2022 NC1 CCR Landfill Annual Groundwater Report

Nebraska City Station NC1
Ash Disposal Area

Nebraska City, Nebraska
January 31, 2023

This Page Intentionally Left Blank.

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: Megan B. Seymour

Signature: Megan B. Seymour

Date: 1-31-2023

License #: E-15931

My license renewal date is December 31, 2024.

This Page Intentionally Left Blank.

Table of Contents

List of Figures

List of Tables

List of Appendices

This Page Intentionally Left Blank.

Executive Summary

Omaha Public Power District (OPPD) owns and operates a two-unit fossil fuel-fired generating station (NC1 and NC2), located 5.5 miles southeast of Nebraska City, Nebraska, along the west shore of the Missouri River. This generating station (Station or Site) has two (2) existing coal combustion residual (CCR) landfills for fossil fuel combustion ash disposal: the NC1 Ash Disposal Area and the NC2 Ash Disposal Area. On April 17, 2015, the United States Environmental Protection Agency (EPA) published the final rule for the regulation and management of coal combustion residuals (CCR) under Subtitle D of the Resource Conservation and Recovery Act. The rule is formally promulgated in the U.S. Code of Federal Regulations (CFR), Title 40, Part 257. The purpose of this report is to provide a summary of CCR groundwater monitoring system activities for calendar year 2022 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 2021 as part of the assessment monitoring program and did not indicate an SSL; therefore, assessment monitoring continued in 2022.

Assessment monitoring samples were collected in April and October 2022 to assess whether there were SSIs and/or SSLs. This report covers the results of the 2022 sampling events. For the April 2022 sampling event, results of the analysis indicated eight (8) SSIs for Appendix III and Appendix IV constituents. For the October 2022 sampling event, results of the analysis indicated eight (8) SSIs for Appendix III and Appendix IV constituents. Results of the 2022 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 2022 or October 2022 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 2023.

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 2022	October 2022
§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.	• NC1MW-3 – boron, calcium, sulfate, and TDS • NC1MW-4 – boron and sulfate	• NC1MW-3 – boron, calcium, sulfate, and TDS • NC1MW-4 – boron and 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 2022.

1.2 Facility Information

OPPD owns and operates a two-unit fossil fuel-fired generating station (NC1 and NC2), located 5.5 miles southeast of Nebraska City, Nebraska, along the west shore of the Missouri River (**Figure 1**). This Station has two (2) existing CCR landfills: the NC1 Ash Disposal Area and the NC2 Ash Disposal Area. The CCR landfills are permitted under the current Nebraska Department of Environment and Energy (NDEE) Title 132 and CCR regulations for fossil fuel combustion ash disposal. This annual report covers the NC1 Ash Disposal Area (NDEE Permit No. NE0054712, Facility ID 58343).

The NC1 Ash Disposal Area is an unlined CCR landfill of approximately 52 acres that was originally constructed as 16 acres in 1979. In 1982, the Station received a state permit to expand the disposal area from the original 16 acres to the current 52 acres. The NC1 Ash Disposal Area has in-situ soils underneath the compacted fly ash and bottom ash. Phase 1 closure was completed in 2015. Final closure for the landfill was completed in November 2020. **Figure 2** identifies the relevant CCR unit for this report and the supporting monitoring well network.

2 Monitoring Program Summary

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

locations of the monitoring wells in the groundwater monitoring program with respect to the CCR unit, NC1 Ash Disposal Area, are shown in the attached **Figure 2**.

2.1 Summary of Monitoring Program Transitions

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

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

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.

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 2022 and October 2022. During this time period, no repairs were required. The wells were noted in good working condition, concrete pads were intact, and no damage was observed to the protective well casings. No monitoring wells were added to or abandoned from the certified groundwater monitoring system in 2022.

3 Data Evaluation and Summary

3.1 Summary of Sampling Activities

Groundwater sampling events were conducted by OPPD personnel in April 2022 and October 2022 as continuation of the assessment monitoring program. Samples were collected in general compliance with 40 CFR §257.90(c), which requires groundwater monitoring be conducted throughout the active life and post-closure care period of the CCR unit for each well in the monitoring network. The NC1 Ash Disposal Area is currently in the post-closure care period. The number of samples collected for the background and downgradient wells during each groundwater sample event, whether the sample was collected during detection or assessment monitoring programs, and the date of each event is summarized in **Table 2**.

Groundwater sampling was conducted by OPPD personnel in general accordance with the facility's NDEE Title 132 Groundwater Sampling and Analysis Plan (OPPD, 2016) and the Groundwater Monitoring System Certification (HDR, 2019a). Samples were collected from the certified network wells and were analyzed for Appendix III and Appendix IV constituents during both the April and October 2022 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 1, 2022 indicated a flow direction to the southeast with an average flow velocity of 0.0127 feet per day (ft/day) to 0.0719 ft/day. Groundwater flow estimated from measurements

collected on October 1, 2022 indicated a flow direction to the south-southeast with an average flow velocity of 0.0092 ft/day to 0.0519 ft/day. The April 2022 and October 2022 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 2022 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 2022 and October 2022 are presented in **Table 4** (Appendix III constituents) and **Table 5** (Appendix IV constituents).

3.4 Statistical Analysis Results

In the assessment monitoring program, Appendix III and IV constituents are statistically analyzed to evaluate for SSIs above the calculated background threshold values (BTVs), and Appendix IV constituents are statistically analyzed to evaluate for SSLs above the GWPS. Statistical analysis was performed with Sanitas™ statistical analysis software in accordance with the methods described in the Groundwater Monitoring Statistical Certification (HDR, 2018). Statistically derived BTVs for Appendix III and IV constituents are provided in **Table 6**. The BTVs were updated following the April 2021 sampling event and include data from March 2016 through April 2021. BTVs are updated every two years or during a monitoring program transition, in accordance with Chapter 21 of the Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance (EPA, 2009). The established GWPS for all Appendix IV constituents are provided in **Table 7**. Results of the statistical analysis of designated in-network downgradient monitoring wells from the April and October 2022 sampling events are provided in **Appendix C**.

Assessment monitoring samples were collected in April and October 2022 to assess whether there were SSIs and/or SSLs. This report covers the results of the 2022 sampling events. For the April 2022 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 2022 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-9
- Sulfate in NC1MW-3
- Sulfate in NC1MW-4

- Molybdenum in NC1MW-2
- TDS in NC1MW-3

Analysis of the Appendix IV constituents indicated there were no SSLs detected above the GWPS for either the April 2022 or October 2022 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 2023.

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.

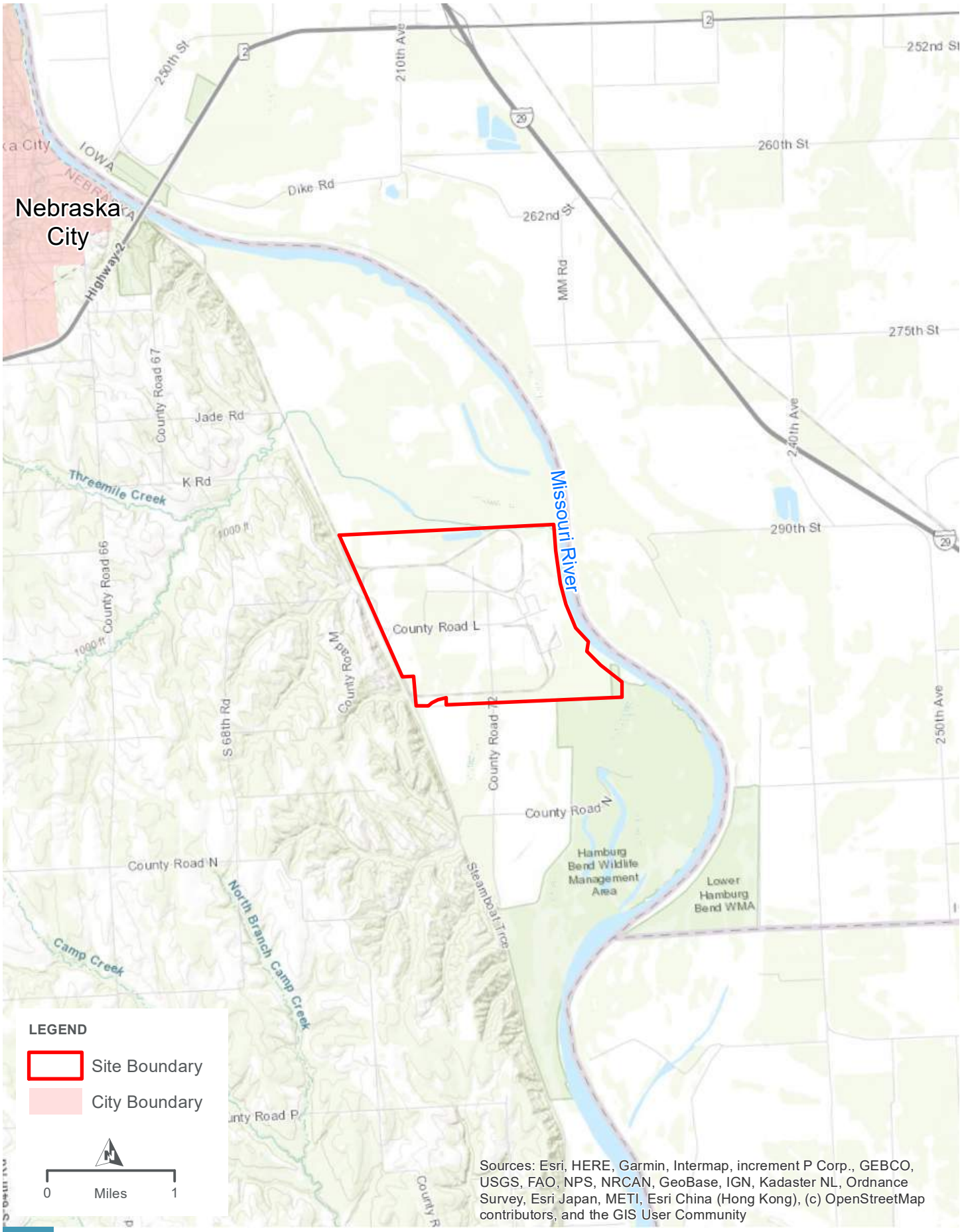
HDR, 2019a. *Groundwater Monitoring System Certification.* NC1 Ash Disposal Area. Nebraska City, Nebraska. Revised June 2019.

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

This Page Intentionally Left Blank.

Figures

This Page Intentionally Left Blank.



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

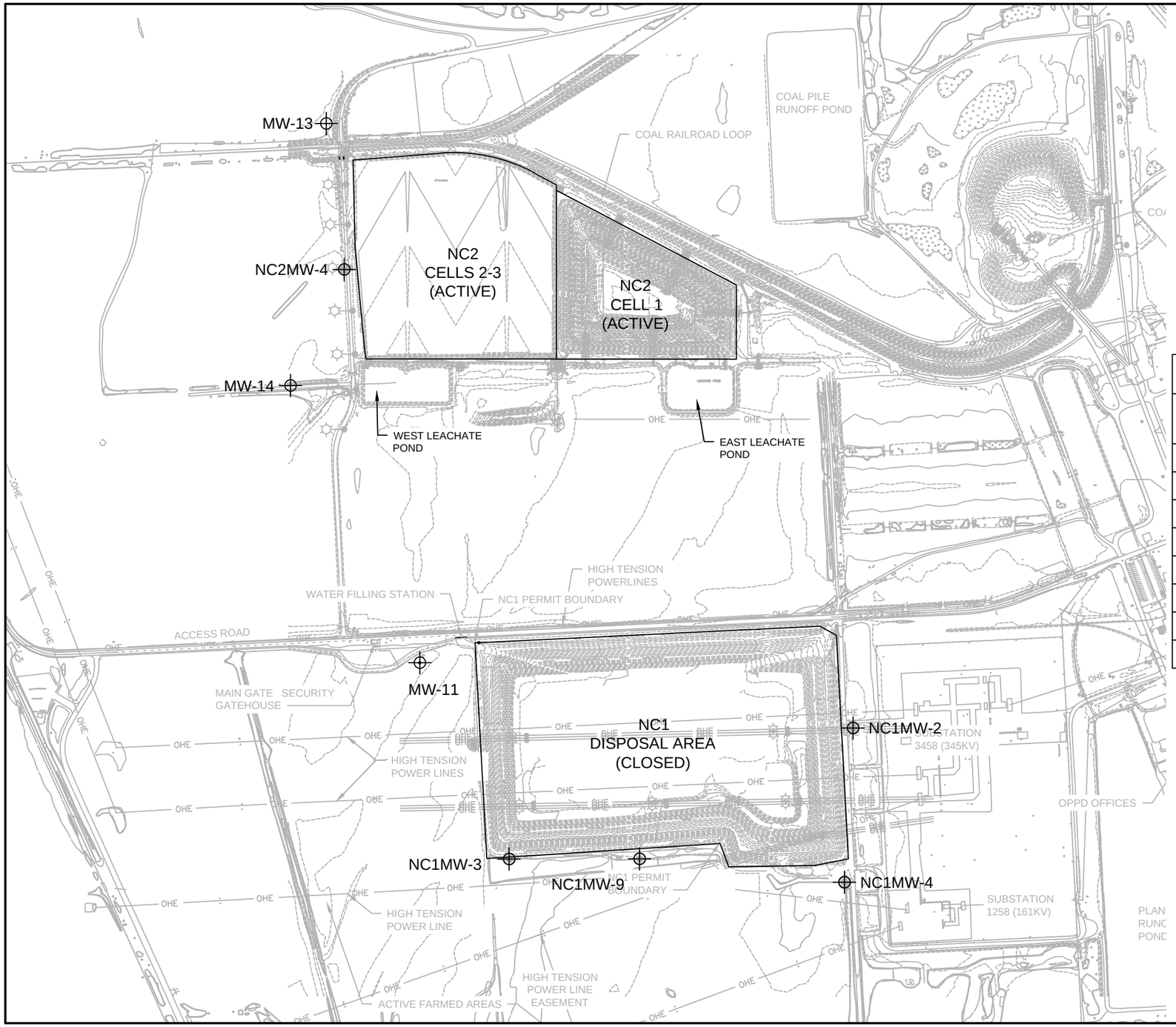
SITE LOCATION MAP

OPPD - NEBRASKA CITY STATION

FIGURE 1

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

This Page Intentionally Left Blank.



N

600 0 600 1200

SCALE IN FEET

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

your energy partner®
OPPD
Omaha Public Power District

HDR

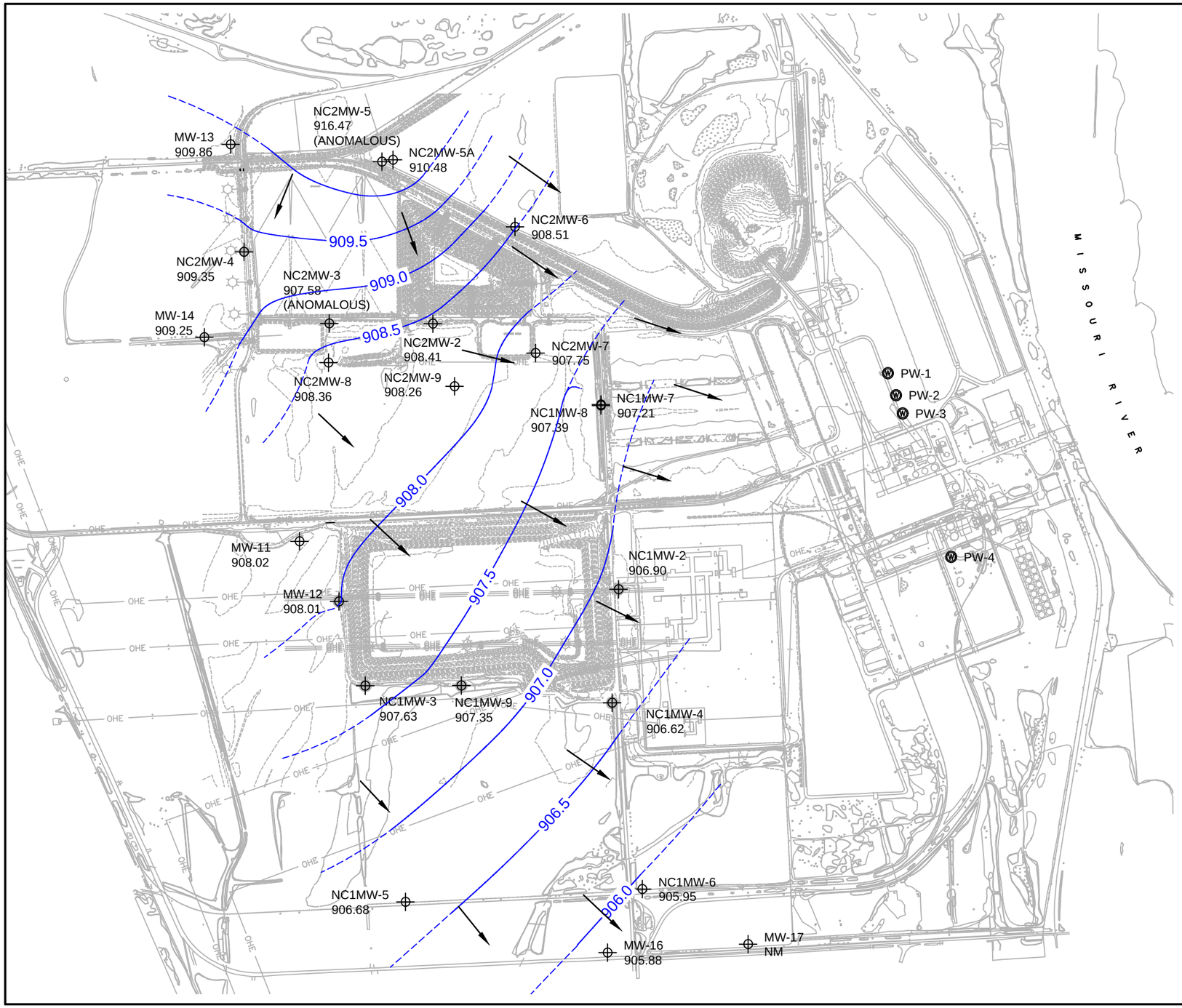
OPPD NEBRASKA CITY ASH LANDFILL
NEBRASKA CITY UNIT 1 - NC1
MONITORING WELL LOCATION MAP

2022 GROUNDWATER MONITORING

DATE
NOVEMBER 2022

FIGURE
02

This Page Intentionally Left Blank.



N

800 0 800 1600

SCALE IN FEET

LEGEND:

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

NOTES:

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

VELOCITY COMPUTATIONS

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

K = HYDRAULIC CONDUCTIVITY (SEE TABLE)

i = GRADIENT = $\frac{1.0\ FT}{1{,}353\ FT}$ = 0.000739 FT/FT

n = POROSITY = 0.405

	K	V_T
LOW	6.96 FT/DAY	0.0127 FT/DAY
HIGH	39.4 FT/DAY	0.0719 FT/DAY

your energy partner®

OPPD

Omaha Public Power District

HDR

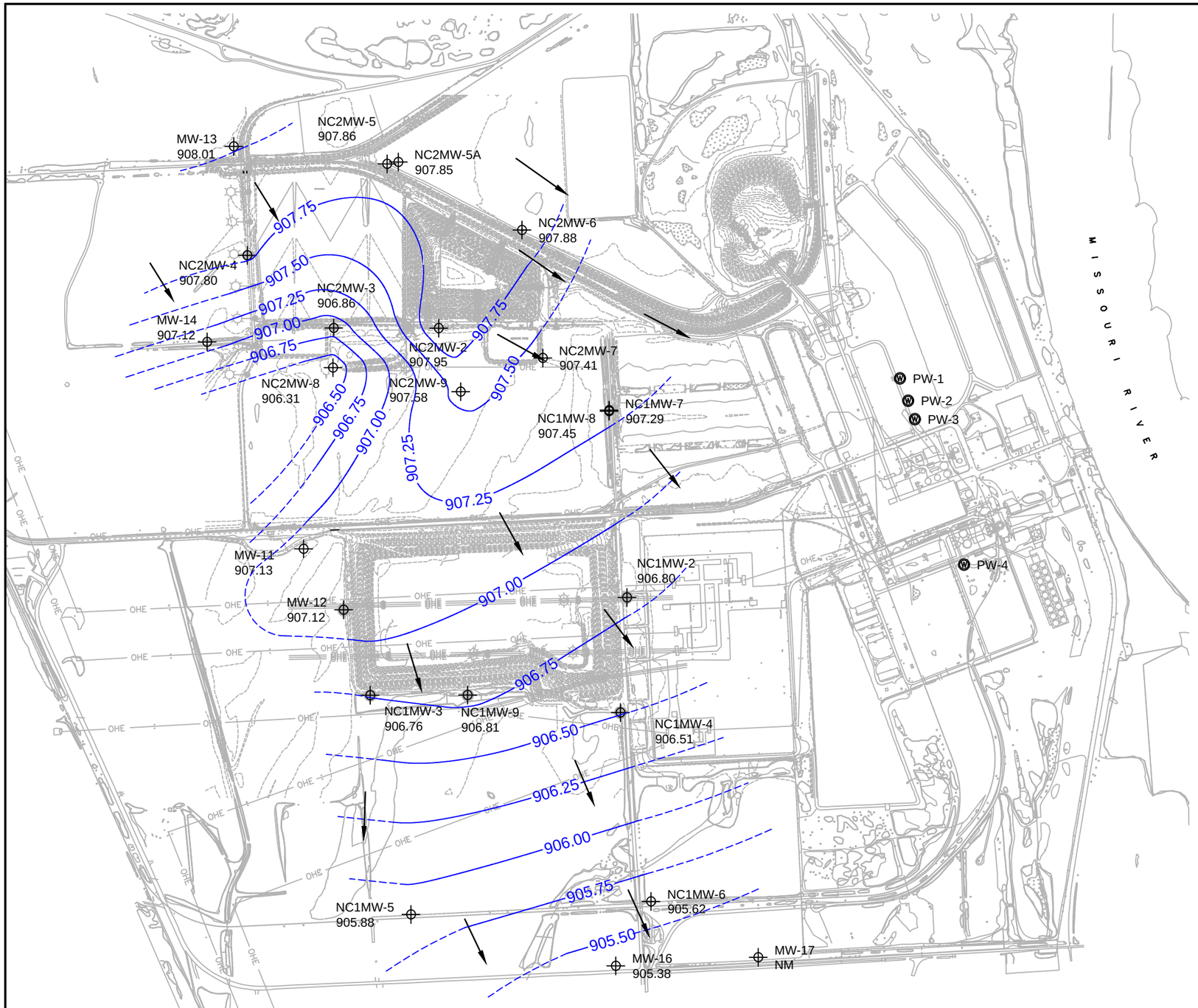
OPPD NEBRASKA CITY ASH LANDFILL GROUNDWATER CONTOUR MAP APRIL 2022

2022 GROUNDWATER MONITORING

DATE
JUNE 2022

FIGURE
03

This Page Intentionally Left Blank.



LEGEND:

Ⓦ	PRODUCTION WELL
⌖	MONITORING 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. NM - STATIC WATER LEVEL NOT OBTAINED FROM MONITORING WELL.

VELOCITY COMPUTATIONS

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

K = HYDRAULIC CONDUCTIVITY (SEE TABLE)

i = GRADIENT = $\frac{1.0 \text{ FT}}{1{,}877 \text{ FT}}$ = 0.000533FT/FT

n = POROSITY = 0.405

	K	V_T
LOW	6.96 FT/DAY	0.0092 FT/DAY
HIGH	39.4 FT/DAY	0.0519 FT/DAY

your energy partner®
OPPD
Omaha Public Power District

HDR

OPPD NEBRASKA CITY ASH LANDFILL
GROUNDWATER CONTOUR MAP
OCTOBER 2022

2022 GROUNDWATER MONITORING

DATE
NOVEMBER 2022

FIGURE
04

This Page Intentionally Left Blank.

Tables

This Page Intentionally Left Blank.

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

This Page Intentionally Left Blank.

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	12	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
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	10	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
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	10	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
MW-14[4]	8	1/15/2019, 3/5/2019, 10/4/2018, 4/8/2019, 10/16/2019, 1/30/2020, 4/20/2020, 10/5/2020	0	N/A	4	4/13/2021, 10/4/2021, 4/4/2022, 10/3/2022
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	10	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
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	10	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
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	10	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
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	10	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

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.

This Page Intentionally Left Blank.

Table 3 - Groundwater Elevations

Omaha Public Power District - NC1 Ash Disposal Area

	CCR Monitoring Network Wells															
	NC2MW-4		MW-11		MW-13		MW-14		NC1MW-2		NC1MW-3		NC1MW-4		NC1MW-9	
	TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation	
	919.62		918.44		918.05		920.99		919.42		919.85		919.63		920.09	
Date	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)
3/9/2016	6.95	912.67	6.90	911.54	4.61	913.44	*MW-14 installed 7/12/2018*		8.90	910.52	8.95	910.90	9.50	910.13	9.30	910.79
6/7/2016	6.06	913.56	5.85	912.59	3.95	914.10			7.04	912.38	7.75	912.10	7.41	NM	7.88	912.21
10/3/2016	6.25	913.37	6.34	912.10	4.03	914.02			8.45	910.97	8.35	911.50	9.10	NM	8.76	911.33
11/18/2016	6.79	912.83	7.37	911.07	4.43	913.62			9.30	910.12	9.36	910.49	10.10	909.53	7.75	912.34
2/14/2017	7.52	912.10	7.95	910.49	5.20	912.85			10.10	909.32	9.91	909.94	10.85	908.78	10.41	909.68
4/25/2017	6.20	913.42	6.24	912.20	4.02	914.03			8.10	911.32	8.25	911.60	8.84	910.79	8.65	911.44
6/20/2017	6.75	912.87	7.85	910.59	4.72	913.33			7.60	911.82	7.95	911.90	8.20	911.43	8.15	911.94
7/13/2017	7.10	912.52	6.25	912.19	5.00	913.05			8.40	911.02	8.75	911.10	9.10	910.53	9.10	910.99
11/8/2017	12.20	907.42	10.95	907.49	8.25	909.80			11.55	907.87	11.90	907.95	11.60	908.03	12.10	907.99
3/13/2018	10.18	909.44	9.85	908.59	8.10	909.95			11.50	907.92	11.85	908.00	12.16	907.47	12.22	907.87
6/6/2018	6.80	912.82	6.80	911.64	4.56	913.49			5.30	914.12	7.15	912.70	7.10	912.53	8.90	911.19
10/4/2018	4.14	915.48	4.45	913.99	1.63	916.42	7.35	913.64	5.78	913.64	6.60	913.25	6.66	912.97	6.87	913.22
1/15/2019	NM	NM	NM	NM	NM	NM	8.15	912.84	NM	NM	NM	NM	NM	NM	NM	NM
3/5/2019	NM	NM	NM	NM	NM	NM	8.75	912.24	NM	NM	NM	NM	NM	NM	NM	NM
4/8/2019	3.53	916.09	3.04	915.40	NM	NM	5.73	915.26	4.17	915.25	4.69	915.16	4.58	915.05	4.85	915.24
10/14/2019	3.47	916.15	2.90	915.54	NM	NM	5.75	915.24	3.64	915.78	4.56	915.29	4.33	915.30	4.65	915.44
4/20/2020	5.24	914.38	5.48	912.96	2.94	915.11	7.59	913.40	6.82	912.60	7.42	912.43	7.60	912.03	7.69	912.40
10/2/2020	9.65	909.97	9.37	909.07	7.76	910.29	11.47	909.52	10.52	908.90	11.13	908.72	11.17	908.46	11.35	908.74
4/6/2021	6.76	912.86	7.01	911.43	4.73	913.32	8.51	912.48	8.91	910.51	8.90	910.95	9.53	910.10	9.34	910.75
10/1/2021	10.17	909.45	9.88	908.56	8.32	909.73	11.98	909.01	11.27	908.15	11.74	908.11	11.84	907.79	12.00	908.09
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

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

Notes:

TOC: Top of PVC well casing

NM = not measured

AMSL = above mean sea level

Table 3 - Groundwater Elevations

Omaha Public Power District - NC1 Ash Disposal Area

	Water Level Only Wells													
	NC2MW-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	*Well Installed 7/9/2018*		*Well Installed 9/16/2019*		*Well Installed 9/17/2019*		9.00	911.36	9.00	907.77	NM	NM
6/7/2016	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					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	NM[1]	NM
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	NM[1]	NM
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	NM[1]	NM

Notes:

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

TOC: Top of PVC well casing

NM = not measured

AMSL = above mean sea level

This Page Intentionally Left Blank.

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
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
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
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

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 (cont'd)	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
NC1MW-2	3/9/2016	0.301	122	<5	0.664	6.84	90.2	456
	6/7/2016	0.205	94.4	<5	<0.5	6.99	60.1	404
	10/3/2016	0.327	103	<5	<0.5	7.29	39.8	370
	11/18/2016	0.333	121	<5	1.82	7.01	59.5	516
	2/14/2017	0.427	122	<5	<0.5	7.48	99.1	580
	4/25/2017	0.226	87	<5	1.4	7.40	59.8	536
	6/20/2017	<0.2	112	<5	<0.5	7.12	54.4	496
	7/13/2017	0.225	110	<5	<0.5	7.48	44.5	524
	11/8/2017	<0.2	135	<5	0.55	7.02	121	592
	3/13/2018	<0.2	94	<5	0.57	6.85 / 7.53 **	61	362
	6/6/2018	0.27	88.8	<5	<0.5	7.06	48.3	344
	10/4/2018	<0.2	115	<5	<0.5	6.78	70.0	400
	4/8/2019	<0.2	111	<5	<0.5	6.68	66.3	418
	10/18/2019	0.305	112	<5	<0.5	6.84	52.0	332
	4/20/2020	<0.1	119	2.81J	0.614	6.78	54.4	424
	10/6/2020	0.141	77.7	4.61J	0.301J	6.81	57.4	272
	4/13/2021	0.233	91.6	3.82J	0.294J	6.69	54.4	318
	10/5/2021	0.430	103	5.31	<0.275	6.54	72.1	340
	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
NC1MW-3	3/9/2016	1.88	227	14.3	0.508	6.73	457	1150
	6/7/2016	2.56	213	18.4	<0.5	6.9	446	1180
	10/3/2016	1.63	147	10.5	<0.5	7.33	326	794
	11/18/2016	1.66	156	9	3.91	7.05	149	732
	2/14/2017	1.66	170	11	2.97	7.56	286	852
	4/25/2017	1.97	166	10.1	0.974	7.27	338	924
	6/20/2017	2.42	155	10.5	0.591	6.99	361	1070
	7/13/2017	2.55	169	7.81	0.603	7.85	334	1080
	11/8/2017	2.04	144	9.53	0.648	7.14	339	852
	3/13/2018	1.97	154	10.8	<0.5	6.85 / 7.42 **	362	846
	6/6/2018	2.6	155	12.5	<0.5	6.40	324	948
	10/4/2018	2.32	163	8.88	0.541	7.15	432	944
	4/9/2019	2.33	186	7.96	<0.5	7.32	427	1040
	10/18/2019	2.42	166	9.91	0.527	7.08	361	760
	4/21/2020	2.98	169	9.09	0.693	6.92	346	916
	10/6/2020	2.57	173	7.13	0.520	6.76	354	976
	4/13/2021	3.14	180	9.11	0.557	6.63	372	1000
	10/6/2021	2.77	181	9.86	<0.275	6.34	395	998

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 (cont'd)	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
NC1MW-4	3/9/2016	1.83	227	10.5	<0.5	7.25	373	896
	6/7/2016	1.22	107	<5	<0.5	7.29	344	667
	10/3/2016	1.29	104	<5	<0.5	7.52	262	546
	11/18/2016	1.4	124	<5	0.876	7.25	310	712
	2/14/2017	1.59	139	<5	<0.5	7.48	295	760
	4/25/2017	1.39	102	5.19	<0.5	7.39	244	582
	6/20/2017	1.16	89.9	<5	<0.5	7.22	210	448
	7/13/2017	1.41	88.2	<5	<0.5	7.62	196	696
	11/8/2017	1.13	97.6	6.39	<0.5	7.05	234	480
	3/13/2018	1.21	111	6.04	<0.5	7.16 / 7.31 **	250	560
	6/6/2018	1.45	145	<5	<0.5	7.60	294	822
	10/4/2018	1.15	115	5.39	0.569	7.41	263	580
	4/9/2019	1.28	120	5.78	<0.5	7.65	231	586
	10/18/2019	1.34	151	5.64	0.501	7.33	238	572
	4/21/2020	1.53	145	5.68	0.507	7.11	229	658
	10/6/2020	1.77	172	6.65	0.535	6.86	272	778
	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
NC1MW-9	3/9/2016	3.7	125	<5	0.547	7.08	284	808
	6/7/2016	2.44	126	<5	<0.5	6.90	133	660
	10/3/2016	3.57	149	<5	0.578	7.58	244	740
	11/18/2016	4.44	181	6.31	3.4	7.08	270	944
	2/14/2017	2.5	139	5.95	1.78	7.52	247	770
	4/25/2017	2.5	164	5.8	0.934	7.12	291	1100
	6/20/2017	1.39	174	5.69	<0.5	7.06	218	870
	7/13/2017	1.68	144	<5	0.68	7.58	159	792
	11/8/2017	2.65	167	5.77	0.735	7.16	344	846
	3/13/2018	2.6	132	5.74	<0.5	6.93 / 7.48 **	276	754
	6/6/2018	2.45	149.0	<5	0.732	5.80	221	708
	10/4/2018	1.28	148	8.56	0.777	7.27	158	678
	4/10/2019	2.59	164	5.34	<0.5	7.03	184	756
	10/18/2019	1.31	157	5.13	0.605	7.06	206	780
	4/21/2020	1.46	169	5.9	0.68	7.1	177	802
	10/6/2020	2.60	160	5.35	0.739	6.87	234	882
	4/13/2021	1.50	160	6.5	0.504	6.7	162	768
	10/6/2021	1.45	174	6.84	<0.275	6.41	219	822

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 (cont'd)	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

Notes:

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

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

"<" for the period of March 2016 through October 2019, the symbol indicates analyte not detected above the Reporting Limit, which is the value shown following the "<" symbol. Starting in January 2020, the symbol indicates analyte not detected above the Method Detection Limit, which is the value shown following the "<" symbol.

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

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

^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.

This Page Intentionally Left Blank.

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

		Appendix IV (Assessment Monitoring) Constituents														
Constituent		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Combined Radium (Ra 226 + Ra 228)	Selenium	Thallium
	Reporting Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L
NC2MW-4	3/9/2016	<0.001	<0.002	0.281	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.00199	<0.05	<0.0002	0.00272	1.54	<0.005	<0.001
	3/14/2016	<0.001	<0.002	0.276	<0.001	<0.0005	<0.005	<0.0005	0.213	0.00065	<0.05	<0.0002	0.00239	0.563	<0.005	<0.001
	6/3/2016	<0.001	<0.002	0.288	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.000737	<0.05	<0.0002	0.00252	0.739	<0.005	<0.001
	6/7/2016	<0.001	<0.002	0.293	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.000951	<0.05	<0.0002	0.00283	1.21	<0.005	<0.001
	8/31/2016	<0.001	<0.002	0.296	<0.001	<0.0005	<0.005	<0.0005	0.646	0.00162	<0.05	<0.0002	0.00597	1.04	<0.005	<0.001
	10/3/2016	<0.001	<0.002	0.283	<0.001	<0.0005	<0.005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.00421	1.19	<0.005	<0.001
	11/17/2016	<0.001	<0.002	0.284	<0.001	<0.0005	<0.005	<0.0005	1.28	0.000536	<0.05	<0.0002	0.00393	1.03	<0.005	<0.001
	11/18/2016	<0.001	<0.002	0.283	<0.001	<0.0005	<0.005	<0.0005	1.1	0.00127	<0.05	<0.0002	0.00288	0.984	<0.005	<0.001
	2/14/2017	<0.001	<0.002	0.300	<0.001	<0.0005	<0.005	0.00129	<0.5	0.0032	<0.05	<0.0002	0.0028	0.894	<0.005	<0.001
	2/15/2017	<0.001	<0.002	0.272	<0.001	<0.0005	<0.005	0.000584	2.43	0.00196	<0.05	<0.0002	0.00224	0.647	<0.005	<0.001
	4/24/2017	<0.001	<0.002	0.287	<0.001	<0.0005	<0.005	<0.0005	1.08	0.000802	<0.05	<0.0002	0.00422	1.08	<0.005	<0.001
	4/25/2017	<0.001	<0.002	0.300	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.000714	<0.05	<0.0002	0.00323	1.23	<0.005	<0.001
	6/15/2017	<0.001	<0.002	0.249	<0.001	<0.0005	<0.005	0.000521	<0.5	0.00165	<0.05	<0.0002	0.00233	1.29	<0.005	<0.001
	6/20/2017	<0.001	<0.002	0.258	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.000754	<0.05	<0.0002	0.00551	1.16	0.00593	<0.001
	7/12/2017	<0.001	<0.002	0.232	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.000549	<0.05	<0.0002	0.00587	1.42	<0.005	<0.001
	7/13/2017	<0.001	<0.002	0.236	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.000787	<0.05	<0.0002	0.00326	0.76	<0.005	<0.001
	3/13/2018	<0.001	<0.002	0.297	<0.001	<0.0005	<0.005	<0.0005	0.53	0.00192	0.0318	<0.0002	<0.002	1.71	0.0112	<0.001
	6/6/2018	<0.001	<0.002	0.329	<0.001	<0.0005	<0.005	0.000502	<0.5	0.00154	0.0292	<0.0002	0.0049	1.9	0.008	<0.001
	10/4/2018	N.S.[1]	<0.002	0.321	N.S.[1]	N.S.[1]	N.S.[1]	<0.0005	<0.5	0.000565	0.0332	N.S.[1]	0.00707	1.13	<0.005	N.S.[1]
	4/8/2019	<0.001	<0.002	0.351	<0.001	<0.0005	<0.005	<0.0005	<0.5	<0.0005	0.0351	<0.0002	0.00283	0.980	<0.005	<0.001
	10/15/2019	<0.001	<0.002	0.39	<0.001	0.000138	<0.005	<0.0005	<0.5	<0.0005	0.0343	<0.0002	0.00412	1.22	<0.005	<0.001
	1/30/2020	<0.00058	0.00109J	0.34	<0.000270	0.0000720J	<0.0011	0.000531	<0.5	0.00167	0.0347	<0.0001	0.00177J	0.610	<0.001	<0.00026
	4/20/2020	0.000609J	<0.00088	0.303	<0.000270	<0.000039	<0.0011	0.000167J	0.421J	0.000624	0.0305	<0.0001	0.00191J	0.684	<0.001	<0.00026
	4/27/2020 [4]	<0.00058	<0.00088	0.335	<0.000270	0.0000470J	<0.0011	0.000121J	0.315J	0.000398J	0.0284	<0.0001	0.00192J	0.743	<0.001	<0.00026
	10/5/2020	<0.00051	0.00348	<0.00051	<0.000270	0.0000970J	0.00164J	0.00122	<0.23	0.00243	0.0349	<0.0001	0.00272	-0.927U	<0.001	<0.00026
	4/12/2021	<0.00110	0.00113J	0.268	<0.000270	0.0000580J	<0.00110	0.000256J	0.311J	0.000833	0.023	<0.000150	0.0112	0.984	0.0111	<0.000260
	10/4/2021	<0.00110	0.00275	0.420	0.000571J	0.000469	0.00110J	0.00203	<0.275	0.0061	0.0324	<0.000150	0.00154J	8.39	0.00391J	0.000527J
	4/4/2022	<0.000690	0.00150J	0.338	<0.000270	0.0000820J	<0.00110	0.000723	<0.220	0.00208	0.0301	<0.000110	0.00609	0.555U	0.0146	<0.000260
	10/4/2022	<0.000690	0.00114J	0.347	<0.000270	0.0000600J	<0.00110	0.000383J	<0.220	0.000736	0.0303	<0.000110	0.00422	2.64	<0.000960	<0.000260
MW-11	3/9/2016	<0.001	<0.002	0.215	<0.001	<0.0005	<0.005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.00361	0.714	<0.005	<0.001
	6/7/2016	<0.001	<0.002	0.212	<0.001	<0.0005	<0.005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.00477	0.589	<0.005	<0.001
	10/3/2016	<0.001	<0.002	0.233	<0.001	<0.0005	<0.005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0082	1.1	<0.005	<0.001
	11/18/2016	<0.001	<0.002	0.251	<0.001	<0.0005	<0.005	<0.0005	0.95	<0.0005	<0.05	<0.0002	0.00659	1.13	<0.005	<0.001
	2/14/2017	<0.001	<0.002	0.246	<0.001	<0.0005	<0.005	<0.0005	2.09	<0.0005	<0.05	<0.0002	0.00471	0.225	<0.005	<0.001
	4/25/2017	<0.001	<0.002	0.249	<0.001	<0.0005	<0.005	<0.0005	1.44	<0.0005	<0.05	<0.0002	0.005	0.358	<0.005	<0.001
	6/20/2017	0.00235	<0.002	0.156	<0.001	<0.0005	<0.005	0.000549	0.562	<0.0005	<0.05	<0.0002	0.00788	0.398	<0.005	<0.001
	7/13/2017	<0.001	<0.002	0.146	<0.001	<0.0005	<0.005	0.00085	0.538	<0.0005	<0.05	0.000262	0.00905	0.397	<0.005	<0.001
	3/13/2018	<0.001	0.00272	0.154	<0.001	<0.0005	<0.005	0.00104	<0.5	<0.0005	0.0143	<0.0002	0.00269	0.414	0.00503	<0.001
	6/6/2018	<0.001	<0.002	0.172	<0.001	<0.0005	<0.005	0.000779	<0.5	0.00118	0.0123	<0.0002	0.00996	0.494	0.0071	<0.001
	10/4/2018	N.S.[1]	<0.002	0.185	N.S.[1]	N.S.[1]	N.S.[1]	<0.0005	0.568	<0.0005	0.0197	N.S.[1]	0.00883	0.958	<0.005	N.S.[1]
	4/8/2019	<0.001	<0.002	0.162	<0.001	<0.0005	<0.005	<0.0005	<0.5	0.000519	0.0162	<0.0002	0.00609	0.228	<0.005	<0.001
	10/16/2019	<0.001	0.00497	0.255	<0.001	<0.0001	<0.005	0.00305	0.558	<0.0005	0.0201	<0.0002	0.0120	0.684	<0.00500	<0.001
	4/20/2020	<0.00058	0.00201	0.184	<0.000270	<0.000039	<0.0011	0.000452J	0.430J	<0.00027	0.0168	<0.0001	0.00990	0.134U	<0.001	<0.00026

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

		Appendix IV (Assessment Monitoring) Constituents														
Constituent		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Combined Radium (Ra 226 + Ra 228)	Selenium	Thallium
Reporting Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L
MW-11 (cont'd)	10/6/2020	<0.00051	0.00983	0.159	<0.000270	<0.000049	<0.0011	0.00375	0.444J	0.000301J	0.0112	<0.0001	0.0164	0.326U	<0.001	<0.00026
	4/13/2021	<0.00110	0.00452	0.131	<0.000270	0.0000900J	<0.00110	0.000873	0.323J	0.000572	0.00252J	<0.000150	0.0299	0.570	0.00138J	<0.000260
	10/5/2021	<0.00110	0.0237	0.253	<0.000270	0.000179	<0.00110	0.00131	<2.45	0.000537	<0.00250	<0.000150	0.0201	0.378U	.00125J	<0.000260
	4/5/2022	<0.000690	0.0113	0.191	<0.000270	<0.0000550	0.00141J	0.00128	<0.220	0.00124	<0.00250	<0.000110	0.0235	0.550U	0.00161J	<0.000260
	10/3/2022	<0.000690	0.0170	0.252	<0.000270	<0.0000550	<0.00110	0.00108	<0.220	0.000783	0.00264J	<0.000110	0.00370	1.91	<0.000960	<0.000260
MW-13	3/9/2016	<0.001	0.00492	0.302	<0.001	<0.0005	<0.005	0.000817	<0.5	<0.0005	<0.05	<0.0002	<0.002	1.14	<0.005	<0.001
	3/14/2016	<0.001	0.00545	0.288	<0.001	<0.0005	<0.005	0.00105	<0.5	<0.0005	<0.05	<0.0002	<0.002	0.741	<0.005	<0.001
	6/3/2016	<0.001	0.00607	0.324	<0.001	<0.0005	<0.005	0.00122	<0.5	0.000704	<0.05	<0.0002	0.00216	1.01	<0.005	<0.001
	6/7/2016	<0.001	0.00591	0.317	<0.001	<0.0005	<0.005	0.00118	<0.5	0.000623	<0.05	<0.0002	<0.002	0.69	<0.005	<0.001
	8/31/2016	<0.001	0.00623	0.342	<0.001	<0.0005	<0.005	0.00107	<0.5	<0.0005	<0.05	<0.0002	0.00258	1.09	<0.005	<0.001
	10/3/2016	<0.001	0.00709	0.319	<0.001	<0.0005	<0.005	0.00103	<0.5	<0.0005	<0.05	<0.0002	0.00264	1.01	<0.005	<0.001
	11/17/2016	<0.001	0.00515	0.322	<0.001	<0.0005	<0.005	0.000873	0.803	0.00089	<0.05	<0.0002	0.00221	1.37	<0.005	<0.001
	11/18/2016	<0.001	0.0058	0.333	<0.001	<0.0005	<0.005	0.000916	0.647	<0.0005	<0.05	<0.0002	0.00235	0.745	<0.005	<0.001
	2/14/2017	<0.001	0.00304	0.349	<0.001	<0.0005	<0.005	0.000925	3.64	<0.0005	<0.05	<0.0002	0.00228	0.532	<0.005	<0.001
	2/15/2017	<0.001	0.00289	0.321	<0.001	<0.0005	<0.005	0.000883	<0.5	<0.0005	<0.05	<0.0002	0.00207	0.407	<0.005	<0.001
	4/24/2017	<0.001	0.0024	0.336	<0.001	<0.0005	<0.005	0.00135	0.789	0.000516	<0.05	<0.0002	<0.002	0.579	<0.005	<0.001
	4/25/2017	<0.001	0.00269	0.358	<0.001	<0.0005	<0.005	0.00141	0.80	0.000522	<0.05	<0.0002	<0.002	0.429	<0.005	<0.001
	6/15/2017	<0.001	0.00371	0.318	<0.001	<0.0005	<0.005	0.00127	<0.5	<0.0005	<0.05	<0.0002	0.0021	0.8	<0.005	<0.001
	6/20/2017	<0.001	0.00268	0.311	<0.001	<0.0005	<0.005	0.00119	0.51	0.00171	<0.05	<0.0002	<0.002	0.483	<0.005	<0.001
	7/12/2017	<0.001	0.00263	0.328	<0.001	<0.0005	<0.005	0.00112	<0.5	<0.0005	<0.05	<0.0002	0.00207	1.56	<0.005	<0.001
	7/13/2017	<0.001	0.00325	0.33	<0.001	<0.0005	<0.005	0.00108	<0.5	<0.0005	<0.05	<0.0002	0.00206	0.502	<0.005	<0.001
	3/13/2018	<0.001	0.00283	0.305	<0.001	<0.0005	<0.005	0.00222	<0.5	0.00102	0.0265	<0.0002	<0.002	0.412	<0.005	<0.001
	6/6/2018	<0.001	0.00262	0.282	<0.001	<0.0005	<0.005	0.00236	<0.5	0.00577	0.0423	<0.0002	<0.002	1.89	0.00553	<0.001
	10/4/2018	N.S.[1]	0.00965	0.388	N.S.[1]	N.S.[1]	N.S.[1]	0.00191	0.738	0.00216	0.0316	N.S.[1]	0.00243	1.62	<0.005	N.S.[1]
	4/8/2019[2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/15/2019[2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/30/2020[3]	<0.00058	0.00824	0.230	<0.000270	<0.000039	<0.0011	0.00198	<0.5	0.000335J	0.0273	<0.0001	0.00187J	0.0337U	<0.001	<0.00026
	4/20/2020	<0.00058	0.00867	0.177	<0.000270	<0.000039	<0.0011	0.00193	0.399J	0.000311J	0.0374	<0.0001	0.00457	0.438	<0.001	<0.00026
	4/27/2020 [4]	<0.00058	0.0111	0.167	<0.000270	<0.000039	<0.0011	0.00208	0.383J	0.000297J	0.0348	<0.0001	0.00335	-0.0922	<0.001	<0.00026
	10/5/2020	<0.00051	0.0188	0.225	<0.000270	<0.000049	<0.0011	0.000384J	<0.23	0.000178J	0.0322	<0.0001	<0.0011	0.872	<0.001	<0.00026
	4/12/2021	<0.00110	0.00487	0.0815	<0.000270	<0.0000510	<0.00110	0.00099	0.441J	0.000353J	0.0199	<0.000150	0.00443	0.429U	0.00194J	<0.000260
	10/4/2021	<0.00110	0.0402	0.257	<0.000270	<0.0000510	<0.00110	0.00102	<0.275	<0.000260	0.0330	<0.000150	<0.00130	1.84	<0.000960	<0.000260
	4/4/2022	<0.000690	0.0134	0.202	<0.000270	<0.0000550	<0.00110	0.000879	<0.220	0.000698	0.0329	<0.000110	<0.00120	0.500U	<0.000960	<0.000260
	10/3/2022	<0.000690	0.0151	0.253	<0.000270	<0.0000550	<0.00110	0.000419J	<0.220	<0.000240	0.0301	<0.000110	<0.00120	1.24	<0.000960	<0.000260
MW-14	10/4/2018	<0.001	0.0330	0.306	<0.001	<0.0005	<0.005	0.00290	0.751	<0.0005	0.0480	<0.0002	0.00293	1.48	<0.005	<0.001
	1/15/2019	<0.001	0.0301	0.309	<0.001	<0.0005	<0.005	0.00424	<0.5	<0.0005	0.0507	<0.0002	<0.002	1.20	<0.005	<0.001
	3/5/2019	<0.001	0.0253	0.301	<0.001	<0.0005	<0.005	0.00477	<0.5	<0.0005	0.0569	<0.0002	0.00227	1.75	<0.005	<0.001
	4/8/2019	<0.001	0.0368	0.309	<0.001	<0.0005	<0.005	0.00391	<0.5	<0.0005	0.0557	<0.0002	<0.002	1.03	<0.005	<0.001
	10/16/2019	<0.001	0.0893	0.359	<0.001	<0.0001	<0.005	0.00265	<0.5	<0.0005	0.0528	<0.0002	<0.002	1.81	<0.005	<0.001
	1/30/2020[3]	<0.00058	0.0513	0.266	<0.000270	<0.000039	<0.0011	0.00209	0.298J	<0.00027	0.0453	<0.0001	<0.0011	0.976	<0.001	<0.00026
	4/20/2020	<0.00058	0.0621	0.306	<0.000270	<0.000039	<0.0011	0.00216	0.520	<0.00027	0.0555	<0.0001	<0.0011	1.03	<0.001	<0.00026
	10/5/2020	<0.00051	0.0863	0.335	<0.000270	<0.000049	<0.0011	0.00257	0.339J	<0.000110	0.0497	<0.0001	<0.0011	2.45	<0.001	<0.00026
	4/13/2021	<0.00110	0.0455	0.318	<0.000270	<0.0000510	<0.00110	0.00116	0.495J	<0.000210	0.0548	<0.000150	<0.00130	1.51	<0.000960	<0.000260

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

		Appendix IV (Assessment Monitoring) Constituents														
Constituent		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Combined Radium (Ra 226 + Ra 228)	Selenium	Thallium
	Reporting Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L
MW-14 (cont'd)	10/4/2021	<0.00110	0.0494	0.367	<0.000270	<0.0000510	<0.00110	0.00167	<0.275	0.000211J	0.0525	<0.000150	<0.00130	3.90	<0.000960	<0.000260
	4/4/2022	<0.000690	0.0266	0.324	<0.000270	<0.0000550	<0.00110	0.00104	<0.220	<0.000240	0.0558	<0.000110	<0.00120	1.89	<0.000960	<0.000260
	10/3/2022	<0.000690	0.0768	0.324	<0.000270	<0.0000550	<0.00110	0.000351J	<0.220	0.000277J	0.0516	<0.000110	<0.00120	3.11	<0.000960	<0.000260
NC1MW-2	3/9/2016	<0.001	<0.002	0.123	<0.001	<0.0005	<0.0005	<0.0005	0.664	<0.0005	<0.05	<0.0002	0.0444	0.552	<0.005	<0.001
	6/7/2016	<0.001	<0.002	0.0956	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0718	0.305	<0.005	<0.001
	10/3/2016	<0.001	<0.002	0.104	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.12	0.586	<0.005	<0.001
	11/18/2016	<0.001	<0.002	0.126	<0.001	<0.0005	<0.0005	<0.0005	1.82	<0.0005	<0.05	<0.0002	0.095	0.415	<0.005	<0.001
	2/14/2017	<0.001	<0.002	0.123	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0654	0.254	<0.005	<0.001
	4/25/2017	<0.001	<0.002	0.0889	<0.001	<0.0005	<0.0005	<0.0005	1.4	<0.0005	<0.05	<0.0002	0.0489	0.396	<0.005	<0.001
	6/20/2017	<0.001	<0.002	0.116	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.038	0.174	<0.005	<0.001
	7/13/2017	<0.001	<0.002	0.122	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0374	0.375	<0.005	<0.001
	3/13/2018	<0.001	<0.002	0.125	<0.001	<0.0005	<0.0005	<0.0005	0.57	<0.0005	<0.01	<0.0002	0.0446	0.656	<0.005	<0.001
	6/6/2018	<0.001	<0.002	0.122	<0.001	<0.0005	<0.0005	0.00143	<0.5	0.000713	<0.01	<0.0002	0.0711	0.615	<0.005	<0.001
	10/4/2018	N.S.[1]	<0.002	0.153	N.S.[1]	N.S.[1]	N.S.[1]	<0.0005	<0.5	0.000795	<0.01	N.S.[1]	0.0680	1.01	<0.005	N.S.[1]
	4/8/2019	<0.001	<0.002	0.126	<0.001	<0.0005	<0.005	<0.0005	<0.5	<0.0005	<0.01	<0.0002	0.0803	0.494	<0.005	<0.001
	10/18/2019	<0.001	<0.002	0.179	<0.001	0.000230	<0.005	0.000548	<0.5	<0.0005	0.0117	<0.0002	0.0872	0.334	<0.005	<0.001
	4/21/2020	<0.00058	<0.000880	0.128	<0.000270	0.0000930J	<0.0011	<0.0000910	0.614	<0.00027	0.00764J	<0.0001	0.0938	0.192U	<0.001	<0.00026
	10/6/2020	<0.00051	<0.000880	0.108	<0.000270	0.0000650J	<0.0011	0.000133J	0.301J	0.000135J	0.00729J	<0.0001	0.121	0.376U	<0.001	<0.00026
	4/13/2021	<0.00110	0.000878J	0.134	<0.000270	0.000176	<0.00110	0.000238J	0.264J	0.000463J	0.00998J	<0.000150	0.0886	0.552	<0.000960	0.00278
	10/5/2021	0.00111J	0.00179J	0.154	0.000387J	0.000592	<0.00110	0.000568	<0.275	0.000968	0.0124	<0.000150	0.102	0.536U	0.00346J	0.00106
	4/5/2022	<0.000690	0.000884J	0.222	<0.000270	0.0000860J	<0.00110	0.000258J	<0.220	<0.000240	0.0176	<0.000110	0.0668	0.282U	<0.000960	<0.000260
	10/4/2022	0.000699J	0.000978J	0.194	<0.000270	0.000131	<0.00110	0.000218J	<0.220	0.000403J	0.0163	<0.000110	0.0654	0.724	0.00418J	0.000597J
NC1MW-3	3/9/2016	<0.001	0.0135	0.112	<0.001	<0.0005	<0.0005	0.00239	0.508	<0.0005	<0.05	<0.0002	<0.002	0.0759	<0.005	<0.001
	6/7/2016	<0.001	0.00901	0.111	<0.001	<0.0005	<0.0005	0.00364	<0.5	<0.0005	<0.05	<0.0002	<0.002	0.81	<0.005	<0.001
	10/3/2016	<0.001	0.00761	0.0887	<0.001	<0.0005	<0.0005	0.00267	<0.5	<0.0005	<0.05	<0.0002	<0.002	0.15	<0.005	<0.001
	11/18/2016	<0.001	0.031	0.101	<0.001	<0.0005	<0.0005	0.00334	3.91	<0.0005	<0.05	<0.0002	<0.002	0.736	<0.005	<0.001
	2/14/2017	<0.001	0.0248	0.092	<0.001	<0.0005	<0.0005	0.00268	2.97	0.000553	<0.05	<0.0002	<0.002	0.436	<0.005	<0.001
	4/25/2017	<0.001	0.0131	0.106	<0.001	<0.0005	<0.0005	0.00144	0.974	<0.0005	<0.05	<0.0002	<0.002	0.242	<0.005	<0.001
	6/20/2017	<0.001	0.0195	0.115	<0.001	<0.0005	<0.0005	0.00196	0.591	<0.0005	<0.05	<0.0002	<0.002	0.711	<0.005	<0.001
	7/13/2017	<0.001	0.0302	0.116	<0.001	<0.0005	<0.0005	0.00257	0.603	<0.0005	<0.05	<0.0002	<0.002	0.339	<0.005	<0.001
	3/13/2018	<0.001	0.0111	0.0786	<0.001	<0.0005	<0.0005	0.00192	<0.5	<0.0005	0.0262	<0.0002	<0.002	0.728	<0.005	<0.001
	6/6/2018	<0.001	0.0412	0.128	<0.001	<0.0005	<0.0005	0.00219	<0.5	0.00296	0.0325	<0.0002	0.0021	0.922	<0.005	<0.001
	10/4/2018	N.S.[1]	0.0352	0.141	N.S.[1]	N.S.[1]	N.S.[1]	0.00120	0.541	0.000833	0.0326	N.S.[1]	<0.002	1.12	<0.005	N.S.[1]
	4/9/2019	<0.001	0.0143	0.0938	<0.001	<0.0005	<0.005	0.00250	<0.5	<0.0005	0.0271	<0.0002	<0.002	0.348	<0.005	<0.001
	10/18/2019	<0.001	0.0333	0.135	<0.001	<0.0001	<0.005	0.00182	0.527	<0.0005	0.0316	<0.0002	<0.002	0.146	<0.005	<0.001
	4/21/2020	<0.00058	0.0242	0.103	<0.000270	<0.000039	<0.00110	0.00228	0.693	<0.00027	0.0375	<0.0001	0.00140J	0.0567U	<0.001	<0.000260
	10/6/2020	<0.00051	0.0317	0.126	<0.000270	<0.00027	<0.00110	0.00153	0.520	<0.000110	0.0361	<0.0001	<0.0011	0.994	<0.001	<0.000260
	4/13/2021	<0.00110	0.0354	0.144	<0.000270	0.0000830J	<0.00110	0.00191	0.557	<0.000210	0.0435	<0.000510	0.00293	0.743	<0.000960	0.0032
	10/6/2021	<0.00110	0.0368	0.144	<0.000270	<0.0000510	<0.00110	0.00137	<0.275	<0.000210	0.0361	<0.000510	0.00179J	0.470U	<0.000960	<0.000260
	4/6/2022	<0.000690	0.0470	0.142	<0.000270	<0.0000550	<0.00110	0.00228	<0.220	<0.000240	0.0406	<0.000110	0.00157J	1.32	<0.000960	<0.000260
	10/4/2022	<0.000690	0.0463	0.115	<0.000270	<0.0000550	<0.00110	0.00145	<0.220	<0.000240	0.0410	<0.000110	0.00182J	0.707	<0.000960	<0.000260

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

		Appendix IV (Assessment Monitoring) Constituents														
Constituent		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Combined Radium (Ra 226 + Ra 228)	Selenium	Thallium
Reporting Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L
NC1MW-4	3/9/2016	<0.001	0.00336	0.195	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0053	0.753	<0.005	<0.001
	6/7/2016	<0.001	0.0029	0.100	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.017	0.37	<0.005	<0.001
	10/3/2016	<0.001	0.0032	0.090	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0297	0.343	<0.005	<0.001
	11/18/2016	<0.001	0.00254	0.115	<0.001	<0.0005	<0.0005	<0.0005	0.876	<0.0005	<0.05	<0.0002	0.0199	0.182	<0.005	<0.001
	2/14/2017	<0.001	0.00433	0.119	<0.001	<0.0005	<0.0005	<0.0005	<0.5	0.00052	<0.05	<0.0002	0.0139	0.301	<0.005	<0.001
	4/25/2017	<0.001	0.00344	0.0968	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0249	0.313	<0.005	<0.001
	6/20/2017	<0.001	0.00334	0.0679	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0356	0.0408	<0.005	<0.001
	7/13/2017	<0.001	0.00381	0.0687	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0317	0.0901	<0.005	<0.001
	3/13/2018	<0.001	0.00265	0.0781	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	0.0114	<0.0002	0.0207	0.286	<0.005	<0.001
	6/6/2018	<0.001	0.00821	0.129	<0.001	<0.0005	<0.0005	0.000636	<0.5	<0.0005	0.01	<0.0002	0.0422	0.577	<0.005	<0.001
	10/4/2018	N.S.[1]	0.00641	0.0975	N.S.[1]	N.S.[1]	N.S.[1]	<0.0005	0.569	<0.0005	0.0135	N.S.[1]	0.0233	0.802	<0.005	N.S.[1]
	4/9/2019	<0.001	0.00223	0.0652	<0.001	<0.0005	<0.005	<0.0005	<0.5	<0.0005	0.011	<0.0002	0.0269	0.0157	<0.005	<0.001
	10/18/2019	<0.001	0.00347	0.119	<0.001	<0.0001	<0.005	0.000642	0.501	<0.0005	0.0137	<0.0002	0.0183	-0.000469U	<0.005	<0.001
	4/21/2020	<0.00058	0.00162J	0.0878	<0.000270	0.000310	<0.0011	0.000974	0.507	<0.00027	0.0183	<0.0001	0.00302	0.0118U	<0.001	<0.000260
	10/6/2020	<0.00051	0.00120J	0.152	<0.000270	0.000208	<0.0011	0.00138	0.535	<0.000110	0.0238	<0.0001	<0.0011	0.00604U	0.00199J	<0.000260
	4/13/2021	<0.00110	0.00190J	0.0768	<0.000270	0.000133	<0.00110	0.000976	0.441J	<0.000210	0.019	<0.000150	0.00154J	0.151U	<0.000960	0.000313J
	10/5/2021	<0.00110	0.00125J	0.111	<0.000270	0.000134	<0.00110	0.00200	<0.275	<0.000210	0.0187	<0.000150	0.00664	1.08	<0.000960	<0.000260
	4/5/2022	<0.000690	0.00121J	0.124	<0.000270	0.0000980J	<0.00110	0.00159	<0.220	<0.000240	0.0192	<0.000110	0.00320	1.13	0.00114J	<0.000260
	10/4/2022	<0.000690	0.00125J	0.111	<0.000270	0.000134	<0.00110	0.00190	<0.220	<0.000240	0.0208	<0.000110	0.00996	1.03	<0.000960	<0.000260
NC1MW-9	3/9/2016	<0.001	0.00995	0.0865	<0.001	<0.0005	<0.0005	0.00121	0.547	<0.0005	<0.05	<0.0002	0.0111	0.629	0.0634	<0.001
	6/7/2016	<0.001	0.00624	0.0816	<0.001	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.05	<0.0002	0.0204	0.577	0.00958	<0.001
	10/3/2016	<0.001	0.00605	0.0847	<0.001	<0.0005	<0.0005	0.000683	0.578	<0.0005	<0.05	<0.0002	0.0435	0.23	0.0388	<0.001
	11/18/2016	<0.001	0.00828	0.106	<0.001	<0.0005	<0.0005	0.000648	3.4	<0.0005	<0.05	<0.0002	0.0222	1.13	0.0162	<0.001
	2/14/2017	<0.001	0.0122	0.0836	<0.001	<0.0005	<0.0005	0.00147	1.78	<0.0005	<0.05	<0.0002	0.0169	0.425	0.0138	<0.001
	4/25/2017	<0.001	0.0164	0.115	<0.001	<0.0005	<0.0005	0.00124	0.934	<0.0005	<0.05	<0.0002	0.0473	0.592	0.0101	<0.001
	6/20/2017	<0.001	0.01	0.114	<0.001	<0.0005	<0.0005	0.00295	<0.5	<0.0005	<0.05	<0.0002	0.0486	0.473	<0.005	<0.001
	7/13/2017	<0.001	0.00885	0.0952	<0.001	<0.0005	<0.0005	0.000878	0.68	<0.0005	<0.05	<0.0002	0.0302	0.294	<0.005	<0.001
	3/13/2018	<0.001	0.0107	0.0838	<0.001	<0.0005	<0.0005	0.00063	<0.5	<0.0005	0.0198	<0.0002	0.0354	0.412	<0.005	<0.001
	6/6/2018	<0.001	0.0114	0.111	<0.001	<0.0005	<0.0005	0.00109	0.732	<0.0005	0.0189	<0.0002	0.0474	0.827	<0.005	<0.001
	10/4/2018	N.S.[1]	0.0101	0.109	N.S.[1]	N.S.[1]	N.S.[1]	0.00492	0.777	<0.0005	0.0201	N.S.[1]	0.0399	1.39	<0.005	N.S.[1]
	4/10/2019	<0.001	0.00681	0.153	<0.001	<0.0005	<0.005	0.00559	<0.5	<0.0005	0.0254	<0.0002	0.0196	0.415	0.0120	<0.001
	10/18/2019	<0.001	0.00784	0.165	<0.001	0.000100	<0.005	0.00323	0.605	<0.0005	0.0310	<0.0002	0.0230	0.695	<0.005	<0.001
	4/21/2020	<0.00058	0.0104	0.125	<0.000270	0.0000440J	<0.0011	0.00114	0.680	<0.00027	0.0314	<0.0001	0.0266	0.687	0.00328J	<0.000260
	10/6/2020	<0.00051	0.0157	0.134	<0.000270	<0.000049	<0.0011	0.00115	0.739	<0.000110	0.0269	<0.0001	0.0315	0.828	0.0188	<0.000260
	4/13/2021	<0.00110	0.011	0.12	<0.000270	0.0000890J	<0.00110	0.00143	0.504	<0.000210	0.0343	<0.000150	0.0234	0.205U	0.00280J	<0.000260
	10/6/2021	<0.00110	0.0121	0.139	<0.000270	0.0000780J	<0.00110	0.00202	<0.275	<0.000210	0.0318	<0.000150	0.0243	1.54	0.00115J	<0.000260
	4/6/2022	0.000976J	0.0140	0.122	<0.000270	0.0000960J	<0.00110	0.00174	0.930	<0.000240	0.0367	<0.000110	0.0174	1.10	0.00168J	<0.000260
	10/4/2022	<0.000690	0.0222	0.146	<0.000270	<0.0000550	<0.00110	0.00153	<0.220	<0.000240	0.0346	<0.000110	0.0179	0.972	<0.000960	<0.000260

Notes:

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

"<" for the period of March 2016 through October 2019, the symbol indicates analyte not detected above the Reporting Limit, which is the value shown following the "<" symbol. Starting in January 2020, the symbol indicates analyte not detected above the Method Detection Limit, which is the value shown following the "<" symbol.

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

N.S. = Not Sampled.

J - Denotes result is less than the Reporting Limit but greater than the Method Detection Limit, therefore the concentration is an approximate value and was not used as a statistically significant detection.

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

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

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

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

This Page Intentionally Left Blank.

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

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

Notes:

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

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

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

This Page Intentionally Left Blank.

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).

This Page Intentionally Left Blank.

Appendix A

Field Sampling Forms

This Page Intentionally Left Blank.

NEBRASKA CITY STATION

Water Levels Prior to Purging (Feet Below TOC)

NC1MW2	Date of Sampling	4/1/2022	Time of Sampling	12:17	Static Water Level	12.52
NC1MW3	Date of Sampling	4/1/2022	Time of Sampling	13:11	Static Water Level	12.22
NC1MW4	Date of Sampling	4/1/2022	Time of Sampling	12:21	Static Water Level	13.01
NC1MW5	Date of Sampling	4/1/2022	Time of Sampling	12:50	Static Water Level	14.02
NC1MW6	Date of Sampling	4/1/2022	Time of Sampling	12:30	Static Water Level	10.72
NC1MW7	Date of Sampling	4/1/2022	Time of Sampling	11:57	Static Water Level	11.99
NC1MW8	Date of Sampling	4/1/2022	Time of Sampling	11:55	Static Water Level	12.29
NC1MW9	Date of Sampling	4/1/2022	Time of Sampling	13:17	Static Water Level	12.74
NC2MW2	Date of Sampling	4/1/2022	Time of Sampling	11:33	Static Water Level	14.14
NC2MW3	Date of Sampling	4/1/2022	Time of Sampling	11:23	Static Water Level	12.00
NC2MW4	Date of Sampling	4/1/2022	Time of Sampling	10:43	Static Water Level	10.27
NC2MW5	Date of Sampling	4/1/2022	Time of Sampling	11:02	Static Water Level	6.29
NC2MW6	Date of Sampling	4/1/2022	Time of Sampling	11:11	Static Water Level	11.21
NC2MW7	Date of Sampling	4/1/2022	Time of Sampling	11:37	Static Water Level	10.45
NC2MW8	Date of Sampling	4/1/2022	Time of Sampling	11:27	Static Water Level	9.61
MW11	Date of Sampling	4/1/2022	Time of Sampling	12:04	Static Water Level	10.42
MW12	Date of Sampling	4/1/2022	Time of Sampling	12:10	Static Water Level	12.35
MW13	Date of Sampling	4/1/2022	Time of Sampling	10:40	Static Water Level	8.19
MW14	Date of Sampling	4/1/2022	Time of Sampling	10:50	Static Water Level	11.74

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): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW2 - 5**	Date: 4/5/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Overcast, Breezy, 55^{o}F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	14:43	Pump Start Time	14:45
Static Water Level (+/- 0.01 feet)*	Top of Pump	Purge Rate (mL/minute)	200
Bottom of Well Casing (+/- 0.01 feet)*	16.40	Time to Purge Well (hours:minutes)	0:09
Pump Intake Elevation (+/- 0.01 feet)*	905.59	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	Not Measured		
Actual Volume of Water Purged (mL)	1,800		

*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)
14:50	1,000	11.45	12.11	9.6	6.73	1.04	Top of Pump
14:52	1,400	11.58	12.12	5.4	6.73	1.05	Top of Pump
14:54	1,800	11.62	12.14	4.6	6.74	1.07	Top of Pump

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
14:54	1,800	11.62	12.14	4.6	6.74	1.07	Top of Pump
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		300

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/5/2022, 11:04

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW3 - 8**	Date: 4/6/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Windy, 46°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:14	Pump Start Time	9:17
Static Water Level (+/- 0.01 feet)*	12.24	Purge Rate (mL/minute)	350
Bottom of Well Casing (+/- 0.01 feet)*	22.20	Time to Purge Well (hours:minutes)	0:19
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)	6.15		
Actual Volume of Water Purged (mL)	6,650		

*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)
9:22	1,750	11.62	1.51	699	6.60	1.63	12.24
9:24	2,450	11.55	1.37	383	6.58	1.64	12.24
9:26	3,150	11.55	1.34	286	6.59	1.64	12.24
9:28	3,850	11.52	1.32	138	6.59	1.65	12.24
9:30	4,550	11.54	1.27	65.2	6.60	1.65	12.24
9:32	5,250	11.43	1.21	40.4	6.59	1.65	12.24
9:34	5,950	11.42	1.16	34.9	6.59	1.65	12.24
9:36	6,650	11.45	1.15	24.9	6.60	1.65	12.24

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)
9:36	6,650	11.45	1.15	24.9	6.60	1.65	12.24
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		350

Sample Physical Characteristics / **Equipment Information**

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/6/2022, 7:43

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW4 - 6**	Date: 4/5/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Overcast, Rain, 55°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	15:39	Pump Start Time	15:42
Static Water Level (+/- 0.01 feet)*	12.89	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	17.70	Time to Purge Well (hours:minutes)	0:19
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)	2.97		
Actual Volume of Water Purged (mL)	4,750		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
15:47	1,250	11.84	5.97	74.2	7.00	1.05	12.89
15:49	1,750	11.89	3.59	121	6.91	1.11	12.89
15:51	2,250	12.00	2.77	108	6.92	1.11	12.89
15:53	2,750	12.01	2.62	86.6	6.92	1.12	12.89
15:55	3,250	12.01	2.39	55.4	6.94	1.12	12.89
15:57	3,750	12.00	2.40	35.3	6.94	1.12	12.89
15:59	4,250	11.96	2.39	27.5	6.95	1.12	12.89
16:01	4,750	11.96	2.38	21.2	6.94	1.12	12.89

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
16:01	4,750	11.96	2.38	21.2	6.94	1.120	12.89
Duplicate?	Yes, DUP1	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		250

Sample Physical Characteristics **Equipment Information**

Sample Clarity	Clear, Sandy	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/5/2022, 11:04

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), Cathy King
Monitoring Well Identification - Sample Number: **NC2MW4 - 2**	Date: 4/4/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Sunny, 37°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:33	Pump Start Time	9:35
Static Water Level (+/- 0.01 feet)*	10.28	Purge Rate (mL/minute)	100
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)	2.61		
Actual Volume of Water Purged (mL)	2,300		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
9:40	500	8.82	9.22	437	6.09	0.971	10.70
9:42	700	8.79	9.27	395	6.08	0.967	10.80
9:44	900	8.74	9.23	277	6.07	0.965	10.85
9:46	1,100	8.75	9.23	280	6.05	0.964	10.89
9:48	1,300	8.74	9.27	227	6.04	0.963	10.94
9:50	1,500	8.77	9.31	185	6.04	0.963	11.01
9:52	1,700	8.78	9.45	156	6.04	0.962	11.09
9:54	1,900	8.74	9.52	159	6.03	0.959	11.15
9:56	2,100	8.74	9.45	152	6.02	0.960	11.20
9:58	2,300	8.78	9.53	155	6.02	0.959	11.25

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)
9:58	2,300	8.78	9.53	155	6.02	0.959	11.25
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	4/4/2022, 6:26
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW9 - 10**	Date: 4/6/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, Windy, 50°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:55	Pump Start Time	9:57
Static Water Level (+/- 0.01 feet)*	12.70	Purge Rate (mL/minute)	350
Bottom of Well Casing (+/- 0.01 feet)*	22.40	Time to Purge Well (hours:minutes)	0:23
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	5.99		
Actual Volume of Water Purged (mL)	6,050		

*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)
10:02	1,750	11.69	12.46	322	6.72	1.26	12.70
10:04	2,200	11.73	12.18	216	6.72	1.25	12.70
10:06	2,650	11.69	12.20	165.0	6.72	1.25	12.70
10:08	3,100	11.65	12.00	145	6.71	1.25	12.70
10:10	3,550	11.57	12.00	139	6.71	1.25	12.70
10:12	4,850	11.60	11.39	92.4	6.69	1.25	12.70
10:14	5,150	11.68	11.32	66.5	6.70	1.25	12.70
10:16	5,450	11.70	10.98	50.2	6.69	1.25	12.70
10:18	5,750	11.74	10.94	35.5	6.70	1.25	12.70
10:20	6,050	11.70	10.92	23.4	6.71	1.25	12.70

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
10:20	6,050	11.70	10.92	23.4	6.71	1.25	12.70
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	4/6/2022, 7:43

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW11 - 4**	Date: 4/5/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Overcast, Breezy, 55°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	13:46	Pump Start Time	13:48
Static Water Level (+/- 0.01 feet)*	10.27	Purge Rate (mL/minute)	200-300
Bottom of Well Casing (+/- 0.01 feet)*	21.85	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)	7.15		
Actual Volume of Water Purged (mL)	5,500		

*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)
13:53	1,500	11.00	2.18	44.2	6.84	0.463	12.02
13:55	1,900	10.95	1.32	51.1	6.84	0.453	11.98
13:57	2,300	10.95	1.17	53.3	6.84	0.453	11.95
13:59	2,700	10.91	0.90	52.1	6.83	0.455	11.85
14:01	3,100	10.86	0.89	51.7	6.82	0.458	11.75
14:03	3,500	10.82	0.80	56.4	6.81	0.460	11.66
14:05	3,900	10.84	0.81	55.1	6.81	0.469	11.66
14:07	4,300	10.88	0.76	52.7	6.80	0.471	11.66
14:09	4,700	10.94	0.70	55.6	6.81	0.482	11.66
14:11	5,100	10.95	0.66	55.0	6.80	0.482	11.66
14:13	5,500	10.95	0.65	56.1	6.80	0.483	11.66

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)
14:13	5,500	10.95	0.65	56.1	6.80	0.483	11.66
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 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	4/5/2022, 11:04
Notes / Unusual Occurrences: None			

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: **MW13 - 1**	Date: 4/4/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, 34°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	8:40	Pump Start Time	8:44
Static Water Level (+/- 0.01 feet)*	8.29	Purge Rate (mL/minute)	150
Bottom of Well Casing (+/- 0.01 feet)*	15.19	Time to Purge Well (hours:minutes)	0:15
Pump Intake Elevation (+/- 0.01 feet)*	908.30	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	4.26		
Actual Volume of Water Purged (mL)	2,250		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
8:49	750	10.07	5.10	48.7	6.47	1.03	8.40
8:51	1,050	9.74	5.08	34.1	6.32	1.04	8.38
8:53	1,350	9.42	5.03	26.3	6.26	1.05	8.38
8:55	1,650	9.45	4.92	20.8	6.20	1.05	8.38
8:57	1,950	9.45	4.78	18.7	6.17	1.05	8.38
8:59	2,250	9.38	4.79	20.5	6.15	1.06	8.38

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
8:59	2,250	9.38	4.79	20.5	6.15	1.06	8.38
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	4/4/2022, 6:26
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481), Cathy King
Monitoring Well Identification - Sample Number: **MW14 - 3**	Date: 4/4/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Cloudy, Sunny, 39^{o}F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	10:21	Pump Start Time	10:22
Static Water Level (+/- 0.01 feet)*	11.80	Purge Rate (mL/minute)	150
Bottom of Well Casing (+/- 0.01 feet)*	Not Measured	Time to Purge Well (hours:minutes)	0:33
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	Not Measured		
Actual Volume of Water Purged (mL)	4,950		

*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)
10:27	750	9.09	12.06	206	7.67	1.30	12.14
10:29	1,050	9.20	11.41	192	7.47	1.33	12.23
10:31	1,350	9.25	11.40	160	7.37	1.35	12.30
10:33	1,650	9.30	10.82	131	7.33	1.36	12.40
10:35	1,950	9.27	10.71	96.4	7.26	1.36	12.48
10:37	2,250	9.23	10.52	81.6	7.22	1.36	12.60
10:39	2,550	9.17	10.02	66.3	7.18	1.36	12.73
10:41	2,850	9.19	9.94	62.7	7.16	1.37	12.78
10:43	3,150	9.19	9.64	59.0	7.14	1.37	12.81
10:45	3,450	9.17	9.58	58.8	7.11	1.37	12.95
10:47	3,750	9.12	9.31	54.2	7.09	1.37	13.05
10:49	4,050	9.14	9.27	56.2	7.11	1.37	13.10
10:51	4,350	9.18	9.20	57.7	7.10	1.37	13.13
10:53	4,650	9.20	9.17	56.6	7.09	1.37	13.15
10:55	4,950	9.17	9.14	57.2	7.09	1.37	13.18

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
10:55	4,950	9.17	9.14	57.2	7.09	1.37	13.18
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	4/4/2022, 6:26
Notes / Unusual Occurrences: None			

Equipment Calibration Sheet

Date: 4/4/2022
Time: 6:26

Person Calibrating Instrument: Kyle K. Uhing

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

Parameter:	Reading	Units
pH 4	4.00	NA
Conductivity	4.48	µS/cm
Turbidity	0.0	NTU
DO	10.96	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

.

Equipment Calibration Sheet

Date: 4/5/2022
Time: 11:04

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	4.46	µS/cm
Turbidity	0.0	NTU
DO	10.08	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

.

Equipment Calibration Sheet

Date: 4/6/2022
Time: 7:43

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	4.51	µS/cm
Turbidity	0.0	NTU
DO	10.06	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

.

This Page Intentionally Left Blank.

NEBRASKA CITY STATION

Water Levels Prior to Purging (Feet Below TOC)

NC1MW2	Date of Sampling	10/1/2022	Time of Sampling	13:50	Static Water Level	12.62
NC1MW3	Date of Sampling	10/1/2022	Time of Sampling	14:35	Static Water Level	13.09
NC1MW3D	Date of Sampling	10/1/2022	Time of Sampling	14:36	Static Water Level	14.74
NC1MW4	Date of Sampling	10/1/2022	Time of Sampling	13:55	Static Water Level	13.12
NC1MW4D	Date of Sampling	10/1/2022	Time of Sampling	13:56	Static Water Level	11.86
NC1MW5	Date of Sampling	10/1/2022	Time of Sampling	14:17	Static Water Level	14.82
NC1MW6	Date of Sampling	10/1/2022	Time of Sampling	14:26	Static Water Level	11.05
NC1MW6D	Date of Sampling	10/1/2022	Time of Sampling	14:27	Static Water Level	11.06
NC1MW7	Date of Sampling	10/1/2022	Time of Sampling	13:35	Static Water Level	11.91
NC1MW8	Date of Sampling	10/1/2022	Time of Sampling	13:33	Static Water Level	12.23
NC1MW9	Date of Sampling	10/1/2022	Time of Sampling	14:41	Static Water Level	13.28
NC1MW9D	Date of Sampling	10/1/2022	Time of Sampling	14:43	Static Water Level	14.71
NC2MW2	Date of Sampling	10/1/2022	Time of Sampling	13:14	Static Water Level	14.60
NC2MW3	Date of Sampling	10/1/2022	Time of Sampling	13:07	Static Water Level	12.72
NC2MW4	Date of Sampling	10/1/2022	Time of Sampling	12:31	Static Water Level	11.82
NC2MW5	Date of Sampling	10/1/2022	Time of Sampling	12:48	Static Water Level	14.90
NC2MW5A	Date of Sampling	10/1/2022	Time of Sampling	12:50	Static Water Level	14.20
NC2MW6	Date of Sampling	10/1/2022	Time of Sampling	12:56	Static Water Level	11.84
NC2MW7	Date of Sampling	10/1/2022	Time of Sampling	13:29	Static Water Level	10.79
NC2MW8	Date of Sampling	10/1/2022	Time of Sampling	13:10	Static Water Level	11.66
NC2MW9	Date of Sampling	10/1/2022	Time of Sampling	13:21	Static Water Level	12.77
MW11	Date of Sampling	10/1/2022	Time of Sampling	13:43	Static Water Level	11.31
MW12	Date of Sampling	10/1/2022	Time of Sampling	13:38	Static Water Level	13.24
MW13	Date of Sampling	10/1/2022	Time of Sampling	12:27	Static Water Level	10.04
MW14	Date of Sampling	10/1/2022	Time of Sampling	12:34	Static Water Level	13.87
MW16	Date of Sampling	10/1/2022	Time of Sampling	14:04	Static Water Level	11.39

NOTES:

TOC = Top of Casing

NM = Not Measured, Inaccessible

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW2 - 5**	Date: 10/4/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Clear, Sunny, 63^{o}F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:44	Pump Start Time	9:44
Static Water Level (+/- 0.01 feet)*	Top of Pump	Purge Rate (mL/minute)	200
Bottom of Well Casing (+/- 0.01 feet)*	16.40	Time to Purge Well (hours:minutes)	0:17
Pump Intake Elevation (+/- 0.01 feet)*	905.59	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	Not Measured		
Actual Volume of Water Purged (mL)	3,400		

*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)
9:49	1,000	16.90	2.86	6.7	6.91	0.927	Top of Pump
9:52	1,600	16.73	19.95	4.3	6.90	0.934	Top of Pump
9:55	2,200	16.68	1.36	2.7	6.89	0.935	Top of Pump
9:58	2,800	16.74	1.33	1.5	6.89	0.936	Top of Pump
10:01	3,400	16.70	1.27	0.6	6.89	0.935	Top of Pump

Well Evacuated to Dryness? No

Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
10:01	3,400	16.70	1.27	0.6	6.89	0.935	Top of Pump
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		200

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/4/2022, 6:07

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: 10/4/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Sunny, 70^{o}F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	11:12	Pump Start Time	11:14
Static Water Level (+/- 0.01 feet)*	13.11	Purge Rate (mL/minute)	300
Bottom of Well Casing (+/- 0.01 feet)*	22.20	Time to Purge Well (hours:minutes)	0:20
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	5.61		
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)
11:19	1,500	15.44	3.87	260	6.99	1.21	13.11
11:22	2,400	15.27	3.95	171	7.01	1.20	13.11
11:25	3,300	15.39	3.11	79.2	6.99	1.20	13.11
11:28	4,200	15.41	3.01	41.0	6.98	1.19	13.11
11:31	5,100	15.26	2.92	30.0	6.99	1.19	13.11
11:34	6,000	15.40	2.86	24.6	6.98	1.19	13.11

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)
11:34	6,000	15.40	2.86	24.6	6.98	1.19	13.11
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	10/4/2022, 6:07

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW4 - 6**	Date: 10/4/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Clear, Sunny, 64°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	10:23	Pump Start Time	10:25
Static Water Level (+/- 0.01 feet)*	13.14	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	17.70	Time to Purge Well (hours:minutes)	0:14
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	2.82		
Actual Volume of Water Purged (mL)	2,600		

*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)
10:30	1,250	16.69	0.74	44.0	7.02	0.857	13.14
10:33	1,700	16.60	0.22	24.5	7.02	0.838	13.14
10:36	2,150	16.52	0.13	10.9	7.03	0.832	13.14
10:39	2,600	16.44	0.15	8.1	7.02	0.830	13.14

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	2,600	16.44	0.15	8.1	7.02	0.830	13.14
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		250

Sample Physical Characteristics **Equipment Information**

Sample Clarity	Clear, Sandy	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/4/2022, 6:07

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: 10/3/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Clear, Sunny, 59°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:42	Pump Start Time	9:44
Static Water Level (+/- 0.01 feet)*	11.83	Purge Rate (mL/minute)	100-125
Bottom of Well Casing (+/- 0.01 feet)*	14.50	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)	1.65		
Actual Volume of Water Purged (mL)	1,825		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
9:49	625	16.24	0.77	283	7.27	0.742	13.95
9:52	925	16.41	1.04	670	7.22	0.726	Top of Pump
9:55	1,225	16.50	0.94	>1,000	7.22	0.730	Top of Pump
9:58	1,525	16.56	0.90	>1,000	7.09	0.734	Top of Pump
10:01	1,825	16.62	0.84	>1,000	7.08	0.739	Top of Pump

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
10:01	1,825	16.62	0.84	>1,000	7.08	0.739	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	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	10/3/2022, 8:43

Notes / Unusual Occurrences: Pumped Dry - Collected Mostly Clear Grab Sample on 10/4/2022, 8:14

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (79776)
Monitoring Well Identification - Sample Number: **MW7**	Date: 10/3/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Clear, Sunny, 79°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	18:03	Pump Start Time	18:05
Static Water Level (+/- 0.01 feet)*	11.92	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	42.55	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)	18.91		
Actual Volume of Water Purged (mL)	4,250		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
18:10	1,250	17.02	0.30	75.5	7.54	0.868	11.94
18:13	2,000	16.04	0.00	84.0	7.56	0.861	11.94
18:16	2,750	16.04	0.00	58.6	7.58	0.830	11.93
18:19	3,500	15.82	0.00	59.9	7.59	0.857	11.93
18:22	4,250	15.63	0.00	23.7	7.58	0.856	11.93

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)
18:22	4,250	15.63	0.00	23.7	7.58	0.856	11.93
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		200

Sample Physical Characteristics / **Equipment Information**

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/3/2022, 8:43
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (79776)
Monitoring Well Identification - Sample Number: **MW8**	Date: 10/3/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Clear, Sunny, 82°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	17:29	Pump Start Time	17:32
Static Water Level (+/- 0.01 feet)*	12.25	Purge Rate (mL/minute)	300
Bottom of Well Casing (+/- 0.01 feet)*	Not Measured	Time to Purge Well (hours:minutes)	0:14
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	Not Measured		
Actual Volume of Water Purged (mL)	4,200		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
17:37	1,500	16.52	6.99	27.1	7.38	1.02	12.27
17:40	2,400	16.44	6.88	24.9	7.31	1.01	12.28
17:43	3,300	16.37	6.67	18.8	7.31	1.01	12.27
17:46	4,200	16.28	6.52	14.7	7.31	1.01	12.27

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
17:46	4,200	16.28	6.52	14.7	7.31	1.01	12.27
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	10/3/2022, 8:43
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: 10/4/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, 73^{o}F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	12:12	Pump Start Time	12:14
Static Water Level (+/- 0.01 feet)*	13.33	Purge Rate (mL/minute)	300
Bottom of Well Casing (+/- 0.01 feet)*	22.40	Time to Purge Well (hours:minutes)	0:17
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	5.60		
Actual Volume of Water Purged (mL)	5,100		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
12:19	1,500	16.22	5.40	114	6.90	1.13	13.33
12:22	2,400	15.96	5.48	73.7	6.94	1.12	13.33
12:25	3,300	16.06	5.27	43.1	6.91	1.12	13.33
12:28	4,200	15.98	5.06	26.5	6.89	1.12	13.33
12:31	5,100	15.98	5.11	17.5	6.91	1.11	13.33

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)
12:31	5,100	15.98	5.11	17.5	6.91	1.11	13.33
Duplicate?	Yes, DUP1	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		300

Sample Physical Characteristics / **Equipment Information**

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/4/2022, 6:07

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW11 - 4**	Date: 10/3/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, 82°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	18:52	Pump Start Time	18:54
Static Water Level (+/- 0.01 feet)*	11.33	Purge Rate (mL/minute)	150-250
Bottom of Well Casing (+/- 0.01 feet)*	21.85	Time to Purge Well (hours:minutes)	0:20
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	6.50		
Actual Volume of Water Purged (mL)	3,500		

*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)
18:59	1,250	15.87	0.11	79.0	7.34	0.540	13.78
19:02	1,700	16.12	0.10	65.8	7.42	0.536	13.37
19:05	2,150	16.28	0.01	63.4	7.43	0.534	13.11
19:08	2,600	16.25	0.02	62.9	7.45	0.530	13.00
19:11	3,050	16.23	0.00	60.4	7.49	0.527	12.90
19:14	3,500	16.22	0.00	60.5	7.50	0.525	12.81

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)
19:14	3,500	16.22	0.00	60.5	7.50	0.525	12.81
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		150

Sample Physical Characteristics **Equipment Information**

Sample Clarity	Clear, Sandy	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Light Brown	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/3/2022, 8:43
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW13 - 1**	Date: 10/3/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Clear, 55°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	8:50	Pump Start Time	8:51
Static Water Level (+/- 0.01 feet)*	10.05	Purge Rate (mL/minute)	200
Bottom of Well Casing (+/- 0.01 feet)*	15.19	Time to Purge Well (hours:minutes)	0:17
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)	3.17		
Actual Volume of Water Purged (mL)	3,400		

*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)
8:56	1,000	16.36	5.52	85.7	6.91	0.774	Top of Pump
8:59	1,600	16.26	5.50	65.2	6.93	0.772	Top of Pump
9:02	2,200	16.18	5.52	42.7	6.95	0.771	Top of Pump
9:05	2,800	16.17	5.46	30.4	6.97	0.773	Top of Pump
9:08	3,400	16.19	5.40	23.5	6.90	0.774	Top of Pump

Well Evacuated to Dryness? No

Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
9:08	3,400	16.19	5.40	23.5	6.90	0.774	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	10/3/2022, 8:43

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 1	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW14 - 3**	Date: 10/3/2022
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Clear, Sunny, 63°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	10:11	Pump Start Time	10:12
Static Water Level (+/- 0.01 feet)*	13.86	Purge Rate (mL/minute)	150
Bottom of Well Casing (+/- 0.01 feet)*	Not Measured	Time to Purge Well (hours:minutes)	0:14
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	Not Measured		
Actual Volume of Water Purged (mL)	2,100		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
10:17	750	15.31	8.44	86.3	7.70	1.06	14.33
10:20	1,200	14.89	8.17	29.4	7.46	1.14	14.45
10:23	1,650	14.81	8.04	24.2	7.42	1.17	14.63
10:26	2,100	14.72	7.82	19.7	7.40	1.18	14.74

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)
10:26	2,100	14.72	7.82	19.7	7.40	1.18	14.74
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		150

Sample Physical Characteristics **Equipment Information**

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/3/2022, 8:43
Notes / Unusual Occurrences: None			

Equipment Calibration Sheet

Date: 10/3/2022
Time: 8:43

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	4.54	µS/cm
Turbidity	0.3	NTU
DO	9.77	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

.

Equipment Calibration Sheet

Date: 10/4/2022
Time: 6:07

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	4.48	µS/cm
Turbidity	0.1	NTU
DO	9.74	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

.

This Page Intentionally Left Blank.

Appendix B

Analytical Laboratory Reports

This Page Intentionally Left Blank.

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-228285-1
Client Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

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

Attn: Kyle Uhing

Authorized for release by:
4/21/2022 11:35:23 AM

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

Table of Contents

Case Narrative

Client: Omaha Public Power District — Job ID: 310-228285-1
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

Job ID: 310-228285-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-228285-1

Comments
No additional comments.

Receipt
The samples were received on 4/5/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.6° C.

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

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

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

Sample Summary

Client: Omaha Public Power District — Job ID: 310-228285-1
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-228285-1	NC2M/W4	Water	04/04/22 08:49	04/05/22 17:00
310-228285-2	MW13	Water	04/04/22 09:58	04/05/22 17:00

Detection Summary

Client: Omaha Public Power District
Job ID: 310-228285-1
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

Client Sample ID: NC2MW4
Lab Sample ID: 310-228285-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3.29	J	5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	60.4		5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.00150	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.338		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	0.126		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.0000820	J	0.000100	0.0000550	mg/L	1		6020A	Total/NA
Calcium	128		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000723		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.00208		0.000500	0.000240	mg/L	1		6020A	Total/NA
Lithium	0.0301		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00609		0.00200	0.00120	mg/L	1		6020A	Total/NA
Selenium	0.0146		0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	444		50.0	26.0	mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW13
Lab Sample ID: 310-228285-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	10.7		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	48.8		5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.0134		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.202		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	0.0931	J	0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	130		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000879		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.000698		0.000500	0.000240	mg/L	1		6020A	Total/NA
Lithium	0.0329		0.0100	0.00250	mg/L	1		6020A	Total/NA
Total Dissolved Solids	470		50.0	26.0	mg/L	1		SM 2540C	Total/NA
pH	7.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-228285-1
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

Client Sample ID: NC2MW4
Lab Sample ID: 310-228285-1

Date Collected: 04/04/22 08:49
Matrix: Water
Date Received: 04/05/22 17:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3.29**	**J**	5.00	2.25	mg/L			04/11/22 15:35	5
Fluoride	<0.220		0.500	0.220	mg/L			04/11/22 15:35	5
Sulfate	**60.4**		5.00	2.00	mg/L			04/11/22 15:35	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		04/07/22 09:00	04/20/22 18:20	1
Arsenic	**0.00150**	**J**	0.00200	0.000750	mg/L		04/07/22 09:00	04/20/22 18:20	1
Barium	**0.338**		0.00200	0.000880	mg/L		04/07/22 09:00	04/20/22 18:20	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/07/22 09:00	04/20/22 18:20	1
Boron	**0.126**		0.100	0.0580	mg/L		04/07/22 09:00	04/20/22 18:20	1
Cadmium	**0.0000820**	**J**	0.000100	0.0000550	mg/L		04/07/22 09:00	04/20/22 18:20	1
Calcium	**128**		0.500	0.190	mg/L		04/07/22 09:00	04/20/22 18:20	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/07/22 09:00	04/20/22 18:20	1
Cobalt	**0.000723**		0.000500	0.000190	mg/L		04/07/22 09:00	04/20/22 18:20	1
Lead	**0.00208**		0.000500	0.000240	mg/L		04/07/22 09:00	04/20/22 18:20	1
Lithium	**0.0301**		0.0100	0.00250	mg/L		04/07/22 09:00	04/20/22 18:20	1
Molybdenum	**0.00609**		0.00200	0.00120	mg/L		04/07/22 09:00	04/20/22 18:20	1
Selenium	**0.0146**		0.00500	0.000960	mg/L		04/07/22 09:00	04/20/22 18:20	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/07/22 09:00	04/20/22 18:20	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		04/14/22 14:03	04/15/22 13:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**444**		50.0	26.0	mg/L			04/07/22 16:37	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.3**	**HF**	0.1	0.1	SU			04/06/22 14:13	1

Client Sample Results

Client: Omaha Public Power District — Job ID: 310-228285-1
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

Client Sample ID: MW13 — Lab Sample ID: 310-228285-2

Date Collected: 04/04/22 09:58 — **Matrix: Water**
Date Received: 04/05/22 17:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10.7**		5.00	2.25	mg/L			04/11/22 16:22	5
Fluoride	<0.220		0.500	0.220	mg/L			04/11/22 16:22	5
Sulfate	**48.8**		5.00	2.00	mg/L			04/11/22 16:22	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		04/07/22 09:00	04/20/22 18:23	1
Arsenic	**0.0134**		0.00200	0.000750	mg/L		04/07/22 09:00	04/20/22 18:23	1
Barium	**0.202**		0.00200	0.000880	mg/L		04/07/22 09:00	04/20/22 18:23	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/07/22 09:00	04/20/22 18:23	1
Boron	**0.0931**	**J**	0.100	0.0580	mg/L		04/07/22 09:00	04/20/22 18:23	1
Cadmium	<0.0000550		0.000100	0.0000550	mg/L		04/07/22 09:00	04/20/22 18:23	1
Calcium	**130**		0.500	0.190	mg/L		04/07/22 09:00	04/20/22 18:23	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/07/22 09:00	04/20/22 18:23	1
Cobalt	**0.000879**		0.000500	0.000190	mg/L		04/07/22 09:00	04/20/22 18:23	1
Lead	**0.000698**		0.000500	0.000240	mg/L		04/07/22 09:00	04/20/22 18:23	1
Lithium	**0.0329**		0.0100	0.00250	mg/L		04/07/22 09:00	04/20/22 18:23	1
Molybdenum	<0.00120		0.00200	0.00120	mg/L		04/07/22 09:00	04/20/22 18:23	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/07/22 09:00	04/20/22 18:23	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/07/22 09:00	04/20/22 18:23	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		04/14/22 14:03	04/15/22 13:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**470**		50.0	26.0	mg/L			04/07/22 16:37	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.2**	**HF**	0.1	0.1	SU			04/06/22 14:15	1

Definitions/Glossary

Client: Omaha Public Power District — Job ID: 310-228285-1
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

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.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

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

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-349722/3
Matrix: Water
Analysis Batch: 349722
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.450		1.00	0.450	mg/L			04/11/22 15:03	1
Fluoride	<0.0440		0.100	0.0440	mg/L			04/11/22 15:03	1
Sulfate	<0.400		1.00	0.400	mg/L			04/11/22 15:03	1

Lab Sample ID: LCS 310-349722/4
Matrix: Water
Analysis Batch: 349722
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	10.23		mg/L		102	90 - 110
Fluoride	2.00	1.944		mg/L		97	90 - 110
Sulfate	10.0	10.55		mg/L		105	90 - 110

Lab Sample ID: 310-228285-1 MS
Matrix: Water
Analysis Batch: 349722
Client Sample ID: NC2MW4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	3.29	J	25.0	26.36		mg/L		92	80 - 120
Fluoride	<0.220		5.00	4.847		mg/L		97	80 - 120
Sulfate	60.4		25.0	85.64		mg/L		101	80 - 120

Lab Sample ID: 310-228285-1 MSD
Matrix: Water
Analysis Batch: 349722
Client Sample ID: NC2MW4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3.29	J	25.0	26.06		mg/L		91	80 - 120	1	15
Fluoride	<0.220		5.00	4.771		mg/L		95	80 - 120	2	15
Sulfate	60.4		25.0	85.09		mg/L		99	80 - 120	1	15

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-348978/1-A
Matrix: Water
Analysis Batch: 350581
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 348978

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0009760	J	0.00200	0.000690	mg/L		04/07/22 09:00	04/20/22 17:13	1
Arsenic	<0.000750		0.00200	0.000750	mg/L		04/07/22 09:00	04/20/22 17:13	1
Barium	<0.000880		0.00200	0.000880	mg/L		04/07/22 09:00	04/20/22 17:13	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/07/22 09:00	04/20/22 17:13	1
Boron	<0.0580		0.100	0.0580	mg/L		04/07/22 09:00	04/20/22 17:13	1
Cadmium	<0.0000550		0.000100	0.0000550	mg/L		04/07/22 09:00	04/20/22 17:13	1
Calcium	<0.190		0.500	0.190	mg/L		04/07/22 09:00	04/20/22 17:13	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/07/22 09:00	04/20/22 17:13	1
Cobalt	<0.000190		0.000500	0.000190	mg/L		04/07/22 09:00	04/20/22 17:13	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/07/22 09:00	04/20/22 17:13	1
Lithium	<0.00250		0.0100	0.00250	mg/L		04/07/22 09:00	04/20/22 17:13	1
Molybdenum	<0.00120		0.00200	0.00120	mg/L		04/07/22 09:00	04/20/22 17:13	1

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

Lab Sample ID: MB 310-348978/1-A
Matrix: Water
Analysis Batch: 350581
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 348978

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000960		0.00500	0.000960	mg/L		04/07/22 09:00	04/20/22 17:13	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/07/22 09:00	04/20/22 17:13	1

Lab Sample ID: LCS 310-348978/2-A
Matrix: Water
Analysis Batch: 350581
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348978

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.2182		mg/L		109	80 - 120
Arsenic	0.200	0.2149		mg/L		107	80 - 120
Barium	0.100	0.1072		mg/L		107	80 - 120
Beryllium	0.100	0.1004		mg/L		100	80 - 120
Boron	0.200	0.2060		mg/L		103	80 - 120
Cadmium	0.100	0.1030		mg/L		103	80 - 120
Calcium	2.00	1.967		mg/L		98	80 - 120
Chromium	0.100	0.1018		mg/L		102	80 - 120
Cobalt	0.100	0.1066		mg/L		107	80 - 120
Lead	0.200	0.2128		mg/L		106	80 - 120
Lithium	0.200	0.2103		mg/L		105	80 - 120
Molybdenum	0.200	0.2063		mg/L		103	80 - 120
Selenium	0.400	0.4092		mg/L		102	80 - 120
Thallium	0.200	0.2113		mg/L		106	80 - 120

Lab Sample ID: 310-228285-2 DU
Matrix: Water
Analysis Batch: 350581
Client Sample ID: MW13
Prep Type: Total/NA
Prep Batch: 348978

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.000690		<0.000690		mg/L		NC	20
Arsenic	0.0134		0.01308		mg/L		3	20
Barium	0.202		0.2029		mg/L		0.6	20
Beryllium	<0.000270		<0.000270		mg/L		NC	20
Boron	0.0931	J	0.1043		mg/L		11	20
Cadmium	<0.0000550		<0.0000550		mg/L		NC	20
Calcium	130		128.9		mg/L		0.6	20
Chromium	<0.00110		<0.00110		mg/L		NC	20
Cobalt	0.000879		0.0009570		mg/L		8	20
Lead	0.000698		0.0007140		mg/L		2	20
Lithium	0.0329		0.03457		mg/L		5	20
Molybdenum	<0.00120		<0.00120		mg/L		NC	20
Selenium	<0.000960		0.001026	J	mg/L		NC	20
Thallium	<0.000260		<0.000260		mg/L		NC	20

QC Sample Results

Client: Omaha Public Power District
Job ID: 310-228285-1
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-349871/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 350063 — **Prep Batch: 349871**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		04/14/22 14:03	04/15/22 12:34	1

Lab Sample ID: LCS 310-349871/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 350063 — **Prep Batch: 349871**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001509		mg/L		91	80 - 120

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

Lab Sample ID: MB 310-349178/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349178

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26.0		50.0	26.0	mg/L			04/07/22 16:37	1

Lab Sample ID: LCS 310-349178/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349178

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	940.0		mg/L		94	90 - 110

Lab Sample ID: 310-228285-1 DU — **Client Sample ID: NC2MW4**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349178

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	444		432.0		mg/L		3	20

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-228285-1
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

HPLC/IC

Analysis Batch: 349722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228285-1	NC2MW4	Total/NA	Water	9056A	
310-228285-2	MW13	Total/NA	Water	9056A	
MB 310-349722/3	Method Blank	Total/NA	Water	9056A	
LCS 310-349722/4	Lab Control Sample	Total/NA	Water	9056A	
310-228285-1 MS	NC2MW4	Total/NA	Water	9056A	
310-228285-1 MSD	NC2MW4	Total/NA	Water	9056A	

Metals

Prep Batch: 348978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228285-1	NC2MW4	Total/NA	Water	3005A	
310-228285-2	MW13	Total/NA	Water	3005A	
MB 310-348978/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-348978/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-228285-2 DU	MW13	Total/NA	Water	3005A	

Prep Batch: 349871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228285-1	NC2MW4	Total/NA	Water	7470A	
310-228285-2	MW13	Total/NA	Water	7470A	
MB 310-349871/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-349871/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 350063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228285-1	NC2MW4	Total/NA	Water	7470A	349871
310-228285-2	MW13	Total/NA	Water	7470A	349871
MB 310-349871/1-A	Method Blank	Total/NA	Water	7470A	349871
LCS 310-349871/2-A	Lab Control Sample	Total/NA	Water	7470A	349871

Analysis Batch: 350581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228285-1	NC2MW4	Total/NA	Water	6020A	348978
310-228285-2	MW13	Total/NA	Water	6020A	348978
MB 310-348978/1-A	Method Blank	Total/NA	Water	6020A	348978
LCS 310-348978/2-A	Lab Control Sample	Total/NA	Water	6020A	348978
310-228285-2 DU	MW13	Total/NA	Water	6020A	348978

General Chemistry

Analysis Batch: 348982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228285-1	NC2MW4	Total/NA	Water	SM 4500 H+ B	
310-228285-2	MW13	Total/NA	Water	SM 4500 H+ B	
LCS 310-348982/27	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 349178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228285-1	NC2MW4	Total/NA	Water	SM 2540C	
310-228285-2	MW13	Total/NA	Water	SM 2540C	
MB 310-349178/1	Method Blank	Total/NA	Water	SM 2540C	

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-228285-1
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

General Chemistry (Continued)

Analysis Batch: 349178 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-349178/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-228285-1 DU	NC2MW4	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-228285-1
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

Client Sample ID: NC2MW4
Lab Sample ID: 310-228285-1
Date Collected: 04/04/22 08:49
Matrix: Water
Date Received: 04/05/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	349722	04/11/22 15:35	JNR	TAL CF
Total/NA	Prep	3005A			348978	04/07/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	350581	04/20/22 18:20	SAP	TAL CF
Total/NA	Prep	7470A			349871	04/14/22 14:03	EAM	TAL CF
Total/NA	Analysis	7470A		1	350063	04/15/22 13:18	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	349178	04/07/22 16:37	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	348982	04/06/22 14:13	JAJ	TAL CF

Client Sample ID: MW13
Lab Sample ID: 310-228285-2
Date Collected: 04/04/22 09:58
Matrix: Water
Date Received: 04/05/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	349722	04/11/22 16:22	JNR	TAL CF
Total/NA	Prep	3005A			348978	04/07/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	350581	04/20/22 18:23	SAP	TAL CF
Total/NA	Prep	7470A			349871	04/14/22 14:03	EAM	TAL CF
Total/NA	Analysis	7470A		1	350063	04/15/22 13:20	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	349178	04/07/22 16:37	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	348982	04/06/22 14:15	JAJ	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District — Job ID: 310-228285-1
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

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)	09-29-22
Georgia	State	IA100001 (OR)	09-29-22
Illinois	NELAP	200024	11-29-22
Iowa	State	007	12-01-21 *
Kansas	NELAP	E-10341	01-31-23
Minnesota	NELAP	019-999-319	12-31-22
Minnesota (Petrofund)	State	3349	04-06-23
North Dakota	State	R-186	09-29-22
Oregon	NELAP	IA100001	09-29-22

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

Method Summary

Client: Omaha Public Power District — Job ID: 310-228285-1
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 H+ B	pH	SM	TAL CF
3005A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

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

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

Laboratory References:

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

eurofins | Environment Testing America

310-228285 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client	Omaha Public Power District
City/State	CITY: Omaha STATE: NE
Project	Nebraska City Station Unit 1&2 CCR

Receipt Information

Date/Time Received	DATE: 4-5-22 TIME: 1700
Received By	HED

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

Condition of Cooler/Containers

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

Temperature Record

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

Thermometer ID N	Correction Factor (°C) 0

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

Uncorrected Temp (°C) 1.6	Corrected Temp (°C) 1.6

• **Sample Container Temperature**

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

Exceptions Noted

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

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

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

Additional Comments

Document: CED-P-SAM-FRM45521
Revision 26
Date: 27 Jan 2022

Eurofins Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

TestAmerica

TestAmerica Omaha SC
268

Chain of Custody Record

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

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

Sampler: Kyle K. Uhing
Phone: (531) 226-2515
TestAmerica Project #: 31007559
Lab PM: Hayes, Shawn M
E-Mail: shawn.hayes@testamericainc.com

Analysis Requested: 9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228; Total 6020A CCR Appendix III and IV, 7470A Mercury; 2540C TDS, 9056A Chloride, Fluoride, Sulfate; pH

Preservation Codes: A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA; M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W ph 4-5, Z other (specify)

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix	Field Filtered	Perform MS/MSD	9315/9320	6020A/7470A	2540C/9056A	pH	Total Number of containers	Special Instructions/Note
Preservation Code:							D	D	N	N		
NC2MW4	4/4/22	8:49	G	W	N		X	X	X	X	4	CCR Appendix III and IV Constituents
MW13	4/4/22	9:58	G	W	N		X	X	X	X	4	CCR Appendix III and IV Constituents

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

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

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

Relinquished by: [signature] Date/Time: 4/5/22 7:50 Company: OPPD — Received by: [signature] Date/Time: 4-5-22 0750 Company: ETA

Relinquished by: [signature] Date/Time: 4-5-22 0800 Company: ETA — Received by: [signature] Date/Time: 4-5-22 1700 Company: ETA CF

Custody Seals Intact: Δ Yes Δ No

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-228285-1
SDG Number:

Login Number: 228285
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.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-228285-2
Client Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

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

Attn: Kyle Uhing

Authorized for release by:
5/10/2022 10:38:26 AM

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

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

Table of Contents

Case Narrative

Job ID: 310-228285-2

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-228285-2

Comments
No additional comments.

Receipt
The samples were received on 4/5/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.6° C.

RAD
Method PrecSep_0: Radium-228 Prep Batch 160-559628

The following samples were prepared at a reduced aliquot due to Matrix: NC2MW4 (310-228285-1) and MW13 (310-228285-2).

Method PrecSep-21: Radium-226 Prep Batch 160-559626

The following samples were prepared at a reduced aliquot due to Matrix: NC2MW4 (310-228285-1) and MW13 (310-228285-2).

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

Sample Summary

Client: Omaha Public Power District
Job ID: 310-228285-2
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-228285-1	NC2MW4	Water	04/04/22 08:49	04/05/22 17:00
310-228285-2	MW13	Water	04/04/22 09:58	04/05/22 17:00

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-228285-2
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

Client Sample ID: NC2MW4
Lab Sample ID: 310-228285-1
Date Collected: 04/04/22 08:49
Matrix: Water
Date Received: 04/05/22 17:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.295	U	0.254	0.255	1.00	0.395	pCi/L	04/11/22 12:07	05/07/22 13:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*04/11/22 12:07*	*05/07/22 13:44*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.260	U	0.438	0.439	1.00	0.741	pCi/L	04/11/22 12:30	05/03/22 12:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*04/11/22 12:30*	*05/03/22 12:49*	*1*
Y Carrier	*86.4*		*40 - 110*	*04/11/22 12:30*	*05/03/22 12:49*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.555	U	0.506	0.508	5.00	0.741	pCi/L		05/09/22 22:46	1

Client Sample ID: MW13
Date Collected: 04/04/22 09:58
Date Received: 04/05/22 17:00

Lab Sample ID: 310-228285-2
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.170	U	0.147	0.148	1.00	0.224	pCi/L	04/11/22 12:07	05/07/22 13:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.3*		*40 - 110*	*04/11/22 12:07*	*05/07/22 13:46*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.329	U	0.330	0.331	1.00	0.536	pCi/L	04/11/22 12:30	05/03/22 12:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.3*		*40 - 110*	*04/11/22 12:30*	*05/03/22 12:49*	*1*
Y Carrier	*86.7*		*40 - 110*	*04/11/22 12:30*	*05/03/22 12:49*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.500	U	0.361	0.363	5.00	0.536	pCi/L		05/09/22 22:46	1

Qualifiers

Rad

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

Glossary

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

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-559626/23-A
Matrix: Water
Analysis Batch: 564353

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 559626

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.009138	U	0.0765	0.0766	1.00	0.152	pCi/L	04/11/22 12:07	05/07/22 13:46	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		40 - 110	04/11/22 12:07	05/07/22 13:46	1

Lab Sample ID: LCS 160-559626/1-A
Matrix: Water
Analysis Batch: 563515

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 559626

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	10.56		1.26	1.00	0.203	pCi/L	93	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	87.3		40 - 110

Lab Sample ID: LCSD 160-559626/2-A
Matrix: Water
Analysis Batch: 563515

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 559626

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226	11.3	10.23		1.23	1.00	0.217	pCi/L	90	75 - 125	0.13	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	88.3		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-559628/23-A
Matrix: Water
Analysis Batch: 563488

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 559628

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.07525	U	0.233	0.233	1.00	0.428	pCi/L	04/11/22 12:30	05/03/22 12:49	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		40 - 110	04/11/22 12:30	05/03/22 12:49	1
Y Carrier	88.2		40 - 110	04/11/22 12:30	05/03/22 12:49	1

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

Lab Sample ID: LCS 160-559628/1-A
Matrix: Water
Analysis Batch: 563489

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 559628

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	8.65	9.320		1.11	1.00	0.410	pCi/L	108	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	87.3		40 - 110
Y Carrier	82.6		40 - 110

Lab Sample ID: LCSD 160-559628/2-A
Matrix: Water
Analysis Batch: 563489

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 559628

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228	8.65	8.716		1.10	1.00	0.447	pCi/L	101	75 - 125	0.27	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	88.3		40 - 110
Y Carrier	82.6		40 - 110

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-228285-2
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

Rad

Prep Batch: 559626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228285-1	NC2MW4	Total/NA	Water	PrecSep-21	
310-228285-2	MW13	Total/NA	Water	PrecSep-21	
MB 160-559626/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-559626/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-559626/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 559628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228285-1	NC2MW4	Total/NA	Water	PrecSep_0	
310-228285-2	MW13	Total/NA	Water	PrecSep_0	
MB 160-559628/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-559628/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-559628/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-228285-2
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

Client Sample ID: NC2MW4 — **Lab Sample ID: 310-228285-1**
Date Collected: 04/04/22 08:49 — **Matrix: Water**
Date Received: 04/05/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			559626	04/11/22 12:07	HRT	TAL SL
Total/NA	Analysis	9315		1	564351	05/07/22 13:44	FLC	TAL SL
Total/NA	Prep	PrecSep_0			559628	04/11/22 12:30	HRT	TAL SL
Total/NA	Analysis	9320		1	563488	05/03/22 12:49	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	564727	05/09/22 22:46	EMH	TAL SL

Client Sample ID: MW13 — **Lab Sample ID: 310-228285-2**
Date Collected: 04/04/22 09:58 — **Matrix: Water**
Date Received: 04/05/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			559626	04/11/22 12:07	HRT	TAL SL
Total/NA	Analysis	9315		1	564353	05/07/22 13:46	FLC	TAL SL
Total/NA	Prep	PrecSep_0			559628	04/11/22 12:30	HRT	TAL SL
Total/NA	Analysis	9320		1	563488	05/03/22 12:49	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	564727	05/09/22 22:46	EMH	TAL SL

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District — Job ID: 310-228285-2
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

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	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	07-01-22
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

Method Summary

Client: Omaha Public Power District — Job ID: 310-228285-2
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

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

Protocol References:

None = None

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

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

Laboratory References:

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

eurofins | Environment Testing America

310-228285 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

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

Receipt Information

Date/Time Received: DATE 4-5-22 | TIME 1700 | Received By: HED

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

Condition of Cooler/Containers

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

Temperature Record

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

Thermometer ID: N | Correction Factor (°C): 0

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

Uncorrected Temp (°C): 1.6 | Corrected Temp (°C): 1.6

• Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

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

TestAmerica Omaha SC
268

TestAmerica

Chain of Custody Record

COC No:
Page:
Job #:

Client Information	Sampler: Kyle K. Uhing	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):
Client Contact: Kyle Uhing	Phone: (531) 226-2515	E-Mail: shawn.hayes@testamericainc.com	
Company: Omaha Public Power District	Due Date Requested:	Analysis Requested	
Address: 444 South 16th Street Mall 9E/EP1	TAT Requested (days):		
City: Omaha			
State, Zip: NE, 68102-2247	PO #:		
Phone: (531) 226-2515	WO #:		
Email: kkuhing@oppd.com			
Project Name: Nebraska City Station Unit 1 & 2 CCR / Landfill	TestAmerica Project #: 310007559		
Site: Nebraska City Station Unit 1 & 2	SSOW#:		

Preservation Codes: A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W ph 4-5, Z other (specify), Other:

Special Instructions/Note:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, Oil/waste, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra226, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	25dec TDS, 9056A Chloride, Fluoride, Sulfate	pH	Total Number of containers	
			Preservation Codes:		N	N	D	D	D	N	N	
NC2MW4	4/4/22	8:49	G	W	N		X	X	X	X	4	CCR Appendix III and IV Constituents
MW13	4/4/22	9:58	G	W	N		X	X	X	X	4	CCR Appendix III and IV Constituents

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological
Deliverable Requested: I, II, III, IV, Other (specify)

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

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

Relinquished by:	Date/Time: 4/5/22 1700	Company: OPPD	Received by:	Date/Time: 4/5/22 0750 Company: FTS
Relinquished by:	Date/Time: 4/5/22 0800	Company: OPPD	Received by:	Date/Time: Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time: 4-5-22 1700 Company: ETA CF

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

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No: 310-48332.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Shawn.Hayes@et.eurofinsus.com	State of Origin: Nebraska	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 310-228285-2
Address: 13715 Rider Trail North,	Due Date Requested: 5/10/2022	Analysis Requested		Preservation Codes:
City: Earth City	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: Nebraska City Station Unit 1 & 2 CCR/ Landfill	Project #: 31007559			
Site: 310 OPPD Nebraska City Unit 2	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226PrecSep_21 Radium-226 (GFPC) - 21 day decay	9320_Ra228PrecSep_0 Radium-228 (GFPC)	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
NC2MW4 (310-228285-1)	4/4/22	08:49 Central		Water			X	X	X	2	
MW13 (310-228285-2)	4/4/22	09:58 Central		Water			X	X	X	2	

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	4/6/22 1205		FED EX		
Relinquished by: FED EX	Date/Time:	Company	Received by: Dena Worthington	Date/Time: APR 07 2022 0900	Company: EMSR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-228285-2
SDG Number:

Login Number: 228285
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.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-228285-2
SDG Number:

Login Number: 228285
List Number: 2
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 04/07/22 12:06 PM

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

Tracer/Carrier Summary

Client: Omaha Public Power District
Job ID: 310-228285-2
Project/Site: Nebraska City Station Unit 1 & 2 CCR/ Landfill

Method: 9315 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-228285-1	NC2MW4	102
310-228285-2	MW13	91.3
LCS 160-559626/1-A	Lab Control Sample	87.3
LCSD 160-559626/2-A	Lab Control Sample Dup	88.3
MB 160-559626/23-A	Method Blank	91.0

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
310-228285-1	NC2MW4	102	86.4
310-228285-2	MW13	91.3	86.7
LCS 160-559628/1-A	Lab Control Sample	87.3	82.6
LCSD 160-559628/2-A	Lab Control Sample Dup	88.3	82.6
MB 160-559628/23-A	Method Blank	91.0	88.2

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-228659-1
Client Project/Site: Nebraska City Station Unit 1 CCR/Landfill

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

Attn: Kyle Uhing

Authorized for release by:
4/22/2022 2:52:10 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

Table of Contents

Case Narrative

Client: Omaha Public Power District
Job ID: 310-228659-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Job ID: 310-228659-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-228659-1

Comments
No additional comments.

Receipt
The samples were received on 4/7/2022 5:35 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 0.3° C and 0.6° C.

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

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

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

Sample Summary

Client: Omaha Public Power District
Job ID: 310-228659-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-228659-1	NC1MW2	Water	04/05/22 15:45	04/07/22 17:35
310-228659-2	NC1MW3	Water	04/06/22 09:36	04/07/22 17:35
310-228659-3	NC1MW4	Water	04/05/22 16:01	04/07/22 17:35
310-228659-4	NC1MW9	Water	04/06/22 10:20	04/07/22 17:35
310-228659-5	MW11	Water	04/05/22 14:13	04/07/22 17:35
310-228659-6	DUP-1	Water	04/05/22 00:00	04/07/22 17:35

Detection Summary

Client: Omaha Public Power District
Job ID: 310-228659-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: NC1MW2 — Lab Sample ID: 310-228659-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.03		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	159		5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.000884	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.222		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	1.23		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.0000860	J	0.000100	0.0000550	mg/L	1		6020A	Total/NA
Calcium	138		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000258	J	0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0176		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0668		0.00200	0.00120	mg/L	1		6020A	Total/NA
Total Dissolved Solids	564		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC1MW3 — Lab Sample ID: 310-228659-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.98		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	392		5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.0470		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.142		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	3.11		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	182		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00228		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0406		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00157	J	0.00200	0.00120	mg/L	1		6020A	Total/NA
Total Dissolved Solids	994		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC1MW4 — Lab Sample ID: 310-228659-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.36		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	214		5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.00121	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.124		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	2.27		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.0000980	J	0.000100	0.0000550	mg/L	1		6020A	Total/NA
Calcium	141		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00159		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0192		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00320		0.00200	0.00120	mg/L	1		6020A	Total/NA
Selenium	0.00114	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	564		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC1MW9 — Lab Sample ID: 310-228659-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.33		5.00	2.25	mg/L	5		9056A	Total/NA
Fluoride	0.930		0.500	0.220	mg/L	5		9056A	Total/NA
Sulfate	88.6		5.00	2.00	mg/L	5		9056A	Total/NA
Antimony	0.000976	J	0.00200	0.000690	mg/L	1		6020A	Total/NA
Arsenic	0.0140		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.122		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	0.703		0.100	0.0580	mg/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Omaha Public Power District
Job ID: 310-228659-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: NC1MW9 (Continued) — Lab Sample ID: 310-228659-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.0000960	J	0.000100	0.0000550	mg/L	1		6020A	Total/NA
Calcium	152		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00174		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0367		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0174		0.00200	0.00120	mg/L	1		6020A	Total/NA
Selenium	0.00168	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	666		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW11 — Lab Sample ID: 310-228659-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.76		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	30.5		5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.0113		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.191		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	0.225		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	59.6		0.500	0.190	mg/L	1		6020A	Total/NA
Chromium	0.00141	J	0.00500	0.00110	mg/L	1		6020A	Total/NA
Cobalt	0.00128		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.00124		0.000500	0.000240	mg/L	1		6020A	Total/NA
Molybdenum	0.0235		0.00200	0.00120	mg/L	1		6020A	Total/NA
Selenium	0.00161	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	198		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP-1 — Lab Sample ID: 310-228659-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.17		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	210		5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.00109	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.120		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	2.24		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.000102		0.000100	0.0000550	mg/L	1		6020A	Total/NA
Calcium	138		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00146		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0193		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00341		0.00200	0.00120	mg/L	1		6020A	Total/NA
Selenium	0.00115	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	594		50.0	26.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-228659-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: NC1MW2
Lab Sample ID: 310-228659-1
Date Collected: 04/05/22 15:45
Matrix: Water
Date Received: 04/07/22 17:35

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.03		5.00	2.25	mg/L			04/14/22 19:28	5
Fluoride	<0.220		0.500	0.220	mg/L			04/14/22 19:28	5
Sulfate	159		5.00	2.00	mg/L			04/14/22 19:28	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		04/11/22 09:15	04/12/22 21:21	1
Arsenic	0.000884	J	0.00200	0.000750	mg/L		04/11/22 09:15	04/12/22 21:21	1
Barium	0.222		0.00200	0.000880	mg/L		04/11/22 09:15	04/12/22 21:21	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/11/22 09:15	04/12/22 21:21	1
Boron	1.23		0.100	0.0580	mg/L		04/11/22 09:15	04/13/22 19:39	1
Cadmium	0.0000860	J	0.000100	0.0000550	mg/L		04/11/22 09:15	04/12/22 21:21	1
Calcium	138		0.500	0.190	mg/L		04/11/22 09:15	04/12/22 21:21	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/11/22 09:15	04/12/22 21:21	1
Cobalt	0.000258	J	0.000500	0.000190	mg/L		04/11/22 09:15	04/12/22 21:21	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/11/22 09:15	04/12/22 21:21	1
Lithium	0.0176		0.0100	0.00250	mg/L		04/11/22 09:15	04/12/22 21:21	1
Molybdenum	0.0668		0.00200	0.00120	mg/L		04/11/22 09:15	04/12/22 21:21	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/11/22 09:15	04/12/22 21:21	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/11/22 09:15	04/12/22 21:21	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		04/20/22 13:34	04/21/22 12:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	564		50.0	26.0	mg/L			04/11/22 16:42	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-228659-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: NC1MW3
Lab Sample ID: 310-228659-2
Date Collected: 04/06/22 09:36
Matrix: Water
Date Received: 04/07/22 17:35

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.98		5.00	2.25	mg/L			04/14/22 19:44	5
Fluoride	<0.220		0.500	0.220	mg/L			04/14/22 19:44	5
Sulfate	392		5.00	2.00	mg/L			04/14/22 19:44	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		04/11/22 09:15	04/12/22 21:25	1
Arsenic	0.0470		0.00200	0.000750	mg/L		04/11/22 09:15	04/12/22 21:25	1
Barium	0.142		0.00200	0.000880	mg/L		04/11/22 09:15	04/12/22 21:25	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/11/22 09:15	04/12/22 21:25	1
Boron	3.11		0.100	0.0580	mg/L		04/11/22 09:15	04/13/22 19:42	1
Cadmium	<0.0000550		0.000100	0.0000550	mg/L		04/11/22 09:15	04/12/22 21:25	1
Calcium	182		0.500	0.190	mg/L		04/11/22 09:15	04/12/22 21:25	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/11/22 09:15	04/12/22 21:25	1
Cobalt	0.00228		0.000500	0.000190	mg/L		04/11/22 09:15	04/12/22 21:25	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/11/22 09:15	04/12/22 21:25	1
Lithium	0.0406		0.0100	0.00250	mg/L		04/11/22 09:15	04/12/22 21:25	1
Molybdenum	0.00157	J	0.00200	0.00120	mg/L		04/11/22 09:15	04/12/22 21:25	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/11/22 09:15	04/12/22 21:25	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/11/22 09:15	04/12/22 21:25	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		04/20/22 13:34	04/21/22 12:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	994		50.0	26.0	mg/L			04/12/22 13:50	1

Client Sample Results

Client: Omaha Public Power District — Job ID: 310-228659-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: NC1MW4 — **Lab Sample ID: 310-228659-3**
Date Collected: 04/05/22 16:01 — **Matrix: Water**
Date Received: 04/07/22 17:35

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.36**		5.00	2.25	mg/L			04/14/22 19:59	5
Fluoride	<0.220		0.500	0.220	mg/L			04/14/22 19:59	5
Sulfate	**214**		5.00	2.00	mg/L			04/14/22 19:59	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		04/11/22 09:15	04/12/22 21:29	1
Arsenic	**0.00121**	J	0.00200	0.000750	mg/L		04/11/22 09:15	04/12/22 21:29	1
Barium	**0.124**		0.00200	0.000880	mg/L		04/11/22 09:15	04/12/22 21:29	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/11/22 09:15	04/12/22 21:29	1
Boron	**2.27**		0.100	0.0580	mg/L		04/11/22 09:15	04/13/22 19:45	1
Cadmium	**0.0000980**	J	0.000100	0.0000550	mg/L		04/11/22 09:15	04/12/22 21:29	1
Calcium	**141**		0.500	0.190	mg/L		04/11/22 09:15	04/12/22 21:29	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/11/22 09:15	04/12/22 21:29	1
Cobalt	**0.00159**		0.000500	0.000190	mg/L		04/11/22 09:15	04/12/22 21:29	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/11/22 09:15	04/12/22 21:29	1
Lithium	**0.0192**		0.0100	0.00250	mg/L		04/11/22 09:15	04/12/22 21:29	1
Molybdenum	**0.00320**		0.00200	0.00120	mg/L		04/11/22 09:15	04/12/22 21:29	1
Selenium	**0.00114**	J	0.00500	0.000960	mg/L		04/11/22 09:15	04/12/22 21:29	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/11/22 09:15	04/12/22 21:29	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		04/20/22 13:34	04/21/22 12:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**564**		50.0	26.0	mg/L			04/11/22 16:42	1

Client Sample Results

Client: Omaha Public Power District — Job ID: 310-228659-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: NC1MW9 — **Lab Sample ID: 310-228659-4**
Date Collected: 04/06/22 10:20 — **Matrix: Water**
Date Received: 04/07/22 17:35

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.33**		5.00	2.25	mg/L			04/14/22 20:15	5
Fluoride	**0.930**		0.500	0.220	mg/L			04/14/22 20:15	5
Sulfate	**88.6**		5.00	2.00	mg/L			04/14/22 20:15	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.000976**	J	0.00200	0.000690	mg/L		04/11/22 09:15	04/12/22 21:52	1
Arsenic	**0.0140**		0.00200	0.000750	mg/L		04/11/22 09:15	04/12/22 21:52	1
Barium	**0.122**		0.00200	0.000880	mg/L		04/11/22 09:15	04/12/22 21:52	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/11/22 09:15	04/12/22 21:52	1
Boron	**0.703**		0.100	0.0580	mg/L		04/11/22 09:15	04/13/22 19:51	1
Cadmium	**0.0000960**	J	0.000100	0.0000550	mg/L		04/11/22 09:15	04/12/22 21:52	1
Calcium	**152**		0.500	0.190	mg/L		04/11/22 09:15	04/12/22 21:52	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/11/22 09:15	04/12/22 21:52	1
Cobalt	**0.00174**		0.000500	0.000190	mg/L		04/11/22 09:15	04/12/22 21:52	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/11/22 09:15	04/12/22 21:52	1
Lithium	**0.0367**		0.0100	0.00250	mg/L		04/11/22 09:15	04/12/22 21:52	1
Molybdenum	**0.0174**		0.00200	0.00120	mg/L		04/11/22 09:15	04/12/22 21:52	1
Selenium	**0.00168**	J	0.00500	0.000960	mg/L		04/11/22 09:15	04/12/22 21:52	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/11/22 09:15	04/12/22 21:52	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		04/20/22 13:34	04/21/22 12:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**666**		50.0	26.0	mg/L			04/12/22 13:50	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-228659-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: MW11
Lab Sample ID: 310-228659-5
Date Collected: 04/05/22 14:13
Matrix: Water
Date Received: 04/07/22 17:35

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.76**		5.00	2.25	mg/L			04/14/22 20:31	5
Fluoride	<0.220		0.500	0.220	mg/L			04/14/22 20:31	5
Sulfate	**30.5**		5.00	2.00	mg/L			04/14/22 20:31	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		04/11/22 09:15	04/12/22 21:56	1
Arsenic	**0.0113**		0.00200	0.000750	mg/L		04/11/22 09:15	04/12/22 21:56	1
Barium	**0.191**		0.00200	0.000880	mg/L		04/11/22 09:15	04/12/22 21:56	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/11/22 09:15	04/12/22 21:56	1
Boron	**0.225**		0.100	0.0580	mg/L		04/11/22 09:15	04/13/22 20:08	1
Cadmium	<0.0000550		0.000100	0.0000550	mg/L		04/11/22 09:15	04/12/22 21:56	1
Calcium	**59.6**		0.500	0.190	mg/L		04/11/22 09:15	04/12/22 21:56	1
Chromium	**0.00141**	J	0.00500	0.00110	mg/L		04/11/22 09:15	04/12/22 21:56	1
Cobalt	**0.00128**		0.000500	0.000190	mg/L		04/11/22 09:15	04/12/22 21:56	1
Lead	**0.00124**		0.000500	0.000240	mg/L		04/11/22 09:15	04/12/22 21:56	1
Lithium	<0.00250		0.0100	0.00250	mg/L		04/11/22 09:15	04/12/22 21:56	1
Molybdenum	**0.0235**		0.00200	0.00120	mg/L		04/11/22 09:15	04/12/22 21:56	1
Selenium	**0.00161**	J	0.00500	0.000960	mg/L		04/11/22 09:15	04/12/22 21:56	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/11/22 09:15	04/12/22 21:56	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		04/20/22 13:34	04/21/22 12:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**198**		50.0	26.0	mg/L			04/11/22 16:42	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-228659-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: DUP-1
Lab Sample ID: 310-228659-6
Date Collected: 04/05/22 00:00
Matrix: Water
Date Received: 04/07/22 17:35

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.17**		5.00	2.25	mg/L			04/14/22 20:46	5
Fluoride	<0.220		0.500	0.220	mg/L			04/14/22 20:46	5
Sulfate	**210**		5.00	2.00	mg/L			04/14/22 20:46	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		04/11/22 09:15	04/12/22 22:00	1
Arsenic	**0.00109**	J	0.00200	0.000750	mg/L		04/11/22 09:15	04/12/22 22:00	1
Barium	**0.120**		0.00200	0.000880	mg/L		04/11/22 09:15	04/12/22 22:00	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/11/22 09:15	04/12/22 22:00	1
Boron	**2.24**		0.100	0.0580	mg/L		04/11/22 09:15	04/13/22 20:11	1
Cadmium	**0.000102**		0.000100	0.0000550	mg/L		04/11/22 09:15	04/12/22 22:00	1
Calcium	**138**		0.500	0.190	mg/L		04/11/22 09:15	04/12/22 22:00	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/11/22 09:15	04/12/22 22:00	1
Cobalt	**0.00146**		0.000500	0.000190	mg/L		04/11/22 09:15	04/12/22 22:00	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/11/22 09:15	04/12/22 22:00	1
Lithium	**0.0193**		0.0100	0.00250	mg/L		04/11/22 09:15	04/12/22 22:00	1
Molybdenum	**0.00341**		0.00200	0.00120	mg/L		04/11/22 09:15	04/12/22 22:00	1
Selenium	**0.00115**	J	0.00500	0.000960	mg/L		04/11/22 09:15	04/12/22 22:00	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/11/22 09:15	04/12/22 22:00	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		04/20/22 13:34	04/21/22 12:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**594**		50.0	26.0	mg/L			04/11/22 16:42	1

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-228659-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Qualifiers

Metals

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL, and the absolute difference between results is < the upper reporting limits for both.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

QC Sample Results

Client: Omaha Public Power District
Job ID: 310-228659-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-350174/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 350174

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.450		1.00	0.450	mg/L			04/14/22 15:50	1
Fluoride	<0.0440		0.100	0.0440	mg/L			04/14/22 15:50	1
Sulfate	<0.400		1.00	0.400	mg/L			04/14/22 15:50	1

Lab Sample ID: LCS 310-350174/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 350174

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.442		mg/L		94	90 - 110
Fluoride	2.00	2.056		mg/L		103	90 - 110
Sulfate	10.0	9.503		mg/L		95	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-349367/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349686 — **Prep Batch: 349367**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		04/11/22 09:15	04/12/22 20:15	1
Arsenic	<0.000750		0.00200	0.000750	mg/L		04/11/22 09:15	04/12/22 20:15	1
Barium	<0.000880		0.00200	0.000880	mg/L		04/11/22 09:15	04/12/22 20:15	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/11/22 09:15	04/12/22 20:15	1
Cadmium	<0.0000550		0.000100	0.0000550	mg/L		04/11/22 09:15	04/12/22 20:15	1
Calcium	<0.190		0.500	0.190	mg/L		04/11/22 09:15	04/12/22 20:15	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/11/22 09:15	04/12/22 20:15	1
Cobalt	<0.000190		0.000500	0.000190	mg/L		04/11/22 09:15	04/12/22 20:15	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/11/22 09:15	04/12/22 20:15	1
Lithium	<0.00250		0.0100	0.00250	mg/L		04/11/22 09:15	04/12/22 20:15	1
Molybdenum	<0.00120		0.00200	0.00120	mg/L		04/11/22 09:15	04/12/22 20:15	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/11/22 09:15	04/12/22 20:15	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/11/22 09:15	04/12/22 20:15	1

Lab Sample ID: MB 310-349367/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349813 — **Prep Batch: 349367**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.0580		0.100	0.0580	mg/L		04/11/22 09:15	04/13/22 18:57	1

Lab Sample ID: LCS 310-349367/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349686 — **Prep Batch: 349367**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.2104		mg/L		105	80 - 120
Arsenic	0.200	0.2001		mg/L		100	80 - 120
Barium	0.100	0.1059		mg/L		106	80 - 120
Beryllium	0.100	0.09870		mg/L		99	80 - 120

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

Lab Sample ID: LCS 310-349367/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349686 — **Prep Batch: 349367**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	0.100	0.1046		mg/L		105	80 - 120
Calcium	2.00	1.866		mg/L		93	80 - 120
Chromium	0.100	0.09974		mg/L		100	80 - 120
Cobalt	0.100	0.1008		mg/L		101	80 - 120
Lead	0.200	0.2080		mg/L		104	80 - 120
Lithium	0.200	0.2047		mg/L		102	80 - 120
Molybdenum	0.200	0.1999		mg/L		100	80 - 120
Selenium	0.400	0.3937		mg/L		98	80 - 120
Thallium	0.200	0.2002		mg/L		100	80 - 120

Lab Sample ID: LCS 310-349367/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349813 — **Prep Batch: 349367**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.200	0.1829		mg/L		91	80 - 120

Lab Sample ID: 310-228659-3 DU — **Client Sample ID: NC1MW4**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349686 — **Prep Batch: 349367**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.000690		<0.000690		mg/L		NC	20
Arsenic	0.00121	J	0.001189	J	mg/L		2	20
Barium	0.124		0.1257		mg/L		1	20
Beryllium	<0.000270		<0.000270		mg/L		NC	20
Cadmium	0.0000980	J	0.0001240	F5	mg/L		23	20
Calcium	141		139.9		mg/L		0.7	20
Chromium	<0.00110		<0.00110		mg/L		NC	20
Cobalt	0.00159		0.003489	F3	mg/L		75	20
Lead	<0.000240		<0.000240		mg/L		NC	20
Lithium	0.0192		0.01940		mg/L		0.9	20
Molybdenum	0.00320		0.01111	F3	mg/L		111	20
Selenium	0.00114	J	0.001077	J	mg/L		6	20
Thallium	<0.000260		<0.000260		mg/L		NC	20

Lab Sample ID: 310-228659-3 DU — **Client Sample ID: NC1MW4**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349813 — **Prep Batch: 349367**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	2.27		2.261		mg/L		0.3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-350495/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 350701 — **Prep Batch: 350495**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		04/20/22 13:34	04/21/22 12:07	1

Lab Sample ID: LCS 310-350495/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 350701 — **Prep Batch: 350495**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001672		mg/L		100	80 - 120

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

Lab Sample ID: MB 310-349473/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349473

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26.0		50.0	26.0	mg/L			04/11/22 16:42	1

Lab Sample ID: LCS 310-349473/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349473

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	920.0		mg/L		92	90 - 110

Lab Sample ID: MB 310-349583/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349583

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26.0		50.0	26.0	mg/L			04/12/22 13:50	1

Lab Sample ID: LCS 310-349583/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349583

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	902.0		mg/L		90	90 - 110

HPLC/IC

Analysis Batch: 350174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228659-1	NC1MW2	Total/NA	Water	9056A	
310-228659-2	NC1MW3	Total/NA	Water	9056A	
310-228659-3	NC1MW4	Total/NA	Water	9056A	
310-228659-4	NC1MW9	Total/NA	Water	9056A	
310-228659-5	MW11	Total/NA	Water	9056A	
310-228659-6	DUP-1	Total/NA	Water	9056A	
MB 310-350174/3	Method Blank	Total/NA	Water	9056A	
LCS 310-350174/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 349367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228659-1	NC1MW2	Total/NA	Water	3005A	
310-228659-2	NC1MW3	Total/NA	Water	3005A	
310-228659-3	NC1MW4	Total/NA	Water	3005A	
310-228659-4	NC1MW9	Total/NA	Water	3005A	
310-228659-5	MW11	Total/NA	Water	3005A	
310-228659-6	DUP-1	Total/NA	Water	3005A	
MB 310-349367/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-349367/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-228659-3 DU	NC1MW4	Total/NA	Water	3005A	

Analysis Batch: 349686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228659-1	NC1MW2	Total/NA	Water	6020A	349367
310-228659-2	NC1MW3	Total/NA	Water	6020A	349367
310-228659-3	NC1MW4	Total/NA	Water	6020A	349367
310-228659-4	NC1MW9	Total/NA	Water	6020A	349367
310-228659-5	MW11	Total/NA	Water	6020A	349367
310-228659-6	DUP-1	Total/NA	Water	6020A	349367
MB 310-349367/1-A	Method Blank	Total/NA	Water	6020A	349367
LCS 310-349367/2-A	Lab Control Sample	Total/NA	Water	6020A	349367
310-228659-3 DU	NC1MW4	Total/NA	Water	6020A	349367

Analysis Batch: 349813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228659-1	NC1MW2	Total/NA	Water	6020A	349367
310-228659-2	NC1MW3	Total/NA	Water	6020A	349367
310-228659-3	NC1MW4	Total/NA	Water	6020A	349367
310-228659-4	NC1MW9	Total/NA	Water	6020A	349367
310-228659-5	MW11	Total/NA	Water	6020A	349367
310-228659-6	DUP-1	Total/NA	Water	6020A	349367
MB 310-349367/1-A	Method Blank	Total/NA	Water	6020A	349367
LCS 310-349367/2-A	Lab Control Sample	Total/NA	Water	6020A	349367
310-228659-3 DU	NC1MW4	Total/NA	Water	6020A	349367

Prep Batch: 350495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228659-1	NC1MW2	Total/NA	Water	7470A	
310-228659-2	NC1MW3	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 350495 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228659-3	NC1MW4	Total/NA	Water	7470A	
310-228659-4	NC1MW9	Total/NA	Water	7470A	
310-228659-5	MW11	Total/NA	Water	7470A	
310-228659-6	DUP-1	Total/NA	Water	7470A	
MB 310-350495/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-350495/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 350701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228659-1	NC1MW2	Total/NA	Water	7470A	350495
310-228659-2	NC1MW3	Total/NA	Water	7470A	350495
310-228659-3	NC1MW4	Total/NA	Water	7470A	350495
310-228659-4	NC1MW9	Total/NA	Water	7470A	350495
310-228659-5	MW11	Total/NA	Water	7470A	350495
310-228659-6	DUP-1	Total/NA	Water	7470A	350495
MB 310-350495/1-A	Method Blank	Total/NA	Water	7470A	350495
LCS 310-350495/2-A	Lab Control Sample	Total/NA	Water	7470A	350495

General Chemistry

Analysis Batch: 349473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228659-1	NC1MW2	Total/NA	Water	SM 2540C	
310-228659-3	NC1MW4	Total/NA	Water	SM 2540C	
310-228659-5	MW11	Total/NA	Water	SM 2540C	
310-228659-6	DUP-1	Total/NA	Water	SM 2540C	
MB 310-349473/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-349473/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 349583

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228659-2	NC1MW3	Total/NA	Water	SM 2540C	
310-228659-4	NC1MW9	Total/NA	Water	SM 2540C	
MB 310-349583/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-349583/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Client Sample ID: NC1MW2 — **Lab Sample ID: 310-228659-1**
Date Collected: 04/05/22 15:45 — **Matrix: Water**
Date Received: 04/07/22 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	350174	04/14/22 19:28	JNR	TAL CF
Total/NA	Prep	3005A			349367	04/11/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	349686	04/12/22 21:21	SAP	TAL CF
Total/NA	Prep	3005A			349367	04/11/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	349813	04/13/22 19:39	SAP	TAL CF
Total/NA	Prep	7470A			350495	04/20/22 13:34	EAM	TAL CF
Total/NA	Analysis	7470A		1	350701	04/21/22 12:39	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	349473	04/11/22 16:42	TGF	TAL CF

Client Sample ID: NC1MW3 — **Lab Sample ID: 310-228659-2**
Date Collected: 04/06/22 09:36 — **Matrix: Water**
Date Received: 04/07/22 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	350174	04/14/22 19:44	JNR	TAL CF
Total/NA	Prep	3005A			349367	04/11/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	349686	04/12/22 21:25	SAP	TAL CF
Total/NA	Prep	3005A			349367	04/11/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	349813	04/13/22 19:42	SAP	TAL CF
Total/NA	Prep	7470A			350495	04/20/22 13:34	EAM	TAL CF
Total/NA	Analysis	7470A		1	350701	04/21/22 12:41	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	349583	04/12/22 13:50	TGF	TAL CF

Client Sample ID: NC1MW4 — **Lab Sample ID: 310-228659-3**
Date Collected: 04/05/22 16:01 — **Matrix: Water**
Date Received: 04/07/22 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	350174	04/14/22 19:59	JNR	TAL CF
Total/NA	Prep	3005A			349367	04/11/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	349686	04/12/22 21:29	SAP	TAL CF
Total/NA	Prep	3005A			349367	04/11/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	349813	04/13/22 19:45	SAP	TAL CF
Total/NA	Prep	7470A			350495	04/20/22 13:34	EAM	TAL CF
Total/NA	Analysis	7470A		1	350701	04/21/22 12:43	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	349473	04/11/22 16:42	TGF	TAL CF

Client Sample ID: NC1MW9 — **Lab Sample ID: 310-228659-4**
Date Collected: 04/06/22 10:20 — **Matrix: Water**
Date Received: 04/07/22 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	350174	04/14/22 20:15	JNR	TAL CF
Total/NA	Prep	3005A			349367	04/11/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	349686	04/12/22 21:52	SAP	TAL CF

Client Sample ID: NC1MW9 — **Lab Sample ID: 310-228659-4**
Date Collected: 04/06/22 10:20 — **Matrix: Water**
Date Received: 04/07/22 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			349367	04/11/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	349813	04/13/22 19:51	SAP	TAL CF
Total/NA	Prep	7470A			350495	04/20/22 13:34	EAM	TAL CF
Total/NA	Analysis	7470A		1	350701	04/21/22 12:45	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	349583	04/12/22 13:50	TGF	TAL CF

Client Sample ID: MW11 — **Lab Sample ID: 310-228659-5**
Date Collected: 04/05/22 14:13 — **Matrix: Water**
Date Received: 04/07/22 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	350174	04/14/22 20:31	JNR	TAL CF
Total/NA	Prep	3005A			349367	04/11/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	349686	04/12/22 21:56	SAP	TAL CF
Total/NA	Prep	3005A			349367	04/11/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	349813	04/13/22 20:08	SAP	TAL CF
Total/NA	Prep	7470A			350495	04/20/22 13:34	EAM	TAL CF
Total/NA	Analysis	7470A		1	350701	04/21/22 12:47	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	349473	04/11/22 16:42	TGF	TAL CF

Client Sample ID: DUP-1 — **Lab Sample ID: 310-228659-6**
Date Collected: 04/05/22 00:00 — **Matrix: Water**
Date Received: 04/07/22 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	350174	04/14/22 20:46	JNR	TAL CF
Total/NA	Prep	3005A			349367	04/11/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	349686	04/12/22 22:00	SAP	TAL CF
Total/NA	Prep	3005A			349367	04/11/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	349813	04/13/22 20:11	SAP	TAL CF
Total/NA	Prep	7470A			350495	04/20/22 13:34	EAM	TAL CF
Total/NA	Analysis	7470A		1	350701	04/21/22 12:54	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	349473	04/11/22 16:42	TGF	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-228659-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

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)	09-29-22
Georgia	State	IA100001 (OR)	09-29-22
Illinois	NELAP	200024	11-29-22
Iowa	State	007	12-01-21 *
Kansas	NELAP	E-10341	01-31-23
Minnesota	NELAP	019-999-319	12-31-22
Minnesota (Petrofund)	State	3349	04-06-23
North Dakota	State	R-186	09-29-22
Oregon	NELAP	IA100001	09-29-22

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

Method Summary

Client: Omaha Public Power District
Job ID: 310-228659-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
3005A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

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

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

Laboratory References:

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

eurofins | Environment Testing America

310-228659 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

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

Receipt Information

Date/Time Received: DATE 4-7-22 | TIME 1735 | Received By: HED

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes* Cooler ID	
Multiple Coolers?	☒ Yes ☐ No	*If yes* Cooler # 1 of 2	
Cooler Custody Seals Present?	☐ Yes ☒ No	*If yes* Cooler custody seals intact?	☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes* Which VOA samples are in cooler? ↓	

Temperature Record

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

Thermometer ID: N | Correction Factor (°C): 0

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

Uncorrected Temp (°C): 0.3 | Corrected Temp (°C): 0.3

• **Sample Container Temperature**

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

Exceptions Noted

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

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

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

Additional Comments

NC1MW9, MW11, NC1MW8, NC1MW2, DUP1

eurofins | Environment Testing America

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

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

Receipt Information

Date/Time Received: DATE 4-7-22 | TIME 1735 | Received By: HED

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

Condition of Cooler/Containers

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

Temperature Record

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

Thermometer ID: N | Correction Factor (°C): 0

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

Uncorrected Temp (°C): 0.6 | Corrected Temp (°C): 0.6

• **Sample Container Temperature**

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

Exceptions Noted

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

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

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

Additional Comments

NC2MW9, NC1MW7, NC1MW4, NC1MW3

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

Chain of Custody Record

TestAmerica Omaha SC 268

TestAmerica

Client Information	Sampler: Kyle K. Uhing	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: Kyle Uhing	Phone: (402) 226-2515	E-Mail: shawn.hayes@testamericainc.com		Page:
Company: Omaha Public Power District				Job #:
Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:	Analysis Requested		Preservation Codes:
City: Omaha	TAT Requested (days):			A HCL M Hexane B NaOH N None C Zn Acetate O AsNaO2 D Nitric Acid P Na2O4S E NaHSO4 Q Na2SO3 F MeOH R Na2S2SO3 G Amchlor S H2SO4 H Ascorbic Acid T TSP Dodecahydrate I Ice U Acetone J DI Water V MCAA K EDTA W ph 4-5 L EDA Z other (specify) Other:
State, Zip: NE, 68102-2247				
Phone: (531) 226-2515	PO #:			
Email: kkuhing@oppd.com	WO #:			
Project Name: Nebraska City Station Unit 1 CCR / Landfill	TestAmerica Project #: 31007558			
Site: Nebraska City Station Unit 1	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N		
NC1MW2	4/5/22	14 54	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW3	4/6/22	9 36	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW4	4/5/22	16 01	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW9	4/6/22	10 20	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW11	4/5/22	14:13	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
DUP1	4/5/22→4/6/22	—	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents

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

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

Deliverable Requested: I II III IV Other (specify)

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4/6/2022 1330	OPPD		4-6-22 1330	Eurofins
2	Relinquished by:	Date/Time: 4-7-22 0800	Company ET	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 4-7-22 1735	Company ETA CF

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

Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-228659-1

Login Number: 228659
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.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-228659-2
Client Project/Site: Nebraska City Station Unit 1 CCR/Landfill

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

Attn: Kyle Uhing

Authorized for release by:
5/9/2022 2:14:52 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

Table of Contents

Case Narrative

Client: Omaha Public Power District
Job ID: 310-228659-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Job ID: 310-228659-2

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-228659-2

Comments
No additional comments.

Receipt
The samples were received on 4/7/2022 5:35 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 0.3° C and 0.6° C.

RAD
Method PrecSep_0: Radium-228 Prep Batch 160-559834

The following samples were prepared at a reduced aliquot due to Matrix: NC1MW2 (310-228659-1), NC1MW3 (310-228659-2), NC1MW4 (310-228659-3), NC1MW9 (310-228659-4) and MW11 (310-228659-5).

Method PrecSep-21: Radium-226 Prep Batch 160-559831

The following samples were prepared at a reduced aliquot due to Matrix: NC1MW2 (310-228659-1), NC1MW3 (310-228659-2), NC1MW4 (310-228659-3), NC1MW9 (310-228659-4) and MW11 (310-228659-5).

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

Sample Summary

Client: Omaha Public Power District
Job ID: 310-228659-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-228659-1	NC1MW2	Water	04/05/22 15:45	04/07/22 17:35
310-228659-2	NC1MW3	Water	04/06/22 09:36	04/07/22 17:35
310-228659-3	NC1MW4	Water	04/05/22 16:01	04/07/22 17:35
310-228659-4	NC1MW9	Water	04/06/22 10:20	04/07/22 17:35
310-228659-5	MW11	Water	04/05/22 14:13	04/07/22 17:35
310-228659-6	DUP-1	Water	04/05/22 00:00	04/07/22 17:35

Detection Summary

Client: Omaha Public Power District
Job ID: 310-228659-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: NC1MW2 — **Lab Sample ID: 310-228659-1**

No Detections.

Client Sample ID: NC1MW3 — **Lab Sample ID: 310-228659-2**

No Detections.

Client Sample ID: NC1MW4 — **Lab Sample ID: 310-228659-3**

No Detections.

Client Sample ID: NC1MW9 — **Lab Sample ID: 310-228659-4**

No Detections.

Client Sample ID: MW11 — **Lab Sample ID: 310-228659-5**

No Detections.

Client Sample ID: DUP-1 — **Lab Sample ID: 310-228659-6**

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-228659-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: NC1MW2 — **Lab Sample ID: 310-228659-1**
Date Collected: 04/05/22 15:45 — **Matrix: Water**
Date Received: 04/07/22 17:35

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.186	U	0.232	0.232	1.00	0.384	pCi/L	04/12/22 11:23	05/05/22 09:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.8*		*40 - 110*	*04/12/22 11:23*	*05/05/22 09:22*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0953	U	0.268	0.268	1.00	0.466	pCi/L	04/12/22 12:06	05/04/22 12:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.8*		*40 - 110*	*04/12/22 12:06*	*05/04/22 12:31*	*1*
Y Carrier	*85.2*		*40 - 110*	*04/12/22 12:06*	*05/04/22 12:31*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.282	U	0.354	0.354	5.00	0.466	pCi/L		05/09/22 13:30	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-228659-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: NC1MW3
Lab Sample ID: 310-228659-2
Date Collected: 04/06/22 09:36
Matrix: Water
Date Received: 04/07/22 17:35

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.301	U	0.255	0.256	1.00	0.384	pCi/L	04/12/22 11:23	05/05/22 09:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.1*		*40 - 110*	*04/12/22 11:23*	*05/05/22 09:22*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.02**		0.394	0.405	1.00	0.551	pCi/L	04/12/22 12:06	05/04/22 12:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.1*		*40 - 110*	*04/12/22 12:06*	*05/04/22 12:31*	*1*
Y Carrier	*84.1*		*40 - 110*	*04/12/22 12:06*	*05/04/22 12:31*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.32**		0.469	0.479	5.00	0.551	pCi/L		05/09/22 13:30	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-228659-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: NC1MW4
Lab Sample ID: 310-228659-3
Date Collected: 04/05/22 16:01
Matrix: Water
Date Received: 04/07/22 17:35

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.240	U	0.202	0.203	1.00	0.295	pCi/L	04/12/22 11:23	05/05/22 09:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.3*		*40 - 110*	*04/12/22 11:23*	*05/05/22 09:23*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.886**		0.359	0.368	1.00	0.504	pCi/L	04/12/22 12:06	05/04/22 12:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.3*		*40 - 110*	*04/12/22 12:06*	*05/04/22 12:31*	*1*
Y Carrier	*85.2*		*40 - 110*	*04/12/22 12:06*	*05/04/22 12:31*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.13**		0.412	0.420	5.00	0.504	pCi/L		05/09/22 13:30	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-228659-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: NC1MW9
Lab Sample ID: 310-228659-4
Date Collected: 04/06/22 10:20
Matrix: Water
Date Received: 04/07/22 17:35

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.385		0.223	0.226	1.00	0.274	pCi/L	04/12/22 11:23	05/05/22 09:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.3*		*40 - 110*	*04/12/22 11:23*	*05/05/22 09:23*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.713		0.320	0.327	1.00	0.454	pCi/L	04/12/22 12:06	05/04/22 12:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.3*		*40 - 110*	*04/12/22 12:06*	*05/04/22 12:31*	*1*
Y Carrier	*84.5*		*40 - 110*	*04/12/22 12:06*	*05/04/22 12:31*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.10		0.390	0.397	5.00	0.454	pCi/L		05/09/22 13:30	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-228659-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: MW11
Lab Sample ID: 310-228659-5
Date Collected: 04/05/22 14:13
Matrix: Water
Date Received: 04/07/22 17:35

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0266	U	0.182	0.182	1.00	0.360	pCi/L	04/12/22 11:23	05/05/22 09:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.6*		*40 - 110*	*04/12/22 11:23*	*05/05/22 09:24*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.524	U	0.358	0.361	1.00	0.553	pCi/L	04/12/22 12:06	05/04/22 12:32	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.6*		*40 - 110*	*04/12/22 12:06*	*05/04/22 12:32*	*1*
Y Carrier	*82.2*		*40 - 110*	*04/12/22 12:06*	*05/04/22 12:32*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.550	U	0.402	0.404	5.00	0.553	pCi/L		05/09/22 13:30	1

Client Sample ID: DUP-1
Lab Sample ID: 310-228659-6
Date Collected: 04/05/22 00:00
Matrix: Water
Date Received: 04/07/22 17:35

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.344		0.210	0.212	1.00	0.258	pCi/L	04/12/22 11:23	05/05/22 09:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.3*		*40 - 110*	*04/12/22 11:23*	*05/05/22 09:24*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0560	U	0.277	0.277	1.00	0.504	pCi/L	04/12/22 12:06	05/04/22 12:32	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.3*		*40 - 110*	*04/12/22 12:06*	*05/04/22 12:32*	*1*
Y Carrier	*88.2*		*40 - 110*	*04/12/22 12:06*	*05/04/22 12:32*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.288	U	0.348	0.349	5.00	0.504	pCi/L		05/09/22 13:30	1

Qualifiers

Rad

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

Glossary

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

QC Sample Results

Client: Omaha Public Power District
Job ID: 310-228659-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-559831/20-A
Matrix: Water
Analysis Batch: 563914

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 559831

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04509	U	0.146	0.146	1.00	0.272	pCi/L	04/12/22 11:46	05/05/22 15:11	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	92.5		40 - 110	04/12/22 11:46	05/05/22 15:11	1

Lab Sample ID: LCS 160-559831/1-A
Matrix: Water
Analysis Batch: 563914

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 559831

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	10.45		1.27	1.00	0.253	pCi/L	92	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	98.8		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-559834/20-A
Matrix: Water
Analysis Batch: 563514

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 559834

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.01595	U	0.184	0.184	1.00	0.329	pCi/L	04/12/22 12:06	05/04/22 12:35	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	92.5		40 - 110	04/12/22 12:06	05/04/22 12:35	1
Y Carrier	91.2		40 - 110	04/12/22 12:06	05/04/22 12:35	1

Lab Sample ID: LCS 160-559834/1-A
Matrix: Water
Analysis Batch: 563516

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 559834

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	8.65	9.113		1.05	1.00	0.334	pCi/L	105	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	98.8		40 - 110
Y Carrier	85.6		40 - 110

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-228659-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Rad

Prep Batch: 559831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228659-1	NC1MW2	Total/NA	Water	PrecSep-21	
310-228659-2	NC1MW3	Total/NA	Water	PrecSep-21	
310-228659-3	NC1MW4	Total/NA	Water	PrecSep-21	
310-228659-4	NC1MW9	Total/NA	Water	PrecSep-21	
310-228659-5	MW11	Total/NA	Water	PrecSep-21	
310-228659-6	DUP-1	Total/NA	Water	PrecSep-21	
MB 160-559831/20-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-559831/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 559834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228659-1	NC1MW2	Total/NA	Water	PrecSep_0	
310-228659-2	NC1MW3	Total/NA	Water	PrecSep_0	
310-228659-3	NC1MW4	Total/NA	Water	PrecSep_0	
310-228659-4	NC1MW9	Total/NA	Water	PrecSep_0	
310-228659-5	MW11	Total/NA	Water	PrecSep_0	
310-228659-6	DUP-1	Total/NA	Water	PrecSep_0	
MB 160-559834/20-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-559834/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Omaha Public Power District — Job ID: 310-228659-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: NC1MW2 — Lab Sample ID: 310-228659-1
Date Collected: 04/05/22 15:45 — **Matrix: Water**
Date Received: 04/07/22 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			559831	04/12/22 11:23	BMP	TAL SL
Total/NA	Analysis	9315		1	563914	05/05/22 09:22	SCB	TAL SL
Total/NA	Prep	PrecSep_0			559834	04/12/22 12:06	BMP	TAL SL
Total/NA	Analysis	9320		1	563516	05/04/22 12:31	JCB	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	564551	05/09/22 13:30	EMH	TAL SL

Client Sample ID: NC1MW3 — Lab Sample ID: 310-228659-2
Date Collected: 04/06/22 09:36 — **Matrix: Water**
Date Received: 04/07/22 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			559831	04/12/22 11:23	BMP	TAL SL
Total/NA	Analysis	9315		1	563914	05/05/22 09:22	SCB	TAL SL
Total/NA	Prep	PrecSep_0			559834	04/12/22 12:06	BMP	TAL SL
Total/NA	Analysis	9320		1	563516	05/04/22 12:31	JCB	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	564551	05/09/22 13:30	EMH	TAL SL

Client Sample ID: NC1MW4 — Lab Sample ID: 310-228659-3
Date Collected: 04/05/22 16:01 — **Matrix: Water**
Date Received: 04/07/22 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			559831	04/12/22 11:23	BMP	TAL SL
Total/NA	Analysis	9315		1	563913	05/05/22 09:23	SCB	TAL SL
Total/NA	Prep	PrecSep_0			559834	04/12/22 12:06	BMP	TAL SL
Total/NA	Analysis	9320		1	563516	05/04/22 12:31	JCB	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	564551	05/09/22 13:30	EMH	TAL SL

Client Sample ID: NC1MW9 — Lab Sample ID: 310-228659-4
Date Collected: 04/06/22 10:20 — **Matrix: Water**
Date Received: 04/07/22 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			559831	04/12/22 11:23	BMP	TAL SL
Total/NA	Analysis	9315		1	563913	05/05/22 09:23	SCB	TAL SL
Total/NA	Prep	PrecSep_0			559834	04/12/22 12:06	BMP	TAL SL
Total/NA	Analysis	9320		1	563516	05/04/22 12:31	JCB	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	564551	05/09/22 13:30	EMH	TAL SL

Lab Chronicle

Client: Omaha Public Power District — Job ID: 310-228659-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: MW11 — Lab Sample ID: 310-228659-5
Date Collected: 04/05/22 14:13 — **Matrix: Water**
Date Received: 04/07/22 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			559831	04/12/22 11:23	BMP	TAL SL
Total/NA	Analysis	9315		1	563913	05/05/22 09:24	SCB	TAL SL
Total/NA	Prep	PrecSep_0			559834	04/12/22 12:06	BMP	TAL SL
Total/NA	Analysis	9320		1	563516	05/04/22 12:32	JCB	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	564551	05/09/22 13:30	EMH	TAL SL

Client Sample ID: DUP-1 — Lab Sample ID: 310-228659-6
Date Collected: 04/05/22 00:00 — **Matrix: Water**
Date Received: 04/07/22 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			559831	04/12/22 11:23	BMP	TAL SL
Total/NA	Analysis	9315		1	563913	05/05/22 09:24	SCB	TAL SL
Total/NA	Prep	PrecSep_0			559834	04/12/22 12:06	BMP	TAL SL
Total/NA	Analysis	9320		1	563516	05/04/22 12:32	JCB	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	564551	05/09/22 13:30	EMH	TAL SL

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District — Job ID: 310-228659-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

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	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	07-01-22
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

Method Summary

Client: Omaha Public Power District — Job ID: 310-228659-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

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

Protocol References:

None = None

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

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

Laboratory References:

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

eurofins | Environment Testing America

310-228659 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

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

Receipt Information

Date/Time Received: DATE 4-7-22 | TIME 1735 | Received By: HED

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes* Cooler ID
Multiple Coolers?	☒ Yes ☐ No	*If yes* Cooler # 1 of 2
Cooler Custody Seals Present?	☐ Yes ☒ No	*If yes* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes* Which VOA samples are in cooler? ↓

Temperature Record

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

Thermometer ID: N | Correction Factor (°C): 0

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

Uncorrected Temp (°C): 0.3 | Corrected Temp (°C): 0.3

• **Sample Container Temperature**

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

Exceptions Noted

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

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

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

Additional Comments

NC1MW9, MW11, NC1MW8, NC1MW2, DUP1

eurofins | Environment Testing America

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

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

Receipt Information

Date/Time Received: DATE 4-7-22 | TIME 1735 | Received By: HED

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

Condition of Cooler/Containers

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

Temperature Record

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

Thermometer ID: N | Correction Factor (°C): 0

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

Uncorrected Temp (°C): 0.6 | Corrected Temp (°C): 0.6

• **Sample Container Temperature**

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

Exceptions Noted

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

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

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

Additional Comments

NC2MW9, NC1MW7, NC1MW4, NC1MW3

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

Chain of Custody Record

TestAmerica Omaha SC
268

TestAmerica

Client Information	Sampler: Kyle K. Uhing	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: Kyle Uhing	Phone: (402) 226-2515	E-Mail: shawn.hayes@testamericainc.com		Page:
Company: Omaha Public Power District		Analysis Requested		Job #:
Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:			Preservation Codes:
City: Omaha	TAT Requested (days):			A HCL M Hexane B NaOH N None C Zn Acetate O AsNaO2 D Nitric Acid P Na2O4S E NaHSO4 Q Na2SO3 F MeOH R Na2S2SO3 G Amchlor S H2SO4 H Ascorbic Acid T TSP Dodecahydrate I Ice U Acetone J DI Water V MCAA K EDTA W ph 4-5 L EDA Z other (specify) Other:
State, Zip: NE, 68102-2247				
Phone: (531) 226-2515	PO #:			
Email: kkuhing@oppd.com	WO #:			
Project Name: Nebraska City Station Unit 1 CCR / Landfill	TestAmerica Project #: 31007558			
Site: Nebraska City Station Unit 1	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 8339 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate												Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N													
NC1MW2	4/5/22	14 54	G	W	N		X	X	X												4	CCR Appendix III and IV Constituents
NC1MW3	4/6/22	9 36	G	W	N		X	X	X												4	CCR Appendix III and IV Constituents
NC1MW4	4/5/22	16 01	G	W	N		X	X	X												4	CCR Appendix III and IV Constituents
NC1MW9	4/6/22	10 20	G	W	N		X	X	X												4	CCR Appendix III and IV Constituents
MW11	4/5/22	14:13	G	W	N		X	X	X												4	CCR Appendix III and IV Constituents
DUP1	4/5/22→4/6/22	—	G	W	N		X	X	X												4	CCR Appendix III and IV Constituents

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I II III IV Other (specify)	Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4/6/2022 1330	OPPD		4-6-22 1330	Eurofins
2	Relinquished by:	Date/Time: 4-7-22 0800	Company ETC	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 4-7-22 1735	Company ETA CF

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

5/9/2022

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No: 310-48472.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Shawn.Hayes@et.eurofinsus.com	State of Origin: Nebraska	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 310-228659-2
Address: 13715 Rider Trail North,	Due Date Requested: 5/12/2022	Analysis Requested		Preservation Codes:
City: Earth City	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify) Other:
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Nebraska City Station Unit 1 CCR/Landfill	Project #: 31007558			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226PrecSep_21 Radium-226 (GFPC) - 21 day decay	9320_Ra228PrecSep_0 Radium-228 (GFPC)	Ra226Ra228_GFPC/Combined Radium-226 and Radium-228												Total Number of containers	Special Instructions/Note:
			Preservation Code:				X	X	X													
NC1MW2 (310-228659-1)	4/5/22	15:45 Central		Water			X	X	X												2	
NC1MW3 (310-228659-2)	4/6/22	09:36 Central		Water			X	X	X												2	
NC1MW4 (310-228659-3)	4/5/22	16:01 Central		Water			X	X	X												2	
NC1MW9 (310-228659-4)	4/6/22	10:20 Central		Water			X	X	X												2	
MW11 (310-228659-5)	4/5/22	14:13 Central		Water			X	X	X												2	
DUP-1 (310-228659-6)	4/5/22	Central		Water			X	X	X												2	

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4822 1500		FED EX		
2	FED EX	Date/Time:	Company	Received by:	Date/Time: APR 11 2022 0900	Company
3	Relinquished by:	Date/Time:	Company	Received by: Autumn R. Johnson	Date/Time:	Company

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

5/9/2022

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-228659-2

Login Number: 228659
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.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-228659-2

Login Number: 228659
List Number: 2
Creator: Johnson, Autumn R

List Source: Eurofins St. Louis
List Creation: 04/11/22 04:11 PM

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

Tracer/Carrier Summary

Client: Omaha Public Power District
Job ID: 310-228659-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Method: 9315 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-228659-1	NC1MW2	95.8
310-228659-2	NC1MW3	88.1
310-228659-3	NC1MW4	94.3
310-228659-4	NC1MW9	95.3
310-228659-5	MW11	86.6
310-228659-6	DUP-1	96.3
LCS 160-559831/1-A	Lab Control Sample	98.8
MB 160-559831/20-A	Method Blank	92.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
310-228659-1	NC1MW2	95.8	85.2
310-228659-2	NC1MW3	88.1	84.1
310-228659-3	NC1MW4	94.3	85.2
310-228659-4	NC1MW9	95.3	84.5
310-228659-5	MW11	86.6	82.2
310-228659-6	DUP-1	96.3	88.2
LCS 160-559834/1-A	Lab Control Sample	98.8	85.6
MB 160-559834/20-A	Method Blank	92.5	91.2

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-228288-1
Client Project/Site: Nebraska City Station Unit 1 CCR/Landfill

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

Attn: Kyle Uhing

Authorized for release by:
4/21/2022 12:18:31 PM

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

Table of Contents

Case Narrative

Job ID: 310-228288-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-228288-1

Comments
No additional comments.

Receipt
The sample was received on 4/5/2022 5:00 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.3° C.

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

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

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

Sample Summary

Client: Omaha Public Power District
Job ID: 310-228288-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-228288-1	MW14	Water	04/04/22 10:55	04/05/22 17:00

Detection Summary

Client: Omaha Public Power District
Job ID: 310-228288-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: MW14 — **Lab Sample ID: 310-228288-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.25		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	27.4		5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.0266		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.324		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	0.277		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	171		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00104		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0558		0.0100	0.00250	mg/L	1		6020A	Total/NA
Total Dissolved Solids	678		50.0	26.0	mg/L	1		SM 2540C	Total/NA
pH	7.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Omaha Public Power District — Job ID: 310-228288-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: MW14 — Lab Sample ID: 310-228288-1

Date Collected: 04/04/22 10:55 — **Matrix: Water**
Date Received: 04/05/22 17:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8.25**		5.00	2.25	mg/L			04/11/22 19:13	5
Fluoride	<0.220		0.500	0.220	mg/L			04/11/22 19:13	5
Sulfate	**27.4**		5.00	2.00	mg/L			04/11/22 19:13	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		04/07/22 09:00	04/20/22 19:18	1
Arsenic	**0.0266**		0.00200	0.000750	mg/L		04/07/22 09:00	04/20/22 19:18	1
Barium	**0.324**		0.00200	0.000880	mg/L		04/07/22 09:00	04/20/22 19:18	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/07/22 09:00	04/20/22 19:18	1
Boron	**0.277**		0.100	0.0580	mg/L		04/07/22 09:00	04/20/22 19:18	1
Cadmium	<0.0000550		0.000100	0.0000550	mg/L		04/07/22 09:00	04/20/22 19:18	1
Calcium	**171**		0.500	0.190	mg/L		04/07/22 09:00	04/20/22 19:18	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/07/22 09:00	04/20/22 19:18	1
Cobalt	**0.00104**		0.000500	0.000190	mg/L		04/07/22 09:00	04/20/22 19:18	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/07/22 09:00	04/20/22 19:18	1
Lithium	**0.0558**		0.0100	0.00250	mg/L		04/07/22 09:00	04/20/22 19:18	1
Molybdenum	<0.00120		0.00200	0.00120	mg/L		04/07/22 09:00	04/20/22 19:18	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/07/22 09:00	04/20/22 19:18	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/07/22 09:00	04/20/22 19:18	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		04/15/22 11:41	04/15/22 15:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**678**		50.0	26.0	mg/L			04/07/22 16:37	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.2**	**HF**	0.1	0.1	SU			04/06/22 14:14	1

Definitions/Glossary

Client: Omaha Public Power District — Job ID: 310-228288-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Qualifiers

Metals

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

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

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

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-349722/3
Matrix: Water
Analysis Batch: 349722
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.450		1.00	0.450	mg/L			04/11/22 15:03	1
Fluoride	<0.0440		0.100	0.0440	mg/L			04/11/22 15:03	1
Sulfate	<0.400		1.00	0.400	mg/L			04/11/22 15:03	1

Lab Sample ID: LCS 310-349722/4
Matrix: Water
Analysis Batch: 349722
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	10.23		mg/L		102	90 - 110
Fluoride	2.00	1.944		mg/L		97	90 - 110
Sulfate	10.0	10.55		mg/L		105	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-348978/1-A
Matrix: Water
Analysis Batch: 350581
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 348978

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0009760	J	0.00200	0.000690	mg/L		04/07/22 09:00	04/20/22 17:13	1
Arsenic	<0.000750		0.00200	0.000750	mg/L		04/07/22 09:00	04/20/22 17:13	1
Barium	<0.000880		0.00200	0.000880	mg/L		04/07/22 09:00	04/20/22 17:13	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/07/22 09:00	04/20/22 17:13	1
Boron	<0.0580		0.100	0.0580	mg/L		04/07/22 09:00	04/20/22 17:13	1
Cadmium	<0.0000550		0.000100	0.0000550	mg/L		04/07/22 09:00	04/20/22 17:13	1
Calcium	<0.190		0.500	0.190	mg/L		04/07/22 09:00	04/20/22 17:13	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/07/22 09:00	04/20/22 17:13	1
Cobalt	<0.000190		0.000500	0.000190	mg/L		04/07/22 09:00	04/20/22 17:13	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/07/22 09:00	04/20/22 17:13	1
Lithium	<0.00250		0.0100	0.00250	mg/L		04/07/22 09:00	04/20/22 17:13	1
Molybdenum	<0.00120		0.00200	0.00120	mg/L		04/07/22 09:00	04/20/22 17:13	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/07/22 09:00	04/20/22 17:13	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/07/22 09:00	04/20/22 17:13	1

Lab Sample ID: LCS 310-348978/2-A
Matrix: Water
Analysis Batch: 350581
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348978

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.2182		mg/L		109	80 - 120
Arsenic	0.200	0.2149		mg/L		107	80 - 120
Barium	0.100	0.1072		mg/L		107	80 - 120
Beryllium	0.100	0.1004		mg/L		100	80 - 120
Boron	0.200	0.2060		mg/L		103	80 - 120
Cadmium	0.100	0.1030		mg/L		103	80 - 120
Calcium	2.00	1.967		mg/L		98	80 - 120
Chromium	0.100	0.1018		mg/L		102	80 - 120
Cobalt	0.100	0.1066		mg/L		107	80 - 120

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

Lab Sample ID: LCS 310-348978/2-A
Matrix: Water
Analysis Batch: 350581
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348978

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	0.200	0.2128		mg/L		106	80 - 120
Lithium	0.200	0.2103		mg/L		105	80 - 120
Molybdenum	0.200	0.2063		mg/L		103	80 - 120
Selenium	0.400	0.4092		mg/L		102	80 - 120
Thallium	0.200	0.2113		mg/L		106	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-350018/1-A
Matrix: Water
Analysis Batch: 350063
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350018

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		04/15/22 11:41	04/15/22 15:20	1

Lab Sample ID: LCS 310-350018/2-A
Matrix: Water
Analysis Batch: 350063
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350018

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001553		mg/L		93	80 - 120

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

Lab Sample ID: MB 310-349178/1
Matrix: Water
Analysis Batch: 349178
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26.0		50.0	26.0	mg/L			04/07/22 16:37	1

Lab Sample ID: LCS 310-349178/2
Matrix: Water
Analysis Batch: 349178
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	940.0		mg/L		94	90 - 110

Lab Sample ID: 310-228288-1 DU
Matrix: Water
Analysis Batch: 349178
Client Sample ID: MW14
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	678		686.0		mg/L		1	20

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-228288-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

HPLC/IC

Analysis Batch: 349722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228288-1	MW14	Total/NA	Water	9056A	
MB 310-349722/3	Method Blank	Total/NA	Water	9056A	
LCS 310-349722/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 348978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228288-1	MW14	Total/NA	Water	3005A	
MB 310-348978/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-348978/2-A	Lab Control Sample	Total/NA	Water	3005A	

Prep Batch: 350018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228288-1	MW14	Total/NA	Water	7470A	
MB 310-350018/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-350018/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 350063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228288-1	MW14	Total/NA	Water	7470A	350018
MB 310-350018/1-A	Method Blank	Total/NA	Water	7470A	350018
LCS 310-350018/2-A	Lab Control Sample	Total/NA	Water	7470A	350018

Analysis Batch: 350581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228288-1	MW14	Total/NA	Water	6020A	348978
MB 310-348978/1-A	Method Blank	Total/NA	Water	6020A	348978
LCS 310-348978/2-A	Lab Control Sample	Total/NA	Water	6020A	348978

General Chemistry

Analysis Batch: 348982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228288-1	MW14	Total/NA	Water	SM 4500 H+ B	
LCS 310-348982/27	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 349178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228288-1	MW14	Total/NA	Water	SM 2540C	
MB 310-349178/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-349178/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-228288-1 DU	MW14	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-228288-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: MW14
Lab Sample ID: 310-228288-1
Date Collected: 04/04/22 10:55
Matrix: Water
Date Received: 04/05/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	349722	04/11/22 19:13	JNR	TAL CF
Total/NA	Prep	3005A			348978	04/07/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	350581	04/20/22 19:18	SAP	TAL CF
Total/NA	Prep	7470A			350018	04/15/22 11:41	EAM	TAL CF
Total/NA	Analysis	7470A		1	350063	04/15/22 15:37	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	349178	04/07/22 16:37	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	348982	04/06/22 14:14	JAJ	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-228288-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

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)	09-29-22
Georgia	State	IA100001 (OR)	09-29-22
Illinois	NELAP	200024	11-29-22
Iowa	State	007	12-01-21 *
Kansas	NELAP	E-10341	01-31-23
Minnesota	NELAP	019-999-319	12-31-22
Minnesota (Petrofund)	State	3349	04-06-23
North Dakota	State	R-186	09-29-22
Oregon	NELAP	IA100001	09-29-22

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

Method Summary

Client: Omaha Public Power District
Job ID: 310-228288-1
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 H+ B	pH	SM	TAL CF
3005A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

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

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

Laboratory References:

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

eurofins | Environment Testing America

310-228288 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

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

Receipt Information

Date/Time Received: DATE 4-5-22 | TIME 1700 | Received By: HED

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

Condition of Cooler/Containers

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

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other.____ ☐ NONE

Thermometer ID: N | Correction Factor (°C): 0

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

Uncorrected Temp (°C): 4.3 | Corrected Temp (°C): 4.3

• **Sample Container Temperature**

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

Exceptions Noted

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

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

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

Additional Comments

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

TestAmerica Omaha SC 268

Chain of Custody Record

COC No:	
Page:	
Job #:	
Carrier Tracking No(s):	
Lab PM: Hayes, Shawn M	
E-Mail: shawn.hayes@testamericainc.com	
Sampler: Kyle K. Uhing	
Phone: (402) 226-2515	

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

Due Date Requested:
TAT Requested (days):
PO #:
WO #:
TestAmerica Project #: 31007558
SSOW#:

Analysis Requested

Preservation Codes:
A HCl, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W ph 4-5, Z other (specify), Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra228, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV 7470A Mercury	25460 TDS, 9056A Chloride, Fluoride, Sulfate	pH	Total Number of containers	Special Instructions/Note:
			Preservation Code:		N	N	D	D	N	N		
MW14	4/4/22	10:55	G	W	N		X	X	X	X	4	CCR Appendix III and IV Constituents

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological
Deliverable Requested: I, II, III, IV Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time: 4/5/2022 7:50	Company	Received by:	Date/Time: 4-5-22 0750 Company
Relinquished by:	Date/Time: 4-5-22 0800	Company	Received by:	Date/Time: Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 4-5-22 1700 Company

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

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-228288-1

Login Number: 228288
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.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-228288-2
Client Project/Site: Nebraska City Station Unit 1 CCR/Landfill

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

Attn: Kyle Uhing

Authorized for release by:
5/10/2022 10:51:13 AM

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

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

Table of Contents

Case Narrative

Job ID: 310-228288-2

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-228288-2

Comments
No additional comments.

Receipt
The sample was received on 4/5/2022 5:00 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.3° C.

RAD
Method PrecSep_0: Radium-228 Prep Batch 160-559628

The following samples were prepared at a reduced aliquot due to Matrix: MW14 (310-228288-1).

Method PrecSep-21: Radium-226 Prep Batch 160-559626

The following samples were prepared at a reduced aliquot due to Matrix: MW14 (310-228288-1).

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

Sample Summary

Client: Omaha Public Power District
Job ID: 310-228288-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-228288-1	MW14	Water	04/04/22 10:55	04/05/22 17:00

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-228288-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: MW14 — **Lab Sample ID: 310-228288-1**
Date Collected: 04/04/22 10:55 — **Matrix: Water**
Date Received: 04/05/22 17:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.401		0.180	0.183	1.00	0.212	pCi/L	04/11/22 12:07	05/07/22 13:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.3*		*40 - 110*	*04/11/22 12:07*	*05/07/22 13:44*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.49		0.424	0.445	1.00	0.524	pCi/L	04/11/22 12:30	05/03/22 12:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.3*		*40 - 110*	*04/11/22 12:30*	*05/03/22 12:46*	*1*
Y Carrier	*83.0*		*40 - 110*	*04/11/22 12:30*	*05/03/22 12:46*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.89		0.461	0.481	5.00	0.524	pCi/L		05/09/22 22:46	1

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-228288-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Qualifiers

Rad

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

Glossary

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

QC Sample Results

Client: Omaha Public Power District
Job ID: 310-228288-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-559626/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 564353 — **Prep Batch: 559626**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.009138	U	0.0765	0.0766	1.00	0.152	pCi/L	04/11/22 12:07	05/07/22 13:46	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		40 - 110	04/11/22 12:07	05/07/22 13:46	1

Lab Sample ID: LCS 160-559626/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 563515 — **Prep Batch: 559626**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			11.3	10.56		1.26	1.00	0.203	pCi/L	93	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	87.3		40 - 110

Lab Sample ID: LCSD 160-559626/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 563515 — **Prep Batch: 559626**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226			11.3	10.23		1.23	1.00	0.217	pCi/L	90	75 - 125	0.13	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	88.3		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-559628/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 563488 — **Prep Batch: 559628**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.07525	U	0.233	0.233	1.00	0.428	pCi/L	04/11/22 12:30	05/03/22 12:49	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		40 - 110	04/11/22 12:30	05/03/22 12:49	1
Y Carrier	88.2		40 - 110	04/11/22 12:30	05/03/22 12:49	1

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

Lab Sample ID: LCS 160-559628/1-A
Matrix: Water
Analysis Batch: 563489

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 559628

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			8.65	9.320		1.11	1.00	0.410	pCi/L	108	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	87.3		40 - 110
Y Carrier	82.6		40 - 110

Lab Sample ID: LCSD 160-559628/2-A
Matrix: Water
Analysis Batch: 563489

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 559628

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228			8.65	8.716		1.10	1.00	0.447	pCi/L	101	75 - 125	0.27	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	88.3		40 - 110
Y Carrier	82.6		40 - 110

Rad

Prep Batch: 559626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228288-1	MW14	Total/NA	Water	PrecSep-21	
MB 160-559626/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-559626/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-559626/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 559628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228288-1	MW14	Total/NA	Water	PrecSep_0	
MB 160-559628/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-559628/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-559628/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-228288-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Client Sample ID: MW14
Lab Sample ID: 310-228288-1
Date Collected: 04/04/22 10:55
Matrix: Water
Date Received: 04/05/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			559626	04/11/22 12:07	HRT	TAL SL
Total/NA	Analysis	9315		1	564351	05/07/22 13:44	FLC	TAL SL
Total/NA	Prep	PrecSep_0			559628	04/11/22 12:30	HRT	TAL SL
Total/NA	Analysis	9320		1	563489	05/03/22 12:46	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	564727	05/09/22 22:46	EMH	TAL SL

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-228288-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

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	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	07-01-22
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

Method Summary

Client: Omaha Public Power District
Job ID: 310-228288-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

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

Protocol References:

None = None

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

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

Laboratory References:

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

eurofins | Environment Testing America

310-228288 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

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

Receipt Information

Date/Time Received: DATE 4-5-22 | TIME 1700 | Received By: HED

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

Condition of Cooler/Containers

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

Multiple Coolers? ☐ Yes ☒ No *If yes* Cooler # ____ of ____

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

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

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

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other.____ ☐ NONE

Thermometer ID: N | Correction Factor (°C): 0

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

Uncorrected Temp (°C): 4.3 | Corrected Temp (°C): 4.3

• **Sample Container Temperature**

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

Exceptions Noted

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

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

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

Additional Comments

Document: CED-P-SAM-FRM45521
Revision 26
Date: 27 Jan 2022

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

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

Chain of Custody Record

TestAmerica Omaha SC 268 — TestAmerica

Client Information	Sampler: Kyle K. Uhing	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: Kyle Uhing	Phone: (402) 226-2515	E-Mail: shawn.hayes@testamericainc.com		Page:
Company: Omaha Public Power District		Analysis Requested		Job #:
Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:			Preservation Codes: A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2SO3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W ph 4-5, Z other (specify)
City: Omaha	TAT Requested (days):			
State, Zip: NE, 68102-2247				
Phone: (531) 226-2515	PO #:			Other:
Email: kkuhing@oppd.com	WO #:			
Project Name: Nebraska City Station Unit 1 CCR / Landfill	TestAmerica Project #: 31007558			
Site: Nebraska City Station Unit 1	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra226, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate	pH	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N		
MW14	4/4/22	10:55	G	W	N		X	X	X	X	4	CCR Appendix III and IV Constituents

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Kyle K. Uhing	4/5/2022 7:50	OPPD		4-5-22 0750	EF
2		4-5-22 0800	EF			
3					4-5-22 1700	

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

Cooler Temperature(s) °C and Other Remarks:

5/10/2022

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No: 310-48332 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Shawn.Hayes@et.eurofinsus.com	State of Origin: Nebraska	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 310-228288-2
Address: 13715 Rider Trail North,	Due Date Requested: 5/10/2022	Analysis Requested		Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: Nebraska City Station Unit 1 CCR/Landfill	Project #: 31007558			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226FreqSep_21 Radium-226 (GFPC) - 21 day decay	9320_Ra226FreqSep_0 Radium-228 (GFPC)	Ra226Ra228_GFPC Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW14 (310-228288-1)	4/4/22	10:55 Central		Water			X	X	X	2	

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

Possible Hazard Identification
Unconfirmed

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

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

Special Instructions/QC Requirements:

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

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		4/6/22 1108		FED EX		
2	FED EX			Sierra Worthington	APR 07 2022 0900	EFASR
3						

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

Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

5/10/2022

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-228288-2

Login Number: 228288
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.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-228288-2

Login Number: 228288
List Number: 2
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 04/07/22 12:06 PM

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

Tracer/Carrier Summary

Client: Omaha Public Power District
Job ID: 310-228288-2
Project/Site: Nebraska City Station Unit 1 CCR/Landfill

Method: 9315 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-228288-1	MW14	87.3
LCS 160-559626/1-A	Lab Control Sample	87.3
LCSD 160-559626/2-A	Lab Control Sample Dup	88.3
MB 160-559626/23-A	Method Blank	91.0

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
310-228288-1	MW14	87.3	83.0
LCS 160-559628/1-A	Lab Control Sample	87.3	82.6
LCSD 160-559628/2-A	Lab Control Sample Dup	88.3	82.6
MB 160-559628/23-A	Method Blank	91.0	88.2

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

This Page Intentionally Left Blank.

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-241712-1
Client Project/Site: Nebraska City Unit 1 CCR

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

Attn: Kyle Uhing

Authorized for release by:
10/21/2022 3:38:56 PM
Brian Graettinger, Lab Director
(319)595-2012
Brian.Graettinger@et.eurofinsus.com

Designee for

Shirley Thompson, Client Service Manager
(319)277-2401
Shirley.Thompson@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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

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

Table of Contents

Case Narrative

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

Job ID: 310-241712-1

Job ID: 310-241712-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-241712-1

Comments
No additional comments.

Receipt
The samples were received on 10/5/2022 4:50 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 1.0° C and 1.7° C.

HPLC/IC
Method 9056A: The following samples were diluted due to the nature of the sample matrix: NC1MW2 (310-241712-1), NC1MW3 (310-241712-2), NC1MW4 (310-241712-3), NC1MW9 (310-241712-4), MW11 (310-241712-5), MW14 (310-241712-6) and DUP1 (310-241712-7). 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.

Sample Summary

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

Job ID: 310-241712-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-241712-1	NC1MW2	Water	10/04/22 10:01	10/05/22 16:50
310-241712-2	NC1MW3	Water	10/04/22 11:34	10/05/22 16:50
310-241712-3	NC1MW4	Water	10/04/22 10:39	10/05/22 16:50
310-241712-4	NC1MW9	Water	10/04/22 12:31	10/05/22 16:50
310-241712-5	MW11	Water	10/03/22 19:14	10/05/22 16:50
310-241712-6	MW14	Water	10/03/22 10:26	10/05/22 16:50
310-241712-7	DUP1	Water	10/04/22 00:00	10/05/22 16:50

Detection Summary

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

Job ID: 310-241712-1

Client Sample ID: NC1MW2 — Lab Sample ID: 310-241712-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.62		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	152		5.00	2.00	mg/L	5		9056A	Total/NA
Antimony	0.000699	J	0.00200	0.000690	mg/L	1		6020A	Total/NA
Arsenic	0.000978	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.194		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	1.30		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.000131		0.000100	0.0000550	mg/L	1		6020A	Total/NA
Calcium	127		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000218	J	0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.000403	J	0.000500	0.000240	mg/L	1		6020A	Total/NA
Lithium	0.0163		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0654		0.00200	0.00120	mg/L	1		6020A	Total/NA
Selenium	0.00418	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Thallium	0.000597	J	0.00100	0.000260	mg/L	1		6020A	Total/NA
Total Dissolved Solids	634		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC1MW3 — Lab Sample ID: 310-241712-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.78		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	263		5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.0463		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.115		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	2.43		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	163		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00145		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0410		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00182	J	0.00200	0.00120	mg/L	1		6020A	Total/NA
Total Dissolved Solids	874		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC1MW4 — Lab Sample ID: 310-241712-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.19		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	196		5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.00125	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.111		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	1.96		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.000134		0.000100	0.0000550	mg/L	1		6020A	Total/NA
Calcium	122		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00190		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0208		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00996		0.00200	0.00120	mg/L	1		6020A	Total/NA
Total Dissolved Solids	548		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC1MW9 — Lab Sample ID: 310-241712-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.03		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	140		5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.0222		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.146		0.00200	0.000880	mg/L	1		6020A	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 Unit 1 CCR

Job ID: 310-241712-1

Client Sample ID: NC1MW9 (Continued) — Lab Sample ID: 310-241712-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.790		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	156		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00153		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0346		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0179		0.00200	0.00120	mg/L	1		6020A	Total/NA
Total Dissolved Solids	718		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW11 — Lab Sample ID: 310-241712-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.64		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	3.70	J	5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.0170		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.252		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	0.371		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	72.8		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00108		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.000783		0.000500	0.000240	mg/L	1		6020A	Total/NA
Lithium	0.00264	J	0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00370		0.00200	0.00120	mg/L	1		6020A	Total/NA
Total Dissolved Solids	302		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW14 — Lab Sample ID: 310-241712-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.36		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	3.29	J	5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.0768		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.324		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	0.282		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	151		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000351	J	0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.000277	J	0.000500	0.000240	mg/L	1		6020A	Total/NA
Lithium	0.0516		0.0100	0.00250	mg/L	1		6020A	Total/NA
Total Dissolved Solids	670		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP1 — Lab Sample ID: 310-241712-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.03		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	140		5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.0229		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.149		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	0.752		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	156		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00159		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0361		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0181		0.00200	0.00120	mg/L	1		6020A	Total/NA
Total Dissolved Solids	730		50.0	26.0	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 Unit 1 CCR

Job ID: 310-241712-1

Client Sample ID: NC1MW2
Date Collected: 10/04/22 10:01
Date Received: 10/05/22 16:50

Lab Sample ID: 310-241712-1
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.62		5.00	2.25	mg/L			10/20/22 14:05	5
Fluoride	<0.220		0.500	0.220	mg/L			10/20/22 14:05	5
Sulfate	152		5.00	2.00	mg/L			10/20/22 14:05	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000699	J	0.00200	0.000690	mg/L		10/07/22 09:45	10/17/22 18:35	1
Arsenic	0.000978	J	0.00200	0.000750	mg/L		10/07/22 09:45	10/17/22 18:35	1
Barium	0.194		0.00200	0.000880	mg/L		10/07/22 09:45	10/17/22 18:35	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/07/22 09:45	10/17/22 18:35	1
Boron	1.30		0.100	0.0580	mg/L		10/07/22 09:45	10/17/22 18:35	1
Cadmium	0.000131		0.000100	0.0000550	mg/L		10/07/22 09:45	10/17/22 18:35	1
Calcium	127		0.500	0.190	mg/L		10/07/22 09:45	10/17/22 18:35	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/07/22 09:45	10/17/22 18:35	1
Cobalt	0.000218	J	0.000500	0.000190	mg/L		10/07/22 09:45	10/17/22 18:35	1
Lead	0.000403	J	0.000500	0.000240	mg/L		10/07/22 09:45	10/17/22 18:35	1
Lithium	0.0163		0.0100	0.00250	mg/L		10/07/22 09:45	10/17/22 18:35	1
Molybdenum	0.0654		0.00200	0.00120	mg/L		10/07/22 09:45	10/17/22 18:35	1
Selenium	0.00418	J	0.00500	0.000960	mg/L		10/07/22 09:45	10/17/22 18:35	1
Thallium	0.000597	J	0.00100	0.000260	mg/L		10/07/22 09:45	10/17/22 18:35	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		10/14/22 14:43	10/17/22 13:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	634		50.0	26.0	mg/L			10/07/22 16:28	1

Client Sample Results

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

Job ID: 310-241712-1

Client Sample ID: NC1MW3
Date Collected: 10/04/22 11:34
Date Received: 10/05/22 16:50

Lab Sample ID: 310-241712-2
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.78		5.00	2.25	mg/L			10/20/22 14:17	5
Fluoride	<0.220		0.500	0.220	mg/L			10/20/22 14:17	5
Sulfate	263		5.00	2.00	mg/L			10/20/22 14:17	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		10/07/22 09:45	10/17/22 20:45	1
Arsenic	0.0463		0.00200	0.000750	mg/L		10/07/22 09:45	10/17/22 20:45	1
Barium	0.115		0.00200	0.000880	mg/L		10/07/22 09:45	10/17/22 20:45	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/07/22 09:45	10/17/22 20:45	1
Boron	2.43		0.100	0.0580	mg/L		10/07/22 09:45	10/17/22 20:45	1
Cadmium	<0.0000550		0.000100	0.0000550	mg/L		10/07/22 09:45	10/17/22 20:45	1
Calcium	163		0.500	0.190	mg/L		10/07/22 09:45	10/17/22 20:45	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/07/22 09:45	10/17/22 20:45	1
Cobalt	0.00145		0.000500	0.000190	mg/L		10/07/22 09:45	10/17/22 20:45	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/07/22 09:45	10/17/22 20:45	1
Lithium	0.0410		0.0100	0.00250	mg/L		10/07/22 09:45	10/17/22 20:45	1
Molybdenum	0.00182	J	0.00200	0.00120	mg/L		10/07/22 09:45	10/17/22 20:45	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/07/22 09:45	10/17/22 20:45	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/07/22 09:45	10/17/22 20:45	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		10/14/22 14:43	10/17/22 13:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	874		50.0	26.0	mg/L			10/07/22 16:28	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-241712-1
Project/Site: Nebraska City Unit 1 CCR

Client Sample ID: NC1MW4
Lab Sample ID: 310-241712-3
Date Collected: 10/04/22 10:39
Matrix: Water
Date Received: 10/05/22 16:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.19		5.00	2.25	mg/L			10/20/22 14:29	5
Fluoride	<0.220		0.500	0.220	mg/L			10/20/22 14:29	5
Sulfate	196		5.00	2.00	mg/L			10/20/22 14:29	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		10/07/22 09:45	10/17/22 20:48	1
Arsenic	0.00125	J	0.00200	0.000750	mg/L		10/07/22 09:45	10/17/22 20:48	1
Barium	0.111		0.00200	0.000880	mg/L		10/07/22 09:45	10/17/22 20:48	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/07/22 09:45	10/17/22 20:48	1
Boron	1.96		0.100	0.0580	mg/L		10/07/22 09:45	10/17/22 20:48	1
Cadmium	0.000134		0.000100	0.0000550	mg/L		10/07/22 09:45	10/17/22 20:48	1
Calcium	122		0.500	0.190	mg/L		10/07/22 09:45	10/17/22 20:48	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/07/22 09:45	10/17/22 20:48	1
Cobalt	0.00190		0.000500	0.000190	mg/L		10/07/22 09:45	10/17/22 20:48	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/07/22 09:45	10/17/22 20:48	1
Lithium	0.0208		0.0100	0.00250	mg/L		10/07/22 09:45	10/17/22 20:48	1
Molybdenum	0.00996		0.00200	0.00120	mg/L		10/07/22 09:45	10/17/22 20:48	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/07/22 09:45	10/17/22 20:48	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/07/22 09:45	10/17/22 20:48	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		10/14/22 14:43	10/17/22 13:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	548		50.0	26.0	mg/L			10/07/22 16:28	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-241712-1
Project/Site: Nebraska City Unit 1 CCR

Client Sample ID: NC1MW9
Lab Sample ID: 310-241712-4
Date Collected: 10/04/22 12:31
Matrix: Water
Date Received: 10/05/22 16:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.03		5.00	2.25	mg/L			10/20/22 14:41	5
Fluoride	<0.220		0.500	0.220	mg/L			10/20/22 14:41	5
Sulfate	140		5.00	2.00	mg/L			10/20/22 14:41	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		10/07/22 09:45	10/17/22 20:52	1
Arsenic	0.0222		0.00200	0.000750	mg/L		10/07/22 09:45	10/17/22 20:52	1
Barium	0.146		0.00200	0.000880	mg/L		10/07/22 09:45	10/17/22 20:52	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/07/22 09:45	10/17/22 20:52	1
Boron	0.790		0.100	0.0580	mg/L		10/07/22 09:45	10/17/22 20:52	1
Cadmium	<0.0000550		0.000100	0.0000550	mg/L		10/07/22 09:45	10/17/22 20:52	1
Calcium	156		0.500	0.190	mg/L		10/07/22 09:45	10/17/22 20:52	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/07/22 09:45	10/17/22 20:52	1
Cobalt	0.00153		0.000500	0.000190	mg/L		10/07/22 09:45	10/17/22 20:52	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/07/22 09:45	10/17/22 20:52	1
Lithium	0.0346		0.0100	0.00250	mg/L		10/07/22 09:45	10/17/22 20:52	1
Molybdenum	0.0179		0.00200	0.00120	mg/L		10/07/22 09:45	10/17/22 20:52	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/07/22 09:45	10/17/22 20:52	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/07/22 09:45	10/17/22 20:52	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		10/14/22 14:43	10/17/22 13:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	718		50.0	26.0	mg/L			10/07/22 16:28	1

Client Sample Results

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

Job ID: 310-241712-1

Client Sample ID: MW11
Date Collected: 10/03/22 19:14
Date Received: 10/05/22 16:50

Lab Sample ID: 310-241712-5
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.64		5.00	2.25	mg/L			10/20/22 14:54	5
Fluoride	<0.220		0.500	0.220	mg/L			10/20/22 14:54	5
Sulfate	3.70	J	5.00	2.00	mg/L			10/20/22 14:54	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		10/07/22 09:45	10/17/22 20:55	1
Arsenic	0.0170		0.00200	0.000750	mg/L		10/07/22 09:45	10/17/22 20:55	1
Barium	0.252		0.00200	0.000880	mg/L		10/07/22 09:45	10/17/22 20:55	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/07/22 09:45	10/17/22 20:55	1
Boron	0.371		0.100	0.0580	mg/L		10/07/22 09:45	10/17/22 20:55	1
Cadmium	<0.0000550		0.000100	0.0000550	mg/L		10/07/22 09:45	10/17/22 20:55	1
Calcium	72.8		0.500	0.190	mg/L		10/07/22 09:45	10/17/22 20:55	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/07/22 09:45	10/17/22 20:55	1
Cobalt	0.00108		0.000500	0.000190	mg/L		10/07/22 09:45	10/17/22 20:55	1
Lead	0.000783		0.000500	0.000240	mg/L		10/07/22 09:45	10/17/22 20:55	1
Lithium	0.00264	J	0.0100	0.00250	mg/L		10/07/22 09:45	10/17/22 20:55	1
Molybdenum	0.00370		0.00200	0.00120	mg/L		10/07/22 09:45	10/17/22 20:55	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/07/22 09:45	10/17/22 20:55	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/07/22 09:45	10/17/22 20:55	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		10/14/22 14:43	10/17/22 13:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	302		50.0	26.0	mg/L			10/06/22 13:40	1

Client Sample Results

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

Job ID: 310-241712-1

Client Sample ID: MW14
Date Collected: 10/03/22 10:26
Date Received: 10/05/22 16:50

Lab Sample ID: 310-241712-6
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.36		5.00	2.25	mg/L			10/20/22 15:06	5
Fluoride	<0.220		0.500	0.220	mg/L			10/20/22 15:06	5
Sulfate	3.29	J	5.00	2.00	mg/L			10/20/22 15:06	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		10/07/22 09:45	10/17/22 20:59	1
Arsenic	0.0768		0.00200	0.000750	mg/L		10/07/22 09:45	10/17/22 20:59	1
Barium	0.324		0.00200	0.000880	mg/L		10/07/22 09:45	10/17/22 20:59	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/07/22 09:45	10/17/22 20:59	1
Boron	0.282		0.100	0.0580	mg/L		10/07/22 09:45	10/17/22 20:59	1
Cadmium	<0.0000550		0.000100	0.0000550	mg/L		10/07/22 09:45	10/17/22 20:59	1
Calcium	151		0.500	0.190	mg/L		10/07/22 09:45	10/17/22 20:59	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/07/22 09:45	10/17/22 20:59	1
Cobalt	0.000351	J	0.000500	0.000190	mg/L		10/07/22 09:45	10/17/22 20:59	1
Lead	0.000277	J	0.000500	0.000240	mg/L		10/07/22 09:45	10/17/22 20:59	1
Lithium	0.0516		0.0100	0.00250	mg/L		10/07/22 09:45	10/17/22 20:59	1
Molybdenum	<0.00120		0.00200	0.00120	mg/L		10/07/22 09:45	10/17/22 20:59	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/07/22 09:45	10/17/22 20:59	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/07/22 09:45	10/17/22 20:59	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		10/14/22 14:43	10/17/22 13:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	670		50.0	26.0	mg/L			10/06/22 13:40	1

Client Sample ID: DUP1
Lab Sample ID: 310-241712-7
Date Collected: 10/04/22 00:00
Matrix: Water
Date Received: 10/05/22 16:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.03		5.00	2.25	mg/L			10/20/22 15:18	5
Fluoride	<0.220		0.500	0.220	mg/L			10/20/22 15:18	5
Sulfate	140		5.00	2.00	mg/L			10/20/22 15:18	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		10/07/22 09:45	10/17/22 21:02	1
Arsenic	0.0229		0.00200	0.000750	mg/L		10/07/22 09:45	10/17/22 21:02	1
Barium	0.149		0.00200	0.000880	mg/L		10/07/22 09:45	10/17/22 21:02	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/07/22 09:45	10/17/22 21:02	1
Boron	0.752		0.100	0.0580	mg/L		10/07/22 09:45	10/17/22 21:02	1
Cadmium	<0.0000550		0.000100	0.0000550	mg/L		10/07/22 09:45	10/17/22 21:02	1
Calcium	156		0.500	0.190	mg/L		10/07/22 09:45	10/17/22 21:02	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/07/22 09:45	10/17/22 21:02	1
Cobalt	0.00159		0.000500	0.000190	mg/L		10/07/22 09:45	10/17/22 21:02	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/07/22 09:45	10/17/22 21:02	1
Lithium	0.0361		0.0100	0.00250	mg/L		10/07/22 09:45	10/17/22 21:02	1
Molybdenum	0.0181		0.00200	0.00120	mg/L		10/07/22 09:45	10/17/22 21:02	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/07/22 09:45	10/17/22 21:02	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/07/22 09:45	10/17/22 21:02	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		10/14/22 14:43	10/17/22 14:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	730		50.0	26.0	mg/L			10/07/22 16:28	1

Qualifiers

HPLC/IC

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

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-369332/3
Matrix: Water
Analysis Batch: 369332

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.450		1.00	0.450	mg/L			10/20/22 09:50	1
Fluoride	<0.0440		0.100	0.0440	mg/L			10/20/22 09:50	1
Sulfate	<0.400		1.00	0.400	mg/L			10/20/22 09:50	1

Lab Sample ID: LCS 310-369332/4
Matrix: Water
Analysis Batch: 369332

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.907		mg/L		99	90 - 110
Fluoride	2.00	2.125		mg/L		106	90 - 110
Sulfate	10.0	10.44		mg/L		104	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-367783/1-A
Matrix: Water
Analysis Batch: 368920

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 367783

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		10/07/22 09:45	10/17/22 18:28	1
Arsenic	<0.000750		0.00200	0.000750	mg/L		10/07/22 09:45	10/17/22 18:28	1
Barium	<0.000880		0.00200	0.000880	mg/L		10/07/22 09:45	10/17/22 18:28	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/07/22 09:45	10/17/22 18:28	1
Boron	<0.0580		0.100	0.0580	mg/L		10/07/22 09:45	10/17/22 18:28	1
Cadmium	<0.0000550		0.000100	0.0000550	mg/L		10/07/22 09:45	10/17/22 18:28	1
Calcium	<0.190		0.500	0.190	mg/L		10/07/22 09:45	10/17/22 18:28	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/07/22 09:45	10/17/22 18:28	1
Cobalt	<0.000190		0.000500	0.000190	mg/L		10/07/22 09:45	10/17/22 18:28	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/07/22 09:45	10/17/22 18:28	1
Lithium	<0.00250		0.0100	0.00250	mg/L		10/07/22 09:45	10/17/22 18:28	1
Molybdenum	<0.00120		0.00200	0.00120	mg/L		10/07/22 09:45	10/17/22 18:28	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/07/22 09:45	10/17/22 18:28	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/07/22 09:45	10/17/22 18:28	1

Lab Sample ID: LCS 310-367783/2-A
Matrix: Water
Analysis Batch: 368920

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 367783

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.1872		mg/L		94	80 - 120
Arsenic	0.200	0.1926		mg/L		96	80 - 120
Barium	0.100	0.09836		mg/L		98	80 - 120
Beryllium	0.100	0.1057		mg/L		106	80 - 120
Boron	0.200	0.1993		mg/L		100	80 - 120
Cadmium	0.100	0.09815		mg/L		98	80 - 120
Calcium	2.00	1.979		mg/L		99	80 - 120
Chromium	0.100	0.09547		mg/L		95	80 - 120
Cobalt	0.100	0.09942		mg/L		99	80 - 120

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

Lab Sample ID: LCS 310-367783/2-A
Matrix: Water
Analysis Batch: 368920

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 367783

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	0.200	0.2054		mg/L		103	80 - 120
Lithium	0.200	0.1941		mg/L		97	80 - 120
Molybdenum	0.200	0.1924		mg/L		96	80 - 120
Selenium	0.400	0.3578		mg/L		89	80 - 120
Thallium	0.200	0.2064		mg/L		103	80 - 120

Lab Sample ID: 310-241712-1 MS
Matrix: Water
Analysis Batch: 368920

Client Sample ID: NC1MW2
Prep Type: Total/NA
Prep Batch: 367783

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.000699	J	0.200	0.2039		mg/L		102	75 - 125
Arsenic	0.000978	J	0.200	0.2045		mg/L		102	75 - 125
Barium	0.194		0.100	0.2991		mg/L		105	75 - 125
Beryllium	<0.000270		0.100	0.1065		mg/L		107	75 - 125
Boron	1.30		0.200	1.552	4	mg/L		124	75 - 125
Cadmium	0.000131		0.100	0.09930		mg/L		99	75 - 125
Calcium	127		2.00	132.7	4	mg/L		299	75 - 125
Chromium	<0.00110		0.100	0.09577		mg/L		96	75 - 125
Cobalt	0.000218	J	0.100	0.09748		mg/L		97	75 - 125
Lead	0.000403	J	0.200	0.1991		mg/L		99	75 - 125
Lithium	0.0163		0.200	0.2212		mg/L		102	75 - 125
Molybdenum	0.0654		0.200	0.2810		mg/L		108	75 - 125
Selenium	0.00418	J	0.400	0.3853		mg/L		95	75 - 125
Thallium	0.000597	J	0.200	0.2018		mg/L		101	75 - 125

Lab Sample ID: 310-241712-1 MSD
Matrix: Water
Analysis Batch: 368920

Client Sample ID: NC1MW2
Prep Type: Total/NA
Prep Batch: 367783

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.000699	J	0.200	0.2040		mg/L		102	75 - 125	0	20
Arsenic	0.000978	J	0.200	0.2047		mg/L		102	75 - 125	0	20
Barium	0.194		0.100	0.2938		mg/L		100	75 - 125	2	20
Beryllium	<0.000270		0.100	0.1069		mg/L		107	75 - 125	0	20
Boron	1.30		0.200	1.588	4	mg/L		142	75 - 125	2	20
Cadmium	0.000131		0.100	0.09881		mg/L		99	75 - 125	0	20
Calcium	127		2.00	132.2	4	mg/L		269	75 - 125	0	20
Chromium	<0.00110		0.100	0.09647		mg/L		96	75 - 125	1	20
Cobalt	0.000218	J	0.100	0.09678		mg/L		97	75 - 125	1	20
Lead	0.000403	J	0.200	0.2004		mg/L		100	75 - 125	1	20
Lithium	0.0163		0.200	0.2195		mg/L		102	75 - 125	1	20
Molybdenum	0.0654		0.200	0.2830		mg/L		109	75 - 125	1	20
Selenium	0.00418	J	0.400	0.3865		mg/L		96	75 - 125	0	20
Thallium	0.000597	J	0.200	0.2047		mg/L		102	75 - 125	1	20

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

Job ID: 310-241712-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-368712/1-A
Matrix: Water
Analysis Batch: 368870

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 368712

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		10/14/22 14:43	10/17/22 13:06	1

Lab Sample ID: LCS 310-368712/2-A
Matrix: Water
Analysis Batch: 368870

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 368712

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001581		mg/L		95	80 - 120

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

Lab Sample ID: MB 310-367788/1
Matrix: Water
Analysis Batch: 367788

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26.0		50.0	26.0	mg/L			10/06/22 13:40	1

Lab Sample ID: LCS 310-367788/2
Matrix: Water
Analysis Batch: 367788

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	976.0		mg/L		98	90 - 110

Lab Sample ID: 310-241712-6 DU
Matrix: Water
Analysis Batch: 367788

Client Sample ID: MW14
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	670		682.0		mg/L		2	20

Lab Sample ID: MB 310-367956/1
Matrix: Water
Analysis Batch: 367956

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26.0		50.0	26.0	mg/L			10/07/22 16:28	1

Lab Sample ID: LCS 310-367956/2
Matrix: Water
Analysis Batch: 367956

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	944.0		mg/L		94	90 - 110

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

Job ID: 310-241712-1

HPLC/IC

Analysis Batch: 369332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241712-1	NC1MW2	Total/NA	Water	9056A	
310-241712-2	NC1MW3	Total/NA	Water	9056A	
310-241712-3	NC1MW4	Total/NA	Water	9056A	
310-241712-4	NC1MW9	Total/NA	Water	9056A	
310-241712-5	MW11	Total/NA	Water	9056A	
310-241712-6	MW14	Total/NA	Water	9056A	
310-241712-7	DUP1	Total/NA	Water	9056A	
MB 310-369332/3	Method Blank	Total/NA	Water	9056A	
LCS 310-369332/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 367783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241712-1	NC1MW2	Total/NA	Water	3005A	
310-241712-2	NC1MW3	Total/NA	Water	3005A	
310-241712-3	NC1MW4	Total/NA	Water	3005A	
310-241712-4	NC1MW9	Total/NA	Water	3005A	
310-241712-5	MW11	Total/NA	Water	3005A	
310-241712-6	MW14	Total/NA	Water	3005A	
310-241712-7	DUP1	Total/NA	Water	3005A	
MB 310-367783/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-367783/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-241712-1 MS	NC1MW2	Total/NA	Water	3005A	
310-241712-1 MSD	NC1MW2	Total/NA	Water	3005A	

Prep Batch: 368712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241712-1	NC1MW2	Total/NA	Water	7470A	
310-241712-2	NC1MW3	Total/NA	Water	7470A	
310-241712-3	NC1MW4	Total/NA	Water	7470A	
310-241712-4	NC1MW9	Total/NA	Water	7470A	
310-241712-5	MW11	Total/NA	Water	7470A	
310-241712-6	MW14	Total/NA	Water	7470A	
310-241712-7	DUP1	Total/NA	Water	7470A	
MB 310-368712/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-368712/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 368870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241712-1	NC1MW2	Total/NA	Water	7470A	368712
310-241712-2	NC1MW3	Total/NA	Water	7470A	368712
310-241712-3	NC1MW4	Total/NA	Water	7470A	368712
310-241712-4	NC1MW9	Total/NA	Water	7470A	368712
310-241712-5	MW11	Total/NA	Water	7470A	368712
310-241712-6	MW14	Total/NA	Water	7470A	368712
310-241712-7	DUP1	Total/NA	Water	7470A	368712
MB 310-368712/1-A	Method Blank	Total/NA	Water	7470A	368712
LCS 310-368712/2-A	Lab Control Sample	Total/NA	Water	7470A	368712

QC Association Summary

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

Job ID: 310-241712-1

Metals

Analysis Batch: 368920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241712-1	NC1MW2	Total/NA	Water	6020A	367783
310-241712-2	NC1MW3	Total/NA	Water	6020A	367783
310-241712-3	NC1MW4	Total/NA	Water	6020A	367783
310-241712-4	NC1MW9	Total/NA	Water	6020A	367783
310-241712-5	MW11	Total/NA	Water	6020A	367783
310-241712-6	MW14	Total/NA	Water	6020A	367783
310-241712-7	DUP1	Total/NA	Water	6020A	367783
MB 310-367783/1-A	Method Blank	Total/NA	Water	6020A	367783
LCS 310-367783/2-A	Lab Control Sample	Total/NA	Water	6020A	367783
310-241712-1 MS	NC1MW2	Total/NA	Water	6020A	367783
310-241712-1 MSD	NC1MW2	Total/NA	Water	6020A	367783

General Chemistry

Analysis Batch: 367788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241712-5	MW11	Total/NA	Water	SM 2540C	
310-241712-6	MW14	Total/NA	Water	SM 2540C	
MB 310-367788/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-367788/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-241712-6 DU	MW14	Total/NA	Water	SM 2540C	

Analysis Batch: 367956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241712-1	NC1MW2	Total/NA	Water	SM 2540C	
310-241712-2	NC1MW3	Total/NA	Water	SM 2540C	
310-241712-3	NC1MW4	Total/NA	Water	SM 2540C	
310-241712-4	NC1MW9	Total/NA	Water	SM 2540C	
310-241712-7	DUP1	Total/NA	Water	SM 2540C	
MB 310-367956/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-367956/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Lab Chronicle

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

Job ID: 310-241712-1

Client Sample ID: NC1MW2 — **Lab Sample ID: 310-241712-1**
Date Collected: 10/04/22 10:01 — **Matrix: Water**
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	369332	J7CK	EET CF	10/20/22 14:05
Total/NA	Prep	3005A			367783	QTZ5	EET CF	10/07/22 09:45
Total/NA	Analysis	6020A		1	368920	A6US	EET CF	10/17/22 18:35
Total/NA	Prep	7470A			368712	XXW3	EET CF	10/14/22 14:43
Total/NA	Analysis	7470A		1	368870	XXW3	EET CF	10/17/22 13:44
Total/NA	Analysis	SM 2540C		1	367956	ENB7	EET CF	10/07/22 16:28

Client Sample ID: NC1MW3 — **Lab Sample ID: 310-241712-2**
Date Collected: 10/04/22 11:34 — **Matrix: Water**
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	369332	J7CK	EET CF	10/20/22 14:17
Total/NA	Prep	3005A			367783	QTZ5	EET CF	10/07/22 09:45
Total/NA	Analysis	6020A		1	368920	A6US	EET CF	10/17/22 20:45
Total/NA	Prep	7470A			368712	XXW3	EET CF	10/14/22 14:43
Total/NA	Analysis	7470A		1	368870	XXW3	EET CF	10/17/22 13:46
Total/NA	Analysis	SM 2540C		1	367956	ENB7	EET CF	10/07/22 16:28

Client Sample ID: NC1MW4 — **Lab Sample ID: 310-241712-3**
Date Collected: 10/04/22 10:39 — **Matrix: Water**
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	369332	J7CK	EET CF	10/20/22 14:29
Total/NA	Prep	3005A			367783	QTZ5	EET CF	10/07/22 09:45
Total/NA	Analysis	6020A		1	368920	A6US	EET CF	10/17/22 20:48
Total/NA	Prep	7470A			368712	XXW3	EET CF	10/14/22 14:43
Total/NA	Analysis	7470A		1	368870	XXW3	EET CF	10/17/22 13:53
Total/NA	Analysis	SM 2540C		1	367956	ENB7	EET CF	10/07/22 16:28

Client Sample ID: NC1MW9 — **Lab Sample ID: 310-241712-4**
Date Collected: 10/04/22 12:31 — **Matrix: Water**
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	369332	J7CK	EET CF	10/20/22 14:41
Total/NA	Prep	3005A			367783	QTZ5	EET CF	10/07/22 09:45
Total/NA	Analysis	6020A		1	368920	A6US	EET CF	10/17/22 20:52
Total/NA	Prep	7470A			368712	XXW3	EET CF	10/14/22 14:43
Total/NA	Analysis	7470A		1	368870	XXW3	EET CF	10/17/22 13:55
Total/NA	Analysis	SM 2540C		1	367956	ENB7	EET CF	10/07/22 16:28

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-241712-1
Project/Site: Nebraska City Unit 1 CCR

Client Sample ID: MW11
Lab Sample ID: 310-241712-5
Date Collected: 10/03/22 19:14
Matrix: Water
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	369332	J7CK	EET CF	10/20/22 14:54
Total/NA	Prep	3005A			367783	QTZ5	EET CF	10/07/22 09:45
Total/NA	Analysis	6020A		1	368920	A6US	EET CF	10/17/22 20:55
Total/NA	Prep	7470A			368712	XXW3	EET CF	10/14/22 14:43
Total/NA	Analysis	7470A		1	368870	XXW3	EET CF	10/17/22 13:57
Total/NA	Analysis	SM 2540C		1	367788	ENB7	EET CF	10/06/22 13:40

Client Sample ID: MW14
Lab Sample ID: 310-241712-6
Date Collected: 10/03/22 10:26
Matrix: Water
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	369332	J7CK	EET CF	10/20/22 15:06
Total/NA	Prep	3005A			367783	QTZ5	EET CF	10/07/22 09:45
Total/NA	Analysis	6020A		1	368920	A6US	EET CF	10/17/22 20:59
Total/NA	Prep	7470A			368712	XXW3	EET CF	10/14/22 14:43
Total/NA	Analysis	7470A		1	368870	XXW3	EET CF	10/17/22 13:59
Total/NA	Analysis	SM 2540C		1	367788	ENB7	EET CF	10/06/22 13:40

Client Sample ID: DUP1
Lab Sample ID: 310-241712-7
Date Collected: 10/04/22 00:00
Matrix: Water
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	369332	J7CK	EET CF	10/20/22 15:18
Total/NA	Prep	3005A			367783	QTZ5	EET CF	10/07/22 09:45
Total/NA	Analysis	6020A		1	368920	A6US	EET CF	10/17/22 21:02
Total/NA	Prep	7470A			368712	XXW3	EET CF	10/14/22 14:43
Total/NA	Analysis	7470A		1	368870	XXW3	EET CF	10/17/22 14:01
Total/NA	Analysis	SM 2540C		1	367956	ENB7	EET CF	10/07/22 16:28

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-241712-1
Project/Site: Nebraska City Unit 1 CCR

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	11-29-22
Iowa	State	007	12-02-22
Kansas	NELAP	E-10341	01-31-23
Minnesota	NELAP	019-999-319	12-31-22
Minnesota (Petrofund)	State	3349	01-18-24
North Dakota	State	R-186	09-29-22 *
Oregon	NELAP	IA100001	09-29-23

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

Method Summary

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

Job ID: 310-241712-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020A	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF

Protocol References:

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

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

Laboratory References:

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

eurofins | Environment Testing America

310-241712 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Ohmaha Public Power

City/State: CITY Omaha STATE NE Project:

Receipt Information

Date/Time Received: DATE 10-5-22 TIME 10:50 Received By: EH

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

Condition of Cooler/Containers

Sample(s) received in Cooler? ☑ Yes ☐ No *If yes:* Cooler ID: 1 of 2

Multiple Coolers? ☑ Yes ☐ No *If yes:* Cooler # 2 of 8

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

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

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

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: ☐ NONE

Thermometer ID: 2 Correction Factor (°C): 0

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

Uncorrected Temp (°C): 1.7 Corrected Temp (°C): 1.7

• Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

Document CED-P-SAM-FRM45521
Revision 26
Date: 27 Jan 2022

Eurofins Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

eurofins | Environment Testing America

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

City/State: CITY Omaha STATE NE | Project:

Receipt Information

Date/Time Received: DATE 10-5-22 TIME 16:50 | Received By: EH

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

Condition of Cooler/Containers

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

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:______ ☐ NONE

Thermometer ID: R | Correction Factor (°C): 0

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

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

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:	250mL Nitric Bottle	
Uncorrected Temp (°C):	1.0	
Corrected Temp (°C):	1.0	

Exceptions Noted

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

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

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

Additional Comments

Document CED-P-SAM-FRM45521
Revision 26
Date 27 Jan 2022

Eurofins Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

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

Chain of Custody Record

TestAmerica Omaha SC 268 — TestAmerica

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

Sampler: Kyle K. Uhing; Phone: (402) 226-2515; Due Date Requested:; TAT Requested (days):; PO #:; WO #:; TestAmerica Project #: 31007558; SSOW#:

Lab PM: Hayes, Shawn M; E-Mail: shawn hayes@testamericainc.com; Carrier Tracking No(s):; COC No:; Page:; Job #:

Analysis Requested: Field Filtered Sample (Yes or No); Perform MS/MSD (Yes or No); 9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228; Total 6020A CCR Appendix III and IV, 7470A Mercury; 2540C TDS, 9056A Chloride, Fluoride, Sulfate

Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify), Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered	MS/MSD	9315/9320 Ra226/Ra228	6020A/7470A	2540C/9056A	Total Number of containers	Special Instructions/Note
			Preservation Code:				D	D	N		
NC1MW2	10/4/22	10:20	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW3	10/4/22	11:34	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW4	10/4/22	10:39	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW9	10/4/22	12:31	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW11	10/3/22	19:14	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW14	10/3/22	10:26	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
DUP1	10/4/22	—	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents

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

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

Deliverable Requested: I, II, III, IV, Other (specify) | Special Instructions/QC Requirements:

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Kyle K. Uhing (signature)	10/4/2022 15:37	OPPD	(signature)	10-4-22 1545	EF
(signature)	10-5-22 1545	EF	MC	10-5-22 1650	
				10-5-22	

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

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-241712-1

Login Number: 241712
List Number: 1
Creator: Costello, Mackenzie K

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	

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-241716-1
Client Project/Site: Nebraska City Unit 1 & 2 CCR

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

Attn: Kyle Uhing

Authorized for release by:
10/21/2022 5:19:36 PM
Brian Graettinger, Lab Director
(319)595-2012
Brian.Graettinger@et.eurofinsus.com

Designee for

Shirley Thompson, Client Service Manager
(319)277-2401
Shirley.Thompson@et.eurofinsus.com

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

Table of Contents

Case Narrative

Job ID: 310-241716-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-241716-1

Comments
No additional comments.

Receipt
The samples were received on 10/5/2022 4:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.6° C.

HPLC/IC
Method 9056A: The following sample was diluted due to the nature of the sample matrix: NC2MW4 (310-241716-1). 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 analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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

Sample Summary

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

Job ID: 310-241716-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-241716-1	NC2MW4	Water	10/04/22 08:14	10/05/22 16:50
310-241716-2	MW13	Water	10/03/22 09:08	10/05/22 16:50

Detection Summary

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

Job ID: 310-241716-1

Client Sample ID: NC2MW4 — Lab Sample ID: 310-241716-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.30		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	37.4		5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.00114	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.347		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	0.160		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.0000600	J	0.000100	0.0000550	mg/L	1		6020A	Total/NA
Calcium	118		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000383	J	0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.000736		0.000500	0.000240	mg/L	1		6020A	Total/NA
Lithium	0.0303		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00422		0.00200	0.00120	mg/L	1		6020A	Total/NA
Total Dissolved Solids	442		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW13 — Lab Sample ID: 310-241716-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.85		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	13.3		5.00	2.00	mg/L	5		9056A	Total/NA
Arsenic	0.0151		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.253		0.00200	0.000880	mg/L	1		6020A	Total/NA
Boron	0.113		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	112		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000419	J	0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0301		0.0100	0.00250	mg/L	1		6020A	Total/NA
Total Dissolved Solids	470		50.0	26.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

Job ID: 310-241716-1

Client Sample ID: MC2Wr 4
Date Cclledte/ : 10\04\22 05:14
Date Redei6e/ : 10\0hv22 1N:h0

Lab Sample ID: 310-24171N-1
Watxio: r atex

Wet8c/ : Sr 54N90hNA - Anicns, Icn C8xcmatcgxap8y

Analyte	Result	Qualifiex	RL	WDL	Unit	D	Pxepaxe/	Analyze/	Dil Fad
C8lcxi/ e	h.30		5.00	2.25	mg/L			10/21/22 05:46	5
Fluoride	<0.220		0.500	0.220	mg/L			10/21/22 05:46	5
Sulfate	37.4		5.00	2.00	mg/L			10/21/22 05:46	5

Wet8c/ : Sr 54NN020A - Wetals (ICPWS)

Analyte	Result	Qualifiex	RL	WDL	Unit	D	Pxepaxe/	Analyze/	Dil Fad
Antimony	<0.000690		0.00200	0.000690	mg/L		10/07/22 09:45	10/17/22 22:06	1
Axsenid	0.00114	J	0.00200	0.000750	mg/L		10/07/22 09:45	10/17/22 22:06	1
Baxium	0.347		0.00200	0.000880	mg/L		10/07/22 09:45	10/17/22 22:06	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/07/22 09:45	10/17/22 22:06	1
Bcxcn	0.1N0		0.100	0.0580	mg/L		10/07/22 09:45	10/17/22 22:06	1
Ca/ mium	0.0000N00	J	0.000100	0.0000550	mg/L		10/07/22 09:45	10/17/22 22:06	1
Caldium	115		0.500	0.190	mg/L		10/07/22 09:45	10/17/22 22:06	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/07/22 09:45	10/17/22 22:06	1
Ccbalt	0.000353	J	0.000500	0.000190	mg/L		10/07/22 09:45	10/17/22 22:06	1
Lea/	0.00073N		0.000500	0.000240	mg/L		10/07/22 09:45	10/17/22 22:06	1
Lit8ium	0.0303		0.0100	0.00250	mg/L		10/07/22 09:45	10/17/22 22:06	1
Wclyb/ enum	0.00422		0.00200	0.00120	mg/L		10/07/22 09:45	10/17/22 22:06	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/07/22 09:45	10/17/22 22:06	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/07/22 09:45	10/17/22 22:06	1

Wet8c/ : Sr 54N7470A - Wexduxy (CTAA)

Analyte	Result	Qualifiex	RL	WDL	Unit	D	Pxepaxe/	Analyze/	Dil Fad
Mercury	<0.000110		0.000200	0.000110	mg/L		10/14/22 14:47	10/17/22 15:34	1

Venexal C8emistxy

Analyte	Result	Qualifiex	RL	WDL	Unit	D	Pxepaxe/	Analyze/	Dil Fad
Gctal Disscl6e/ Scli/ s (SW2h40C)	442		50.0	26.0	mg/L			10/07/22 16:28	1

Client Sample Results

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

Job ID: 310-241716-1

Client Sample ID: Wr 13
Date Cclledte/ : 10\03\22 09:05
Date Redei6e/ : 10\0hv22 1N:h0

Lab Sample ID: 310-24171N-2
Watxio: r atex

Wet8c/ : Sr 54N90hNA - Anicns, Icn C8xcmatcgxap8y

Analyte	Result	Qualifiex	RL	WDL	Unit	D	Pxepaxe/	Analyze/	Dil Fad
C8lcxi/ e	9.5h		5.00	2.25	mg/L			10/21/22 10:44	5
Fluoride	<0.220		0.500	0.220	mg/L			10/21/22 10:44	5
Sulfate	13.3		5.00	2.00	mg/L			10/21/22 10:44	5

Wet8c/ : Sr 54NN020A - Wetals (ICPWS)

Analyte	Result	Qualifiex	RL	WDL	Unit	D	Pxepaxe/	Analyze/	Dil Fad
Antimony	<0.000690		0.00200	0.000690	mg/L		10/07/22 09:45	10/17/22 22:27	1
Axsenid	0.01h1		0.00200	0.000750	mg/L		10/07/22 09:45	10/17/22 22:27	1
Baxium	0.2h3		0.00200	0.000880	mg/L		10/07/22 09:45	10/17/22 22:27	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/07/22 09:45	10/17/22 22:27	1
Bcxcn	0.113		0.100	0.0580	mg/L		10/07/22 09:45	10/17/22 22:27	1
Cadmium	<0.0000550		0.000100	0.0000550	mg/L		10/07/22 09:45	10/17/22 22:27	1
Caldium	112		0.500	0.190	mg/L		10/07/22 09:45	10/17/22 22:27	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/07/22 09:45	10/17/22 22:27	1
Ccbalt	0.000419	J	0.000500	0.000190	mg/L		10/07/22 09:45	10/17/22 22:27	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/07/22 09:45	10/17/22 22:27	1
Lit8ium	0.0301		0.0100	0.00250	mg/L		10/07/22 09:45	10/17/22 22:27	1
Molybdenum	<0.00120		0.00200	0.00120	mg/L		10/07/22 09:45	10/17/22 22:27	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/07/22 09:45	10/17/22 22:27	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/07/22 09:45	10/17/22 22:27	1

Wet8c/ : Sr 54N7470A - Wexduxy (CTAA)

Analyte	Result	Qualifiex	RL	WDL	Unit	D	Pxepaxe/	Analyze/	Dil Fad
Mercury	<0.000110		0.000200	0.000110	mg/L		10/14/22 14:47	10/17/22 15:40	1

Venexal C8emistxy

Analyte	Result	Qualifiex	RL	WDL	Unit	D	Pxepaxe/	Analyze/	Dil Fad
Gctal Disscl6e/ Scli/ s (SW2h40C)	470		50.0	26.0	mg/L			10/06/22 13:40	1

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-241716-1
Project/Site: Nebraska City Unit 1 & 2 CCR

Qualifiers

Metals

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

Glossary

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

QC Sample Results

Client: Omaha Public Power District
Job ID: 310-241716-1
Project/Site: Nebraska City Unit 1 & 2 CCR

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-369261/3
Matrix: Water
Analysis Batch: 369261
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.450		1.00	0.450	mg/L			10/21/22 00:50	1
Fluoride	<0.0440		0.100	0.0440	mg/L			10/21/22 00:50	1
Sulfate	<0.400		1.00	0.400	mg/L			10/21/22 00:50	1

Lab Sample ID: LCS 310-369261/2
Matrix: Water
Analysis Batch: 369261
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	4 Rec	4 Rec Limits
Chloride	10.0	9.263		mg/L		93	90 - 110
Fluoride	2.00	1.884		mg/L		94	90 - 110
Sulfate	10.0	9.452		mg/L		95	90 - 110

Method: 60%0A - Metals (ICP/MS)

Lab Sample ID: MB 310-367783/1-A
Matrix: Water
Analysis Batch: 3689%0
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 367783

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000690		0.00200	0.000690	mg/L		10/07/22 09:45	10/17/22 18:28	1
Arsenic	<0.000750		0.00200	0.000750	mg/L		10/07/22 09:45	10/17/22 18:28	1
Barium	<0.000880		0.00200	0.000880	mg/L		10/07/22 09:45	10/17/22 18:28	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/07/22 09:45	10/17/22 18:28	1
Boron	<0.0580		0.100	0.0580	mg/L		10/07/22 09:45	10/17/22 18:28	1
Cadmium	<0.0000550		0.000100	0.0000550	mg/L		10/07/22 09:45	10/17/22 18:28	1
Calcium	<0.190		0.500	0.190	mg/L		10/07/22 09:45	10/17/22 18:28	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/07/22 09:45	10/17/22 18:28	1
Cobalt	<0.000190		0.000500	0.000190	mg/L		10/07/22 09:45	10/17/22 18:28	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/07/22 09:45	10/17/22 18:28	1
Lithium	<0.00250		0.0100	0.00250	mg/L		10/07/22 09:45	10/17/22 18:28	1
Molybdenum	<0.00120		0.00200	0.00120	mg/L		10/07/22 09:45	10/17/22 18:28	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/07/22 09:45	10/17/22 18:28	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/07/22 09:45	10/17/22 18:28	1

Lab Sample ID: LCS 310-367783/%A
Matrix: Water
Analysis Batch: 3689%0
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 367783

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	4 Rec	4 Rec Limits
Antimony	0.200	0.1872		mg/L		94	80 - 120
Arsenic	0.200	0.1926		mg/L		96	80 - 120
Barium	0.100	0.09836		mg/L		98	80 - 120
Beryllium	0.100	0.1057		mg/L		106	80 - 120
Boron	0.200	0.1993		mg/L		100	80 - 120
Cadmium	0.100	0.09815		mg/L		98	80 - 120
Calcium	2.00	1.979		mg/L		99	80 - 120
Chromium	0.100	0.09547		mg/L		95	80 - 120
Cobalt	0.100	0.09942		mg/L		99	80 - 120

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

Lab Sample ID: LCS 310-367783/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 368920 — **Prep Batch: 367783**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	4 Rec	4 Rec Limits
Lead	0.200	0.2054		mg/L		103	80 - 120
Lithium	0.200	0.1941		mg/L		97	80 - 120
Molybdenum	0.200	0.1924		mg/L		96	80 - 120
Selenium	0.400	0.3578		mg/L		89	80 - 120
Thallium	0.200	0.2064		mg/L		103	80 - 120

Method: 7270A - Mercury (CVAA)

Lab Sample ID: MB 310-368713/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 368887 — **Prep Batch: 368713**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000110		0.000200	0.000110	mg/L		10/14/22 14:47	10/17/22 14:53	1

Lab Sample ID: LCS 310-368713/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 368887 — **Prep Batch: 368713**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	4 Rec	4 Rec Limits
Mercury	0.00167	0.001567		mg/L		94	80 - 120

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

Lab Sample ID: MB 310-367788/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 367788

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26.0		50.0	26.0	mg/L			10/06/22 13:40	1

Lab Sample ID: LCS 310-367788/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 367788

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	4 Rec	4 Rec Limits
Total Dissolved Solids	1000	976.0		mg/L		98	90 - 110

Lab Sample ID: MB 310-367956/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 367956

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26.0		50.0	26.0	mg/L			10/07/22 16:28	1

Lab Sample ID: LCS 310-367956/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 367956

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	4 Rec	4 Rec Limits
Total Dissolved Solids	1000	944.0		mg/L		94	90 - 110

HPLC/IC

Analysis Batch: 369461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241716-1	NC2MW4	Total/NA	Water	9056A	
310-241716-2	MW13	Total/NA	Water	9056A	
MB 310-369461/3	Method Blank	Total/NA	Water	9056A	
LCS 310-369461/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 367783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241716-1	NC2MW4	Total/NA	Water	3005A	
310-241716-2	MW13	Total/NA	Water	3005A	
MB 310-367783/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-367783/2-A	Lab Control Sample	Total/NA	Water	3005A	

Prep Batch: 368713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241716-1	NC2MW4	Total/NA	Water	7470A	
310-241716-2	MW13	Total/NA	Water	7470A	
MB 310-368713/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-368713/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 368887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241716-1	NC2MW4	Total/NA	Water	7470A	368713
310-241716-2	MW13	Total/NA	Water	7470A	368713
MB 310-368713/1-A	Method Blank	Total/NA	Water	7470A	368713
LCS 310-368713/2-A	Lab Control Sample	Total/NA	Water	7470A	368713

Analysis Batch: 368920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241716-1	NC2MW4	Total/NA	Water	6020A	367783
310-241716-2	MW13	Total/NA	Water	6020A	367783
MB 310-367783/1-A	Method Blank	Total/NA	Water	6020A	367783
LCS 310-367783/2-A	Lab Control Sample	Total/NA	Water	6020A	367783

General Chemistry

Analysis Batch: 367788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241716-2	MW13	Total/NA	Water	SM 2540C	
MB 310-367788/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-367788/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 367956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241716-1	NC2MW4	Total/NA	Water	SM 2540C	
MB 310-367956/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-367956/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-241716-1
Project/Site: Nebraska City Unit 1 & 2 CCR

Client Sample ID: NC2MW4
Lab Sample ID: 310-241716-1
Date Collected: 10/04/22 08:14
Matrix: Water
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	369461	DHM5	EET CF	10/21/22 05:46
Total/NA	Prep	3005A			367783	QTZ5	EET CF	10/07/22 09:45
Total/NA	Analysis	6020A		1	368920	A6US	EET CF	10/17/22 22:06
Total/NA	Prep	7470A			368713	XXW3	EET CF	10/14/22 14:47
Total/NA	Analysis	7470A		1	368887	XXW3	EET CF	10/17/22 15:34
Total/NA	Analysis	SM 2540C		1	367956	ENB7	EET CF	10/07/22 16:28

Client Sample ID: MW13
Lab Sample ID: 310-241716-2
Date Collected: 10/03/22 09:08
Matrix: Water
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	369461	DHM5	EET CF	10/21/22 10:44
Total/NA	Prep	3005A			367783	QTZ5	EET CF	10/07/22 09:45
Total/NA	Analysis	6020A		1	368920	A6US	EET CF	10/17/22 22:27
Total/NA	Prep	7470A			368713	XXW3	EET CF	10/14/22 14:47
Total/NA	Analysis	7470A		1	368887	XXW3	EET CF	10/17/22 15:40
Total/NA	Analysis	SM 2540C		1	367788	ENB7	EET CF	10/06/22 13:40

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-241716-1
Project/Site: Nebraska City Unit 1 & 2 CCR

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	11-29-22
Iowa	State	007	12-02-22
Kansas	NELAP	E-10341	01-31-23
Minnesota	NELAP	019-999-319	12-31-22
Minnesota (Petrofund)	State	3349	01-18-24
North Dakota	State	R-186	09-29-22 *
Oregon	NELAP	IA100001	09-29-23

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

Method Summary

Client: Omaha Public Power District
Job ID: 310-241716-1
Project/Site: Nebraska City Unit 1 & 2 CCR

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020A	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF

Protocol References:

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

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

Laboratory References:

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

eurofins | Environment Testing America

310-241716 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Ohmaha Public Power

City/State: CITY Omaha STATE NE Project:

Receipt Information

Date/Time Received: DATE 10-5-22 TIME 10:50 Received By: EH

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

Condition of Cooler/Containers

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

Multiple Coolers? ☐ Yes ☑ No *If yes:* Cooler # 4 of 5

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

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

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

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: ☐ NONE

Thermometer ID: 2 Correction Factor (°C): 0

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

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

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:	250mL Plastic Nitric	
Uncorrected Temp (°C):	0.6	
Corrected Temp (°C):	0.6	

Exceptions Noted

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

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

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

Additional Comments

Document. CED-P-SAM-FRM45521
Revision 26
Date 27 Jan 2022

Eurofins Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

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

Chain of Custody Record

TestAmerica

Client Information	Sampler: Kyle K. Uhing	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: Kyle Uhing	Phone: (531) 226-2515	E-Mail: shawn.hayes@testamericainc.com		Page:
Company: Omaha Public Power District		Analysis Requested		Job #:
Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:			Preservation Codes:
City: Omaha	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify)
State, Zip: NE, 68102-2247				
Phone: (531) 226-2515	PO #:			
Email: kkuhing@oppd.com	WO #:			Other:
Project Name: Nebraska City Station Unit 1 & 2 CCR / Landfill	TestAmerica Project #: 31007559			
Site: Nebraska City Station Unit 1 & 2	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Wwater Swsolid, Owaste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N		
NC2MW4	10/4/22	9:14	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW13	10/3/22	9:08	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:				
Relinquished by: Kyle K. Uhing	Date/Time: 10/4/2022 1537	Company: OPPD	Received by:	Date/Time: 10-4-22 1545	Company: EI
Relinquished by:	Date/Time: 10-5-22 0800	Company: EI	Received by: MC	Date/Time: 10-5-22 1650	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No:

Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-241711-1

Login Number: 241716
List Number: 1
Creator: Costello, Mackenzie K

List Source: Eurofins Cedar Falls

Question	Answer	Comment
d avioactivit' wasnk chec<ev or is =Ag bac< rounv as measurev b' a sunye' meterT	N/R	
, he coolerfe custov' sealf ipSesentf is intactT	N/R	
I amSle custov' sealsf ipSesentf are intactT	N/R	
, he cooler or samSles vo not aSSear to haye been comStomisev or tamSerev withT	, rue	
I amSles were receiyev on iceT	, rue	
Cooler , emSerature is acceStableT	, rue	
Cooler , emSerature is recorvevT	, rue	
COC is SesentT	, rue	
COC is pilev out in in<anv le. ibleT	, rue	
COC is pilev out with all Sertinent inpormationT	, rue	
Fs the ?ielv I amSerfe name Sesent on COCH	, rue	
, here are no viscreSancies between the containers receiyev anv the COCT	, rue	
I amSles are receiyev within (olvin. , ime xe) cluvin. tests with immeviate (, sV	, rue	
I amSle containers haye le. ible labelsT	, rue	
Containers are not bro<en or lea<in. T	, rue	
I amSle collection vatefAimes are SoyiyevT	, rue	
RSSoSiate samSle containers are usevT	, rue	
I amSle bottles are comSetef pilevT	, rue	
I amSle Preservation qerifevT	, rue	
, here is suppicient yolTpor all reMuestev anal sesf incfTan reMuestev	, rue	
z I Ar I Ds	, rue	
Containers reMuirin. 6ero 'heavySace haye no heavySace or bubble is =/ mm x1/4"\T	, rue	
z ultiShasic samSles are not SesentT	, rue	
I amSles vo not reMuire sSiitin. or comSositin. T	, rue	
d esivual Chlorine Chec<evT	N/R	

eurofins | Environment Testing

ANALYTICAL REPORT

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

Laboratory Job ID: 310-241712-2
Client Project/Site: Nebraska City Unit 1 CCR

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

Attn: Kyle Uhing

Authorized for release by:
11/10/2022 5:06:36 PM
Brian Graettinger, Lab Director
(319)595-2012
Brian.Graettinger@et.eurofinsus.com

Designee for

Shirley Thompson, Client Service Manager
(319)277-2401
Shirley.Thompson@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

Table of Contents

Case Narrative

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

Job ID: 310-241712-2

Job ID: 310-241712-2

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-241712-2

Comments
No additional comments.

Receipt
The samples were received on 10/5/2022 4:50 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 1.0° C and 1.7° C.

RAD
Methods 903.0, 9315: Radium-226 batch 586466
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 (310-241712-1), NC1MW3 (310-241712-2), NC1MW4 (310-241712-3), NC1MW9 (310-241712-4), MW11 (310-241712-5), MW14 (310-241712-6), DUP1 (310-241712-7), (LCS 160-586466/2-A), (MB 160-586466/1-A), (480-202269-A-1-A) and (480-202269-B-1-A DU)

Method 9320: Radium-228 batch 586471
The detection goal was not met for the following sample(s). Samples was prepped at a reduced volume due to the presence of matrix interferences: MW14 (310-241712-6). Analytical results are reported with the detection limit achieved.

Methods 904.0, 9320: Radium-228 batch 586471
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 (310-241712-1), NC1MW3 (310-241712-2), NC1MW4 (310-241712-3), NC1MW9 (310-241712-4), MW11 (310-241712-5), MW14 (310-241712-6), DUP1 (310-241712-7), (LCS 160-586471/2-A), (MB 160-586471/1-A), (480-202269-A-1-B) and (480-202269-B-1-B DU)

Method PrecSep_0:

Method PrecSep-21:

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

Sample Summary

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

Job ID: 310-241712-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-241712-1	NC1MW2	Water	10/04/22 10:01	10/05/22 16:50
310-241712-2	NC1MW3	Water	10/04/22 11:34	10/05/22 16:50
310-241712-3	NC1MW4	Water	10/04/22 10:39	10/05/22 16:50
310-241712-4	NC1MW9	Water	10/04/22 12:31	10/05/22 16:50
310-241712-5	MW11	Water	10/03/22 19:14	10/05/22 16:50
310-241712-6	MW14	Water	10/03/22 10:26	10/05/22 16:50
310-241712-7	DUP1	Water	10/04/22 00:00	10/05/22 16:50

Detection Summary

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

Job ID: 310-241712-2

Client Sample ID: NC1MW2 — **Lab Sample ID: 310-241712-1**

No Detections.

Client Sample ID: NC1MW3 — **Lab Sample ID: 310-241712-2**

No Detections.

Client Sample ID: NC1MW4 — **Lab Sample ID: 310-241712-3**

No Detections.

Client Sample ID: NC1MW9 — **Lab Sample ID: 310-241712-4**

No Detections.

Client Sample ID: MW11 — **Lab Sample ID: 310-241712-5**

No Detections.

Client Sample ID: MW14 — **Lab Sample ID: 310-241712-6**

No Detections.

Client Sample ID: DUP1 — **Lab Sample ID: 310-241712-7**

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

Job ID: 310-241712-2

Client Sample ID: NC1MW2 — **Lab Sample ID: 310-241712-1**

Date Collected: 10/04/22 10:01
Date Received: 10/05/22 16:50

Matrix: Water

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0757	U	0.0712	0.0715	1.00	0.109	pCi/L	10/19/22 09:46	11/10/22 09:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.9*		*40 - 110*	*10/19/22 09:46*	*11/10/22 09:15*	*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	0.648		0.344	0.349	1.00	0.479	pCi/L	10/19/22 10:22	11/03/22 11:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.9*		*40 - 110*	*10/19/22 10:22*	*11/03/22 11:04*	*1*
Y Carrier	*81.5*		*40 - 110*	*10/19/22 10:22*	*11/03/22 11:04*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.724		0.351	0.356	5.00	0.479	pCi/L		11/10/22 16:20	1

Client Sample Results

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

Job ID: 310-241712-2

Client Sample ID: NC1MW3
Date Collected: 10/04/22 11:34
Date Received: 10/05/22 16:50

Lab Sample ID: 310-241712-2
Matrix: Water

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.132		0.0855	0.0863	1.00	0.114	pCi/L	10/19/22 09:46	11/10/22 09:15	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	88.2		40 - 110	10/19/22 09:46	11/10/22 09:15	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	0.575		0.368	0.372	1.00	0.549	pCi/L	10/19/22 10:22	11/03/22 11:04	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	88.2		40 - 110	10/19/22 10:22	11/03/22 11:04	1
Y Carrier	84.1		40 - 110	10/19/22 10:22	11/03/22 11:04	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.707		0.378	0.382	5.00	0.549	pCi/L		11/10/22 16:20	1

Client Sample Results

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

Job ID: 310-241712-2

Client Sample ID: NC1MW4
Date Collected: 10/04/22 10:39
Date Received: 10/05/22 16:50

Lab Sample ID: 310-241712-3
Matrix: Water

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.125		0.0816	0.0824	1.00	0.110	pCi/L	10/19/22 09:46	11/10/22 09:16	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110	10/19/22 09:46	11/10/22 09:16	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	0.901		0.375	0.384	1.00	0.490	pCi/L	10/19/22 10:22	11/03/22 11:05	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110	10/19/22 10:22	11/03/22 11:05	1
Y Carrier	83.7		40 - 110	10/19/22 10:22	11/03/22 11:05	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.03		0.384	0.393	5.00	0.490	pCi/L		11/10/22 16:20	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-241712-2
Project/Site: Nebraska City Unit 1 CCR

Client Sample ID: NC1MW9
Lab Sample ID: 310-241712-4
Date Collected: 10/04/22 12:31
Matrix: Water
Date Received: 10/05/22 16:50

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.195		0.0898	0.0915	1.00	0.0984	pCi/L	10/19/22 09:46	11/10/22 09:16	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	99.5		40 - 110	10/19/22 09:46	11/10/22 09:16	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	0.776		0.342	0.349	1.00	0.455	pCi/L	10/19/22 10:22	11/03/22 11:05	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	99.5		40 - 110	10/19/22 10:22	11/03/22 11:05	1
Y Carrier	84.9		40 - 110	10/19/22 10:22	11/03/22 11:05	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.972		0.354	0.361	5.00	0.455	pCi/L		11/10/22 16:20	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-241712-2
Project/Site: Nebraska City Unit 1 CCR

Client Sample ID: MW11
Lab Sample ID: 310-241712-5
Date Collected: 10/03/22 19:14
Matrix: Water
Date Received: 10/05/22 16:50

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.115	U	0.121	0.122	1.00	0.190	pCi/L	10/19/22 09:46	11/10/22 09:17	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	97.5		40 - 110	10/19/22 09:46	11/10/22 09:17	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	1.80		0.706	0.725	1.00	0.884	pCi/L	10/19/22 10:22	11/03/22 11:05	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	97.5		40 - 110	10/19/22 10:22	11/03/22 11:05	1
Y Carrier	82.6		40 - 110	10/19/22 10:22	11/03/22 11:05	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.91		0.716	0.735	5.00	0.884	pCi/L		11/10/22 16:20	1

Client Sample Results

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

Job ID: 310-241712-2

Client Sample ID: MW14
Date Collected: 10/03/22 10:26
Date Received: 10/05/22 16:50

Lab Sample ID: 310-241712-6
Matrix: Water

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.636		0.223	0.230	1.00	0.217	pCi/L	10/19/22 09:46	11/10/22 09:17	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.6		40 - 110	10/19/22 09:46	11/10/22 09:17	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	2.48	G	0.832	0.862	1.00	1.01	pCi/L	10/19/22 10:22	11/03/22 11:05	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.6		40 - 110	10/19/22 10:22	11/03/22 11:05	1
Y Carrier	83.0		40 - 110	10/19/22 10:22	11/03/22 11:05	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.11		0.861	0.892	5.00	1.01	pCi/L		11/10/22 16:20	1

Client Sample Results

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

Job ID: 310-241712-2

Client Sample ID: DUP1
Date Collected: 10/04/22 00:00
Date Received: 10/05/22 16:50

Lab Sample ID: 310-241712-7
Matrix: Water

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.263		0.0983	0.101	1.00	0.0861	pCi/L	10/19/22 09:46	11/10/22 09:17	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	98.3		40 - 110	10/19/22 09:46	11/10/22 09:17	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	1.45		0.415	0.436	1.00	0.469	pCi/L	10/19/22 10:22	11/03/22 11:05	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	98.3		40 - 110	10/19/22 10:22	11/03/22 11:05	1
Y Carrier	84.5		40 - 110	10/19/22 10:22	11/03/22 11:05	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.71		0.426	0.448	5.00	0.469	pCi/L		11/10/22 16:20	1

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-241712-2
Project/Site: Nebraska City Unit 1 CCR

Qualifiers

Rad

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

Glossary

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

QC Sample Results

Client: Omaha Public Power District
Job ID: 310-241712-2
Project/Site: Nebraska City Unit 1 CCR

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-586466/1-A
Matrix: Water
Analysis Batch: 589595

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 586466

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra. ium-225	-0l01712	U	0l0373	0l0373	1l00	0l0927	6Ci/p	10/19/22 09:45	11/10/22 09:21	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	109		40 - 110	10/19/22 09:46	11/10/22 09:21	1

Lab Sample ID: LCS 160-586466/2-A
Matrix: Water
Analysis Batch: 589595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 586466

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Ra. ium-225	11l3	9l905		1l04	1l00	0l114	6Ci/p	E7	7d - 12d

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	106		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-586471/1-A
Matrix: Water
Analysis Batch: 588336

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 586471

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra. ium-22E	0l2790	U	0l32E	0l329	1l00	0ld41	6Ci/p	10/19/22 10:22	11/03/22 11:03	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	109		40 - 110	10/19/22 10:22	11/03/22 11:03	1
Y Carrier	84.9		40 - 110	10/19/22 10:22	11/03/22 11:03	1

Lab Sample ID: LCS 160-586471/2-A
Matrix: Water
Analysis Batch: 588336

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 586471

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Ra. ium-22E	El4E	9ld92		1l23	1l00	0l411	6Ci/p	113	7d - 12d

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	106		40 - 110
Y Carrier	84.5		40 - 110

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-241712-2
Project/Site: Nebraska City Unit 1 CCR

Rad

Prep Batch: 586466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241712-1	NC1MW2	Total/NA	Water	PrecSep-21	
310-241712-2	NC1MW3	Total/NA	Water	PrecSep-21	
310-241712-3	NC1MW4	Total/NA	Water	PrecSep-21	
310-241712-4	NC1MW9	Total/NA	Water	PrecSep-21	
310-241712-5	MW11	Total/NA	Water	PrecSep-21	
310-241712-6	MW14	Total/NA	Water	PrecSep-21	
310-241712-7	DUP1	Total/NA	Water	PrecSep-21	
MB 160-586466/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-586466/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 586471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241712-1	NC1MW2	Total/NA	Water	PrecSep_0	
310-241712-2	NC1MW3	Total/NA	Water	PrecSep_0	
310-241712-3	NC1MW4	Total/NA	Water	PrecSep_0	
310-241712-4	NC1MW9	Total/NA	Water	PrecSep_0	
310-241712-5	MW11	Total/NA	Water	PrecSep_0	
310-241712-6	MW14	Total/NA	Water	PrecSep_0	
310-241712-7	DUP1	Total/NA	Water	PrecSep_0	
MB 160-586471/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-586471/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-241712-2
Project/Site: Nebraska City Unit 1 CCR

Client Sample ID: NC1MW2
Lab Sample ID: 310-241712-1
Date Collected: 10/04/22 10:01
Matrix: Water
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586466	BMP	EET SL	10/19/22 09:46
Total/NA	Analysis	9315		1	589594	FLC	EET SL	11/10/22 09:15
Total/NA	Prep	PrecSep_0			586471	BMP	EET SL	10/19/22 10:22
Total/NA	Analysis	9320		1	588336	FLC	EET SL	11/03/22 11:04
Total/NA	Analysis	Ra226_Ra228		1	589646	CAH	EET SL	11/10/22 16:20

Client Sample ID: NC1MW3
Lab Sample ID: 310-241712-2
Date Collected: 10/04/22 11:34
Matrix: Water
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586466	BMP	EET SL	10/19/22 09:46
Total/NA	Analysis	9315		1	589594	FLC	EET SL	11/10/22 09:15
Total/NA	Prep	PrecSep_0			586471	BMP	EET SL	10/19/22 10:22
Total/NA	Analysis	9320		1	588336	FLC	EET SL	11/03/22 11:04
Total/NA	Analysis	Ra226_Ra228		1	589646	CAH	EET SL	11/10/22 16:20

Client Sample ID: NC1MW4
Lab Sample ID: 310-241712-3
Date Collected: 10/04/22 10:39
Matrix: Water
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586466	BMP	EET SL	10/19/22 09:46
Total/NA	Analysis	9315		1	589594	FLC	EET SL	11/10/22 09:16
Total/NA	Prep	PrecSep_0			586471	BMP	EET SL	10/19/22 10:22
Total/NA	Analysis	9320		1	588336	FLC	EET SL	11/03/22 11:05
Total/NA	Analysis	Ra226_Ra228		1	589646	CAH	EET SL	11/10/22 16:20

Client Sample ID: NC1MW9
Lab Sample ID: 310-241712-4
Date Collected: 10/04/22 12:31
Matrix: Water
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586466	BMP	EET SL	10/19/22 09:46
Total/NA	Analysis	9315		1	589594	FLC	EET SL	11/10/22 09:16
Total/NA	Prep	PrecSep_0			586471	BMP	EET SL	10/19/22 10:22
Total/NA	Analysis	9320		1	588336	FLC	EET SL	11/03/22 11:05
Total/NA	Analysis	Ra226_Ra228		1	589646	CAH	EET SL	11/10/22 16:20

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-241712-2
Project/Site: Nebraska City Unit 1 CCR

Client Sample ID: MW11 — **Lab Sample ID: 310-241712-5**
Date Collected: 10/03/22 19:14 — **Matrix: Water**
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586466	BMP	EET SL	10/19/22 09:46
Total/NA	Analysis	9315		1	589594	FLC	EET SL	11/10/22 09:17
Total/NA	Prep	PrecSep_0			586471	BMP	EET SL	10/19/22 10:22
Total/NA	Analysis	9320		1	588336	FLC	EET SL	11/03/22 11:05
Total/NA	Analysis	Ra226_Ra228		1	589646	CAH	EET SL	11/10/22 16:20

Client Sample ID: MW14 — **Lab Sample ID: 310-241712-6**
Date Collected: 10/03/22 10:26 — **Matrix: Water**
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586466	BMP	EET SL	10/19/22 09:46
Total/NA	Analysis	9315		1	589594	FLC	EET SL	11/10/22 09:17
Total/NA	Prep	PrecSep_0			586471	BMP	EET SL	10/19/22 10:22
Total/NA	Analysis	9320		1	588336	FLC	EET SL	11/03/22 11:05
Total/NA	Analysis	Ra226_Ra228		1	589646	CAH	EET SL	11/10/22 16:20

Client Sample ID: DUP1 — **Lab Sample ID: 310-241712-7**
Date Collected: 10/04/22 00:00 — **Matrix: Water**
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586466	BMP	EET SL	10/19/22 09:46
Total/NA	Analysis	9315		1	589594	FLC	EET SL	11/10/22 09:17
Total/NA	Prep	PrecSep_0			586471	BMP	EET SL	10/19/22 10:22
Total/NA	Analysis	9320		1	588336	FLC	EET SL	11/03/22 11:05
Total/NA	Analysis	Ra226_Ra228		1	589646	CAH	EET SL	11/10/22 16:20

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-241712-2
Project/Site: Nebraska City Unit 1 CCR

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	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	07-01-22 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22 *
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-22
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	04-01-23
North Dakota	State	R-207	06-30-23
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-23
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	03-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-24
Washington	State	C592	08-30-23
West Virginia DEP	State	381	12-31-22

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

Method Summary

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

Job ID: 310-241712-2

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 | Environment Testing America

310-241712 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Ohmaha Public Power

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

Receipt Information

Date/Time Received: DATE 10-5-22 | TIME 10:50 | Received By: EH

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

Condition of Cooler/Containers

Sample(s) received in Cooler? ☑ Yes ☐ No *If yes:* Cooler ID: 1 of 2

Multiple Coolers? ☑ Yes ☐ No *If yes:* Cooler # 2 of 8

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

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

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

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: ☐ NONE

Thermometer ID: 2 | Correction Factor (°C): 0

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

Uncorrected Temp (°C): 1.7 | Corrected Temp (°C): 1.7

• Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

Document CED-P-SAM-FRM45521
Revision 26
Date: 27 Jan 2022

Eurofins Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

eurofins | Environment Testing America

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

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

Receipt Information

Date/Time Received: DATE 10-5-22 | TIME 10:50 | Received By: EH

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

Condition of Cooler/Containers

Sample(s) received in Cooler? ☑ Yes ☐ No *If yes:* Cooler ID: 2 of 2

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

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

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

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

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:________ ☐ NONE

Thermometer ID: R | Correction Factor (°C): 0

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

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

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:	250 mL Nitric Bottle	
Uncorrected Temp (°C):	1.0	
Corrected Temp (°C):	1.0	

Exceptions Noted

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

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

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

Additional Comments

Document CED-P-SAM-FRM45521
Revision 26
Date 27 Jan 2022

Eurofins Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

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

Chain of Custody Record

TestAmerica Omaha SC 268

TestAmerica

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

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

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N		
NC1MW2	10/4/22	10:02	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW3	10/4/22	11:34	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW4	10/4/22	10:39	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC1MW9	10/4/22	12:31	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW11	10/3/22	19:14	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW14	10/3/22	10:26	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
DUP1	10/4/22	—	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents

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

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

Deliverable Requested: I, II, III, IV, Other (specify) | Special Instructions/QC Requirements:

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Kyle K. Uhing	10/4/2022 15:37	OPPD	[signature]	10-4-22 1545	EF
[signature]	10-5-22 1545	EF	MC	10-5-22 1650	
				10-5-22	

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

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Thompson, Shirley J	Carrier Tracking No(s):	COC No: 310-54495.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Shirley.Thompson@et.eurofinsus.com	State of Origin: Nebraska	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 310-241712-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/8/2022	Analysis Requested		Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Nebraska City Unit 1 CCR	Project #: 31007558			
Site:	SSOW#:			Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226/PrecSep_21 Radium-226 (GFPC), 1 day decay	9320_Ra228/PrecSep_0 Radium-228 (GFPC)	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
NC1MW2 (310-241712-1)	10/4/22	10:01 Central		Water			X	X	X	2	
NC1MW3 (310-241712-2)	10/4/22	11:34 Central		Water			X	X	X	2	
NC1MW4 (310-241712-3)	10/4/22	10:39 Central		Water			X	X	X	2	
NC1MW9 (310-241712-4)	10/4/22	12:31 Central		Water			X	X	X	2	
MW11 (310-241712-5)	10/3/22	19:14 Central		Water			X	X	X	2	
MW14 (310-241712-6)	10/3/22	10:26 Central		Water			X	X	X	2	
DUP1 (310-241712-7)	10/4/22	Central		Water			X	X	X	2	

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) / Primary Deliverable Rank: 2	Special Instructions/QC Requirements:
Empty Kit Relinquished by: / Date:	Time: / Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	10/6/22 1340		FED EX		
Relinquished by: FED EX	Date/Time	Company	Received by: Sierra Worthington	Date/Time: OCT 07 2022 0900	Company: ENSR
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

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

V-06 08 2021

Eurofins Cedar Falls

Login Sample Receipt Checklist

Client: Omaha Public Power District — Job Number: 310-241712-2

Login Number: 241712 — **List Source: Eurofins Cedar Falls**
List Number: 1
Creator: Costello, Mackenzie K

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	

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-241712-2

Login Number: 241712
List Number: 2
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 10/07/22 12:26 PM

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

Tracer/Carrier Summary

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

Job ID: 310-241712-2

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-241712-1	NC1MW2	93.9
310-241712-2	NC1MW3	88.2
310-241712-3	NC1MW4	97.3
310-241712-4	NC1MW9	99.5
310-241712-5	MW11	97.5
310-241712-6	MW14	96.6
310-241712-7	DUP1	98.3
LCS 160-586466/2-A	Lab Control Sample	106
MB 160-586466/1-A	Method Blank	109

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
310-241712-1	NC1MW2	93.9	81.5
310-241712-2	NC1MW3	88.2	84.1
310-241712-3	NC1MW4	97.3	83.7
310-241712-4	NC1MW9	99.5	84.9
310-241712-5	MW11	97.5	82.6
310-241712-6	MW14	96.6	83.0
310-241712-7	DUP1	98.3	84.5
LCS 160-586471/2-A	Lab Control Sample	106	84.5
MB 160-586471/1-A	Method Blank	109	84.9

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

eurofins | Environment Testing

ANALYTICAL REPORT

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

Laboratory Job ID: 310-241716-2
Client Project/Site: Nebraska City Unit 1 & 2 CCR

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

Attn: Kyle Uhing

Authorized for release by:
11/10/2022 4:59:33 PM
Brian Graettinger, Lab Director
(319)595-2012
Brian.Graettinger@et.eurofinsus.com

Designee for

Shirley Thompson, Client Service Manager
(319)277-2401
Shirley.Thompson@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

Table of Contents

Case Narrative

Client: Omaha Public Power District
Job ID: 310-241716-2
Project/Site: Nebraska City Unit 1 & 2 CCR

Job ID: 310-241716-2

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-241716-2

Comments
No additional comments.

Receipt
The samples were received on 10/5/2022 4:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.6º C.

RAD
Methods 903.0, 9315: Radium-226 batch 586466
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
NC2MW4 (310-241716-1), MW13 (310-241716-2), (LCS 160-586466/2-A), (MB 160-586466/1-A), (480-202269-A-1-A) and (480-202269-B-1-A DU)

Methods 904.0, 9320: Radium-228 batch 586471
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.
NC2MW4 (310-241716-1), MW13 (310-241716-2), (LCS 160-586471/2-A), (MB 160-586471/1-A), (480-202269-A-1-B) and (480-202269-B-1-B DU)

Method PrecSep_0:

Method PrecSep-21:

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

Sample Summary

Client: Omaha Public Power District
Job ID: 310-241716-2
Project/Site: Nebraska City Unit 1 & 2 CCR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-241716-1	NC2MW4	Water	10/04/22 08:14	10/05/22 16:50
310-241716-2	MW13	Water	10/03/22 09:08	10/05/22 16:50

Detection Summary

Client: Omaha Public Power District
Job ID: 310-241716-2
Project/Site: Nebraska City Unit 1 & 2 CCR

Client Sample ID: NC2MW4 **Lab Sample ID: 310-241716-1**

No Detections.

Client Sample ID: MW13 **Lab Sample ID: 310-241716-2**

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-241716-2
Project/Site: Nebraska City Unit 1 & 2 CCR

Client Sample ID: MC2Wr 4 **Lab Sample ID: 310-24171N-1**
Date Cc lledte/ : 10\04\22 05:14 **Watxio: r atex**
Date Redei6e/ : 10\0hv22 1N:h0

Wet8c/ : Sr 54N931h - Ra/ ium-22N (GFPC)

Analyte	Result	f ualiTlex	Ccunt Qndextσ (2+zv)	. ctal Qndextσ (2+zv)	RL	WDC	Qnit	Pxepaxe/	AnalyUe/	Dil Fad
Ra/ ium-22N	0dh97		0.227	0.234	1.00	0.245	pCi/L	10/19/22 09:46	11/10/22 11:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.6*		*40 - 110*	*10/19/22 09:46*	*11/10/22 11:25*	*1*

Wet8c/ : Sr 54N9320 - Ra/ ium-225 (GFPC)

Analyte	Result	f ualiTlex	Ccunt Qndextσ (2+zv)	. ctal Qndextσ (2+zv)	RL	WDC	Qnit	Pxepaxe/	AnalyUe/	Dil Fad
Ra/ ium-225	2dBh		0.759	0.782	1.00	0.959	pCi/L	10/19/22 10:22	11/03/22 11:08	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.6*		*40 - 110*	*10/19/22 10:22*	*11/03/22 11:08*	*1*
Y Carrier	*88.2*		*40 - 110*	*10/19/22 10:22*	*11/03/22 11:08*	*1*

Wet8c/ : . AL-S. L Ra22N_Ra225 - Ccmbine/ Ra/ ium-22N an/ Ra/ ium-225

Analyte	Result	f ualiTlex	Ccunt Qndextσ (2+zv)	. ctal Qndextσ (2+zv)	RL	WDC	Qnit	Pxepaxe/	AnalyUe/	Dil Fad
Ccmbine/ Ra/ ium 22Nz 225	2dN4		0.792	0.816	5.00	0.959	pCi/L		11/10/22 16:20	1

Client Sample ID: Wr 13
Lab Sample ID: 310-24171N-2
Date Cc lledte/ : 10v03v22 09:05
Watxio: r atex
Date Redei6e/ : 10v0hv22 1N:h0

Wet8c/ : Sr 54N931h - Ra/ ium-22N (GFPC)

Analyte	Result	f ualiTex	Ccunt Qndextσ (2+zv)	. ctal Qndextσ (2+zv)	RL	WDC	Qnit	Pxepaxe/	AnalyUa/	Dil Fad
Ra/ ium-22N	0d225		0.142	0.144	1.00	0.203	pCi/L	10/19/22 09:46	11/10/22 11:25	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	98.3		40 - 110	10/19/22 09:46	11/10/22 11:25	1

Wet8c/ : Sr 54N9320 - Ra/ ium-225 (GFPC)

Analyte	Result	f ualiTex	Ccunt Qndextσ (2+zv)	. ctal Qndextσ (2+zv)	RL	WDC	Qnit	Pxepaxe/	AnalyUa/	Dil Fad
Ra/ ium-225	1d01		0.416	0.426	1.00	0.519	pCi/L	10/19/22 10:22	11/03/22 11:08	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	98.3		40 - 110	10/19/22 10:22	11/03/22 11:08	1
Y Carrier	89.3		40 - 110	10/19/22 10:22	11/03/22 11:08	1

Wet8c/ : . AL-S. L Ra22N_Ra225 - Ccmbine/ Ra/ ium-22N an/ Ra/ ium-225

Analyte	Result	f ualiTex	Ccunt Qndextσ (2+zv)	. ctal Qndextσ (2+zv)	RL	WDC	Qnit	Pxepaxe/	AnalyUa/	Dil Fad
Ccmbine/ Ra/ ium 22Nz 225	1d24		0.440	0.450	5.00	0.519	pCi/L		11/10/22 16:20	1

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the samLle getection limitq

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
M	disteg unger the pDpcolumn to gesixnate that the result is reLorteg on a gry weixht basis
v R	Percent Reco. ery
C¤d	Contains ¤ree di" uig
C¤U	Colony ¤orminx Unit
CN¤	Contains No ¤ree di" uig
D%R	DuLlicate %rror Ratio rhormaliEeg absolute gi((erencez
Dil ¤ac	Dilution ¤actor
Dd	Detection dimit rDoD/DO%z
Ddf R) f R%f IN	Ingicates a Dilutionf Re-analysisf Re-e, tractionf or aggitional Initial metals/anion analysis o(the samLle
DdC	Decision de. el Concentration rRagiochemistryz
%Dd	%stimateg Detection dimit rDio, inz
dOD	dimit o(Detection rDoD/DO%z
dOA	dimit o(Auantitation rDoD/DO%z
QCd	%P) recommengeg pQa, imum Contaminant de. elp
QD)	Qinimum Detectable) cti. ity rRagiochemistryz
QDC	Qinimum Detectable Concentration rRagiochemistryz
QDd	Qethog Detection dimit
Qd	Qinimum de. el rDio, inz
QPN	Qost Probable Number
QAd	Qethog Auantitation dimit
NC	Not Calculateg
ND	Not Detecteg at the reLortinx limit ror QDd or %Dd i(shownz
N%G	Nexati. e /) bsent
POS	Positi. e / Present
PAd	Practical Auantitation dimit
PR%S	PresumLti. e
AC	Auality Control
R%R	Relati. e %rror Ratio rRagiochemistryz
Rd	ReLortinx dimit or Re" uesteg dimit rRagiochemistryz
RPD	Relati. e Percent Di((erencef a measure o(the relati. e gi(erence between two Loints
T%¤	To, icity %" ui. alent ¤actor rDio, inz
T%A	To, icity %" ui. alent Auotient rDio, inz
TNTC	Too Numerous To Count

QC Sample Results

Client: Omaha Public Power District
Job ID: 310-241716-2
Project/Site: Nebraska City Unit 1 & 2 CCR

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-586466/1-A
Matrix: Water
Analysis Batch: 589595

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 586466

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra. ium-226	-0L01712	U	0l0373	0l0373	1L00	0L0527	9Ci/p	10/15/22 05:46	11/10/22 05:21	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	109		40 - 110	10/19/22 09:46	11/10/22 09:21	1

Lab Sample ID: LCS 160-586466/2-A
Matrix: Water
Analysis Batch: 589595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 586466

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Ra. ium-226			11l3	5l506		1L04	1L00	0L114	9Ci/p	E7	78 - 128		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	106		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-586471/1-A
Matrix: Water
Analysis Batch: 588336

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 586471

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra. ium-22E	0l2750	U	0l32E	0l325	1L00	0L841	9Ci/p	10/15/22 10:22	11/03/22 11:03	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	109		40 - 110	10/19/22 10:22	11/03/22 11:03	1
Y Carrier	84.9		40 - 110	10/19/22 10:22	11/03/22 11:03	1

Lab Sample ID: LCS 160-586471/2-A
Matrix: Water
Analysis Batch: 588336

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 586471

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Ra. ium-22E			El4E	5l852		1l23	1L00	0L411	9Ci/p	113	78 - 128		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	106		40 - 110
Y Carrier	84.5		40 - 110

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-241716-2
Project/Site: Nebraska City Unit 1 & 2 CCR

Rad

Prep Batch: 586466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241716-1	NC2MW4	Total/NA	Water	PrecSep-21	
310-241716-2	MW13	Total/NA	Water	PrecSep-21	
MB 160-586466/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-586466/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 586471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-241716-1	NC2MW4	Total/NA	Water	PrecSep_0	
310-241716-2	MW13	Total/NA	Water	PrecSep_0	
MB 160-586471/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-586471/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-241716-2
Project/Site: Nebraska City Unit 1 & 2 CCR

Client Sample ID: NC2MW4
Lab Sample ID: 310-241716-1
Date Collected: 10/04/22 08:14
Matrix: Water
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586466	BMP	EET SL	10/19/22 09:46
Total/NA	Analysis	9315		1	589595	FLC	EET SL	11/10/22 11:25
Total/NA	Prep	PrecSep_0			586471	BMP	EET SL	10/19/22 10:22
Total/NA	Analysis	9320		1	588335	FLC	EET SL	11/03/22 11:08
Total/NA	Analysis	Ra226_Ra228		1	589646	CAH	EET SL	11/10/22 16:20

Client Sample ID: MW13
Lab Sample ID: 310-241716-2
Date Collected: 10/03/22 09:08
Matrix: Water
Date Received: 10/05/22 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586466	BMP	EET SL	10/19/22 09:46
Total/NA	Analysis	9315		1	589595	FLC	EET SL	11/10/22 11:25
Total/NA	Prep	PrecSep_0			586471	BMP	EET SL	10/19/22 10:22
Total/NA	Analysis	9320		1	588335	FLC	EET SL	11/03/22 11:08
Total/NA	Analysis	Ra226_Ra228		1	589646	CAH	EET SL	11/10/22 16:20

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-241716-2
Project/Site: Nebraska City Unit 1 & 2 CCR

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	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	07-01-22 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22 *
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-22
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	04-01-23
North Dakota	State	R-207	06-30-23
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-23
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	03-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-24
Washington	State	C592	08-30-23
West Virginia DEP	State	381	12-31-22

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

Method Summary

Client: Omaha Public Power District
Job ID: 310-241716-2
Project/Site: Nebraska City Unit 1 & 2 CCR

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 | Environment Testing America

310-241716 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Ohmaha Public Power

City/State: CITY Omaha STATE NE Project:

Receipt Information

Date/Time Received: DATE 10-5-22 TIME 10:50 Received By: EH

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

Condition of Cooler/Containers

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

Multiple Coolers? ☐ Yes ☑ No *If yes:* Cooler # 4 of 5

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

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

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

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: ☐ NONE

Thermometer ID: 2 Correction Factor (°C): 0

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

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

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:	250mL Plastic Nitric	
Uncorrected Temp (°C):	0.6	
Corrected Temp (°C):	0.6	

Exceptions Noted

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

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

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

Additional Comments

Document. CED-P-SAM-FRM45521
Revision 26
Date 27 Jan 2022

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

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

Chain of Custody Record

TestAmerica

Client Information	Sampler: Kyle K. Uhing	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: Kyle Uhing	Phone: (531) 226-2515	E-Mail: shawn.hayes@testamericainc.com		Page:
Company: Omaha Public Power District		Analysis Requested		Job #:
Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:			Preservation Codes:
City: Omaha	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: NE, 68102-2247				
Phone: (531) 226-2515	PO #:			Other:
Email: kkuhing@oppd.com	WO #:			
Project Name: Nebraska City Station Unit 1 & 2 CCR / Landfill	TestAmerica Project #: 31007559			
Site: Nebraska City Station Unit 1 & 2	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate												Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N													
NC2MW4	10/4/22	8:14	G	W	N		X	X	X												4	CCR Appendix III and IV Constituents
MW13	10/3/22	9:08	G	W	N		X	X	X												4	CCR Appendix III and IV Constituents

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:				
Relinquished by: Kyle K. Uhing	Date/Time: 10/4/2022 15:57	Company: OPPD	Received by:	Date/Time: 10-4-22 1545	Company: ETR
Relinquished by:	Date/Time: 10-5-22 0800	Company: ETR	Received by: MC	Date/Time: 10-5-22 1650	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

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

Page 15 of 19

11/10/2022

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Thompson, Shirley J	Carrier Tracking No(s):	COC No: 310-54486.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Shirley.Thompson@et.eurofinsus.com	State of Origin: Nebraska	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 310-241716-1
Address: 13715 Rider Trail North,	Due Date Requested: 10/18/2022	Analysis Requested		Preservation Codes:
City: Earth City	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: Nebraska City Unit 1 & 2 CCR	Project #: 31007559			
Site: 310 OPPD Nebraska City Unit 2	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226/PrecSep_21 Radium-226 (GFPC) - 21 day decay	9320_Ra228/PrecSep_0 Radium-228 (GFC)	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228												Total Number of containers	Special Instructions/Note:
			Preservation Code:																			
NC2MW4 (310-241716-1)	10/4/22	08:14 Central		Water			X	X	X												2	
MW13 (310-241716-2)	10/3/22	09:08 Central		Water			X	X	X												2	

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:				
Relinquished by:	Date/Time: 10/5/22 1240	Company:	Received by: FED EX	Date/Time:	Company:
Relinquished by: FED EX	Date/Time:	Company:	Received by: Dena Worthington	Date/Time: OCT 07 2022 0900	Company: ETMSR
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

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

Page 16 of 19

11/10/2022

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-24171/ -2

Login Number: 241716
List Number: 1
Creator: Costello, Mackenzie K

List Source: Eurofins Cedar Falls

Question	Answer	Comment
d avioactiyit' wasnlt chec<ev or is =Ag bac<. rounv as measurev b' a surye' meterT	NAR	
, he coolerls custov' sealf ipSresentf is intactT	NAR	
I amSle custov' sealsf ipSresentf are intactT	NAR	
, he cooler or samSles vo not aSSear to haye been comSromisev or tamSerev withT	, rue	
I amSles were receiyev on iceT	, rue	
Cooler , emSerature is acceStableT	, rue	
Cooler , emSerature is recorvevT	, rue	
COC is SresentT	, rue	
COC is pillev out in in< anv le. ibleT	, rue	
COC is pillev out with all Sertinent inpormationT	, rue	
Fs the ?ielv I amSlerls name Sresent on COCH	, rue	
, here are no viscreSancies between the containers receiyev anv the COCT	, rue	
I amSles are receiyev within (olvin. , ime xe) cluvin. tests with immeviate (, sV	, rue	
I amSle containers haye le. ible labelsT	, rue	
Containers are not bro<en or lea<in. T	, rue	
I amSle collection vateAimes are SroyivevT	, rue	
RSSroSriate samSle containers are usevT	, rue	
I amSle bottles are comSletel' pillevT	, rue	
I amSle Preseryation qeripievT	, rue	
, here is supicient yolTpor all reMuestev anal' sesf inclTan' reMuestev z I Az I Ds	, rue	
Containers reMuirin. 6ero heavsSace haye no heavsSace or bubble is =/ mm x1A"VT	, rue	
z ultiShasic samSles are not SresentT	, rue	
I amSles vo not reMuire sSlittin. or comSositin. T	, rue	
d esivual Chlorine Chec<evT	NAR	

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-24171/ -2

Login Number: 241716
List Number: 2
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 10/07/22 12:35 PM

Question	Answer	Comment
d avioactiyit' wasnlt chec<ev or is =Ag bac<. rounv as measurev b' a surye' meterT	, rue	
, he coolerls custov' sealf ipSresentf is intactT	, rue	
I amSle custov' sealsf ipSresentf are intactT	, rue	
, he cooler or samSles vo not aSSear to haye been comSromisev or tamSerev withT	, rue	
I amSles were receiyev on iceT	NAR	
Cooler , emSerature is acceStableT	, rue	
Cooler , emSerature is recorvevT	, rue	
COC is SresentT	, rue	
COC is pillev out in in< anv le. ibleT	, rue	
COC is pillev out with all Sertinent inpormationT	, rue	
Fs the ?ielv I amSlerls name Sresent on COCH	, rue	
, here are no viscreSancies between the containers receiyev anv the COCT	, rue	
I amSles are receiyev within (olvin. , ime xe) cluvin. tests with immeviate (, sV	, rue	
I amSle containers haye le. ible labelsT	, rue	
Containers are not bro<en or lea<in. T	, rue	
I amSle collection vateAimes are SroyivevT	, rue	
RSSroSriate samSle containers are usevT	, rue	
I amSle bottles are comSletel' pillevT	, rue	
I amSle Preseryation qeripievT	, rue	
, here is supicient yolTpor all reMuestev anal' sesf inclTan' reMuestev z I Az I Ds	, rue	
Containers reMuirin. 6ero heavsSace haye no heavsSace or bubble is =/ mm x1A"VT	, rue	
z ultiShasic samSles are not SresentT	, rue	
I amSles vo not reMuire sSlittin. or comSositin. T	, rue	
d esivual Chlorine Chec<evT	NAR	

Tracer/Carrier Summary

Client: Omaha Public Power District
Job ID: 310-241716-2
Project/Site: Nebraska City Unit 1 & 2 CCR

Method: 9315 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-241716-1	NC2MW4	94.6
310-241716-2	MW13	98.3
LCS 160-586466/2-A	Lab Control Sample	106
MB 160-586466/1-A	Method Blank	109

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
310-241716-1	NC2MW4	94.6	88.2
310-241716-2	MW13	98.3	89.3
LCS 160-586471/2-A	Lab Control Sample	106	84.5
MB 160-586471/1-A	Method Blank	109	84.9

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

This Page Intentionally Left Blank.

Appendix C

Semi-Annual Statistical Analysis Memos

This Page Intentionally Left Blank.

Technical Memorandum

Date:	Friday, July 01, 2022
To:	Omaha Public Power District (OPPD)
From:	HDR Engineering, Inc.
Subject:	Summary of Statistical Analysis and Evaluation for SSLs Nebraska City Station Unit 1 - NC1 Ash Disposal Area Spring 2022 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 2021 sampling event and will be reevaluated following the spring 2023 sampling event. The current BTVs were calculated with data obtained during monitoring events performed between March 2016 and April 2021.

Downgradient sampling results from the spring 2022 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 2022)

		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*	1.23	**3.11**	**2.27**	0.703
Calcium	*163*	*mg/L*	138	**182**	141	152
Chloride	*17.3*	*mg/L*	8.03	9.98	5.36	6.33
Fluoride	*1.18*	*mg/L*	<0.220	<0.220	<0.220	0.930
pH	*6.27 – 7.86**	*SU*	6.74	6.60	6.94	6.71
Sulfate	*170*	*mg/L*	159	**392**	**214**	88.6
TDS	*747*	*mg/L*	564	**994**	564	666
Assessment Monitoring (Appendix IV) Constituents						
Antimony	0.00235	*mg/L*	<0.000690	<0.000690	<0.000690	0.000976J
Arsenic	0.0893	*mg/L*	0.000884J	0.0470	0.00121J	0.0140
Barium	0.391	*mg/L*	0.222	0.142	0.124	0.122
Beryllium	0.001	*mg/L*	<0.000270	<0.000270	<0.000270	<0.000270
Cadmium	0.0005	*mg/L*	0.0000860J	<0.0000550	0.0000980J	0.0000960J
Chromium	0.005	*mg/L*	<0.00110	<0.00110	<0.00110	<0.00110
Cobalt	0.00477	*mg/L*	0.000258J	0.00228	0.00159	0.00174
Fluoride	*1.18*	*mg/L*	<0.220	<0.220	<0.220	0.930
Lead	0.0032	*mg/L*	<0.000240	<0.000240	<0.000240	<0.000240
Lithium	0.0569	*mg/L*	0.0176	0.0406	0.0192	0.0367
Mercury	0.000262	*mg/L*	<0.000110	<0.000110	<0.000110	<0.000110
Molybdenum	0.0164	*mg/L*	**0.0668**	0.00157J	0.00320	**0.0174**
Radium 226+228	2.04	*pCi/L*	0.282U	1.32	1.13	1.10
Selenium	0.0112	*mg/L*	<0.000960	<0.000960	0.00114J	0.00168J
Thallium	0.001	*mg/L*	<0.000260	<0.000260	<0.000260	<0.000260

Bold and underlined concentration indicates an SSI over background.
* indicates the lower bound of the range is the lower prediction limit (LPL). The upper bound is the upper prediction limit (UPL).
J – Value is less than the Reporting Limit but above the Method Detection Limit, therefore value is an approximation.
U – Parameter was analyzed for but not detected above limiting criteria (such as, but not limited to minimum detectable concentration; total uncertainty; reporting limit) as defined in the analytical laboratory data package.

Table D-2. Summary of Evaluation for SSLs over GWPS (April 2022)

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*	0.0001	0.0001	0.0001	0.0001
Arsenic	*0.0893* [2]	*mg/L*	0.00179	0.02058	0.002244	0.009237
Barium	*2.00*	*mg/L*	0.1173	0.1069	0.09172	0.1026
Beryllium	*0.004*	*mg/L*	0.000387	0.00027	0.00027	0.00027
Cadmium	*0.005*	*mg/L*	0.00023	0.0001	0.000134	0.0001
Chromium	*0.1*	*mg/L*	0.0011	0.0011	0.0011	0.0011
Cobalt	*0.006*	*mg/L*	0.000258	0.001939	0.0005	0.001137
Fluoride	*4.00*	*mg/L*	0.2883	0.36	0.441	0.4553
Lead	*0.015*	*mg/L*	0.000463	0.00024	0.00024	0.00024
Lithium	*0.0569*[2]	*mg/L*	0.01	0.0326	0.0137	0.0269
Mercury	*0.002*	*mg/L*	0.00015	0.00015	0.00015	0.00015
Molybdenum	*0.1*	*mg/L*	0.064	0.00179	0.01297	0.02456
Radium 226+228	*5.0*	*pCi/L*	0.357	0.425	0.2237	0.5428
Selenium	*0.05*	*mg/L*	0.00346	0.00096	0.00199	0.003639
Thallium	*0.002*	*mg/L*	0.001	0.00026	0.000313	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.

This Page Intentionally Left Blank.

Technical Memorandum

Date:	Tuesday, November 29, 2022
To:	Omaha Public Power District (OPPD)
From:	HDR Engineering, Inc.
Subject:	Summary of Statistical Analysis and Evaluation for SSLs Nebraska City Station Unit 1 - NC1 Ash Disposal Area Fall 2022 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 2021 sampling event and will be reevaluated following the spring 2023 sampling event. The current BTVs were calculated with data obtained during monitoring events performed between March 2016 and April 2021.

Downgradient sampling results from the fall 2022 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 2022)

	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*	1.30	**2.43**	**1.96**	0.790
Calcium	*163*	*mg/L*	127	**163**	122	156
Chloride	*17.3*	*mg/L*	8.62	7.78	5.19	6.03
Fluoride	*1.18*	*mg/L*	<0.220	<0.220	<0.220	<0.220
pH	*6.27 – 7.86**	*SU*	6.89	6.98	7.02	6.91
Sulfate	*170*	*mg/L*	152	**263**	**196**	140
TDS	*747*	*mg/L*	634	**874**	548	718
Assessment Monitoring (Appendix IV) Constituents						
Antimony	0.00235	*mg/L*	0.000699J	<0.000690	<0.000690	<0.000690
Arsenic	0.0893	*mg/L*	0.000978J	0.0463	0.00125J	0.0222
Barium	0.391	*mg/L*	0.194	0.115	0.111	0.146
Beryllium	0.001	*mg/L*	<0.000270	<0.000270	<0.000270	<0.000270
Cadmium	0.0005	*mg/L*	0.000131	<0.0000550	0.000134	<0.0000550
Chromium	0.005	*mg/L*	<0.00110	<0.00110	<0.00110	<0.00110
Cobalt	0.00477	*mg/L*	0.000218J	0.00145	0.00190	0.00153
Fluoride	*1.18*	*mg/L*	<0.220	<0.220	<0.220	<0.220
Lead	0.0032	*mg/L*	0.000403J	<0.000240	<0.000240	<0.000240
Lithium	0.0569	*mg/L*	0.0163	0.0410	0.0208	0.0346
Mercury	0.000262	*mg/L*	<0.000110	<0.000110	<0.000110	<0.000110
Molybdenum	0.0164	*mg/L*	**0.0654**	0.00182J	0.00996	**0.0179**
Radium 226+228	2.04	*pCi/L*	0.724	0.707	1.03	0.972
Selenium	0.0112	*mg/L*	0.00418J	<0.000960	<0.000960	<0.000960
Thallium	0.001	*mg/L*	0.000597J	<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.

Table D-2. Summary of Evaluation for SSLs over GWPS (October 2022)

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*	0.000699	0.0001	0.0001	0.0001
Arsenic	*0.0893[2]*	*mg/L*	0.00179	0.02158	0.002175	0.009499
Barium	*2.00*	*mg/L*	0.1205	0.1074	0.09279	0.1045
Beryllium	*0.004*	*mg/L*	0.000387	0.00027	0.00027	0.00027
Cadmium	*0.005*	*mg/L*	0.000176	0.0001	0.000208	0.0001
Chromium	*0.1*	*mg/L*	0.0011	0.0011	0.0011	0.0011
Cobalt	*0.006*	*mg/L*	0.000258	0.001905	0.0005	0.001158
Fluoride	*4.00*	*mg/L*	0.301	0.5	0.5	0.504
Lead	*0.015*	*mg/L*	0.000463	0.0005	0.00024	0.00024
Lithium	*0.0569[2]*	*mg/L*	0.01	0.0361	0.0183	0.031
Mercury	*0.002*	*mg/L*	0.00015	0.00015	0.00015	0.00015
Molybdenum	*0.1*	*mg/L*	0.06409	0.00182	0.01277	0.02412
Radium 226+228	*5.0*	*pCi/L*	0.3735	0.4411	0.2563	0.5654
Selenium	*0.05*	*mg/L*	0.00418	0.00096	0.00199	0.003743
Thallium	*0.002*	*mg/L*	0.000597	0.00026	0.000313	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.