1
Boron	**1.45**		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 19:07	1
Cadmium	**0.0000780**	**J**	0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 19:07	1
Calcium	**174**		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 19:07	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 19:07	1
Cobalt	**0.00202**		0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 19:07	1
Lead	<0.000210		0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 19:07	1
Lithium	**0.0318**		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 19:07	1
Molybdenum	**0.0243**		0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 19:07	1
Selenium	**0.00115**	**J**	0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 19:07	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 19:07	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:25	10/12/21 11:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**822**		50.0	26.0	mg/L			10/12/21 10:06	1

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

Job ID: 310-216813-1

Client Sample ID: MW11
Date Collected: 10/05/21 13:06
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216813-5
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.82**		5.00	2.15	mg/L			10/12/21 22:26	5
Fluoride	<0.275		0.500	0.275	mg/L			10/12/21 22:26	5
Sulfate	<2.45		5.00	2.45	mg/L			10/12/21 22:26	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 19:19	1
Arsenic	**0.0237**		0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 19:19	1
Barium	**0.253**		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 19:19	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 19:19	1
Boron	**0.335**		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 19:19	1
Cadmium	**0.000179**		0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 19:19	1
Calcium	**79.5**		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 19:19	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 19:19	1
Cobalt	**0.00131**		0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 19:19	1
Lead	**0.000537**		0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 19:19	1
Lithium	<0.00250		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 19:19	1
Molybdenum	**0.0201**		0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 19:19	1
Selenium	**0.00125**	J	0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 19:19	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 19:19	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:25	10/12/21 11:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**240**		50.0	26.0	mg/L			10/11/21 15:55	1

Client Sample Results

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

Job ID: 310-216813-1

Client Sample ID: MW14
Date Collected: 10/04/21 11:53
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216813-6
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.65**		5.00	2.15	mg/L			10/12/21 22:42	5
Fluoride	<0.275		0.500	0.275	mg/L			10/12/21 22:42	5
Sulfate	**36.0**		5.00	2.45	mg/L			10/12/21 22:42	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 19:22	1
Arsenic	**0.0494**		0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 19:22	1
Barium	**0.367**		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 19:22	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 19:22	1
Boron	**0.246**		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 19:22	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 19:22	1
Calcium	**168**		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 19:22	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 19:22	1
Cobalt	**0.00167**		0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 19:22	1
Lead	**0.000211**	J	0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 19:22	1
Lithium	**0.0525**		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 19:22	1
Molybdenum	<0.00130		0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 19:22	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 19:22	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 19:22	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:25	10/12/21 11:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**706**		50.0	26.0	mg/L			10/08/21 15:24	1

Client Sample Results

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

Job ID: 310-216813-1

Client Sample ID: DUP1

Date Collected: 10/06/21 00:00
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216813-7
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10.3**		5.00	2.15	mg/L			10/12/21 22:57	5
Fluoride	<0.275		0.500	0.275	mg/L			10/12/21 22:57	5
Sulfate	**397**		5.00	2.45	mg/L			10/12/21 22:57	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 19:25	1
Arsenic	**0.0376**		0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 19:25	1
Barium	**0.146**		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 19:25	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 19:25	1
Boron	**2.80**		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 19:25	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 19:25	1
Calcium	**186**		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 19:25	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 19:25	1
Cobalt	**0.00143**		0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 19:25	1
Lead	<0.000210		0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 19:25	1
Lithium	**0.0373**		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 19:25	1
Molybdenum	**0.00139**	**J**	0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 19:25	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 19:25	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 19:25	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:25	10/12/21 11:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1010**		50.0	26.0	mg/L			10/12/21 10:06	1

Definitions/Glossary

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

Job ID: 310-216813-1

Qualifiers

Metals

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

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 310-331686/3
Matrix: Water
Analysis Batch: 331686

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.430		1.00	0.430	mg/L			10/12/21 20:22	1
Fluoride	<0.0550		0.100	0.0550	mg/L			10/12/21 20:22	1
Sulfate	<0.490		1.00	0.490	mg/L			10/12/21 20:22	1

Lab Sample ID: LCS 310-331686/4
Matrix: Water
Analysis Batch: 331686

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	9.875		mg/L		99	90 - 110
Fluoride	2.00	2.110		mg/L		106	90 - 110
Sulfate	10.0	10.25		mg/L		103	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-330872/1-A
Matrix: Water
Analysis Batch: 332689

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 330872

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 18:31	1
Arsenic	<0.000750		0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 18:31	1
Barium	<0.000370		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 18:31	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 18:31	1
Boron	<0.0580		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 18:31	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 18:31	1
Calcium	<0.190		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 18:31	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 18:31	1
Cobalt	<0.000190		0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 18:31	1
Lead	<0.000210		0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 18:31	1
Lithium	<0.00250		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 18:31	1
Molybdenum	<0.00130		0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 18:31	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 18:31	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 18:31	1

Lab Sample ID: LCS 310-330872/2-A
Matrix: Water
Analysis Batch: 332689

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 330872

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.200	0.2000		mg/L		100	80 - 120
Arsenic	0.200	0.1937		mg/L		97	80 - 120
Barium	0.100	0.1078		mg/L		108	80 - 120
Beryllium	0.100	0.09649		mg/L		96	80 - 120
Boron	0.200	0.2066		mg/L		103	80 - 120
Cadmium	0.100	0.1002		mg/L		100	80 - 120
Calcium	2.00	2.164		mg/L		108	80 - 120
Chromium	0.100	0.09767		mg/L		98	80 - 120
Cobalt	0.100	0.1033		mg/L		103	80 - 120

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

Lab Sample ID: LCS 310-330872/2-A
Matrix: Water
Analysis Batch: 332689

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 330872

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.200	0.2076		mg/L		104	80 - 120
Lithium	0.200	0.2018		mg/L		101	80 - 120
Molybdenum	0.200	0.1978		mg/L		99	80 - 120
Selenium	0.400	0.3830		mg/L		96	80 - 120
Thallium	0.200	0.1975		mg/L		99	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-331208/1-A
Matrix: Water
Analysis Batch: 331367

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 331208

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:22	10/12/21 10:13	1

Lab Sample ID: LCS 310-331208/2-A
Matrix: Water
Analysis Batch: 331367

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 331208

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00167	0.001622		mg/L		97	80 - 120

Lab Sample ID: MB 310-331210/1-A
Matrix: Water
Analysis Batch: 331367

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 331210

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:25	10/12/21 11:15	1

Lab Sample ID: LCS 310-331210/2-A
Matrix: Water
Analysis Batch: 331367

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 331210

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00167	0.001632		mg/L		98	80 - 120

Lab Sample ID: 310-216813-3 MS
Matrix: Water
Analysis Batch: 331367

Client Sample ID: NC1MW4
Prep Type: Total/NA
Prep Batch: 331210

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.000150		0.00167	0.001716		mg/L		103	80 - 120

Lab Sample ID: 310-216813-3 MSD
Matrix: Water
Analysis Batch: 331367

Client Sample ID: NC1MW4
Prep Type: Total/NA
Prep Batch: 331210

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.000150		0.00167	0.001672		mg/L		100	80 - 120	3	20

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

Lab Sample ID: MB 310-331052/1
Matrix: Water
Analysis Batch: 331052

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		50.0	26.0	mg/L			10/08/21 15:24	1

Lab Sample ID: LCS 310-331052/2
Matrix: Water
Analysis Batch: 331052

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	910.0		mg/L		91	90 - 110

Lab Sample ID: 310-216813-6 DU
Matrix: Water
Analysis Batch: 331052

Client Sample ID: MW14
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	706		694.0		mg/L		2	20

Lab Sample ID: MB 310-331240/1
Matrix: Water
Analysis Batch: 331240

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		50.0	26.0	mg/L			10/11/21 15:55	1

Lab Sample ID: LCS 310-331240/2
Matrix: Water
Analysis Batch: 331240

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	920.0		mg/L		92	90 - 110

Lab Sample ID: 310-216813-5 DU
Matrix: Water
Analysis Batch: 331240

Client Sample ID: MW11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	240		240.0		mg/L		0	20

Lab Sample ID: MB 310-331323/1
Matrix: Water
Analysis Batch: 331323

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		50.0	26.0	mg/L			10/12/21 10:06	1

Lab Sample ID: LCS 310-331323/2
Matrix: Water
Analysis Batch: 331323

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	912.0		mg/L		91	90 - 110

HPLC/IC

Analysis Batch: 331686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216813-1	NC1MW2	Total/NA	Water	9056A	
310-216813-2	NC1MW3	Total/NA	Water	9056A	
310-216813-3	NC1MW4	Total/NA	Water	9056A	
310-216813-4	NC1MW9	Total/NA	Water	9056A	
310-216813-5	MW11	Total/NA	Water	9056A	
310-216813-6	MW14	Total/NA	Water	9056A	
310-216813-7	DUP1	Total/NA	Water	9056A	
MB 310-331686/3	Method Blank	Total/NA	Water	9056A	
LCS 310-331686/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 330872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216813-1	NC1MW2	Total/NA	Water	3010A	
310-216813-2	NC1MW3	Total/NA	Water	3010A	
310-216813-3	NC1MW4	Total/NA	Water	3010A	
310-216813-4	NC1MW9	Total/NA	Water	3010A	
310-216813-5	MW11	Total/NA	Water	3010A	
310-216813-6	MW14	Total/NA	Water	3010A	
310-216813-7	DUP1	Total/NA	Water	3010A	
MB 310-330872/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-330872/2-A	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 331208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216813-1	NC1MW2	Total/NA	Water	7470A	
310-216813-2	NC1MW3	Total/NA	Water	7470A	
MB 310-331208/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-331208/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 331210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216813-3	NC1MW4	Total/NA	Water	7470A	
310-216813-4	NC1MW9	Total/NA	Water	7470A	
310-216813-5	MW11	Total/NA	Water	7470A	
310-216813-6	MW14	Total/NA	Water	7470A	
310-216813-7	DUP1	Total/NA	Water	7470A	
MB 310-331210/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-331210/2-A	Lab Control Sample	Total/NA	Water	7470A	
310-216813-3 MS	NC1MW4	Total/NA	Water	7470A	
310-216813-3 MSD	NC1MW4	Total/NA	Water	7470A	

Analysis Batch: 331367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216813-1	NC1MW2	Total/NA	Water	7470A	331208
310-216813-2	NC1MW3	Total/NA	Water	7470A	331208
310-216813-3	NC1MW4	Total/NA	Water	7470A	331210
310-216813-4	NC1MW9	Total/NA	Water	7470A	331210
310-216813-5	MW11	Total/NA	Water	7470A	331210
310-216813-6	MW14	Total/NA	Water	7470A	331210

Metals (Continued)

Analysis Batch: 331367 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216813-7	DUP1	Total/NA	Water	7470A	331210
MB 310-331208/1-A	Method Blank	Total/NA	Water	7470A	331208
MB 310-331210/1-A	Method Blank	Total/NA	Water	7470A	331210
LCS 310-331208/2-A	Lab Control Sample	Total/NA	Water	7470A	331208
LCS 310-331210/2-A	Lab Control Sample	Total/NA	Water	7470A	331210
310-216813-3 MS	NC1MW4	Total/NA	Water	7470A	331210
310-216813-3 MSD	NC1MW4	Total/NA	Water	7470A	331210

Analysis Batch: 332689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216813-1	NC1MW2	Total/NA	Water	6020A	330872
310-216813-2	NC1MW3	Total/NA	Water	6020A	330872
310-216813-3	NC1MW4	Total/NA	Water	6020A	330872
310-216813-4	NC1MW9	Total/NA	Water	6020A	330872
310-216813-5	MW11	Total/NA	Water	6020A	330872
310-216813-6	MW14	Total/NA	Water	6020A	330872
310-216813-7	DUP1	Total/NA	Water	6020A	330872
MB 310-330872/1-A	Method Blank	Total/NA	Water	6020A	330872
LCS 310-330872/2-A	Lab Control Sample	Total/NA	Water	6020A	330872

General Chemistry

Analysis Batch: 331052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216813-6	MW14	Total/NA	Water	SM 2540C	
MB 310-331052/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-331052/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-216813-6 DU	MW14	Total/NA	Water	SM 2540C	

Analysis Batch: 331240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216813-1	NC1MW2	Total/NA	Water	SM 2540C	
310-216813-3	NC1MW4	Total/NA	Water	SM 2540C	
310-216813-5	MW11	Total/NA	Water	SM 2540C	
MB 310-331240/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-331240/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-216813-5 DU	MW11	Total/NA	Water	SM 2540C	

Analysis Batch: 331323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216813-2	NC1MW3	Total/NA	Water	SM 2540C	
310-216813-4	NC1MW9	Total/NA	Water	SM 2540C	
310-216813-7	DUP1	Total/NA	Water	SM 2540C	
MB 310-331323/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-331323/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Client Sample ID: NC1MW2 — Lab Sample ID: 310-216813-1

Date Collected: 10/05/21 13:44 — Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331686	10/12/21 21:24	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 18:59	SAP	TAL CF
Total/NA	Prep	7470A			331208	10/11/21 11:22	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:11	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331240	10/11/21 15:55	ARG	TAL CF

Client Sample ID: NC1MW3 — Lab Sample ID: 310-216813-2

Date Collected: 10/06/21 11:04 — Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331686	10/12/21 21:40	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 19:01	SAP	TAL CF
Total/NA	Prep	7470A			331208	10/11/21 11:22	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:13	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331323	10/12/21 10:06	ARG	TAL CF

Client Sample ID: NC1MW4 — Lab Sample ID: 310-216813-3

Date Collected: 10/05/21 14:21 — Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331686	10/12/21 21:55	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 19:04	SAP	TAL CF
Total/NA	Prep	7470A			331210	10/11/21 11:25	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:19	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331240	10/11/21 15:55	ARG	TAL CF

Client Sample ID: NC1MW9 — Lab Sample ID: 310-216813-4

Date Collected: 10/06/21 11:53 — Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331686	10/12/21 22:11	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 19:07	SAP	TAL CF
Total/NA	Prep	7470A			331210	10/11/21 11:25	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:30	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331323	10/12/21 10:06	ARG	TAL CF

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-216813-1
Project/Site: Nebraska City Station Unit 1 CCR

Client Sample ID: MW11
Lab Sample ID: 310-216813-5
Date Collected: 10/05/21 13:06
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331686	10/12/21 22:26	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 19:19	SAP	TAL CF
Total/NA	Prep	7470A			331210	10/11/21 11:25	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:32	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331240	10/11/21 15:55	ARG	TAL CF

Client Sample ID: MW14
Lab Sample ID: 310-216813-6
Date Collected: 10/04/21 11:53
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331686	10/12/21 22:42	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 19:22	SAP	TAL CF
Total/NA	Prep	7470A			331210	10/11/21 11:25	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:34	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331052	10/08/21 15:24	ARG	TAL CF

Client Sample ID: DUP1
Lab Sample ID: 310-216813-7
Date Collected: 10/06/21 00:00
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331686	10/12/21 22:57	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 19:25	SAP	TAL CF
Total/NA	Prep	7470A			331210	10/11/21 11:25	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:36	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331323	10/12/21 10:06	ARG	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: 310-216813-1
Project/Site: Nebraska City Station Unit 1 CCR

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
Colorado	Petroleum Storage Tank Program	IA100001 (OR)	09-29-22
Georgia	State	IA100001 (OR)	09-29-22
Illinois	NELAP	200024	11-29-21
Iowa	State	007	12-01-21
Kansas	NELAP	E-10341	01-31-22
Minnesota	NELAP	019-999-319	12-31-21
Minnesota (Petrofund)	State	3349	04-06-23
North Dakota	State	R-186	09-29-21 *
Oregon	NELAP	IA100001	09-29-22
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 Station Unit 1 CCR

Job ID: 310-216813-1

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

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310-216813 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE | Project: Nebraska City Station Unit 1/2

Receipt Information

Date/Time Received: DATE 10-7-21 TIME 0940 | Received By: HED

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~~ 2 of ~~5~~ 5 cc 10-7-21
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: N | Correction Factor (°C): 0

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

Uncorrected Temp (°C): 2.1 | Corrected Temp (°C): 2.1

• 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

contained: MW13, NC2MW4, NC1MW3, NC1MW9, DUP1

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

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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: Nebraska City Station

Receipt Information

Date/Time Received: DATE 10-7-21 TIME 0940 | Received By: HED

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	CC 10-7-21
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?	1

Temperature Record

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

Thermometer ID: N | Correction Factor (°C): 0

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

Uncorrected Temp (°C): 1.9 | Corrected Temp (°C): 1.9

• **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

contained: MW4, MW11, NC1MW4, NC1MW2

TestAmerica

Chain of Custody Record

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

Client Information
Client Contact: Kyle Uhing
Company: Omaha Public Power District
Address: 444 South 16th Street Mail 9E/EP1
City: Omaha
State, Zip: NE, 68102-2247
Phone: (531) 226-2515
Email: kkuhing@oppd.com
Project Name: Nebraska City Station Unit 1 CCR / Landfill
Site: Nebraska City Station Unit 1

Sampler: Kyle K. Uhing
Phone: (402) 226-2515
Lab PM: Hayes, Shawn M
E-Mail: shawn.hayes@testamericainc.com
Carrier Tracking No(s):
COC No:
Page:
Job #:

Due Date Requested:
TAT Requested (days):
PO #:
WO #:
TestAmerica Project #: 310007558
SSOW#:

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, 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	10/5/21	1344	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW3	10/6/21	1104	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW4	10/5/21	1421	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW9	10/6/21	1153	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW11	10/5/21	1304	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW14	10/4/21	1153	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
DUP1	10/6/21	—	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

Special Instructions/QC Requirements:

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

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

Relinquished by: Date/Time: Company — Received by: Company — Date/Time:

Relinquished by: Date/Time: Company — Received by: Company — Date/Time:

Relinquished by: Date/Time: Company — Received by: Company — Date/Time: 10-7-21 0940

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

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-216813-1

Login Number: 216813
List Number: 1
Creator: Muehling, Angela C

List Source: Eurofins TestAmerica, Cedar Falls

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: 310-216813-2
Client Project/Site: Nebraska City Station 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:
11/16/2021 3:39:33 PM

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Case Narrative

Job ID: 310-216813-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-216813-2

Comments
No additional comments.

Receipt
The samples were received on 10/7/2021 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.9° C and 2.1° C.

RAD
Method PrecSep_0: Radium-228 Prep Batch 160-530648
The following samples were prepared at a reduced aliquot due to Matrix: NC1MW9 (310-216813-4), MW11 (310-216813-5), MW14 (310-216813-6) and DUP1 (310-216813-7). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-530645
The following samples were prepared at a reduced aliquot due to Matrix: NC1MW9 (310-216813-4), MW11 (310-216813-5), MW14 (310-216813-6) and DUP1 (310-216813-7). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

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
Project/Site: Nebraska City Station Unit 1 CCR

Job ID: 310-216813-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-216813-1	NC1MW2	Water	10/05/21 13:44	10/07/21 09:40
310-216813-2	NC1MW3	Water	10/06/21 11:04	10/07/21 09:40
310-216813-3	NC1MW4	Water	10/05/21 14:21	10/07/21 09:40
310-216813-4	NC1MW9	Water	10/06/21 11:53	10/07/21 09:40
310-216813-5	MW11	Water	10/05/21 13:06	10/07/21 09:40
310-216813-6	MW14	Water	10/04/21 11:53	10/07/21 09:40
310-216813-7	DUP1	Water	10/06/21 00:00	10/07/21 09:40

Client Sample Results

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

Job ID: 310-216813-2

Client Sample ID: NC1MW2
Date Collected: 10/05/21 13:44
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216813-1
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	0.0841	U	0.186	0.186	1.00	0.335	pCi/L	10/12/21 11:32	11/05/21 20:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.6*		*40 - 110*	*10/12/21 11:32*	*11/05/21 20:29*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.452	U	0.446	0.448	1.00	0.722	pCi/L	10/12/21 12:13	11/04/21 20:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.6*		*40 - 110*	*10/12/21 12:13*	*11/04/21 20:35*	*1*
Y Carrier	*83.7*		*40 - 110*	*10/12/21 12:13*	*11/04/21 20:35*	*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	0.536	U	0.483	0.485	5.00	0.722	pCi/L		11/13/21 18:14	1

Client Sample Results

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

Job ID: 310-216813-2

Client Sample ID: NC1MW3
Date Collected: 10/06/21 11:04
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216813-2
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	0.281	U	0.215	0.216	1.00	0.313	pCi/L	10/12/21 11:32	11/05/21 20:29	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110	10/12/21 11:32	11/05/21 20:29	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.189	U	0.444	0.445	1.00	0.765	pCi/L	10/12/21 12:13	11/04/21 20:35	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110	10/12/21 12:13	11/04/21 20:35	1
Y Carrier	87.5		40 - 110	10/12/21 12:13	11/04/21 20:35	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	0.470	U	0.493	0.495	5.00	0.765	pCi/L		11/13/21 18:14	1

Client Sample Results

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

Job ID: 310-216813-2

Client Sample ID: NC1MW4
Date Collected: 10/05/21 14:21
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216813-3
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	0.246	U	0.246	0.247	1.00	0.393	pCi/L	10/12/21 11:32	11/05/21 20:29	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.6		40 - 110	10/12/21 11:32	11/05/21 20:29	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.837**		0.376	0.383	1.00	0.546	pCi/L	10/12/21 12:13	11/04/21 16:36	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.6		40 - 110	10/12/21 12:13	11/04/21 16:36	1
Y Carrier	84.5		40 - 110	10/12/21 12:13	11/04/21 16:36	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.08**		0.449	0.456	5.00	0.546	pCi/L		11/13/21 18:14	1

Client Sample Results

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

Job ID: 310-216813-2

Client Sample ID: NC1MW9
Date Collected: 10/06/21 11:53
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216813-4
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	0.364	U	0.316	0.318	1.00	0.490	pCi/L	10/11/21 10:03	11/03/21 22:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*10/11/21 10:03*	*11/03/21 22:50*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.18**		0.408	0.422	1.00	0.550	pCi/L	10/11/21 10:40	11/03/21 13:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:14*	*1*
Y Carrier	*81.1*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:14*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.54**		0.516	0.528	5.00	0.550	pCi/L		11/13/21 18:14	1

Client Sample Results

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

Job ID: 310-216813-2

Client Sample ID: MW11
Date Collected: 10/05/21 13:06
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216813-5
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	0.263	U	0.306	0.307	1.00	0.502	pCi/L	10/11/21 10:03	11/03/21 22:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.7*		*40 - 110*	*10/11/21 10:03*	*11/03/21 22:51*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.114	U	0.329	0.329	1.00	0.572	pCi/L	10/11/21 10:40	11/03/21 13:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.7*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:14*	*1*
Y Carrier	*80.4*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:14*	*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	0.378	U	0.449	0.450	5.00	0.572	pCi/L		11/13/21 18:14	1

Client Sample Results

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

Job ID: 310-216813-2

Client Sample ID: MW14
Date Collected: 10/04/21 11:53
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216813-6
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	0.741		0.392	0.397	1.00	0.519	pCi/L	10/11/21 10:03	11/03/21 22:51	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	86.5		40 - 110	10/11/21 10:03	11/03/21 22:51	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.16		0.577	0.646	1.00	0.579	pCi/L	10/11/21 10:40	11/03/21 13:14	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	86.5		40 - 110	10/11/21 10:40	11/03/21 13:14	1
Y Carrier	79.6		40 - 110	10/11/21 10:40	11/03/21 13:14	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	3.90		0.698	0.758	5.00	0.579	pCi/L		11/13/21 18:14	1

Client Sample Results

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

Job ID: 310-216813-2

Client Sample ID: DUP1
Date Collected: 10/06/21 00:00
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216813-7
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	0.0996	U	0.237	0.238	1.00	0.430	pCi/L	10/11/21 10:03	11/03/21 22:51	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	97.9		40 - 110	10/11/21 10:03	11/03/21 22:51	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.941		0.425	0.434	1.00	0.612	pCi/L	10/11/21 10:40	11/03/21 13:14	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	97.9		40 - 110	10/11/21 10:40	11/03/21 13:14	1
Y Carrier	77.8		40 - 110	10/11/21 10:40	11/03/21 13:14	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.04		0.487	0.495	5.00	0.612	pCi/L		11/13/21 18:14	1

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-216813-2
Project/Site: Nebraska City Station 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

QC Sample Results

Client: Omaha Public Power District
Job ID: 310-216813-2
Project/Site: Nebraska City Station Unit 1 CCR

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-530645/23-A
Matrix: Water
Analysis Batch: 535165
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 530645

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.2362	U	0.259	0.260	1.00	0.418	pCi/L	10/11/21 10:03	11/04/21 08:21	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	84.2		40 - 110	10/11/21 10:03	11/04/21 08:21	1

Lab Sample ID: LCS 160-530645/1-A
Matrix: Water
Analysis Batch: 534853
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 530645

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	14.07		1.80	1.00	0.489	pCi/L	93	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	97.4		40 - 110

Lab Sample ID: LCSD 160-530645/2-A
Matrix: Water
Analysis Batch: 534853
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 530645

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	15.1	13.33		1.70	1.00	0.422	pCi/L	88	75 - 125	0.21	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	97.4		40 - 110

Lab Sample ID: MB 160-531167/24-A
Matrix: Water
Analysis Batch: 535209
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 531167

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1859	U	0.202	0.202	1.00	0.324	pCi/L	10/12/21 11:32	11/05/21 20:33	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110	10/12/21 11:32	11/05/21 20:33	1

Lab Sample ID: LCS 160-531167/1-A
Matrix: Water
Analysis Batch: 535209
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 531167

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	13.20		1.64	1.00	0.378	pCi/L	87	75 - 125

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-531167/1-A
Matrix: Water
Analysis Batch: 535209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 531167

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	86.0		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-530648/23-A
Matrix: Water
Analysis Batch: 534860

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 530648

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.6923		0.415	0.420	1.00	0.635	pCi/L	10/11/21 10:40	11/03/21 13:11	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	84.2		40 - 110	10/11/21 10:40	11/03/21 13:11	1
Y Carrier	89.3		40 - 110	10/11/21 10:40	11/03/21 13:11	1

Lab Sample ID: LCS 160-530648/1-A
Matrix: Water
Analysis Batch: 534851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 530648

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	12.2	12.37		1.47	1.00	0.488	pCi/L	101	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	97.4		40 - 110
Y Carrier	80.4		40 - 110

Lab Sample ID: LCSD 160-530648/2-A
Matrix: Water
Analysis Batch: 535010

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 530648

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	12.2	12.80		1.51	1.00	0.557	pCi/L	105	75 - 125	0.15	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	97.4		40 - 110
Y Carrier	81.5		40 - 110

Lab Sample ID: MB 160-531213/24-A
Matrix: Water
Analysis Batch: 535030

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 531213

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4763		0.299	0.302	1.00	0.453	pCi/L	10/12/21 12:13	11/04/21 16:38	1

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

Lab Sample ID: MB 160-531213/24-A
Matrix: Water
Analysis Batch: 535030

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 531213

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110	10/12/21 12:13	11/04/21 16:38	1
Y Carrier	85.2		40 - 110	10/12/21 12:13	11/04/21 16:38	1

Lab Sample ID: LCS 160-531213/1-A
Matrix: Water
Analysis Batch: 535031

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 531213

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	12.2	12.94		1.78	1.00	1.05	pCi/L	106	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	86.0		40 - 110
Y Carrier	76.6		40 - 110

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-216813-2
Project/Site: Nebraska City Station Unit 1 CCR

Rad

Prep Batch: 530645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216813-4	NC1MW9	Total/NA	Water	PrecSep-21	
310-216813-5	MW11	Total/NA	Water	PrecSep-21	
310-216813-6	MW14	Total/NA	Water	PrecSep-21	
310-216813-7	DUP1	Total/NA	Water	PrecSep-21	
MB 160-530645/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-530645/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-530645/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 530648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216813-4	NC1MW9	Total/NA	Water	PrecSep_0	
310-216813-5	MW11	Total/NA	Water	PrecSep_0	
310-216813-6	MW14	Total/NA	Water	PrecSep_0	
310-216813-7	DUP1	Total/NA	Water	PrecSep_0	
MB 160-530648/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-530648/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-530648/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 531167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216813-1	NC1MW2	Total/NA	Water	PrecSep-21	
310-216813-2	NC1MW3	Total/NA	Water	PrecSep-21	
310-216813-3	NC1MW4	Total/NA	Water	PrecSep-21	
MB 160-531167/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-531167/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 531213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216813-1	NC1MW2	Total/NA	Water	PrecSep_0	
310-216813-2	NC1MW3	Total/NA	Water	PrecSep_0	
310-216813-3	NC1MW4	Total/NA	Water	PrecSep_0	
MB 160-531213/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-531213/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-216813-2
Project/Site: Nebraska City Station Unit 1 CCR

Client Sample ID: NC1MW2 — **Lab Sample ID: 310-216813-1**
Date Collected: 10/05/21 13:44 — **Matrix: Water**
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			531167	10/12/21 11:32	BMP	TAL SL
Total/NA	Analysis	9315		1	535213	11/05/21 20:29	MLK	TAL SL
Total/NA	Prep	PrecSep_0			531213	10/12/21 12:13	BMP	TAL SL
Total/NA	Analysis	9320		1	535031	11/04/21 20:35	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	536457	11/13/21 18:14	MLK	TAL SL

Client Sample ID: NC1MW3 — **Lab Sample ID: 310-216813-2**
Date Collected: 10/06/21 11:04 — **Matrix: Water**
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			531167	10/12/21 11:32	BMP	TAL SL
Total/NA	Analysis	9315		1	535213	11/05/21 20:29	MLK	TAL SL
Total/NA	Prep	PrecSep_0			531213	10/12/21 12:13	BMP	TAL SL
Total/NA	Analysis	9320		1	535031	11/04/21 20:35	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	536457	11/13/21 18:14	MLK	TAL SL

Client Sample ID: NC1MW4 — **Lab Sample ID: 310-216813-3**
Date Collected: 10/05/21 14:21 — **Matrix: Water**
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			531167	10/12/21 11:32	BMP	TAL SL
Total/NA	Analysis	9315		1	535213	11/05/21 20:29	MLK	TAL SL
Total/NA	Prep	PrecSep_0			531213	10/12/21 12:13	BMP	TAL SL
Total/NA	Analysis	9320		1	535031	11/04/21 16:36	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	536457	11/13/21 18:14	MLK	TAL SL

Client Sample ID: NC1MW9 — **Lab Sample ID: 310-216813-4**
Date Collected: 10/06/21 11:53 — **Matrix: Water**
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			530645	10/11/21 10:03	BMP	TAL SL
Total/NA	Analysis	9315		1	534860	11/03/21 22:50	FLC	TAL SL
Total/NA	Prep	PrecSep_0			530648	10/11/21 10:40	BMP	TAL SL
Total/NA	Analysis	9320		1	534853	11/03/21 13:14	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	536457	11/13/21 18:14	MLK	TAL SL

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-216813-2
Project/Site: Nebraska City Station Unit 1 CCR

Client Sample ID: MW11
Lab Sample ID: 310-216813-5
Date Collected: 10/05/21 13:06
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			530645	10/11/21 10:03	BMP	TAL SL
Total/NA	Analysis	9315		1	534860	11/03/21 22:51	FLC	TAL SL
Total/NA	Prep	PrecSep_0			530648	10/11/21 10:40	BMP	TAL SL
Total/NA	Analysis	9320		1	534853	11/03/21 13:14	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	536457	11/13/21 18:14	MLK	TAL SL

Client Sample ID: MW14
Lab Sample ID: 310-216813-6
Date Collected: 10/04/21 11:53
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			530645	10/11/21 10:03	BMP	TAL SL
Total/NA	Analysis	9315		1	534860	11/03/21 22:51	FLC	TAL SL
Total/NA	Prep	PrecSep_0			530648	10/11/21 10:40	BMP	TAL SL
Total/NA	Analysis	9320		1	534853	11/03/21 13:14	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	536457	11/13/21 18:14	MLK	TAL SL

Client Sample ID: DUP1
Lab Sample ID: 310-216813-7
Date Collected: 10/06/21 00:00
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			530645	10/11/21 10:03	BMP	TAL SL
Total/NA	Analysis	9315		1	534860	11/03/21 22:51	FLC	TAL SL
Total/NA	Prep	PrecSep_0			530648	10/11/21 10:40	BMP	TAL SL
Total/NA	Analysis	9320		1	534853	11/03/21 13:14	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	536457	11/13/21 18:14	MLK	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: 310-216813-2
Project/Site: Nebraska City Station Unit 1 CCR

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	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21 *
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

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

Method Summary

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

Job ID: 310-216813-2

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

eurofins | Environment Testing TestAmerica

310-216813 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE | Project: Nebraska City Station Unit 1/2

Receipt Information

Date/Time Received: DATE 10-7-21 TIME 0940 | Received By: HED

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~~ 2 of ~~5~~	CC 10-7-21
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: N | Correction Factor (°C): 0

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

Uncorrected Temp (°C): 2.1 | Corrected Temp (°C): 2.1

• 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

contained: MW13, NC2MW4, NC1MW3, NC1MW9, DUP1

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: Nebraska City Station

Receipt Information

Date/Time Received: DATE 10-7-21 TIME 0940 | Received By: HED

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	CC 10-7-21
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?	1

Temperature Record

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

Thermometer ID: N | Correction Factor (°C): 0

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

Uncorrected Temp (°C): 1.9 | Corrected Temp (°C): 1.9

• **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

contained: MW4, MW11, NC1MW4, NC1MW2

TestAmerica

Chain of Custody Record

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

Client Information
Client Contact: Kyle Uhing
Company: Omaha Public Power District
Address: 444 South 16th Street Mail 9E/EP1
City: Omaha
State, Zip: NE, 68102-2247
Phone: (531) 226-2515
Email: kkuhing@oppd.com
Project Name: Nebraska City Station Unit 1 CCR / Landfill
Site: Nebraska City Station Unit 1

Sampler: Kyle K. Uhing
Phone: (402) 226-2515
Lab PM: Hayes, Shawn M
E-Mail: shawn.hayes@testamericainc.com
Carrier Tracking No(s):
COC No:
Page:
Job #:

Due Date Requested:
TAT Requested (days):
PO #:
WO #:
TestAmerica Project #: 310O7558
SSOW#:

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, Oil/Waste, 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	10/5/21	1344	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW3	10/6/21	1104	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW4	10/5/21	1421	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW9	10/6/21	1153	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW11	10/5/21	1304	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW14	10/4/21	1153	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
DUP1	10/6/21	—	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

Special Instructions/QC Requirements:

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

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

Relinquished by: Date/Time: Company — Received by: Company — Date/Time:

Relinquished by: Date/Time: Company — Received by: Company — Date/Time:

Relinquished by: Date/Time: Company — Received by: Company — Date/Time: 10-7-21 0940

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

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-216813-2

Login Number: 216813
List Number: 1
Creator: Muehling, Angela C

List Source: Eurofins TestAmerica, Cedar Falls

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: 310-216813-2

Login Number: 216813
List Number: 2
Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis
List Creation: 10/08/21 07:17 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	

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-216813-2

Login Number: 216813
List Number: 3
Creator: Johnson, Autumn R

List Source: Eurofins TestAmerica, St. Louis
List Creation: 10/11/21 04:35 PM

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

Tracer/Carrier Summary

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

Job ID: 310-216813-2

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-216813-1	NC1MW2	95.6
310-216813-2	NC1MW3	101
310-216813-3	NC1MW4	96.6
310-216813-4	NC1MW9	101
310-216813-5	MW11	92.7
310-216813-6	MW14	86.5
310-216813-7	DUP1	97.9
LCS 160-530645/1-A	Lab Control Sample	97.4
LCS 160-531167/1-A	Lab Control Sample	86.0
LCSD 160-530645/2-A	Lab Control Sample Dup	97.4
MB 160-530645/23-A	Method Blank	84.2
MB 160-531167/24-A	Method Blank	101

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)
310-216813-1	NC1MW2	95.6	83.7
310-216813-2	NC1MW3	101	87.5
310-216813-3	NC1MW4	96.6	84.5
310-216813-4	NC1MW9	101	81.1
310-216813-5	MW11	92.7	80.4
310-216813-6	MW14	86.5	79.6
310-216813-7	DUP1	97.9	77.8
LCS 160-530648/1-A	Lab Control Sample	97.4	80.4
LCS 160-531213/1-A	Lab Control Sample	86.0	76.6
LCSD 160-530648/2-A	Lab Control Sample Dup	97.4	81.5
MB 160-530648/23-A	Method Blank	84.2	89.3
MB 160-531213/24-A	Method Blank	101	85.2

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Appendix C

Semi-Annual Statistical Analysis Memos

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Technical Memorandum

Date:	Friday, July 16, 2021
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

Omaha Public Power District operates a two-unit (Unit 1 and Unit 2) fossil fuel-fired generating plant at the Nebraska City Station, herein referenced as “Station” or “Site. The Station is located southeast of Nebraska City, Nebraska. The Station has two coal combustion residual (CCR) landfills for fossil fuel combustion ash disposal known as the NC1 Ash Disposal Area and the NC2 Ash Disposal Area. Both NC1 and NC2 Ash Disposal Areas are subject to the 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 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. Final closure of the landfill was completed in November 2020.

Groundwater sampling was completed as part of an assessment monitoring program for the NC1 Ash Disposal Area in April 2021, 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, dated July 31, 2018, and the facility’s sampling and analysis plan as permitted under Title 132. The background ranges should be evaluated every two years, in accordance with Chapter 21 of the EPA’s Statistical Analysis of Groundwater Monitoring Data – Unified Guidance (EPA, 2009). The background threshold values (BTVs) were updated as part of this April 2021 sampling event. The BTVs were calculated with data obtained during monitoring events performed between March 2016 and April 2021.

Downgradient sampling results from the April 2021 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 calculated lower confidence levels and the evaluation for SSLs above the GWPS for the Appendix IV (assessment monitoring) constituents are provided in **Table C-2**.

Table C-1. Summary of Evaluation for SSIs over Background (April 2021)

		Well ID:	NC1MW-2	NC1MW-3	NC1MW-4	NC1MW-9
Constituent	*BTV (UPL):*	*Unit*	*Assessment Monitoring Results*			
Detection Monitoring (Appendix III) Constituents						
Boron	*1.53*	*mg/L*	0.233	**3.14**	1.44	1.50
Calcium	*163*	*mg/L*	91.6	**180**	98.4	160
Chloride	*17.3*	*mg/L*	3.82J	9.11	5.71	6.50
Fluoride	*1.18*	*mg/L*	0.301J	0.520	0.535	0.739
pH	*6.27 – 7.86**	*SU*	6.69	6.63	6.87	6.70
Sulfate	*170*	*mg/L*	54.4	**372**	165	162
TDS	*747*	*mg/L*	318	**1,000**	498	**768**
Assessment Monitoring (Appendix IV) Constituents						
Antimony	0.00235	*mg/L*	<0.00110	<0.00110	<0.00110	<0.00110
Arsenic	0.0893	*mg/L*	0.000878J	0.0354	0.00109J	0.0110
Barium	0.391	*mg/L*	0.134	0.144	0.0768	0.120
Beryllium	0.001	*mg/L*	<0.000270	<0.000270	<0.000270	<0.000270
Cadmium	0.0005	*mg/L*	0.000176	0.0000830J	0.000133	0.0000890J
Chromium	0.005	*mg/L*	<0.00110	<0.00110	<0.00110	<0.00110
Cobalt	0.00477	*mg/L*	0.000238J	0.00191	0.000976	0.00143
Fluoride	*1.18*	*mg/L*	0.294J	0.557	0.441J	0.504
Lead	0.0032	*mg/L*	0.000463J	<0.000210	<0.000210	<0.000210
Lithium	0.0569	*mg/L*	0.00998J	0.0435	0.0190	0.0343
Mercury	0.000262	*mg/L*	<0.000150	<0.000150	<0.000150	<0.000150
Molybdenum	0.0164	*mg/L*	**0.0886**	0.00293	0.00154J	**0.0234**
Radium 226+228	2.04	*pCi/L*	0.552	0.743	0.151U	0.205U
Selenium	0.0112	*mg/L*	<0.000960	<0.000960	<0.000960	0.00280J
Thallium	0.001	*mg/L*	**0.00278**	**0.00320**	0.000313J	<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 (April 2021)

Well ID:			NC1MW-2	NC1MW-3	NC1MW-4	NC1MW-9
Constituent	*GWPS*[1]	*Unit*	*Lower Confidence Levels – Assessment Monitoring (Appendix IV) Constituents*			
Antimony	*0.006*	*mg/L*	0.001	0.001	0.001	0.001
Arsenic	*0.0893* [2]	*mg/L*	0.000878	0.0211	0.00163	0.008722
Barium	*2.00*	*mg/L*	0.1187	0.1026	0.0806	0.1079
Beryllium	*0.004*	*mg/L*	0.001	0.001	0.001	0.001
Cadmium	*0.005*	*mg/L*	0.000065	0.000083	0.0001	0.000044
Chromium	*0.1*	*mg/L*	0.005	0.005	0.005	0.005
Cobalt	*0.006*	*mg/L*	0.0001524	0.001639	0.0005624	0.001082
Fluoride	*4.00*	*mg/L*	0.2784	0.500	0.4527	0.556
Lead	*0.015*	*mg/L*	0.0002495	0.0005	0.0005	0.0005
Lithium	*0.0569*[2]	*mg/L*	0.00729	0.02961	0.01186	0.02199
Mercury	*0.002*	*mg/L*	0.0002	0.0002	0.0002	0.0002
Molybdenum	*0.1*	*mg/L*	0.06696	0.0014	0.007614	0.02445
Radium 226+228	*5.0*	*pCi/L*	0.3435	0.3622	0.01329	0.415
Selenium	*0.05*	*mg/L*	0.005	0.005	0.00199	0.002819
Thallium	*0.002*	*mg/L*	0.001	0.001	0.000313	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), unless otherwise specified.
[2] GWPS is established as the UPL when the background level is higher than the EPA MCL.

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Technical Memorandum

Date:	Monday, January 31, 2022
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

Omaha Public Power District operates a two-unit (Unit 1 and Unit 2) fossil fuel-fired generating plant at the Nebraska City Station, herein referenced as "Station" or "Site. The Station is located southeast of Nebraska City, Nebraska. The Station has two coal combustion residual (CCR) landfills for fossil fuel combustion ash disposal known as the NC1 Ash Disposal Area and the NC2 Ash Disposal Area. Both NC1 and NC2 Ash Disposal Areas are subject to the 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 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. Final closure of the landfill was completed in November 2020.

Groundwater sampling was completed as part of an assessment monitoring program for the NC1 Ash Disposal Area in October 2021, 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, dated July 31, 2018, and the facility's sampling and analysis plan as permitted under Title 132. The background ranges should be evaluated every two years, in accordance with Chapter 21 of the EPA's Statistical Analysis of Groundwater Monitoring Data – Unified Guidance (EPA, 2009). The background threshold values (BTVs) were updated as part of the April 2021 sampling event. The BTVs were calculated with data obtained during monitoring events performed between March 2016 and April 2021.

Downgradient sampling results from the October 2021 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 calculated lower confidence levels and the evaluation for SSLs above the GWPS for the Appendix IV (assessment monitoring) constituents are provided in **Table C-2**.

Table C-1. Summary of Evaluation for SSIs over Background (October 2021)

		Well ID:	NC1MW-2	NC1MW-3	NC1MW-4	NC1MW-9
Constituent	*BTV (UPL):*	*Unit*	*Assessment Monitoring Results*			
Detection Monitoring (Appendix III) Constituents						
Boron	*1.53*	*mg/L*	0.430	**2.77**	1.25	1.45
Calcium	*163*	*mg/L*	103	**181**	114	**174**
Chloride	*17.3*	*mg/L*	5.31	9.86	6.82	6.84
Fluoride	*1.18*	*mg/L*	<0.275	<0.275	<0.275	<0.275
pH	*6.27 – 7.86**	*SU*	6.54	6.34	6.68	6.41
Sulfate	*170*	*mg/L*	72.1	**395**	**210**	**219**
TDS	*747*	*mg/L*	340	**998**	518	**822**
Assessment Monitoring (Appendix IV) Constituents						
Antimony	0.00235	*mg/L*	0.00111J	<0.00110	<0.00110	<0.00110
Arsenic	0.0893	*mg/L*	0.00179J	0.0368	0.00125J	0.0121
Barium	0.391	*mg/L*	0.154	0.144	0.111	0.139
Beryllium	0.001	*mg/L*	0.000387J	<0.000270	<0.000270	<0.000270
Cadmium	0.0005	*mg/L*	**0.000592**	<0.0000510	0.000134	0.0000780J
Chromium	0.005	*mg/L*	<0.00110	<0.00110	<0.00110	<0.00110
Cobalt	0.00477	*mg/L*	0.000568	0.00137	0.00200	0.00202
Fluoride	*1.18*	*mg/L*	<0.275	<0.275	<0.275	<0.275
Lead	0.0032	*mg/L*	0.000968	<0.000210	<0.000210	<0.000210
Lithium	0.0569	*mg/L*	0.0124	0.0361	0.0187	0.0318
Mercury	0.000262	*mg/L*	<0.000150	<0.000150	<0.000150	<0.000150
Molybdenum	0.0164	*mg/L*	**0.102**	0.00179J	0.00664	**0.0243**
Radium 226+228	2.04	*pCi/L*	0.536U	0.470U	1.08	1.54
Selenium	0.0112	*mg/L*	0.00346J	<0.000960	<0.000960	0.00115J
Thallium	0.001	*mg/L*	**0.00106**	<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 2021)

Well ID:			NC1MW-2	NC1MW-3	NC1MW-4	NC1MW-9
Constituent	*GWPS*[1]	*Unit*	*Lower Confidence Levels – Assessment Monitoring (Appendix IV) Constituents*			
Antimony	*0.006*	*mg/L*	0.0011	0.0011	0.0011	0.0011
Arsenic	*0.0893*[2]	*mg/L*	0.000878	0.02583	0.001364	0.008856
Barium	*2.00*	*mg/L*	0.1229	0.1141	0.08559	0.1187
Beryllium	*0.004*	*mg/L*	0.00027	0.00027	0.00027	0.00027
Cadmium	*0.005*	*mg/L*	0.000051	0.000051	0.000051	0.000044
Chromium	*0.1*	*mg/L*	0.0011	0.0011	0.0011	0.0011
Cobalt	*0.006*	*mg/L*	0.00018	0.001542	0.000626	0.001332
Fluoride	*4.00*	*mg/L*	0.275	0.3756	0.3723	0.4832
Lead	*0.015*	*mg/L*	0.000216	0.00021	0.00021	0.00021
Lithium	*0.0569*[2]	*mg/L*	0.007946	0.03137	0.01285	0.02367
Mercury	*0.002*	*mg/L*	0.00015	0.00015	0.00015	0.00015
Molybdenum	*0.1*	*mg/L*	0.07752	0.0014	0.005608	0.02303
Radium 226+228	*5.0*	*pCi/L*	0.3678	0.386	0.08842	0.5212
Selenium	*0.05*	*mg/L*	0.00096	0.00096	0.00096	0.00096
Thallium	*0.002*	*mg/L*	0.00026	0.00026	0.00026	0.00026

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), unless otherwise specified.
[2] GWPS is established as the UPL when the background level is higher than the EPA MCL.