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2023 NC1 CCR Landfill Annual Groundwater Report

Nebraska City Station NC1
Ash Disposal Area

*Nebraska City, Nebraska
January 31, 2024*

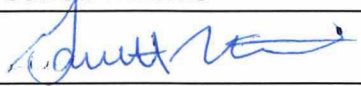


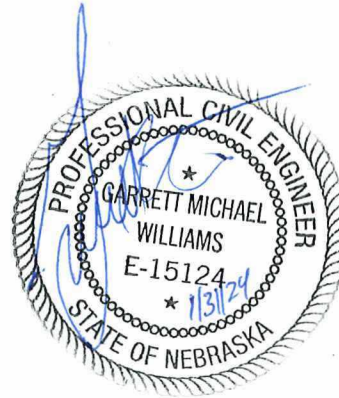
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Professional Engineer Certification

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 State of Nebraska.

Print Name: Garrett Williams
Signature: 
Date: 1-31-24
License #: E-15124



My license renewal date is December 31, 2024



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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 bank 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 (closed) and the NC2 Ash Disposal Area (active). 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 2023 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 2022 as part of the assessment monitoring program and did not indicate an SSL; therefore, assessment monitoring continued in 2023.

Assessment monitoring samples were collected in April and October 2023 to assess whether there were SSIs and/or SSLs. This report covers the results of the 2023 sampling events. For the April 2023 sampling event, results of the analysis indicated eight (8) SSIs for Appendix III and Appendix IV constituents. For the October 2023 sampling event, results of the analysis indicated four (4) SSIs for Appendix III and Appendix IV constituents. Results of the 2023 SSIs are summarized in the table below.

Analysis of the Appendix IV constituents indicated there were no SSLs detected above the GWPS for either the April 2023 or October 2023 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 2024.



As specified in 40 CFR §257.90(e)(6), a section must be included at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. The following table summarizes the requested information under 40 CFR §257.90(e)(6).

Summary of 40 CFR Section § 257.90(e)(6) Groundwater Monitoring System Requirements and Site-Specific Compliance			
§ 257.90(e)(6) A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:		NC1 Ash Disposal Area	
§257.90(e)(6)(i)	At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95.	Assessment Monitoring Program	
§257.90(e)(6)(ii)	At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95.	Assessment Monitoring Program	
		Compliance Monitoring Event	
		April 2023	October 2023
§257.90(e)(6)(iii)	If it was determined that there was a statistically significant increase over background for one or more constituents listed in appendix III to this part pursuant to § 257.94(e):	Yes	Yes
§257.90(e)(6)(iii)(A)	Identify those constituents listed in appendix III to this part and the names of the monitoring wells associated with such an increase.	<ul style="list-style-type: none"> • NC1MW-3 – boron, calcium, sulfate, and TDS • NC1MW-4 – boron and sulfate 	<ul style="list-style-type: none"> • NC1MW-3 – boron and sulfate • NC1MW-4 – sulfate
§257.90(e)(6)(iii)(B)	Provide the date when the assessment monitoring program was initiated for the CCR unit.	June 6, 2018	
§257.90(e)(6)(iv)	If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in appendix IV to this part pursuant to § 257.95(g) include all of the following:	No	No
§257.90(e)(6)(iv) (A)	Identify those constituents listed in appendix IV to this part and the names of the monitoring wells associated with such an increase.	Not Applicable	Not Applicable
§257.90(e)(6)(iv) (B)	Provide the date when the assessment of corrective measures was initiated for the CCR unit.	Not Applicable	
§257.90(e)(6)(iv)(C)	Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit.	Not Applicable	
§257.90(e)(6)(iv)(D)	Provide the date when the assessment of corrective measures was completed for the CCR unit.	Not Applicable	



Summary of 40 CFR Section § 257.90(e)(6) Groundwater Monitoring System Requirements and Site-Specific Compliance		
§ 257.90(e)(6) A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:		NC1 Ash Disposal Area
§257.90(e)(6)(v)	Whether a remedy was selected pursuant to § 257.97 during the current annual reporting period, and if so, the date of remedy selection.	Not Applicable
§257.90(e)(6)(vi)	(vi) Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.	Not Applicable

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 2023.

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 bank of the Missouri River (**Figure 1**). This Station has two (2) existing CCR landfills: the NC1 Ash Disposal Area (closed) and the NC2 Ash Disposal Area (active). 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 began receiving fly ash and bottom ash in 1979 and was closed in phases. Phase 1 closure was completed in 2015. Final closure for the landfill was completed in November 2020. Final closure was approved by the Nebraska Department of Environment and Energy (NDEE) on February 24, 2021. **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 downgradient/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.



Date	Groundwater Compliance Monitoring Milestones
4/4/2022	Semi-annual assessment monitoring. SSIs detected for 8 monitoring well/constituent pairs. Constituents included boron, calcium, sulfate, TDS, and molybdenum. There were no SSLs detected.
10/3/2022	Semi-annual assessment monitoring. SSIs detected for 8 monitoring well/constituent pairs. Constituents included boron, calcium, sulfate, TDS, and molybdenum. There were no SSLs detected.
4/1/2023	Semi-annual assessment monitoring. SSIs detected for 8 monitoring well/constituent pairs. Constituents included arsenic, boron, calcium, molybdenum, sulfate, and TDS. There were no SSLs detected.
10/3/2023	Semi-annual assessment monitoring. SSIs detected for 4 monitoring well/constituent pairs. Constituents included boron, molybdenum, and sulfate. 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 2023 and October 2023. During this 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 2023.

3 Data Evaluation and Summary

3.1 Summary of Sampling Activities

Groundwater sampling events were conducted by OPPD personnel in April 2023 and October 2023 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 (HDR, 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 2023 and October 2023 sampling events. Field sampling forms are provided in **Appendix A**. The collected groundwater samples were analyzed by Eurofins in Cedar Falls, Iowa. The laboratory analytical reports are provided in **Appendix B**.

3.2 Groundwater Elevations & Flow Direction

During each groundwater sampling event, static groundwater level measurements were recorded at the monitoring wells specified in **Table 1** prior to purging and sampling activities. 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, 2023 indicated a flow direction to the southeast with an average flow velocity of 0.0084 feet per day (ft/day) to 0.0476 ft/day. Groundwater flow estimated from measurements collected on October 2, 2023 indicated a flow direction to the south-southeast with an average flow velocity of 0.0072 ft/day to 0.0407 ft/day. The April 2023 and October 2023 flow velocities are based on a range of hydraulic conductivity at the Site of 6.96 ft/day to 39.4 ft/day (HDR, 2019a).

3.3 Assessment Monitoring Groundwater Sampling

The NC1 Ash Disposal Area was monitored semi-annually in 2023 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 2023 and October 2023 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 2023 sampling event and include data from March 2016 through April 2023. 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 2023 sampling events are provided in **Appendix C**.

Assessment monitoring samples were collected in April and October 2023 to assess whether there were SSIs and/or SSLs. For the April 2023 sampling event, results of the analysis indicated eight (8) SSIs for Appendix III and Appendix IV constituents.

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

For the October 2023 sampling event, results of the analysis indicated four (4) SSIs for Appendix III and Appendix IV constituents.

- Boron in NC1MW-3
- Molybdenum in NC1MW-2
- Sulfate in NC1MW-3
- Sulfate in NC1MW-4

Analysis of the Appendix IV constituents indicated there were no SSLs detected above the GWPS for either the April 2023 or October 2023 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

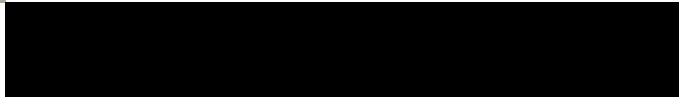
OPPD will continue to monitor the NC1 Ash Disposal Area in accordance with the assessment monitoring program, as specified in 40 CFR §257.95(b). The next semi-annual assessment monitoring sampling event is anticipated to occur in April 2024.

5 References

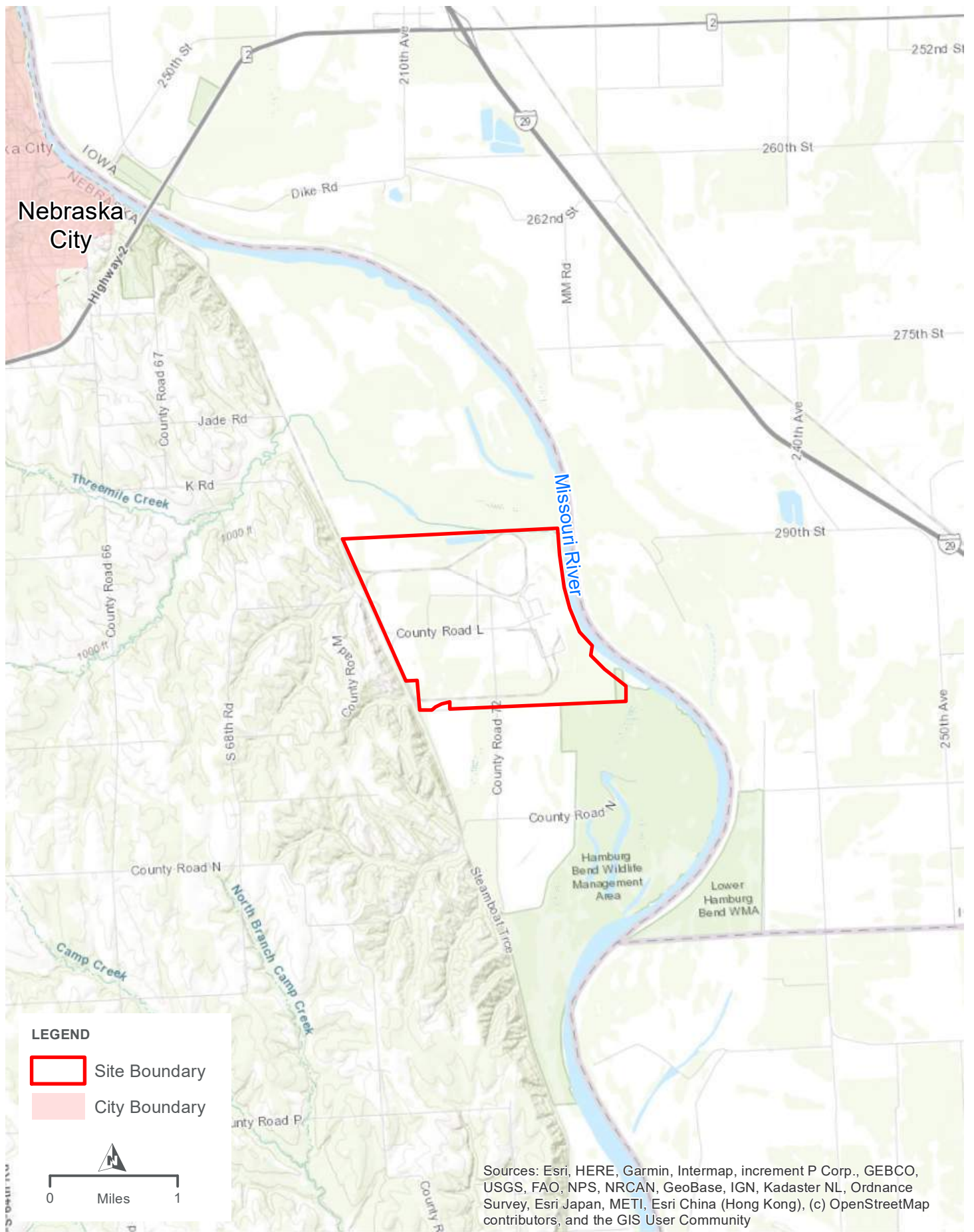
- EPA, 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities: Unified Guidance*. Environmental Protection Agency Office of Resource Conservation and Recovery. EPA 530/R-09-007. March 2009.
- EPA, 2015. 40 CFR Part 257; *Hazardous and Solid Waste Management System; Disposal of 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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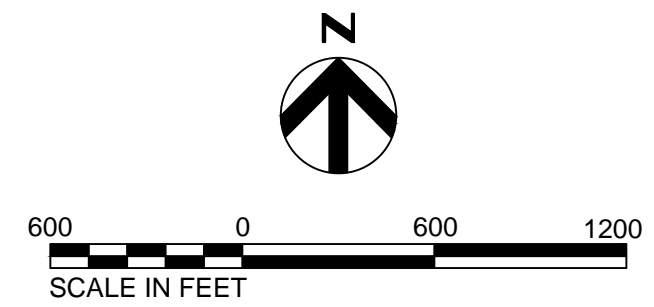
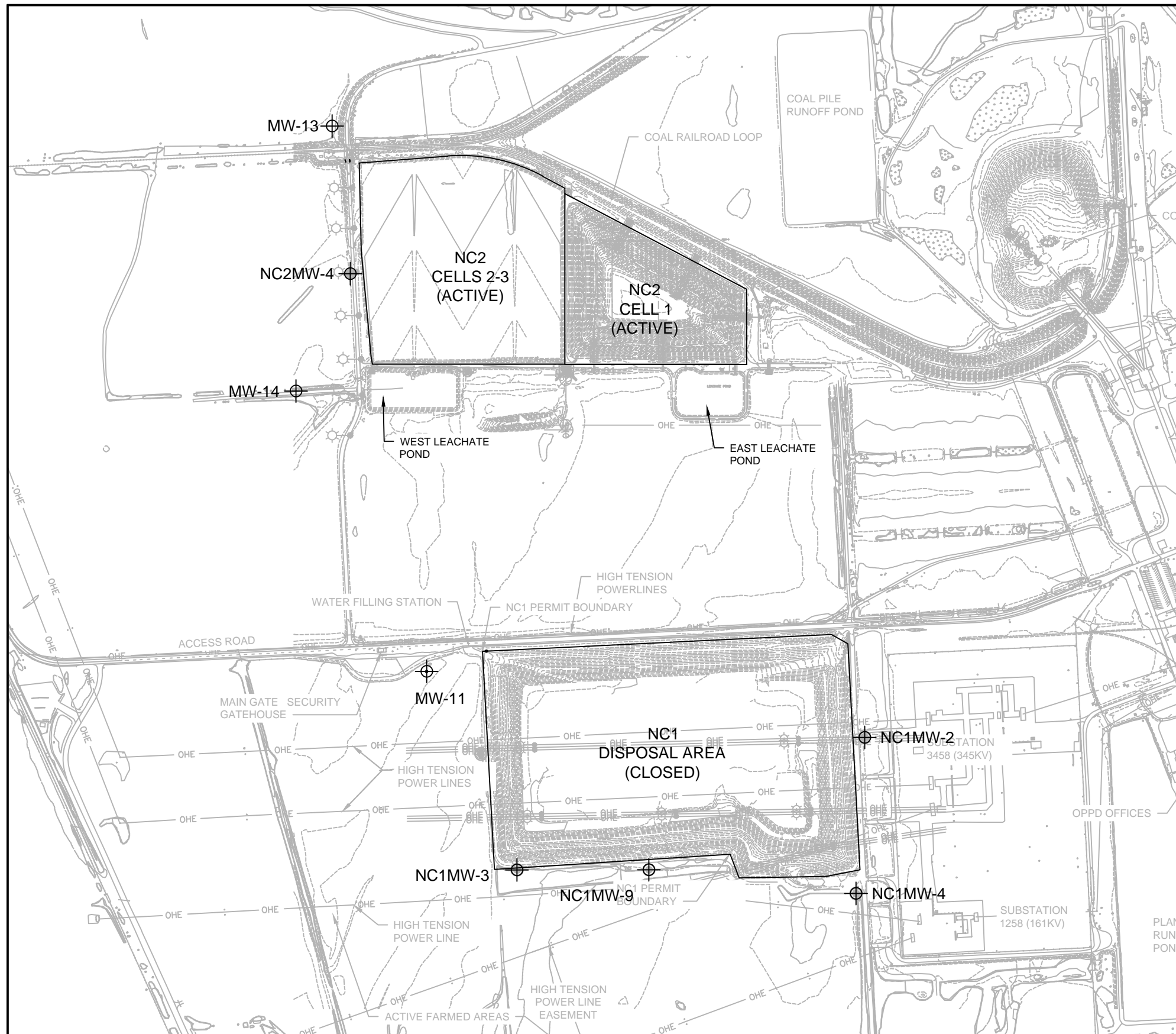
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

SITE LOCATION MAP
OPPD - NEBRASKA CITY STATION

FIGURE 1



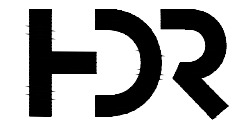
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MONITORING WELL NETWORK					
WELL ID	NORTHING	EASTING	ELEVATION (TOC)	WELL DEPTH (BGS)	LOCATION WITH RESPECT TO NC1 ASH DISPOSAL AREA
MW-11	315305.14	2808934.31	918.44	20.00	BACKGROUND / UPGRADIENT
MW-13	318186.64	2808434.68	918.05	13.00	BACKGROUND / UPGRADIENT
MW-14	316786.47	2808244.03	920.99	18.00	BACKGROUND / UPGRADIENT
NC2MW-4	317405.90	2808530.80	919.62	14.00	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

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.



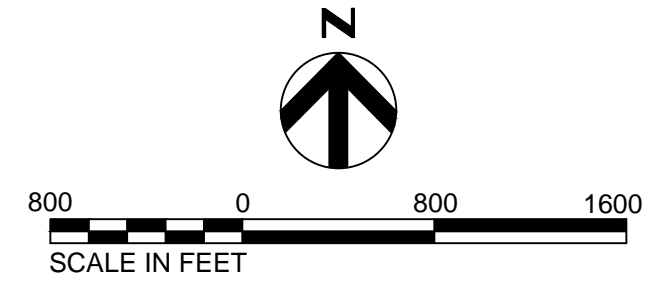
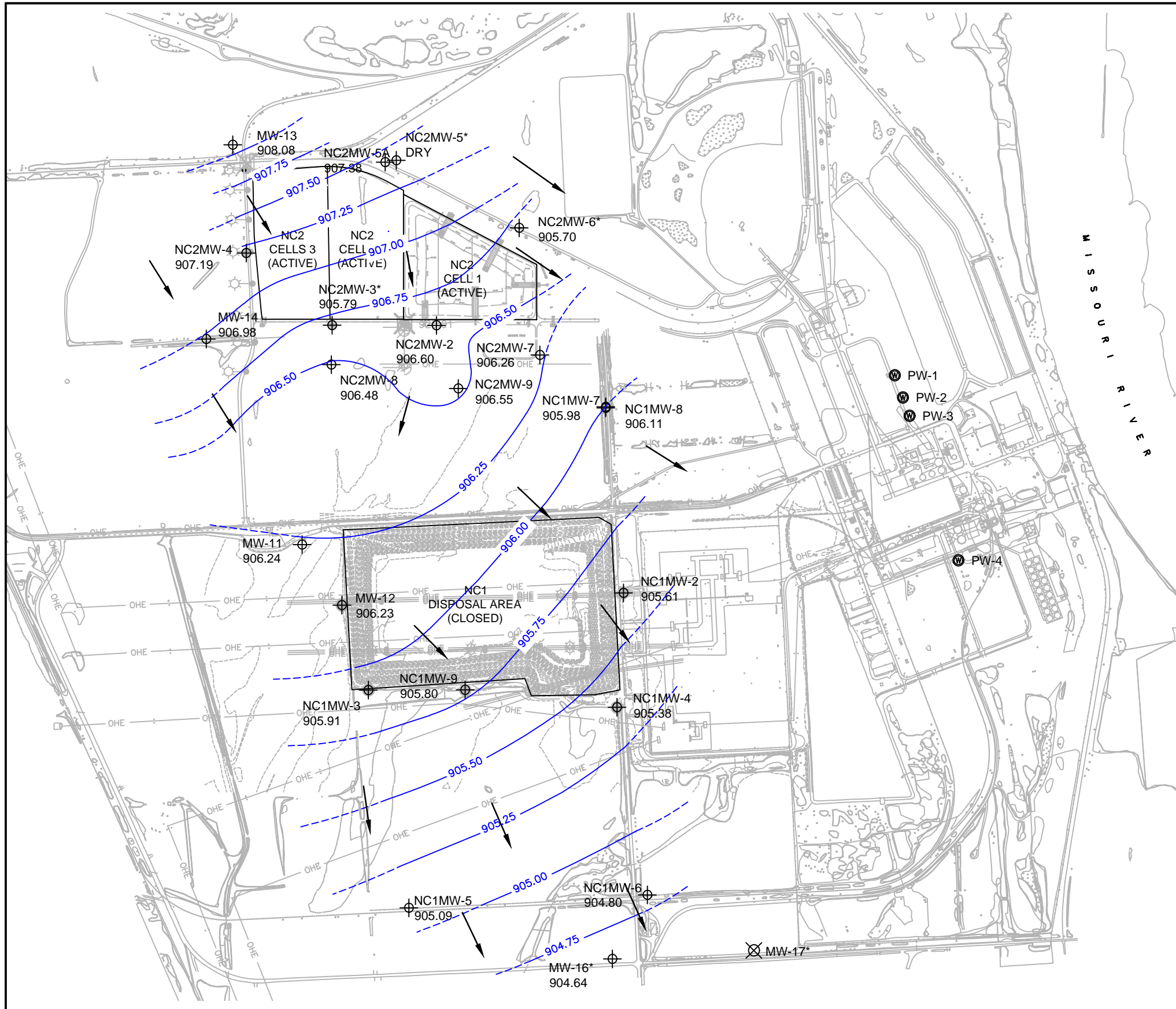
**OPPD NEBRASKA CITY ASH LANDFILL
NEBRASKA CITY UNIT 1- NC1
MONITORING WELL LOCATION MAP**

2023 GROUNDWATER MONITORING REPORT

DATE
NOVEMBER 2023

FIGURE
02

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- LEGEND:**
- ⊕ PRODUCTION WELL
 - ⊕ MONITORING WELL
 - ⊗ DECOMMISSIONED WELL
 - 907.29 GROUNDWATER ELEVATION
 - 907.00 — GROUNDWATER CONTOUR
 - - - - - INFERRED GROUNDWATER CONTOUR
 - INFERRED GROUNDWATER FLOW DIRECTION

- NOTES:**
- MONITORING WELL NC1MW-7 WAS NOT USED IN GENERATION OF CONTOUR MAP DUE TO BEING SCREENED AT A DEEPER INTERVAL.
 - * - SYMBOL INDICATES GROUNDWATER ELEVATION APPEARS TO BE ANOMALOUS. MONITORING WELL WAS NOT USED IN GENERATION OF CONTOUR MAP.
 - MW-17 WAS ABANDONED AND IS NO LONGER SAMPLED.

VELOCITY COMPUTATIONS

TRACER VELOCITY = $V_T = \frac{K_i}{n}$
 K = HYDRAULIC CONDUCTIVITY (SEE TABLE)
 $i = \text{GRADIENT} = \frac{1.0 \text{ FT}}{1,903 \text{ FT}} = 0.000525 \text{ FT/FT}$
 n = POROSITY = 0.405

	K	V _T
LOW	6.96 FT/DAY	0.0090 FT/DAY
HIGH	39.4 FT/DAY	0.0511 FT/DAY



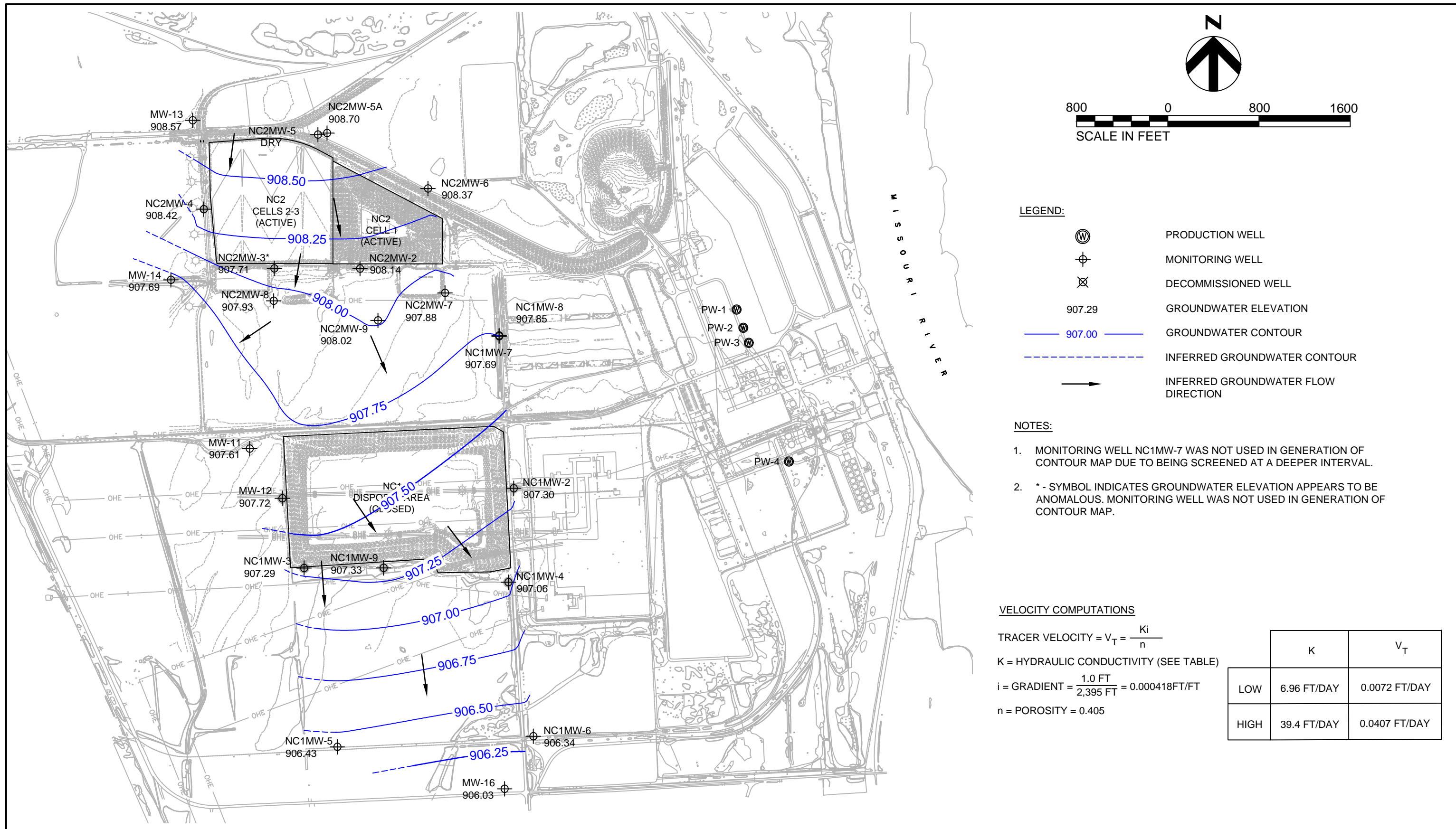
**OPPD NEBRASKA CITY ASH LANDFILL
 GROUNDWATER CONTOUR MAP
 APRIL 2023**

2023 GROUNDWATER MONITORING REPORT

DATE
 DECEMBER 2023

FIGURE
 03

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LEGEND:

- ⊕ PRODUCTION WELL
- ⊕ MONITORING WELL
- ⊗ DECOMMISSIONED WELL
- 907.29 GROUNDWATER ELEVATION
- 907.00 — GROUNDWATER CONTOUR
- - - - - INFERRED GROUNDWATER CONTOUR
- INFERRED GROUNDWATER FLOW DIRECTION

NOTES:

1. MONITORING WELL NC1MW-7 WAS NOT USED IN GENERATION OF CONTOUR MAP DUE TO BEING SCREENED AT A DEEPER INTERVAL.
2. * - SYMBOL INDICATES GROUNDWATER ELEVATION APPEARS TO BE ANOMALOUS. MONITORING WELL WAS NOT USED IN GENERATION OF CONTOUR MAP.

VELOCITY COMPUTATIONS

$$\text{TRACER VELOCITY} = V_T = \frac{K_i}{n}$$

K = HYDRAULIC CONDUCTIVITY (SEE TABLE)

$$i = \text{GRADIENT} = \frac{1.0 \text{ FT}}{2,395 \text{ FT}} = 0.000418 \text{ FT/FT}$$

n = POROSITY = 0.405

	K	V _T
LOW	6.96 FT/DAY	0.0072 FT/DAY
HIGH	39.4 FT/DAY	0.0407 FT/DAY



**OPPD NEBRASKA CITY ASH LANDFILL
GROUNDWATER CONTOUR MAP
OCTOBER 2023**

2023 GROUNDWATER MONITORING REPORT

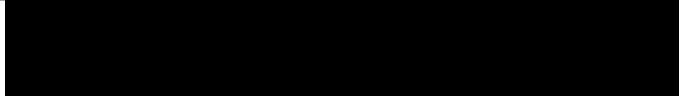
DATE
DECEMBER 2023

FIGURE
04

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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	13	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, 4/4/2022, 10/3/2022, 4/10/2023, 10/10/2023
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	12	6/6/2018, 10/4/2018, 4/8/2019, 10/16/2019, 4/20/2020, 10/6/2020, 4/13/2021, 10/5/2021, 4/5/2022, 10/3/2022, 4/10/2023, 10/10/2023
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	12	6/6/2018, 10/4/2018, 1/30/2020, 4/20/2020, 4/27/2020, 10/5/2020, 4/12/2021, 10/4/2021, 4/4/2022, 10/3/2022, 4/10/2023, 10/10/2023
MW-14 ^[4]	8	10/4/2018, 1/15/2019, 3/5/2019, 4/8/2019, 10/16/2019, 1/30/2020, 4/20/2020, 10/5/2020	0	N/A	6	4/13/2021, 10/4/2021, 4/4/2022, 10/3/2022, 4/10/2023, 10/10/2023
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	12	6/6/2018, 10/4/2018, 4/8/2019, 10/18/2019, 4/20/2020, 10/6/2020, 4/13/2021, 10/5/2021, 4/5/2022, 10/4/2022, 4/10/2023, 10/10/2023
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	12	6/6/2018, 10/4/2018, 4/9/2019, 10/18/2019, 4/21/2020, 10/6/2020, 4/13/2021, 10/6/2021, 4/6/2022, 10/4/2022, 4/10/2023, 10/10/2023
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	12	6/6/2018, 10/4/2018, 4/9/2019, 10/18/2019, 4/21/2020, 10/6/2020, 4/13/2021, 10/5/2021, 4/5/2022, 10/4/2022, 4/10/2023, 10/10/2023
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	12	6/6/2018, 10/4/2018, 4/10/2019, 10/18/2019, 4/21/2020, 10/6/2020, 4/13/2021, 10/6/2021, 4/6/2022, 10/4/2022, 4/11/2023, 10/11/2023

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	<i>MW-14 installed 7/12/2018</i>		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
4/1/2022	10.27	909.35	10.42	908.02	8.19	909.86	11.74	909.25	12.52	906.90	12.22	907.63	13.01	906.62	12.74	907.35
10/1/2022	11.82	907.80	11.31	907.13	10.04	908.01	13.87	907.12	12.62	906.80	13.09	906.76	13.12	906.51	13.28	906.81
4/6/2023	12.43	907.19	12.20	906.24	9.97	908.08	14.01	906.98	13.81	905.61	13.94	905.91	14.25	905.38	14.29	905.80
10/2/2023	11.20	908.42	10.83	907.61	9.48	908.57	13.30	907.69	12.12	907.30	12.56	907.29	12.57	907.06	12.76	907.33

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	
	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		919.58		922.76		919.72	
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	10.82	909.88	7.55	909.12	8.25	910.95	8.60	911.08	10.80	911.75	4.05	912.17	6.98	915.78	7.95	911.77
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	913.67	7.67	915.09	6.02	913.70
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	913.91	5.30	917.46	5.95	913.77
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	912.12	9.25	913.51	8.10	911.62
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	911.27	10.20	912.56	9.00	910.72
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	913.01	8.48	914.28	7.00	912.72
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	912.80	9.82	912.94	7.35	912.37
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	911.97	10.15	912.61	7.90	911.82
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	904.12	14.20	908.56	11.20	908.52
3/13/2018	NM	NM	NM	NM	NM	NM	NM	NM	13.90	908.65	7.15	909.07	12.95	909.81	10.88	908.84
6/6/2018	NM	NM	NM	NM	NM	NM	NM	NM	10.35	912.20	3.70	912.52	9.70	913.06	7.25	912.47
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	915.42	4.95	917.81	4.30	915.42
1/15/2019	10.06	910.64	6.56	910.11	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
4/8/2019	NM	NM	NM	NM	3.68	915.52	3.98	915.70	6.34	916.21	0.21	916.01	4.48	918.28	3.75	915.97
10/14/2019	NM	NM	NM	NM	3.01	916.19	3.33	916.35	9.09	913.46	2.56	913.66	5.81	916.95	6.11	913.61
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	913.86	6.37	916.39	5.97	913.75
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	909.24	12.63	910.13	9.90	909.82
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	911.86	5.87	916.89	7.62	912.10
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	908.03	13.15	909.61	10.38	909.34
4/1/2022	14.02	906.68	10.72	905.95	11.99	907.21	12.29	907.39	14.14	908.41	12.00	907.58	6.29	916.47	11.21	908.51
10/1/2022	14.82	905.88	11.05	905.62	11.91	907.29	12.23	907.45	14.60	907.95	12.72	906.86	14.90	907.86	11.84	907.88
4/6/2023	15.61	905.09	11.87	904.80	13.22	905.98	13.57	906.11	15.95	906.60	13.79	905.79	NM ^[1]	NM ^[1]	14.02	905.70
10/2/2023	14.27	906.43	10.33	906.34	11.51	907.69	11.83	907.85	14.41	908.14	11.87	907.71	NM ^[1]	NM ^[1]	11.35	908.37

Notes:

^[1] NC2MW-5 was dry during the April and October 2023 sampling events; therefore, no water level was obtained.

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-7		NC2MW-8		NC2MW-5A		NC2MW-9		MW-12		MW-16		MW-17					
	TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation					
	918.20		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)	Measured Depth to Water (ft.)	GW Elevation (AMSL)				
3/9/2016	7.04	911.16	<i>Well Installed 7/9/2018</i>						9.00	911.36	9.00	907.77	NM	NM				
6/7/2016	4.80	913.40							7.80	912.56	7.80	908.97	NM	NM				
10/3/2016	5.40	912.80							8.40	911.96	8.40	908.37	NM	NM				
11/18/2016	7.20	911.00							9.35	911.01	9.35	907.42	NM	NM				
2/14/2017	8.15	910.05							9.95	910.41	9.95	906.82	NM	NM				
4/25/2017	5.96	912.24							8.20	912.16	8.20	908.57	NM	NM				
6/20/2017	6.35	911.85							8.40	911.96	8.40	908.37	NM	NM				
7/13/2017	6.80	911.40							8.52	911.84	8.52	908.25	NM	NM				
11/8/2017	10.50	907.70							12.55	907.81	12.55	904.22	NM	NM				
3/13/2018	10.00	908.20							NM	NM	NM	NM	NM	NM				
6/6/2018	6.35	911.85	NM	NM	NM	NM	NM	NM										
10/4/2018	3.20	915.00	3.15	914.82	<i>Well Installed 9/16/2019</i>				6.55	913.81	8.49	908.28	8.59	904.94				
1/15/2019	NM	NM	6.67	911.30					NM	NM	7.14	NM	4.00	909.53				
3/5/2019	2.74	915.46	NM	NM					NM	NM	8.45	908.32	9.29	904.24				
4/8/2019	2.27	915.93	2.38	915.59					4.89	915.47	NM	NM	NM	NM				
10/14/2019	5.37	912.83	4.75	913.22					4.38	917.67	4.19	916.16	4.77	915.59	NM	NM	NM	NM
4/20/2020	4.99	913.21	4.59	913.38					7.49	914.56	6.76	913.59	7.41	912.95	NM	NM	NM	NM
10/2/2020	8.81	909.39	8.68	909.29					11.88	910.17	10.81	909.54	11.29	909.07	NM	NM	NM	NM
4/6/2021	6.76	911.44	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	9.37	908.83	9.16	908.81					12.39	909.66	11.42	908.93	11.86	908.50	9.98	906.79	<i>Well Decommissioned 6/9/2021</i>	
4/1/2022	10.45	907.75	9.61	908.36					11.57	910.48	12.09	908.26	12.35	908.01	10.89	905.88		
10/1/2022	10.79	907.41	11.66	906.31	14.20	907.85	12.77	907.58	13.24	907.12	11.39	905.38						
4/6/2023	11.94	906.26	11.49	906.48	14.67	907.38	13.80	906.55	14.13	906.23	12.13	904.64						
10/2/2023	10.32	907.88	10.04	907.93	13.35	908.70	NM ^[1]	NM ^[1]	12.64	907.72	NM ^[1]	NM ^[1]						

Notes:

- 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	
4/4/2022	0.126	128	3.29J	<0.220	6.02 / 7.3^	60.4	444	
10/4/2022	0.160	118	5.30	<0.220	7.08	37.4	442	
4/10/2023	0.223	125	5.76	<0.375	6.96	49.0	616	
10/10/2023	0.126	119	4.22J	<0.375	6.12	44.8	430	
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 (cont'd)	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
	4/5/2022	0.225	59.6	7.76	<0.220	6.80	30.5	198
	10/3/2022	0.371	72.8	5.64	<0.220	7.50	3.70J	302
	4/10/2023	0.214	58.9	6.24	<0.375	6.70	11.0	278
	10/10/2023	0.318	53.5	7.34	<0.375	6.78	<2.10	204
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	
4/4/2022	0.0931J	130	10.7	<0.220	6.15 / 7.2^	48.8	470	
10/3/2022	0.113	112	9.85	<0.220	6.90	13.3	470	
4/10/2023	0.136	120	12.2	<0.375	6.95	31.6	736	
	10/10/2023	0.0986J	141	11.4	1.0	6.65	7.56	544

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	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
	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
	4/4/2022	0.277	171	8.25	<0.220	7.09 / 7.2^	27.4	678
	10/3/2022	0.282	151	7.36	<0.220	7.40	3.29J	670
4/10/2023	0.236	146	7.72	<0.375	7.12	<2.10	690	
10/10/2023	0.284	153	7.96	0.412J	6.71	4.88J	670	
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	1.40	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	94.0	<5	0.57	6.85 / 7.53 **	61.0	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
4/5/2022	1.23	138	8.03	<0.220	6.74	159	564	
10/4/2022	1.30	127	8.62	<0.220	6.89	152	634	
4/10/2023	0.680	100	6.96	0.399J	6.76	99.8	436	
10/10/2023	0.442	74.8	3.08J	<0.375	6.88	50.8	302	

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-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	9.00	3.91	7.05	149	732
	2/14/2017	1.66	170	11.0	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	2.60	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
	4/6/2022	3.11	182	9.98	<0.220	6.60	392	994
10/4/2022	2.43	163	7.78	<0.220	6.98	263	874	
4/10/2023	2.63	185	7.80	0.390J	6.79	292	906	
10/11/2023	2.34	153	7.44	0.399J	7.04	191	752	
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	1.40	124	<5	0.876	7.25	310	712
	2/14/2017	1.59	139	<5	<0.5	7.48	295	760
	4/25/2017	1.39	102	5.19	<0.5	7.39	244	582
	6/20/2017	1.16	89.9	<5	<0.5	7.22	210	448
	7/13/2017	1.41	88.2	<5	<0.5	7.62	196	696
	11/8/2017	1.13	97.6	6.39	<0.5	7.05	234	480
	3/13/2018	1.21	111	6.04	<0.5	7.16 / 7.31 **	250	560
	6/6/2018	1.45	145	<5	<0.5	7.60	294	822
	10/4/2018	1.15	115	5.39	0.569	7.41	263	580
	4/9/2019	1.28	120	5.78	<0.5	7.65	231	586
	10/18/2019	1.34	151	5.64	0.501	7.33	238	572
	4/21/2020	1.53	145	5.68	0.507	7.11	229	658
	10/6/2020	1.77	172	6.65	0.535	6.86	272	778
	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
	4/5/2022	2.27	141	5.36	<0.220	6.94	214	564
10/4/2022	1.96	122	5.19	<0.220	7.02	196	548	
4/10/2023	2.33	145	4.91J	<0.375	6.85	206	660	
10/10/2023	1.50	137	4.75J	<0.375	7.05	279	674	

Table 4 - Appendix III (Detection Monitoring) Constituents in Groundwater

Omaha Public Power District - NC1 Ash Disposal Area

		Appendix III (Detection Monitoring) Constituents						
Constituent		Boron	Calcium	Chloride	Fluoride*	pH	Sulfate	TDS
Reporting Unit		mg/L	mg/L	mg/L	mg/L	S.U.	mg/L	mg/L
NC1MW-9	3/9/2016	3.65	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	3.40	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	5.90	0.68	7.10	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
4/6/2022	0.703	152	6.33	0.930	6.71	88.6	666	
10/4/2022	0.790	156	6.03	<0.220	6.91	140	718	
4/11/2023	0.699	149	6.55	0.444J	7.05	132	726	
10/11/2023	0.399	154	6.78	0.406J	7.02	104	646	

Notes:

^[1] MW-13 was surrounded by ponding water during the April and October 2019 sampling events, therefore 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.

^Field measurements of pH for select samples were observed to be anomalous due to instrument error. The pH for these samples were also analyzed by the laboratory. The first pH value is the field measured value, and the second pH value is the lab measured value.

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.

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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	Combined Radium (Ra 226 + Ra 228)	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	
Reporting Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
NC2MW-4	3/9/2016	<0.001	<0.002	0.281	<0.001	<0.0005	<0.005	<0.0005	1.54	<0.5	0.00199	<0.05	<0.0002	0.00272	<0.005	<0.001
	3/14/2016	<0.001	<0.002	0.276	<0.001	<0.0005	<0.005	<0.0005	0.563	0.213	0.00065	<0.05	<0.0002	0.00239	<0.005	<0.001
	6/3/2016	<0.001	<0.002	0.288	<0.001	<0.0005	<0.005	<0.0005	0.739	<0.5	0.000737	<0.05	<0.0002	0.00252	<0.005	<0.001
	6/7/2016	<0.001	<0.002	0.293	<0.001	<0.0005	<0.005	<0.0005	1.21	<0.5	0.000951	<0.05	<0.0002	0.00283	<0.005	<0.001
	8/31/2016	<0.001	<0.002	0.296	<0.001	<0.0005	<0.005	<0.0005	1.04	0.646	0.00162	<0.05	<0.0002	0.00597	<0.005	<0.001
	10/3/2016	<0.001	<0.002	0.283	<0.001	<0.0005	<0.005	<0.0005	1.19	<0.5	<0.0005	<0.05	<0.0002	0.00421	<0.005	<0.001
	11/17/2016	<0.001	<0.002	0.284	<0.001	<0.0005	<0.005	<0.0005	1.03	1.28	0.000536	<0.05	<0.0002	0.00393	<0.005	<0.001
	11/18/2016	<0.001	<0.002	0.283	<0.001	<0.0005	<0.005	<0.0005	0.984	1.1	0.00127	<0.05	<0.0002	0.00288	<0.005	<0.001
	2/14/2017	<0.001	<0.002	0.300	<0.001	<0.0005	<0.005	0.00129	0.894	<0.5	0.0032	<0.05	<0.0002	0.0028	<0.005	<0.001
	2/15/2017	<0.001	<0.002	0.272	<0.001	<0.0005	<0.005	0.000584	0.647	2.43	0.00196	<0.05	<0.0002	0.00224	<0.005	<0.001
	4/24/2017	<0.001	<0.002	0.287	<0.001	<0.0005	<0.005	<0.0005	1.08	1.08	0.000802	<0.05	<0.0002	0.00422	<0.005	<0.001
	4/25/2017	<0.001	<0.002	0.300	<0.001	<0.0005	<0.005	<0.0005	1.23	<0.5	0.000714	<0.05	<0.0002	0.00323	<0.005	<0.001
	6/15/2017	<0.001	<0.002	0.249	<0.001	<0.0005	<0.005	0.000521	1.29	<0.5	0.00165	<0.05	<0.0002	0.00233	<0.005	<0.001
	6/20/2017	<0.001	<0.002	0.258	<0.001	<0.0005	<0.005	<0.0005	1.16	<0.5	0.000754	<0.05	<0.0002	0.00551	0.00593	<0.001
	7/12/2017	<0.001	<0.002	0.232	<0.001	<0.0005	<0.005	<0.0005	1.42	<0.5	0.000549	<0.05	<0.0002	0.00587	<0.005	<0.001
	7/13/2017	<0.001	<0.002	0.236	<0.001	<0.0005	<0.005	<0.0005	0.76	<0.5	0.000787	<0.05	<0.0002	0.00326	<0.005	<0.001
	3/13/2018	<0.001	<0.002	0.297	<0.001	<0.0005	<0.005	<0.0005	1.71	0.53	0.00192	0.0318	<0.0002	<0.002	0.0112	<0.001
	6/6/2018	<0.001	<0.002	0.329	<0.001	<0.0005	<0.005	0.000502	1.9	<0.5	0.00154	0.0292	<0.0002	0.0049	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	1.13	<0.5	0.000565	0.0332	N.S. ^[1]	0.00707	<0.005	N.S. ^[1]
	4/8/2019	<0.001	<0.002	0.351	<0.001	<0.0005	<0.005	<0.0005	0.980	<0.5	<0.0005	0.0351	<0.0002	0.00283	<0.005	<0.001
10/15/2019	<0.001	<0.002	0.39	<0.001	0.000138	<0.005	<0.0005	1.22	<0.5	<0.0005	0.0343	<0.0002	0.00412	<0.005	<0.001	
1/30/2020	<0.00058	0.00109J	0.34	<0.000270	0.0000720J	<0.0011	0.000531	0.610	<0.5	0.00167	0.0347	<0.0001	0.00177J	<0.001	<0.00026	
4/20/2020	0.000609J	<0.00088	0.303	<0.000270	<0.000039	<0.0011	0.000167J	0.684	0.421J	0.000624	0.0305	<0.0001	0.00191J	<0.001	<0.00026	
4/27/2020 ^[4]	<0.00058	<0.00088	0.335	<0.000270	0.0000470J	<0.0011	0.000121J	0.743	0.315J	0.000398J	0.0284	<0.0001	0.00192J	<0.001	<0.00026	
10/5/2020	<0.00051	0.00348	<0.00051	<0.000270	0.0000970J	0.00164J	0.00122	-0.927U	<0.23	0.00243	0.0349	<0.0001	0.00272	<0.001	<0.00026	
4/12/2021	<0.00110	0.00113J	0.268	<0.000270	0.0000580J	<0.00110	0.000256J	0.984	0.311J	0.000833	0.023	<0.000150	0.0112	0.0111	<0.000260	
10/4/2021	<0.00110	0.00275	0.420	0.000571J	0.000469	0.00110J	0.00203	8.39	<0.275	0.0061	0.0324	<0.000150	0.00154J	0.00391J	0.000527J	
4/4/2022	<0.000690	0.00150J	0.338	<0.000270	0.0000820J	<0.00110	0.000723	0.555U	<0.220	0.00208	0.0301	<0.000110	0.00609	0.0146	<0.000260	
10/4/2022	<0.000690	0.00114J	0.347	<0.000270	0.0000600J	<0.00110	0.000383J	2.64	<0.220	0.000736	0.0303	<0.000110	0.00422	<0.000960	<0.000260	
4/10/2023	<0.00100	0.00605	0.473	0.000423J	0.000168J	0.0103	0.00415	1.49	<0.375	0.00639	0.0397	<0.000140	0.00466	0.00417J	<0.000260	
10/10/2023	<0.00100	0.00196J	0.342	<0.000330	0.000155J	<0.00110	0.00164	3.17	<0.375	0.00360	0.0311	<0.000140	0.00302	0.00965	<0.000260	
MW-11	3/9/2016	<0.001	<0.002	0.215	<0.001	<0.0005	<0.005	<0.0005	0.714	<0.5	<0.0005	<0.05	<0.0002	0.00361	<0.005	<0.001
	6/7/2016	<0.001	<0.002	0.212	<0.001	<0.0005	<0.005	<0.0005	0.589	<0.5	<0.0005	<0.05	<0.0002	0.00477	<0.005	<0.001
	10/3/2016	<0.001	<0.002	0.233	<0.001	<0.0005	<0.005	<0.0005	1.1	<0.5	<0.0005	<0.05	<0.0002	0.0082	<0.005	<0.001
	11/18/2016	<0.001	<0.002	0.251	<0.001	<0.0005	<0.005	<0.0005	1.13	0.95	<0.0005	<0.05	<0.0002	0.00659	<0.005	<0.001
	2/14/2017	<0.001	<0.002	0.246	<0.001	<0.0005	<0.005	<0.0005	0.225	2.09	<0.0005	<0.05	<0.0002	0.00471	<0.005	<0.001
	4/25/2017	<0.001	<0.002	0.249	<0.001	<0.0005	<0.005	<0.0005	0.358	1.44	<0.0005	<0.05	<0.0002	0.005	<0.005	<0.001
	6/20/2017	0.00235	<0.002	0.156	<0.001	<0.0005	<0.005	0.000549	0.398	0.562	<0.0005	<0.05	<0.0002	0.00788	<0.005	<0.001
	7/13/2017	<0.001	<0.002	0.146	<0.001	<0.0005	<0.005	0.00085	0.397	0.538	<0.0005	<0.05	0.000262	0.00905	<0.005	<0.001
	3/13/2018	<0.001	0.00272	0.154	<0.001	<0.0005	<0.005	0.00104	0.414	<0.5	<0.0005	0.0143	<0.0002	0.00269	0.00503	<0.001
	6/6/2018	<0.001	<0.002	0.172	<0.001	<0.0005	<0.005	0.000779	0.494	<0.5	0.00118	0.0123	<0.0002	0.00996	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	0.958	0.568	<0.0005	0.0197	N.S. ^[1]	0.00883	<0.005	N.S. ^[1]	

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	Combined Radium (Ra 226 + Ra 228)	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	
Reporting Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
MW-11 (cont'd)	4/8/2019	<0.001	<0.002	0.162	<0.001	<0.0005	<0.005	<0.0005	0.228	<0.5	0.000519	0.0162	<0.0002	0.00609	<0.005	<0.001	
	10/16/2019	<0.001	0.00497	0.255	<0.001	<0.0001	<0.005	0.00305	0.684	0.558	<0.0005	0.0201	<0.0002	0.0120	<0.00500	<0.001	
	4/20/2020	<0.00058	0.00201	0.184	<0.000270	<0.000039	<0.0011	0.000452J	0.134U	0.430J	<0.00027	0.0168	<0.0001	0.00990	<0.001	<0.00026	
	10/6/2020	<0.00051	0.00983	0.159	<0.000270	<0.000049	<0.0011	0.00375	0.326U	0.444J	0.000301J	0.0112	<0.0001	0.0164	<0.001	<0.00026	
	4/13/2021	<0.00110	0.00452	0.131	<0.000270	0.0000900J	<0.00110	0.000873	0.570	0.323J	0.000572	0.00252J	<0.000150	0.0299	0.00138J	<0.000260	
	10/5/2021	<0.00110	0.0237	0.253	<0.000270	0.000179	<0.00110	0.00131	0.378U	<2.45	0.000537	<0.00250	<0.000150	0.0201	.00125J	<0.000260	
	4/5/2022	<0.000690	0.0113	0.191	<0.000270	<0.0000550	0.00141J	0.00128	0.550U	<0.220	0.00124	<0.00250	<0.000110	0.0235	0.00161J	<0.000260	
	10/3/2022	<0.000690	0.0170	0.252	<0.000270	<0.0000550	<0.00110	0.00108	1.91	<0.220	0.000783	0.00264J	<0.000110	0.00370	<0.000960	<0.000260	
	4/10/2023	<0.00100	0.0142	0.171	<0.000330	<0.000100	<0.00110	0.000839	0.100U	<0.375	0.000896	0.00261J	<0.000140	0.00794	<0.00140	<0.000260	
	10/10/2023	<0.00100	0.0120	0.187	<0.000330	<0.000100	<0.00110	0.000261J	0.471U	<0.375	0.000351J	0.00254J	<0.000140	0.00511	<0.00140	<0.000260	
MW-13	3/9/2016	<0.001	0.00492	0.302	<0.001	<0.0005	<0.005	0.000817	1.14	<0.5	<0.0005	<0.05	<0.0002	<0.002	<0.005	<0.001	
	3/14/2016	<0.001	0.00545	0.288	<0.001	<0.0005	<0.005	0.00105	0.741	<0.5	<0.0005	<0.05	<0.0002	<0.002	<0.005	<0.001	
	6/3/2016	<0.001	0.00607	0.324	<0.001	<0.0005	<0.005	0.00122	1.01	<0.5	0.000704	<0.05	<0.0002	0.00216	<0.005	<0.001	
	6/7/2016	<0.001	0.00591	0.317	<0.001	<0.0005	<0.005	0.00118	0.69	<0.5	0.000623	<0.05	<0.0002	<0.002	<0.005	<0.001	
	8/31/2016	<0.001	0.00623	0.342	<0.001	<0.0005	<0.005	0.00107	1.09	<0.5	<0.0005	<0.05	<0.0002	0.00258	<0.005	<0.001	
	10/3/2016	<0.001	0.00709	0.319	<0.001	<0.0005	<0.005	0.00103	1.01	<0.5	<0.0005	<0.05	<0.0002	0.00264	<0.005	<0.001	
	11/17/2016	<0.001	0.00515	0.322	<0.001	<0.0005	<0.005	0.000873	1.37	0.803	0.00089	<0.05	<0.0002	0.00221	<0.005	<0.001	
	11/18/2016	<0.001	0.0058	0.333	<0.001	<0.0005	<0.005	0.000916	0.745	0.647	<0.0005	<0.05	<0.0002	0.00235	<0.005	<0.001	
	2/14/2017	<0.001	0.00304	0.349	<0.001	<0.0005	<0.005	0.000925	0.532	3.64	<0.0005	<0.05	<0.0002	0.00228	<0.005	<0.001	
	2/15/2017	<0.001	0.00289	0.321	<0.001	<0.0005	<0.005	0.000883	0.407	<0.5	<0.0005	<0.05	<0.0002	0.00207	<0.005	<0.001	
	4/24/2017	<0.001	0.0024	0.336	<0.001	<0.0005	<0.005	0.00135	0.579	0.789	0.000516	<0.05	<0.0002	<0.002	<0.005	<0.001	
	4/25/2017	<0.001	0.00269	0.358	<0.001	<0.0005	<0.005	0.00141	0.429	0.80	0.000522	<0.05	<0.0002	<0.002	<0.005	<0.001	
	6/15/2017	<0.001	0.00371	0.318	<0.001	<0.0005	<0.005	0.00127	0.8	<0.5	<0.0005	<0.05	<0.0002	0.0021	<0.005	<0.001	
	6/20/2017	<0.001	0.00268	0.311	<0.001	<0.0005	<0.005	0.00119	0.483	0.51	0.00171	<0.05	<0.0002	<0.002	<0.005	<0.001	
	7/12/2017	<0.001	0.00263	0.328	<0.001	<0.0005	<0.005	0.00112	1.56	<0.5	<0.0005	<0.05	<0.0002	0.00207	<0.005	<0.001	
	7/13/2017	<0.001	0.00325	0.33	<0.001	<0.0005	<0.005	0.00108	0.502	<0.5	<0.0005	<0.05	<0.0002	0.00206	<0.005	<0.001	
	3/13/2018	<0.001	0.00283	0.305	<0.001	<0.0005	<0.005	0.00222	0.412	<0.5	0.00102	0.0265	<0.0002	<0.002	<0.005	<0.001	
	6/6/2018	<0.001	0.00262	0.282	<0.001	<0.0005	<0.005	0.00236	1.89	<0.5	0.00577	0.0423	<0.0002	<0.002	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	1.62	0.738	0.00216	0.0316	N.S. ^[1]	0.00243	<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	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	N/A
	1/30/2020 ^[3]	<0.00058	0.00824	0.230	<0.000270	<0.000039	<0.0011	0.00198	0.0337U	<0.5	0.000335J	0.0273	<0.0001	0.00187J	<0.001	<0.00026	
	4/20/2020	<0.00058	0.00867	0.177	<0.000270	<0.000039	<0.0011	0.00193	0.438	0.399J	0.000311J	0.0374	<0.0001	0.00457	<0.001	<0.00026	
	4/27/2020 ^[4]	<0.00058	0.0111	0.167	<0.000270	<0.000039	<0.0011	0.00208	-0.0922	0.383J	0.000297J	0.0348	<0.0001	0.00335	<0.001	<0.00026	
	10/5/2020	<0.00051	0.0188	0.225	<0.000270	<0.000049	<0.0011	0.000384J	0.872	<0.23	0.000178J	0.0322	<0.0001	<0.0011	<0.001	<0.00026	
	4/12/2021	<0.00110	0.00487	0.0815	<0.000270	<0.0000510	<0.00110	0.00099	0.429U	0.441J	0.000353J	0.0199	<0.000150	0.00443	0.00194J	<0.000260	
	10/4/2021	<0.00110	0.0402	0.257	<0.000270	<0.0000510	<0.00110	0.00102	1.84	<0.275	<0.000260	0.0330	<0.000150	<0.00130	<0.000960	<0.000260	
	4/4/2022	<0.000690	0.0134	0.202	<0.000270	<0.0000550	<0.00110	0.000879	0.500U	<0.220	0.000698	0.0329	<0.000110	<0.00120	<0.000960	<0.000260	
	10/3/2022	<0.000690	0.0151	0.253	<0.000270	<0.0000550	<0.00110	0.000419J	1.24	<0.220	<0.000240	0.0301	<0.000110	<0.00120	<0.000960	<0.000260	
	4/10/2023	<0.00100	0.0112	0.281	<0.000330	<0.000100	<0.00110	0.000591	1.06	<0.375	<0.000240	0.0345	<0.000140	<0.000910	<0.00140	<0.000260	
	10/10/2023	<0.00100	0.0411	0.313	<0.000330	<0.000100	<0.00110	0.000726	1.22	1.00	0.000375J	0.0385	<0.000140	0.00175J	<0.00140	<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	Combined Radium (Ra 226 + Ra 228)	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
Reporting Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-14	10/4/2018	<0.001	0.0330	0.306	<0.001	<0.0005	<0.005	0.00290	1.48	0.751	<0.0005	0.0480	<0.0002	0.00293	<0.005	<0.001
	1/15/2019	<0.001	0.0301	0.309	<0.001	<0.0005	<0.005	0.00424	1.20	<0.5	<0.0005	0.0507	<0.0002	<0.002	<0.005	<0.001
	3/5/2019	<0.001	0.0253	0.301	<0.001	<0.0005	<0.005	0.00477	1.75	<0.5	<0.0005	0.0569	<0.0002	0.00227	<0.005	<0.001
	4/8/2019	<0.001	0.0368	0.309	<0.001	<0.0005	<0.005	0.00391	1.03	<0.5	<0.0005	0.0557	<0.0002	<0.002	<0.005	<0.001
	10/16/2019	<0.001	0.0893	0.359	<0.001	<0.0001	<0.005	0.00265	1.81	<0.5	<0.0005	0.0528	<0.0002	<0.002	<0.005	<0.001
	1/30/2020 ^[3]	<0.00058	0.0513	0.266	<0.000270	<0.000039	<0.0011	0.00209	0.976	0.298J	<0.00027	0.0453	<0.0001	<0.0011	<0.001	<0.00026
	4/20/2020	<0.00058	0.0621	0.306	<0.000270	<0.000039	<0.0011	0.00216	1.03	0.520	<0.00027	0.0555	<0.0001	<0.0011	<0.001	<0.00026
	10/5/2020	<0.00051	0.0863	0.335	<0.000270	<0.000049	<0.0011	0.00257	2.45	0.339J	<0.000110	0.0497	<0.0001	<0.0011	<0.001	<0.00026
	4/13/2021	<0.00110	0.0455	0.318	<0.000270	<0.0000510	<0.00110	0.00116	1.51	0.495J	<0.000210	0.0548	<0.000150	<0.00130	<0.000960	<0.000260
	10/4/2021	<0.00110	0.0494	0.367	<0.000270	<0.0000510	<0.00110	0.00167	3.90	<0.275	0.000211J	0.0525	<0.000150	<0.00130	<0.000960	<0.000260
	4/4/2022	<0.000690	0.0266	0.324	<0.000270	<0.0000550	<0.00110	0.00104	1.89	<0.220	<0.000240	0.0558	<0.000110	<0.00120	<0.000960	<0.000260
	10/3/2022	<0.000690	0.0768	0.324	<0.000270	<0.0000550	<0.00110	0.000351J	3.11	<0.220	0.000277J	0.0516	<0.000110	<0.00120	<0.000960	<0.000260
4/10/2023	<0.00100	0.0646	0.288	<0.000330	<0.000100	<0.00110	0.000292J	1.85	<0.375	<0.000240	0.0520	<0.000140	<0.000910	<0.00140	<0.000260	
10/10/2023	<0.00100	0.0995	0.394	<0.000330	<0.000100	<0.00110	0.000548	2.20	0.412J	0.000656	0.0584	<0.000140	0.00122J	<0.00140	<0.000260	
NC1MW-2	3/9/2016	<0.001	<0.002	0.123	<0.001	<0.0005	<0.0005	<0.0005	0.552	0.664	<0.0005	<0.05	<0.0002	0.0444	<0.005	<0.001
	6/7/2016	<0.001	<0.002	0.0956	<0.001	<0.0005	<0.0005	<0.0005	0.305	<0.5	<0.0005	<0.05	<0.0002	0.0718	<0.005	<0.001
	10/3/2016	<0.001	<0.002	0.104	<0.001	<0.0005	<0.0005	<0.0005	0.586	<0.5	<0.0005	<0.05	<0.0002	0.12	<0.005	<0.001
	11/18/2016	<0.001	<0.002	0.126	<0.001	<0.0005	<0.0005	<0.0005	0.415	1.82	<0.0005	<0.05	<0.0002	0.095	<0.005	<0.001
	2/14/2017	<0.001	<0.002	0.123	<0.001	<0.0005	<0.0005	<0.0005	0.254	<0.5	<0.0005	<0.05	<0.0002	0.0654	<0.005	<0.001
	4/25/2017	<0.001	<0.002	0.0889	<0.001	<0.0005	<0.0005	<0.0005	0.396	1.4	<0.0005	<0.05	<0.0002	0.0489	<0.005	<0.001
	6/20/2017	<0.001	<0.002	0.116	<0.001	<0.0005	<0.0005	<0.0005	0.174	<0.5	<0.0005	<0.05	<0.0002	0.038	<0.005	<0.001
	7/13/2017	<0.001	<0.002	0.122	<0.001	<0.0005	<0.0005	<0.0005	0.375	<0.5	<0.0005	<0.05	<0.0002	0.0374	<0.005	<0.001
	3/13/2018	<0.001	<0.002	0.125	<0.001	<0.0005	<0.0005	<0.0005	0.656	0.57	<0.0005	<0.01	<0.0002	0.0446	<0.005	<0.001
	6/6/2018	<0.001	<0.002	0.122	<0.001	<0.0005	<0.0005	0.00143	0.615	<0.5	0.000713	<0.01	<0.0002	0.0711	<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	1.01	<0.5	0.000795	<0.01	N.S. ^[1]	0.0680	<0.005	N.S. ^[1]
	4/8/2019	<0.001	<0.002	0.126	<0.001	<0.0005	<0.005	<0.0005	0.494	<0.5	<0.0005	<0.01	<0.0002	0.0803	<0.005	<0.001
	10/18/2019	<0.001	<0.002	0.179	<0.001	0.000230	<0.005	0.000548	0.334	<0.5	<0.0005	0.0117	<0.0002	0.0872	<0.005	<0.001
	4/21/2020	<0.00058	<0.000880	0.128	<0.000270	0.0000930J	<0.0011	<0.0000910	0.192U	0.614	<0.00027	0.00764J	<0.0001	0.0938	<0.001	<0.00026
	10/6/2020	<0.00051	<0.000880	0.108	<0.000270	0.0000650J	<0.0011	0.000133J	0.376U	0.301J	0.000135J	0.00729J	<0.0001	0.121	<0.001	<0.00026
	4/13/2021	<0.00110	0.000878J	0.134	<0.000270	0.000176	<0.00110	0.000238J	0.552	0.264J	0.000463J	0.00998J	<0.000150	0.0886	<0.000960	0.00278
	10/5/2021	0.00111J	0.00179J	0.154	0.000387J	0.000592	<0.00110	0.000568	0.536U	<0.275	0.000968	0.0124	<0.000150	0.102	0.00346J	0.00106
	4/5/2022	<0.000690	0.000884J	0.222	<0.000270	0.0000860J	<0.00110	0.000258J	0.282U	<0.220	<0.000240	0.0176	<0.000110	0.0668	<0.000960	<0.000260
10/4/2022	0.000699J	0.000978J	0.194	<0.000270	0.000131	<0.00110	0.000218J	0.724	<0.220	0.000403J	0.0163	<0.000110	0.0654	0.00418J	0.000597J	
4/10/2023	<0.00100	0.000757J	0.140	<0.000330	0.000168J	<0.00110	0.000241J	0.371U	0.399J	<0.000240	0.0148	<0.000140	0.0576	<0.00140	<0.000260	
10/10/2023	<0.00100	0.000908J	0.110	<0.000330	<0.000100	<0.00110	<0.000170	0.814	<0.375	<0.000240	0.0102	<0.000140	0.0553	<0.00140	<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	Combined Radium (Ra 226 + Ra 228)	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	
Reporting Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
NC1MW-3	3/9/2016	<0.001	0.0135	0.112	<0.001	<0.0005	<0.0005	0.00239	0.0759	0.508	<0.0005	<0.05	<0.0002	<0.002	<0.005	<0.001
	6/7/2016	<0.001	0.00901	0.111	<0.001	<0.0005	<0.0005	0.00364	0.81	<0.5	<0.0005	<0.05	<0.0002	<0.002	<0.005	<0.001
	10/3/2016	<0.001	0.00761	0.0887	<0.001	<0.0005	<0.0005	0.00267	0.15	<0.5	<0.0005	<0.05	<0.0002	<0.002	<0.005	<0.001
	11/18/2016	<0.001	0.031	0.101	<0.001	<0.0005	<0.0005	0.00334	0.736	3.91	<0.0005	<0.05	<0.0002	<0.002	<0.005	<0.001
	2/14/2017	<0.001	0.0248	0.092	<0.001	<0.0005	<0.0005	0.00268	0.436	2.97	0.000553	<0.05	<0.0002	<0.002	<0.005	<0.001
	4/25/2017	<0.001	0.0131	0.106	<0.001	<0.0005	<0.0005	0.00144	0.242	0.974	<0.0005	<0.05	<0.0002	<0.002	<0.005	<0.001
	6/20/2017	<0.001	0.0195	0.115	<0.001	<0.0005	<0.0005	0.00196	0.711	0.591	<0.0005	<0.05	<0.0002	<0.002	<0.005	<0.001
	7/13/2017	<0.001	0.0302	0.116	<0.001	<0.0005	<0.0005	0.00257	0.339	0.603	<0.0005	<0.05	<0.0002	<0.002	<0.005	<0.001
	3/13/2018	<0.001	0.0111	0.0786	<0.001	<0.0005	<0.0005	0.00192	0.728	<0.5	<0.0005	0.0262	<0.0002	<0.002	<0.005	<0.001
	6/6/2018	<0.001	0.0412	0.128	<0.001	<0.0005	<0.0005	0.00219	0.922	<0.5	0.00296	0.0325	<0.0002	0.0021	<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	1.12	0.541	0.000833	0.0326	N.S. ^[1]	<0.002	<0.005	N.S. ^[1]
	4/9/2019	<0.001	0.0143	0.0938	<0.001	<0.0005	<0.0005	0.00250	0.348	<0.5	<0.0005	0.0271	<0.0002	<0.002	<0.005	<0.001
	10/18/2019	<0.001	0.0333	0.135	<0.001	<0.0001	<0.0005	0.00182	0.146	0.527	<0.0005	0.0316	<0.0002	<0.002	<0.005	<0.001
	4/21/2020	<0.00058	0.0242	0.103	<0.000270	<0.000039	<0.00110	0.00228	0.0567U	0.693	<0.00027	0.0375	<0.0001	0.00140J	<0.001	<0.000260
	10/6/2020	<0.00051	0.0317	0.126	<0.000270	<0.00027	<0.00110	0.00153	0.994	0.520	<0.000110	0.0361	<0.0001	<0.0011	<0.001	<0.000260
	4/13/2021	<0.00110	0.0354	0.144	<0.000270	0.0000830J	<0.00110	0.00191	0.743	0.557	<0.000210	0.0435	<0.000510	0.00293	<0.000960	0.0032
	10/6/2021	<0.00110	0.0368	0.144	<0.000270	<0.0000510	<0.00110	0.00137	0.470U	<0.275	<0.000210	0.0361	<0.000510	0.00179J	<0.000960	<0.000260
4/6/2022	<0.000690	0.0470	0.142	<0.000270	<0.0000550	<0.00110	0.00228	1.32	<0.220	<0.000240	0.0406	<0.000110	0.00157J	<0.000960	<0.000260	
10/4/2022	<0.000690	0.0463	0.115	<0.000270	<0.0000550	<0.00110	0.00145	0.707	<0.220	<0.000240	0.0410	<0.000110	0.00182J	<0.000960	<0.000260	
4/10/2023	<0.00100	0.140	0.173	<0.000330	<0.000100	<0.00110	0.00464	0.950	0.390J	0.000319J	0.0457	<0.000140	0.00255	<0.00140	<0.000260	
10/11/2023	<0.00100	0.0703	0.129	<0.000330	<0.000100	<0.00110	0.000771	0.429U	0.399J	<0.000240	0.0427	<0.000140	0.00260	<0.00140	<0.000260	
NC1MW-4	3/9/2016	<0.001	0.00336	0.195	<0.001	<0.0005	<0.0005	<0.0005	0.753	<0.5	<0.0005	<0.05	<0.0002	0.0053	<0.005	<0.001
	6/7/2016	<0.001	0.0029	0.100	<0.001	<0.0005	<0.0005	<0.0005	0.37	<0.5	<0.0005	<0.05	<0.0002	0.017	<0.005	<0.001
	10/3/2016	<0.001	0.0032	0.090	<0.001	<0.0005	<0.0005	<0.0005	0.343	<0.5	<0.0005	<0.05	<0.0002	0.0297	<0.005	<0.001
	11/18/2016	<0.001	0.00254	0.115	<0.001	<0.0005	<0.0005	<0.0005	0.182	0.876	<0.0005	<0.05	<0.0002	0.0199	<0.005	<0.001
	2/14/2017	<0.001	0.00433	0.119	<0.001	<0.0005	<0.0005	<0.0005	0.301	<0.5	0.00052	<0.05	<0.0002	0.0139	<0.005	<0.001
	4/25/2017	<0.001	0.00344	0.0968	<0.001	<0.0005	<0.0005	<0.0005	0.313	<0.5	<0.0005	<0.05	<0.0002	0.0249	<0.005	<0.001
	6/20/2017	<0.001	0.00334	0.0679	<0.001	<0.0005	<0.0005	<0.0005	0.0408	<0.5	<0.0005	<0.05	<0.0002	0.0356	<0.005	<0.001
	7/13/2017	<0.001	0.00381	0.0687	<0.001	<0.0005	<0.0005	<0.0005	0.0901	<0.5	<0.0005	<0.05	<0.0002	0.0317	<0.005	<0.001
	3/13/2018	<0.001	0.00265	0.0781	<0.001	<0.0005	<0.0005	<0.0005	0.286	<0.5	<0.0005	0.0114	<0.0002	0.0207	<0.005	<0.001
	6/6/2018	<0.001	0.00821	0.129	<0.001	<0.0005	<0.0005	0.000636	0.577	<0.5	<0.0005	0.01	<0.0002	0.0422	<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	0.802	0.569	<0.0005	0.0135	N.S. ^[1]	0.0233	<0.005	N.S. ^[1]
	4/9/2019	<0.001	0.00223	0.0652	<0.001	<0.0005	<0.0005	<0.0005	0.0157	<0.5	<0.0005	0.011	<0.0002	0.0269	<0.005	<0.001
	10/18/2019	<0.001	0.00347	0.119	<0.001	<0.0001	<0.0005	0.000642	-0.000469U	0.501	<0.0005	0.0137	<0.0002	0.0183	<0.005	<0.001
	4/21/2020	<0.00058	0.00162J	0.0878	<0.000270	0.000310	<0.0011	0.000974	0.0118U	0.507	<0.00027	0.0183	<0.0001	0.00302	<0.001	<0.000260
	10/6/2020	<0.00051	0.00120J	0.152	<0.000270	0.000208	<0.0011	0.00138	0.00604U	0.535	<0.000110	0.0238	<0.0001	<0.0011	0.00199J	<0.000260
	4/13/2021	<0.00110	0.00190J	0.0768	<0.000270	0.000133	<0.00110	0.000976	0.151U	0.441J	<0.000210	0.019	<0.000150	0.00154J	<0.000960	0.000313J
	10/5/2021	<0.00110	0.00125J	0.111	<0.000270	0.000134	<0.00110	0.00200	1.08	<0.275	<0.000210	0.0187	<0.000150	0.00664	<0.000960	<0.000260
4/5/2022	<0.000690	0.00121J	0.124	<0.000270	0.0000980J	<0.00110	0.00159	1.13	<0.220	<0.000240	0.0192	<0.000110	0.00320	0.00114J	<0.000260	
10/4/2022	<0.000690	0.00125J	0.111	<0.000270	0.000134	<0.00110	0.00190	1.03	<0.220	<0.000240	0.0208	<0.000110	0.00996	<0.000960	<0.000260	
4/10/2023	<0.00100	0.00187J	0.146	<0.000330	0.000211	<0.00110	0.00471	1.45	<0.375	<0.000240	0.0242	<0.000140	0.0150	0.00584	<0.000260	
10/10/2023	<0.00100	0.00175J	0.121	<0.000330	<0.00110	<0.00110	0.000857	1.72	<0.375	<0.000240	0.0241	<0.000140	0.00469	0.00140	<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	Combined Radium (Ra 226 + Ra 228)	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
Reporting Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NC1MW-9	3/9/2016	<0.001	0.00995	0.0865	<0.001	<0.0005	<0.0005	0.00121	0.629	0.547	<0.0005	<0.05	<0.0002	0.0111	0.0634	<0.001
	6/7/2016	<0.001	0.00624	0.0816	<0.001	<0.0005	<0.0005	<0.0005	0.577	<0.5	<0.0005	<0.05	<0.0002	0.0204	0.00958	<0.001
	10/3/2016	<0.001	0.00605	0.0847	<0.001	<0.0005	<0.0005	0.000683	0.23	0.578	<0.0005	<0.05	<0.0002	0.0435	0.0388	<0.001
	11/18/2016	<0.001	0.00828	0.106	<0.001	<0.0005	<0.0005	0.000648	1.13	3.4	<0.0005	<0.05	<0.0002	0.0222	0.0162	<0.001
	2/14/2017	<0.001	0.0122	0.0836	<0.001	<0.0005	<0.0005	0.00147	0.425	1.78	<0.0005	<0.05	<0.0002	0.0169	0.0138	<0.001
	4/25/2017	<0.001	0.0164	0.115	<0.001	<0.0005	<0.0005	0.00124	0.592	0.934	<0.0005	<0.05	<0.0002	0.0473	0.0101	<0.001
	6/20/2017	<0.001	0.01	0.114	<0.001	<0.0005	<0.0005	0.00295	0.473	<0.5	<0.0005	<0.05	<0.0002	0.0486	<0.005	<0.001
	7/13/2017	<0.001	0.00885	0.0952	<0.001	<0.0005	<0.0005	0.000878	0.294	0.68	<0.0005	<0.05	<0.0002	0.0302	<0.005	<0.001
	3/13/2018	<0.001	0.0107	0.0838	<0.001	<0.0005	<0.0005	0.00063	0.412	<0.5	<0.0005	0.0198	<0.0002	0.0354	<0.005	<0.001
	6/6/2018	<0.001	0.0114	0.111	<0.001	<0.0005	<0.0005	0.00109	0.827	0.732	<0.0005	0.0189	<0.0002	0.0474	<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	1.39	0.777	<0.0005	0.0201	N.S. ^[1]	0.0399	<0.005	N.S. ^[1]
	4/10/2019	<0.001	0.00681	0.153	<0.001	<0.0005	<0.005	0.00559	0.415	<0.5	<0.0005	0.0254	<0.0002	0.0196	0.0120	<0.001
	10/18/2019	<0.001	0.00784	0.165	<0.001	0.000100	<0.005	0.00323	0.695	0.605	<0.0005	0.0310	<0.0002	0.0230	<0.005	<0.001
	4/21/2020	<0.00058	0.0104	0.125	<0.000270	0.0000440J	<0.0011	0.00114	0.687	0.680	<0.00027	0.0314	<0.0001	0.0266	0.00328J	<0.000260
	10/6/2020	<0.00051	0.0157	0.134	<0.000270	<0.000049	<0.0011	0.00115	0.828	0.739	<0.000110	0.0269	<0.0001	0.0315	0.0188	<0.000260
	4/13/2021	<0.00110	0.011	0.12	<0.000270	0.0000890J	<0.00110	0.00143	0.205U	0.504	<0.000210	0.0343	<0.000150	0.0234	0.00280J	<0.000260
	10/6/2021	<0.00110	0.0121	0.139	<0.000270	0.0000780J	<0.00110	0.00202	1.54	<0.275	<0.000210	0.0318	<0.000150	0.0243	0.00115J	<0.000260
	4/6/2022	0.000976J	0.0140	0.122	<0.000270	0.0000960J	<0.00110	0.00174	1.10	0.930	<0.000240	0.0367	<0.000110	0.0174	0.00168J	<0.000260
10/4/2022	<0.000690	0.0222	0.146	<0.000270	<0.0000550	<0.00110	0.00153	0.972	<0.220	<0.000240	0.0346	<0.000110	0.0179	<0.000960	<0.000260	
4/11/2023	<0.00100	0.0157	0.119	<0.000330	<0.000100	<0.00110	0.00111	0.750	0.444J	<0.000240	0.0333	<0.000140	0.0156	0.00174J	<0.000260	
10/11/2023	<0.00100	0.0490	0.174	<0.000330	<0.000100	<0.00110	0.00103	1.44	0.406J	<0.000240	0.0423	<0.000140	0.0132	<0.00140	<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 is less than the sample detection limit 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]NC2MW-4 and MW-13 were sampled as part of the NC2 sampling event on April 27, 2020.

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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	168
Chloride	mg/l	17.3
Fluoride ^[1]	mg/l	1.28
pH (LPL) ^[2]	SU	6.30
pH (UPL) ^[3]	SU	7.83
Sulfate	mg/l	170
TDS	mg/l	774
Appendix IV (Assessment Monitoring)		
Antimony	mg/l	0.002
Arsenic	mg/l	0.0893
Barium	mg/l	0.426
Beryllium	mg/l	0.001
Cadmium	mg/l	0.0005
Chromium	mg/l	0.005
Cobalt	mg/l	0.00477
Fluoride ^[1]	mg/l	1.28
Lead	mg/l	0.00639
Lithium	mg/l	0.0569
Mercury	mg/l	0.000262
Molybdenum	mg/l	0.0299
Radium 226 + 228	pCi/l	3.11
Selenium	mg/l	0.0146
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	4/6/2023	Time of Sampling	12:04	Static Water Level	13.81
NC1MW3	Date of Sampling	4/6/2023	Time of Sampling	12:45	Static Water Level	13.94
NC1MW4	Date of Sampling	4/6/2023	Time of Sampling	12:07	Static Water Level	14.25
NC1MW5	Date of Sampling	4/6/2023	Time of Sampling	12:15	Static Water Level	15.61
NC1MW6	Date of Sampling	4/6/2023	Time of Sampling	12:20	Static Water Level	11.87
NC1MW7	Date of Sampling	4/6/2023	Time of Sampling	11:50	Static Water Level	13.22
NC1MW8	Date of Sampling	4/6/2023	Time of Sampling	11:48	Static Water Level	13.57
NC1MW9	Date of Sampling	4/6/2023	Time of Sampling	12:50	Static Water Level	14.29
NC2MW2	Date of Sampling	4/6/2023	Time of Sampling	11:31	Static Water Level	15.95
NC2MW3	Date of Sampling	4/6/2023	Time of Sampling	11:24	Static Water Level	13.79
NC2MW4	Date of Sampling	4/6/2023	Time of Sampling	10:55	Static Water Level	12.43
NC2MW5	Date of Sampling	4/6/2023	Time of Sampling	11:10	Static Water Level	Dry
NC2MW6	Date of Sampling	4/6/2023	Time of Sampling	11:15	Static Water Level	14.02
NC2MW7	Date of Sampling	4/6/2023	Time of Sampling	11:45	Static Water Level	11.94
NC2MW8	Date of Sampling	4/6/2023	Time of Sampling	11:27	Static Water Level	11.49
MW11	Date of Sampling	4/6/2023	Time of Sampling	12:36	Static Water Level	12.20
MW12	Date of Sampling	4/6/2023	Time of Sampling	12:40	Static Water Level	14.13
MW13	Date of Sampling	4/6/2023	Time of Sampling	10:49	Static Water Level	10.14
MW14	Date of Sampling	4/6/2023	Time of Sampling	10:59	Static Water Level	14.01

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): Matthew P. Cole (79644)
Monitoring Well Identification - Sample Number: MW2 - 5	Date: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, 65°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	14:10	Pump Start Time	14:12
Static Water Level (+/- 0.01 feet)*	14.92	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	16.40	Time to Purge Well (hours:minutes)	0:23
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)	0.91		
Actual Volume of Water Purged (mL)	5,750		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
14:17	1,250	15.12	2.65	33.3	6.80	0.616	14.93
14:20	2,000	15.15	2.00	20.4	6.78	0.662	14.93
14:23	2,750	15.18	1.78	10.4	6.76	0.703	14.92
14:26	3,500	15.04	1.47	3.3	6.76	0.735	14.93
14:29	4,250	14.88	1.25	0.2	6.76	0.735	14.93
14:32	5,000	15.21	1.19	0.0	6.76	0.735	14.92
14:35	5,750	15.21	1.18	0.0	6.76	0.733	14.92

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)
14:35	5,750	15.21	1.18	0.0	6.76	0.733	14.92
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	Matt P. Cole
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/10/2023, 12:00

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Matthew P. Cole (79644)
Monitoring Well Identification - Sample Number: MW3 - 8	Date: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, 71°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	15:39	Pump Start Time	15:39
Static Water Level (+/- 0.01 feet)*	13.91	Purge Rate (mL/minute)	280
Bottom of Well Casing (+/- 0.01 feet)*	22.20	Time to Purge Well (hours:minutes)	0:24
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)	5.12		
Actual Volume of Water Purged (mL)	6,440		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
15:44	1,400	15.03	2.28	479	6.79	1.35	13.93
15:47	2,240	15.27	1.47	208	6.77	1.40	13.93
15:50	3,080	15.24	1.37	279	6.79	1.39	13.93
15:53	3,920	15.19	1.08	274	6.79	1.16	13.93
15:56	4,760	15.06	1.20	270	6.79	1.38	13.93
15:59	5,600	14.92	1.08	266	6.79	1.38	13.93
16:03	6,440	14.70	1.08	268	6.79	1.38	13.93

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
16:03	6,440	14.70	1.08	268	6.79	1.38	13.93
Duplicate?	No	Preservation?	Cool on Ice, HNO ₃ for Metals		Pump Rate (mL/minute)		280

Sample Physical Characteristics

Equipment Information

Sample Clarity	Turbid	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Light Yellow	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Matt P. Cole
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/10/2023, 12:00

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Matthew P. Cole (79644)
Monitoring Well Identification - Sample Number: MW4 - 6	Date: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, 71°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	14:56	Pump Start Time	14:57
Static Water Level (+/- 0.01 feet)*	14.19	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)	2.17		
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)
15:02	1,500	15.36	1.85	69.2	6.81	0.984	14.19
15:05	2,400	15.13	1.58	48.1	6.82	0.987	14.19
15:08	3,300	15.29	1.31	24	6.84	0.981	14.19
15:11	4,200	15.95	1.24	21.5	6.85	0.977	14.19
15:14	5,100	14.72	1.22	17.3	6.85	0.974	14.19
15:17	6,000	14.92	1.16	13.5	6.85	0.974	14.19
15:20	6,900	14.86	1.15	11.7	6.85	0.974	14.19

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)
15:20	6,900	14.86	1.15	11.7	6.85	0.974	14.19
Duplicate?	Yes, DUP1	Preservation?	Cool on Ice, HNO ₃ for Metals	Pump Rate (mL/minute)	300		

Sample Physical Characteristics

Equipment Information

Sample Clarity	Light 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	Matt P. Cole
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/10/2023, 12:00

Notes / Unusual Occurrences: 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: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 60°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:52	Pump Start Time	9:54
Static Water Level (+/- 0.01 feet)*	12.36	Purge Rate (mL/minute)	100-150
Bottom of Well Casing (+/- 0.01 feet)*	14.50	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)	1.32		
Actual Volume of Water Purged (mL)	2,550		

*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)
9:59	750	13.02	11.30	154	7.36	0.831	13.65
10:02	1,050	13.00	10.39	87.0	7.27	0.850	14.08
10:05	1,350	13.69	9.60	89.2	7.04	0.840	14.12
10:08	1,650	13.75	9.54	88.4	7.00	0.837	14.15
10:11	1,950	13.62	9.67	145	7.05	0.842	Top of Pump
10:14	2,250	13.70	9.56	137	6.99	0.844	Top of Pump
10:17	2,550	13.82	9.52	132	6.96	0.841	Top of Pump

Well Evacuated to Dryness? Yes

Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
10:17	2,550	13.82	9.52	132	6.96	0.841	Top of Pump
Duplicate?	No	Preservation?	Cool on Ice, HNO ₃ for Metals	Pump Rate (mL/minute)		100	

Sample Physical Characteristics

Equipment Information

Sample Clarity	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	4/10/2023, 8:44

Notes / Unusual Occurrences: Well went dry during sample collection. Collected radium samples later.

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Matthew P. Cole (79644)
Monitoring Well Identification - Sample Number: MW7	Date: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, 65°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	12:11	Pump Start Time	12:12
Static Water Level (+/- 0.01 feet)*	13.20	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	42.55	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)	18.12		
Actual Volume of Water Purged (mL)	6,500		

*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)
12:17	1,250	15.70	1.27	170	6.73	0.916	13.22
12:20	2,000	15.05	0.53	208	6.72	0.888	13.22
12:23	2,750	15.00	0.37	109	6.73	0.886	13.22
12:26	3,500	14.56	0.32	50.9	6.74	0.887	13.22
12:29	4,250	14.36	0.27	24.7	6.75	0.885	13.22
12:32	5,000	14.32	0.26	12.1	6.77	0.887	13.22
12:35	5,750	14.34	0.23	9.2	6.77	0.888	13.22
12:38	6,500	14.26	0.22	2.7	6.78	0.893	13.22

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)
12:38	6,500	14.26	0.22	2.7	6.78	0.89	13.22
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	Light Yellow	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Matt P. Cole
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/10/2023, 12:00

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Matthew P. Cole (79644)
Monitoring Well Identification - Sample Number: MW8	Date: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, 57°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	11:25	Pump Start Time	11:27
Static Water Level (+/- 0.01 feet)*	13.41	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	Not Measured	Time to Purge Well (hours:minutes)	0:25
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)	6,500		

*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)
11:31	1,250	14.59	8.77	32.2	6.86	1.05	13.43
11:34	2,000	14.68	2.27	23.5	6.80	1.03	13.46
11:37	2,750	13.97	0.87	19.1	6.67	1.08	13.45
11:40	3,500	13.65	0.51	7.9	6.63	1.09	13.48
11:43	4,250	13.60	0.45	0.0	6.61	1.09	13.45
11:46	5,000	13.72	0.41	0.0	6.60	1.09	13.49
11:49	5,750	13.73	0.38	0.0	6.59	1.09	13.45
11:52	6,500	13.73	0.38	0.0	6.59	1.09	13.46

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)
11:52	6,500	13.73	0.38	0.0	6.59	1.09	13.46
Duplicate?	No	Preservation?	Cool on Ice, HNO ₃ for Metals		Pump Rate (mL/minute)		250

Sample Physical Characteristics

Equipment Information

Sample Clarity	Light 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	Matt P. Cole
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/10/2023, 12:00

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

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: MW9 - 10	Date: 4/11/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 72°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	12:27	Pump Start Time	12:29
Static Water Level (+/- 0.01 feet)*	14.23	Purge Rate (mL/minute)	200
Bottom of Well Casing (+/- 0.01 feet)*	22.40	Time to Purge Well (hours:minutes)	0:38
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)	5.04		
Actual Volume of Water Purged (mL)	7,600		

*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)
12:34	1,000	17.70	3.33	575	7.36	1.09	14.23
12:37	1,600	16.05	1.84	253	7.25	1.11	14.23
12:40	2,200	15.69	0.99	149	7.20	1.12	14.23
12:43	2,800	15.02	0.70	213	7.20	1.14	14.23
12:46	3,400	15.10	0.51	74.7	7.20	1.15	14.23
12:49	4,000	15.03	0.47	57.9	7.17	1.14	14.23
12:52	4,600	14.85	0.42	137	7.10	1.15	14.23
12:55	5,200	14.72	0.27	89.2	6.95	1.15	14.23
12:58	5,800	14.82	0.23	64.1	6.84	1.15	14.23
13:01	6,400	14.60	0.22	34.3	7.05	1.16	14.23
13:04	7,000	14.51	0.20	28.9	7.05	1.16	14.23
13:07	7,600	14.44	0.18	22.7	7.05	1.16	14.23

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)
13:07	7,600	14.44	0.18	22.7	7.05	1.16	14.23
Duplicate?	Yes, DUP1	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	4/11/2023, 11:03

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Matthew P. Cole (79644)
Monitoring Well Identification - Sample Number: MW11 - 4	Date: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, 65°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	13:00	Pump Start Time	13:04
Static Water Level (+/- 0.01 feet)*	12.15	Purge Rate (mL/minute)	130-280
Bottom of Well Casing (+/- 0.01 feet)*	21.85	Time to Purge Well (hours:minutes)	0:38
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)	5.99		
Actual Volume of Water Purged (mL)	6,590		

*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)
13:09	1,400	14.66	3.54	185	6.78	0.401	14.35
13:12	2,240	14.64	3.12	131.0	6.76	0.402	14.45
13:15	3,080	15.24	2.76	104	6.74	0.405	13.97
13:18	3,470	15.92	2.53	96.8	6.72	0.414	13.73
13:21	3,860	15.90	2.50	84.5	6.71	0.414	13.71
13:24	4,250	15.99	2.36	68.6	6.71	0.418	13.59
13:27	4,640	15.75	2.21	69.1	6.71	0.418	13.55
13:30	5,030	15.74	2.21	68.4	6.71	0.418	13.52
13:33	5,420	15.97	2.02	65.4	6.71	0.418	13.55
13:36	5,810	16.11	2.00	64.4	6.70	0.419	13.54
13:39	6,200	16.06	1.98	61.5	6.70	0.418	13.53
13:42	6,590	15.88	1.82	64.9	6.70	0.419	13.54

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)
13:42	6,590	15.88	1.82	64.9	6.70	0.419	13.54
Duplicate?	No	Preservation?	Cool on Ice, HNO ₃ for Metals		Pump Rate (mL/minute)		130

Sample Physical Characteristics

Equipment Information

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Yellow	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Matt P. Cole
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/10/2023, 12:00

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: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 56°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	8:42	Pump Start Time	8:48
Static Water Level (+/- 0.01 feet)*	10.14	Purge Rate (mL/minute)	150
Bottom of Well Casing (+/- 0.01 feet)*	15.19	Time to Purge Well (hours:minutes)	0:14
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)	3.12		
Actual Volume of Water Purged (mL)	2,100		

*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)
8:53	750	12.64	8.02	25.4	6.99	0.834	Top of Pump
8:56	1,200	12.23	8.03	19.9	6.99	0.838	Top of Pump
8:59	1,650	11.92	8.17	17.5	6.97	0.839	Top of Pump
9:02	2,100	11.69	8.23	15.7	6.95	0.840	Top of Pump

Well Evacuated to Dryness? Yes

Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
9:02	2,100	11.69	8.23	15.7	6.95	0.840	Top of Pump
Duplicate?	No	Preservation?	Cool on Ice, HNO ₃ for Metals	Pump Rate (mL/minute)		150	

Sample Physical Characteristics

Equipment Information

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/10/2023, 8:44

Notes / Unusual Occurrences: Well went dry during sample collection. Collected radium samples later.

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481), Cathy King
Monitoring Well Identification - Sample Number: MW14 - 3	Date: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Sunny, 65°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	11:07	Pump Start Time	11:10
Static Water Level (+/- 0.01 feet)*	13.94	Purge Rate (mL/minute)	100-150
Bottom of Well Casing (+/- 0.01 feet)*	Not Measured	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)	Not Measured		
Actual Volume of Water Purged (mL)	1,950		

*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)
11:15	750	13.36	2.48	87.6	7.35	1.23	14.40
11:18	1,050	13.24	1.04	95.5	7.17	1.22	14.53
11:21	1,350	13.67	0.75	95.6	7.13	1.22	14.58
11:24	1,650	13.81	0.71	94.8	7.11	1.21	14.63
11:27	1,950	13.85	0.68	95.7	7.12	1.22	14.67

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)
11:27	1,950	13.85	0.68	95.7	7.12	1.22	14.67
Duplicate?	No	Preservation?	Cool on Ice, HNO ₃ for Metals		Pump Rate (mL/minute)		100

Sample Physical Characteristics

Equipment Information

Sample Clarity	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	4/10/2023, 8:44

Notes / Unusual Occurrences: None

Equipment Calibration Sheet

Date: 4/10/2023

Time: 8:44

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	4.35	$\mu\text{S}/\text{cm}$
Turbidity	0.0	NTU
DO	11.54	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

Equipment Calibration Sheet

Date: 4/11/2023

Time: 11:03

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	4.57	$\mu\text{S}/\text{cm}$
Turbidity	0.0	NTU
DO	10.25	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	10/2/2023	Time of Sampling	14:15	Static Water Level	12.12
NC1MW3	Date of Sampling	10/2/2023	Time of Sampling	14:48	Static Water Level	12.56
NC1MW3D	Date of Sampling	10/2/2023	Time of Sampling	14:50	Static Water Level	14.20
NC1MW4	Date of Sampling	10/2/2023	Time of Sampling	14:19	Static Water Level	12.57
NC1MW4D	Date of Sampling	10/2/2023	Time of Sampling	14:20	Static Water Level	11.30
NC1MW5	Date of Sampling	10/2/2023	Time of Sampling	14:24	Static Water Level	14.27
NC1MW6	Date of Sampling	10/2/2023	Time of Sampling	14:31	Static Water Level	10.33
NC1MW6D	Date of Sampling	10/2/2023	Time of Sampling	14:33	Static Water Level	10.33
NC1MW7	Date of Sampling	10/2/2023	Time of Sampling	14:02	Static Water Level	11.51
NC1MW8	Date of Sampling	10/2/2023	Time of Sampling	14:00	Static Water Level	11.83
NC1MW9	Date of Sampling	10/2/2023	Time of Sampling	14:54	Static Water Level	12.76
NC1MW9D	Date of Sampling	10/2/2023	Time of Sampling	14:55	Static Water Level	14.17
NC2MW2	Date of Sampling	10/2/2023	Time of Sampling	13:40	Static Water Level	14.41
NC2MW3	Date of Sampling	10/2/2023	Time of Sampling	13:33	Static Water Level	11.87
NC2MW4	Date of Sampling	10/2/2023	Time of Sampling	12:51	Static Water Level	11.20
NC2MW5	Date of Sampling	10/2/2023	Time of Sampling	13:19	Static Water Level	Top of Pump
NC2MW5A	Date of Sampling	10/2/2023	Time of Sampling	13:21	Static Water Level	13.35
NC2MW6	Date of Sampling	10/2/2023	Time of Sampling	13:24	Static Water Level	11.35
NC2MW7	Date of Sampling	10/2/2023	Time of Sampling	13:44	Static Water Level	10.32
NC2MW8	Date of Sampling	10/2/2023	Time of Sampling	13:36	Static Water Level	10.04
NC2MW9	Date of Sampling	10/2/2023	Time of Sampling	13:49	Static Water Level	12.33
MW11	Date of Sampling	10/2/2023	Time of Sampling	14:06	Static Water Level	10.83
MW12	Date of Sampling	10/2/2023	Time of Sampling	14:10	Static Water Level	12.64
MW13	Date of Sampling	10/2/2023	Time of Sampling	12:45	Static Water Level	9.48
MW14	Date of Sampling	10/2/2023	Time of Sampling	12:56	Static Water Level	13.30
MW16	Date of Sampling	10/2/2023	Time of Sampling	15:07	Static Water Level	10.74

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): Megan B. Seymour (79678)
Monitoring Well Identification - Sample Number: MW2 - 5	Date: 10/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 71°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	15:45	Pump Start Time	15:52
Static Water Level (+/- 0.01 feet)*	11.90	Purge Rate (mL/minute)	150
Bottom of Well Casing (+/- 0.01 feet)*	16.40	Time to Purge Well (hours:minutes)	0:21
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)	2.78		
Actual Volume of Water Purged (mL)	3,150		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
15:55	450	19.20	3.83	41.2	6.87	0.593	11.95
15:58	900	18.54	1.77	45.5	6.91	0.554	11.95
16:01	1,350	18.40	1.02	34.2	6.91	0.525	11.95
16:04	1,800	18.44	0.80	26.5	6.91	0.519	11.95
16:07	2,250	18.25	0.62	17.4	6.90	0.514	11.95
16:10	2,700	18.22	0.62	13.1	6.89	0.514	11.95
16:13	3,150	18.14	0.61	10.8	6.88	0.512	11.95

Well Evacuated to Dryness? No

Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
16:13	3,150	18.14	0.61	10.8	6.88	0.512	11.95
Duplicate?	No	Preservation?	Cool on Ice, HNO ₃ for Metals	Pump Rate (mL/minute)	150		

Sample Physical Characteristics

Equipment Information

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Megan B. Seymour
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/10/2023, 11:37
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: 10/11/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Sunny 56°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:38	Pump Start Time	9:40
Static Water Level (+/- 0.01 feet)*	12.44	Purge Rate (mL/minute)	400
Bottom of Well Casing (+/- 0.01 feet)*	22.20	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	
2" Well Casing Volume (L)	6.03	Water Level Indicator	
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)
9:45	2,000	14.54	0.00	287	7.17	1.18	12.44
9:48	3,200	14.35	0.00	107	7.11	1.18	12.44
9:51	4,400	14.40	0.00	46.2	7.07	1.18	12.44
9:54	5,600	14.37	0.00	30.4	7.05	1.18	12.44
9:57	7,800	14.40	0.00	23.7	7.04	1.18	12.44

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)
9:57	7,800	14.40	0.00	23.7	7.04	1.18	12.44
Duplicate?	Yes, DUP1	Preservation?	Cool on Ice, HNO ₃ for Metals		Pump Rate (mL/minute)		400

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	10/11/2023, 8:06

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Megan B. Seymour (79678)
Monitoring Well Identification - Sample Number: MW4 - 6	Date: 10/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 72°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	16:28	Pump Start Time	16:36
Static Water Level (+/- 0.01 feet)*	12.58	Purge Rate (mL/minute)	150
Bottom of Well Casing (+/- 0.01 feet)*	17.70	Time to Purge Well (hours:minutes)	0:18
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)	3.16		
Actual Volume of Water Purged (mL)	2,700		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
16:39	450	18.50	2.87	34.2	7.07	1.01	12.59
16:42	900	17.68	0.62	26.1	7.05	1.01	12.60
16:45	1,350	17.62	0.43	24.6	7.05	1.01	12.60
16:48	1,800	17.47	0.38	18.7	7.05	1.01	12.60
16:51	2,250	17.40	0.39	14.9	7.05	1.00	12.60
16:54	2,700	17.39	0.36	9.6	7.05	1.00	12.60

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
16:54	2,700	17.39	0.36	9.6	7.05	1.00	12.60
Duplicate?	Yes, DUP1	Preservation?	Cool on Ice, HNO ₃ for Metals		Pump Rate (mL/minute)		150

Sample Physical Characteristics

Equipment Information

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Megan B. Seymour
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/10/2023, 11:37

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: 10/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 64°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	12:37	Pump Start Time	12:40
Static Water Level (+/- 0.01 feet)*	11.10	Purge Rate (mL/minute)	100
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	
2" Well Casing Volume (L)	2.10	Water Level Indicator	
Actual Volume of Water Purged (mL)	1,100		

*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)
12:45	500	16.66	7.88	23.8	6.11	0.751	12.27
12:48	800	16.82	7.83	21.2	6.11	0.751	13.00
12:51	1,100	16.87	7.67	24.2	6.12	0.749	13.06

Well Evacuated to Dryness? Yes

Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
12:51	1,100	16.87	7.67	24	6.12	0.749	13.06
Duplicate?	No	Preservation?	Cool on Ice, HNO ₃ for Metals		Pump Rate (mL/minute)		100

Sample Physical Characteristics

Equipment Information

Sample Clarity	Mostly Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/10/2023, 9:21

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: 10/11/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Sunny, Breezy, 60°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	10:17	Pump Start Time	10:19
Static Water Level (+/- 0.01 feet)*	12.74	Purge Rate (mL/minute)	300
Bottom of Well Casing (+/- 0.01 feet)*	22.40	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)	5.96		
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)
10:24	1,500	15.44	1.37	134	6.99	1.08	12.74
10:27	2,400	15.20	0.21	164	7.00	1.10	12.74
10:30	3,300	15.10	0.00	127	7.00	1.11	12.74
10:33	4,200	15.14	0.00	52.2	7.01	1.12	12.74
10:36	5,100	15.09	0.00	36.7	7.02	1.12	12.74
10:39	6,000	15.04	0.00	23.0	7.02	1.12	12.74

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)
10:39	6,000	15.04	0.00	23.0	7.02	1.12	12.74
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	10/11/2023, 8:06

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Megan B. Seymour (79678)
Monitoring Well Identification - Sample Number: MW11 - 4	Date: 10/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 71°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	14:42	Pump Start Time	14:45
Static Water Level (+/- 0.01 feet)*	11.80	Purge Rate (mL/minute)	200
Bottom of Well Casing (+/- 0.01 feet)*	21.85	Time to Purge Well (hours:minutes)	0:32
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	6.21		
Actual Volume of Water Purged (mL)	6,400		

*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)
14:50	1,000	18.15	9.54	309	6.77	0.376	13.44
14:53	1,600	18.28	8.47	97.1	6.74	0.371	13.85
14:56	2,200	18.15	8.03	62.2	6.72	0.371	14.03
14:59	2,800	18.23	7.52	56.6	6.71	0.372	14.05
15:02	3,400	18.24	7.21	48.2	6.71	0.374	14.05
15:05	4,000	18.10	6.81	53.0	6.73	0.378	14.05
15:08	4,600	18.14	6.52	42.8	6.74	0.382	14.05
15:11	5,200	18.06	6.15	34.0	6.77	0.388	14.05
15:14	5,800	18.02	5.81	31.4	6.78	0.389	14.05
15:17	6,400	18.08	5.74	29.7	6.78	0.389	14.05

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)
15:17	6,400	18.08	5.74	29.7	6.78	0.389	14.05
Duplicate?	No	Preservation?	Cool on Ice, HNO ₃ for Metals	Pump Rate (mL/minute)	200		

Sample Physical Characteristics

Equipment Information

Sample Clarity	Lightly Turbid	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Light Brown	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Megan B. Seymour
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/10/2023, 11:37

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Megan B. Seymour (79678)
Monitoring Well Identification - Sample Number: MW13 - 1	Date: 10/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 59°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	12:15	Pump Start Time	12:20
Static Water Level (+/- 0.01 feet)*	9.36	Purge Rate (mL/minute)	150
Bottom of Well Casing (+/- 0.01 feet)*	15.19	Time to Purge Well (hours:minutes)	0:29
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	
2" Well Casing Volume (L)	3.60	Water Level Indicator	
Actual Volume of Water Purged (mL)	4,050		

*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)
12:25	450	17.80	7.63	132	6.63	1.05	9.61
12:28	900	17.49	6.68	74.6	6.65	1.04	9.57
12:31	1,350	17.49	6.65	55.6	6.65	1.03	9.57
12:34	1,800	17.30	6.01	43.8	6.65	1.03	9.57
12:37	2,250	17.30	5.82	36.6	6.65	1.02	9.57
12:40	2,700	17.23	5.78	29.1	6.65	1.02	9.57
12:43	3,150	17.33	4.95	24.5	6.66	1.01	9.57
12:46	3,600	17.35	4.77	24.2	6.65	1.01	9.57
12:49	4,050	17.25	4.56	24.8	6.65	1.01	9.57

Well Evacuated to Dryness? Yes

Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
12:49	4,050	17.25	4.56	24.8	6.65	1.01	9.57
Duplicate?	No	Preservation?	Cool on Ice, HNO ₃ for Metals	Pump Rate (mL/minute)		150	

Sample Physical Characteristics

Equipment Information

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Megan B. Seymour
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/10/2023, 11:37
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Megan B. Seymour (79678)
Monitoring Well Identification - Sample Number: MW14 - 3	Date: 10/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 65°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	13:20	Pump Start Time	13:34
Static Water Level (+/- 0.01 feet)*	13.18	Purge Rate (mL/minute)	100-150
Bottom of Well Casing (+/- 0.01 feet)*	Not Measured	Time to Purge Well (hours:minutes)	0:30
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)	3,600		

*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)
13:37	450	16.70	0.88	45.9	6.70	1.19	14.20
13:40	900	16.44	0.49	31.0	6.71	1.19	14.23
13:43	1,350	16.20	0.35	22.6	6.72	1.20	14.40
13:46	1,800	16.44	0.36	44.6	6.72	1.20	14.60
13:49	2,100	16.30	0.49	44.1	6.72	1.20	14.82
13:52	2,400	16.29	0.52	36.7	6.71	1.20	14.88
13:55	2,700	16.61	0.53	30.4	6.71	1.20	14.96
13:58	3,000	16.48	0.46	21.2	6.71	1.20	15.06
14:01	3,300	16.47	0.40	18.7	6.71	1.21	15.14
14:04	3,600	16.31	0.37	18.2	6.71	1.21	15.22

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)
14:04	3,600	16.31	0.37	18.2	6.71	1.21	15.22
Duplicate?	No	Preservation?	Cool on Ice, HNO ₃ for Metals	Pump Rate (mL/minute)	100		

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	Megan B. Seymour
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/10/2023, 11:37

Notes / Unusual Occurrences: None

Equipment Calibration Sheet

Date: 10/10/2023

Time: 9:21

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	4.41	$\mu\text{S}/\text{cm}$
Turbidity	0.1	NTU
DO	9.97	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

Equipment Calibration Sheet

Date: 10/10/2023

Time: 11:37

Person Calibrating Instrument: Megan B. Seymour

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

Parameter:	Reading	Units
pH 4	4.01	NA
Conductivity	4.68	$\mu\text{S}/\text{cm}$
Turbidity	0.0	NTU
DO	9.18	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

Equipment Calibration Sheet

Date: 10/11/2023

Time: 8:06

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	4.80	$\mu\text{S}/\text{cm}$
Turbidity	0.1	NTU
DO	9.64	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.



Appendix B

Analytical Laboratory Reports

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 5/17/2023 1:25:47 PM

JOB DESCRIPTION

Nebraska City Station Unit 1 CCR/Landfill

JOB NUMBER

310-253377-1



Eurofins Cedar Falls

Job Notes

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

Authorization

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Case Narrative

Job ID: 310-253377-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-253377-1

Comments

No additional comments.

Receipt

The samples were received on 4/12/2023 5:20 PM. 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 0.1° C and 2.3° C.

HPLC/IC

Method 9056A: The following samples were diluted due to the nature of the sample matrix: NC1MW4 (310-253377-3), MW11 (310-253377-5) and MW14 (310-253377-6). Elevated reporting limits (RLs) are provided.

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

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.

Job ID: 310-253377-2

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-253377-2

Comments

No additional comments.

Receipt

The samples were received on 4/12/2023 5:20 PM. 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 0.1° C and 2.3° C.

RAD

Methods 903.0, 9315: Radium-226 batch 608511

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

NC1MW2 (310-253377-1), NC1MW3 (310-253377-2), NC1MW4 (310-253377-3), NC1MW9 (310-253377-4), MW11 (310-253377-5), MW14 (310-253377-6), DUP1 (310-253377-7), (LCS 160-608511/2-A), (LCSD 160-608511/3-A) and (MB 160-608511/1-A)

Methods 904.0, 9320: Radium-228 batch 608514

The detection goal was not met for the following sample(s). Sample was prepped at a reduced volume due to the presence of matrix interferences: MW11 (310-253377-5). Analytical results are reported with the detection limit achieved.

Methods 904.0, 9320: Radium-228 batch 608514

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

NC1MW2 (310-253377-1), NC1MW3 (310-253377-2), NC1MW4 (310-253377-3), NC1MW9 (310-253377-4), MW11 (310-253377-5), MW14 (310-253377-6), DUP1 (310-253377-7), (LCS 160-608514/2-A), (LCSD 160-608514/3-A) and (MB 160-608514/1-A)

Case Narrative

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

Job ID: 310-253377-1

Job ID: 310-253377-2 (Continued)

Laboratory: Eurofins Cedar Falls (Continued)

Methods 904.0, 9320:

Method PrecSep_0: Radium-228 Prep Batch 160-608514

The following samples were prepared at a reduced aliquot due to Matrix: NC1MW4 (310-253377-3), MW11 (310-253377-5) and MW14 (310-253377-6). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep_0: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 160-608514 and 160-608514.

Method PrecSep-21: Radium-226 Prep Batch 160-608511

The following samples were prepared at a reduced aliquot due to Matrix: NC1MW4 (310-253377-3), MW11 (310-253377-5) and MW14 (310-253377-6). 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 160-608511

Insufficient sample volume was available to perform a sample duplicate for the following samples: NC1MW2 (310-253377-1), NC1MW3 (310-253377-2), NC1MW9 (310-253377-4) and DUP1 (310-253377-7). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead 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/Landfill

Job ID: 310-253377-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-253377-1	NC1MW2	Water	04/10/23 14:35	04/12/23 17:20
310-253377-2	NC1MW3	Water	04/10/23 16:03	04/12/23 17:20
310-253377-3	NC1MW4	Water	04/10/23 15:20	04/12/23 17:20
310-253377-4	NC1MW9	Water	04/11/23 13:07	04/12/23 17:20
310-253377-5	MW11	Water	04/10/23 13:42	04/12/23 17:20
310-253377-6	MW14	Water	04/10/23 11:27	04/12/23 17:20
310-253377-7	DUP1	Water	04/11/23 00:00	04/12/23 17:20

Detection Summary

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

Job ID: 310-253377-1

Client Sample ID: NC1MW2

Lab Sample ID: 310-253377-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	6.96		5.00	2.25	mg/L	5	9056A		Total/NA	Total/NA
Fluoride	0.399	J	1.00	0.375	mg/L	5	9056A		Total/NA	Total/NA
Sulfate	99.8		5.00	2.10	mg/L	5	9056A		Total/NA	Total/NA
Arsenic	0.000757	J	0.00200	0.000530	mg/L	1	6020B		Total/NA	Total/NA
Barium	0.140		0.00200	0.000640	mg/L	1	6020B		Total/NA	Total/NA
Boron	0.680		0.100	0.0760	mg/L	1	6020B		Total/NA	Total/NA
Cadmium	0.000168	J	0.000200	0.000100	mg/L	1	6020B		Total/NA	Total/NA
Calcium	100		0.500	0.190	mg/L	1	6020B		Total/NA	Total/NA
Cobalt	0.000241	J	0.000500	0.000170	mg/L	1	6020B		Total/NA	Total/NA
Lithium	0.0148		0.0100	0.00250	mg/L	1	6020B		Total/NA	Total/NA
Molybdenum	0.0576		0.00200	0.000910	mg/L	1	6020B		Total/NA	Total/NA
Total Dissolved Solids	436		50.0	34.0	mg/L	1	SM 2540C		Total/NA	Total/NA

Client Sample ID: NC1MW3

Lab Sample ID: 310-253377-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	7.80		5.00	2.25	mg/L	5	9056A		Total/NA	Total/NA
Fluoride	0.390	J	1.00	0.375	mg/L	5	9056A		Total/NA	Total/NA
Sulfate	292		5.00	2.10	mg/L	5	9056A		Total/NA	Total/NA
Arsenic	0.140		0.00200	0.000530	mg/L	1	6020B		Total/NA	Total/NA
Barium	0.173		0.00200	0.000640	mg/L	1	6020B		Total/NA	Total/NA
Boron	2.63		0.100	0.0760	mg/L	1	6020B		Total/NA	Total/NA
Calcium	185		0.500	0.190	mg/L	1	6020B		Total/NA	Total/NA
Cobalt	0.00464		0.000500	0.000170	mg/L	1	6020B		Total/NA	Total/NA
Lead	0.000319	J	0.000500	0.000240	mg/L	1	6020B		Total/NA	Total/NA
Lithium	0.0457		0.0100	0.00250	mg/L	1	6020B		Total/NA	Total/NA
Molybdenum	0.00255		0.00200	0.000910	mg/L	1	6020B		Total/NA	Total/NA
Total Dissolved Solids	906		50.0	34.0	mg/L	1	SM 2540C		Total/NA	Total/NA

Client Sample ID: NC1MW4

Lab Sample ID: 310-253377-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	4.91	J	5.00	2.25	mg/L	5	9056A		Total/NA	Total/NA
Sulfate	206		5.00	2.10	mg/L	5	9056A		Total/NA	Total/NA
Arsenic	0.00187	J	0.00200	0.000530	mg/L	1	6020B		Total/NA	Total/NA
Barium	0.146		0.00200	0.000640	mg/L	1	6020B		Total/NA	Total/NA
Boron	2.33		0.100	0.0760	mg/L	1	6020B		Total/NA	Total/NA
Cadmium	0.000211		0.000200	0.000100	mg/L	1	6020B		Total/NA	Total/NA
Calcium	145		0.500	0.190	mg/L	1	6020B		Total/NA	Total/NA
Cobalt	0.00471		0.000500	0.000170	mg/L	1	6020B		Total/NA	Total/NA
Lithium	0.0242		0.0100	0.00250	mg/L	1	6020B		Total/NA	Total/NA
Molybdenum	0.0150		0.00200	0.000910	mg/L	1	6020B		Total/NA	Total/NA
Selenium	0.00584		0.00500	0.00140	mg/L	1	6020B		Total/NA	Total/NA
Total Dissolved Solids	660		50.0	34.0	mg/L	1	SM 2540C		Total/NA	Total/NA

Client Sample ID: NC1MW5

Lab Sample ID: 310-253377-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	6.55		5.00	2.25	mg/L	5	9056A		Total/NA	Total/NA
Fluoride	0.444	J	1.00	0.375	mg/L	5	9056A		Total/NA	Total/NA
Sulfate	132		5.00	2.10	mg/L	5	9056A		Total/NA	Total/NA
Arsenic	0.0157		0.00200	0.000530	mg/L	1	6020B		Total/NA	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

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

Job ID: 310-253377-1

Client Sample ID: NC1MW9 (Continued)

Lab Sample ID: 310-253377-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Barium	0.119		0.00200	0.000640	mg/L	1	6020B		Total/NA	Total/NA
Boron	0.699		0.100	0.0760	mg/L	1	6020B		Total/NA	Total/NA
Calcium	149		0.500	0.190	mg/L	1	6020B		Total/NA	Total/NA
Cobalt	0.00111		0.000500	0.000170	mg/L	1	6020B		Total/NA	Total/NA
Lithium	0.0333		0.0100	0.00250	mg/L	1	6020B		Total/NA	Total/NA
Molybdenum	0.0156		0.00200	0.000910	mg/L	1	6020B		Total/NA	Total/NA
Selenium	0.00174	J	0.00500	0.00140	mg/L	1	6020B		Total/NA	Total/NA
Total Dissolved Solids	726		50.0	34.0	mg/L	1	SM 2540C		Total/NA	Total/NA

Client Sample ID: MW11

Lab Sample ID: 310-253377-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	6.24		5.00	2.25	mg/L	5	9056A		Total/NA	Total/NA
Sulfate	11.0		5.00	2.10	mg/L	5	9056A		Total/NA	Total/NA
Arsenic	0.0142		0.00200	0.000530	mg/L	1	6020B		Total/NA	Total/NA
Barium	0.171		0.00200	0.000640	mg/L	1	6020B		Total/NA	Total/NA
Boron	0.214		0.100	0.0760	mg/L	1	6020B		Total/NA	Total/NA
Calcium	58.9		0.500	0.190	mg/L	1	6020B		Total/NA	Total/NA
Cobalt	0.000839		0.000500	0.000170	mg/L	1	6020B		Total/NA	Total/NA
Lead	0.000896		0.000500	0.000240	mg/L	1	6020B		Total/NA	Total/NA
Lithium	0.00261	J	0.0100	0.00250	mg/L	1	6020B		Total/NA	Total/NA
Molybdenum	0.00794		0.00200	0.000910	mg/L	1	6020B		Total/NA	Total/NA
Total Dissolved Solids	278		50.0	34.0	mg/L	1	SM 2540C		Total/NA	Total/NA

Client Sample ID: MW14

Lab Sample ID: 310-253377-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	7.72		5.00	2.25	mg/L	5	9056A		Total/NA	Total/NA
Arsenic	0.0646		0.00200	0.000530	mg/L	1	6020B		Total/NA	Total/NA
Barium	0.288		0.00200	0.000640	mg/L	1	6020B		Total/NA	Total/NA
Boron	0.236		0.100	0.0760	mg/L	1	6020B		Total/NA	Total/NA
Calcium	146		0.500	0.190	mg/L	1	6020B		Total/NA	Total/NA
Cobalt	0.000292	J	0.000500	0.000170	mg/L	1	6020B		Total/NA	Total/NA
Lithium	0.0520		0.0100	0.00250	mg/L	1	6020B		Total/NA	Total/NA
Total Dissolved Solids	690		50.0	34.0	mg/L	1	SM 2540C		Total/NA	Total/NA

Client Sample ID: DUP1

Lab Sample ID: 310-253377-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	6.50		5.00	2.25	mg/L	5	9056A		Total/NA	Total/NA
Fluoride	0.450	J	1.00	0.375	mg/L	5	9056A		Total/NA	Total/NA
Sulfate	132		5.00	2.10	mg/L	5	9056A		Total/NA	Total/NA
Arsenic	0.0166		0.00200	0.000530	mg/L	1	6020B		Total/NA	Total/NA
Barium	0.122		0.00200	0.000640	mg/L	1	6020B		Total/NA	Total/NA
Boron	0.701		0.100	0.0760	mg/L	1	6020B		Total/NA	Total/NA
Calcium	151		0.500	0.190	mg/L	1	6020B		Total/NA	Total/NA
Cobalt	0.00112		0.000500	0.000170	mg/L	1	6020B		Total/NA	Total/NA
Lithium	0.0344		0.0100	0.00250	mg/L	1	6020B		Total/NA	Total/NA
Molybdenum	0.0161		0.00200	0.000910	mg/L	1	6020B		Total/NA	Total/NA
Selenium	0.00172	J	0.00500	0.00140	mg/L	1	6020B		Total/NA	Total/NA
Total Dissolved Solids	738		50.0	34.0	mg/L	1	SM 2540C		Total/NA	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-253377-1

Client Sample ID: NC1MW2

Lab Sample ID: 310-253377-1

Date Collected: 04/10/23 14:35

Matrix: Water

Date Received: 04/12/23 17:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.96		5.00	2.25	mg/L			04/20/23 12:41	5
Fluoride	0.399	J	1.00	0.375	mg/L			04/20/23 12:41	5
Sulfate	99.8		5.00	2.10	mg/L			04/20/23 12:41	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		04/14/23 08:45	04/21/23 23:37	1
Arsenic	0.000757	J	0.00200	0.000530	mg/L		04/14/23 08:45	04/21/23 23:37	1
Barium	0.140		0.00200	0.000640	mg/L		04/14/23 08:45	04/21/23 23:37	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		04/14/23 08:45	04/21/23 23:37	1
Boron	0.680		0.100	0.0760	mg/L		04/14/23 08:45	04/21/23 23:37	1
Cadmium	0.000168	J	0.000200	0.000100	mg/L		04/14/23 08:45	04/21/23 23:37	1
Calcium	100		0.500	0.190	mg/L		04/14/23 08:45	04/21/23 23:37	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/14/23 08:45	04/21/23 23:37	1
Cobalt	0.000241	J	0.000500	0.000170	mg/L		04/14/23 08:45	04/21/23 23:37	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/14/23 08:45	04/21/23 23:37	1
Lithium	0.0148		0.0100	0.00250	mg/L		04/14/23 08:45	04/21/23 23:37	1
Molybdenum	0.0576		0.00200	0.000910	mg/L		04/14/23 08:45	04/21/23 23:37	1
Selenium	<0.00140		0.00500	0.00140	mg/L		04/14/23 08:45	04/21/23 23:37	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/21/23 23:37	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:16	04/18/23 13:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	436		50.0	34.0	mg/L			04/13/23 08:46	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0629	U	0.102	0.102	1.00	0.178	pCi/L	04/24/23 11:07	05/16/23 19:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.7		30 - 110					04/24/23 11:07	05/16/23 19:52	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.309	U	0.338	0.339	1.00	0.552	pCi/L	04/24/23 11:36	05/14/23 00:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.7		30 - 110					04/24/23 11:36	05/14/23 00:00	1
Y Carrier	87.9		30 - 110					04/24/23 11:36	05/14/23 00:00	1

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-253377-1

Client Sample ID: NC1MW2

Lab Sample ID: 310-253377-1

Date Collected: 04/10/23 14:35

Matrix: Water

Date Received: 04/12/23 17:20

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.371	U	0.353	0.354	5.00	0.552	pCi/L		05/17/23 10:43	1

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-253377-1

Client Sample ID: NC1MW3

Lab Sample ID: 310-253377-2

Date Collected: 04/10/23 16:03

Matrix: Water

Date Received: 04/12/23 17:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.80		5.00	2.25	mg/L		04/20/23 13:27	04/20/23 13:27	5
Fluoride	0.390	J	1.00	0.375	mg/L		04/20/23 13:27	04/20/23 13:27	5
Sulfate	292		5.00	2.10	mg/L		04/20/23 13:27	04/20/23 13:27	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		04/14/23 08:45	04/21/23 23:39	1
Arsenic	0.140		0.00200	0.000530	mg/L		04/14/23 08:45	04/21/23 23:39	1
Barium	0.173		0.00200	0.000640	mg/L		04/14/23 08:45	04/21/23 23:39	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		04/14/23 08:45	04/21/23 23:39	1
Boron	2.63		0.100	0.0760	mg/L		04/14/23 08:45	04/21/23 23:39	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		04/14/23 08:45	04/21/23 23:39	1
Calcium	185		0.500	0.190	mg/L		04/14/23 08:45	04/21/23 23:39	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/14/23 08:45	04/21/23 23:39	1
Cobalt	0.00464		0.000500	0.000170	mg/L		04/14/23 08:45	04/21/23 23:39	1
Lead	0.000319	J	0.000500	0.000240	mg/L		04/14/23 08:45	04/21/23 23:39	1
Lithium	0.0457		0.0100	0.00250	mg/L		04/14/23 08:45	04/21/23 23:39	1
Molybdenum	0.00255		0.00200	0.000910	mg/L		04/14/23 08:45	04/21/23 23:39	1
Selenium	<0.00140		0.00500	0.00140	mg/L		04/14/23 08:45	04/21/23 23:39	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/21/23 23:39	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:16	04/18/23 13:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	906		50.0	34.0	mg/L		04/13/23 08:46	04/13/23 08:46	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.315		0.161	0.163	1.00	0.191	pCi/L	04/24/23 11:07	05/16/23 19:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.2		30 - 110					04/24/23 11:07	05/16/23 19:52	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.636		0.391	0.395	1.00	0.573	pCi/L	04/24/23 11:36	05/14/23 00:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.2		30 - 110					04/24/23 11:36	05/14/23 00:00	1
Y Carrier	86.4		30 - 110					04/24/23 11:36	05/14/23 00:00	1

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-253377-1

Client Sample ID: NC1MW3

Lab Sample ID: 310-253377-2

Date Collected: 04/10/23 16:03

Matrix: Water

Date Received: 04/12/23 17:20

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.950		0.423	0.427	5.00	0.573	pCi/L		05/17/23 10:43	1

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-253377-1

Client Sample ID: NC1MW4

Lab Sample ID: 310-253377-3

Date Collected: 04/10/23 15:20

Matrix: Water

Date Received: 04/12/23 17:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.91	J	5.00	2.25	mg/L			04/20/23 13:43	5
Fluoride	<0.375		1.00	0.375	mg/L			04/20/23 13:43	5
Sulfate	206		5.00	2.10	mg/L			04/20/23 13:43	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		04/14/23 08:45	04/21/23 23:42	1
Arsenic	0.00187	J	0.00200	0.000530	mg/L		04/14/23 08:45	04/21/23 23:42	1
Barium	0.146		0.00200	0.000640	mg/L		04/14/23 08:45	04/21/23 23:42	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		04/14/23 08:45	04/21/23 23:42	1
Boron	2.33		0.100	0.0760	mg/L		04/14/23 08:45	04/21/23 23:42	1
Cadmium	0.000211		0.000200	0.000100	mg/L		04/14/23 08:45	04/21/23 23:42	1
Calcium	145		0.500	0.190	mg/L		04/14/23 08:45	04/21/23 23:42	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/14/23 08:45	04/21/23 23:42	1
Cobalt	0.00471		0.000500	0.000170	mg/L		04/14/23 08:45	04/21/23 23:42	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/14/23 08:45	04/21/23 23:42	1
Lithium	0.0242		0.0100	0.00250	mg/L		04/14/23 08:45	04/21/23 23:42	1
Molybdenum	0.0150		0.00200	0.000910	mg/L		04/14/23 08:45	04/21/23 23:42	1
Selenium	0.00584		0.00500	0.00140	mg/L		04/14/23 08:45	04/21/23 23:42	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/21/23 23:42	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:16	04/18/23 13:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	660		50.0	34.0	mg/L			04/13/23 08:46	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.337	U	0.242	0.243	1.00	0.351	pCi/L	04/24/23 11:07	05/16/23 19:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	73.7		30 - 110					04/24/23 11:07	05/16/23 19:52	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.12		0.529	0.539	1.00	0.714	pCi/L	04/24/23 11:36	05/14/23 00:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	73.7		30 - 110					04/24/23 11:36	05/14/23 00:00	1
Y Carrier	89.0		30 - 110					04/24/23 11:36	05/14/23 00:00	1

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-253377-1

Client Sample ID: NC1MW4

Lab Sample ID: 310-253377-3

Date Collected: 04/10/23 15:20

Matrix: Water

Date Received: 04/12/23 17:20

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.45		0.582	0.591	5.00	0.714	pCi/L		05/17/23 10:43	1

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Client Sample Results

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

Job ID: 310-253377-1

Client Sample ID: NC1MW9

Lab Sample ID: 310-253377-4

Date Collected: 04/11/23 13:07

Matrix: Water

Date Received: 04/12/23 17:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.55		5.00	2.25	mg/L			04/20/23 13:59	5
Fluoride	0.444	J	1.00	0.375	mg/L			04/20/23 13:59	5
Sulfate	132		5.00	2.10	mg/L			04/20/23 13:59	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		04/14/23 08:45	04/21/23 23:45	1
Arsenic	0.0157		0.00200	0.000530	mg/L		04/14/23 08:45	04/21/23 23:45	1
Barium	0.119		0.00200	0.000640	mg/L		04/14/23 08:45	04/21/23 23:45	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		04/14/23 08:45	04/21/23 23:45	1
Boron	0.699		0.100	0.0760	mg/L		04/14/23 08:45	04/21/23 23:45	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		04/14/23 08:45	04/21/23 23:45	1
Calcium	149		0.500	0.190	mg/L		04/14/23 08:45	04/21/23 23:45	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/14/23 08:45	04/21/23 23:45	1
Cobalt	0.00111		0.000500	0.000170	mg/L		04/14/23 08:45	04/21/23 23:45	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/14/23 08:45	04/21/23 23:45	1
Lithium	0.0333		0.0100	0.00250	mg/L		04/14/23 08:45	04/21/23 23:45	1
Molybdenum	0.0156		0.00200	0.000910	mg/L		04/14/23 08:45	04/21/23 23:45	1
Selenium	0.00174	J	0.00500	0.00140	mg/L		04/14/23 08:45	04/21/23 23:45	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/21/23 23:45	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:16	04/18/23 13:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	726		50.0	34.0	mg/L			04/13/23 08:46	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.116	U	0.123	0.123	1.00	0.194	pCi/L	04/24/23 11:07	05/16/23 19:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	73.0		30 - 110					04/24/23 11:07	05/16/23 19:52	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.633		0.387	0.391	1.00	0.563	pCi/L	04/24/23 11:36	05/14/23 00:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	73.0		30 - 110					04/24/23 11:36	05/14/23 00:01	1
Y Carrier	86.0		30 - 110					04/24/23 11:36	05/14/23 00:01	1

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-253377-1

Client Sample ID: NC1MW9

Lab Sample ID: 310-253377-4

Date Collected: 04/11/23 13:07

Matrix: Water

Date Received: 04/12/23 17:20

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.750		0.406	0.410	5.00	0.563	pCi/L		05/17/23 10:43	1

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-253377-1

Client Sample ID: MW11
Date Collected: 04/10/23 13:42
Date Received: 04/12/23 17:20

Lab Sample ID: 310-253377-5
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.24		5.00	2.25	mg/L			04/20/23 14:14	5
Fluoride	<0.375		1.00	0.375	mg/L			04/20/23 14:14	5
Sulfate	11.0		5.00	2.10	mg/L			04/20/23 14:14	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		04/14/23 08:45	04/21/23 23:48	1
Arsenic	0.0142		0.00200	0.000530	mg/L		04/14/23 08:45	04/21/23 23:48	1
Barium	0.171		0.00200	0.000640	mg/L		04/14/23 08:45	04/21/23 23:48	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		04/14/23 08:45	04/21/23 23:48	1
Boron	0.214		0.100	0.0760	mg/L		04/14/23 08:45	04/21/23 23:48	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		04/14/23 08:45	04/21/23 23:48	1
Calcium	58.9		0.500	0.190	mg/L		04/14/23 08:45	04/21/23 23:48	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/14/23 08:45	04/21/23 23:48	1
Cobalt	0.000839		0.000500	0.000170	mg/L		04/14/23 08:45	04/21/23 23:48	1
Lead	0.000896		0.000500	0.000240	mg/L		04/14/23 08:45	04/21/23 23:48	1
Lithium	0.00261 J		0.0100	0.00250	mg/L		04/14/23 08:45	04/21/23 23:48	1
Molybdenum	0.00794		0.00200	0.000910	mg/L		04/14/23 08:45	04/21/23 23:48	1
Selenium	<0.00140		0.00500	0.00140	mg/L		04/14/23 08:45	04/21/23 23:48	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/21/23 23:48	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:16	04/18/23 13:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	278		50.0	34.0	mg/L			04/13/23 08:46	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.171	U	0.217	0.217	1.00	0.359	pCi/L	04/24/23 11:07	05/16/23 19:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	50.6		30 - 110					04/24/23 11:07	05/16/23 19:52	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0711	U G	0.563	0.563	1.00	1.09	pCi/L	04/24/23 11:36	05/14/23 00:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	50.6		30 - 110					04/24/23 11:36	05/14/23 00:01	1
Y Carrier	83.0		30 - 110					04/24/23 11:36	05/14/23 00:01	1

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-253377-1

Client Sample ID: MW11
Date Collected: 04/10/23 13:42
Date Received: 04/12/23 17:20

Lab Sample ID: 310-253377-5
Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.100	U	0.603	0.603	5.00	1.09	pCi/L		05/17/23 10:43	1

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-253377-1

Client Sample ID: MW14
Date Collected: 04/10/23 11:27
Date Received: 04/12/23 17:20

Lab Sample ID: 310-253377-6
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.72		5.00	2.25	mg/L			04/20/23 14:30	5
Fluoride	<0.375		1.00	0.375	mg/L			04/20/23 14:30	5
Sulfate	<2.10		5.00	2.10	mg/L			04/20/23 14:30	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		04/14/23 08:45	04/21/23 23:51	1
Arsenic	0.0646		0.00200	0.000530	mg/L		04/14/23 08:45	04/21/23 23:51	1
Barium	0.288		0.00200	0.000640	mg/L		04/14/23 08:45	04/21/23 23:51	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		04/14/23 08:45	04/21/23 23:51	1
Boron	0.236		0.100	0.0760	mg/L		04/14/23 08:45	04/21/23 23:51	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		04/14/23 08:45	04/21/23 23:51	1
Calcium	146		0.500	0.190	mg/L		04/14/23 08:45	04/21/23 23:51	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/14/23 08:45	04/21/23 23:51	1
Cobalt	0.000292 J		0.000500	0.000170	mg/L		04/14/23 08:45	04/21/23 23:51	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/14/23 08:45	04/21/23 23:51	1
Lithium	0.0520		0.0100	0.00250	mg/L		04/14/23 08:45	04/21/23 23:51	1
Molybdenum	<0.000910		0.00200	0.000910	mg/L		04/14/23 08:45	04/21/23 23:51	1
Selenium	<0.00140		0.00500	0.00140	mg/L		04/14/23 08:45	04/21/23 23:51	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/21/23 23:51	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:16	04/18/23 13:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	690		50.0	34.0	mg/L			04/13/23 08:46	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.418		0.219	0.223	1.00	0.277	pCi/L	04/24/23 11:07	05/16/23 19:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.4		30 - 110					04/24/23 11:07	05/16/23 19:52	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.43		0.545	0.561	1.00	0.680	pCi/L	04/24/23 11:36	05/14/23 00:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.4		30 - 110					04/24/23 11:36	05/14/23 00:01	1
Y Carrier	87.5		30 - 110					04/24/23 11:36	05/14/23 00:01	1

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Client Sample Results

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

Job ID: 310-253377-1

Client Sample ID: MW14
Date Collected: 04/10/23 11:27
Date Received: 04/12/23 17:20

Lab Sample ID: 310-253377-6
Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.85		0.587	0.604	5.00	0.680	pCi/L		05/17/23 10:43	1

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Client Sample Results

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

Job ID: 310-253377-1

Client Sample ID: DUP1

Lab Sample ID: 310-253377-7

Date Collected: 04/11/23 00:00

Matrix: Water

Date Received: 04/12/23 17:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.50		5.00	2.25	mg/L			04/20/23 14:45	5
Fluoride	0.450	J	1.00	0.375	mg/L			04/20/23 14:45	5
Sulfate	132		5.00	2.10	mg/L			04/20/23 14:45	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		04/14/23 08:45	04/21/23 23:54	1
Arsenic	0.0166		0.00200	0.000530	mg/L		04/14/23 08:45	04/21/23 23:54	1
Barium	0.122		0.00200	0.000640	mg/L		04/14/23 08:45	04/21/23 23:54	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		04/14/23 08:45	04/21/23 23:54	1
Boron	0.701		0.100	0.0760	mg/L		04/14/23 08:45	04/21/23 23:54	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		04/14/23 08:45	04/21/23 23:54	1
Calcium	151		0.500	0.190	mg/L		04/14/23 08:45	04/21/23 23:54	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/14/23 08:45	04/21/23 23:54	1
Cobalt	0.00112		0.000500	0.000170	mg/L		04/14/23 08:45	04/21/23 23:54	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/14/23 08:45	04/21/23 23:54	1
Lithium	0.0344		0.0100	0.00250	mg/L		04/14/23 08:45	04/21/23 23:54	1
Molybdenum	0.0161		0.00200	0.000910	mg/L		04/14/23 08:45	04/21/23 23:54	1
Selenium	0.00172	J	0.00500	0.00140	mg/L		04/14/23 08:45	04/21/23 23:54	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/21/23 23:54	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:16	04/18/23 13:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	738		50.0	34.0	mg/L			04/13/23 08:46	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.173	U	0.170	0.171	1.00	0.270	pCi/L	04/24/23 11:07	05/16/23 19:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.7		30 - 110					04/24/23 11:07	05/16/23 19:52	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.877		0.432	0.439	1.00	0.601	pCi/L	04/24/23 11:36	05/14/23 00:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.7		30 - 110					04/24/23 11:36	05/14/23 00:03	1
Y Carrier	84.9		30 - 110					04/24/23 11:36	05/14/23 00:03	1

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Client Sample Results

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

Job ID: 310-253377-1

Client Sample ID: DUP1

Lab Sample ID: 310-253377-7

Date Collected: 04/11/23 00:00

Matrix: Water

Date Received: 04/12/23 17:20

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.05		0.464	0.471	5.00	0.601	pCi/L		05/17/23 10:43	1

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Definitions/Glossary

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

Job ID: 310-253377-1

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.

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
SQL	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

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QC Sample Results

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

Job ID: 310-253377-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-385149/3
Matrix: Water
Analysis Batch: 385149

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

Analyte	Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.450		1.00	0.450	mg/L			04/20/23 11:07	1
Fluoride	<0.0750		0.200	0.0750	mg/L			04/20/23 11:07	1
Sulfate	<0.420		1.00	0.420	mg/L			04/20/23 11:07	1

Lab Sample ID: LCS 310-385149/4
Matrix: Water
Analysis Batch: 385149

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	10.32		mg/L		103	90 - 110
Fluoride	2.00	2.181		mg/L		109	90 - 110
Sulfate	10.0	10.64		mg/L		106	90 - 110

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-384266/1-A
Matrix: Water
Analysis Batch: 385211

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 384266

Analyte	Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		04/14/23 08:45	04/21/23 22:54	1
Arsenic	<0.000530		0.00200	0.000530	mg/L		04/14/23 08:45	04/21/23 22:54	1
Barium	<0.000640		0.00200	0.000640	mg/L		04/14/23 08:45	04/21/23 22:54	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		04/14/23 08:45	04/21/23 22:54	1
Boron	<0.0760		0.100	0.0760	mg/L		04/14/23 08:45	04/21/23 22:54	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		04/14/23 08:45	04/21/23 22:54	1
Calcium	<0.190		0.500	0.190	mg/L		04/14/23 08:45	04/21/23 22:54	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/14/23 08:45	04/21/23 22:54	1
Cobalt	<0.000170		0.000500	0.000170	mg/L		04/14/23 08:45	04/21/23 22:54	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/14/23 08:45	04/21/23 22:54	1
Lithium	<0.00250		0.0100	0.00250	mg/L		04/14/23 08:45	04/21/23 22:54	1
Molybdenum	<0.000910		0.00200	0.000910	mg/L		04/14/23 08:45	04/21/23 22:54	1
Selenium	<0.00140		0.00500	0.00140	mg/L		04/14/23 08:45	04/21/23 22:54	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/21/23 22:54	1

Lab Sample ID: LCS 310-384266/2-A
Matrix: Water
Analysis Batch: 385211

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 384266

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.2357		mg/L		118	80 - 120
Arsenic	0.200	0.2019		mg/L		101	80 - 120
Barium	0.100	0.1048		mg/L		105	80 - 120
Beryllium	0.100	0.1060		mg/L		106	80 - 120
Boron	0.200	0.1923		mg/L		96	80 - 120
Cadmium	0.100	0.09915		mg/L		99	80 - 120
Calcium	2.00	2.108		mg/L		105	80 - 120
Chromium	0.100	0.09853		mg/L		99	80 - 120
Cobalt	0.100	0.1040		mg/L		104	80 - 120

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QC Sample Results

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

Job ID: 310-253377-1

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

Lab Sample ID: LCS 310-384266/2-A Client Sample ID: Lab Control Sample
Matrix: Water Prep Type: Total/NA
Analysis Batch: 385211 Prep Batch: 384266

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	0.200	0.2238		mg/L		112	80 - 120
Lithium	0.200	0.2186		mg/L		109	80 - 120
Molybdenum	0.200	0.2041		mg/L		102	80 - 120
Selenium	0.400	0.4077		mg/L		102	80 - 120
Thallium	0.200	0.1677		mg/L		84	80 - 120

Lab Sample ID: 310-253377-7 DU Client Sample ID: DUP1
Matrix: Water Prep Type: Total/NA
Analysis Batch: 385211 Prep Batch: 384266

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.00100		<0.00100		mg/L		NC	20
Arsenic	0.0166		0.01813		mg/L		9	20
Barium	0.122		0.1332		mg/L		9	20
Beryllium	<0.000330		<0.000330		mg/L		NC	20
Boron	0.701		0.7632		mg/L		8	20
Cadmium	<0.000100		<0.000100		mg/L		NC	20
Calcium	151		168.9		mg/L		11	20
Chromium	<0.00110		<0.00110		mg/L		NC	20
Cobalt	0.00112		0.001256		mg/L		12	20
Lead	<0.000240		<0.000240		mg/L		NC	20
Lithium	0.0344		0.03740		mg/L		8	20
Molybdenum	0.0161		0.01770		mg/L		9	20
Selenium	0.00172 J		0.002010 J		mg/L		15	20
Thallium	<0.000260		<0.000260		mg/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-384509/1-A Client Sample ID: Method Blank
Matrix: Water Prep Type: Total/NA
Analysis Batch: 384701 Prep Batch: 384509

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:16	04/18/23 13:06	1

Lab Sample ID: LCS 310-384509/2-A Client Sample ID: Lab Control Sample
Matrix: Water Prep Type: Total/NA
Analysis Batch: 384701 Prep Batch: 384509

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001679		mg/L		101	80 - 120

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

Lab Sample ID: MB 310-384188/1 Client Sample ID: Method Blank
Matrix: Water Prep Type: Total/NA
Analysis Batch: 384188

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<34.0		50.0	34.0	mg/L		04/13/23 08:46		1

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QC Sample Results

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

Job ID: 310-253377-1

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

Lab Sample ID: LCS 310-384188/2 Client Sample ID: Lab Control Sample
Matrix: Water Prep Type: Total/NA
Analysis Batch: 384188

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	974.0		mg/L		97	90 - 110

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-608511/1-A Client Sample ID: Method Blank
Matrix: Water Prep Type: Total/NA
Analysis Batch: 611701

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.007707	U	0.108	0.108	1.00	0.219	pCi/L	04/24/23 11:07	05/16/23 19:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.6		30 - 110					04/24/23 11:07	05/16/23 19:51	1

Lab Sample ID: LCS 160-608511/2-A Client Sample ID: Lab Control Sample
Matrix: Water Prep Type: Total/NA
Analysis Batch: 611701

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	11.13		1.29	1.00	0.242	pCi/L	98	75 - 113
Carrier	%Yield	Qualifier	Limits						
Ba Carrier	72.2		30 - 110						

Lab Sample ID: LCSD 160-608511/3-A Client Sample ID: Lab Control Sample Dup
Matrix: Water Prep Type: Total/NA
Analysis Batch: 611701

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Limits	RER	RER Limit
Radium-226	11.3	11.96		1.37	1.00	0.246	pCi/L	106	75 - 113	0.31	1
Carrier	%Yield	Qualifier	Limits								
Ba Carrier	70.3		30 - 110								

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-608514/1-A Client Sample ID: Method Blank
Matrix: Water Prep Type: Total/NA
Analysis Batch: 611458

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.07750	U	0.284	0.284	1.00	0.510	pCi/L	04/24/23 11:36	05/13/23 23:59	1

Eurofins Cedar Falls

QC Sample Results

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

Job ID: 310-253377-1

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

Lab Sample ID: MB 160-608514/1-A
Matrix: Water
Analysis Batch: 611458

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 608514

Carrier	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Yield	Qualifier				
Ba Carrier	81.6		30 - 110	04/24/23 11:36	05/13/23 23:59	1
Y Carrier	86.0		30 - 110	04/24/23 11:36	05/13/23 23:59	1

Lab Sample ID: LCS 160-608514/2-A
Matrix: Water
Analysis Batch: 611458

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 608514

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	7.96	9.279		1.31	1.00	0.566	pCi/L	117	75 - 125

Carrier	LCS	LCS	Limits
	%Yield	Qualifier	
Ba Carrier	72.2		30 - 110
Y Carrier	86.4		30 - 110

Lab Sample ID: LCSD 160-608514/3-A
Matrix: Water
Analysis Batch: 611458

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 608514

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228	7.96	8.864		1.27	1.00	0.531	pCi/L	111	75 - 125	0.16	1

Carrier	LCSD	LCSD	Limits
	%Yield	Qualifier	
Ba Carrier	70.3		30 - 110
Y Carrier	86.0		30 - 110

Eurofins Cedar Falls

QC Association Summary

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

Job ID: 310-253377-1

HPLC/IC

Analysis Batch: 385149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253377-1	NC1MW2	Total/NA	Water	9056A	
310-253377-2	NC1MW3	Total/NA	Water	9056A	
310-253377-3	NC1MW4	Total/NA	Water	9056A	
310-253377-4	NC1MW9	Total/NA	Water	9056A	
310-253377-5	MW11	Total/NA	Water	9056A	
310-253377-6	MW14	Total/NA	Water	9056A	
310-253377-7	DUP1	Total/NA	Water	9056A	
MB 310-385149/3	Method Blank	Total/NA	Water	9056A	
LCS 310-385149/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 384266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253377-1	NC1MW2	Total/NA	Water	3005A	
310-253377-2	NC1MW3	Total/NA	Water	3005A	
310-253377-3	NC1MW4	Total/NA	Water	3005A	
310-253377-4	NC1MW9	Total/NA	Water	3005A	
310-253377-5	MW11	Total/NA	Water	3005A	
310-253377-6	MW14	Total/NA	Water	3005A	
310-253377-7	DUP1	Total/NA	Water	3005A	
MB 310-384266/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-384266/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-253377-7 DU	DUP1	Total/NA	Water	3005A	

Prep Batch: 384509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253377-1	NC1MW2	Total/NA	Water	7470A	
310-253377-2	NC1MW3	Total/NA	Water	7470A	
310-253377-3	NC1MW4	Total/NA	Water	7470A	
310-253377-4	NC1MW9	Total/NA	Water	7470A	
310-253377-5	MW11	Total/NA	Water	7470A	
310-253377-6	MW14	Total/NA	Water	7470A	
310-253377-7	DUP1	Total/NA	Water	7470A	
MB 310-384509/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-384509/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 384701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253377-1	NC1MW2	Total/NA	Water	7470A	384509
310-253377-2	NC1MW3	Total/NA	Water	7470A	384509
310-253377-3	NC1MW4	Total/NA	Water	7470A	384509
310-253377-4	NC1MW9	Total/NA	Water	7470A	384509
310-253377-5	MW11	Total/NA	Water	7470A	384509
310-253377-6	MW14	Total/NA	Water	7470A	384509
310-253377-7	DUP1	Total/NA	Water	7470A	384509
MB 310-384509/1-A	Method Blank	Total/NA	Water	7470A	384509
LCS 310-384509/2-A	Lab Control Sample	Total/NA	Water	7470A	384509

Eurofins Cedar Falls

QC Association Summary

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

Job ID: 310-253377-1

Metals

Analysis Batch: 385211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253377-1	NC1MW2	Total/NA	Water	6020B	384266
310-253377-2	NC1MW3	Total/NA	Water	6020B	384266
310-253377-3	NC1MW4	Total/NA	Water	6020B	384266
310-253377-4	NC1MW9	Total/NA	Water	6020B	384266
310-253377-5	MW11	Total/NA	Water	6020B	384266
310-253377-6	MW14	Total/NA	Water	6020B	384266
310-253377-7	DUP1	Total/NA	Water	6020B	384266
MB 310-384266/1-A	Method Blank	Total/NA	Water	6020B	384266
LCS 310-384266/2-A	Lab Control Sample	Total/NA	Water	6020B	384266
310-253377-7 DU	DUP1	Total/NA	Water	6020B	384266

General Chemistry

Analysis Batch: 384188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253377-1	NC1MW2	Total/NA	Water	SM 2540C	
310-253377-2	NC1MW3	Total/NA	Water	SM 2540C	
310-253377-3	NC1MW4	Total/NA	Water	SM 2540C	
310-253377-4	NC1MW9	Total/NA	Water	SM 2540C	
310-253377-5	MW11	Total/NA	Water	SM 2540C	
310-253377-6	MW14	Total/NA	Water	SM 2540C	
310-253377-7	DUP1	Total/NA	Water	SM 2540C	
MB 310-384188/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-384188/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Rad

Prep Batch: 608511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253377-1	NC1MW2	Total/NA	Water	PrecSep-21	
310-253377-2	NC1MW3	Total/NA	Water	PrecSep-21	
310-253377-3	NC1MW4	Total/NA	Water	PrecSep-21	
310-253377-4	NC1MW9	Total/NA	Water	PrecSep-21	
310-253377-5	MW11	Total/NA	Water	PrecSep-21	
310-253377-6	MW14	Total/NA	Water	PrecSep-21	
310-253377-7	DUP1	Total/NA	Water	PrecSep-21	
MB 160-608511/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-608511/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-608511/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 608514

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253377-1	NC1MW2	Total/NA	Water	PrecSep_0	
310-253377-2	NC1MW3	Total/NA	Water	PrecSep_0	
310-253377-3	NC1MW4	Total/NA	Water	PrecSep_0	
310-253377-4	NC1MW9	Total/NA	Water	PrecSep_0	
310-253377-5	MW11	Total/NA	Water	PrecSep_0	
310-253377-6	MW14	Total/NA	Water	PrecSep_0	
310-253377-7	DUP1	Total/NA	Water	PrecSep_0	
MB 160-608514/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-608514/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-608514/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Eurofins Cedar Falls

Lab Chronicle

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

Job ID: 310-253377-1

Client Sample ID: NC1MW2

Lab Sample ID: 310-253377-1

Date Collected: 04/10/23 14:35

Matrix: Water

Date Received: 04/12/23 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385149	DHM5	EET CF	04/20/23 12:41
Total/NA	Prep	3005A			384266	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	385211	ZRI4	EET CF	04/21/23 23:37
Total/NA	Prep	7470A			384509	XXW3	EET CF	04/17/23 11:16
Total/NA	Analysis	7470A		1	384701	XXW3	EET CF	04/18/23 13:27
Total/NA	Analysis	SM 2540C		1	384188	HE7K	EET CF	04/13/23 08:46
Total/NA	Prep	PrecSep-21			608511	KAC	EET SL	04/24/23 11:07
Total/NA	Analysis	9315		1	611701	FLC	EET SL	05/16/23 19:52
Total/NA	Prep	PrecSep_0			608514	KAC	EET SL	04/24/23 11:36
Total/NA	Analysis	9320		1	611713	FLC	EET SL	05/14/23 00:00
Total/NA	Analysis	Ra226_Ra228		1	611885	SCB	EET SL	05/17/23 10:43

Client Sample ID: NC1MW3

Lab Sample ID: 310-253377-2

Date Collected: 04/10/23 16:03

Matrix: Water

Date Received: 04/12/23 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385149	DHM5	EET CF	04/20/23 13:27
Total/NA	Prep	3005A			384266	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	385211	ZRI4	EET CF	04/21/23 23:39
Total/NA	Prep	7470A			384509	XXW3	EET CF	04/17/23 11:16
Total/NA	Analysis	7470A		1	384701	XXW3	EET CF	04/18/23 13:29
Total/NA	Analysis	SM 2540C		1	384188	HE7K	EET CF	04/13/23 08:46
Total/NA	Prep	PrecSep-21			608511	KAC	EET SL	04/24/23 11:07
Total/NA	Analysis	9315		1	611701	FLC	EET SL	05/16/23 19:52
Total/NA	Prep	PrecSep_0			608514	KAC	EET SL	04/24/23 11:36
Total/NA	Analysis	9320		1	611713	FLC	EET SL	05/14/23 00:00
Total/NA	Analysis	Ra226_Ra228		1	611885	SCB	EET SL	05/17/23 10:43

Client Sample ID: NC1MW4

Lab Sample ID: 310-253377-3

Date Collected: 04/10/23 15:20

Matrix: Water

Date Received: 04/12/23 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385149	DHM5	EET CF	04/20/23 13:43
Total/NA	Prep	3005A			384266	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	385211	ZRI4	EET CF	04/21/23 23:42
Total/NA	Prep	7470A			384509	XXW3	EET CF	04/17/23 11:16
Total/NA	Analysis	7470A		1	384701	XXW3	EET CF	04/18/23 13:32
Total/NA	Analysis	SM 2540C		1	384188	HE7K	EET CF	04/13/23 08:46
Total/NA	Prep	PrecSep-21			608511	KAC	EET SL	04/24/23 11:07
Total/NA	Analysis	9315		1	611701	FLC	EET SL	05/16/23 19:52
Total/NA	Prep	PrecSep_0			608514	KAC	EET SL	04/24/23 11:36
Total/NA	Analysis	9320		1	611713	FLC	EET SL	05/14/23 00:00

Eurofins Cedar Falls

Lab Chronicle

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

Job ID: 310-253377-1

Client Sample ID: NC1MW4

Lab Sample ID: 310-253377-3

Date Collected: 04/10/23 15:20

Matrix: Water

Date Received: 04/12/23 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Ra226_Ra228		1	611885	SCB	EET SL	05/17/23 10:43

Client Sample ID: NC1MW9

Lab Sample ID: 310-253377-4

Date Collected: 04/11/23 13:07

Matrix: Water

Date Received: 04/12/23 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385149	DHM5	EET CF	04/20/23 13:59
Total/NA	Prep	3005A			384266	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	385211	ZRI4	EET CF	04/21/23 23:45
Total/NA	Prep	7470A			384509	XXW3	EET CF	04/17/23 11:16
Total/NA	Analysis	7470A		1	384701	XXW3	EET CF	04/18/23 13:34
Total/NA	Analysis	SM 2540C		1	384188	HE7K	EET CF	04/13/23 08:46
Total/NA	Prep	PrecSep-21			608511	KAC	EET SL	04/24/23 11:07
Total/NA	Analysis	9315		1	611701	FLC	EET SL	05/16/23 19:52
Total/NA	Prep	PrecSep_0			608514	KAC	EET SL	04/24/23 11:36
Total/NA	Analysis	9320		1	611713	FLC	EET SL	05/14/23 00:01
Total/NA	Analysis	Ra226_Ra228		1	611885	SCB	EET SL	05/17/23 10:43

Client Sample ID: MW11

Lab Sample ID: 310-253377-5

Date Collected: 04/10/23 13:42

Matrix: Water

Date Received: 04/12/23 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385149	DHM5	EET CF	04/20/23 14:14
Total/NA	Prep	3005A			384266	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	385211	ZRI4	EET CF	04/21/23 23:48
Total/NA	Prep	7470A			384509	XXW3	EET CF	04/17/23 11:16
Total/NA	Analysis	7470A		1	384701	XXW3	EET CF	04/18/23 13:36
Total/NA	Analysis	SM 2540C		1	384188	HE7K	EET CF	04/13/23 08:46
Total/NA	Prep	PrecSep-21			608511	KAC	EET SL	04/24/23 11:07
Total/NA	Analysis	9315		1	611701	FLC	EET SL	05/16/23 19:52
Total/NA	Prep	PrecSep_0			608514	KAC	EET SL	04/24/23 11:36
Total/NA	Analysis	9320		1	611713	FLC	EET SL	05/14/23 00:01
Total/NA	Analysis	Ra226_Ra228		1	611885	SCB	EET SL	05/17/23 10:43

Client Sample ID: MW14

Lab Sample ID: 310-253377-6

Date Collected: 04/10/23 11:27

Matrix: Water

Date Received: 04/12/23 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385149	DHM5	EET CF	04/20/23 14:30
Total/NA	Prep	3005A			384266	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	385211	ZRI4	EET CF	04/21/23 23:51

Eurofins Cedar Falls

Lab Chronicle

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

Job ID: 310-253377-1

Client Sample ID: MW14

Lab Sample ID: 310-253377-6

Date Collected: 04/10/23 11:27

Matrix: Water

Date Received: 04/12/23 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			384509	XXW3	EET CF	04/17/23 11:16
Total/NA	Analysis	7470A		1	384701	XXW3	EET CF	04/18/23 13:38
Total/NA	Analysis	SM 2540C		1	384188	HE7K	EET CF	04/13/23 08:46
Total/NA	Prep	PrecSep-21			608511	KAC	EET SL	04/24/23 11:07
Total/NA	Analysis	9315		1	611701	FLC	EET SL	05/16/23 19:52
Total/NA	Prep	PrecSep_0			608514	KAC	EET SL	04/24/23 11:36
Total/NA	Analysis	9320		1	611713	FLC	EET SL	05/14/23 00:01
Total/NA	Analysis	Ra226_Ra228		1	611885	SCB	EET SL	05/17/23 10:43

Client Sample ID: DUP1

Lab Sample ID: 310-253377-7

Date Collected: 04/11/23 00:00

Matrix: Water

Date Received: 04/12/23 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385149	DHM5	EET CF	04/20/23 14:45
Total/NA	Prep	3005A			384266	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	385211	ZRI4	EET CF	04/21/23 23:54
Total/NA	Prep	7470A			384509	XXW3	EET CF	04/17/23 11:16
Total/NA	Analysis	7470A		1	384701	XXW3	EET CF	04/18/23 13:40
Total/NA	Analysis	SM 2540C		1	384188	HE7K	EET CF	04/13/23 08:46
Total/NA	Prep	PrecSep-21			608511	KAC	EET SL	04/24/23 11:07
Total/NA	Analysis	9315		1	611701	FLC	EET SL	05/16/23 19:52
Total/NA	Prep	PrecSep_0			608514	KAC	EET SL	04/24/23 11:36
Total/NA	Analysis	9320		1	611713	FLC	EET SL	05/14/23 00:03
Total/NA	Analysis	Ra226_Ra228		1	611885	SCB	EET SL	05/17/23 10:43

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Eurofins Cedar Falls

Accreditation/Certification Summary

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

Job ID: 310-253377-1

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	IA100001	09-29-23

Laboratory: Eurofins 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	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	06-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-23
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

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

Eurofins Cedar Falls

Method Summary

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

Job ID: 310-253377-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
9315	Radium-226 (GFPC)	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

None = None

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.

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

Laboratory References:

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

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

Eurofins Cedar Falls



Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Omaha Public Power District</u>			
City/State:	CITY <u>Omaha</u>	STATE <u>NE</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>4/12/2023</u>	TIME <u>17:20</u>	Received By: <u>MU</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other:			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler ID:	
Multiple Coolers?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler # <u>2 of 4</u> of <u>2</u>	
Cooler Custody Seals Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Which VOA samples are in cooler? ↓	
<u>MW0NE2, DUP1, NCI0W13, MW14, NC2MW7</u>			
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: <input type="checkbox"/> NONE			
Thermometer ID: <u>W</u>		Correction Factor (°C): <u>0</u>	
* Temp Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>2.3</u>		Corrected Temp (°C): <u>2.3</u>	
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? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> 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?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Omaha Public Power District</u>			
City/State:	CITY	STATE <u>NE</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>4/12/2023</u>	TIME <u>17:20</u>	Received By: <u>MU</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other:			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler ID:	
Multiple Coolers?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler # <u>3 of 4</u> of <u>2 of 2</u>	
Cooler Custody Seals Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Which VOA samples are in cooler? ↓	
<u>NC1MW9, NC1MW4, NC1MW2, MW11, NC2MW5A, NC1MW7</u>			
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: <input type="checkbox"/> NONE			
Thermometer ID: <u>W</u>		Correction Factor (°C): <u>0</u>	
* Temp Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.1</u>		Corrected Temp (°C): <u>0.1</u>	
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? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> 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?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Client Information Omaha Public Power District 444 South 16th Street Mail BE/EP1 Cedar Falls IA 50613 Phone (531) 226-2247 Fax (531) 226-2515 Email: kshuhng@oppd.com		TestAmerica Project #: 31007658 SSO/W:	
Date Requested TAT Requested (days)		Date 5/17/2023	
Client Contact Kyle Uihing (402) 226-2515		Received by [Signature] Date/Time 5/17/23	
Lab By Shaun Hayes Email: shaun.hayes@testamericainc.com		Received by [Signature] Date/Time 5/17/23	
Company Omaha Public Power District		Received by [Signature] Date/Time 5/17/23	
Address: 444 South 16th Street Mail BE/EP1 Cedar Falls IA 50613 Phone (531) 226-2247 Fax (531) 226-2515 Email: kshuhng@oppd.com		Method of Shipment: 412-23 OTS Date/Time 4/17/23	
Project Name: Nebraska City Station Unit 1 CCR / Landfill Nebraska City Station Unit 1 Nebraska City Station Unit 1		Cooler Temperature(s) °C and Other Remarks: [Blank]	
Sample Identification NC1MW2 NC1MW3 NC1MW4 NC1MW9 MW11 MW14 DUP1		Matrix (W=Water, G=Grab, C=Comp, S=Soil, A=Asst) G W G W G W G W G W G W G W	
Sample Date 5/10/23 5/10/23 5/10/23 5/10/23 5/10/23 5/10/23		Sample Time 11:33 14:03 15:50 13:07 13:42 11:27 --	
Preservation Codes A: HCL B: NiOH C: n-Acetic D: NiSO4 E: NiSO4 F: NiSO4 G: NiSO4 H: NiSO4 I: NiSO4 J: NiSO4 K: NiSO4 L: NiSO4 M: Helane N: None O: ASD02 P: ASD02 Q: NiSO4 R: NiSO4 S: NiSO4 T: NiSO4 U: Acetone V: MCA W: NiSO4 X: NiSO4 Y: NiSO4 Z: other (specify)		Special Instructions/Note CCR Appendix III and IV Constituents CCR Appendix III and IV Constituents CCR Appendix III and IV Constituents CCR Appendix III and IV Constituents CCR Appendix III and IV Constituents CCR Appendix III and IV Constituents CCR Appendix III and IV Constituents CCR Appendix III and IV Constituents	
Total Number of containers 4 4 4 4 4 4 4		Special Instructions/OC Requirements Return To Client Disposal By Lab Archive For _____ Months	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Empty Kit Relinquished by Relinquished by [Signature] Relinquished by [Signature] Relinquished by [Signature]	
Deliverable Requested <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> Other (specify)		Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-253377-1

Login Number: 253377

SDG Number:

List Number: 1

List Source: Eurofins Cedar Falls

Creator: Homolar, Dana J

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

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

Job ID: 310-253377-1

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (30-110)	Y
310-253377-1	NC1MW2	75.7	87.9
310-253377-2	NC1MW3	74.2	86.4
310-253377-3	NC1MW4	73.7	89.0
310-253377-4	NC1MW9	73.0	86.0
310-253377-5	MW11	50.6	83.0
310-253377-6	MW14	78.4	87.5
310-253377-7	DUP1	74.7	84.9
LCS 160-608511/2-A	Lab Control Sample	72.2	86.4
LCS D 160-608511/3-A	Lab Control Sample Dup	70.3	86.0
MB 160-608511/1-A	Method Blank	81.6	86.0

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (30-110)	Y (30-110)
310-253377-1	NC1MW2	75.7	87.9
310-253377-2	NC1MW3	74.2	86.4
310-253377-3	NC1MW4	73.7	89.0
310-253377-4	NC1MW9	73.0	86.0
310-253377-5	MW11	50.6	83.0
310-253377-6	MW14	78.4	87.5
310-253377-7	DUP1	74.7	84.9
LCS 160-608514/2-A	Lab Control Sample	72.2	86.4
LCS D 160-608514/3-A	Lab Control Sample Dup	70.3	86.0
MB 160-608514/1-A	Method Blank	81.6	86.0

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Eurofins Cedar Falls



Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 5/24/2023 9:12:48 AM

JOB DESCRIPTION

Nebraska City Station Unit 1&2 CCR/Landfill

JOB NUMBER

310-253380-2

Eurofins Cedar Falls
 3019 Venture Way
 Cedar Falls IA 50613

See page two for job notes and contact information.



Eurofins Cedar Falls

Job Notes

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

Authorization



Authorized for release by
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Case Narrative

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

Job ID: 310-253380-2

1

2

Job ID: 310-253380-2

3

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-253380-1

4

5

Comments

No additional comments.

6

7

Receipt

The samples were received on 4/12/2023 5:20 PM. 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 0.9° C and 2.3° C.

8

9

HPLC/IC

Method 9056A: The following samples were diluted due to the nature of the sample matrix: NC2MW4 (310-253380-1) and MW13 (310-253380-2). Elevated reporting limits (RLs) are provided.

10

11

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

12

Metals

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

13

General Chemistry

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

14

Narrative

Job Narrative
310-253380-2

15

Receipt

The samples were received on 4/12/2023 5:20 PM. 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 0.9°C and 2.3°C

Gas Flow Proportional Counter

Method 9315_Ra226: Radium-226 Prep Batch 160-609093The following sample was prepared at a reduced aliquot due to Matrix: NC2MW4 (310-253380-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method 9315_Ra226: Radium-226 Prep Batch 160-609262Insufficient sample volume was available to perform a sample duplicate for the following samples: MW13 (310-253380-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method 9315_Ra226: Radium-226 batch 609093Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.NC2MW4 (310-253380-1), (LCS 160-609093/2-A), (LCSD 160-609093/3-A) and (MB 160-609093/1-A)

Method 9315_Ra226: Radium-226 prep batch 160-609262: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW13 (310-253380-2), (LCS 160-609262/2-A), (LCSD 160-609262/3-A) and (MB 160-609262/1-A)

Method 9320_Ra228: Radium-228 Prep Batch 160-609099The following sample was prepared at a reduced aliquot due to Matrix: NC2MW4 (310-253380-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method 9320_Ra228: Radium-228 Prep Batch 160-609265Insufficient sample volume was available to perform a sample duplicate for

Case Narrative

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

Job ID: 310-253380-2

1

2

Job ID: 310-253380-2 (Continued)

3

Laboratory: Eurofins Cedar Falls (Continued)

the following samples: MW13 (310-253380-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

4

5

Method 9320_Ra228: Radium-228 batch 609099The detection goal was not met for the following sample(s). Sample was prepped at a reduced volume due to the presence of matrix interferences: NC2MW4 (310-253380-1). Analytical results are reported with the detection limit achieved.

6

7

Method 9320_Ra228: Radium-228 batch 609099Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.NC2MW4 (310-253380-1), (LCS 160-609099/2-A), (LCSD 160-609099/3-A) and (MB 160-609099/1-A)

8

9

Method 9320_Ra228: Radium-228 batch 609265Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.MW13 (310-253380-2), (LCS 160-609265/2-A), (LCSD 160-609265/3-A) and (MB 160-609265/1-A)

10

11

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

12

Rad

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

13

14

Sample Summary

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

Job ID: 310-253380-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-253380-1	NC2MW4	Water	04/10/23 10:17	04/12/23 17:20
310-253380-2	MW13	Water	04/10/23 09:02	04/12/23 17:20

Detection Summary

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

Job ID: 310-253380-2

Client Sample ID: NC2MW4

Lab Sample ID: 310-253380-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	5.76		5.00	2.25	mg/L	5			9056A	Total/NA
Sulfate	49.0		5.00	2.10	mg/L	5			9056A	Total/NA
Arsenic	0.00605		0.00200	0.000530	mg/L	1			6020B	Total/NA
Barium	0.473		0.00200	0.000640	mg/L	1			6020B	Total/NA
Beryllium	0.000423	J	0.00100	0.000330	mg/L	1			6020B	Total/NA
Boron	0.223		0.100	0.0760	mg/L	1			6020B	Total/NA
Cadmium	0.000168	J	0.000200	0.000100	mg/L	1			6020B	Total/NA
Calcium	125		0.500	0.190	mg/L	1			6020B	Total/NA
Chromium	0.0103		0.00500	0.00110	mg/L	1			6020B	Total/NA
Cobalt	0.00415		0.000500	0.000170	mg/L	1			6020B	Total/NA
Lead	0.00639		0.000500	0.000240	mg/L	1			6020B	Total/NA
Lithium	0.0397		0.0100	0.00250	mg/L	1			6020B	Total/NA
Molybdenum	0.00466		0.00200	0.000910	mg/L	1			6020B	Total/NA
Selenium	0.00417	J	0.00500	0.00140	mg/L	1			6020B	Total/NA
Total Dissolved Solids	616		50.0	34.0	mg/L	1			SM 2540C	Total/NA

Client Sample ID: MW13

Lab Sample ID: 310-253380-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	12.2		5.00	2.25	mg/L	5			9056A	Total/NA
Sulfate	31.6		5.00	2.10	mg/L	5			9056A	Total/NA
Arsenic	0.0112		0.00200	0.000530	mg/L	1			6020B	Total/NA
Barium	0.281		0.00200	0.000640	mg/L	1			6020B	Total/NA
Boron	0.136		0.100	0.0760	mg/L	1			6020B	Total/NA
Calcium	120		0.500	0.190	mg/L	1			6020B	Total/NA
Cobalt	0.000591		0.000500	0.000170	mg/L	1			6020B	Total/NA
Lithium	0.0345		0.0100	0.00250	mg/L	1			6020B	Total/NA
Total Dissolved Solids	736		50.0	34.0	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&2 CCR/Landfill

Job ID: 310-253380-2

Client Sample ID: NC2MW4

Lab Sample ID: 310-253380-1

Date Collected: 04/10/23 10:17

Matrix: Water

Date Received: 04/12/23 17:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.76		5.00	2.25	mg/L			04/20/23 18:20	5
Fluoride	<0.375		1.00	0.375	mg/L			04/20/23 18:20	5
Sulfate	49.0		5.00	2.10	mg/L			04/20/23 18:20	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		04/14/23 08:45	04/14/23 21:14	1
Arsenic	0.00605		0.00200	0.000530	mg/L		04/14/23 08:45	04/14/23 21:14	1
Barium	0.473		0.00200	0.000640	mg/L		04/14/23 08:45	04/14/23 21:14	1
Beryllium	0.000423	J	0.00100	0.000330	mg/L		04/14/23 08:45	04/14/23 21:14	1
Boron	0.223		0.100	0.0760	mg/L		04/14/23 08:45	04/15/23 14:55	1
Cadmium	0.000168	J	0.000200	0.000100	mg/L		04/14/23 08:45	04/15/23 14:55	1
Calcium	125		0.500	0.190	mg/L		04/14/23 08:45	04/14/23 21:14	1
Chromium	0.0103		0.00500	0.00110	mg/L		04/14/23 08:45	04/14/23 21:14	1
Cobalt	0.00415		0.000500	0.000170	mg/L		04/14/23 08:45	04/14/23 21:14	1
Lead	0.00639		0.000500	0.000240	mg/L		04/14/23 08:45	04/14/23 21:14	1
Lithium	0.0397		0.0100	0.00250	mg/L		04/14/23 08:45	04/15/23 14:55	1
Molybdenum	0.00466		0.00200	0.000910	mg/L		04/14/23 08:45	04/14/23 21:14	1
Selenium	0.00417	J	0.00500	0.00140	mg/L		04/14/23 08:45	04/14/23 21:14	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/14/23 21:14	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:16	04/18/23 14:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	616		50.0	34.0	mg/L			04/13/23 08:53	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0974	U	0.206	0.206	1.00	0.368	pCi/L	04/27/23 13:34	05/19/23 19:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	55.8		30 - 110					04/27/23 13:34	05/19/23 19:48	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.39	G	0.848	0.858	1.00	1.25	pCi/L	04/27/23 14:08	05/16/23 11:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	55.8		30 - 110					04/27/23 14:08	05/16/23 11:22	1
Y Carrier	81.9		30 - 110					04/27/23 14:08	05/16/23 11:22	1

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-253380-2

Client Sample ID: NC2MW4

Lab Sample ID: 310-253380-1

Date Collected: 04/10/23 10:17

Matrix: Water

Date Received: 04/12/23 17:20

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.49		0.873	0.882	5.00	1.25	pCi/L		05/22/23 12:41	1

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-253380-2

Client Sample ID: MW13
Date Collected: 04/10/23 09:02
Date Received: 04/12/23 17:20

Lab Sample ID: 310-253380-2
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12.2		5.00	2.25	mg/L			04/20/23 18:35	5
Fluoride	<0.375		1.00	0.375	mg/L			04/20/23 18:35	5
Sulfate	31.6		5.00	2.10	mg/L			04/20/23 18:35	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		04/14/23 08:45	04/14/23 21:17	1
Arsenic	0.0112		0.00200	0.000530	mg/L		04/14/23 08:45	04/14/23 21:17	1
Barium	0.281		0.00200	0.000640	mg/L		04/14/23 08:45	04/14/23 21:17	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		04/14/23 08:45	04/14/23 21:17	1
Boron	0.136		0.100	0.0760	mg/L		04/14/23 08:45	04/15/23 14:59	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		04/14/23 08:45	04/14/23 21:17	1
Calcium	120		0.500	0.190	mg/L		04/14/23 08:45	04/14/23 21:17	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/14/23 08:45	04/14/23 21:17	1
Cobalt	0.000591		0.000500	0.000170	mg/L		04/14/23 08:45	04/14/23 21:17	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/14/23 08:45	04/14/23 21:17	1
Lithium	0.0345		0.0100	0.00250	mg/L		04/14/23 08:45	04/15/23 14:59	1
Molybdenum	<0.000910		0.00200	0.000910	mg/L		04/14/23 08:45	04/14/23 21:17	1
Selenium	<0.00140		0.00500	0.00140	mg/L		04/14/23 08:45	04/14/23 21:17	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/14/23 21:17	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:18	04/18/23 14:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	736		50.0	34.0	mg/L			04/13/23 08:53	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.214		0.111	0.113	1.00	0.135	pCi/L	04/28/23 13:08	05/22/23 13:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.7		30 - 110					04/28/23 13:08	05/22/23 13:19	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.850		0.420	0.427	1.00	0.580	pCi/L	04/28/23 13:29	05/17/23 16:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.7		30 - 110					04/28/23 13:29	05/17/23 16:05	1
Y Carrier	80.7		30 - 110					04/28/23 13:29	05/17/23 16:05	1

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-253380-2

Client Sample ID: MW13
Date Collected: 04/10/23 09:02
Date Received: 04/12/23 17:20

Lab Sample ID: 310-253380-2
Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.06		0.434	0.442	5.00	0.580	pCi/L		05/23/23 22:08	1

Eurofins Cedar Falls

Definitions/Glossary

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

Job ID: 310-253380-2

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.

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

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QC Sample Results

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

Job ID: 310-253380-2

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-385149/3
Matrix: Water
Analysis Batch: 385149

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

Analyte	Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.450		1.00	0.450	mg/L			04/20/23 11:07	1
Fluoride	<0.0750		0.200	0.0750	mg/L			04/20/23 11:07	1
Sulfate	<0.420		1.00	0.420	mg/L			04/20/23 11:07	1

Lab Sample ID: LCS 310-385149/4
Matrix: Water
Analysis Batch: 385149

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	10.32		mg/L		103	90 - 110
Fluoride	2.00	2.181		mg/L		109	90 - 110
Sulfate	10.0	10.64		mg/L		106	90 - 110

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-384265/1-A
Matrix: Water
Analysis Batch: 384416

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 384265

Analyte	Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		04/14/23 08:45	04/14/23 19:26	1
Arsenic	<0.000530		0.00200	0.000530	mg/L		04/14/23 08:45	04/14/23 19:26	1
Barium	<0.000640		0.00200	0.000640	mg/L		04/14/23 08:45	04/14/23 19:26	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		04/14/23 08:45	04/14/23 19:26	1
Boron	<0.0760		0.100	0.0760	mg/L		04/14/23 08:45	04/14/23 19:26	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		04/14/23 08:45	04/14/23 19:26	1
Calcium	<0.190		0.500	0.190	mg/L		04/14/23 08:45	04/14/23 19:26	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/14/23 08:45	04/14/23 19:26	1
Cobalt	<0.000170		0.000500	0.000170	mg/L		04/14/23 08:45	04/14/23 19:26	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/14/23 08:45	04/14/23 19:26	1
Molybdenum	<0.000910		0.00200	0.000910	mg/L		04/14/23 08:45	04/14/23 19:26	1
Selenium	<0.00140		0.00500	0.00140	mg/L		04/14/23 08:45	04/14/23 19:26	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/14/23 19:26	1

Lab Sample ID: MB 310-384265/1-A
Matrix: Water
Analysis Batch: 384426

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 384265

Analyte	Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.00250		0.0100	0.00250	mg/L		04/14/23 08:45	04/15/23 14:31	1

Lab Sample ID: LCS 310-384265/2-A
Matrix: Water
Analysis Batch: 384416

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 384265

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.2027		mg/L		101	80 - 120
Arsenic	0.200	0.2012		mg/L		101	80 - 120
Barium	0.100	0.1046		mg/L		105	80 - 120
Beryllium	0.100	0.09460		mg/L		95	80 - 120

Eurofins Cedar Falls

QC Sample Results

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

Job ID: 310-253380-2

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

Lab Sample ID: LCS 310-384265/2-A
Matrix: Water
Analysis Batch: 384416
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 384265

Table with columns: Analyte, Spike Added, LCS Result, LCS Qualifier, Unit, D, %Rec, %Rec Limits. Rows include Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium.

Lab Sample ID: LCS 310-384265/2-A
Matrix: Water
Analysis Batch: 384426
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 384265

Table with columns: Analyte, Spike Added, LCS Result, LCS Qualifier, Unit, D, %Rec, %Rec Limits. Row includes Lithium.

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-384509/1-A
Matrix: Water
Analysis Batch: 384701
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 384509

Table with columns: Analyte, MB Result, MB Qualifier, RL, MDL, Unit, D, Prepared, Analyzed, Dil Fac. Row includes Mercury.

Lab Sample ID: LCS 310-384509/2-A
Matrix: Water
Analysis Batch: 384701
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 384509

Table with columns: Analyte, Spike Added, LCS Result, LCS Qualifier, Unit, D, %Rec, %Rec Limits. Row includes Mercury.

Lab Sample ID: MB 310-384510/1-A
Matrix: Water
Analysis Batch: 384701
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 384510

Table with columns: Analyte, MB Result, MB Qualifier, RL, MDL, Unit, D, Prepared, Analyzed, Dil Fac. Row includes Mercury.

Lab Sample ID: LCS 310-384510/2-A
Matrix: Water
Analysis Batch: 384701
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 384510

Table with columns: Analyte, Spike Added, LCS Result, LCS Qualifier, Unit, D, %Rec, %Rec Limits. Row includes Mercury.

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QC Sample Results

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

Job ID: 310-253380-2

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

Lab Sample ID: MB 310-384192/1
Matrix: Water
Analysis Batch: 384192
Client Sample ID: Method Blank
Prep Type: Total/NA

Table with columns: Analyte, MB Result, MB Qualifier, RL, MDL, Unit, D, Prepared, Analyzed, Dil Fac. Row includes Total Dissolved Solids.

Lab Sample ID: LCS 310-384192/2
Matrix: Water
Analysis Batch: 384192
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Table with columns: Analyte, Spike Added, LCS Result, LCS Qualifier, Unit, D, %Rec, %Rec Limits. Row includes Total Dissolved Solids.

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-609093/1-A
Matrix: Water
Analysis Batch: 612288
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609093

Table with columns: Analyte, MB Result, MB Qualifier, Count Uncert., Total Uncert., RL, MDC, Unit, Prepared, Analyzed, Dil Fac. Row includes Radium-226.

Table with columns: Carrier, MB %Yield, MB Qualifier, Limits, Prepared, Analyzed, Dil Fac. Row includes Ba Carrier.

Lab Sample ID: LCS 160-609093/2-A
Matrix: Water
Analysis Batch: 612288
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609093

Table with columns: Analyte, Spike Added, LCS Result, LCS Qual, Total Uncert. (2σ+/-), RL, MDC, Unit, %Rec, %Rec Limits. Row includes Radium-226.

Table with columns: Carrier, LCS %Yield, LCS Qualifier, Limits. Row includes Ba Carrier.

Lab Sample ID: LCSD 160-609093/3-A
Matrix: Water
Analysis Batch: 612288
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 609093

Table with columns: Analyte, Spike Added, LCSD Result, LCSD Qual, Total Uncert. (2σ+/-), RL, MDC, Unit, %Rec, %Rec Limits, RER, RER Limit. Row includes Radium-226.

Table with columns: Carrier, LCSD %Yield, LCSD Qualifier, Limits. Row includes Ba Carrier.

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QC Sample Results

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

Job ID: 310-253380-2

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

Lab Sample ID: MB 160-609262/1-A
Matrix: Water
Analysis Batch: 612651

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609262

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03732	U	0.0604	0.0605	1.00	0.105	pCi/L	04/28/23 13:08	05/22/23 13:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	108		30 - 110					04/28/23 13:08	05/22/23 13:19	1

Lab Sample ID: LCS 160-609262/2-A
Matrix: Water
Analysis Batch: 612651

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609262

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	10.95		1.17	1.00	0.123	pCi/L	97	75 - 113
Carrier	%Yield	Qualifier	Limits						
Ba Carrier	96.1		30 - 110						

Lab Sample ID: LCSD 160-609262/3-A
Matrix: Water
Analysis Batch: 612651

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 609262

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226	11.3	11.67		1.26	1.00	0.173	pCi/L	103	75 - 113	0.30	1
Carrier	%Yield	Qualifier	Limits								
Ba Carrier	92.4		30 - 110								

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-609099/1-A
Matrix: Water
Analysis Batch: 611850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609099

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.09285	U	0.270	0.271	1.00	0.481	pCi/L	04/27/23 14:08	05/16/23 11:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		30 - 110					04/27/23 14:08	05/16/23 11:14	1
Y Carrier	86.7		30 - 110					04/27/23 14:08	05/16/23 11:14	1

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QC Sample Results

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

Job ID: 310-253380-2

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

Lab Sample ID: LCS 160-609099/2-A
Matrix: Water
Analysis Batch: 611850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609099

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	7.95	8.033		1.12	1.00	0.469	pCi/L	101	75 - 125
Carrier	%Yield	Qualifier	Limits						
Ba Carrier	94.3		30 - 110						
Y Carrier	86.4		30 - 110						

Lab Sample ID: LCSD 160-609099/3-A
Matrix: Water
Analysis Batch: 611850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 609099

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228	7.95	8.070		1.10	1.00	0.411	pCi/L	101	75 - 125	0.02	1
Carrier	%Yield	Qualifier	Limits								
Ba Carrier	99.5		30 - 110								
Y Carrier	84.9		30 - 110								

Lab Sample ID: MB 160-609265/1-A
Matrix: Water
Analysis Batch: 611880

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609265

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1718	U	0.269	0.270	1.00	0.458	pCi/L	04/28/23 13:29	05/17/23 16:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	108		30 - 110					04/28/23 13:29	05/17/23 16:04	1
Y Carrier	81.1		30 - 110					04/28/23 13:29	05/17/23 16:04	1

Lab Sample ID: LCS 160-609265/2-A
Matrix: Water
Analysis Batch: 611880

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609265

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	8.19	8.004		1.12	1.00	0.498	pCi/L	98	75 - 125
Carrier	%Yield	Qualifier	Limits						
Ba Carrier	96.1		30 - 110						
Y Carrier	84.5		30 - 110						

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QC Sample Results

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

Job ID: 310-253380-2

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

Lab Sample ID: LCSD 160-609265/3-A
Matrix: Water
Analysis Batch: 611880

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 609265

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228	8.19	8.533		1.18	1.00	0.480	pCi/L	104	75 - 125	0.23	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	92.4		30 - 110
Y Carrier	84.1		30 - 110

Eurofins Cedar Falls

QC Association Summary

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

Job ID: 310-253380-2

HPLC/IC

Analysis Batch: 385149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253380-1	NC2MW4	Total/NA	Water	9056A	
310-253380-2	MW13	Total/NA	Water	9056A	
MB 310-385149/3	Method Blank	Total/NA	Water	9056A	
LCS 310-385149/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 384265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253380-1	NC2MW4	Total/NA	Water	3005A	
310-253380-2	MW13	Total/NA	Water	3005A	
MB 310-384265/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-384265/2-A	Lab Control Sample	Total/NA	Water	3005A	

Analysis Batch: 384416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253380-1	NC2MW4	Total/NA	Water	6020B	384265
310-253380-2	MW13	Total/NA	Water	6020B	384265
MB 310-384265/1-A	Method Blank	Total/NA	Water	6020B	384265
LCS 310-384265/2-A	Lab Control Sample	Total/NA	Water	6020B	384265

Analysis Batch: 384426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253380-1	NC2MW4	Total/NA	Water	6020B	384265
310-253380-2	MW13	Total/NA	Water	6020B	384265
MB 310-384265/1-A	Method Blank	Total/NA	Water	6020B	384265
LCS 310-384265/2-A	Lab Control Sample	Total/NA	Water	6020B	384265

Prep Batch: 384509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253380-1	NC2MW4	Total/NA	Water	7470A	
MB 310-384509/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-384509/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 384510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253380-2	MW13	Total/NA	Water	7470A	
MB 310-384510/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-384510/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 384701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253380-1	NC2MW4	Total/NA	Water	7470A	384509
310-253380-2	MW13	Total/NA	Water	7470A	384510
MB 310-384509/1-A	Method Blank	Total/NA	Water	7470A	384509
MB 310-384510/1-A	Method Blank	Total/NA	Water	7470A	384510
LCS 310-384509/2-A	Lab Control Sample	Total/NA	Water	7470A	384509
LCS 310-384510/2-A	Lab Control Sample	Total/NA	Water	7470A	384510

Eurofins Cedar Falls

QC Association Summary

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

Job ID: 310-253380-2

General Chemistry

Analysis Batch: 384192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253380-1	NC2MW4	Total/NA	Water	SM 2540C	
310-253380-2	MW13	Total/NA	Water	SM 2540C	
MB 310-384192/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-384192/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Rad

Prep Batch: 609093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253380-1	NC2MW4	Total/NA	Water	PrecSep-21	
MB 160-609093/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-609093/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-609093/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 609099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253380-1	NC2MW4	Total/NA	Water	PrecSep_0	
MB 160-609099/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-609099/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-609099/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 609262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253380-2	MW13	Total/NA	Water	PrecSep-21	
MB 160-609262/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-609262/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-609262/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 609265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253380-2	MW13	Total/NA	Water	PrecSep_0	
MB 160-609265/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-609265/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-609265/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Eurofins Cedar Falls

Lab Chronicle

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

Job ID: 310-253380-2

Client Sample ID: NC2MW4

Lab Sample ID: 310-253380-1

Date Collected: 04/10/23 10:17
Date Received: 04/12/23 17:20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385149	DHM5	EET CF	04/20/23 18:20
Total/NA	Prep	3005A			384265	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	384416	ZRI4	EET CF	04/14/23 21:14
Total/NA	Prep	3005A			384265	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	384426	ZRI4	EET CF	04/15/23 14:55
Total/NA	Prep	7470A			384509	XXW3	EET CF	04/17/23 11:16
Total/NA	Analysis	7470A		1	384701	XXW3	EET CF	04/18/23 14:06
Total/NA	Analysis	SM 2540C		1	384192	HE7K	EET CF	04/13/23 08:53
Total/NA	Prep	PrecSep-21			609093	KAC	EET SL	04/27/23 13:34
Total/NA	Analysis	9315		1	612290	FLC	EET SL	05/19/23 19:48
Total/NA	Prep	PrecSep_0			609099	KAC	EET SL	04/27/23 14:08
Total/NA	Analysis	9320		1	611701	FLC	EET SL	05/16/23 11:22
Total/NA	Analysis	Ra226_Ra228		1	612631	SCB	EET SL	05/22/23 12:41

Client Sample ID: MW13

Lab Sample ID: 310-253380-2

Date Collected: 04/10/23 09:02
Date Received: 04/12/23 17:20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385149	DHM5	EET CF	04/20/23 18:35
Total/NA	Prep	3005A			384265	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	384416	ZRI4	EET CF	04/14/23 21:17
Total/NA	Prep	3005A			384265	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	384426	ZRI4	EET CF	04/15/23 14:59
Total/NA	Prep	7470A			384510	XXW3	EET CF	04/17/23 11:18
Total/NA	Analysis	7470A		1	384701	XXW3	EET CF	04/18/23 14:17
Total/NA	Analysis	SM 2540C		1	384192	HE7K	EET CF	04/13/23 08:53
Total/NA	Prep	PrecSep-21			609262	KAC	EET SL	04/28/23 13:08
Total/NA	Analysis	9315		1	612651	FLC	EET SL	05/22/23 13:19
Total/NA	Prep	PrecSep_0			609265	KAC	EET SL	04/28/23 13:29
Total/NA	Analysis	9320		1	611880	FLC	EET SL	05/17/23 16:05
Total/NA	Analysis	Ra226_Ra228		1	612861	EMH	EET SL	05/23/23 22:08

Laboratory References:

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

Eurofins Cedar Falls

Accreditation/Certification Summary

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

Job ID: 310-253380-2

Laboratory: Eurofins 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)	09-29-23
Georgia	State	IA100001 (OR)	09-29-23
Illinois	NELAP	200024	11-29-23
Iowa	State	007	12-01-23
Kansas	NELAP	E-10341	01-31-24
Minnesota	NELAP	019-999-319	12-31-23
Minnesota (Petrofund)	State	3349	01-18-24
North Dakota	State	R-186	09-29-23
Oregon	NELAP	IA100001	09-29-23

Laboratory: Eurofins 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	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-23
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

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

Eurofins Cedar Falls

Method Summary

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

Job ID: 310-253380-2

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

Protocol References:

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:

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

Eurofins Cedar Falls



Environment Testing
America



310-253380 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>OMaha public power district</u>			
City/State:	CITY <u>Omaha</u>	STATE <u>NE</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>4/12/2023</u>	TIME <u>17:20</u>	Received By: <u>MV</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler ID: _____			
Multiple Coolers? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler # <u>1</u> of <u>4</u>			
Cooler Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Trip Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Which VOA samples are in cooler? ↓			
<u>NC2MW4, MW13, NC2MW2, NC2MW3, DUP2</u>			
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>W</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.9</u>		Corrected Temp (°C): <u>0.9</u>	
• 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? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> 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?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
America

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>OMaha PUBLIC POWER DISTRICT</u>			
City/State:	CITY <u>Omaha</u>	STATE <u>NE</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>4/12/2023</u>	TIME <u>17:20</u>	Received By: <u>MV</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler ID: _____			
Multiple Coolers? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler # <u>2</u> of <u>4</u>			
Cooler Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Trip Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Which VOA samples are in cooler? ↓			
<u>MW8NC2</u>			
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>W</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>2.3</u>		Corrected Temp (°C): <u>2.3</u>	
• 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? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> 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?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Client Information Company: Omaha Public Power District Address: 444 South 16th Street Mail 9E/EP1 City: Cedar Falls IA 50613 State: IA Zip: 50613 Phone: NE 68102-2247 (531) 226-2515 Email: kxuhing@oppd.com Project Name: TestAmerica Project # 3107559 Location: Nebraska City Station Unit 1 & 2 CCR / Lanefill Address: Nebraska City Station Unit 1 & 2		Client Contact Name: Kyle K. Uhing Phone: (531) 226-2515 Email: kxuhing@testamericainc.com		Lab Info Name: Shawn M Hayes Email: shawn.hayes@testamericainc.com		Carrier Tracking Note(s)	
Analysis Requested Date Requested: 4/10/23 TAT Requested (days): PO #: NE 68102-2247 WO #: (531) 226-2515 TestAmerica Project # 3107559 Location: Nebraska City Station Unit 1 & 2 CCR / Lanefill Address: Nebraska City Station Unit 1 & 2		2840C TDS, 9556A Chloride, Fluoride, Sulfate Total 6202A CCR Appendix III and IV, 7470A Mercury 9515 R425E, 9220 R422B, Combined R422E and R422B Perform MS/MSD (Yes or No)		5915 R425E, 9220 R422B, Combined R422E and R422B Total 6202A CCR Appendix III and IV, 7470A Mercury 2840C TDS, 9556A Chloride, Fluoride, Sulfate		Preservation Codes M: Hexane N: None B: NaOH A: Acetic Acid D: Nitric Acid P: NaOAS Q: Na2SO3 R: NaHSO4 E: Nitric Acid F: NaOH H: Ascorbic Acid T: TSP Dodecahydrate I: Ice U: Acetone V: Vial Cap K: EDTA L: EDA W: pH 4-5 Z: other (specify)	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I II III IV Other (specify)		Empty Kit Relinquished by:		Date: 4/10/23		Method of Shipment:	
Requested by: [Signature] Date/Time: 4/10/23 1:30 Company: OPPD		Received by: [Signature] Date/Time: 4/12/23 17:20 Company: EFC		Method of Shipment:		Date/Time: 4/12/23 17:20 Company: EFC	
Relinquished by: [Signature] Date/Time: 4/12/23 0100 Company: EFC		Received by: [Signature] Date/Time: 4/12/23 17:20 Company: EFC		Method of Shipment:		Date/Time: 4/12/23 17:20 Company: EFC	
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Custody Seal No		Cooler Temperature(s) °C and Other Remarks:		Method of Shipment:		Date/Time: 4/12/23 17:20 Company: EFC	
Sample Identification NC2MW4 MW13		Sample Type (C=Comp, G=Grab) or (Trace, Area) G W G W		Matrix (Volume, Concentration, or Trace, Area) W W		Special Instructions/Note CCR Appendix III and IV Constituents CCR Appendix III and IV Constituents	
Sample Date 4/10/23 4/10/23		Sample Time 10:17 7:02		Preservation Code: G W G W		Total Number of Containers: 4 Special Instructions/Note: CCR Appendix III and IV Constituents	
Sample Date 4/10/23 4/10/23		Sample Time 10:17 7:02		Preservation Code: G W G W		Total Number of Containers: 4 Special Instructions/Note: CCR Appendix III and IV Constituents	
Sample Date 4/10/23 4/10/23		Sample Time 10:17 7:02		Preservation Code: G W G W		Total Number of Containers: 4 Special Instructions/Note: CCR Appendix III and IV Constituents	

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-253380-1

SDG Number:

Login Number: 253380
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins 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.	N/A	
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	
Multiphase 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/Landfill

Job ID: 310-253380-2

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)
310-253380-1	NC2MW4	55.8
310-253380-2	MW13	85.7
LCS 160-609093/2-A	Lab Control Sample	94.3
LCS 160-609262/2-A	Lab Control Sample	96.1
LCSD 160-609093/3-A	Lab Control Sample Dup	99.5
LCSD 160-609262/3-A	Lab Control Sample Dup	92.4
MB 160-609093/1-A	Method Blank	92.9
MB 160-609262/1-A	Method Blank	108

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 (30-110)	Y (30-110)
310-253380-1	NC2MW4	55.8	81.9
310-253380-2	MW13	85.7	80.7
LCS 160-609099/2-A	Lab Control Sample	94.3	86.4
LCS 160-609265/2-A	Lab Control Sample	96.1	84.5
LCSD 160-609099/3-A	Lab Control Sample Dup	99.5	84.9
LCSD 160-609265/3-A	Lab Control Sample Dup	92.4	84.1
MB 160-609099/1-A	Method Blank	92.9	86.7
MB 160-609265/1-A	Method Blank	108	81.1

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

ANALYTICAL REPORT

PREPARED FOR

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

Generated 11/13/2023 4:25:09 PM

JOB DESCRIPTION

Nebraska City Station Unit 1 CCR/Landfill

JOB NUMBER

310-267007-2

Eurofins Cedar Falls

Job Notes

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

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

Authorization

Generated
11/13/2023 4:25:09 PM

Authorized for release by
Emily Mathews, Project Management Assistant I
Emily.Mathews@et.eurofinsus.com
Designee for
Bob Michels, Project Manager I
Bob.Michels@et.eurofinsus.com
(319)277-2401

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Case Narrative



Job ID: 310-267007-2

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-267007-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 10/12/2023 5:00 PM. 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 0.5°C and 1.4°C

HPLC/IC

Method 9056A_ORGFM_28D: The following samples were diluted due to the nature of the sample matrix: NC1MW2 (310-267007-1), NC1MW4 (310-267007-3) and MW11 (310-267007-5). Elevated reporting limits (RLs) are provided.

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

Metals

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

General Chemistry

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

Narrative

Job Narrative
310-267007-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 10/12/2023 5:00 PM. 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 0.5°C and 1.4°C

Gas Flow Proportional Counter

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

Case Narrative

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

Job ID: 310-267007-2

Job ID: 310-267007-2 (Continued)

Laboratory: Eurofins Cedar Falls (Continued)

Rad
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/Landfill

Job ID: 310-267007-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-267007-1	NC1MW2	Water	10/10/23 16:13	10/12/23 17:00
310-267007-2	NC1MW3	Water	10/11/23 09:57	10/12/23 17:00
310-267007-3	NC1MW4	Water	10/10/23 16:54	10/12/23 17:00
310-267007-4	NC1MW9	Water	10/11/23 10:39	10/12/23 17:00
310-267007-5	MW11	Water	10/10/23 15:17	10/12/23 17:00
310-267007-6	MW14	Water	10/10/23 14:04	10/12/23 17:00
310-267007-7	DUP1	Water	10/11/23 00:00	10/12/23 17:00



Detection Summary

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

Job ID: 310-267007-2

Client Sample ID: NC1MW2

Lab Sample ID: 310-267007-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	3.08	J	5.00	2.25	mg/L	5	9056A		Total/NA	
Sulfate	50.8		5.00	2.10	mg/L	5	9056A		Total/NA	
Arsenic	0.000908	J	0.00200	0.000530	mg/L	1	6020B		Total/NA	
Barium	0.110		0.00200	0.000640	mg/L	1	6020B		Total/NA	
Boron	0.442		0.100	0.0760	mg/L	1	6020B		Total/NA	
Calcium	74.8		0.500	0.190	mg/L	1	6020B		Total/NA	
Lithium	0.0102		0.0100	0.00250	mg/L	1	6020B		Total/NA	
Molybdenum	0.0553		0.00200	0.000910	mg/L	1	6020B		Total/NA	
Total Dissolved Solids	302		50.0	34.0	mg/L	1	SM 2540C		Total/NA	

Client Sample ID: NC1MW3

Lab Sample ID: 310-267007-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	7.44		5.00	2.25	mg/L	5	9056A		Total/NA	
Fluoride	0.399	J	1.00	0.375	mg/L	5	9056A		Total/NA	
Sulfate	191		5.00	2.10	mg/L	5	9056A		Total/NA	
Arsenic	0.0703		0.00200	0.000530	mg/L	1	6020B		Total/NA	
Barium	0.129		0.00200	0.000640	mg/L	1	6020B		Total/NA	
Boron	2.34		0.100	0.0760	mg/L	1	6020B		Total/NA	
Calcium	153		0.500	0.190	mg/L	1	6020B		Total/NA	
Cobalt	0.000771		0.000500	0.000170	mg/L	1	6020B		Total/NA	
Lithium	0.0427		0.0100	0.00250	mg/L	1	6020B		Total/NA	
Molybdenum	0.00260		0.00200	0.000910	mg/L	1	6020B		Total/NA	
Total Dissolved Solids	752		50.0	34.0	mg/L	1	SM 2540C		Total/NA	

Client Sample ID: NC1MW4

Lab Sample ID: 310-267007-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	4.75	J	5.00	2.25	mg/L	5	9056A		Total/NA	
Sulfate	279		5.00	2.10	mg/L	5	9056A		Total/NA	
Arsenic	0.00175	J	0.00200	0.000530	mg/L	1	6020B		Total/NA	
Barium	0.121		0.00200	0.000640	mg/L	1	6020B		Total/NA	
Boron	1.50		0.100	0.0760	mg/L	1	6020B		Total/NA	
Calcium	137		0.500	0.190	mg/L	1	6020B		Total/NA	
Cobalt	0.000857		0.000500	0.000170	mg/L	1	6020B		Total/NA	
Lithium	0.0241		0.0100	0.00250	mg/L	1	6020B		Total/NA	
Molybdenum	0.00469		0.00200	0.000910	mg/L	1	6020B		Total/NA	
Total Dissolved Solids	674		50.0	34.0	mg/L	1	SM 2540C		Total/NA	

Client Sample ID: NC1MW9

Lab Sample ID: 310-267007-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	6.78		5.00	2.25	mg/L	5	9056A		Total/NA	
Fluoride	0.406	J	1.00	0.375	mg/L	5	9056A		Total/NA	
Sulfate	104		5.00	2.10	mg/L	5	9056A		Total/NA	
Arsenic	0.0490		0.00200	0.000530	mg/L	1	6020B		Total/NA	
Barium	0.174		0.00200	0.000640	mg/L	1	6020B		Total/NA	
Boron	0.399		0.100	0.0760	mg/L	1	6020B		Total/NA	
Calcium	154		0.500	0.190	mg/L	1	6020B		Total/NA	
Cobalt	0.00103		0.000500	0.000170	mg/L	1	6020B		Total/NA	
Lithium	0.0423		0.0100	0.00250	mg/L	1	6020B		Total/NA	
Molybdenum	0.0132		0.00200	0.000910	mg/L	1	6020B		Total/NA	

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

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

Job ID: 310-267007-2

Client Sample ID: NC1MW9 (Continued)

Lab Sample ID: 310-267007-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Total Dissolved Solids	646		50.0	34.0	mg/L	1	SM 2540C		Total/NA	

Client Sample ID: MW11

Lab Sample ID: 310-267007-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	7.34		5.00	2.25	mg/L	5	9056A		Total/NA	
Arsenic	0.0120		0.00200	0.000530	mg/L	1	6020B		Total/NA	
Barium	0.187		0.00200	0.000640	mg/L	1	6020B		Total/NA	
Boron	0.318		0.100	0.0760	mg/L	1	6020B		Total/NA	
Calcium	53.5		0.500	0.190	mg/L	1	6020B		Total/NA	
Cobalt	0.000261	J	0.000500	0.000170	mg/L	1	6020B		Total/NA	
Lead	0.000351	J	0.000500	0.000240	mg/L	1	6020B		Total/NA	
Lithium	0.00254	J	0.0100	0.00250	mg/L	1	6020B		Total/NA	
Molybdenum	0.00511		0.00200	0.000910	mg/L	1	6020B		Total/NA	
Total Dissolved Solids	204		50.0	34.0	mg/L	1	SM 2540C		Total/NA	

Client Sample ID: MW14

Lab Sample ID: 310-267007-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	7.96		5.00	2.25	mg/L	5	9056A		Total/NA	
Fluoride	0.412	J	1.00	0.375	mg/L	5	9056A		Total/NA	
Sulfate	4.88	J	5.00	2.10	mg/L	5	9056A		Total/NA	
Arsenic	0.0995		0.00200	0.000530	mg/L	1	6020B		Total/NA	
Barium	0.394		0.00200	0.000640	mg/L	1	6020B		Total/NA	
Boron	0.284		0.100	0.0760	mg/L	1	6020B		Total/NA	
Calcium	153		0.500	0.190	mg/L	1	6020B		Total/NA	
Cobalt	0.000548		0.000500	0.000170	mg/L	1	6020B		Total/NA	
Lead	0.000656		0.000500	0.000240	mg/L	1	6020B		Total/NA	
Lithium	0.0584		0.0100	0.00250	mg/L	1	6020B		Total/NA	
Molybdenum	0.00122	J	0.00200	0.000910	mg/L	1	6020B		Total/NA	
Total Dissolved Solids	670		50.0	34.0	mg/L	1	SM 2540C		Total/NA	

Client Sample ID: DUP1

Lab Sample ID: 310-267007-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	7.43		5.00	2.25	mg/L	5	9056A		Total/NA	
Fluoride	0.401	J	1.00	0.375	mg/L	5	9056A		Total/NA	
Sulfate	189		5.00	2.10	mg/L	5	9056A		Total/NA	
Arsenic	0.0697		0.00200	0.000530	mg/L	1	6020B		Total/NA	
Barium	0.128		0.00200	0.000640	mg/L	1	6020B		Total/NA	
Boron	2.37		0.100	0.0760	mg/L	1	6020B		Total/NA	
Calcium	153		0.500	0.190	mg/L	1	6020B		Total/NA	
Cobalt	0.000779		0.000500	0.000170	mg/L	1	6020B		Total/NA	
Lithium	0.0440		0.0100	0.00250	mg/L	1	6020B		Total/NA	
Molybdenum	0.00240		0.00200	0.000910	mg/L	1	6020B		Total/NA	
Mercury	0.000149	J	0.000200	0.000140	mg/L	1	7470A		Total/NA	
Total Dissolved Solids	756		50.0	34.0	mg/L	1	SM 2540C		Total/NA	

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-267007-2

Client Sample ID: NC1MW2

Lab Sample ID: 310-267007-1

Date Collected: 10/10/23 16:13

Matrix: Water

Date Received: 10/12/23 17:00

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.08	J	5.00	2.25	mg/L			10/20/23 17:55	5
Fluoride	<0.375		1.00	0.375	mg/L			10/20/23 17:55	5
Sulfate	50.8		5.00	2.10	mg/L			10/20/23 17:55	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 14:40	1
Arsenic	0.000908	J	0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 14:40	1
Barium	0.110		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 14:40	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 14:40	1
Boron	0.442		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 14:40	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 14:40	1
Calcium	74.8		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 14:40	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 14:40	1
Cobalt	<0.000170		0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 14:40	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 14:40	1
Lithium	0.0102		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 14:40	1
Molybdenum	0.0553		0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 14:40	1
Selenium	<0.00140		0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 14:40	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/17/23 10:30	10/19/23 14:40	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		10/20/23 10:42	10/23/23 10:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	302		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0522	U	0.115	0.115	1.00	0.207	pCi/L	10/19/23 10:12	11/10/23 11:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.1		30 - 110					10/19/23 10:12	11/10/23 11:49	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.762		0.378	0.384	1.00	0.506	pCi/L	10/19/23 10:16	11/07/23 15:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.1		30 - 110					10/19/23 10:16	11/07/23 15:51	1
Y Carrier	79.6		30 - 110					10/19/23 10:16	11/07/23 15:51	1

Client Sample Results

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

Job ID: 310-267007-2

Client Sample ID: NC1MW2

Lab Sample ID: 310-267007-1

Date Collected: 10/10/23 16:13

Matrix: Water

Date Received: 10/12/23 17:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.814		0.395	0.401	5.00	0.506	pCi/L		11/13/23 12:41	1

Client Sample Results

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

Job ID: 310-267007-2

Client Sample ID: NC1MW3

Lab Sample ID: 310-267007-2

Date Collected: 10/11/23 09:57

Matrix: Water

Date Received: 10/12/23 17:00

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.44		5.00	2.25	mg/L			10/20/23 18:39	5
Fluoride	0.399	J	1.00	0.375	mg/L			10/20/23 18:39	5
Sulfate	191		5.00	2.10	mg/L			10/20/23 18:39	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 14:42	1
Arsenic	0.0703		0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 14:42	1
Barium	0.129		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 14:42	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 14:42	1
Boron	2.34		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 14:42	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 14:42	1
Calcium	153		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 14:42	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 14:42	1
Cobalt	0.000771		0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 14:42	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 14:42	1
Lithium	0.0427		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 14:42	1
Molybdenum	0.00260		0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 14:42	1
Selenium	<0.00140		0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 14:42	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/17/23 10:30	10/19/23 14:42	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		10/20/23 10:42	10/23/23 10:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	752		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.142	U	0.105	0.106	1.00	0.146	pCi/L	10/19/23 10:12	11/10/23 11:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.6		30 - 110					10/19/23 10:12	11/10/23 11:49	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.287	U	0.331	0.332	1.00	0.543	pCi/L	10/19/23 10:16	11/07/23 15:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.6		30 - 110					10/19/23 10:16	11/07/23 15:51	1
Y Carrier	77.8		30 - 110					10/19/23 10:16	11/07/23 15:51	1

Client Sample Results

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

Job ID: 310-267007-2

Client Sample ID: NC1MW3

Lab Sample ID: 310-267007-2

Date Collected: 10/11/23 09:57

Matrix: Water

Date Received: 10/12/23 17:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.429	U	0.347	0.349	5.00	0.543	pCi/L		11/13/23 12:41	1

Client Sample Results

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

Job ID: 310-267007-2

Client Sample ID: NC1MW4

Lab Sample ID: 310-267007-3

Date Collected: 10/10/23 16:54

Matrix: Water

Date Received: 10/12/23 17:00

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.75	J	5.00	2.25	mg/L			10/20/23 18:53	5
Fluoride	<0.375		1.00	0.375	mg/L			10/20/23 18:53	5
Sulfate	279		5.00	2.10	mg/L			10/20/23 18:53	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 14:44	1
Arsenic	0.00175	J	0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 14:44	1
Barium	0.121		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 14:44	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 14:44	1
Boron	1.50		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 14:44	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 14:44	1
Calcium	137		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 14:44	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 14:44	1
Cobalt	0.000857		0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 14:44	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 14:44	1
Lithium	0.0241		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 14:44	1
Molybdenum	0.00469		0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 14:44	1
Selenium	<0.00140		0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 14:44	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/17/23 10:30	10/19/23 14:44	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		10/20/23 10:42	10/23/23 10:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	674		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.336		0.197	0.199	1.00	0.261	pCi/L	10/19/23 10:12	11/10/23 11:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		30 - 110					10/19/23 10:12	11/10/23 11:49	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.38		0.667	0.679	1.00	0.934	pCi/L	10/19/23 10:16	11/07/23 15:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		30 - 110					10/19/23 10:16	11/07/23 15:51	1
Y Carrier	77.0		30 - 110					10/19/23 10:16	11/07/23 15:51	1

Client Sample Results

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

Job ID: 310-267007-2

Client Sample ID: NC1MW4

Lab Sample ID: 310-267007-3

Date Collected: 10/10/23 16:54

Matrix: Water

Date Received: 10/12/23 17:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.72		0.695	0.708	5.00	0.934	pCi/L		11/13/23 12:41	1

Client Sample Results

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

Job ID: 310-267007-2

Client Sample ID: NC1MW9

Lab Sample ID: 310-267007-4

Date Collected: 10/11/23 10:39

Matrix: Water

Date Received: 10/12/23 17:00

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.78		5.00	2.25	mg/L			10/20/23 19:08	5
Fluoride	0.406	J	1.00	0.375	mg/L			10/20/23 19:08	5
Sulfate	104		5.00	2.10	mg/L			10/20/23 19:08	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 14:47	1
Arsenic	0.0490		0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 14:47	1
Barium	0.174		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 14:47	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 14:47	1
Boron	0.399		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 14:47	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 14:47	1
Calcium	154		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 14:47	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 14:47	1
Cobalt	0.00103		0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 14:47	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 14:47	1
Lithium	0.0423		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 14:47	1
Molybdenum	0.0132		0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 14:47	1
Selenium	<0.00140		0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 14:47	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/17/23 10:30	10/19/23 14:47	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		10/20/23 10:42	10/23/23 10:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	646		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.192	U	0.149	0.150	1.00	0.225	pCi/L	10/19/23 10:12	11/10/23 11:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		30 - 110					10/19/23 10:12	11/10/23 11:49	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.25		0.434	0.449	1.00	0.519	pCi/L	10/19/23 10:16	11/07/23 15:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		30 - 110					10/19/23 10:16	11/07/23 15:52	1
Y Carrier	76.3		30 - 110					10/19/23 10:16	11/07/23 15:52	1

Client Sample Results

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

Job ID: 310-267007-2

Client Sample ID: NC1MW9

Lab Sample ID: 310-267007-4

Date Collected: 10/11/23 10:39

Matrix: Water

Date Received: 10/12/23 17:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.44		0.459	0.473	5.00	0.519	pCi/L		11/13/23 12:41	1

Client Sample Results

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

Job ID: 310-267007-2

Client Sample ID: MW11

Date Collected: 10/10/23 15:17

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267007-5

Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.34		5.00	2.25	mg/L			10/20/23 19:23	5
Fluoride	<0.375		1.00	0.375	mg/L			10/20/23 19:23	5
Sulfate	<2.10		5.00	2.10	mg/L			10/20/23 19:23	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 14:51	1
Arsenic	0.0120		0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 14:51	1
Barium	0.187		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 14:51	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 14:51	1
Boron	0.318		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 14:51	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 14:51	1
Calcium	53.5		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 14:51	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 14:51	1
Cobalt	0.000261 J		0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 14:51	1
Lead	0.000351 J		0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 14:51	1
Lithium	0.00254 J		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 14:51	1
Molybdenum	0.00511		0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 14:51	1
Selenium	<0.00140		0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 14:51	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/17/23 10:30	10/19/23 14:51	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		10/20/23 10:42	10/23/23 10:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	204		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.284	U	0.200	0.201	1.00	0.290	pCi/L	10/19/23 10:12	11/10/23 11:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.9		30 - 110					10/19/23 10:12	11/10/23 11:49	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.186	U	0.379	0.379	1.00	0.662	pCi/L	10/19/23 10:16	11/07/23 15:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.9		30 - 110					10/19/23 10:16	11/07/23 15:52	1
Y Carrier	80.4		30 - 110					10/19/23 10:16	11/07/23 15:52	1

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-267007-2

Client Sample ID: MW11

Date Collected: 10/10/23 15:17

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267007-5

Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.471	U	0.429	0.429	5.00	0.662	pCi/L		11/13/23 12:41	1

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-267007-2

Client Sample ID: MW14

Date Collected: 10/10/23 14:04

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267007-6

Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.96		5.00	2.25	mg/L			10/20/23 19:38	5
Fluoride	0.412	J	1.00	0.375	mg/L			10/20/23 19:38	5
Sulfate	4.88	J	5.00	2.10	mg/L			10/20/23 19:38	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 14:53	1
Arsenic	0.0995		0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 14:53	1
Barium	0.394		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 14:53	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 14:53	1
Boron	0.284		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 14:53	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 14:53	1
Calcium	153		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 14:53	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 14:53	1
Cobalt	0.000548		0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 14:53	1
Lead	0.000656		0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 14:53	1
Lithium	0.0584		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 14:53	1
Molybdenum	0.00122	J	0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 14:53	1
Selenium	<0.00140		0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 14:53	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/17/23 10:30	10/19/23 14:53	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		10/20/23 10:42	10/23/23 10:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	670		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.600		0.223	0.229	1.00	0.247	pCi/L	10/19/23 10:12	11/10/23 11:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.9		30 - 110					10/19/23 10:12	11/10/23 11:44	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.60		0.538	0.557	1.00	0.638	pCi/L	10/19/23 10:16	11/07/23 15:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.9		30 - 110					10/19/23 10:16	11/07/23 15:52	1
Y Carrier	84.9		30 - 110					10/19/23 10:16	11/07/23 15:52	1

Client Sample Results

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

Job ID: 310-267007-2

Client Sample ID: MW14

Date Collected: 10/10/23 14:04

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267007-6

Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.20		0.582	0.602	5.00	0.638	pCi/L		11/13/23 12:41	1

Client Sample Results

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

Job ID: 310-267007-2

Client Sample ID: DUP1

Date Collected: 10/11/23 00:00

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267007-7

Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.43		5.00	2.25	mg/L			10/20/23 19:53	5
Fluoride	0.401	J	1.00	0.375	mg/L			10/20/23 19:53	5
Sulfate	189		5.00	2.10	mg/L			10/20/23 19:53	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 15:05	1
Arsenic	0.0697		0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 15:05	1
Barium	0.128		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 15:05	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 15:05	1
Boron	2.37		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 15:05	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 15:05	1
Calcium	153		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 15:05	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 15:05	1
Cobalt	0.000779		0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 15:05	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 15:05	1
Lithium	0.0440		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 15:05	1
Molybdenum	0.00240		0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 15:05	1
Selenium	<0.00140		0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 15:05	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/17/23 10:30	10/19/23 15:05	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000149	J	0.000200	0.000140	mg/L		10/20/23 10:42	10/23/23 10:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	756		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.281		0.148	0.150	1.00	0.194	pCi/L	10/19/23 10:12	11/10/23 11:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.9		30 - 110					10/19/23 10:12	11/10/23 11:44	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.314	U	0.314	0.315	1.00	0.503	pCi/L	10/19/23 10:16	11/07/23 15:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.9		30 - 110					10/19/23 10:16	11/07/23 15:52	1
Y Carrier	80.0		30 - 110					10/19/23 10:16	11/07/23 15:52	1

Client Sample Results

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

Job ID: 310-267007-2

Client Sample ID: DUP1

Date Collected: 10/11/23 00:00

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267007-7

Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.596		0.347	0.349	5.00	0.503	pCi/L		11/13/23 12:41	1

Definitions/Glossary

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

Job ID: 310-267007-2

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.

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
SQL	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

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QC Sample Results

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

Job ID: 310-267007-2

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-403422/3
 Matrix: Water
 Analysis Batch: 403422

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	<0.450		1.00	0.450	mg/L			10/20/23 16:42	1
Fluoride	<0.0750		0.200	0.0750	mg/L			10/20/23 16:42	1
Sulfate	<0.420		1.00	0.420	mg/L			10/20/23 16:42	1

Lab Sample ID: LCS 310-403422/4
 Matrix: Water
 Analysis Batch: 403422

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

Analyte	Spike Added	LCS LCS	Unit	D	%Rec	%Rec	Limits
Chloride	10.0	10.34	mg/L		103	90 - 110	
Fluoride	2.00	2.181	mg/L		109	90 - 110	
Sulfate	10.0	10.53	mg/L		105	90 - 110	

Lab Sample ID: 310-267007-1 MS
 Matrix: Water
 Analysis Batch: 403422

Client Sample ID: NC1MW2
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec	Limits
				Result	Qualifier					
Chloride	3.08	J	25.0	27.03		mg/L		96	80 - 120	
Fluoride	<0.375		5.00	5.556		mg/L		111	80 - 120	
Sulfate	50.8		25.0	75.56		mg/L		99	80 - 120	

Lab Sample ID: 310-267007-1 MSD
 Matrix: Water
 Analysis Batch: 403422

Client Sample ID: NC1MW2
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec	RPD	RPD Limit
				Result	Qualifier						
Chloride	3.08	J	25.0	27.41		mg/L		97	80 - 120	1	15
Fluoride	<0.375		5.00	5.645		mg/L		113	80 - 120	2	15
Sulfate	50.8		25.0	75.88		mg/L		100	80 - 120	0	15

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-402688/1-A
 Matrix: Water
 Analysis Batch: 403133

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 402688

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<0.00100		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 14:06	1
Arsenic	<0.000530		0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 14:06	1
Barium	<0.000640		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 14:06	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 14:06	1
Boron	<0.0760		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 14:06	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 14:06	1
Calcium	<0.190		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 14:06	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 14:06	1
Cobalt	<0.000170		0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 14:06	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 14:06	1
Lithium	<0.00250		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 14:06	1
Molybdenum	<0.000910		0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 14:06	1

Eurofins Cedar Falls

QC Sample Results

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

Job ID: 310-267007-2

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

Lab Sample ID: MB 310-402688/1-A
Matrix: Water
Analysis Batch: 403133

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 402688

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Selenium	<0.00140		0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 14:06	1

Lab Sample ID: MB 310-402688/1-A
Matrix: Water
Analysis Batch: 403595

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 402688

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Thallium	<0.000260		0.00100	0.000260	mg/L		10/17/23 10:30	10/24/23 13:26	1

Lab Sample ID: LCS 310-402688/2-A
Matrix: Water
Analysis Batch: 403133

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 402688

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	0.200	0.1987		mg/L	99	80 - 120	
Barium	0.100	0.1003		mg/L	100	80 - 120	
Beryllium	0.100	0.09693		mg/L	97	80 - 120	
Boron	0.200	0.1935		mg/L	97	80 - 120	
Cadmium	0.100	0.09841		mg/L	98	80 - 120	
Calcium	2.00	1.797		mg/L	90	80 - 120	
Chromium	0.100	0.1032		mg/L	103	80 - 120	
Cobalt	0.100	0.1075		mg/L	107	80 - 120	
Lead	0.200	0.2018		mg/L	101	80 - 120	
Lithium	0.200	0.1958		mg/L	98	80 - 120	
Molybdenum	0.200	0.2027		mg/L	101	80 - 120	
Selenium	0.400	0.3931		mg/L	98	80 - 120	

Lab Sample ID: LCS 310-402688/2-A
Matrix: Water
Analysis Batch: 403451

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 402688

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

Lab Sample ID: 310-267007-4 DU
Matrix: Water
Analysis Batch: 403133

Client Sample ID: NC1MW9
Prep Type: Total/NA
Prep Batch: 402688

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Arsenic	0.0490		0.04893		mg/L		0.2	20
Barium	0.174		0.1717		mg/L		1	20
Beryllium	<0.000330		<0.000330		mg/L		NC	20
Boron	0.399		0.3805		mg/L		5	20
Cadmium	<0.000100		<0.000100		mg/L		NC	20
Calcium	154		152.5		mg/L		1	20
Chromium	<0.00110		<0.00110		mg/L		NC	20
Cobalt	0.00103		0.001030		mg/L		0.3	20
Lead	<0.000240		<0.000240		mg/L		NC	20

Eurofins Cedar Falls

QC Sample Results

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

Job ID: 310-267007-2

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

Lab Sample ID: 310-267007-4 DU
Matrix: Water
Analysis Batch: 403133

Client Sample ID: NC1MW9
Prep Type: Total/NA
Prep Batch: 402688

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Molybdenum	0.0132		0.01317		mg/L		0.3	20
Selenium	<0.00140		<0.00140		mg/L		NC	20
Thallium	<0.000260		<0.000260		mg/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-403229/1-A
Matrix: Water
Analysis Batch: 403417

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 403229

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	<0.000140		0.000200	0.000140	mg/L		10/20/23 10:41	10/23/23 10:05	1

Lab Sample ID: LCS 310-403229/2-A
Matrix: Water
Analysis Batch: 403417

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 403229

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

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

Lab Sample ID: MB 310-402536/1
Matrix: Water
Analysis Batch: 402536

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Dissolved Solids	<34.0		50.0	34.0	mg/L			10/13/23 14:59	1

Lab Sample ID: LCS 310-402536/2
Matrix: Water
Analysis Batch: 402536

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

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

Lab Sample ID: 310-267007-1 DU
Matrix: Water
Analysis Batch: 402536

Client Sample ID: NC1MW2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit

Eurofins Cedar Falls

QC Sample Results

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

Job ID: 310-267007-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-632680/1-A
Matrix: Water
Analysis Batch: 636204

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 632680

Analyte	MB MB		Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier								
Radium-226	0.07626	U	0.128	0.128	1.00	0.221	pCi/L	10/19/23 10:12	11/10/23 11:49	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
Ba Carrier	%Yield	Qualifier		30 - 110						
Ba Carrier	94.1		30 - 110							

Lab Sample ID: LCS 160-632680/2-A
Matrix: Water
Analysis Batch: 636204

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 632680

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Carrier	LCS LCS		Limits			Prepared	Analyzed	Dil Fac	
Ba Carrier	%Yield	Qualifier		30 - 110					
Ba Carrier	95.4		30 - 110						

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-632681/1-A
Matrix: Water
Analysis Batch: 635681

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 632681

Analyte	MB MB		Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier								
Radium-228	0.7937		0.354	0.361	1.00	0.460	pCi/L	10/19/23 10:16	11/07/23 15:51	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
Ba Carrier	%Yield	Qualifier		30 - 110						
Ba Carrier	81.5		30 - 110							
Y Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
Y Carrier	%Yield	Qualifier		30 - 110						
Y Carrier	77.8		30 - 110							

Lab Sample ID: LCS 160-632681/2-A
Matrix: Water
Analysis Batch: 635681

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 632681

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Carrier	LCS LCS		Limits			Prepared	Analyzed	Dil Fac	
Ba Carrier	%Yield	Qualifier		30 - 110					
Ba Carrier	95.4		30 - 110						
Y Carrier	LCS LCS		Limits			Prepared	Analyzed	Dil Fac	
Y Carrier	%Yield	Qualifier		30 - 110					
Y Carrier	77.8		30 - 110						

Eurofins Cedar Falls

QC Association Summary

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

Job ID: 310-267007-2

HPLC/IC

Analysis Batch: 403422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267007-1	NC1MW2	Total/NA	Water	9056A	
310-267007-2	NC1MW3	Total/NA	Water	9056A	
310-267007-3	NC1MW4	Total/NA	Water	9056A	
310-267007-4	NC1MW9	Total/NA	Water	9056A	
310-267007-5	MW11	Total/NA	Water	9056A	
310-267007-6	MW14	Total/NA	Water	9056A	
310-267007-7	DUP1	Total/NA	Water	9056A	
MB 310-403422/3	Method Blank	Total/NA	Water	9056A	
LCS 310-403422/4	Lab Control Sample	Total/NA	Water	9056A	
310-267007-1 MS	NC1MW2	Total/NA	Water	9056A	
310-267007-1 MSD	NC1MW2	Total/NA	Water	9056A	

Metals

Prep Batch: 402688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267007-1	NC1MW2	Total/NA	Water	3005A	
310-267007-2	NC1MW3	Total/NA	Water	3005A	
310-267007-3	NC1MW4	Total/NA	Water	3005A	
310-267007-4	NC1MW9	Total/NA	Water	3005A	
310-267007-5	MW11	Total/NA	Water	3005A	
310-267007-6	MW14	Total/NA	Water	3005A	
310-267007-7	DUP1	Total/NA	Water	3005A	
MB 310-402688/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-402688/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-267007-4 DU	NC1MW9	Total/NA	Water	3005A	

Analysis Batch: 403133

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267007-1	NC1MW2	Total/NA	Water	6020B	402688
310-267007-2	NC1MW3	Total/NA	Water	6020B	402688
310-267007-3	NC1MW4	Total/NA	Water	6020B	402688
310-267007-4	NC1MW9	Total/NA	Water	6020B	402688
310-267007-5	MW11	Total/NA	Water	6020B	402688
310-267007-6	MW14	Total/NA	Water	6020B	402688
310-267007-7	DUP1	Total/NA	Water	6020B	402688
MB 310-402688/1-A	Method Blank	Total/NA	Water	6020B	402688
LCS 310-402688/2-A	Lab Control Sample	Total/NA	Water	6020B	402688
310-267007-4 DU	NC1MW9	Total/NA	Water	6020B	402688

Prep Batch: 403229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267007-1	NC1MW2	Total/NA	Water	7470A	
310-267007-2	NC1MW3	Total/NA	Water	7470A	
310-267007-3	NC1MW4	Total/NA	Water	7470A	
310-267007-4	NC1MW9	Total/NA	Water	7470A	
310-267007-5	MW11	Total/NA	Water	7470A	
310-267007-6	MW14	Total/NA	Water	7470A	
310-267007-7	DUP1	Total/NA	Water	7470A	
MB 310-403229/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-403229/2-A	Lab Control Sample	Total/NA	Water	7470A	

Eurofins Cedar Falls

QC Association Summary

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

Job ID: 310-267007-2

Metals

Analysis Batch: 403417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267007-1	NC1MW2	Total/NA	Water	7470A	403229
310-267007-2	NC1MW3	Total/NA	Water	7470A	403229
310-267007-3	NC1MW4	Total/NA	Water	7470A	403229
310-267007-4	NC1MW9	Total/NA	Water	7470A	403229
310-267007-5	MW11	Total/NA	Water	7470A	403229
310-267007-6	MW14	Total/NA	Water	7470A	403229
310-267007-7	DUP1	Total/NA	Water	7470A	403229
MB 310-403229/1-A	Method Blank	Total/NA	Water	7470A	403229
LCS 310-403229/2-A	Lab Control Sample	Total/NA	Water	7470A	403229

Analysis Batch: 403451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-402688/2-A	Lab Control Sample	Total/NA	Water	6020B	402688

Analysis Batch: 403595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-402688/1-A	Method Blank	Total/NA	Water	6020B	402688

General Chemistry

Analysis Batch: 402536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267007-1	NC1MW2	Total/NA	Water	SM 2540C	
310-267007-2	NC1MW3	Total/NA	Water	SM 2540C	
310-267007-3	NC1MW4	Total/NA	Water	SM 2540C	
310-267007-4	NC1MW9	Total/NA	Water	SM 2540C	
310-267007-5	MW11	Total/NA	Water	SM 2540C	
310-267007-6	MW14	Total/NA	Water	SM 2540C	
310-267007-7	DUP1	Total/NA	Water	SM 2540C	
MB 310-402536/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-402536/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-267007-1 DU	NC1MW2	Total/NA	Water	SM 2540C	

Rad

Prep Batch: 632680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267007-1	NC1MW2	Total/NA	Water	PrecSep-21	
310-267007-2	NC1MW3	Total/NA	Water	PrecSep-21	
310-267007-3	NC1MW4	Total/NA	Water	PrecSep-21	
310-267007-4	NC1MW9	Total/NA	Water	PrecSep-21	
310-267007-5	MW11	Total/NA	Water	PrecSep-21	
310-267007-6	MW14	Total/NA	Water	PrecSep-21	
310-267007-7	DUP1	Total/NA	Water	PrecSep-21	
MB 160-632680/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-632680/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 632681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267007-1	NC1MW2	Total/NA	Water	PrecSep_0	
310-267007-2	NC1MW3	Total/NA	Water	PrecSep_0	
310-267007-3	NC1MW4	Total/NA	Water	PrecSep_0	

Eurofins Cedar Falls

QC Association Summary

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

Job ID: 310-267007-2

Rad (Continued)

Prep Batch: 632681 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267007-4	NC1MW9	Total/NA	Water	PrecSep_0	
310-267007-5	MW11	Total/NA	Water	PrecSep_0	
310-267007-6	MW14	Total/NA	Water	PrecSep_0	
310-267007-7	DUP1	Total/NA	Water	PrecSep_0	
MB 160-632681/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-632681/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Eurofins Cedar Falls

Lab Chronicle

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

Job ID: 310-267007-2

Client Sample ID: NC1MW2

Date Collected: 10/10/23 16:13

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267007-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403422	QTZ5	EET CF	10/20/23 17:55
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403133	A6US	EET CF	10/19/23 14:40
Total/NA	Prep	7470A			403229	NFT2	EET CF	10/20/23 10:42
Total/NA	Analysis	7470A		1	403417	NFT2	EET CF	10/23/23 10:28
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632680	KAC	EET SL	10/19/23 10:12
Total/NA	Analysis	9315		1	636204	SCB	EET SL	11/10/23 11:49
Total/NA	Prep	PrecSep_0			632681	KAC	EET SL	10/19/23 10:16
Total/NA	Analysis	9320		1	635681	SCB	EET SL	11/07/23 15:51
Total/NA	Analysis	Ra226_Ra228		1	636622	SCB	EET SL	11/13/23 12:41

Client Sample ID: NC1MW3

Date Collected: 10/11/23 09:57

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267007-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403422	QTZ5	EET CF	10/20/23 18:39
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403133	A6US	EET CF	10/19/23 14:42
Total/NA	Prep	7470A			403229	NFT2	EET CF	10/20/23 10:42
Total/NA	Analysis	7470A		1	403417	NFT2	EET CF	10/23/23 10:30
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632680	KAC	EET SL	10/19/23 10:12
Total/NA	Analysis	9315		1	636204	SCB	EET SL	11/10/23 11:49
Total/NA	Prep	PrecSep_0			632681	KAC	EET SL	10/19/23 10:16
Total/NA	Analysis	9320		1	635681	SCB	EET SL	11/07/23 15:51
Total/NA	Analysis	Ra226_Ra228		1	636622	SCB	EET SL	11/13/23 12:41

Client Sample ID: NC1MW4

Date Collected: 10/10/23 16:54

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267007-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403422	QTZ5	EET CF	10/20/23 18:53
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403133	A6US	EET CF	10/19/23 14:44
Total/NA	Prep	7470A			403229	NFT2	EET CF	10/20/23 10:42
Total/NA	Analysis	7470A		1	403417	NFT2	EET CF	10/23/23 10:32
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632680	KAC	EET SL	10/19/23 10:12
Total/NA	Analysis	9315		1	636204	SCB	EET SL	11/10/23 11:49
Total/NA	Prep	PrecSep_0			632681	KAC	EET SL	10/19/23 10:16
Total/NA	Analysis	9320		1	635681	SCB	EET SL	11/07/23 15:51

Eurofins Cedar Falls

Lab Chronicle

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

Job ID: 310-267007-2

Client Sample ID: NC1MW4

Date Collected: 10/10/23 16:54

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267007-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Ra226_Ra228		1	636622	SCB	EET SL	11/13/23 12:41

Client Sample ID: NC1MW9

Date Collected: 10/11/23 10:39

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267007-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403422	QTZ5	EET CF	10/20/23 19:08
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403133	A6US	EET CF	10/19/23 14:47
Total/NA	Prep	7470A			403229	NFT2	EET CF	10/20/23 10:42
Total/NA	Analysis	7470A		1	403417	NFT2	EET CF	10/23/23 10:35
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632680	KAC	EET SL	10/19/23 10:12
Total/NA	Analysis	9315		1	636204	SCB	EET SL	11/10/23 11:49
Total/NA	Prep	PrecSep_0			632681	KAC	EET SL	10/19/23 10:16
Total/NA	Analysis	9320		1	635681	SCB	EET SL	11/07/23 15:52
Total/NA	Analysis	Ra226_Ra228		1	636622	SCB	EET SL	11/13/23 12:41

Client Sample ID: MW11

Date Collected: 10/10/23 15:17

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267007-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403422	QTZ5	EET CF	10/20/23 19:23
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403133	A6US	EET CF	10/19/23 14:51
Total/NA	Prep	7470A			403229	NFT2	EET CF	10/20/23 10:42
Total/NA	Analysis	7470A		1	403417	NFT2	EET CF	10/23/23 10:37
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632680	KAC	EET SL	10/19/23 10:12
Total/NA	Analysis	9315		1	636204	SCB	EET SL	11/10/23 11:49
Total/NA	Prep	PrecSep_0			632681	KAC	EET SL	10/19/23 10:16
Total/NA	Analysis	9320		1	635681	SCB	EET SL	11/07/23 15:52
Total/NA	Analysis	Ra226_Ra228		1	636622	SCB	EET SL	11/13/23 12:41

Client Sample ID: MW14

Date Collected: 10/10/23 14:04

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267007-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403422	QTZ5	EET CF	10/20/23 19:38
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403133	A6US	EET CF	10/19/23 14:53

Eurofins Cedar Falls

Lab Chronicle

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

Job ID: 310-267007-2

Client Sample ID: MW14

Date Collected: 10/10/23 14:04

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267007-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			403229	NFT2	EET CF	10/20/23 10:42
Total/NA	Analysis	7470A		1	403417	NFT2	EET CF	10/23/23 10:39
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632680	KAC	EET SL	10/19/23 10:12
Total/NA	Analysis	9315		1	636330	SCB	EET SL	11/10/23 11:44
Total/NA	Prep	PrecSep_0			632681	KAC	EET SL	10/19/23 10:16
Total/NA	Analysis	9320		1	635681	SCB	EET SL	11/07/23 15:52
Total/NA	Analysis	Ra226_Ra228		1	636622	SCB	EET SL	11/13/23 12:41

Client Sample ID: DUP1

Date Collected: 10/11/23 00:00

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267007-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403422	QTZ5	EET CF	10/20/23 19:53
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403133	A6US	EET CF	10/19/23 15:05
Total/NA	Prep	7470A			403229	NFT2	EET CF	10/20/23 10:42
Total/NA	Analysis	7470A		1	403417	NFT2	EET CF	10/23/23 10:41
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632680	KAC	EET SL	10/19/23 10:12
Total/NA	Analysis	9315		1	636330	SCB	EET SL	11/10/23 11:44
Total/NA	Prep	PrecSep_0			632681	KAC	EET SL	10/19/23 10:16
Total/NA	Analysis	9320		1	635681	SCB	EET SL	11/07/23 15:52
Total/NA	Analysis	Ra226_Ra228		1	636622	SCB	EET SL	11/13/23 12:41

Laboratory References:

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

Eurofins Cedar Falls

Accreditation/Certification Summary

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

Job ID: 310-267007-2

Laboratory: Eurofins 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)	09-29-24
Georgia	State	IA100001 (OR)	09-29-24
Illinois	NELAP	200024	11-29-23
Iowa	State	007	12-01-23
Kansas	NELAP	E-10341	01-31-24
Minnesota	NELAP	019-999-319	12-31-23
Minnesota (Petrofund)	State	3349	01-18-24
North Dakota	State	R-186	09-29-24
Oregon	NELAP	IA100001	09-29-24

Laboratory: Eurofins 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	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oklahoma	NELAP	9997	08-31-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-24
Texas	NELAP	T1047C4193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-24

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

Eurofins Cedar Falls

Accreditation/Certification Summary

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

Job ID: 310-267007-2

Laboratory: Eurofins St. Louis (Continued)

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

Authority	Program	Identification Number	Expiration Date
Virginia	NELAP	10310	06-15-25
Washington	State	C592	08-30-24
West Virginia DEP	State	381	12-31-23



Method Summary

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

Job ID: 310-267007-2

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

Protocol References:

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.

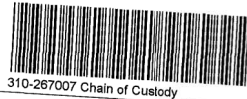
Laboratory References:

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





Environment Testing
America



Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Omaha Public Power District</u>			
City/State:	CITY	STATE	Project:
Receipt Information			
Date/Time Received:	DATE	TIME	Received By:
	<u>10/12/23</u>	<u>1700</u>	<u>LR</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee			
<input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other:			
Condition of Cooler/Containers			
Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler ID:			
Multiple Coolers? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler # <u>1</u> of <u>2</u>			
Cooler Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Trip Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Which VOA samples are in cooler? ↓			
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u> Correction Factor (°C): <u>0</u>			
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.5</u> Corrected Temp (°C): <u>0.5</u>			
• 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? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> 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?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Omaha Public Power District</u>			
City/State:	CITY	STATE	Project:
Receipt Information			
Date/Time Received:	DATE	TIME	Received By:
	<u>10/12/23</u>	<u>1700</u>	<u>LR</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee			
<input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other:			
Condition of Cooler/Containers			
Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler ID:			
Multiple Coolers? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler # <u>2</u> of <u>2</u>			
Cooler Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Trip Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Which VOA samples are in cooler? ↓			
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u> Correction Factor (°C): <u>0</u>			
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>1.4</u> Corrected Temp (°C): <u>1.4</u>			
• 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? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> 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?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Client Information		Company: Omaha Public Power District Address: 444 South 16th Street Mail 9E1E1 City: Omaha State: NE 68102-2247 Phone: (531) 226-2515 Email: kkhing@oppd.com Project Name: Nebraska City Station Unit 1 CCR / Landfill Site: Nebraska City Station Unit 1	Lab PM: Hayes, Shawn M E-Mail: shawn.hayes@testamericanc.com	CCC No: Page: Job #:				
Due Date Requested: TAT Requested (days)		PO #: MO #: TestAmerica Project #: SSOW#:	Analysis Requested	Preservation Codes: A. HCL B. NaOH C. Zn Acetate D. Nitric Acid E. Nitric Acid F. MCH G. Amchlor H. Ascorbic Acid I. DI Water J. DI Water K. EDTA L. EDA Z. other (specify) Other:				
Sample Identification	Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	Matrix (For Break, Overhead, In-Tank, JAL)	Field Filtered Sample (Yes or No)	Perform MS/MSO (Yes or No)	Total Number of Containers	Special Instructions/Note
NC1MW2	10/10/23	16:15	G	W	X	X	4	CCR Appendix III and IV Constituents
NC1MW3	10/11/23	9:57	G	W	X	X	4	CCR Appendix III and IV Constituents
NC1MW4	10/18/23	16:54	G	W	X	X	4	CCR Appendix III and IV Constituents
NC1MW9	10/11/23	10:39	G	W	X	X	4	CCR Appendix III and IV Constituents
MW11	10/10/23	15:17	G	W	X	X	4	CCR Appendix III and IV Constituents
MW14	10/10/23	14:04	G	W	X	X	4	CCR Appendix III and IV Constituents
DUP1	10/11/23	--	G	W	X	X	4	CCR Appendix III and IV Constituents
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Date		Time		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		
Empty Kit Relinquished by		Date		Time		Special Instructions/QC Requirements		
Relinquished by: [Signature]	10/11/2023	13:15	Company: [Signature]	10-11-23	13:50	Method of Shipment: [Signature]		
Relinquished by: [Signature]	10-12-23	08:00	Company: [Signature]	10/12/23	17:00	Cooler Temperature (°C) and Other Remarks:		

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-267007-1
SDG Number:

Login Number: 267007
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins 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.	N/A	
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	

Tracer/Carrier Summary

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

Job ID: 310-267007-2



Environment Testing

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	
310-267007-1	NC1MW2	85.1	
310-267007-2	NC1MW3	94.6	
310-267007-3	NC1MW4	82.6	
310-267007-4	NC1MW9	94.1	
310-267007-5	MW11	91.9	
310-267007-6	MW14	94.9	
310-267007-7	DUP1	91.9	
LCS 160-632680/2-A	Lab Control Sample	95.4	
MB 160-632680/1-A	Method Blank	94.1	

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 (30-110)	Y (30-110)
310-267007-1	NC1MW2	85.1	79.6
310-267007-2	NC1MW3	94.6	77.8
310-267007-3	NC1MW4	82.6	77.0
310-267007-4	NC1MW9	94.1	76.3
310-267007-5	MW11	91.9	80.4
310-267007-6	MW14	94.9	84.9
310-267007-7	DUP1	91.9	80.0
LCS 160-632681/2-A	Lab Control Sample	95.4	77.8
MB 160-632681/1-A	Method Blank	94.1	81.5

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

ANALYTICAL REPORT

PREPARED FOR

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

Generated 11/13/2023 9:06:25 AM

JOB DESCRIPTION

Nebraska City Unit 1 & 2 CCR/ Landfill

JOB NUMBER

310-267008-2



Eurofins Cedar Falls

Job Notes

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

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

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(319)595-2017

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11/13/2023 9:06:25 AM

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

Laboratory Job ID: 310-267008-2

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Case Narrative

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

Job ID: 310-267008-2



Job ID: 310-267008-2

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative 310-267008-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant: quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 10/12/2023 5:00 PM. 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 0.4°C and 1.8°C

HPLC/IC

Method 9056A_ORGFM_28D: The following sample was diluted due to the nature of the sample matrix: NC2MW4 (310-267008-1). Elevated reporting limits (RLs) are provided.

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

Metals

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

General Chemistry

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

Narrative

Job Narrative 310-267008-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant: quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 10/12/2023 5:00 PM. 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 0.4°C and 1.8°C

Gas Flow Proportional Counter

Method 9320_Ra228: Radium-228 prep batch 160-632175:

The following sample(s) did not meet the requested limit (RL) due to the reduced sample volume attributed to the presence of matrix

Case Narrative

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

Job ID: 310-267008-2



Job ID: 310-267008-2 (Continued)

Laboratory: Eurofins Cedar Falls (Continued)

interference. During preparation the analyst visually noted matrix effects. The data have been reported with this narrative. NC2MW4 (310-267008-1)

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

Rad

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

Sample Summary

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

Job ID: 310-267008-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-267008-1	NC2MW4	Water	10/10/23 12:51	10/12/23 17:00
310-267008-2	MW13	Water	10/10/23 12:49	10/12/23 17:00

Detection Summary

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

Job ID: 310-267008-2

Client Sample ID: NC2MW4

Lab Sample ID: 310-267008-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.22	J	5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	44.8		5.00	2.10	mg/L	5		9056A	Total/NA
Arsenic	0.00196	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.342		0.00200	0.000640	mg/L	1		6020B	Total/NA
Boron	0.126		0.100	0.0760	mg/L	1		6020B	Total/NA
Cadmium	0.000155	J	0.000200	0.000100	mg/L	1		6020B	Total/NA
Calcium	119		0.500	0.190	mg/L	1		6020B	Total/NA
Cobalt	0.00164		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.00360		0.000500	0.000240	mg/L	1		6020B	Total/NA
Lithium	0.0311		0.0100	0.00250	mg/L	1		6020B	Total/NA
Molybdenum	0.00302		0.00200	0.000910	mg/L	1		6020B	Total/NA
Selenium	0.00965		0.00500	0.00140	mg/L	1		6020B	Total/NA
Total Dissolved Solids	430		50.0	34.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW13

Lab Sample ID: 310-267008-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11.4		5.00	2.25	mg/L	5		9056A	Total/NA
Fluoride	1.00		1.00	0.375	mg/L	5		9056A	Total/NA
Sulfate	7.56		5.00	2.10	mg/L	5		9056A	Total/NA
Arsenic	0.0411		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.313		0.00200	0.000640	mg/L	1		6020B	Total/NA
Boron	0.0986	J	0.100	0.0760	mg/L	1		6020B	Total/NA
Calcium	141		0.500	0.190	mg/L	1		6020B	Total/NA
Cobalt	0.000726		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000375	J	0.000500	0.000240	mg/L	1		6020B	Total/NA
Lithium	0.0385		0.0100	0.00250	mg/L	1		6020B	Total/NA
Molybdenum	0.00175	J	0.00200	0.000910	mg/L	1		6020B	Total/NA
Total Dissolved Solids	544		50.0	34.0	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 Unit 1 & 2 CCR/ Landfill

Job ID: 310-267008-2

Client Sample ID: NC2MW4

Date Collected: 10/10/23 12:51

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267008-1

Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.22	J	5.00	2.25	mg/L			10/23/23 13:06	5
Fluoride	<0.375		1.00	0.375	mg/L			10/23/23 13:06	5
Sulfate	44.8		5.00	2.10	mg/L			10/23/23 13:06	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/18/23 09:15	10/20/23 20:11	1
Arsenic	0.00196	J	0.00200	0.000530	mg/L		10/18/23 09:15	10/20/23 20:11	1
Barium	0.342		0.00200	0.000640	mg/L		10/18/23 09:15	10/20/23 20:11	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/18/23 09:15	10/20/23 20:11	1
Boron	0.126		0.100	0.0760	mg/L		10/18/23 09:15	10/20/23 20:11	1
Cadmium	0.000155	J	0.000200	0.000100	mg/L		10/18/23 09:15	10/20/23 20:11	1
Calcium	119		0.500	0.190	mg/L		10/18/23 09:15	10/20/23 20:11	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/18/23 09:15	10/20/23 20:11	1
Cobalt	0.00164		0.000500	0.000170	mg/L		10/18/23 09:15	10/20/23 20:11	1
Lead	0.00360		0.000500	0.000240	mg/L		10/18/23 09:15	10/20/23 20:11	1
Lithium	0.0311		0.0100	0.00250	mg/L		10/18/23 09:15	10/20/23 20:11	1
Molybdenum	0.00302		0.00200	0.000910	mg/L		10/18/23 09:15	10/20/23 20:11	1
Selenium	0.00965		0.00500	0.00140	mg/L		10/18/23 09:15	10/20/23 20:11	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/18/23 09:15	10/24/23 01:49	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		10/20/23 10:47	10/23/23 11:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	430		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.444	U	0.361	0.363	1.00	0.551	pCi/L	10/17/23 10:27	11/09/23 19:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.5		30 - 110					10/17/23 10:27	11/09/23 19:22	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.72	G	0.961	0.993	1.00	1.17	pCi/L	10/17/23 10:34	11/07/23 11:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.5		30 - 110					10/17/23 10:34	11/07/23 11:32	1
Y Carrier	85.2		30 - 110					10/17/23 10:34	11/07/23 11:32	1

Client Sample Results

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

Job ID: 310-267008-2

Client Sample ID: NC2MW4

Date Collected: 10/10/23 12:51

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267008-1

Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.17		1.03	1.06	5.00	1.17	pCi/L		11/10/23 17:32	1

Client Sample Results

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

Job ID: 310-267008-2

Client Sample ID: MW13

Date Collected: 10/10/23 12:49

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267008-2

Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11.4		5.00	2.25	mg/L			10/23/23 13:18	5
Fluoride	1.00		1.00	0.375	mg/L			10/23/23 13:18	5
Sulfate	7.56		5.00	2.10	mg/L			10/23/23 13:18	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/18/23 09:15	10/20/23 20:13	1
Arsenic	0.0411		0.00200	0.000530	mg/L		10/18/23 09:15	10/20/23 20:13	1
Barium	0.313		0.00200	0.000640	mg/L		10/18/23 09:15	10/20/23 20:13	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/18/23 09:15	10/20/23 20:13	1
Boron	0.0986	J	0.100	0.0760	mg/L		10/18/23 09:15	10/20/23 20:13	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/18/23 09:15	10/20/23 20:13	1
Calcium	141		0.500	0.190	mg/L		10/18/23 09:15	10/20/23 20:13	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/18/23 09:15	10/20/23 20:13	1
Cobalt	0.000726		0.000500	0.000170	mg/L		10/18/23 09:15	10/20/23 20:13	1
Lead	0.000375	J	0.000500	0.000240	mg/L		10/18/23 09:15	10/20/23 20:13	1
Lithium	0.0385		0.0100	0.00250	mg/L		10/18/23 09:15	10/20/23 20:13	1
Molybdenum	0.00175	J	0.00200	0.000910	mg/L		10/18/23 09:15	10/20/23 20:13	1
Selenium	<0.00140		0.00500	0.00140	mg/L		10/18/23 09:15	10/20/23 20:13	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/18/23 09:15	10/24/23 02:06	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		10/20/23 10:47	10/23/23 11:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	544		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.481		0.263	0.267	1.00	0.351	pCi/L	10/17/23 10:27	11/09/23 19:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.4		30 - 110					10/17/23 10:27	11/09/23 19:22	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.739	U	0.521	0.525	1.00	0.781	pCi/L	10/17/23 10:34	11/07/23 11:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.4		30 - 110					10/17/23 10:34	11/07/23 11:32	1
Y Carrier	80.0		30 - 110					10/17/23 10:34	11/07/23 11:32	1

Client Sample Results

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

Job ID: 310-267008-2

Client Sample ID: MW13

Date Collected: 10/10/23 12:49

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267008-2

Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.22		0.584	0.589	5.00	0.781	pCi/L		11/10/23 17:32	1

Definitions/Glossary

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

Job ID: 310-267008-2

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.

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
ML	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

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QC Sample Results

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

Job ID: 310-267008-2

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-403828/3
Matrix: Water
Analysis Batch: 403828

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.450		1.00	0.450	mg/L			12/04/02 11:30	1
Fluoride	<0.0750		0.200	0.0750	mg/L			12/04/02 11:30	1
Sulfate	<0.420		1.00	0.420	mg/L			12/04/02 11:30	1

Lab Sample ID: LCS 310-403828/4
Matrix: Water
Analysis Batch: 403828

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

Analyte	Spike Added	Result	Qualifier	Unit	D	%Rec	Limits
Chloride	10.0	9.589		mg/L		96	90 - 110
Fluoride	2.00	1.985		mg/L		99	90 - 110
Sulfate	10.0	10.04		mg/L		100	90 - 110

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-402832/1-A
Matrix: Water
Analysis Batch: 403508

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 402832

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.000530		0.00200	0.000530	mg/L		10/18/23 09:15	10/24/23 00:34	1
Barium	<0.000640		0.00200	0.000640	mg/L		10/18/23 09:15	10/24/23 00:34	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/18/23 09:15	10/24/23 00:34	1
Boron	<0.0760		0.100	0.0760	mg/L		10/18/23 09:15	10/24/23 00:34	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/18/23 09:15	10/24/23 00:34	1
Calcium	<0.190		0.500	0.190	mg/L		10/18/23 09:15	10/24/23 00:34	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/18/23 09:15	10/24/23 00:34	1
Cobalt	<0.000170		0.000500	0.000170	mg/L		10/18/23 09:15	10/24/23 00:34	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/18/23 09:15	10/24/23 00:34	1
Lithium	<0.00250		0.0100	0.00250	mg/L		10/18/23 09:15	10/24/23 00:34	1
Selenium	<0.00140		0.00500	0.00140	mg/L		10/18/23 09:15	10/24/23 00:34	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/18/23 09:15	10/24/23 00:34	1

Lab Sample ID: MB 310-402832/1-A
Matrix: Water
Analysis Batch: 403595

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 402832

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/18/23 09:15	10/24/23 13:36	1
Molybdenum	<0.000910		0.00200	0.000910	mg/L		10/18/23 09:15	10/24/23 13:36	1

Lab Sample ID: LCS 310-402832/2-A
Matrix: Water
Analysis Batch: 403508

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 402832

Analyte	Spike Added	Result	Qualifier	Unit	D	%Rec	Limits
Arsenic	0.200	0.2156		mg/L		108	80 - 120
Barium	0.100	0.09819		mg/L		98	80 - 120
Beryllium	0.100	0.09896		mg/L		99	80 - 120
Cadmium	0.100	0.09788		mg/L		98	80 - 120

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QC Sample Results

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

Job ID: 310-267008-2

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

Lab Sample ID: LCS 310-402832/2-A
Matrix: Water
Analysis Batch: 403508

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 402832

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	2.00	2.083		mg/L		104	80 - 120
Chromium	0.100	0.1022		mg/L		102	80 - 120
Cobalt	0.100	0.1030		mg/L		103	80 - 120
Lead	0.200	0.2082		mg/L		104	80 - 120
Lithium	0.200	0.2105		mg/L		105	80 - 120
Selenium	0.400	0.3847		mg/L		96	80 - 120
Thallium	0.200	0.1698		mg/L		85	80 - 120

Lab Sample ID: LCS 310-402832/2-A
Matrix: Water
Analysis Batch: 403595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 402832

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.2054		mg/L		103	80 - 120
Boron	0.200	0.1798		mg/L		90	80 - 120
Molybdenum	0.200	0.1851		mg/L		93	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-403230/1-A
Matrix: Water
Analysis Batch: 403417

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 403230

Analyte	MB Result	MB Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140 mg/L		10/20/23 10:47	10/23/23 11:04	1

Lab Sample ID: LCS 310-403230/2-A
Matrix: Water
Analysis Batch: 403417

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 403230

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001668		mg/L		100	80 - 120

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

Lab Sample ID: MB 310-402536/1
Matrix: Water
Analysis Batch: 402536

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	<34.0		50.0	34.0 mg/L			10/13/23 14:59	1

Lab Sample ID: LCS 310-402536/2
Matrix: Water
Analysis Batch: 402536

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	986.0		mg/L		99	90 - 110

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QC Sample Results

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

Job ID: 310-267008-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-632174/1-A
Matrix: Water
Analysis Batch: 636168

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 632174

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.01015	U	0.100	0.100	1.00	0.195	pCi/L	10/17/23 10:27	11/09/23 19:14	1
Carrier	%Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	98.5		30 - 110		10/17/23 10:27	11/09/23 19:14	1			

Lab Sample ID: LCS 160-632174/2-A
Matrix: Water
Analysis Batch: 636168

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 632174

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	10.79		1.22	1.00	0.212	pCi/L	95	75 - 125
Carrier	%Yield	LCS Qualifier	Limits						
Ba Carrier	90.5		30 - 110						

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-632175/1-A
Matrix: Water
Analysis Batch: 635643

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 632175

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.5630		0.349	0.352	1.00	0.511	pCi/L	10/17/23 10:34	11/07/23 11:24	1
Carrier	%Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	98.5		30 - 110		10/17/23 10:34	11/07/23 11:24	1			
Y Carrier	80.0		30 - 110		10/17/23 10:34	11/07/23 11:24	1			

Lab Sample ID: LCS 160-632175/2-A
Matrix: Water
Analysis Batch: 635643

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 632175

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	7.74	9.414		1.29	1.00	0.508	pCi/L	122	75 - 125
Carrier	%Yield	LCS Qualifier	Limits						
Ba Carrier	90.5		30 - 110						
Y Carrier	82.6		30 - 110						

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QC Association Summary

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

Job ID: 310-267008-2

HPLC/IC

Analysis Batch: 403828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	9056A	
310-267008-2	MW13	Total/NA	Water	9056A	
MB 310-403828/3	Method Blank	Total/NA	Water	9056A	
LCS 310-403828/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 402832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	3005A	
310-267008-2	MW13	Total/NA	Water	3005A	
MB 310-402832/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-402832/2-A	Lab Control Sample	Total/NA	Water	3005A	

Prep Batch: 403230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	7470A	
310-267008-2	MW13	Total/NA	Water	7470A	
MB 310-403230/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-403230/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 403331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	6020B	402832
310-267008-2	MW13	Total/NA	Water	6020B	402832

Analysis Batch: 403417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	7470A	403230
310-267008-2	MW13	Total/NA	Water	7470A	403230
MB 310-403230/1-A	Method Blank	Total/NA	Water	7470A	403230
LCS 310-403230/2-A	Lab Control Sample	Total/NA	Water	7470A	403230

Analysis Batch: 403508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	6020B	402832
310-267008-2	MW13	Total/NA	Water	6020B	402832
MB 310-402832/1-A	Method Blank	Total/NA	Water	6020B	402832
LCS 310-402832/2-A	Lab Control Sample	Total/NA	Water	6020B	402832

Analysis Batch: 403595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-402832/1-A	Method Blank	Total/NA	Water	6020B	402832
LCS 310-402832/2-A	Lab Control Sample	Total/NA	Water	6020B	402832

General Chemistry

Analysis Batch: 402536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	SM 2540C	
310-267008-2	MW13	Total/NA	Water	SM 2540C	
MB 310-402536/1	Method Blank	Total/NA	Water	SM 2540C	

Eurofins Cedar Falls

QC Association Summary

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

Job ID: 310-267008-2

General Chemistry (Continued)

Analysis Batch: 402536 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-402536/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Rad

Prep Batch: 632174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	PrecSep-21	
310-267008-2	MW13	Total/NA	Water	PrecSep-21	
MB 160-632174/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-632174/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 632175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	PrecSep_0	
310-267008-2	MW13	Total/NA	Water	PrecSep_0	
MB 160-632175/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-632175/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Eurofins Cedar Falls

Lab Chronicle

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

Job ID: 310-267008-2

Client Sample ID: NC2MW4

Date Collected: 10/10/23 12:51

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267008-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403828	QTZ5	EET CF	10/23/23 13:06
Total/NA	Prep	3005A			402832	KCK5	EET CF	10/18/23 09:15
Total/NA	Analysis	6020B		1	403508	A6US	EET CF	10/24/23 01:49
Total/NA	Prep	3005A			402832	KCK5	EET CF	10/18/23 09:15
Total/NA	Analysis	6020B		1	403331	A6US	EET CF	10/20/23 20:11
Total/NA	Prep	7470A			403230	NFT2	EET CF	10/20/23 10:47
Total/NA	Analysis	7470A		1	403417	NFT2	EET CF	10/23/23 11:36
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632174	KAC	EET SL	10/17/23 10:27
Total/NA	Analysis	9315		1	636166	SCB	EET SL	11/09/23 19:22
Total/NA	Prep	PrecSep_0			632175	KAC	EET SL	10/17/23 10:34
Total/NA	Analysis	9320		1	635680	SCB	EET SL	11/07/23 11:32
Total/NA	Analysis	Ra226_Ra228		1	636395	EMH	EET SL	11/10/23 17:32

Client Sample ID: MW13

Date Collected: 10/10/23 12:49

Date Received: 10/12/23 17:00

Lab Sample ID: 310-267008-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403828	QTZ5	EET CF	10/23/23 13:18
Total/NA	Prep	3005A			402832	KCK5	EET CF	10/18/23 09:15
Total/NA	Analysis	6020B		1	403508	A6US	EET CF	10/24/23 02:06
Total/NA	Prep	3005A			402832	KCK5	EET CF	10/18/23 09:15
Total/NA	Analysis	6020B		1	403331	A6US	EET CF	10/20/23 20:13
Total/NA	Prep	7470A			403230	NFT2	EET CF	10/20/23 10:47
Total/NA	Analysis	7470A		1	403417	NFT2	EET CF	10/23/23 11:34
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632174	KAC	EET SL	10/17/23 10:27
Total/NA	Analysis	9315		1	636166	SCB	EET SL	11/09/23 19:22
Total/NA	Prep	PrecSep_0			632175	KAC	EET SL	10/17/23 10:34
Total/NA	Analysis	9320		1	635680	SCB	EET SL	11/07/23 11:32
Total/NA	Analysis	Ra226_Ra228		1	636395	EMH	EET SL	11/10/23 17:32

Laboratory References:

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

Eurofins Cedar Falls

Accreditation/Certification Summary

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

Job ID: 310-267008-2

Laboratory: Eurofins 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)	09-29-24
Georgia	State	IA100001 (OR)	09-29-24
Illinois	NELAP	200024	11-29-23
Iowa	State	007	12-01-23
Kansas	NELAP	E-10341	01-31-24
Minnesota	NELAP	019-999-319	12-31-23
Minnesota (Petrofund)	State	3349	01-18-24
North Dakota	State	R-186	09-29-24
Oregon	NELAP	IA100001	09-29-24

Laboratory: Eurofins 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	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oklahoma	NELAP	9997	08-31-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-24
Texas	NELAP	T1047C4193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-24

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

Eurofins Cedar Falls

Accreditation/Certification Summary

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

Job ID: 310-267008-2

Laboratory: Eurofins St. Louis (Continued)

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

Authority	Program	Identification Number	Expiration Date
Virginia	NELAP	10310	06-15-25
Washington	State	C592	08-30-24
West Virginia DEP	State	381	12-31-23

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Method Summary

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

Job ID: 310-267008-2

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

Protocol References:

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:

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

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Environment Testing
America



Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Omaha</u>			
City/State:	CITY	STATE	Project:
Receipt Information			
Date/Time Received:	DATE	TIME	Received By:
	<u>10/12/23</u>	<u>1700</u>	<u>LR</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other:			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		If yes: Cooler ID:	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Multiple Coolers?		If yes: Cooler # <u>1</u> of <u>2</u>	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Cooler Custody Seals Present?		If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Sample Custody Seals Present?		If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Trip Blank Present?		If yes: Which VOA samples are in cooler? <u>↓</u>	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C): <u>0</u>	
Temp Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>1.8</u>		Corrected Temp (°C): <u>1.8</u>	
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? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> 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?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Omaha Public Power District</u>			
City/State:	CITY	STATE	Project:
Receipt Information			
Date/Time Received:	DATE	TIME	Received By:
	<u>10/12/23</u>	<u>1700</u>	<u>LR</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other:			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		If yes: Cooler ID:	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Multiple Coolers?		If yes: Cooler # <u>2</u> of <u>2</u>	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Cooler Custody Seals Present?		If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Sample Custody Seals Present?		If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Trip Blank Present?		If yes: Which VOA samples are in cooler? <u>↓</u>	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C): <u>0</u>	
Temp Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.4</u>		Corrected Temp (°C): <u>0.4</u>	
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? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> 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?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Client Information Company: Omaha Public Power District Address: 374 South 16th Street Mail 9E/EP1 City: Omaha State: NE Zip: 68102-2247 Phone: (531) 226-2515 Email: kluhning@oppd.com Project Name: Nebraska City Station Unit 1 & 2 CCR / Landfill Site: Nebraska City Station Unit 1 & 2		Lab PW: Hayes Shawn M E-Mail: shawn.hayes@testamericanc.com Phone: (531) 226-2515	
Analysis Requested Due Date Requested: TAT Requested (days) PO #: 31007569 WO #: 31007569 TestAmerica Project #: 31007569 SSO/W#:		Camper Tracing Note: Preservation Codes: A - HCL M - Hexane N - None B - NaOH P - Acetic Acid C - Zn Acetate D - AsH3O2 E - NaHSO4 F - MeOH G - Amchlor H - H2SO4 I - Nitric Acid J - Ice K - DI Water L - EDTA W - pH 4.5 V - MCAA Z - Other (specify) Other:	
Sample Identification NC2MVA MW13	Sample Type (Cr-Comp, G-Grab) [inches, count] G G	Matrix (Water, Swab, On-surface, Soil) W W	Sample Time 10/10/23 10/10/23
Sample Date 10/10/23 10/10/23	Field Filtered Sample (Yes or No) N N	Form MS/MSD (Yes or No) X X	Total Number of Containers 4 4
Special Instructions/Note: CCR Appendix III and IV Constituents CCR Appendix II and IV Constituents			
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I II III IV Other (specify)			
Empty Kit Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by: [Signature]			
Custody Seal Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No			
Date: 10/11/2023 15:15 Date/Time: 10-11-23 0800 Date/Time: 10/10/23 1700			
Received by: [Signature] Received by: [Signature] Received by: [Signature]			
Company: ORB Company: EF Company: EF			
Cooler Temperature(s) °C and Other Remarks:			

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-267008-1

Login Number: 267008
 List Number: 1
 Creator: Homolar, Dana J

List Source: Euofins 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.	N/A	
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	

Tracer/Carrier Summary

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

Job ID: 310-267008-2

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Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	
310-267008-1	NC2MW4	79.5	
310-267008-2	MW13	81.4	
LCS 160-632174/2-A	Lab Control Sample	90.5	
MB 160-632174/1-A	Method Blank	98.5	

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 (30-110)	Y (30-110)
310-267008-1	NC2MW4	79.5	85.2
310-267008-2	MW13	81.4	80.0
LCS 160-632175/2-A	Lab Control Sample	90.5	82.6
MB 160-632175/1-A	Method Blank	98.5	80.0

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 21, 2023

To: Omaha Public Power District (OPPD)

From: HDR Engineering, Inc.

Subject: Summary of Statistical Analysis and Evaluation for SSLs
Nebraska City Station Unit 1 - NC1 Ash Disposal Area
Spring 2023 Title 132 Groundwater Monitoring Report

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, 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 2023 sampling event, calculated with data obtained during monitoring events performed between March 2016 and April 2023.

Downgradient sampling results from the spring 2023 assessment monitoring were used to evaluate for statistically significant increases (SSIs) over background and statistically significant levels (SSLs) over the groundwater protection standard (GWPS). The calculated BTVs and the evaluation for SSIs over background for the Appendix III (detection monitoring) constituents and Appendix IV (assessment monitoring) constituents are provided in **Table D-1**. The calculated lower confidence levels and the evaluation for SSLs above the GWPS for the Appendix IV (assessment monitoring) constituents are provided in **Table D-2**.



Table D-1. Summary of Evaluation for SSIs over Background (April 2023)

Constituent	Well ID:		NC1MW-2	NC1MW-3	NC1MW-4	NC1MW-9
	BTV (UPL):	Unit	Assessment Monitoring Results			
Detection Monitoring (Appendix III) Constituents						
Boron	1.53	mg/L	0.680	<u>2.63</u>	<u>2.33</u>	0.699
Calcium	168	mg/L	100	<u>185</u>	145	149
Chloride	17.3	mg/L	6.96	7.80	4.91J	6.55
Fluoride	1.28	mg/L	0.399J	0.390J	<0.375	0.444J
pH	6.30 – 7.83*	SU	6.76	6.79	6.85	7.05
Sulfate	170	mg/L	99.8	<u>292</u>	<u>206</u>	132
TDS	774	mg/L	436	<u>906</u>	660	726
Assessment Monitoring (Appendix IV) Constituents						
Antimony	0.002	mg/L	<0.00100	<0.00100	<0.00100	<0.00100
Arsenic	0.0893	mg/L	0.000757J	<u>0.140</u>	0.00187J	0.0157
Barium	0.426	mg/L	0.140	0.173	0.146	0.119
Beryllium	0.001	mg/L	<0.000330	<0.000330	<0.000330	<0.000330
Cadmium	0.0005	mg/L	0.000168J	<0.000100	0.000211	<0.000100
Chromium	0.005	mg/L	<0.00110	<0.00110	<0.00110	<0.00110
Cobalt	0.00477	mg/L	0.000241J	0.00464	0.00471	0.00111
Fluoride	1.28	mg/L	0.399J	0.390J	<0.375	0.444J
Lead	0.00639	mg/L	<0.000240	0.000319J	<0.000240	<0.000240
Lithium	0.0569	mg/L	0.0148	0.0457	0.0242	0.0333
Mercury	0.000262	mg/L	<0.000140	<0.000140	<0.000140	<0.000140
Molybdenum	0.0299	mg/L	<u>0.0576</u>	0.00255	0.0150	0.0156
Radium 226+228	3.11	pCi/L	0.371U	0.950	1.45	0.750
Selenium	0.0146	mg/L	<0.00140	<0.00140	0.00584	0.00174J
Thallium	0.001	mg/L	<0.000260	<0.000260	<0.000260	<0.000260

Bold and underlined concentration indicates an SSI over background.

* indicates the lower bound of the range is the lower prediction limit (LPL). The upper bound is the upper prediction limit (UPL).

J – Value is less than the Reporting Limit but above the Method Detection Limit, therefore value is an approximation.

U – Value is less than the sample detection limit.



Table D-2. Summary of Evaluation for SSLs over GWPS (April 2023)

Well ID:		NC1MW-2	NC1MW-3	NC1MW-4	NC1MW-9	
<i>Constituent</i>	<i>GWPS^[1]</i>	<i>Unit</i>	<i>Lower Confidence Levels – Assessment Monitoring (Appendix IV) Constituents</i>			
Antimony	<u>0.006</u>	mg/L	0.000699	0.001	0.001	0.000976
Arsenic	<u>0.0893^[2]</u>	mg/L	0.0008076	0.02638	0.001163	0.01067
Barium	<u>2.00</u>	mg/L	0.1319	0.121	0.09868	0.1231
Beryllium	<u>0.004</u>	mg/L	0.00033	0.00033	0.00033	0.00033
Cadmium	<u>0.005</u>	mg/L	0.00008739	0.000083	0.00009807	0.00007254
Chromium	<u>0.1</u>	mg/L	0.0011	0.0011	0.0011	0.0011
Cobalt	<u>0.006</u>	mg/L	0.0002232	0.001607	0.0008697	0.001195
Fluoride	<u>4.00</u>	mg/L	0.2972	0.4121	0.4104	0.4885
Lead	<u>0.015</u>	mg/L	0.0001391	0.000319	0.00024	0.00024
Lithium	<u>0.0569^[2]</u>	mg/L	0.009646	0.03596	0.01748	0.03052
Mercury	<u>0.002</u>	mg/L	0.00014	0.00014	0.00014	0.00014
Molybdenum	<u>0.1</u>	mg/L	0.0711	0.00158	0.003191	0.01891
Radium 226+228	<u>5.0</u>	pCi/L	0.306	0.3843	0.1929	0.5901
Selenium	<u>0.05</u>	mg/L	0.0014	0.0014	-0.0006768	0.001283
Thallium	<u>0.002</u>	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.

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Technical Memorandum

Date: Monday, November 20, 2023

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
Fall 2023 Title 132 Groundwater Monitoring Report

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, 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 2023 sampling event, calculated with data obtained during monitoring events performed between March 2016 and April 2023.

Downgradient sampling results from the fall 2023 assessment monitoring were used to evaluate for statistically significant increases (SSIs) over background and statistically significant levels (SSLs) over the groundwater protection standard (GWPS). The calculated BTVs and the evaluation for SSIs over background for the Appendix III (detection monitoring) constituents and Appendix IV (assessment monitoring) constituents are provided in **Table D-1**. The calculated lower confidence levels and the evaluation for SSLs above the GWPS for the Appendix IV (assessment monitoring) constituents are provided in **Table D-2**.



Table D-1. Summary of Evaluation for SSIs over Background (October 2023)

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	0.442	<u>2.34</u>	1.50	0.399
Calcium	168	mg/L	74.8	153	137	154
Chloride	17.3	mg/L	3.08J	7.44	4.75J	6.78
Fluoride	1.28	mg/L	<0.375	0.399J	<0.375	0.406J
pH	6.30 – 7.83*	SU	6.88	7.04	7.05	7.02
Sulfate	170	mg/L	50.8	<u>191</u>	<u>279</u>	104
TDS	774	mg/L	302	752	674	646
Assessment Monitoring (Appendix IV) Constituents						
Antimony	0.002	mg/L	<0.00100	<0.00100	<0.00100	<0.00100
Arsenic	0.0893	mg/L	0.000908J	0.0703	0.00175J	0.0490
Barium	0.426	mg/L	0.110	0.129	0.121	0.174
Beryllium	0.001	mg/L	<0.000330	<0.000330	<0.000330	<0.000330
Cadmium	0.0005	mg/L	<0.000100	<0.000100	0.000100	<0.000100
Chromium	0.005	mg/L	<0.00110	<0.00110	<0.00110	<0.00110
Cobalt	0.00477	mg/L	<0.000170	0.000771	0.000857	0.00103
Fluoride	1.28	mg/L	<0.375	0.399J	<0.375	0.406J
Lead	0.00639	mg/L	<0.000240	<0.000240	<0.000240	<0.000240
Lithium	0.0569	mg/L	0.0102	0.0427	0.0241	0.0423
Mercury	0.000262	mg/L	<0.000140	<0.000140	<0.000140	<0.000140
Molybdenum	0.0299	mg/L	<u>0.0553</u>	0.00260	0.00469	0.0132
Radium 226+228	3.11	pCi/L	0.814	0.429U	1.72	1.44
Selenium	0.0146	mg/L	<0.00140	<0.00140	<0.00140	<0.00140
Thallium	0.001	mg/L	<0.000260	<0.000260	<0.000260	<0.000260

Bold and underlined concentration indicates an SSI over background.

* indicates the lower bound of the range is the lower prediction limit (LPL). The upper bound is the upper prediction limit (UPL).

J – Value is less than the Reporting Limit but above the Method Detection Limit, therefore value is an approximation.

U – Value is less than the sample detection limit.



Table D-2. Summary of Evaluation for SSLs over GWPS (October 2023)

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	0.0006613	0.00069	0.00069	0.000976
Arsenic	0.0893^[2]	mg/L	0.0008014	0.03116	0.001207	0.01141
Barium	2.00	mg/L	0.1218	0.1202	0.09891	0.1224
Beryllium	0.004	mg/L	0.00027	0.00027	0.00027	0.00027
Cadmium	0.005	mg/L	0.00009359	0.000051	0.000101	0.0000696
Chromium	0.1	mg/L	0.0011	0.0011	0.0011	0.0011
Cobalt	0.006	mg/L	0.0001622	0.001338	0.0009521	0.001158
Fluoride	4.00	mg/L	0.2401	0.3062	0.3991	0.4056
Lead	0.015	mg/L	0.0001395	0.00021	0.00021	0.00021
Lithium	0.0569^[2]	mg/L	0.009415	0.03801	0.01927	0.03093
Mercury	0.002	mg/L	0.00011	0.00011	0.00011	0.00011
Molybdenum	0.1	mg/L	0.06547	0.001716	0.002436	0.01707
Radium 226+228	5.0	pCi/L	0.3367	0.4462	0.371	0.6528
Selenium	0.05	mg/L	0.001153	0.00096	0.0008124	0.001245
Thallium	0.002	mg/L	0.0002507	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.