2023 NC2 CCR Landfill Annual Groundwater Report

Nebraska City Station NC2
Ash Disposal Area

Nebraska City, Nebraska
January 31, 2024

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: Garrett Williams

Signature:

Date: 1-31-24

License #: E-15124

My license renewal date is December 31, 2024.

Table of Contents

List of Figures

List of Tables

List of Appendices

Executive Summary

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

The purpose of this report is to provide a summary of CCR groundwater monitoring system activities for calendar year 2023 for the assessment monitoring program under 40 CFR §257.95 and corrective action monitoring under 40 CFR §257.96 for the NC2 Ash Disposal Area. The NC2 Ash Disposal Area is an existing CCR lined landfill permitted for 40.7 acres of disposal; Cell 1 (14.5 acres) and Cells 2 & 3 (26.2 acres); constructed with 24 inches of re-compacted clay overlain by a 60-mil high-density polyethylene geomembrane and geotextile fabric layer.

The NC2 Ash Disposal Area transitioned from detection monitoring to assessment monitoring following the fall 2019 sampling event due to calcium detected as a statistically significant increase (SSI) above the background threshold value in monitoring well NC2MW-2. An alternate source demonstration (ASD) for calcium was unsuccessful, and OPPD published a notification (dated April 24, 2020). An assessment monitoring program was initiated in accordance with 40 CFR §257.95 with the first sampling event in April 2020 and subsequent event July 2020. Results of assessment monitoring indicated three statistically significant levels (SSLs) over groundwater protection standards (GWPS); arsenic and lithium in NC2MW-7 and arsenic in NC2MW-8. OPPD published a notification of the exceedances and initiation of assessment of corrective measures (ACM) on November 25, 2020. An ACM report, dated December 22, 2020, was conducted to evaluate potential remedies for constituents with detected SSLs. A public meeting was conducted on August 25, 2021, and then on November 15, 2021, OPPD published a Remedy Selection Report (HDR, 2021a). The selected remedial system includes source control of windblown CCR and long-term performance monitoring. Initiation of the selected remedy began in December 2021 with submittal of draft permit modifications to the Nebraska Department of Energy and Environment (NDEE) under NDEE Title 132 regulations.

Groundwater has continued to be monitored at the Site in 2023, in accordance with 40 CFR §257.95. For the April 2023 sampling event, results of the analysis indicated eight (8) SSIs above background. Two (2) new SSIs were detected (cobalt in NC2MW-2 and radium 226+228 combined in NC2MW-3). There was one continued SSL above GWPS (lithium at NC2MW-7) and no newly detected SSLs.

For the October 2023 sampling event, results of the analysis indicated eight (8) SSIs above background. Two (2) new SSIs were detected (mercury in NC2MW-2 and lithium in NC2MW-6). There was one continued SSL above GWPS (lithium in NC2MW-7) and no newly detected SSLs.

Arsenic has been shown to be naturally occurring and highly variable at the NC2 Ash Disposal Area and is therefore not treated as an SSL under the ASD granted by the NDEE correspondence dated May 5, 2020. The Site will continue to be monitored semi-annually, as specified in 40 CFR §257.96(b) and will continue implementation of corrective measures in accordance with the schedule specified in the Selection of Remedy Report (HDR, 2021a). The next sampling event is anticipated to occur in April 2024.

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

Summary of 40 CFR Section § 257.90(e)(6) Groundwater Monitoring System Requirements and Site-Specific Compliance			
§ 257.90(e)(6) A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:		**NC2 Ash Disposal Area**	
§257.90(e)(6)(i)	At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95.	Assessment Monitoring Program	
§257.90(e)(6)(ii)	At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95.	Assessment Monitoring Program	
		Compliance Monitoring Event	
		April 2023	October 2023
§257.90(e)(6)(iii)	If it was determined that there was a statistically significant increase over background for one or more constituents listed in appendix III to this part pursuant to § 257.94(e):	Yes	No
§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.	• NC2MW-2 – calcium	Not Applicable
§257.90(e)(6)(iii)(B)	Provide the date when the assessment monitoring program was initiated for the CCR unit.	April 24, 2020	
§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	Yes	Yes

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:		**NC2 Ash Disposal Area**	
	part pursuant to § 257.95(g) include all of the following:		
§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.	• NC2MW-7 – lithium	• NC2MW-7 – lithium
§257.90(e)(6)(iv) (B)	Provide the date when the assessment of corrective measures was initiated for the CCR unit.	December 14, 2020	
§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.	August 25, 2021	
§257.90(e)(6)(iv)(D)	Provide the date when the assessment of corrective measures was completed for the CCR unit.	November 15, 2021 – Remedy Selection Report	
§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.	Remedy selected in 2021	
§257.90(e)(6)(vi)	(vi) Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.	Remedial activities initiated and performance monitoring ongoing	

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 residual (CCR) under Subtitle D of the Resource Conservation and Recovery Act. The CCR rule is formally promulgated in the U.S. Code of Federal Regulations (CFR), Title 40, Part 257. The 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 (EPA, 2015). 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 Station.

1.1 Purpose

The CCR Rule, 40 CFR §257.90(e), specifies that an owner or operator of an existing CCR landfill 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) of the CCR rule. This report provides a summary of CCR groundwater monitoring system activities for calendar year 2023 for the assessment monitoring program under 40 CFR §257.95 and corrective action monitoring under 40 CFR §257.98 for the NC2 Ash Disposal Area which is a lined landfill located at the Site.

1.2 Facility Information

OPPD owns and operates a two-unit fossil fuel-fired generating station (NC1 and NC2), located 5.5 miles southeast of Nebraska City, Nebraska, along the west bank of the Missouri River (**Figure 1**). This Station has two existing CCR landfills: the NC1 Ash Disposal Area (closed) and NC2 Ash Disposal Area (active). The CCR landfills are permitted under the current Nebraska Department of Environment and Energy (NDEE) Title 132 Chapter 7 (Groundwater Monitoring and Remedial Action) regulations for fossil fuel combustion ash disposal areas. This annual report covers the NC2 Ash Disposal Area (NDEE Permit No. NE0204421, Facility ID 58343).

The NC2 Ash Disposal Area is an existing CCR lined landfill permitted for 40.7 acres of disposal; Cell 1 (14.5 acres) and the East Leachate Pond were constructed in 2008/2009 and Cells 2 & 3 (26.2 acres), along with the West Leachate Pond, were completed January 23, 2020. Base liners for Cells 1 through 3 were constructed with 24 inches of re-compacted clay overlain by a 60-mil high-density polyethylene geomembrane and geotextile fabric layer. The leachate collection system for Cell 1 collects leachate at the sump and is then pumped to the East Leachate Pond. The leachate collection system for Cells 2 & 3 collects leachate at two sumps, which is then pumped to the West Leachate Pond. **Figure 2** identifies the relevant CCR unit for this report and the supporting groundwater monitoring network.

2 Monitoring Program Summary

The groundwater monitoring network currently consists of three upgradient/background monitoring wells (NC2MW-4, NC2MW-5, and MW-13), four downgradient monitoring wells (NC2MW-2, NC2MW-3, NC2MW-7, and NC2MW-8), and one cross-gradient monitoring well (NC2MW-6). Monitoring well details for the monitoring network, including the date of installation, is provided in **Table 1**. No new wells were constructed, and no wells were abandoned in 2023. The location of the monitoring wells in the groundwater monitoring program with respect to the CCR unit, NC2 Ash Disposal Area, are shown in **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 NC2 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
01/30/2018	Semi-annual detection monitoring. Potential SSIs during fall 2017 sampling event in downgradient monitoring wells for calcium and pH. A successful alternate source demonstration (ASD) indicated the SSIs resulted from an error in statistical evaluation.
06/06/2018	Semi-annual detection monitoring. A potential SSI during spring 2018 sampling event in one downgradient monitoring well for pH. A successful ASD indicated the SSI was a result of sampling error.
01/31/2019	Semi-annual detection monitoring. There were no SSIs during the fall 2018 sampling event.
04/08/2019	Semi-annual detection monitoring. Potential SSI detected for calcium. Verification sampling on 6/26/2019 indicated the SSI was not confirmed and the network continued with detection monitoring.
10/15/2019	Semi-annual detection monitoring. Potential SSI detected for calcium. Verification sampling on 01/08/2020 indicated the SSI was confirmed.
11/6/2019	A Groundwater Assessment Report (GAR) was submitted to NDEE to address the Title 132 specific constituents with SSIs detected during the fall 2019 sampling event. The GAR indicated barium, pH, and sulfate were not confirmed SSIs due to statistical error, and arsenic and iron were a result of natural variation. NDEE approved the GAR on May 5, 2020. The GAR indicated an alternative source for arsenic at the site.
4/24/2020	Notification published for unsuccessful alternate source demonstration (ASD) for calcium within 90-day deadline. Initiation of assessment monitoring program in accordance with 40 CFR §257.95.

Date	Groundwater Compliance Monitoring Milestones
4/27/2020	Initial round of sampling for initiation of assessment monitoring. Background threshold values (BTVs) and GWPS were established for assessment monitoring constituents following the first round of sampling.
07/15/2020	Second round of sampling for initiation of assessment monitoring. SSIs detected for downgradient wells for calcium, antimony, arsenic, barium, cadmium, cobalt, and lithium. There was one SSL detected (lithium at NC2MW-7).
10/05/2020	Semi-annual assessment monitoring. SSIs detected for downgradient wells for calcium, antimony, arsenic, barium, cadmium, and lithium. There was one SSL detected (lithium at NC2MW-7).
11/25/2020	Notification published for detected SSL.
12/14/2020	Initiation of assessment of corrective measures program in accordance with 40 CFR §257.96.
12/22/2020	Assessment of Corrective Measures Report (HDR, 2020b) to evaluate potential remedies for constituent with detected SSL.
4/12/2021	Semi-annual assessment monitoring. SSIs detected for downgradient wells for antimony, arsenic, barium, fluoride, and lithium. There was one SSL detected (lithium at NC2MW-7).
8/25/2021	Public meeting conducted to discuss corrective measures (HDR, 2021a).
10/4/2021	Semi-annual assessment monitoring. SSIs detected for downgradient wells for arsenic, barium, cadmium, cobalt, radium 226 + 228, lithium, and molybdenum. There was one SSL detected (lithium at NC2MW-7).
11/15/2021	Remedy Selection Report (HDR, 2021a) to select a remedial system for constituents with detected SSLs.
4/4/2022	Semi-annual assessment monitoring. SSIs detected for downgradient wells for antimony, arsenic, barium, calcium, chloride, cobalt, lithium, selenium, sulfate, and total dissolved solids (TDS). There was one SSL detected (lithium at NC2MW-7).
10/3/2022	Semi-annual assessment monitoring. SSIs detected for downgradient wells for antimony, arsenic, barium, calcium, cobalt, lithium, molybdenum, radium 226+228, and TDS. There was one SSL detected (lithium at NC2MW-7).
4/6/2023	Semi-annual assessment monitoring. SSIs detected for downgradient wells for antimony, barium, calcium, cobalt, lithium, molybdenum, and radium 226 + 228 combined. There was one SSL detected (lithium at NC2MW-7).
10/10/2023	Semi-annual assessment monitoring. SSIs detected for downgradient wells for antimony, arsenic, barium, lithium, mercury, and molybdenum. There was one SSL detected (lithium at NC2MW-7).

2.2 Groundwater Monitoring Network Condition Assessment

OPPD personnel evaluated the condition of each monitoring well in the groundwater monitoring system during the sampling events in April 2023 and October 2023. No repairs were required at the monitoring wells. All wells were noted in good working condition, concrete pads were intact, and no damage was observed to the protective well casings.

3 Data Evaluation and Summary

3.1 Summary of Sampling Activities

Groundwater sampling events were conducted by OPPD personnel in April 2023 and October 2023 as continuation of the semi-annual 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 current background and downgradient well in the monitoring network. The number of samples collected for each background and downgradient well during each groundwater sample event, whether the sample was collected during detection or assessment monitoring programs, and the date of each event are summarized in **Table 2**.

Groundwater sampling completed by OPPD personnel was conducted in general accordance with the facility's NDEE Title 132 Groundwater Sampling and Analysis Plan (HDR, 2019c) and the Groundwater Monitoring System Certification (HDR, 2019a). Samples were collected from each background and downgradient network well except for NC2MW-5 and NC2MW-6 during the April 2023 monitoring event. Monitoring wells NC2MW-5 and NC2MW-6 were either dry or had insufficient water volume during the April 2023 monitoring event to collect a groundwater sample. Field sampling forms from the 2023 sampling events are provided in **Appendix A**. The collected groundwater samples were analyzed by Eurofins. The laboratory analytical reports are provided in **Appendix B**.

3.2 Groundwater Elevations & Flow Direction

Static groundwater level measurements were recorded at the monitoring wells specified in **Table 1** prior to purging and sampling activities conducted during the groundwater sampling events. Groundwater measurements of both monitoring network wells and groundwater elevation only wells, as defined in the CCR Groundwater Monitoring System Certification (HDR, 2019a), were used to determine groundwater contours. Monitoring well static groundwater elevations are provided in **Table 3**. Groundwater measurements collected during the April 2023 sampling event indicated a flow direction to the south-southeast and an average flow velocity of 0.0084 feet per day (ft/day) to 0.0476 ft/day. Groundwater measurements collected during the October 2023 sampling event indicated a flow direction to the south-southeast and an average flow velocity of 0.0072 ft/day to 0.0407 ft/day. The April 2023 and October 2023 flow velocities are based on a range of hydraulic conductivity at the Site of 6.96 ft/day to 39.4 ft/day (HDR, 2019a). Estimated groundwater flow direction is consistent with historical observations.

3.3 Assessment Monitoring Groundwater Sampling

Groundwater sampling events were conducted by OPPD personnel in April 2023 and October 2023 as continuation of the semi-annual assessment monitoring program in accordance with 40 CFR §257.96(b). As specified in 40 CFR §257.95(b), monitoring network wells should be resampled at least annually for the full Appendix IV constituent list. In accordance with 40 CFR §257.95(d), monitoring network wells should be resampled at least semi-annually for the full

Appendix III constituents and those Appendix IV constituents detected in response to 40 CFR §257.95(b). However, to be conservative, all Appendix III and Appendix IV constituents were analyzed for both the April 2023 and October 2023 sampling events. The results of the sampling events conducted in 2023 are presented in **Table 4** (Appendix III constituents) and **Table 5** (Appendix IV constituents).

3.4 Statistical Analysis Results

In the assessment monitoring program, Appendix III and IV constituents are statistically analyzed to evaluate for SSIs above the calculated BTVs, and Appendix IV constituents are statistically analyzed to evaluate for SSLs above the GWPS. Statistical analysis was performed using Sanitas™ Statistical Software in accordance with the methods described in the Groundwater Monitoring Statistical Methods (HDR, 2021b). BTVs are updated every two years in accordance with Chapter 21 of the EPA's Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance (EPA, 2009) or during a monitoring program transition. BTVs and GWPS were updated following the spring 2022 sampling event. The next update is planned for the spring 2024 sampling event. Statistically derived BTVs for Appendix III and IV constituents for detection monitoring are provided in **Table 6**. 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 2023 and October 2023 sampling events are provided in **Appendix C**.

For the April 2023 sampling event, results of the analysis indicated one (1) SSI above background for detection monitoring constituents and seven (7) SSIs for assessment monitoring constituents:

- NC2MW-2: Antimony, Calcium, Cobalt, and Molybdenum
- NC2MW-3: Radium 226 + 228 combined
- NC2MW-7: Barium and Lithium
- NC2MW-8: Barium

Two new SSIs were detected (cobalt in NC2MW-2 and radium 226 + 228 combined in NC2MW-3). Analysis of the assessment monitoring constituents indicated there were no new SSLs, and there was one continued SSL detected above the GWPS:

- NC2MW-7: Lithium

A subsequent semi-annual sampling event was conducted in October 2023. Results of the analysis indicated no SSIs above background for detection monitoring constituents and eight (8) SSIs for assessment monitoring constituents:

- NC2MW-2: Antimony, Mercury, and Molybdenum
- NC2MW-6: Lithium
- NC2MW-7: Arsenic, Barium, and Lithium
- NC2MW-8: Barium

Two (2) new SSIs were detected (Mercury in NC2MW-2 and Lithium in NC2MW-6). Analysis of the assessment monitoring constituents indicated there were no new SSLs, and there was one continued SSL detected above the GWPS:

- NC2MW-7: Lithium

The site will continue implementation of corrective measures for lithium in accordance with the schedule specified in the Selection of Remedy Report (HDR, 2021a).

3.5 Evaluation of Corrective Measures

For the SSL detected for lithium at NC2MW-7, the NDEE proposed long-term groundwater monitoring and institutional controls (to restrict groundwater use) as remedial actions in a letter dated March 31, 2021. On November 15, 2021, OPPD published a Remedy Selection Report for source control of windblown CCR and long-term performance monitoring (HDR, 2021a). The site will continue to be monitored semi-annually in accordance with EPA regulations in 40 CFR §257.96(b) and the NDEE's proposed remedial action. Previous remedial activities included obtaining approval of minor permit modifications to better control fugitive dust at the facility, implementing a revised fill plan, and applications of a surface binder to inactive areas of the landfill. Initial applications of the surface binder occurred in the summer and fall of 2021. Annual applications were conducted in June 2022 and October 2023. Annual surface binder applications are conducted at the site prior to the winter months. The use of a binder prior to the winter months is to ensure the dust is held in place during times where water usage is not a reasonable option due to freezing conditions. The remainder of the year, water can be used to settle dust.

As part of the evaluation of the corrective measures, the upper confidence limit (UCL) of lithium in NC2MW-7 will be compared to the GWPS until the UCL remains below the GWPS for three consecutive years. The UCL for lithium at NC2MW-7 was still above the GWPS during the October 2023 sampling event; therefore, the site will remain in the corrective action monitoring program. According to long-term trend analysis of lithium at NC2MW-7, which incorporates the last 14 sampling events, there is an increasing trend (slope of 0.001013 milligrams per liter per year [mg/L/year]). The long-term increasing trend is not statistically significant. Based on a short-term trend analysis which incorporates the last eight (8) sampling events, the trend line positive slope is reduced to 0.00004959 mg/L/year. This indicates the lithium concentrations at monitoring well NC2MW-7 have been generally stable during the recent monitoring events. The trend analysis results are summarized in the most recent Title 132: Semi-Annual Groundwater Monitoring Report for the NC2 Ash Disposal Area.

3.6 Other Information Required under 40 CFR §257.90-98

In response to previously detected SSIs for arsenic in 2018 and 2019 under NDEE required monitoring, a Groundwater Assessment Report (GAR) was conducted by HDR Engineering, Inc. (HDR) on behalf of OPPD in 2019 to characterize the alternate sources of arsenic at the NC2 Ash Disposal Area (HDR, 2019b). As part of the GAR, upwind/upgradient and downwind/ downgradient surface and subsurface soil samples were collected near the NC2 Ash Disposal

Area. Additionally, groundwater samples from temporary piezometers and monitoring wells along the downgradient side of the NC2 Ash Disposal Area and ash samples from within the NC2 Ash Disposal Area were collected and analyzed. Surface soil samples, subsurface soil samples**,** ash samples**,** leachate samples, and groundwater samples were evaluated to characterize the NC2 Ash Disposal Area and the nature of the surrounding groundwater. The GAR served as an ASD for arsenic at monitoring well NC2MW-7 and was submitted to NDEE on November 6, 2019. NDEE responded in a May 5, 2020, correspondence stating the ASD for arsenic in NC2MW-7 had been accepted and that arsenic was due to naturally occurring arsenic in the soil and not a result of a release from the NC2 Ash Disposal Area.

Similarly, in response to the previously detected SSI for calcium in 2019 under CCR and NDEE required groundwater monitoring, a Site Assessment Report (SAR) was conducted in February and March 2020 in advance of the initiation of assessment monitoring (HDR, 2020a). HDR, on behalf of OPPD, conducted this additional investigation into two Appendix IV constituents (arsenic and lithium) at the NC2 Ash Disposal Area to evaluate and refine the source(s) of inorganic impacts to groundwater downgradient of the NC2 Ash Disposal Area. The information provided in the SAR was based on a combination of field data obtained during the GAR and field data obtained specifically for the SAR. Data evaluated as part of the SAR included: surface and subsurface soil samples, fly and bottom ash samples, limestone samples, leachate pond and leachate sump samples, clarifier sediment disposal area sediment samples, surface water samples, temporary piezometer groundwater samples, and groundwater samples from permanent monitoring wells and two delineation wells installed as part of the GAR.

Following the July 2020 SSLs for arsenic and lithium, both in NC2MW-7, OPPD was required to characterize the extent of the release and initiate an ACM within 90 days of identifying SSLs in accordance with 40 CFR §257.95(g). Following the October 2020 SSL for arsenic in NC2MW-8, a notification of SSL was prepared and placed in the facility's operating record on November 25, 2020 pursuant to 40 CFR §257.95(g) for all SSLs detected. A Nature and Extent Study (NES) was submitted to NDEE on December 17, 2020 (HDR, 2020b), and an ACM Report (HDR, 2020c) was placed in the facility's operating record on December 22, 2020, both of which were developed by implementing site information obtained through the GAR and SAR.

Results of the site investigations and ACM Report were presented at a public meeting with interested and affected parties on August 25, 2021. The public meeting was held online using Webex™. No comments were received during the meeting or submitted in writing. OPPD published a Remedy Selection Report in November 2021. The selected remedy has been implemented in stages as proposed in the Remedy Selection Report. Draft permit revisions were provided to NDEE during the 2021 reporting period to revise the NDEE Title 132 permit for implementation of the use of a surface binder for dust control as part of the selected remedy. In a letter dated January 14, 2022, the NDEE approved the permit modifications to control fugitive dust. During the 2022 reporting period, a revised fill plan was implemented and applications of a surface binder to inactive areas of the landfill was initiated. During the 2023 reporting period, the revised fill plan continues to be followed, and applications of a surface binder to inactive areas of the landfill were conducted.

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

4 Key Activities for Upcoming Year

OPPD has selected a remedy for corrective action (HDR, 2021a) and will continue to monitor and evaluate corrective actions. Ongoing remedial activities will occur in 2024 by continuing to implement the revised fill plan to reduce active areas of the landfill and annual applications of a surface binder to inactive areas of the landfill. The Site will continue to be monitored in accordance with the corrective action monitoring program as specified in 40 CFR §257.96(b), and the next semi-annual sampling event is anticipated to occur in April 2024.

5 References

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

EPA, 2015. 40 CFR parts 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, 2019a. *Groundwater Monitoring System Certification.* Nebraska City Station – NC2 Combustion Ash Landfill. Revised June 2019.

HDR, 2019b. *Title 132: Groundwater Assessment Report.* Nebraska City Station – NC2 Combustion Ash Landfill. November 6, 2019.

HDR, 2019c. *Groundwater Sampling and Analysis Plan*. Nebraska City Station – NC2 Combustion Ash Landfill. Revised March 2019.

HDR, 2020a. *Site Assessment Report.* Nebraska City Station – NC2 Combustion Ash Landfill. June 18, 2020.

HDR, 2020b. *Title 132: Nature and Extent Study*. Nebraska City Station – NC2 Combustion Ash Landfill. December 17, 2020.

HDR, 2020c. *Assessment of Corrective Measures Report*. Nebraska City Station – NC2 Combustion Ash Landfill. December 22, 2020.

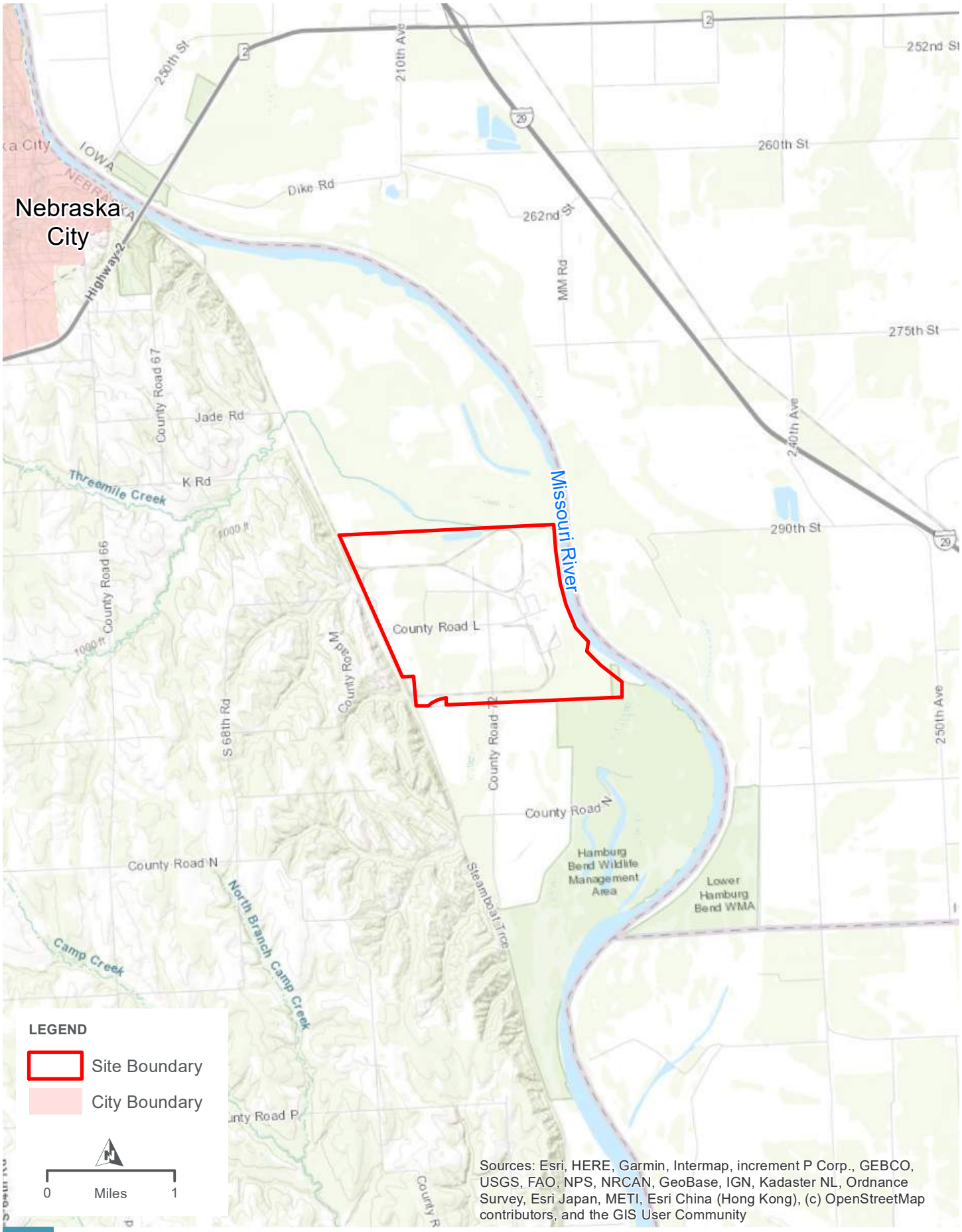
HDR, 2021a. *Remedy Selection Report.* Nebraska City Station – NC2 Combustion Ash Landfill. November 15, 2021.

HDR, 2021b. *Groundwater Monitoring Statistical Methods.* Nebraska City Station – NC2 Combustion Ash Landfill. Revised December 2021.

This page intentionally left blank.

.

Figures



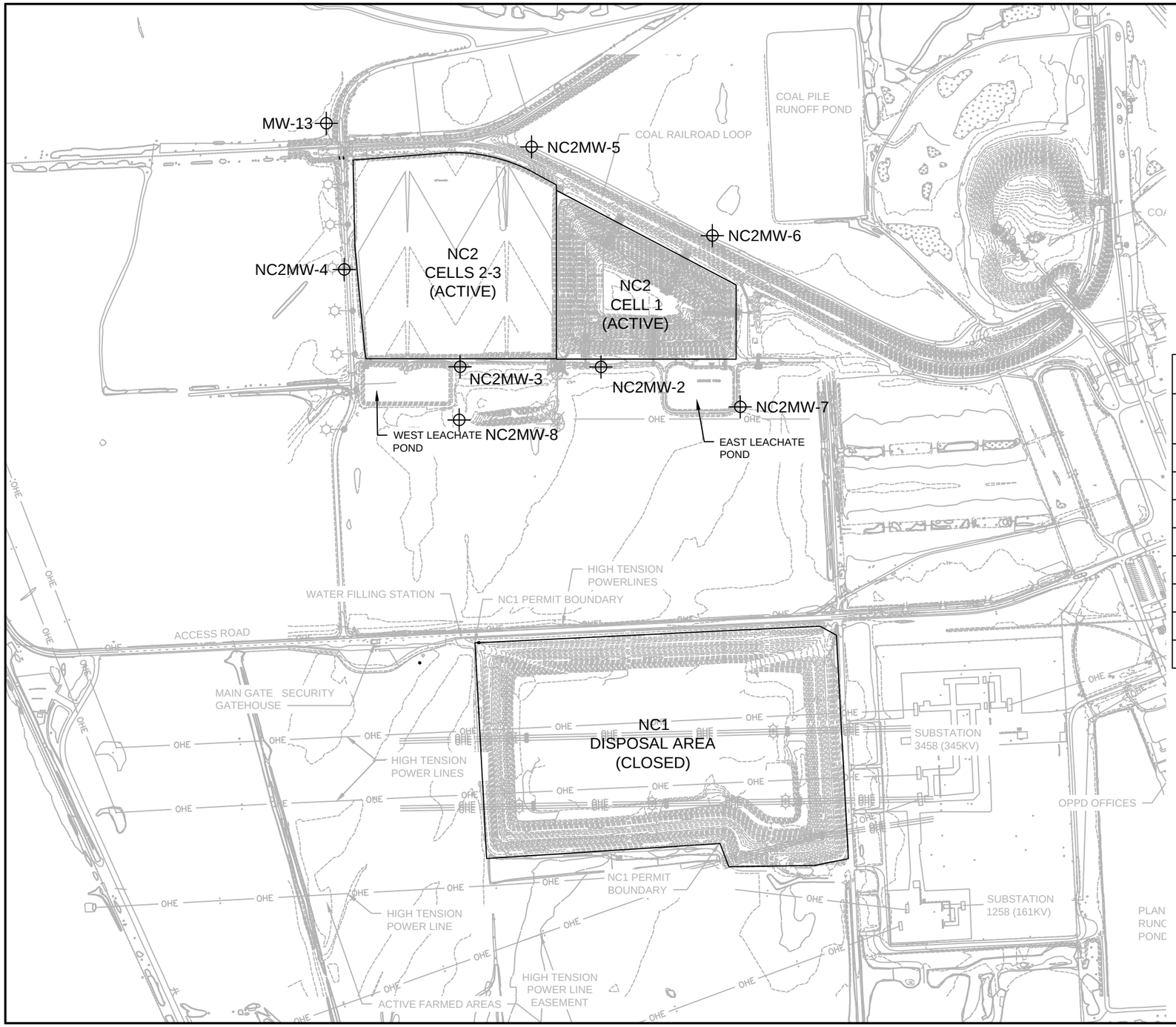
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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



N

600 0 600 1200

SCALE IN FEET

MONITORING WELL NETWORK					
WELL ID	NORTHING	EASTING	ELEVATION (TOC)	WELL DEPTH (BGS)	LOCATION WITH RESPECT TO NC2 ASH DISPOSAL AREA
MW-13	318186.64	2808434.68	918.05	13.0	BACKGROUND / UPGRADIENT
NC2MW-2	316884.69	2809902.40	922.55	17.0	DOWNGRADIENT
NC2MW-3	316885.96	2809149.54	916.22	12.0	DOWNGRADIENT
NC2MW-4	317405.90	2808530.80	919.62	14.0	BACKGROUND / UPGRADIENT
NC2MW-5	318060.54	2809531.90	922.76	15.2	BACKGROUND / UPGRADIENT
NC2MW-6	317587.46	2810497.97	919.72	11.0	CROSSGRADIENT
NC2MW-7	316671.78	2810647.12	918.37	21.0	DOWNGRADIENT
NC2MW-8	316601.90	2809145.16	918.18	15.0	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. WELL DEPTH MEASUREMENTS REPRESENT DEPTH BELOW GROUND SURFACE.
5. NORTHING AND EASTING COORDINATES ARE NEBRASKA STATE PLANE WHICH HAVE BEEN TRANSLATED BY THE SURVEYOR.

your energy partner®
OPPD
Omaha Public Power District

HDR

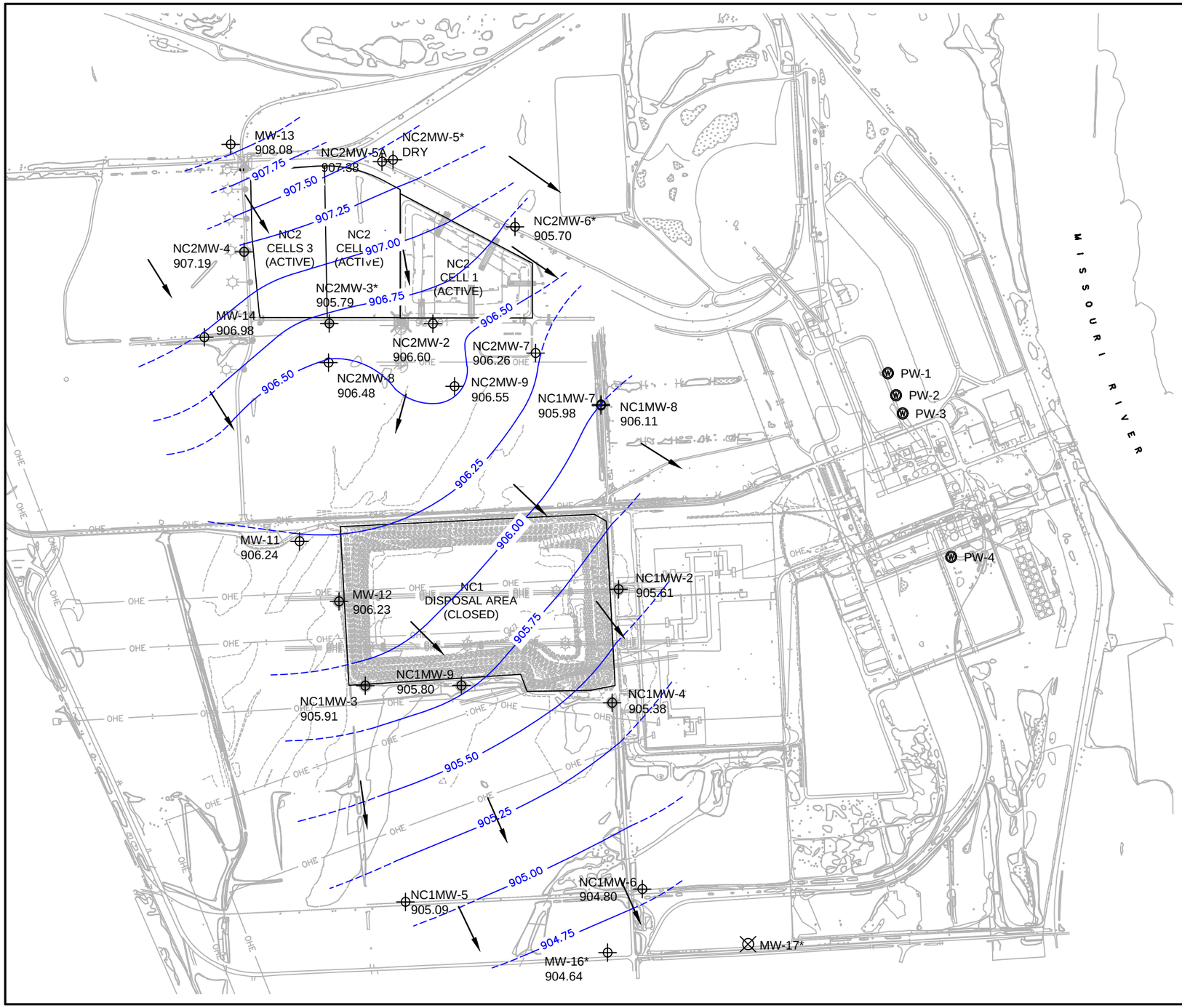
OPPD NEBRASKA CITY ASH LANDFILL
NEBRASKA CITY UNIT 2 - NC2
MONITORING WELL LOCATION MAP

2023 GROUNDWATER MONITORING

DATE
NOVEMBER 2023

FIGURE
02

This page intentionally left blank.



N

800 0 800 1600

SCALE IN FEET

LEGEND:

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

NOTES:

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

VELOCITY COMPUTATIONS

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

K = HYDRAULIC CONDUCTIVITY (SEE TABLE)

i = GRADIENT = $\frac{1.0\ FT}{1{,}903\ FT}$ = 0.000525FT/FT

n = POROSITY = 0.405

	K	V_T
LOW	6.96 FT/DAY	0.0090 FT/DAY
HIGH	39.4 FT/DAY	0.0511 FT/DAY

your energy partner®
OPPD
Omaha Public Power District

HDR

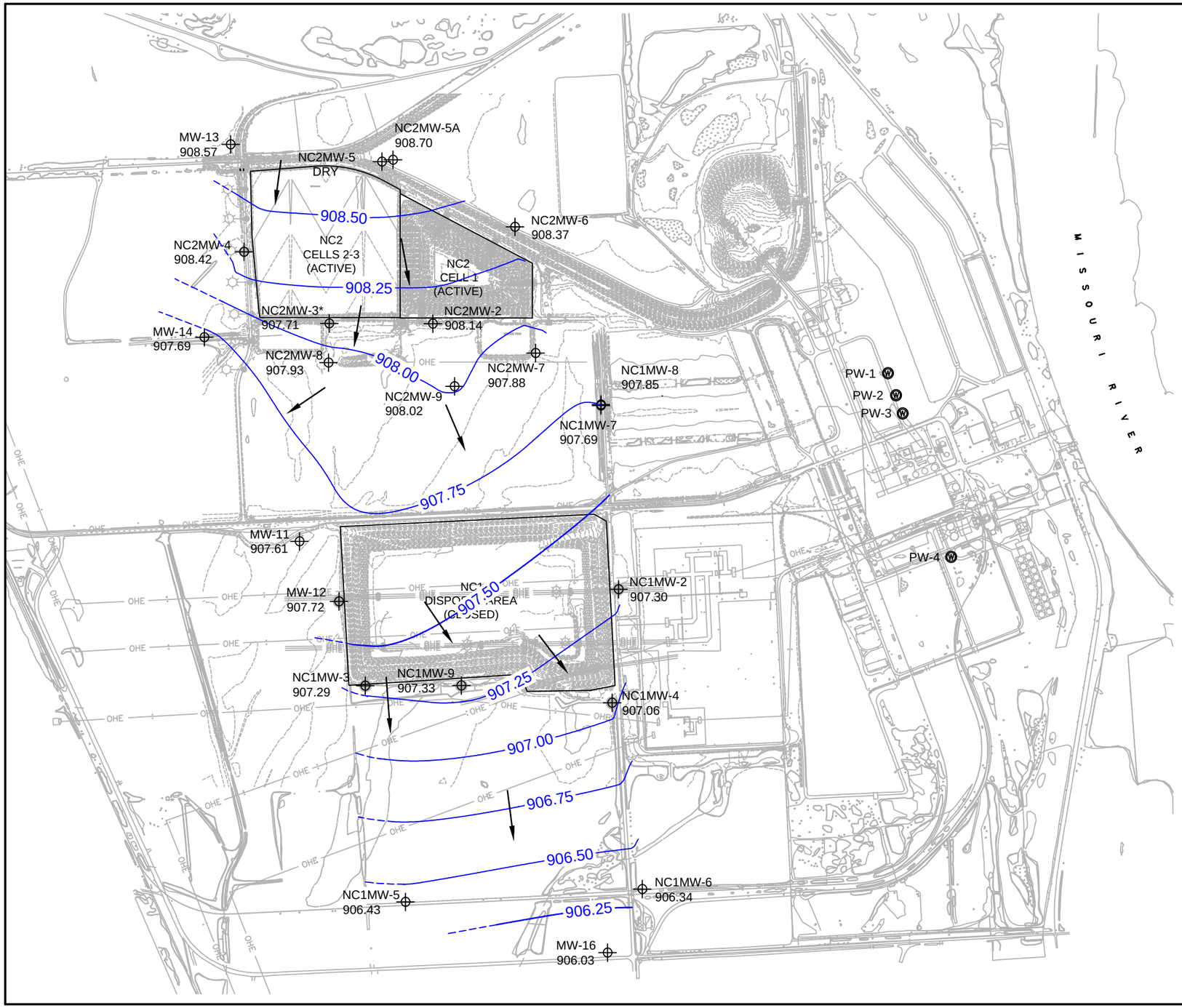
OPPD NEBRASKA CITY ASH LANDFILL GROUNDWATER CONTOUR MAP APRIL 2023

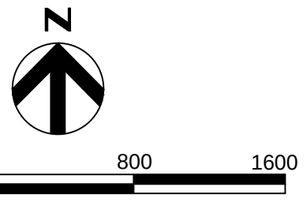
2023 GROUNDWATER MONITORING

DATE
DECEMBER 2023

FIGURE
03

This page intentionally left blank.





LEGEND:

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

NOTES:

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

VELOCITY COMPUTATIONS

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

K = HYDRAULIC CONDUCTIVITY (SEE TABLE)

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

n = POROSITY = 0.405

	K	V_T
LOW	6.96 FT/DAY	0.0072 FT/DAY
HIGH	39.4 FT/DAY	0.0407 FT/DAY

your energy partner®
OPPD
Omaha Public Power District

HDR

OPPD NEBRASKA CITY ASH LANDFILL GROUNDWATER CONTOUR MAP OCTOBER 2023

2023 GROUNDWATER MONITORING

DATE
DECEMBER 2023

FIGURE
04

This page intentionally left blank.

Tables

This page intentionally left blank.

Table 1 - Groundwater Monitoring System
Omaha Public Power District - NC2 Ash Disposal Area

Monitoring Well ID	Date Installed	Well Depth (feet bgs)	Location w/ respect to NC2 Ash Disposal Area	Ground Surface Elevation (feet AMSL)	Top of Well Casing Elevation (feet AMSL)
CCR Monitoring Network Wells					
NC2MW-2	9/8/2004	17	Downgradient	919.80	922.55
NC2MW-3	9/8/2004	16	Downgradient	913.30	919.58
NC2MW-4	9/8/2004	14	Background/Upgradient	917.07	919.62
NC2MW-5	9/16/2004	16	Background/Upgradient	919.34	922.76
NC2MW-6	9/7/2004	14	Crossgradient	916.30	919.72
NC2MW-7	11/6/2013	24	Downgradient	915.11	918.20
NC2MW-8	7/9/2018	15	Downgradient	915.20	917.97
MW-13	1/26/2016	13.0	Background/Upgradient	915.97	918.05
Water Level Only Wells					
NC1MW-2	3/14/1995	17.8	Downgradient	917.23	919.42
NC1MW-3	3/13/1995	19.5	Downgradient	917.10	919.85
NC1MW-4	3/13/1995	20.3	Downgradient	916.79	919.63
NC1MW-5	3/17/1995	16.6	Downgradient	917.61	920.70
NC1MW-6	3/13/1995	16.5	Downgradient	914.01	916.67
NC1MW-7	1/20/1999	40.5	Downgradient	917.12	919.20
NC1MW-8	1/21/1999	20.0	Downgradient	917.19	919.68
NC1MW-9	1/21/1999	20.0	Downgradient	917.52	920.09
NC2MW-5A	9/16/2019	17.2	Upgradient	919.13	922.05
NC2MW-9	9/17/2019	18.0	Downgradient	917.49	920.35
MW-11	1/16/2004	20.0	Downgradient	911.90	918.44
MW-12	3/26/2004	18.1	Downgradient	917.91	920.36
MW-14	7/12/2018	18.0	Crossgradient	917.99	920.99

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

Table 2 - Groundwater Sampling Event Summary
Omaha Public Power District - NC2 Ash Disposal Area

Monitoring Well ID	# of Initial Background Samples	Initial Background Sample Dates	# of Detection Monitoring Samples [1], [6]	Detection Monitoring Sample Dates	# of Assessment Monitoring Samples	Assessment Monitoring Sample Dates
Current Background Monitoring Wells						
NC2MW-4 [5]	8	3/14/2016, 6/3/2016, 8/31/2016, 11/17/2016, 2/15/2017, 4/24/2017, 6/15/2017, 7/12/2017	7	11/9/2017, 3/12/2018, 6/6/2018, 10/3/2018, 4/8/2019, 10/15/2019, 1/30/2020	9	4/27/2020, 7/14/2020, 10/5/2020, 4/12/2021, 10/4/2021, 4/4/2022, 10/3/2022, 4/10/2023, 10/10/2023
NC2MW-5 [7]	8	3/14/2016, 6/3/2016, 8/31/2016, 11/17/2016, 2/15/2017, 4/24/2017, 6/15/2017, 7/12/2017	7	11/9/2017, 3/12/2018, 6/6/2018, 10/3/2018, 4/8/2019, 10/15/2019, 1/30/2020	8	4/27/2020, 7/14/2020, 10/5/2020, 4/12/2021, 10/4/2021, 4/4/2022, 10/3/2022, 10/10/2023
MW-13 [2], [3], [5]	8	3/14/2016, 6/3/2016, 8/31/2016, 11/17/2016, 2/15/2017, 4/24/2017, 6/15/2017, 7/12/2017	5	11/9/2017, 3/12/2018, 6/6/2018, 10/3/2018, 1/30/2020	9	4/27/2020, 7/14/2020, 10/5/2020, 4/12/2021, 10/4/2021, 4/4/2022, 10/3/2022, 4/10/2023, 10/10/2023
Downgradient Monitoring Wells						
NC2MW-2	8	3/14/2016, 6/3/2016, 8/31/2016, 11/17/2016, 2/15/2017, 4/24/2017, 6/15/2017, 7/12/2017	8	11/9/2017, 3/12/2018, 6/6/2018, 10/3/2018, 4/8/2019, 9/23/2019, 10/15/2019, 1/31/2020	9	4/27/2020, 7/14/2020, 10/5/2020, 4/12/2021, 10/4/2021, 4/4/2022, 10/3/2022, 4/10/2023, 10/10/2023
NC2MW-3 [2]	8	3/14/2016, 6/3/2016, 8/31/2016, 11/17/2016, 2/15/2017, 4/24/2017, 6/15/2017, 7/12/2017	7	11/9/2017, 3/12/2018, 6/6/2018, 10/3/2018, 9/23/2019, 10/15/2019, 1/31/2020	9	4/27/2020, 7/14/2020, 10/5/2020, 4/12/2021, 10/4/2021, 4/4/2022, 10/3/2022, 4/11/2023, 10/10/2023
NC2MW-6 [7]	8	3/14/2016, 6/3/2016, 8/31/2016, 11/17/2016, 2/15/2017, 4/24/2017, 6/15/2017, 7/12/2017	7	11/9/2017, 3/12/2018, 6/6/2018, 10/3/2018, 4/8/2019, 10/15/2019, 1/31/2020	8	4/27/2020, 7/14/2020, 10/5/2020, 4/12/2021, 10/4/2021, 4/4/2022, 10/3/2022, 10/10/2023
NC2MW-7	8	3/14/2016, 6/3/2016, 8/31/2016, 11/17/2016, 2/15/2017, 4/24/2017, 6/15/2017, 7/12/2017	8	11/9/2017, 3/12/2018, 6/6/2018, 10/3/2018, 4/8/2019, 9/23/2019, 10/15/2019, 2/3/2020	9	4/27/2020, 7/15/2020, 10/5/2020, 4/12/2021, 10/4/2021, 4/4/2022, 10/3/2022, 4/10/2023, 10/10/2023
NC2MW-8 [2]	8[4]	10/3/2018, 1/15/2019, 3/5/2019, 9/23/2019, 10/16/2019, 1/31/2020, 4/27/2020, 7/14/2020	0	N/A	7	10/5/2020, 4/12/2021, 10/4/2021, 4/4/2022, 10/3/2022, 4/10/2023, 10/10/2023

[1] The number of detection monitoring samples includes the 3/12/2018 event, which occurred as part of an Alternative Source Demonstration.

[2] MW-13, NC2MW-3, and NC2MW-8 were submerged under water during April 2019 sampling event and were not sampled.

[3] MW-13 was surrounded by ponding water during October 2019 sampling event and was not sampled.

[4] NC2MW-8 was installed July 9, 2018 and was added to the Groundwater Monitoring System Certification in June 2019. The 9/23/2019 sampling event was part of an Alternative Source Demonstration for the Title 132 Groundwater Assessment Report.

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

[6] Four wells, NC2MW-2, NC2MW-3, NC2MW-7, and NC2MW-8, were sampled during the 9/23/2019 fieldwork as part of an Alternative Source Demonstration for the Title 132 Groundwater Assessment Report .

[7] NC2MW-5 and NC2MW-6 were either dry or had insufficient water volume during the April 2023 sampling event and were not sampled.

Table 3 - Groundwater Elevations

Omaha Public Power District - NC2 Ash Disposal Area

	CCR Monitoring Network Wells															
	NC2MW-4		NC2MW-5		MW-13		NC2MW-2		NC2MW-3		NC2MW-6		NC2MW-7		NC2MW-8	
	TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation	
	919.62		922.76		918.05		922.55		919.58		919.72		918.20		917.97	
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)
3/14/2016	6.91	912.71	6.98	915.78	4.75	913.30	10.80	911.75	4.05	915.53	7.95	911.77	7.04	911.16		
6/3/2016	5.62	914.00	7.67	915.09	3.51	914.54	8.96	913.59	2.55	917.03	6.02	913.70	4.80	913.40		
8/31/2016	5.05	914.57	5.30	917.46	2.85	915.20	8.91	913.64	2.31	917.27	5.95	913.77	5.40	912.80		
11/17/2016	6.80	912.82	9.25	913.51	4.40	913.65	10.90	911.65	4.10	915.48	8.10	911.62	7.20	911.00		
2/15/2017	7.50	912.12	10.20	912.56	5.21	912.84	11.70	910.85	4.95	914.63	9.00	910.72	8.15	910.05		
4/24/2017	6.11	913.51	8.48	914.28	4.00	914.05	9.85	912.70	3.21	916.37	7.00	912.72	5.96	912.24	*Well Installed 7/9/2018*	
6/15/2017	6.75	912.87	9.82	912.94	4.70	913.35	10.30	912.25	3.42	916.16	7.35	912.37	6.35	911.85		
7/12/2017	7.11	912.51	10.15	912.61	5.02	913.03	10.76	911.79	4.25	915.33	7.90	911.82	6.80	911.40		
11/9/2017	12.20	907.42	14.20	908.56	8.25	909.80	15.10	907.45	12.10	907.48	11.20	908.52	10.50	907.70		
3/12/2018	10.18	909.44	12.95	909.81	8.10	909.95	13.90	908.65	7.15	912.43	10.88	908.84	10.00	908.20		
6/6/2018	6.80	912.82	9.70	913.06	4.65	913.40	10.35	912.20	3.70	915.88	7.25	912.47	6.35	911.85		
10/3/2018	4.14	915.48	4.95	917.81	1.63	916.42	7.39	915.16	0.80	918.78	4.30	915.42	3.20	915.00	3.15	914.82
3/5/2019	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	6.67	911.30
4/8/2019 [1]	3.53	916.09	4.56	918.20	N.M.	N.M.	6.70	915.85	N.M.	N.M.	4.18	915.54	2.74	915.46	N.M.	N.M.
10/14/2019 [2]	3.47	916.15	4.48	918.28	N.M.	N.M.	6.34	916.21	0.21	919.37	3.75	915.97	2.27	915.93	2.38	915.59
1/30/2020	5.44	914.18	5.81	916.95	3.39	914.66	9.09	913.46	2.56	917.02	6.11	913.61	5.37	912.83	4.75	913.22
4/20/2020	5.24	914.38	6.37	916.39	2.94	915.11	8.83	913.72	2.36	917.22	5.97	913.75	4.99	913.21	4.59	913.38
7/14/2020	7.19	912.43	10.02	912.74	5.23	912.82	10.44	912.11	7.89	911.69	7.45	912.27	6.32	911.88	6.28	911.69
10/5/2020	9.65	909.97	12.63	910.13	7.76	910.29	12.92	909.63	10.34	909.24	9.90	909.82	8.81	909.39	8.68	909.29
4/6/2021	6.76	912.86	5.87	916.89	4.73	913.32	10.57	911.98	7.72	911.86	7.62	912.10	6.76	911.44	6.03	911.94
10/1/2021	10.17	909.45	13.15	909.61	8.32	908.08	13.48	909.07	11.55	908.03	10.38	909.34	9.37	908.83	9.16	908.81
4/1/2022	10.27	909.35	6.29	916.47	8.19	909.86	14.14	908.41	12.00	907.58	11.21	908.51	10.45	907.75	9.61	908.36
10/1/2022	11.82	907.80	14.90	907.86	10.04	908.01	14.60	907.95	12.72	906.86	11.84	907.88	10.79	907.41	11.66	906.31
4/6/2023 [3]	12.43	907.19	N.M.	N.M.	9.97	908.08	15.95	906.60	13.79	905.79	14.02	905.70	11.94	906.26	11.49	906.48
10/10/2023 [4,5]	11.20	908.42	N.M.	N.M.	9.48	908.57	14.41	908.14	11.87	907.71	11.35	908.37	10.32	907.88	10.04	907.93

TOC = Top of PVC well casing

N.M. = not measured

AMSL = above mean sea level

[1] MW-13, NC2MW-3, and NC2MW-8 were surrounded by ponding water during April 2019 sampling event and were not measured.

[2] MW-13 was surrounded by ponding water during October 2019 sampling event and was not measured.

[3] NC2MW-5 was dry during the April 2023 sampling event.

[4] NC2MW-5 water level was at top of pump during October 2023 sampling event.

[5] NC2MW-9 was dry during the October 2023 sampling event.

Table 3 - Groundwater Elevations

Omaha Public Power District - NC2 Ash Disposal Area

	Water Level Only Wells																	
	NC1MW-2		NC1MW-3		NC1MW-4		NC1MW-5		NC1MW-6		NC1MW-7		NC1MW-8		NC1MW-9		NC2MW-5A	
	TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation	
	919.42		919.85		919.63		920.70		916.67		919.20		919.68		920.09		922.05	
Date	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)	Measured Depth to Water (ft.)	GW Elevation (AMSL)
3/9/2016	8.90	910.52	8.95	910.90	9.50	910.13	10.82	909.88	7.55	909.12	8.25	910.95	8.60	911.08	9.30	910.79		
6/7/2016	7.04	912.38	7.75	912.10	7.41	912.22	9.67	911.03	6.31	910.36	6.43	912.77	6.80	912.88	7.88	912.21		
10/3/2016	8.45	910.97	8.35	911.50	9.10	910.53	12.99	907.71	6.86	909.81	7.94	911.26	8.53	911.15	8.76	911.33		
11/18/2016	9.30	910.12	9.36	910.49	10.10	909.53	11.25	909.45	8.20	908.47	8.72	910.48	9.10	910.58	7.75	912.34		
2/14/2017	10.10	909.32	9.91	909.94	10.85	908.78	11.70	909.00	8.80	907.87	9.60	909.60	10.00	909.68	10.41	909.68		
4/25/2017	8.10	911.32	8.25	911.60	8.84	910.79	10.30	910.40	7.02	909.65	7.41	911.79	7.75	911.93	8.65	911.44		
6/20/2017	7.60	911.82	7.95	911.90	8.20	911.43	10.72	909.98	7.42	909.25	7.85	911.35	8.04	911.64	8.15	911.94		
7/13/2017	8.40	911.02	8.75	911.10	9.10	910.53	10.50	910.20	8.10	908.57	8.32	910.88	8.89	910.79	9.10	910.99	*Well Installed 9/16/2019*	
11/8/2017	11.55	907.87	11.90	907.95	11.60	908.03	10.90	909.80	8.70	907.97	9.05	910.15	9.18	910.50	12.10	907.99		
3/13/2018	11.50	907.92	11.85	908.00	12.16	907.47	NM	NM	NM	NM	NM	NM	NM	NM	12.22	907.87		
6/6/2018	5.30	914.12	7.15	912.70	7.10	912.53	NM	NM	NM	NM	NM	NM	NM	NM	8.90	911.19		
10/4/2018	5.78	913.64	6.60	913.25	6.66	912.97	8.85	911.85	5.41	911.26	4.48	914.72	5.14	914.54	6.87	913.22		
1/15/2019	NM	NM	NM	NM	NM	NM	10.06	910.64	6.56	910.11	NM	NM	NM	NM	NM	NM		
3/5/2019	NM	NM	NM	NM	NM	NM	NM	NM	8.08	908.59	NM	NM	NM	NM	NM	NM		
4/8/2019[1]	4.17	915.25	4.69	915.16	4.58	915.05	NM	NM	NM	NM	3.68	915.52	3.98	915.70	4.85	915.24		
10/14/2019[2]	3.64	915.78	4.56	915.29	4.33	915.30	NM	NM	NM	NM	3.01	916.19	3.33	916.35	4.65	915.44	4.38	917.67
4/20/2020	6.82	912.60	7.42	912.43	7.60	912.03	9.70	911.00	6.16	907.85	6.05	913.15	6.36	913.32	7.69	912.40	7.49	914.56
10/5/2020	10.52	908.90	11.13	908.72	11.17	908.46	12.90	907.80	9.11	907.56	10.06	909.14	10.36	909.32	11.35	908.74	11.88	910.17
4/6/2021	8.91	910.51	8.90	910.95	9.53	910.10	10.95	909.75	7.58	909.09	8.20	911.00	8.54	911.14	9.34	910.75	8.70	913.35
10/1/2021	11.27	908.15	11.74	908.11	11.84	907.79	13.54	907.16	9.66	907.01	10.69	908.51	11.02	908.66	12.00	908.09	12.39	909.66
4/1/2022	12.52	906.90	12.22	907.63	13.01	906.62	14.02	906.68	10.72	905.95	11.99	907.21	12.29	907.39	12.74	907.35	11.57	910.48
10/1/2022	12.62	906.80	13.09	906.76	13.12	906.51	14.82	905.88	11.05	905.62	11.91	907.29	12.23	907.45	13.28	906.81	14.20	907.85
4/6/2023[3]	13.81	905.61	13.94	905.91	14.25	905.38	15.61	905.09	11.87	904.80	13.22	905.98	13.57	906.11	14.29	905.80	14.67	907.38
10/10/2023[4,5]	12.12	907.30	12.56	907.29	12.57	907.06	14.27	906.43	10.33	906.34	11.51	907.69	11.83	907.85	12.76	907.33	13.35	908.70

Notes:

TOC = Top of PVC well casing

N.M. = not measured

AMSL = above mean sea level

[1] MW-13, NC2MW-3, and NC2MW-8 were surrounded by ponding water during April 2019 sampling event and were not measured.

[2] MW-13 was surrounded by ponding water during October 2019 sampling event and was not measured.

[3] NC2MW-5 was dry during the April 2023 sampling event.

[4] NC2MW-5 water level was at top of pump during October 2023 sampling event.

[5] NC2MW-9 was dry during the October 2023 sampling event.

Table 3 - Groundwater Elevations

Omaha Public Power District - NC2 Ash Disposal Area

	Water Level Only Wells							
	NC2MW-9		MW-11		MW-12		MW-14	
	TOC Elevation		TOC Elevation		TOC Elevation		TOC Elevation	
	920.35		918.44		920.36		920.99	
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)
3/9/2016			6.90	911.54	9.00	911.36		
6/7/2016			5.85	912.59	7.80	912.56		
10/3/2016			6.34	912.10	8.40	911.96		
11/18/2016			7.37	911.07	9.35	911.01		
2/14/2017			7.95	910.49	9.95	910.41		
4/25/2017			6.24	912.20	8.20	912.16	*Well installed 7/12/2018*	
6/20/2017			7.85	910.59	8.40	911.96		
7/13/2017	*Well Installed 9/17/2019*		6.25	912.19	8.52	911.84		
11/8/2017			10.95	907.49	12.55	907.81		
3/13/2018			9.85	908.59	NM	NM		
6/6/2018			6.80	911.64	NM	NM		
10/4/2018			4.45	913.99	6.55	913.81	7.35	913.64
1/15/2019			NM	NM	NM	NM	8.15	912.84
3/5/2019			NM	NM	NM	NM	8.75	912.24
4/8/2019[1]			3.04	915.40	4.89	915.47	5.73	915.26
10/14/2019[2]	4.19	916.16	2.90	915.54	4.77	915.59	5.75	915.24
4/20/2020	6.76	913.59	5.48	912.96	7.41	912.95	7.59	913.40
10/5/2020	10.81	909.54	9.37	909.07	11.29	909.07	11.47	909.52
4/6/2021	8.56	911.79	7.01	911.43	8.97	911.39	8.51	912.48
10/1/2021	11.42	908.93	9.88	908.56	11.86	908.50	11.98	909.01
4/1/2022	12.09	908.26	10.42	908.02	12.35	908.01	11.74	909.25
10/1/2022	12.77	907.58	11.31	907.13	13.24	907.12	13.87	907.12
4/6/2023[3]	13.80	906.55	12.20	906.24	14.13	906.23	14.01	906.98
10/10/2023[4,5]	12.33	908.02	10.83	907.61	12.64	907.72	13.30	907.69

Notes:

TOC =Top of PVC well casing

N.M. = not measured

AMSL = above mean sea level

[1] MW-13, NC2MW-3, and NC2MW-8 were surrounded by ponding water during April 2019 sampling event and were not measured.

[2] MW-13 was surrounded by ponding water during October 2019 sampling event and was not measured.

[3] NC2MW-5 was dry during the April 2023 sampling event.

[4] NC2MW-5 water level was below pump during October 2023 sampling event.

[5] NC2MW-9 was dry during the October 2023 sampling event.

Table 4 - Appendix III (Detection Monitoring) Constituents in Groundwater
Omaha Public Power District - NC2 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	6.90	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
	11/17/2016	<0.2	130	<5	1.28	7.19	34.0	548
	11/18/2016	<0.2	132	<5	1.10	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	43.50	556.0
	11/9/2017	<0.2	134	<5	<0.5	7.18	42.8	568
	3/12/2018	<0.2	141	<5	<0.5	6.32 / 7.28 [1]	42.6	562
	6/6/2018	<0.2	140	<5	<0.5	7.15	44.1	542
	10/3/2018	<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	6.88	44.5	544
	4/20/2020	<0.1	127	5.05	0.421J	6.54	51.9	526
	4/27/2020	<0.0730	134	5.37	0.315J	6.61	52.6	550
	7/14/2020	0.113	129	4.38J	<0.23	6.53	59.9	454
	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	6.93	62.6	486
	4/4/2022	0.126	128	3.29J	<0.220	6.02 / 7.3^	60.4	444
	10/4/2022	0.160	118	5.30	<0.220	7.08	37.4	442
	4/10/2023	0.223	125	5.76	<0.375	6.96	49.0	616
	10/10/2023	0.126	119	4.22J	<0.375	6.12	44.8	430
NC2MW-5	3/14/2016	3.73	210	51.0	<0.5	7.12	611.0	1310
	6/3/2016	3.98	217	36.6	<0.5	7.01	590.0	1390
	8/31/2016	4.08	159	21.5	<0.5	7.11	455.0	1280
	11/17/2016	4.27	228	21.6	1.89	7.54	414.0	1170
	2/15/2017	2.94	217	13.3	0.59	7.30	531.0	1210
	4/24/2017	2.85	183	12.5	1.25	7.55	331.0	1060
	6/15/2017	3.82	190	10.6	<0.5	7.17	243.0	1090
	7/12/2017	4.63	191	7.93	<0.5	7.45	369.0	1190
	11/9/2017	2.91	168	13.2	<0.5	7.20	404.0	1260
	3/12/2018	2.00	160	34.2	<0.5	6.90 / 7.56 [1]	318.0	826
	6/6/2018	3.81	198	14.0	<0.5	7.02	353.0	1060
	10/3/2018	4.01	227	8.65	<0.5	7.00	503	1230
	4/8/2019	3.72	189	5.42	0.634	7.15	382	1030
	10/15/2019	3.66	195	9.2	<0.5	7.00	322	924
	1/30/2020	2.65	172	8.61	<0.5	7.23	297	692
	4/27/2020	3.31	174	6.39	0.323J	6.84	381	946
	7/14/2020	4.26	216	9.02	<0.23	6.83	324	1020
	10/5/2020	4.27	221	10.6	<0.23	6.96	339	1040
	4/12/2021	2.24	114	9.45	0.356J	6.60	203	606
	10/4/2021	2.86	168	9.28	<0.275	7.19	282	826
	4/4/2022	2.31	167	9.57	<0.220	7.37 / 7.5^	336	802
	10/4/2022	3.81	169	7.59	<0.220	7.30	202	832
	4/10/2023	N.S. [5]	N.S. [5]	N.S. [5]	N.S. [5]	N.S. [5]	N.S. [5]	N.S. [5]
	10/10/2023	3.27	186	14.4	<0.375	6.38	246	874

Table 4 - Appendix III (Detection Monitoring) Constituents in Groundwater
Omaha Public Power District - NC2 Ash Disposal Area

		Appendix III (Detection Monitoring) Constituents						
	Constituent	Boron	Calcium	Chloride	Fluoride*	pH	Sulfate	TDS
	Reporting Unit	mg/L	mg/L	mg/L	mg/L	S.U.	mg/L	mg/L
MW-13	3/9/2016	<0.2	96.3	11.8	<0.5	7.20	44.8	408
	3/14/2016	<0.2	90.6	11.4	<0.5	6.97	47.7	438
	6/3/2016	<0.2	87.9	12.0	<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
	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	0.79	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	8.10	42.0	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
	3/12/2018	<0.2	99.8	12.9	<0.5	6.45 / 7.51 [1]	37.0	412
	6/6/2018	0.203	102	12.5	<0.5	6.84	71.0	504
	10/3/2018	<0.2	87.3	14.1	0.738	6.88	33.6	410
	4/8/2019	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]
	10/15/2019	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]
	1/30/2020	0.121J	93.7	17.2	<0.5	6.87	44.5	464
	4/20/2020	0.133J	120	17.3	0.399J	6.96	371	742
	4/27/2020	0.134	102	17.2	0.383J	6.93	271	622
	7/14/2020	0.134	103	7.22	0.267J	6.84	299	566
	10/5/2020	0.0955J	118	12.8	<0.23	$6.90	46.2	508
	4/12/2021	0.0653J	66.9	5.50	0.441J	6.58	101	350
	10/4/2021	0.105	126	11.5	<0.275	6.99	47.4	510
	4/4/2022	0.0931J	130	10.7	<0.220	6.15 / 7.2^	48.8	470
	10/3/2022	0.113	112	9.85	<0.220	6.90	13.3	470
	4/10/2023	0.136	120	12.2	<0.375	6.95	31.6	736
	10/10/2023	0.0986J	141	11.4	1.00	6.65	7.56	544
NC2MW-2	3/14/2016	<0.2	277	<5	0.371	6.80	388.0	1120
	6/3/2016	0.301	196	<5	<0.5	6.79	336.0	972
	8/31/2016	0.511	130	<5	<0.5	7.04	151.0	696
	11/17/2016	0.302	236	<5	<0.5	7.23	298.0	1030
	2/15/2017	0.219	269	13.2	2.51	7.28	290.0	1070
	4/24/2017	0.264	158	5.40	1.38	7.21	135.0	652
	6/15/2017	0.304	165	<5	<0.5	7.04	139.0	780
	7/12/2017	0.325	127	<5	<0.5	7.03	73.0	592
	11/9/2017	0.25	131	<5	<0.5	7.19	130.0	662
	3/12/2018	<0.2	176	5.08	<0.5	6.26 / 6.96 [1]	258.0	656
	6/6/2018	0.353	220	15.7	<0.5	6.45 / 6.71 [2]	281.0	1180
	10/3/2018	0.438	167	<5	<0.5	6.86	164	668
	4/8/2019	0.270	227	11.8	<0.5	6.68	290	978
	9/23/2019	0.879	151	9.73	0.546	N.S.	238	654
	10/15/2019	0.513	241	10.7	<0.5	6.54	314	972
	1/31/2020	0.322	258	9.78	<0.5	6.39	312	1090
	4/27/2020	0.265	252	9.64	0.256J	6.49	350	1140
	7/14/2020	0.291	261	7.93	<0.23	6.67	319	1070
	10/5/2020	0.289	268	7.67	<0.23	6.70	324	1050
	4/12/2021	0.371	235	24.7	0.392J	6.34	458	1040
	10/4/2021	0.668	183	11.6	<0.275	6.91	266	726
	4/4/2022	0.456	231	18.1	<0.220	4.18 / 6.7^	381	934
	10/3/2022	0.559	241	11.3	0.330J	7.03	319	1030
	4/10/2023	0.496	257	19.5	0.442J	6.96	404	1070
	10/10/2023	1.04	222	9.49	<0.375	6.59	374	928

Table 4 - Appendix III (Detection Monitoring) Constituents in Groundwater
Omaha Public Power District - NC2 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-3	3/14/2016	<0.2	85.3	<5	0.168	7.05	21.0	334
	6/3/2016	<0.2	121	<5	<0.5	7.14	19.6	500
	8/31/2016	<0.2	51.3	<5	<0.5	7.18	7.35	296
	11/17/2016	<0.2	91	<5	1.28	7.32	5.6	354
	2/15/2017	<0.2	74.2	15.6	5.11	7.09	49.6	378
	4/24/2017	<0.2	63.3	9.00	2.87	7.68	10.5	324
	6/15/2017	<0.2	89.4	<5	<0.5	7.32	<5	386
	7/12/2017	<0.2	92.8	<5	<0.5	7.99	8.94	528
	11/9/2017	<0.2	148	<5	<0.5	7.33	185.0	604
	3/12/2018	<0.2	167	11.7	0.723	6.61 / 7.41 [1]	371.0	792
	6/6/2018	0.654	198	22.9	<0.5	4.40 / 6.91 [2]	491.0	978
	10/3/2018	<0.2	127	8.74	0.523	6.94	31.2	478
	4/8/2019	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]
	9/23/2019	<0.2	132	7.53	0.527	N.S.	24	494
	10/15/2019	<0.2	138	7.92	<0.5	6.81	20.3	472
	1/31/2020	<0.1	156	6.90	<0.5	6.61	89.9	600
	4/27/2020	0.0765J	181	8.70	0.300J	6.62	183	774
	7/14/2020	0.401	204	3.86J	<0.23	6.8	407	842
	10/5/2020	0.213	159	7.71	0.535	6.76	156	644
	4/12/2021	0.271	141	22.7	1.37	6.53	379	1080
	10/4/2021	0.306	139	12.6	0.492J	7.02	292	860
	4/4/2022	0.198	212	47.0	1.12	4.01 / 7.1^	703	1590
	10/3/2022	0.468	194	12.1	1.17	7.15	563	1440
	4/11/2023	0.265	182	11.1	1.07	6.91	401	1110
	10/10/2023	0.406	179	9.24	1.26	6.72	427	1140
NC2MW-6	3/14/2016	3.83	134	16.5	<0.5	7.21	314.0	728
	6/3/2016	4.14	93.0	6.16	<0.5	7.27	171.0	608
	8/31/2016	4.79	90.4	<5.0	<0.5	7.43	149.0	592
	11/17/2016	5.11	125	15	6.53	7.63	165.0	588
	2/15/2017	4.11	132	<5.0	<0.5	7.77	136.0	602
	4/24/2017	3.08	96.5	10.2	1.71	7.68	99.1	530
	6/15/2017	3.58	119	6.26	<0.5	7.35	196.0	636
	7/12/2017	3.92	102	<5.0	<0.5	7.25	155.0	596
	11/9/2017	4.39	128	6.75	<0.5	7.24	195.0	872
	3/12/2018	3.06	145	7.14	<0.5	6.64 / 7.38 [1]	194.0	644
	6/6/2018	3.58	133	5.53	<0.5	7.19	174.0	694
	10/3/2018	4.18	129	<5.0	<0.5	6.97	200	660
	4/8/2019	2.46	94.3	<5	<0.5	7.18	141	520
	10/15/2019	2.79	154	9.08	<0.5	6.82	151	656
	1/31/2020	2.86	149	8.67	<0.5	6.94	171	884
	4/27/2020	2.59	125	8.29	0.335J	6.80	149	586
	7/14/2020	2.60	122	7.83	0.232J	6.93	135	526
	10/5/2020	3.03	126	8.57	0.329J	6.89	147	404
	4/12/2021	1.94	90.4	3.57J	<0.275	6.65	101	406
	10/4/2021	2.48	123	6.30	<0.275	7.20	132	524
	4/4/2022	2.42	142	6.45	<0.220	7.48 / 7.2^	134	600
	10/4/2022	2.33	120	6.05	<0.220	7.41	97.9	566
	4/10/2023	N.S. [5]	N.S. [5]	N.S. [5]	N.S. [5]	N.S. [5]	N.S. [5]	N.S. [5]
	10/10/2023	2.09	126	5.32	<0.375	6.60	112	580
NC2MW-7	3/14/2016	<0.2	134	6.55	0.31	6.92	6.88	496
	6/3/2016	<0.2	128	7.63	<0.5	7.28	<5	690
	8/31/2016	<0.2	100	6.68	<0.5	7.55	<5	534
	11/17/2016	<0.2	138	5.73	0.54	7.77	<5	510
	2/15/2017	<0.2	143	9.96	<0.5	7.55	<5	552
	4/24/2017	<0.2	139	11.3	1.35	7.83	<5	576
	6/15/2017	<0.2	128	9.81	<0.5	7.40	<5	688
	7/12/2017	<0.2	125	8.07	<0.5	7.25	<5	636

Table 4 - Appendix III (Detection Monitoring) Constituents in Groundwater
Omaha Public Power District - NC2 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-7 (cont'd)	11/9/2017	0.201	131	7.79	<0.5	7.40	17.8	580
	3/12/2018	<0.2	144	9.04	<0.5	6.72 / 7.42 [1]	25.7	496
	6/6/2018	<0.2	119	9.41	<0.5	7.21	12.0	528
	10/3/2018	<0.2	122	9.19	0.519	7.31	11.6	494
	4/8/2019	0.214	132	8.64	<0.5	7.33	44.0	820
	9/23/2019	<0.2	129	8.33	<0.5	N.S.	19.1	526
	10/15/2019	<0.2	139	8.41	<0.5	7.02	32.1	520
	2/3/2020	0.133J	123	8.51	0.357J	6.76	30.9	534
	4/27/2020	0.172	126	9.12	0.429J	6.89	9.26	518
	7/14/2020	0.161	121	9.83	<0.23	6.81	<3.55	340
	10/5/2020	0.220	122	9.12	0.322J	7.21	<3.55	396
	4/12/2021	0.227	124	8.69	0.415J	6.85	<2.45	494
	10/4/2021	0.190	118	9.27	<0.275	7.38	<2.45	430
	4/4/2022	0.241	132	7.08	<0.220	7.89 / 7.2^	6.49	484
	10/3/2022	0.249	117	8.88	<0.220	7.60	<2.00	482
	4/10/2023	0.142	121	9.73	0.402J	7.37	2.41J	598
	10/10/2023	0.168	114	10.3	<0.375	7.27	<2.10	468
NC2MW-8 [3]	10/3/2018	<0.2	142	7.05	0.566	7.14	10.7	526
	1/15/2019	<0.2	102	8.10	<0.5	6.73	11.6	504
	3/5/2019	<0.2	153	7.84	<0.5	7.02	11.6	512
	4/8/2019	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]	N.S. [4]
	9/23/2019	<0.2	141	8.96	0.582	6.84	<5	534
	10/16/2019	<0.2	140	9.42	<0.5	6.89	<5	476
	1/31/2020	0.747	140	9.19	<0.5	6.71	106	600
	4/27/2020	0.0777J	127	10.8	0.504	6.81	6.46	500
	7/14/2020	0.0838J	127	10.3	<0.23	7.04	6.24	448
	10/5/2020	0.115	116	10.0	0.331J	7.02	5.50	512
	4/12/2021	0.0894J	121	11.8	0.393J	6.58	7.34	470
	10/4/2021	0.107	130	10.3	<0.275	7.26	7.47	436
	4/4/2022	0.114	132	9.66	<0.220	6.61 / 7.3^	9.69	428
	10/3/2022	0.153	125	9.91	<0.220	7.30	13.30	492
	4/10/2023	<0.0760	126	13.0	0.394J	7.16	53.2	556
	10/10/2023	0.120	109	9.63	<0.375	6.61	81.7	454

N.S. = Not Sampled

"J" data qualifier indicates that value is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value and was not used as a statistically significant detection.

* 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 "<"

^Field measurements of pH for select samples were observed to be anomalous. 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.

[1] The first pH value obtained in the field on March 13, 2018 was found to be inaccurate due to equipment errors. The second pH value was a verification sample obtained in the field on March 19, 2018.

[2] Verification sampling for pH was completed on August 7, 2018 and determined the June 5, 2018 reading was inaccurate.

[3] NC2MW-8 was installed July 9, 2018 and was added to the Groundwater Monitoring System Certification in June 2019. The 9/23/2019 sampling event was part of an Alternative Source Demonstration for the Title 132 Groundwater Assessment Report.

[4] MW-13, NC2MW-3, and NC2MW-8 were surrounded by ponding water during April 2019 sampling event and were not measured. Additionally, MW-13 was surrounded by ponding water and not sampled during the October 2019 sampling event.

[5] NC2MW-5 and NC2MW-6 were either dry or had insufficient water volume to collect a water sample during the April 2023 sampling event.

Table 5 - Appendix IV (Assessment Monitoring) Constituents in Groundwater
Omaha Public Power District - NC2 Ash Disposal Area

		Appendix IV (Assessment Monitoring) Constituents														
Constituent		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium (Ra 226 + Ra 228)	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
Reporting Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NC2MW-4	3/9/2016	<0.001	<0.002	0.281	<0.001	<0.0005	<0.005	<0.0005	1.54	<0.5	0.00199	<0.05	<0.0002	0.00272	<0.005	<0.001
	3/14/2016	<0.001	<0.002	0.276	<0.001	<0.0005	<0.005	<0.0005	0.563	0.213	0.00065	<0.05	<0.0002	0.00507	<0.005	<0.001
	6/3/2016	<0.001	<0.002	0.288	<0.001	<0.0005	<0.005	<0.0005	0.739	<0.5	0.000737	<0.05	<0.0002	0.00239	<0.005	<0.001
	6/7/2016	<0.001	<0.002	0.293	<0.001	<0.0005	<0.005	<0.0005	1.21	<0.5	0.000951	<0.05	<0.0002	0.00283	<0.005	<0.001
	8/31/2016	<0.001	<0.002	0.296	<0.001	<0.0005	<0.005	<0.0005	1.04	0.646	0.00162	<0.05	<0.0002	0.00252	<0.005	<0.001
	11/17/2016	<0.001	<0.002	0.284	<0.001	<0.0005	<0.005	<0.0005	1.03	1.28	0.000536	<0.05	<0.0002	0.00597	<0.005	<0.001
	11/18/2016	<0.001	<0.002	0.283	<0.001	<0.0005	<0.005	<0.0005	0.984	1.10	0.00127	<0.05	<0.0002	0.00288	<0.005	<0.001
	2/14/2017	<0.001	<0.002	0.300	<0.001	<0.0005	<0.005	0.00129	0.894	<0.5	0.0032	<0.05	<0.0002	0.0028	<0.005	<0.001
	2/15/2017	<0.001	<0.002	0.272	<0.001	<0.0005	<0.005	0.000584	0.647	2.43	0.00196	<0.05	<0.0002	0.00393	<0.005	<0.001
	4/24/2017	<0.001	<0.002	0.287	<0.001	<0.0005	<0.005	<0.0005	1.08	1.08	0.000802	<0.05	<0.0002	0.00224	<0.005	<0.001
	4/25/2017	<0.001	<0.002	0.3	<0.001	<0.0005	<0.005	<0.0005	1.23	<0.5	0.000714	<0.05	<0.0002	0.00323	<0.005	<0.001
	6/15/2017	<0.001	<0.002	0.249	<0.001	<0.0005	<0.005	0.000521	1.29	<0.5	0.00165	<0.05	<0.0002	0.00422	<0.005	<0.001
	6/20/2017	<0.001	<0.002	0.258	<0.001	<0.0005	<0.005	<0.0005	1.16	<0.5	0.000754	<0.05	<0.0002	0.00551	0.00593	<0.001
	7/12/2017	<0.001	<0.002	0.232	<0.001	<0.0005	<0.005	<0.0005	1.42	<0.5	0.000549	<0.05	<0.0002	0.00233	<0.005	<0.001
	7/13/2017	<0.001	<0.002	0.236	<0.001	<0.0005	<0.005	<0.0005	0.76	<0.5	0.000787	<0.05	<0.0002	0.00326	<0.005	<0.001
	3/12/2018	<0.001	<0.002	0.297	<0.001	<0.0005	<0.005	<0.0005	1.71	<0.5	0.00192	0.0318	<0.0002	<0.002	0.0112	<0.001
	6/6/2018	<0.001	<0.002	0.329	<0.001	<0.0005	<0.005	0.000502	1.90	<0.5	0.00154	0.0292	<0.0002	0.0049	0.00754	<0.001
	10/3/2018	N.S.	<0.002	0.321	N.S.	N.S.	N.S.	<0.0005	1.13	<0.5	0.000565	0.0332	N.S.	0.00707	<0.005	N.S.
	4/8/2019	<0.001	<0.002	0.351	<0.001	<0.0005	<0.005	<0.0005	0.743	<0.5	<0.0005	0.0351	<0.0002	0.00283	<0.005	<0.001
	10/15/2019	<0.001	<0.002	0.390	<0.001	0.000138	<0.005	<0.0005	1.22	<0.5	<0.0005	0.0343	<0.0002	0.00412	<0.005	<0.001
	1/30/2020	<0.00058	0.00109J	0.340	<0.00027	0.0000720J	<0.0011	0.000531	0.610	<0.5	0.00167	0.0347	<0.0001	0.00177J	<0.001	<0.00026
	4/20/2020	0.000609J	<0.000880	0.303	<0.00027	<0.000039	<0.0011	0.000167J	0.684	0.421J	0.000624	0.0305	<0.0001	0.00191J	<0.001	<0.00026
	4/27/2020	<0.00058	<0.000880	0.335	<0.00027	0.0000470J	<0.0011	0.000121J	0.743	0.315J	0.000398J	0.0284	<0.0001	0.00192J	<0.001	<0.00026
	7/14/2020	<0.00051	0.00104J	0.311	<0.00027	0.000119	<0.0011	0.000591	2.19	<0.23	0.00181	0.0311	<0.0001	0.00173J	0.00129J	<0.00026
	10/5/2020	<0.00051	0.00348	0.447	<0.00027	0.0000970J	0.00164J	0.00122	-0.927U	<0.23	0.00243	0.0349	<0.0001	0.00272	<0.001	<0.00026
	4/12/2021	<0.00110	0.00113J	0.268	<0.00027	0.0000580J	<0.00110	0.000256J	0.984	0.311J	0.000833	0.0230	<0.00015	0.0112	0.0111	<0.00026
	10/4/2021	<0.00110	0.00275	0.420	0.000571J	0.000469	0.00110J	0.00203	8.390	<0.275	0.00610	0.0324	<0.00015	0.00154J	0.00391J	0.000527J
	4/4/2022	<0.000690	0.00150J	0.338	<0.000270	0.0000820J	<0.00110	0.000723	0.555U	<0.220	0.00208	0.0301	<0.000110	0.00609	0.0146	<0.000260
	10/4/2022	<0.000690	0.00114J	0.347	<0.000270	0.0000600J	<0.00110	0.000383J	2.640	<0.220	0.00074	0.0303	<0.000110	0.00422	<0.000960	<0.000260
	4/10/2023	<0.00100	0.00605	0.473	0.000423J	0.000168J	0.0103	0.00415	1.49	<0.375	0.00639	0.0397	<0.000140	0.00466	0.00417J	<0.000260
	10/10/2023	<0.00100	0.00196J	0.342	<0.000330	0.000155J	<0.00110	0.00164	3.17	<0.375	0.00360	0.0311	<0.000140	0.00302	0.00965	<0.000260

Table 5 - Appendix IV (Assessment Monitoring) Constituents in Groundwater
Omaha Public Power District - NC2 Ash Disposal Area

		Appendix IV (Assessment Monitoring) Constituents														
Constituent		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium (Ra 226 + Ra 228)	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
Reporting Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NC2MW-5	3/14/2016	<0.001	<0.002	0.0295	<0.001	<0.0005	<0.005	<0.0005	0.318	<0.5	<0.0005	<0.05	<0.0002	0.00587	<0.005	<0.001
	6/3/2016	<0.001	0.00291	0.0384	<0.001	<0.0005	<0.005	<0.0005	0.354	<0.5	<0.0005	<0.05	<0.0002	0.0237	<0.005	<0.001
	8/31/2016	<0.001	<0.002	0.0414	<0.001	<0.0005	<0.005	<0.0005	0.365	<0.5	<0.0005	<0.05	<0.0002	0.0243	<0.005	<0.001
	11/17/2016	<0.001	0.00218	0.0558	<0.001	<0.0005	<0.005	<0.0005	0.476	1.89	<0.0005	<0.05	<0.0002	0.0204	<0.005	<0.001
	2/15/2017	<0.001	<0.002	0.0335	<0.001	<0.0005	<0.005	<0.0005	0.106	0.59	0.00088	<0.05	<0.0002	0.0168	<0.005	<0.001
	4/24/2017	<0.001	0.00236	0.0366	<0.001	<0.0005	<0.005	<0.0005	0.136	1.25	0.000734	<0.05	<0.0002	0.00818	<0.005	<0.001
	6/15/2017	<0.001	0.00207	0.0416	<0.001	<0.0005	<0.005	<0.0005	0.265	<0.5	0.000601	<0.05	0.0002	0.0125	<0.005	<0.001
	7/12/2017	<0.001	0.0022	0.0484	<0.001	<0.0005	<0.005	<0.0005	0.507	<0.5	0.000584	<0.05	<0.0002	0.0120	<0.005	<0.001
	3/12/2018	<0.001	0.0026	0.0395	<0.001	<0.0005	<0.005	<0.0005	0.236 U	<0.5	0.000562	<0.01	<0.0002	0.0145	0.0238	<0.001
	6/6/2018	<0.001	0.00325	0.0713	<0.001	<0.0005	<0.005	<0.0005	0.187	<0.5	0.00159	0.0129	<0.0002	0.0205	0.0144	<0.001
	10/3/2018	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	<0.5	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
	4/8/2019	N.S.	<0.002	0.0341	N.S.	<0.0005	<0.005	N.S.	N.S.	0.634	<0.0005	N.S.	<0.0002	N.S.	<0.005	N.S.
	10/15/2019	<0.001	0.00247	0.0340	<0.001	<0.0001	<0.005	<0.0005	-0.0619 U	<0.5	<0.0005	0.0152	<0.0002	0.0339	<0.005	<0.001
	1/30/2020	0.00110	0.00187J	0.0299	<0.00027	<0.000039	<0.0011	0.0000910J	0.0845U	<0.5	0.000388J	0.00889J	<0.0001	0.0120	0.00283J	<0.00026
	4/27/2020	<0.00058	0.00162J	0.0357	<0.00027	<0.000039	<0.0011	0.0000920J	-0.0625	0.323J	<0.00027	0.0102	<0.0001	0.0147	0.00189J	<0.00026
	7/14/2020	<0.00051	0.00279	0.0536	<0.00027	<0.000049	<0.0011	0.000123J	0.0869	<0.23	0.000871	0.0194	<0.0001	0.0114	0.00551	<0.00026
	10/5/2020	<0.00051	0.00243	0.0588	<0.00027	0.0000990J	<0.0011	0.000236J	0.255U	<0.23	0.000379J	0.0200	<0.0001	0.0212	<0.001	<0.00026
	4/12/2021	<0.00110	0.00170J	0.0245	<0.00027	<0.000051	<0.0011	0.000105J	-0.0122U	0.356J	<0.00210	0.00783J	<0.00015	0.0252	0.00867	<0.00026
	10/4/2021	<0.00110	0.00245	0.0519	<0.00027	0.0000570J	<0.0011	0.000226J	1.03	<0.275	0.000630	0.0120	<0.00015	0.0236	0.00162J	<0.00026
	4/4/2022	<0.000690	0.00165J	0.0377	<0.000270	<0.0000550	<0.00110	0.000275J	0.163U	<0.220	<0.000240	0.00776J	<0.000110	0.0291	0.00944	<0.000260
	10/4/2022	<0.000690	0.00225	0.0548	<0.000270	0.0000700J	<0.00110	0.000306J	0.716	<0.220	0.002080	0.0142	<0.000110	0.0356	<0.000960	<0.000260
	4/10/2023	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]
	10/10/2023	<0.00100	0.00282	0.0675	<0.000330	<0.000100	<0.00110	0.000253J	0.163U	<0.375	0.000555	0.0145	0.000169J	0.0345	<0.00140	0.000523J

Table 5 - Appendix IV (Assessment Monitoring) Constituents in Groundwater
Omaha Public Power District - NC2 Ash Disposal Area

		Appendix IV (Assessment Monitoring) Constituents														
Constituent		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium (Ra 226 + Ra 228)	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
Reporting Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-13	3/9/2016	<0.001	0.00492	0.302	<0.001	<0.0005	<0.005	0.000817	1.14	<0.5	<0.0005	<0.05	<0.0002	<0.002	<0.005	<0.001
	3/14/2016	<0.001	0.00545	0.288	<0.001	<0.0005	<0.005	0.00105	0.741	<0.5	<0.0005	<0.05	<0.0002	0.0167	<0.005	<0.001
	6/3/2016	<0.001	0.00607	0.324	<0.001	<0.0005	<0.005	0.00122	1.01	<0.5	0.000704	<0.05	<0.0002	<0.002	<0.005	<0.001
	6/7/2016	<0.001	0.00591	0.317	<0.001	<0.0005	<0.005	0.00118	0.690	<0.5	0.000623	<0.05	<0.0002	<0.002	<0.005	<0.001
	8/31/2016	<0.001	0.00623	0.342	<0.001	<0.0005	<0.005	0.00107	1.09	<0.5	<0.0005	<0.05	<0.0002	0.00216	<0.005	<0.001
	11/17/2016	<0.001	0.00515	0.322	<0.001	<0.0005	<0.005	0.000873	1.37	0.803	0.00089	<0.05	<0.0002	0.00258	<0.005	<0.001
	11/18/2020	<0.001	0.0058	0.333	<0.001	<0.0005	<0.005	0.000916	0.745	0.647	<0.0005	<0.05	<0.0002	0.00235	<0.005	<0.001
	2/14/2017	<0.001	0.00304	0.349	<0.001	<0.0005	<0.005	0.000925	0.532	3.64	<0.0005	<0.05	<0.0002	0.00228	<0.005	<0.001
	2/15/2017	<0.001	0.00289	0.321	<0.001	<0.0005	<0.005	0.000883	0.407	<0.5	<0.0005	<0.05	<0.0002	0.00221	<0.005	<0.001
	4/24/2017	<0.001	0.0024	0.336	<0.001	<0.0005	<0.005	0.00135	0.579	0.79	0.000516	<0.05	<0.0002	0.00207	<0.005	<0.001
	4/25/2017	<0.001	0.00269	0.358	<0.001	<0.0005	<0.005	0.00141	0.429	0.80	0.000522	<0.05	<0.0002	<0.002	<0.005	<0.001
	6/15/2017	<0.001	0.00371	0.318	<0.001	<0.0005	<0.005	0.00127	0.800	<0.5	<0.0005	<0.05	<0.0002	<0.002	<0.005	<0.001
	6/20/2017	<0.001	0.00268	0.311	<0.001	<0.0005	<0.005	0.00119	0.483	0.505	0.00171	<0.05	<0.0002	<0.002	<0.005	<0.001
	7/12/2017	<0.001	0.00263	0.328	<0.001	<0.0005	<0.005	0.00112	1.56	<0.5	<0.0005	<0.05	<0.0002	0.00210	<0.005	<0.001
	7/13/2017	<0.001	0.00325	0.330	<0.001	<0.0005	<0.005	0.00108	0.502	<0.5	<0.0005	<0.05	<0.0002	0.00206	<0.005	<0.001
	3/12/2018	<0.001	0.00295	0.306	<0.001	<0.0005	<0.005	0.00189	0.492	<0.5	0.00086	0.0297	<0.0002	<0.002	<0.005	<0.001
	6/6/2018	<0.001	0.00262	0.282	<0.001	<0.0005	<0.005	0.00236	1.89	<0.5	0.00577	0.0423	<0.0002	<0.002	0.00553	<0.001
	10/3/2018	N.S.	0.00965	0.388	N.S.	N.S.	N.S.	0.00191	1.62	0.738	0.00216	0.0316	N.S.	0.00243	<0.005	<0.001
	4/8/2019	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]
	10/15/2019	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]
	1/30/2020	<0.00058	0.00824	0.230	<0.00027	<0.000039	<0.0011	0.00198	0.0337U	<0.5	0.000335J	0.0273	<0.0001	0.00187J	<0.001	<0.00026
	4/20/2020	<0.00058	0.00867	0.177	<0.00027	<0.000039	<0.0011	0.00193	0.438	0.399J	0.000311J	0.0374	<0.0001	0.00457	<0.001	<0.00026
	4/27/2020	<0.00058	0.0111	0.167	<0.00027	<0.000039	<0.0011	0.00208	-0.0922	0.383J	0.000297J	0.0348	<0.0001	0.00335	<0.001	<0.00026
	7/14/2020	<0.00051	0.0118	0.182	<0.00027	<0.000049	<0.0011	0.000549	0.539	0.267J	0.000250J	0.0277	<0.0001	0.00130J	<0.001	<0.00026
	10/5/2020	<0.00051	0.0188	0.225	<0.00027	<0.000049	<0.0011	0.000384J	0.872	<0.23	0.000178J	0.0322	<0.0001	<0.0011	<0.001	<0.00026
	4/12/2021	<0.00110	0.00487	0.0815	<0.00027	<0.000051	<0.0011	0.00099	0.429U	0.441J	0.000353J	0.0199	<0.00015	0.00443	0.00194J	<0.00026
	10/4/2021	<0.00110	0.0402	0.257J	<0.00027	<0.000051	<0.0011	0.001020	1.84	<0.275	<0.000210	0.0330	<0.00015	<0.00130	<0.000960	<0.00026
	4/4/2022	<0.000690	0.0134	0.202	<0.000270	<0.0000550	<0.00110	0.000879	0.500U	<0.220	0.000698	0.0329	<0.000110	<0.00120	<0.000960	<0.000260
	10/3/2022	<0.000690	0.0151	0.253	<0.000270	<0.0000550	<0.00110	0.000419J	1.24	<0.220	<0.000240	0.0301	<0.000110	<0.00120	<0.000960	<0.000260
	4/10/2023	<0.00100	0.0112	0.281	<0.000330	<0.000100	<0.00110	0.000591	1.06	<0.375	<0.000240	0.0345	<0.000140	<0.000910	<0.00140	<0.000260
	10/10/2023	<0.00100	0.0411	0.313	<0.000330	<0.000100	<0.00110	0.000726	1.22	1.00	0.000375J	0.0385	<0.000140	0.00175J	<0.00140	<0.000260

Table 5 - Appendix IV (Assessment Monitoring) Constituents in Groundwater
Omaha Public Power District - NC2 Ash Disposal Area

		Appendix IV (Assessment Monitoring) Constituents														
Constituent		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium (Ra 226 + Ra 228)	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
Reporting Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NC2MW-2	3/14/2016	0.00188	<0.002	0.0679	<0.001	<0.0005	<0.005	<0.0005	0.967	0.371	<0.0005	0.0512	<0.0002	0.00207	<0.005	<0.001
	6/3/2016	0.00944	<0.002	0.136	<0.001	<0.0005	0.0153	<0.0005	0.535	<0.5	0.000538	<0.05	<0.0002	0.00368	<0.005	<0.001
	8/31/2016	0.00812	<0.002	0.0814	<0.001	<0.0005	<0.005	<0.0005	0.996	<0.5	0.000872	<0.05	<0.0002	0.00757	<0.005	<0.001
	11/17/2016	0.00452	<0.002	0.122	<0.001	<0.0005	<0.005	<0.0005	1.39	<0.5	<0.0005	<0.05	<0.0002	0.00519	<0.005	<0.001
	2/15/2017	0.00331	<0.002	0.144	<0.001	<0.0005	<0.005	<0.0005	0.304	2.51	0.000671	<0.05	<0.0002	0.0093	<0.005	<0.001
	4/24/2017	0.00303	<0.002	0.076	<0.001	<0.0005	<0.005	<0.0005	0.518	1.38	<0.0005	<0.05	<0.0002	0.0158	<0.005	<0.001
	6/15/2017	0.00282	<0.002	0.0828	<0.001	<0.0005	<0.005	<0.0005	0.48	<0.5	0.000721	<0.05	<0.0002	0.0106	<0.005	<0.001
	7/12/2017	0.00266	<0.002	0.0837	<0.001	<0.0005	<0.005	<0.0005	0.721	<0.5	0.000949	<0.05	<0.0002	0.0174	<0.005	<0.001
	3/12/2018	0.00261	<0.002	0.120	<0.001	<0.0005	<0.005	0.000626	0.882	<0.5	0.000604	0.0165	<0.0002	0.0402	<0.005	<0.001
	6/6/20018	0.00345	<0.002	0.179	<0.001	<0.0005	<0.005	0.00132	1.15	<0.5	<0.0005	0.0201	<0.0002	0.137	<0.005	<0.001
	10/3/2018	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	<0.5	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
	4/8/2019	N.S.	<0.002	0.127	N.S.	<0.0005	<0.005	N.S.	N.S.	<0.5	0.00206	N.S.	<0.0002	N.S.	<0.005	N.S.
	9/23/2019	0.00388	<0.002	0.107	<0.001	<0.0001	<0.005	<0.0005	N.S.	0.546	0.00183	0.0150	<0.0002	0.0938	<0.005	<0.001
	10/15/2019	0.00900	<0.002	0.142	<0.001	0.000220	<0.005	<0.0005	0.650	<0.5	0.000787	0.0313	<0.0002	0.0361	<0.005	<0.001
	1/31/2020	0.00510	<0.000880	0.133	<0.00027	0.000111	<0.0011	0.000277J	0.736	<0.5	0.00106	0.0406	<0.0001	0.0158	0.00165J	<0.00026
	4/27/2020	0.00243	<0.000880	0.141	<0.00027	0.0000980J	<0.0011	0.000161J	0.987	0.256J	0.00106	0.0411	<0.0001	0.00966	0.00116J	<0.00026
	7/14/2020	0.00268	0.000989J	0.152	<0.00027	0.000306	<0.0011	0.000202J	0.995	<0.23	0.000908	0.0468	<0.0001	0.0163	<0.001	<0.00026
	10/5/2020	0.00381	0.00117J	0.170	<0.00027	0.000186	<0.0011	0.000208J	1.06	<0.23	0.000797	0.0523	<0.0001	0.0177	<0.001	<0.00026
	4/12/2021	0.00524	<0.000750	0.0967	<0.000270	0.0000690J	<0.00110	0.000118J	1.01	0.392J	0.000752	0.0311	<0.00015	0.0178	0.00641	<0.00026
	10/4/2021	0.00323	0.000907J	0.106	<0.000270	0.000287	<0.00110	0.00224	1.92	<0.275	0.000609	0.0247	<0.00015	0.0505	0.00128J	<0.00026
	4/4/2022	0.00298	0.000766J	0.124	<0.000270	0.0000900J	<0.00110	0.000522	1.09	<0.220	0.000861	0.0254	<0.000110	0.0322	0.00627	<0.000260
	10/3/2022	0.00298	0.00104J	0.108	<0.000270	0.000206	<0.00110	0.000713	2.08	0.330J	0.000853	0.0338	<0.000110	0.0354	<0.000960	<0.000260
	4/10/2023	0.00350	0.00100J	0.139	<0.000330	0.000283	<0.00110	0.00301	1.64	0.442J	0.000546	0.0261	<0.000140	0.0560	0.00962	<0.000260
	10/10/2023	0.00369	0.00155J	0.0769	<0.000330	0.000310	<0.00110	0.000607	0.681	<0.375	0.000550	0.0286	0.000222	0.0394	0.00228J	<0.000260

Table 5 - Appendix IV (Assessment Monitoring) Constituents in Groundwater
Omaha Public Power District - NC2 Ash Disposal Area

		Appendix IV (Assessment Monitoring) Constituents														
Constituent		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium (Ra 226 + Ra 228)	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
Reporting Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NC2MW-3	3/14/2016	<0.001	0.00762	0.253	<0.001	<0.0005	<0.005	<0.0005	0.948	0.168	<0.0005	<0.05	<0.0002	0.00293	<0.005	<0.001
	6/3/2016	<0.001	0.0191	0.362	<0.001	<0.0005	<0.005	<0.0005	0.924	<0.5	<0.0005	<0.05	<0.0002	0.00377	<0.005	<0.001
	8/31/2016	<0.001	0.0103	0.211	<0.001	<0.0005	<0.005	<0.0005	0.446	<0.5	0.000692	<0.05	<0.0002	0.00301	<0.005	<0.001
	11/17/2016	<0.001	0.0113	0.234	<0.001	<0.0005	<0.005	<0.0005	0.616	1.28	<0.0005	<0.05	<0.0002	<0.002	<0.005	<0.001
	2/15/2017	0.00111	0.0066	0.281	<0.001	<0.0005	<0.005	0.00051	0.381	5.11	<0.0005	<0.05	<0.0002	0.0176	<0.005	<0.001
	4/24/2017	<0.001	0.00892	0.174	<0.001	<0.0005	<0.005	0.00216	0.521	2.87	0.000691	<0.05	<0.0002	0.00677	<0.005	<0.001
	6/15/2017	<0.001	0.0101	0.225	<0.001	<0.0005	<0.005	0.00103	0.928	<0.5	0.00103	<0.05	<0.0002	0.00298	<0.005	<0.001
	7/12/2017	<0.001	0.00286	0.267	<0.001	<0.0005	<0.005	0.000806	0.479	<0.5	0.000913	<0.05	<0.0002	0.00206	<0.005	<0.001
	3/12/2018	<0.001	0.0027	0.125	<0.001	<0.0005	<0.005	0.000997	0.600	0.723	0.00178	0.0128	<0.0002	0.00454	<0.005	<0.001
	6/6/2019	<0.001	0.00835	0.163	<0.001	<0.0005	<0.005	0.00768	1.22	<0.5	<0.0005	0.0182	<0.0002	0.0628	<0.005	<0.001
	10/3/2018	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	0.532	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
	4/8/2019	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]
	9/23/2019	<0.001	0.00325	0.289	<0.001	<0.0001	<0.005	0.00224	N.S.	0.527	<0.0005	0.0452	<0.0002	0.00550	<0.005	<0.001
	10/15/2019	<0.001	0.00344	0.312	<0.001	<0.0001	<0.005	0.00232	0.878	<0.5	<0.0005	0.0428	<0.0002	0.00526	<0.005	<0.001
	1/31/2020	<0.00058	0.00338	0.297	<0.00027	<0.000039	<0.0011	0.00197	0.707	<0.5	<0.00027	0.0333	<0.0001	0.00392	<0.001	<0.00026
	4/27/2020	<0.00058	0.00483	0.340	<0.00027	<0.000039	<0.0011	0.00991	0.552	0.300J	0.000617	0.0333	<0.0001	0.00565	<0.001	<0.00026
	7/14/2020	<0.00051	0.00685	0.171	<0.00027	<0.000049	<0.0011	0.00274	0.885	<0.23	0.000595	0.0317	<0.0001	0.0112	<0.001	<0.00026
	10/5/2020	<0.00051	0.00735	0.191	<0.00027	<0.000049	<0.0011	0.000647	1.32	0.535	0.000163J	0.0399	<0.0001	0.00487	<0.001	<0.00026
	4/12/2021	<0.00110	0.00113J	0.113	<0.00027	0.0000680J	<0.0011	0.000188J	0.188U	1.37	<0.000210	0.0146	<0.0015	0.00306	<0.00096	<0.00026
	10/4/2021	<0.00110	0.00354	0.0769	<0.00027	0.0000820J	<0.0011	0.0115	0.898	0.492J	0.000485J	0.0241	<0.00015	0.00356	<0.00096	<0.00026
	4/4/2022	<0.000690	0.00171J	0.0977	<0.000270	0.000104	<0.00110	0.00101	0.955	1.12	0.000288J	0.0201	<0.000110	0.00371	0.0174	<0.000260
	10/3/2022	<0.000690	0.00344	0.0718	<0.000270	<0.0000550	<0.00110	0.00328	1.00	1.17	<0.000240	0.0234	<0.000110	0.0025	<0.000960	<0.000260
	4/11/2023	<0.00100	0.00193J	0.0688	<0.000330	<0.000100	<0.00110	0.00122	3.88	1.07	0.000284J	0.0271	<0.000140	0.00323	<0.00140	<0.000260
	10/10/2023	<0.00100	0.00323	0.0596	<0.000330	0.000129J	<0.00110	0.00198	0.455U	1.26	0.000469J	0.0278	0.000184J	0.00417	0.00171J	<0.000260

Table 5 - Appendix IV (Assessment Monitoring) Constituents in Groundwater
Omaha Public Power District - NC2 Ash Disposal Area

		Appendix IV (Assessment Monitoring) Constituents														
Constituent		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium (Ra 226 + Ra 228)	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
Reporting Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NC2MW-6	3/14/2016	<0.001	<0.002	0.0818	<0.001	<0.0005	0.00629	<0.0005	0.392	<0.5	<0.0005	<0.05	<0.0002	0.0210	0.00645	<0.001
	6/3/2016	<0.001	<0.002	0.0823	<0.001	<0.0005	0.00535	<0.0005	0.603	<0.5	<0.0005	<0.05	<0.0002	0.0593	<0.005	<0.001
	8/31/2016	<0.001	<0.002	0.122	<0.001	<0.0005	<0.005	<0.0005	1.03	<0.5	<0.0005	<0.05	<0.0002	0.0677	<0.005	<0.001
	11/17/2016	<0.001	<0.002	0.109	<0.001	<0.0005	<0.005	<0.0005	1.48	6.53	<0.0005	<0.05	<0.0002	0.0455	<0.005	<0.001
	2/15/2017	<0.001	<0.002	0.0948	<0.001	<0.0005	<0.005	<0.0005	0.429	<0.5	0.000901	<0.05	<0.0002	0.0265	<0.005	<0.001
	4/24/2017	<0.001	<0.002	0.0791	<0.001	<0.0005	<0.005	<0.0005	0.425	1.71	<0.0005	<0.05	<0.0002	0.041	<0.005	<0.001
	6/15/2017	<0.001	<0.002	0.105	<0.001	<0.0005	0.00501	<0.0005	0.641	<0.5	0.00329	<0.05	<0.0002	0.0354	<0.005	<0.001
	7/12/2017	<0.001	<0.002	0.0916	<0.001	<0.0005	<0.005	<0.0005	0.949	<0.5	<0.0005	<0.05	<0.0002	0.0419	<0.005	<0.001
	3/12/2018	<0.001	<0.002	0.107	<0.001	<0.0005	<0.005	0.000505	0.530	<0.5	0.00258	0.0371	<0.0002	0.00672	<0.005	<0.001
	6/6/2018	<0.001	<0.002	0.120	<0.001	<0.0005	<0.005	<0.0005	1.020	<0.5	0.00193	0.0321	<0.0002	0.0108	0.00679	<0.001
	10/3/2018	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	<0.5	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
	4/8/2019	N.S.	<0.002	0.121	<0.001	<0.0005	<0.005	N.S.	N.S.	<0.5	0.000527	N.S.	<0.0002	N.S.	<0.005	N.S.
	10/15/2019	<0.001	<0.002	0.145	<0.001	<0.0001	<0.005	<0.0005	0.494	<0.5	<0.0005	0.0408	<0.0002	0.0121	<0.005	<0.001
	1/31/2020	<0.00058	<0.000880	0.118	<0.00027	<0.000039	<0.0011	<0.000091	0.616	<0.5	0.000635	0.0321	<0.0001	0.0123	<0.001	<0.00026
	4/27/2020	<0.00058	<0.000880	0.114	<0.00027	0.0000540J	<0.0011	<0.000091	0.155	0.335J	<0.00027	0.0258	<0.0001	0.0114	<0.001	<0.00026
	7/14/2020	<0.00051	<0.000880	0.118	<0.00027	0.0000680J	<0.0011	0.000122J	0.870	0.232J	0.000482J	0.0309	<0.0001	0.0133	<0.001	<0.00026
	10/5/2020	<0.00051	0.000889J	0.132	<0.00027	0.0000810J	<0.0011	0.000438J	1.310	0.329J	0.000929	0.0362	<0.0001	0.0144	<0.001	<0.00026
	4/12/2021	<0.00110	<0.000750	0.0825	<0.00027	<0.000051	0.001796J	<0.000091	0.436	<0.275	0.000264J	0.0143	<0.00015	0.0207	0.00154J	<0.00026
	10/4/2021	<0.00110	0.000925J	0.133	<0.00027	0.000080J	<0.00110	0.000504	4.990	<0.275	0.000719	0.0345	<0.00015	0.0124	<0.00096	<0.00026
	4/4/2022	0.00123J	0.00118J	0.143	<0.000270	<0.0000550	0.00188J	0.000289J	0.778	<0.220	0.00221	0.0420	<0.000110	0.00630	0.00329J	<0.000260
	10/4/2022	<0.000690	0.00123J	0.146	<0.000270	<0.0000550	<0.00110	0.000724	2.780	<0.220	0.000568	0.0387	<0.000110	0.01370	<0.000960	<0.000260
	4/10/2023	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]	N/S [3]
	10/10/2023	<0.00100	0.00185J	0.157	<0.000330	<0.000100	0.00213J	0.000870	1.30	<0.375	0.00423	0.0455	0.000141J	0.00990	<0.00140	<0.000260

Table 5 - Appendix IV (Assessment Monitoring) Constituents in Groundwater
Omaha Public Power District - NC2 Ash Disposal Area

		Appendix IV (Assessment Monitoring) Constituents														
Constituent		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium (Ra 226 + Ra 228)	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
Reporting Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NC2MW-7	3/14/2016	<0.001	0.0994	0.687	<0.001	<0.0005	<0.005	0.000794	1.43	0.312	<0.0005	0.0602	<0.0002	<0.002	<0.005	<0.001
	6/3/2016	<0.001	0.0529	0.591	<0.001	<0.0005	<0.005	<0.0005	1.14	<0.5	0.00166	0.0542	<0.0002	<0.002	<0.005	<0.001
	8/31/2016	<0.001	0.0418	0.526	<0.001	<0.0005	<0.005	0.000681	0.847	<0.5	<0.0005	0.0581	<0.0002	<0.002	<0.005	<0.001
	11/17/2016	<0.001	0.0473	0.544	<0.001	<0.0005	<0.005	<0.0005	0.851	0.544	<0.0005	0.0613	<0.0002	<0.002	<0.005	<0.001
	2/15/2017	<0.001	0.0608	0.558	<0.001	<0.0005	<0.005	0.000639	0.745	<0.5	<0.0005	0.0638	<0.0002	<0.002	<0.005	<0.001
	4/24/2017	<0.001	0.0592	0.614	<0.001	<0.0005	<0.005	0.000629	1.04	1.35	<0.0005	0.0624	<0.0002	<0.002	<0.005	<0.001
	6/15/2017	<0.001	0.0469	0.538	<0.001	<0.0005	<0.005	<0.0005	0.815	<0.5	<0.0005	0.0579	<0.0002	<0.002	<0.005	<0.001
	7/12/2017	<0.001	0.041	0.501	<0.001	<0.0005	<0.005	<0.0005	1.15	<0.5	<0.0005	0.0602	<0.0002	<0.002	<0.005	<0.001
	3/12/2018	<0.001	0.0387	0.473	<0.001	<0.0005	<0.005	<0.0005	1.06	<0.5	<0.0005	0.0546	<0.0002	<0.002	<0.005	<0.001
	6/6/2019	<0.001	0.0418	0.624	<0.001	<0.0005	<0.005	0.000876	0.986	<0.5	0.00069	0.0535	<0.0002	<0.002	<0.005	<0.001
	10/3/2018	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	0.519	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
	4/8/2019	N.S.	0.0391	0.565	N.S.	<0.0005	<0.005	N.S.	N.S.	<0.5	<0.0005	N.S.	<0.0002	N.S.	<0.005	N.S.
	9/23/2019	<0.001	0.0416	0.619	<0.001	<0.0001	<0.005	<0.0005	N.S.	<0.5	<0.0005	0.0622	<0.0002	<0.002	<0.005	<0.001
	10/15/2019	<0.001	0.0384	0.597	<0.001	<0.0001	<0.005	<0.0005	0.532	<0.5	<0.0005	0.0633	<0.0002	<0.002	<0.005	<0.001
	2/3/2020	<0.00058	0.0348	0.512	<0.00027	<0.000039	<0.0011	0.000353J	0.615	0.357J	<0.00027	0.0545	<0.0001	0.00163J	<0.001	<0.00026
	4/27/2020	<0.00058	0.0388	0.534	<0.00027	<0.000039	<0.0011	0.000396J	0.722	0.429J	<0.00027	0.0568	<0.0001	0.00185J	<0.001	<0.00026
	7/14/2020	<0.00051	0.0381	0.515	<0.00027	<0.000049	<0.0011	0.000233J	0.804	<0.23	<0.00011	0.0580	<0.0001	0.00170J	<0.001	<0.00026
	10/5/2020	<0.00051	0.0435	0.585	<0.00027	<0.000049	<0.0011	0.000233J	0.71	0.322J	<0.00011	0.0641	<0.0001	0.00122J	<0.001	<0.00026
	4/12/2021	<0.00110	0.0439	0.53	<0.00027	<0.000051	<0.0011	0.000384J	1.05	0.415J	<0.00021	0.0640	<0.00015	0.00195J	<0.00096	<0.00026
	10/4/2021	<0.00110	0.0427	0.592	<0.00027	<0.000051	<0.0011	0.000253J	1.77	<0.275	<0.00021	0.0566	<0.00015	0.00183J	<0.00096	<0.00026
	4/4/2022	<0.000690	0.0487	0.563	<0.000270	<0.0000550	<0.00110	0.000422J	0.747	<0.220	<0.000240	0.0654	<0.000110	0.00159J	<0.000960	<0.000260
	10/3/2022	<0.000690	0.0478	0.607	<0.000270	<0.0000550	<0.00110	0.000236J	1.240	<0.220	<0.000240	0.0572	<0.000110	0.00186J	<0.000960	<0.000260
	4/10/2023	<0.00100	0.0396	0.523	<0.000330	<0.000100	<0.00110	0.000321J	1.91	0.402J	<0.000240	0.0588	<0.000140	0.00177J	<0.00140	<0.000260
	10/10/2023	<0.00100	0.0480	0.618	<0.000330	<0.000100	<0.00110	0.000214J	0.615U	<0.375	<0.000240	0.0617	<0.000140	0.00186J	<0.00140	<0.000260

Table 5 - Appendix IV (Assessment Monitoring) Constituents in Groundwater
Omaha Public Power District - NC2 Ash Disposal Area

		Appendix IV (Assessment Monitoring) Constituents														
Constituent		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium (Ra 226 + Ra 228)	Fluoride*	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
Reporting Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NC2MW-8[1]	10/3/2018	<0.001	0.0223	0.617	<0.001	<0.0005	<0.005	0.00250	1.70	0.566	0.00125	0.0347	<0.0002	0.00307	<0.005	<0.001
	1/15/2019	<0.001	0.0177	0.503	<0.001	<0.0005	<0.005	0.00224	0.716	<0.5	<0.0005	0.0292	<0.0002	0.00288	<0.005	<0.001
	3/5/2019	<0.001	0.00716	0.566	<0.001	<0.0005	<0.005	0.00304	N.S.	<0.5	<0.0005	0.0360	<0.0002	0.00304	<0.005	<0.001
	4/8/2019	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]	N/A [2]
	9/23/2019	<0.001	0.0175	0.609	<0.001	<0.0001	<0.005	0.00172	N.S.	0.582	<0.0005	0.0369	<0.0002	0.00327	<0.005	<0.001
	10/16/2019	<0.001	0.0206	0.596	<0.001	<0.0001	<0.005	0.00175	0.735	<0.5	<0.0005	0.0333	<0.0002	0.00347	<0.005	<0.001
	1/31/2020	<0.00058	0.00168J	0.191	<0.00027	0.000160	<0.0011	0.00133	0.445	<0.5	<0.00027	0.0249	<0.0001	<0.0011	<0.001	<0.00026
	4/27/2020	<0.00058	0.0190	0.548	<0.00027	<0.000039	<0.0011	0.00201	0.587	0.504	<0.00027	0.0297	<0.0001	0.00291	<0.001	<0.00026
	7/14/2020	<0.00051	0.0195	0.523	<0.00027	<0.000049	<0.0011	0.00178	0.598	<0.23	0.000201J	0.0306	<0.0001	0.00285	<0.001	<0.00026
	10/5/2020	<0.00051	0.0322	0.579	<0.00027	<0.000049	<0.0011	0.00176	1.24	0.331J	0.000486J	0.0325	<0.0001	0.00220	<0.001	<0.00026
	4/12/2021	<0.00110	0.0108	0.489	<0.00027	0.0000520J	<0.0011	0.0022	0.615	0.393J	0.000490J	0.0340	<0.00015	0.00267	0.00142J	<0.00026
	10/4/2021	<0.00110	0.00958	0.616	<0.00027	<0.000051	<0.0011	0.00229	2.32	<0.275	0.000393J	0.0340	<0.00015	0.00281	<0.00096	<0.00026
	4/4/2022	<0.000690	0.00887	0.552	<0.000270	<0.0000550	<0.00110	0.00264	0.912	<0.220	<0.000240	0.0363	<0.000110	0.00202	<0.000960	<0.000260
	10/3/2022	<0.000690	0.0181	0.618	<0.000270	<0.0000550	<0.00110	0.00230	1.57	<0.220	0.000321J	0.0364	<0.000110	0.00184J	<0.000960	<0.000260
	4/10/2023	<0.00100	0.00971	0.462	<0.000330	<0.000100	<0.00110	0.00219	1.31	0.394J	0.000252J	0.0363	<0.000140	0.00200	<0.00140	<0.000260
	10/10/2023	<0.00100	0.0135	0.534	<0.000330	<0.000100	<0.00110	0.00165	1.92	<0.375	0.000284J	0.0360	<0.000140	<0.000910	0.00198J	<0.000260

N.S. = Not Sampled

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 (such as, but not limited to: minimum detectable concentration; total uncertainty; Reporting Limit) as defined in the analytical laboratory data package.

"J" data qualifier indicates that value is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.

[1] NC2MW-8 was installed July 9, 2018 and was added to the Groundwater Monitoring System Certification in June 2019. The 9/23/2019 sampling event was part of an Alternative Source Demonstration for the Title 132 Groundwater Assessment Report.

[2] MW-13, NC2MW-3, and NC2MW-8 were surrounded by ponding water during April 2019 sampling event and were not sampled. MW-13 was surrounded by ponding water during October 2019 sample and was not sampled.

[3] NC2MW-5 and NC2MW-6 were either dry or had insufficient water volume to collect a water sample during the April 2023 sampling event.

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

Table 6 - Background Threshold Values for Assessment Monitoring
Omaha Public Power District - NC2 Ash Disposal Area

Constituents	Units	Background Threshold Values (BTVs)
Appendix III (Detection Monitoring)		
Boron	mg/l	4.63
Calcium	mg/l	229
Chloride	mg/l	36.6
Fluoride [1]	mg/l	1.89
pH (LPL) [2]	SU	6.38
pH (UPL) [3]	SU	7.87
Sulfate	mg/l	611
TDS	mg/l	1,390
Appendix IV (Assessment Monitoring)		
Antimony[4]	mg/l	0.0020
Arsenic	mg/l	0.0402
Barium	mg/l	0.447
Beryllium	mg/l	0.001
Cadmium	mg/l	0.0005
Chromium	mg/l	0.005
Cobalt	mg/l	0.00236
Fluoride [1]	mg/l	1.89
Lead	mg/l	0.0061
Lithium	mg/l	0.0423
Mercury	mg/l	0.0002
Molybdenum	mg/l	0.0339
Radium 226 + 228	pCi/l	1.94
Selenium	mg/l	0.0146
Thallium	mg/l	0.001

Notes:

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

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

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

[4] Antimony UPL was previously 0.001 mg/l based on the laboratory's reporting limit (RL). The lab adjusted the RL for antimony to 0.002 mg/l during their annual quality control review. The UPL has been updated to 0.002 mg/l to reflect the change in the laboratory's RL.

Table 7 - Established Groundwater Protection Standards
Omaha Public Power District - NC2 Ash Disposal Area

Constituents	Units	Established Groundwater Protection Standard (GWPS)[1]
Appendix IV (Assessment Monitoring)		
Antimony	mg/l	0.006
Arsenic	mg/l	0.0402 [2]
Barium	mg/l	2.0
Beryllium	mg/l	0.004
Cadmium	mg/l	0.005
Chromium	mg/l	0.1
Cobalt	mg/l	0.006
Flouride	mg/l	4
Lead	mg/l	0.015
Lithium	mg/l	0.0423 [2]
Mercury	mg/l	0.002
Molybdenum	mg/l	0.1
Radium 226 + 228	pCi/l	5
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

NEBRASKA CITY STATION

Water Levels Prior to Purging (Feet Below TOC)

NC1MW2	Date of Sampling	4/6/2023	Time of Sampling	12:04	Static Water Level	13.81
NC1MW3	Date of Sampling	4/6/2023	Time of Sampling	12:45	Static Water Level	13.94
NC1MW4	Date of Sampling	4/6/2023	Time of Sampling	12:07	Static Water Level	14.25
NC1MW5	Date of Sampling	4/6/2023	Time of Sampling	12:15	Static Water Level	15.61
NC1MW6	Date of Sampling	4/6/2023	Time of Sampling	12:20	Static Water Level	11.87
NC1MW7	Date of Sampling	4/6/2023	Time of Sampling	11:50	Static Water Level	13.22
NC1MW8	Date of Sampling	4/6/2023	Time of Sampling	11:48	Static Water Level	13.57
NC1MW9	Date of Sampling	4/6/2023	Time of Sampling	12:50	Static Water Level	14.29
NC2MW2	Date of Sampling	4/6/2023	Time of Sampling	11:31	Static Water Level	15.95
NC2MW3	Date of Sampling	4/6/2023	Time of Sampling	11:24	Static Water Level	13.79
NC2MW4	Date of Sampling	4/6/2023	Time of Sampling	10:55	Static Water Level	12.43
NC2MW5	Date of Sampling	4/6/2023	Time of Sampling	11:10	Static Water Level	Dry
NC2MW6	Date of Sampling	4/6/2023	Time of Sampling	11:15	Static Water Level	14.02
NC2MW7	Date of Sampling	4/6/2023	Time of Sampling	11:45	Static Water Level	11.94
NC2MW8	Date of Sampling	4/6/2023	Time of Sampling	11:27	Static Water Level	11.49
MW11	Date of Sampling	4/6/2023	Time of Sampling	12:36	Static Water Level	12.20
MW12	Date of Sampling	4/6/2023	Time of Sampling	12:40	Static Water Level	14.13
MW13	Date of Sampling	4/6/2023	Time of Sampling	10:49	Static Water Level	10.14
MW14	Date of Sampling	4/6/2023	Time of Sampling	10:59	Static Water Level	14.01

NOTES:

TOC = Top of Casing

NM = Not Measured, Inaccessible

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW2 - 7**	Date: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, 73°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	16:27	Pump Start Time	16:28
Static Water Level (+/- 0.01 feet)*	15.95	Purge Rate (mL/minute)	100
Bottom of Well Casing (+/- 0.01 feet)*	17.61	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)	1.02		
Actual Volume of Water Purged (mL)	2,000		

*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)
16:33	500	18.80	3.99	31.2	7.03	1.54	Top of Pump
16:36	800	18.81	2.27	28.8	6.98	1.59	Top of Pump
16:39	1,100	18.83	1.21	21.9	6.97	1.60	Top of Pump
16:42	1,400	18.58	0.81	13.6	6.97	1.62	Top of Pump
16:45	1,700	18.60	0.79	9.4	6.96	1.63	Top of Pump
16:48	2,000	18.42	0.75	8.2	6.96	1.63	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)
16:48	2,000	18.42	0.75	8.2	6.96	1.63	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	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/10/2023, 8:44
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW3 - 5**	Date: 4/11/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 66°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	11:08	Pump Start Time	11:09
Static Water Level (+/- 0.01 feet)*	13.01	Purge Rate (mL/minute)	150
Bottom of Well Casing (+/- 0.01 feet)*	18.35	Time to Purge Well (hours:minutes)	0:29
Pump Intake Elevation (+/- 0.01 feet)*	901.85	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)	3.30		
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)
11:14	750	15.15	1.60	139	6.47	1.41	Top of Pump
18:17	1,100	15.00	1.61	130	6.56	1.40	Top of Pump
11:20	1,550	14.82	1.56	99.0	6.58	1.41	Top of Pump
11:23	2,000	14.67	1.18	55.2	6.65	1.41	Top of Pump
11:26	2,450	14.35	0.99	41.6	6.71	1.41	Top of Pump
11:29	2,900	14.40	0.84	36.1	6.75	1.41	Top of Pump
11:32	3,350	14.45	0.81	30.1	6.94	1.41	Top of Pump
11:35	3,800	14.39	0.76	27.9	6.92	1.42	Top of Pump
11:38	4,250	14.37	0.79	24.5	6.91	1.42	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)
11:38	4,250	14.37	0.79	24.5	6.91	1.42	Top of Pump
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		150

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/11/2023, 11:03

Notes / Unusual Occurrences: Pump Tubing Needed Replaced - Replaced tubing and sampled out of order.

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW4 - 2**	Date: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 60°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:52	Pump Start Time	9:54
Static Water Level (+/- 0.01 feet)*	12.36	Purge Rate (mL/minute)	100-150
Bottom of Well Casing (+/- 0.01 feet)*	14.50	Time to Purge Well (hours:minutes)	0:23
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	1.32		
Actual Volume of Water Purged (mL)	2,550		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
9:59	750	13.02	11.30	154	7.36	0.831	13.65
10:02	1,050	13.00	10.39	87.0	7.27	0.850	14.08
10:05	1,350	13.69	9.60	89.2	7.04	0.840	14.12
10:08	1,650	13.75	9.54	88.4	7.00	0.837	14.15
10:11	1,950	13.62	9.67	145	7.05	0.842	Top of Pump
10:14	2,250	13.70	9.56	137	6.99	0.844	Top of Pump
10:17	2,550	13.82	9.52	132	6.96	0.841	Top of Pump

Well Evacuated to Dryness? 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)
10:17	2,550	13.82	9.52	132	6.96	0.841	Top of Pump
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		100

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

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

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW5 - 3**	Date: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Sunny, 69°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	12:38	Pump Start Time	
Static Water Level (+/- 0.01 feet)*	Dry	Purge Rate (mL/minute)	
Bottom of Well Casing (+/- 0.01 feet)*	15.80	Time to Purge Well (hours:minutes)	
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)	Not Measured		

*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)

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)
Duplicate?		Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity		QED Pump Control Information	
Sample Color		Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor		Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/10/2023, 8:44

Notes / Unusual Occurrences: Dry Well

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW6 - 4**	Date: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Sunny, 72°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	13:02	Pump Start Time	
Static Water Level (+/- 0.01 feet)*	14.02	Purge Rate (mL/minute)	
Bottom of Well Casing (+/- 0.01 feet)*	14.50	Time to Purge Well (hours:minutes)	
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)	Not Measured		

*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)

Well Evacuated to Dryness? Yes Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
Duplicate?		Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		

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

Notes / Unusual Occurrences: Well Pumped Dry, Not Enough Water to Collect Sample

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW7 - 8**	Date: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Clear, Sunny, 70°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	18:52	Pump Start Time	18:54
Static Water Level (+/- 0.01 feet)*	11.82	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	24.10	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)	7.58		
Actual Volume of Water Purged (mL)	5,000		

*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)
18:59	1,250	22.75	6.24	57.5	7.12	0.803	11.82
19:02	2,000	21.72	5.72	57.4	7.36	0.815	11.82
19:05	2,750	20.97	5.04	54.4	7.36	0.838	11.82
19:08	3,500	20.64	5.04	53.2	7.36	0.854	11.82
19:11	4,250	20.47	5.02	55.2	7.37	0.858	11.82
19:14	5,000	20.30	5.00	54.4	7.37	0.860	11.82

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	5,000	20.30	5.00	54.4	7.37	0.860	11.82
Duplicate?	Yes, DUP2	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		250

Sample Physical Characteristics **Equipment Information**

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/10/2023, 8:44
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW8 - 6**	Date: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Sunny, 73°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	14:44	Pump Start Time	14:45
Static Water Level (+/- 0.01 feet)*	11.35	Purge Rate (mL/minute)	200
Bottom of Well Casing (+/- 0.01 feet)*	15.60	Time to Purge Well (hours:minutes)	0:44
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	2.62		
Actual Volume of Water Purged (mL)	8,800		

*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	17.44	2.64	799	7.52	0.917	11.37
14:53	1,600	14.52	8.73	307	7303.00	0.904	11.37
14:56	2,200	14.57	8.74	203	7.00	0.906	11.37
14:59	2,800	14.17	8.04	155	7.00	0.906	11.37
15:02	3,400	14.11	7.56	99.2	7.12	0.920	11.37
15:05	4,000	15.00	6.51	97.4	7.33	0.919	11.37
15:08	4,600	14.98	6.60	63.9	7.30	0.918	11.37
15:11	5,200	14.86	6.61	52.6	7.20	0.920	11.37
15:14	5,800	13.29	6.16	42.7	7.20	0.920	11.37
15:17	6,400	13.35	5.43	51.6	7.20	0.919	11.37
15:20	7,000	13.42	5.44	39.2	7.20	0.917	11.37
15:23	7,600	13.44	6.40	44.1	7.16	0.919	11.37
15:26	8,200	13.51	6.40	33.7	7.17	0.915	11.37
15:29	8,800	13.52	6.32	23.6	7.16	0.916	11.37

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
15:29	8,800	13.52	6.32	23.6	7.16	0.916	11.37
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	4/10/2023, 8:44

Notes / Unusual Occurrences: None - Small Amount of Sand in Sample

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW13 - 1**	Date: 4/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 56°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	8:42	Pump Start Time	8:48
Static Water Level (+/- 0.01 feet)*	10.14	Purge Rate (mL/minute)	150
Bottom of Well Casing (+/- 0.01 feet)*	15.19	Time to Purge Well (hours:minutes)	0:14
Pump Intake Elevation (+/- 0.01 feet)*	908.30	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	3.12		
Actual Volume of Water Purged (mL)	2,100		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
8:53	750	12.64	8.02	25.4	6.99	0.834	Top of Pump
8:56	1,200	12.23	8.03	19.9	6.99	0.838	Top of Pump
8:59	1,650	11.92	8.17	17.5	6.97	0.839	Top of Pump
9:02	2,100	11.69	8.23	15.7	6.95	0.840	Top of Pump

Well Evacuated to Dryness? 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)
9:02	2,100	11.69	8.23	15.7	6.95	0.84	Top of Pump
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		150

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

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

Equipment Calibration Sheet

Date: 4/10/2023
Time: 8:44

Person Calibrating Instrument: Kyle K. Uhing

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

Parameter:	Reading	Units
pH 4	4.00	NA
Conductivity	4.35	µS/cm
Turbidity	0.0	NTU
DO	11.54	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

.

Equipment Calibration Sheet

Date: 4/11/2023
Time: 11:03

Person Calibrating Instrument: Kyle K. Uhing

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

Parameter:	Reading	Units
pH 4	4.00	NA
Conductivity	4.57	µS/cm
Turbidity	0.0	NTU
DO	10.25	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

.

NEBRASKA CITY STATION

Water Levels Prior to Purging (Feet Below TOC)

NC1MW2	Date of Sampling	10/2/2023	Time of Sampling	14:15	Static Water Level	12.12
NC1MW3	Date of Sampling	10/2/2023	Time of Sampling	14:48	Static Water Level	12.56
NC1MW4	Date of Sampling	10/2/2023	Time of Sampling	14:19	Static Water Level	12.57
NC1MW5	Date of Sampling	10/2/2023	Time of Sampling	14:24	Static Water Level	14.27
NC1MW6	Date of Sampling	10/2/2023	Time of Sampling	14:31	Static Water Level	10.33
NC1MW7	Date of Sampling	10/2/2023	Time of Sampling	14:02	Static Water Level	11.51
NC1MW8	Date of Sampling	10/2/2023	Time of Sampling	14:00	Static Water Level	11.83
NC1MW9	Date of Sampling	10/2/2023	Time of Sampling	14:54	Static Water Level	12.76
NC2MW2	Date of Sampling	10/2/2023	Time of Sampling	13:40	Static Water Level	14.41
NC2MW3	Date of Sampling	10/2/2023	Time of Sampling	13:33	Static Water Level	11.87
NC2MW4	Date of Sampling	10/2/2023	Time of Sampling	12:51	Static Water Level	11.20
NC2MW5	Date of Sampling	10/2/2023	Time of Sampling	13:19	Static Water Level	Top of Pump
NC2MW6	Date of Sampling	10/2/2023	Time of Sampling	13:24	Static Water Level	11.35
NC2MW7	Date of Sampling	10/2/2023	Time of Sampling	13:44	Static Water Level	10.32
NC2MW8	Date of Sampling	10/2/2023	Time of Sampling	13:36	Static Water Level	10.04
MW11	Date of Sampling	10/2/2023	Time of Sampling	14:06	Static Water Level	10.83
MW12	Date of Sampling	10/2/2023	Time of Sampling	14:10	Static Water Level	12.64
MW13	Date of Sampling	10/2/2023	Time of Sampling	12:45	Static Water Level	9.48
MW14	Date of Sampling	10/2/2023	Time of Sampling	12:56	Static Water Level	13.30

NOTES:

TOC = Top of Casing

NM = Not Measured, Inaccessible

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW2 - 7**	Date: 10/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 71°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	17:13	Pump Start Time	17:15
Static Water Level (+/- 0.01 feet)*	14.36	Purge Rate (mL/minute)	100
Bottom of Well Casing (+/- 0.01 feet)*	17.61	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)	2.01		
Actual Volume of Water Purged (mL)	2,000		

*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)
17:20	500	17.23	0.53	19.1	6.90	1.44	15.04
17:23	800	17.19	0.27	18.5	6.84	1.43	15.13
17:26	1,100	17.31	0.08	12.1	6.81	1.43	15.17
17:29	1,400	17.40	0.00	8.5	6.61	1.42	15.21
17:32	1,700	17.32	0.00	7.9	6.60	1.42	15.27
17:35	2,000	17.27	0.00	5.2	6.59	1.41	15.33

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)
17:35	2,000	17.27	0.00	5.2	6.59	1.41	15.33
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		100

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/10/2023, 9:21
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW3 - 5**	Date: 10/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 69°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	15:12	Pump Start Time	15:16
Static Water Level (+/- 0.01 feet)*	11.78	Purge Rate (mL/minute)	200
Bottom of Well Casing (+/- 0.01 feet)*	18.35	Time to Purge Well (hours:minutes)	0:17
Pump Intake Elevation (+/- 0.01 feet)*	901.85	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)	4.06		
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)
15:21	1,000	18.02	1.39	9.3	6.75	1.58	12.47
15:24	1,600	18.15	0.72	15.3	6.68	1.60	12.47
15:27	2,200	18.21	0.52	17.2	6.68	1.61	12.47
15:30	2,800	18.19	0.53	15.7	6.71	1.62	12.47
15:33	3,400	18.10	0.44	13.5	6.72	1.63	12.47

Well Evacuated to Dryness? No

Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
15:33	3,400	18.10	0.44	13.5	6.72	1.63	12.47
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	10/10/2023, 9:21
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW4 - 2**	Date: 10/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 64°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	12:37	Pump Start Time	12:40
Static Water Level (+/- 0.01 feet)*	11.10	Purge Rate (mL/minute)	100
Bottom of Well Casing (+/- 0.01 feet)*	14.50	Time to Purge Well (hours:minutes)	0:11
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	2.10		
Actual Volume of Water Purged (mL)	1,100		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
12:45	500	16.66	7.88	23.8	6.11	0.751	12.27
12:48	800	16.82	7.83	21.2	6.11	0.751	13.00
12:51	1,100	16.87	7.67	24.2	6.12	0.749	13.06

Well Evacuated to Dryness? Yes Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
12:51	1,100	16.87	7.67	24	6.12	0.749	13.06
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		100

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Mostly Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/10/2023, 9:21
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW5 - 3**	Date: 10/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Clear, Sunny, 68°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	13:26	Pump Start Time	13:28
Static Water Level (+/- 0.01 feet)*	Top of Pump	Purge Rate (mL/minute)	100
Bottom of Well Casing (+/- 0.01 feet)*	15.80	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)	1,400		

*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)
13:33	500	17.73	1.36	7.4	6.35	1.27	Top of Pump
13:36	800	17.47	0.73	3.6	6.38	1.31	Top of Pump
13:39	1,100	17.54	0.79	4.5	6.38	1.31	Top of Pump
13:42	1,400	17.46	0.81	4.3	6.38	1.31	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)
13:42	1,400	17.46	0.81	4	6.38	1.310	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	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	None	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/10/2023, 9:21
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW6 - 4**	Date: 10/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Cloudy, Sunny, 69°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	14:24	Pump Start Time	14:27
Static Water Level (+/- 0.01 feet)*	11.29	Purge Rate (mL/minute)	150
Bottom of Well Casing (+/- 0.01 feet)*	14.50	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)	1.98		
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)
14:32	750	18.29	0.76	33.2	6.64	1.02	12.16
14:35	1,200	18.19	0.50	27.2	6.61	0.988	12.31
14:38	1,650	18.28	0.54	22.1	6.60	0.987	12.40
14:41	2,100	18.36	0.49	21.7	6.60	0.990	12.49

Well Evacuated to Dryness? Yes Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
14:41	2,100	18.36	0.49	21.7	6.60	0.990	12.49
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	None	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/10/2023, 9:21

Notes / Unusual Occurrences: Well Pumped Dry During Sampling - Collected Remaining Sample Later

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW7 - 8**	Date: 10/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 70°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	18:06	Pump Start Time	18:07
Static Water Level (+/- 0.01 feet)*	10.27	Purge Rate (mL/minute)	100
Bottom of Well Casing (+/- 0.01 feet)*	24.10	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)	8.54		
Actual Volume of Water Purged (mL)	1,400		

*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)
18:12	500	18.11	1.02	41.3	7.46	0.977	10.27
18:15	800	17.91	0.08	31.1	7.30	0.970	10.27
18:18	1,100	17.80	0.00	25.9	7.28	0.958	10.27
18:21	1,400	17.70	0.00	20.9	7.27	0.962	10.27

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)
18:21	1,400	17.70	0.00	20.9	7.27	0.962	10.27
Duplicate?	Yes, DUP2	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		100

Sample Physical Characteristics **Equipment Information**

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/10/2023, 9:21
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW8 - 6**	Date: 10/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 69°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	15:55	Pump Start Time	15:57
Static Water Level (+/- 0.01 feet)*	9.97	Purge Rate (mL/minute)	150
Bottom of Well Casing (+/- 0.01 feet)*	15.60	Time to Purge Well (hours:minutes)	0:50
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	3.48		
Actual Volume of Water Purged (mL)	7,500		

*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)
16:02	750	19.71	2.27	994	7.31	0.952	9.97
16:05	1,200	18.57	0.61	829	7.30	0.884	9.97
16:08	1,650	18.46	0.13	458	7.22	0.856	9.97
16:11	2,100	18.13	0.02	327	7.18	0.844	9.97
16:14	2,550	18.04	0.04	141	7.20	0.847	9.97
16:17	3,000	18.08	0.01	113	7.23	0.843	9.97
16:20	3,450	18.13	0.00	134.0	6.97	0.844	9.97
16:23	3,900	18.00	0.09	127	6.74	0.830	9.97
16:26	4,350	17.91	0.07	89.4	6.70	0.827	9.97
16:29	4,800	17.83	0.00	94.2	6.68	0.822	9.97
16:32	5,250	17.73	0.00	58.8	6.64	0.823	9.97
16:35	5,700	17.67	0.00	110.0	6.64	0.822	9.97
16:38	6,150	17.63	0.00	104	6.62	0.820	9.97
16:41	6,600	17.58	0.00	72.8	6.60	0.818	9.97
16:44	7,050	17.53	0.04	72.4	6.61	0.817	9.97
16:47	7,500	17.51	0.07	75.3	6.61	0.818	9.97

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)
16:47	7,500	17.51	0.07	75.3	6.61	0.818	9.97
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		150

Sample Physical Characteristics / **Equipment Information**

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

Notes / Unusual Occurrences: None

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Megan B. Seymour (79678)
Monitoring Well Identification - Sample Number: **MW13 - 1**	Date: 10/10/2023
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 59°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	12:15	Pump Start Time	12:20
Static Water Level (+/- 0.01 feet)*	9.36	Purge Rate (mL/minute)	150
Bottom of Well Casing (+/- 0.01 feet)*	15.19	Time to Purge Well (hours:minutes)	0:29
Pump Intake Elevation (+/- 0.01 feet)*	908.30	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	3.60		
Actual Volume of Water Purged (mL)	4,050		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
12:25	450	17.80	7.63	132	6.63	1.05	9.61
12:28	900	17.49	6.68	74.6	6.65	1.04	9.57
12:31	1,350	17.49	6.65	55.6	6.65	1.03	9.57
12:34	1,800	17.30	6.01	43.8	6.65	1.03	9.57
12:37	2,250	17.30	5.82	36.6	6.65	1.02	9.57
12:40	2,700	17.23	5.78	29.1	6.65	1.02	9.57
12:43	3,150	17.33	4.95	24.5	6.66	1.01	9.57
12:46	3,600	17.35	4.77	24.2	6.65	1.01	9.57
12:49	4,050	17.25	4.56	24.8	6.65	1.01	9.57

Well Evacuated to Dryness? Yes Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
12:49	4,050	17.25	4.56	24.8	6.65	1.01	9.57
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		150

Sample Physical Characteristics / **Equipment Information**

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

Equipment Calibration Sheet

Date: 10/10/2023
Time: 9:21

Person Calibrating Instrument: Kyle K. Uhing

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

Parameter:	Reading	Units
pH 4	4.00	NA
Conductivity	4.41	µS/cm
Turbidity	0.1	NTU
DO	9.97	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

.

Equipment Calibration Sheet

Date: 10/10/2023
Time: 11:37

Person Calibrating Instrument: Megan B. Seymour

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

Parameter:	Reading	Units
pH 4	4.01	NA
Conductivity	4.68	µS/cm
Turbidity	0.0	NTU
DO	9.18	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

.

This page intentionally left blank.

Appendix B

Laboratory Analytical Reports

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 5/17/2023 1:36:41 PM

JOB DESCRIPTION

Nebraska City Station Unit 2 CCR/Landfill

JOB NUMBER

310-253378-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

myEOL

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

Eurofins Cedar Falls

Job Notes

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

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

Authorization

Generated
5/17/2023 1:36:41 PM

Authorized for release by
Tayler Sanderson, Project Manager I
Tayler.Sanderson@et.eurofinsus.com
Designee for
Shirley Thompson, Client Service Manager
Shirley.Thompson@et.eurofinsus.com
(319)277-2401

Eurofins Cedar Falls is a laboratory within Eurofins Environment Testing North Central, LLC, a company within Eurofins Environment Testing Group of Companies

Table of Contents

Case Narrative

Job ID: 310-253378-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-253378-1

Comments
No additional comments.

Receipt
The samples were received on 4/12/2023 5:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.9º C and 2.3º C.

HPLC/IC
Method 9056A: The following sample was diluted due to the nature of the sample matrix: DUP2 (310-253378-4). 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.

Narrative

Job Narrative
310-253378-2

Receipt
The samples were received on 4/12/2023 5:20 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.9°C and 2.3°C

Gas Flow Proportional Counter
Method 9315_Ra226: Radium-226 Prep Batch 160-608511The following samples were prepared at a reduced aliquot due to Matrix: NC2MW2 (310-253378-1), NC2MW3 (310-253378-2), NC2MW8 (310-253378-3), DUP2 (310-253378-4) and NC2MW7 (310-253378-5). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method 9315_Ra226: Radium-226 batch 608511Any 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.NC2MW2 (310-253378-1), NC2MW3 (310-253378-2), NC2MW8 (310-253378-3), DUP2 (310-253378-4), NC2MW7 (310-253378-5), (LCS 160-608511/2-A), (LCSD 160-608511/3-A) and (MB 160-608511/1-A)

Method 9320_Ra228: Radium-228 Prep Batch 160-608514The following samples were prepared at a reduced aliquot due to Matrix: NC2MW2 (310-253378-1), NC2MW3 (310-253378-2), NC2MW8 (310-253378-3), DUP2 (310-253378-4) and NC2MW7 (310-253378-5). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method 9320_Ra228: Radium-228 batch 608514The detection goal was not met for the following sample(s). Sample was prepped at a reduced volume due to the presence of matrix interferences: NC2MW3 (310-253378-2). Analytical results are reported with the detection limit achieved.

Method 9320_Ra228: Radium-228 batch 608514Any 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.NC2MW2 (310-253378-1), NC2MW3 (310-253378-2),

Case Narrative

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

Job ID: 310-253378-1

Job ID: 310-253378-1 (Continued)

Laboratory: Eurofins Cedar Falls (Continued)

NC2MW8 (310-253378-3), DUP2 (310-253378-4), NC2MW7 (310-253378-5), (LCS 160-608514/2-A), (LCSD 160-608514/3-A) and (MB 160-608514/1-A)

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

Rad

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

Sample Summary

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

Job ID: 310-253378-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-253378-1	NC2MW2	Water	04/10/23 16:48	04/12/23 17:20
310-253378-2	NC2MW3	Water	04/11/23 11:38	04/12/23 17:20
310-253378-3	NC2MW8	Water	04/10/23 15:29	04/12/23 17:20
310-253378-4	DUP2	Water	04/10/23 00:00	04/12/23 17:20
310-253378-5	NC2MW7	Water	04/10/23 19:14	04/12/23 17:20

Detection Summary

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW2 — Lab Sample ID: 310-253378-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	19.5		5.00	2.25	mg/L	5		9056A	Total/NA
Fluoride	0.442	J	1.00	0.375	mg/L	5		9056A	Total/NA
Sulfate	404		5.00	2.10	mg/L	5		9056A	Total/NA
Antimony	0.00350		0.00200	0.00100	mg/L	1		6020B	Total/NA
Arsenic	0.00100	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.139		0.00200	0.000640	mg/L	1		6020B	Total/NA
Boron	0.496		0.100	0.0760	mg/L	1		6020B	Total/NA
Cadmium	0.000283		0.000200	0.000100	mg/L	1		6020B	Total/NA
Calcium	257		0.500	0.190	mg/L	1		6020B	Total/NA
Cobalt	0.00301		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000546		0.000500	0.000240	mg/L	1		6020B	Total/NA
Lithium	0.0261		0.0100	0.00250	mg/L	1		6020B	Total/NA
Molybdenum	0.0560		0.00200	0.000910	mg/L	1		6020B	Total/NA
Selenium	0.00962		0.00500	0.00140	mg/L	1		6020B	Total/NA
Total Dissolved Solids	1070		50.0	34.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW3 — Lab Sample ID: 310-253378-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11.1		5.00	2.25	mg/L	5		9056A	Total/NA
Fluoride	1.07		1.00	0.375	mg/L	5		9056A	Total/NA
Sulfate	401		5.00	2.10	mg/L	5		9056A	Total/NA
Arsenic	0.00193	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.0688		0.00200	0.000640	mg/L	1		6020B	Total/NA
Boron	0.265		0.100	0.0760	mg/L	1		6020B	Total/NA
Calcium	182		0.500	0.190	mg/L	1		6020B	Total/NA
Cobalt	0.00122		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000284	J	0.000500	0.000240	mg/L	1		6020B	Total/NA
Lithium	0.0271		0.0100	0.00250	mg/L	1		6020B	Total/NA
Molybdenum	0.00323		0.00200	0.000910	mg/L	1		6020B	Total/NA
Total Dissolved Solids	1110		50.0	34.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW8 — Lab Sample ID: 310-253378-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	13.0		5.00	2.25	mg/L	5		9056A	Total/NA
Fluoride	0.394	J	1.00	0.375	mg/L	5		9056A	Total/NA
Sulfate	53.2		5.00	2.10	mg/L	5		9056A	Total/NA
Arsenic	0.00971		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.462		0.00200	0.000640	mg/L	1		6020B	Total/NA
Calcium	126		0.500	0.190	mg/L	1		6020B	Total/NA
Cobalt	0.00219		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000252	J	0.000500	0.000240	mg/L	1		6020B	Total/NA
Lithium	0.0363		0.0100	0.00250	mg/L	1		6020B	Total/NA
Molybdenum	0.00200		0.00200	0.000910	mg/L	1		6020B	Total/NA
Total Dissolved Solids	556		50.0	34.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP2 — Lab Sample ID: 310-253378-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.37		5.00	2.25	mg/L	5		9056A	Total/NA
Fluoride	0.404	J	1.00	0.375	mg/L	5		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: DUP2 (Continued) — Lab Sample ID: 310-253378-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0416		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.554		0.00200	0.000640	mg/L	1		6020B	Total/NA
Boron	0.153		0.100	0.0760	mg/L	1		6020B	Total/NA
Calcium	126		0.500	0.190	mg/L	1		6020B	Total/NA
Cobalt	0.000354	J	0.000500	0.000170	mg/L	1		6020B	Total/NA
Lithium	0.0621		0.0100	0.00250	mg/L	1		6020B	Total/NA
Molybdenum	0.00181	J	0.00200	0.000910	mg/L	1		6020B	Total/NA
Total Dissolved Solids	582		50.0	34.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW7 — Lab Sample ID: 310-253378-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.73		5.00	2.25	mg/L	5		9056A	Total/NA
Fluoride	0.402	J	1.00	0.375	mg/L	5		9056A	Total/NA
Sulfate	2.41	J	5.00	2.10	mg/L	5		9056A	Total/NA
Arsenic	0.0396		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.523		0.00200	0.000640	mg/L	1		6020B	Total/NA
Boron	0.142		0.100	0.0760	mg/L	1		6020B	Total/NA
Calcium	121		0.500	0.190	mg/L	1		6020B	Total/NA
Cobalt	0.000321	J	0.000500	0.000170	mg/L	1		6020B	Total/NA
Lithium	0.0588		0.0100	0.00250	mg/L	1		6020B	Total/NA
Molybdenum	0.00177	J	0.00200	0.000910	mg/L	1		6020B	Total/NA
Total Dissolved Solids	598		50.0	34.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample ID: NC2MW2
Lab Sample ID: 310-253378-1
Date Collected: 04/10/23 16:48
Matrix: Water
Date Received: 04/12/23 17:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19.5		5.00	2.25	mg/L			04/20/23 15:01	5
Fluoride	0.442	J	1.00	0.375	mg/L			04/20/23 15:01	5
Sulfate	404		5.00	2.10	mg/L			04/20/23 15:01	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00350		0.00200	0.00100	mg/L		04/14/23 08:45	04/21/23 23:59	1
Arsenic	0.00100	J	0.00200	0.000530	mg/L		04/14/23 08:45	04/21/23 23:59	1
Barium	0.139		0.00200	0.000640	mg/L		04/14/23 08:45	04/21/23 23:59	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		04/14/23 08:45	04/21/23 23:59	1
Boron	0.496		0.100	0.0760	mg/L		04/14/23 08:45	04/21/23 23:59	1
Cadmium	0.000283		0.000200	0.000100	mg/L		04/14/23 08:45	04/21/23 23:59	1
Calcium	257		0.500	0.190	mg/L		04/14/23 08:45	04/21/23 23:59	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/14/23 08:45	04/21/23 23:59	1
Cobalt	0.00301		0.000500	0.000170	mg/L		04/14/23 08:45	04/21/23 23:59	1
Lead	0.000546		0.000500	0.000240	mg/L		04/14/23 08:45	04/21/23 23:59	1
Lithium	0.0261		0.0100	0.00250	mg/L		04/14/23 08:45	04/21/23 23:59	1
Molybdenum	0.0560		0.00200	0.000910	mg/L		04/14/23 08:45	04/21/23 23:59	1
Selenium	0.00962		0.00500	0.00140	mg/L		04/14/23 08:45	04/21/23 23:59	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/21/23 23:59	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:16	04/18/23 13:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1070		50.0	34.0	mg/L			04/13/23 08:46	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.271	U	0.225	0.226	1.00	0.341	pCi/L	04/24/23 11:07	05/16/23 19:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.4*		*30 - 110*	*04/24/23 11:07*	*05/16/23 19:52*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.37		0.526	0.541	1.00	0.642	pCi/L	04/24/23 11:36	05/14/23 00:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.4*		*30 - 110*	*04/24/23 11:36*	*05/14/23 00:03*	*1*
Y Carrier	*89.7*		*30 - 110*	*04/24/23 11:36*	*05/14/23 00:03*	*1*

Client Sample Results
Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW2
Lab Sample ID: 310-253378-1
Date Collected: 04/10/23 16:48
Matrix: Water
Date Received: 04/12/23 17:20

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.64		0.572	0.586	5.00	0.642	pCi/L		05/17/23 10:43	1

Client Sample ID: NC2MW3
Lab Sample ID: 310-253378-2
Date Collected: 04/11/23 11:38
Matrix: Water
Date Received: 04/12/23 17:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11.1		5.00	2.25	mg/L			04/20/23 15:17	5
Fluoride	1.07		1.00	0.375	mg/L			04/20/23 15:17	5
Sulfate	401		5.00	2.10	mg/L			04/20/23 15:17	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		04/14/23 08:45	04/22/23 00:02	1
Arsenic	0.00193	J	0.00200	0.000530	mg/L		04/14/23 08:45	04/22/23 00:02	1
Barium	0.0688		0.00200	0.000640	mg/L		04/14/23 08:45	04/22/23 00:02	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		04/14/23 08:45	04/22/23 00:02	1
Boron	0.265		0.100	0.0760	mg/L		04/14/23 08:45	04/22/23 00:02	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		04/14/23 08:45	04/22/23 00:02	1
Calcium	182		0.500	0.190	mg/L		04/14/23 08:45	04/22/23 00:02	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/14/23 08:45	04/22/23 00:02	1
Cobalt	0.00122		0.000500	0.000170	mg/L		04/14/23 08:45	04/22/23 00:02	1
Lead	0.000284	J	0.000500	0.000240	mg/L		04/14/23 08:45	04/22/23 00:02	1
Lithium	0.0271		0.0100	0.00250	mg/L		04/14/23 08:45	04/22/23 00:02	1
Molybdenum	0.00323		0.00200	0.000910	mg/L		04/14/23 08:45	04/22/23 00:02	1
Selenium	<0.00140		0.00500	0.00140	mg/L		04/14/23 08:45	04/22/23 00:02	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/22/23 00:02	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:16	04/18/23 13:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1110		50.0	34.0	mg/L			04/13/23 08:46	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.153	U	0.276	0.276	1.00	0.484	pCi/L	04/24/23 11:07	05/16/23 21:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*44.7*		*30 - 110*	*04/24/23 11:07*	*05/16/23 21:37*	*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	3.72	G	1.15	1.20	1.00	1.38	pCi/L	04/24/23 11:36	05/14/23 00:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*44.7*		*30 - 110*	*04/24/23 11:36*	*05/14/23 00:03*	*1*
Y Carrier	*87.5*		*30 - 110*	*04/24/23 11:36*	*05/14/23 00:03*	*1*

Client Sample Results
Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW3
Lab Sample ID: 310-253378-2
Date Collected: 04/11/23 11:38
Matrix: Water
Date Received: 04/12/23 17:20

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.88		1.18	1.23	5.00	1.38	pCi/L		05/17/23 10:43	1

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW8
Lab Sample ID: 310-253378-3
Date Collected: 04/10/23 15:29
Matrix: Water
Date Received: 04/12/23 17:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13.0		5.00	2.25	mg/L			04/20/23 15:33	5
Fluoride	0.394	J	1.00	0.375	mg/L			04/20/23 15:33	5
Sulfate	53.2		5.00	2.10	mg/L			04/20/23 15:33	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		04/14/23 08:45	04/22/23 00:19	1
Arsenic	0.00971		0.00200	0.000530	mg/L		04/14/23 08:45	04/22/23 00:19	1
Barium	0.462		0.00200	0.000640	mg/L		04/14/23 08:45	04/22/23 00:19	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		04/14/23 08:45	04/22/23 00:19	1
Boron	<0.0760		0.100	0.0760	mg/L		04/14/23 08:45	04/22/23 00:19	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		04/14/23 08:45	04/22/23 00:19	1
Calcium	126		0.500	0.190	mg/L		04/14/23 08:45	04/22/23 00:19	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/14/23 08:45	04/22/23 00:19	1
Cobalt	0.00219		0.000500	0.000170	mg/L		04/14/23 08:45	04/22/23 00:19	1
Lead	0.000252	J	0.000500	0.000240	mg/L		04/14/23 08:45	04/22/23 00:19	1
Lithium	0.0363		0.0100	0.00250	mg/L		04/14/23 08:45	04/22/23 00:19	1
Molybdenum	0.00200		0.00200	0.000910	mg/L		04/14/23 08:45	04/22/23 00:19	1
Selenium	<0.00140		0.00500	0.00140	mg/L		04/14/23 08:45	04/22/23 00:19	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/22/23 00:19	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:16	04/18/23 13:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	556		50.0	34.0	mg/L			04/13/23 08:46	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.227	U	0.196	0.197	1.00	0.299	pCi/L	04/24/23 11:07	05/16/23 21:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.9*		*30 - 110*	*04/24/23 11:07*	*05/16/23 21:37*	*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	1.08		0.531	0.540	1.00	0.734	pCi/L	04/24/23 11:36	05/14/23 00:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.9*		*30 - 110*	*04/24/23 11:36*	*05/14/23 00:03*	*1*
Y Carrier	*86.4*		*30 - 110*	*04/24/23 11:36*	*05/14/23 00:03*	*1*

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW8
Lab Sample ID: 310-253378-3
Date Collected: 04/10/23 15:29
Matrix: Water
Date Received: 04/12/23 17:20

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.31		0.566	0.575	5.00	0.734	pCi/L		05/17/23 10:43	1

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: DUP2
Lab Sample ID: 310-253378-4
Date Collected: 04/10/23 00:00
Matrix: Water
Date Received: 04/12/23 17:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.37		5.00	2.25	mg/L			04/20/23 15:48	5
Fluoride	0.404	J	1.00	0.375	mg/L			04/20/23 15:48	5
Sulfate	<2.10		5.00	2.10	mg/L			04/20/23 15:48	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		04/14/23 08:45	04/22/23 00:22	1
Arsenic	0.0416		0.00200	0.000530	mg/L		04/14/23 08:45	04/22/23 00:22	1
Barium	0.554		0.00200	0.000640	mg/L		04/14/23 08:45	04/22/23 00:22	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		04/14/23 08:45	04/22/23 00:22	1
Boron	0.153		0.100	0.0760	mg/L		04/14/23 08:45	04/22/23 00:22	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		04/14/23 08:45	04/22/23 00:22	1
Calcium	126		0.500	0.190	mg/L		04/14/23 08:45	04/22/23 00:22	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/14/23 08:45	04/22/23 00:22	1
Cobalt	0.000354	J	0.000500	0.000170	mg/L		04/14/23 08:45	04/22/23 00:22	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/14/23 08:45	04/22/23 00:22	1
Lithium	0.0621		0.0100	0.00250	mg/L		04/14/23 08:45	04/22/23 00:22	1
Molybdenum	0.00181	J	0.00200	0.000910	mg/L		04/14/23 08:45	04/22/23 00:22	1
Selenium	<0.00140		0.00500	0.00140	mg/L		04/14/23 08:45	04/22/23 00:22	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/22/23 00:22	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:16	04/18/23 13:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	582		50.0	34.0	mg/L			04/13/23 08:46	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.246	U	0.203	0.205	1.00	0.306	pCi/L	04/24/23 11:07	05/16/23 21:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.4*		*30 - 110*	*04/24/23 11:07*	*05/16/23 21:37*	*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	1.73		0.597	0.618	1.00	0.708	pCi/L	04/24/23 11:36	05/14/23 00:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.4*		*30 - 110*	*04/24/23 11:36*	*05/14/23 00:03*	*1*
Y Carrier	*87.1*		*30 - 110*	*04/24/23 11:36*	*05/14/23 00:03*	*1*

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: DUP2
Lab Sample ID: 310-253378-4
Date Collected: 04/10/23 00:00
Matrix: Water
Date Received: 04/12/23 17:20

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.98		0.631	0.651	5.00	0.708	pCi/L		05/17/23 10:43	1

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW7
Lab Sample ID: 310-253378-5
Date Collected: 04/10/23 19:14
Matrix: Water
Date Received: 04/12/23 17:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.73		5.00	2.25	mg/L			04/20/23 17:02	5
Fluoride	0.402	J	1.00	0.375	mg/L			04/20/23 17:02	5
Sulfate	2.41	J	5.00	2.10	mg/L			04/20/23 17:02	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		04/14/23 08:45	04/22/23 00:25	1
Arsenic	0.0396		0.00200	0.000530	mg/L		04/14/23 08:45	04/22/23 00:25	1
Barium	0.523		0.00200	0.000640	mg/L		04/14/23 08:45	04/22/23 00:25	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		04/14/23 08:45	04/22/23 00:25	1
Boron	0.142		0.100	0.0760	mg/L		04/14/23 08:45	04/22/23 00:25	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		04/14/23 08:45	04/22/23 00:25	1
Calcium	121		0.500	0.190	mg/L		04/14/23 08:45	04/22/23 00:25	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/14/23 08:45	04/22/23 00:25	1
Cobalt	0.000321	J	0.000500	0.000170	mg/L		04/14/23 08:45	04/22/23 00:25	1
Lead	<0.000240		0.000500	0.000240	mg/L		04/14/23 08:45	04/22/23 00:25	1
Lithium	0.0588		0.0100	0.00250	mg/L		04/14/23 08:45	04/22/23 00:25	1
Molybdenum	0.00177	J	0.00200	0.000910	mg/L		04/14/23 08:45	04/22/23 00:25	1
Selenium	<0.00140		0.00500	0.00140	mg/L		04/14/23 08:45	04/22/23 00:25	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/14/23 08:45	04/22/23 00:25	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:16	04/18/23 13:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	598		50.0	34.0	mg/L			04/13/23 08:46	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.402		0.220	0.223	1.00	0.288	pCi/L	04/24/23 11:07	05/16/23 21:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.4*		*30 - 110*	*04/24/23 11:07*	*05/16/23 21:37*	*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	1.50		0.533	0.551	1.00	0.638	pCi/L	04/24/23 11:36	05/14/23 00:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.4*		*30 - 110*	*04/24/23 11:36*	*05/14/23 00:04*	*1*
Y Carrier	*87.5*		*30 - 110*	*04/24/23 11:36*	*05/14/23 00:04*	*1*

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW7
Lab Sample ID: 310-253378-5
Date Collected: 04/10/23 19:14
Matrix: Water
Date Received: 04/12/23 17:20

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.91		0.577	0.594	5.00	0.638	pCi/L		05/17/23 10:43	1

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 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.

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: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-385149/3
Matrix: Water
Analysis Batch: 385149
Client Sample ID: Method Blank
Prep Type: Total/NA

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

Lab Sample ID: LCS 310-385149/4
Matrix: Water
Analysis Batch: 385149
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	10.32		mg/L		103	90 - 110
Fluoride	2.00	2.181		mg/L		109	90 - 110
Sulfate	10.0	10.64		mg/L		106	90 - 110

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-384266/1-A
Matrix: Water
Analysis Batch: 385211
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 384266

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

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

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

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

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

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

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

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

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-384509/1-A
Matrix: Water
Analysis Batch: 384701

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 384509

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

Lab Sample ID: LCS 310-384509/2-A
Matrix: Water
Analysis Batch: 384701

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 384509

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

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

Lab Sample ID: MB 310-384188/1
Matrix: Water
Analysis Batch: 384188

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

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

Lab Sample ID: LCS 310-384188/2
Matrix: Water
Analysis Batch: 384188

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

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

Lab Sample ID: 310-253378-1 DU
Matrix: Water
Analysis Batch: 384188

Client Sample ID: NC2MW2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1070		1134		mg/L		5	20

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-608511/1-A
Matrix: Water
Analysis Batch: 611701

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 608511

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

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	81.6		30 - 110	04/24/23 11:07	05/16/23 19:51	1

Lab Sample ID: LCS 160-608511/2-A
Matrix: Water
Analysis Batch: 611701

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 608511

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

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

Lab Sample ID: LCSD 160-608511/3-A
Matrix: Water
Analysis Batch: 611701

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 608511

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

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

Method: 9320 - Radium-228 (GFPC)

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

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

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

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

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

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

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

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

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

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

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

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

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

HPLC/IC

Analysis Batch: 385149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253378-1	NC2MW2	Total/NA	Water	9056A	
310-253378-2	NC2MW3	Total/NA	Water	9056A	
310-253378-3	NC2MW8	Total/NA	Water	9056A	
310-253378-4	DUP2	Total/NA	Water	9056A	
310-253378-5	NC2MW7	Total/NA	Water	9056A	
MB 310-385149/3	Method Blank	Total/NA	Water	9056A	
LCS 310-385149/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 384266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253378-1	NC2MW2	Total/NA	Water	3005A	
310-253378-2	NC2MW3	Total/NA	Water	3005A	
310-253378-3	NC2MW8	Total/NA	Water	3005A	
310-253378-4	DUP2	Total/NA	Water	3005A	
310-253378-5	NC2MW7	Total/NA	Water	3005A	
MB 310-384266/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-384266/2-A	Lab Control Sample	Total/NA	Water	3005A	

Prep Batch: 384509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253378-1	NC2MW2	Total/NA	Water	7470A	
310-253378-2	NC2MW3	Total/NA	Water	7470A	
310-253378-3	NC2MW8	Total/NA	Water	7470A	
310-253378-4	DUP2	Total/NA	Water	7470A	
310-253378-5	NC2MW7	Total/NA	Water	7470A	
MB 310-384509/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-384509/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 384701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253378-1	NC2MW2	Total/NA	Water	7470A	384509
310-253378-2	NC2MW3	Total/NA	Water	7470A	384509
310-253378-3	NC2MW8	Total/NA	Water	7470A	384509
310-253378-4	DUP2	Total/NA	Water	7470A	384509
310-253378-5	NC2MW7	Total/NA	Water	7470A	384509
MB 310-384509/1-A	Method Blank	Total/NA	Water	7470A	384509
LCS 310-384509/2-A	Lab Control Sample	Total/NA	Water	7470A	384509

Analysis Batch: 385211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253378-1	NC2MW2	Total/NA	Water	6020B	384266
310-253378-2	NC2MW3	Total/NA	Water	6020B	384266
310-253378-3	NC2MW8	Total/NA	Water	6020B	384266
310-253378-4	DUP2	Total/NA	Water	6020B	384266
310-253378-5	NC2MW7	Total/NA	Water	6020B	384266
MB 310-384266/1-A	Method Blank	Total/NA	Water	6020B	384266
LCS 310-384266/2-A	Lab Control Sample	Total/NA	Water	6020B	384266

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

General Chemistry

Analysis Batch: 384188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253378-1	NC2MW2	Total/NA	Water	SM 2540C	
310-253378-2	NC2MW3	Total/NA	Water	SM 2540C	
310-253378-3	NC2MW8	Total/NA	Water	SM 2540C	
310-253378-4	DUP2	Total/NA	Water	SM 2540C	
310-253378-5	NC2MW7	Total/NA	Water	SM 2540C	
MB 310-384188/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-384188/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-253378-1 DU	NC2MW2	Total/NA	Water	SM 2540C	

Rad

Prep Batch: 608511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253378-1	NC2MW2	Total/NA	Water	PrecSep-21	
310-253378-2	NC2MW3	Total/NA	Water	PrecSep-21	
310-253378-3	NC2MW8	Total/NA	Water	PrecSep-21	
310-253378-4	DUP2	Total/NA	Water	PrecSep-21	
310-253378-5	NC2MW7	Total/NA	Water	PrecSep-21	
MB 160-608511/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-608511/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-608511/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 608514

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253378-1	NC2MW2	Total/NA	Water	PrecSep_0	
310-253378-2	NC2MW3	Total/NA	Water	PrecSep_0	
310-253378-3	NC2MW8	Total/NA	Water	PrecSep_0	
310-253378-4	DUP2	Total/NA	Water	PrecSep_0	
310-253378-5	NC2MW7	Total/NA	Water	PrecSep_0	
MB 160-608514/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-608514/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-608514/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW2
Lab Sample ID: 310-253378-1
Date Collected: 04/10/23 16:48
Matrix: Water
Date Received: 04/12/23 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385149	DHM5	EET CF	04/20/23 15:01
Total/NA	Prep	3005A			384266	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	385211	ZRI4	EET CF	04/21/23 23:59
Total/NA	Prep	7470A			384509	XXW3	EET CF	04/17/23 11:16
Total/NA	Analysis	7470A		1	384701	XXW3	EET CF	04/18/23 13:47
Total/NA	Analysis	SM 2540C		1	384188	HE7K	EET CF	04/13/23 08:46
Total/NA	Prep	PrecSep-21			608511	KAC	EET SL	04/24/23 11:07
Total/NA	Analysis	9315		1	611701	FLC	EET SL	05/16/23 19:52
Total/NA	Prep	PrecSep_0			608514	KAC	EET SL	04/24/23 11:36
Total/NA	Analysis	9320		1	611711	FLC	EET SL	05/14/23 00:03
Total/NA	Analysis	Ra226_Ra228		1	611885	SCB	EET SL	05/17/23 10:43

Client Sample ID: NC2MW3
Lab Sample ID: 310-253378-2
Date Collected: 04/11/23 11:38
Matrix: Water
Date Received: 04/12/23 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385149	DHM5	EET CF	04/20/23 15:17
Total/NA	Prep	3005A			384266	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	385211	ZRI4	EET CF	04/22/23 00:02
Total/NA	Prep	7470A			384509	XXW3	EET CF	04/17/23 11:16
Total/NA	Analysis	7470A		1	384701	XXW3	EET CF	04/18/23 13:49
Total/NA	Analysis	SM 2540C		1	384188	HE7K	EET CF	04/13/23 08:46
Total/NA	Prep	PrecSep-21			608511	KAC	EET SL	04/24/23 11:07
Total/NA	Analysis	9315		1	611701	FLC	EET SL	05/16/23 21:37
Total/NA	Prep	PrecSep_0			608514	KAC	EET SL	04/24/23 11:36
Total/NA	Analysis	9320		1	611711	FLC	EET SL	05/14/23 00:03
Total/NA	Analysis	Ra226_Ra228		1	611885	SCB	EET SL	05/17/23 10:43

Client Sample ID: NC2MW8
Lab Sample ID: 310-253378-3
Date Collected: 04/10/23 15:29
Matrix: Water
Date Received: 04/12/23 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385149	DHM5	EET CF	04/20/23 15:33
Total/NA	Prep	3005A			384266	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	385211	ZRI4	EET CF	04/22/23 00:19
Total/NA	Prep	7470A			384509	XXW3	EET CF	04/17/23 11:16
Total/NA	Analysis	7470A		1	384701	XXW3	EET CF	04/18/23 13:51
Total/NA	Analysis	SM 2540C		1	384188	HE7K	EET CF	04/13/23 08:46
Total/NA	Prep	PrecSep-21			608511	KAC	EET SL	04/24/23 11:07
Total/NA	Analysis	9315		1	611701	FLC	EET SL	05/16/23 21:37
Total/NA	Prep	PrecSep_0			608514	KAC	EET SL	04/24/23 11:36
Total/NA	Analysis	9320		1	611711	FLC	EET SL	05/14/23 00:03

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW8
Lab Sample ID: 310-253378-3
Date Collected: 04/10/23 15:29
Matrix: Water
Date Received: 04/12/23 17:20

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

Client Sample ID: DUP2
Lab Sample ID: 310-253378-4
Date Collected: 04/10/23 00:00
Matrix: Water
Date Received: 04/12/23 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385149	DHM5	EET CF	04/20/23 15:48
Total/NA	Prep	3005A			384266	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	385211	ZRI4	EET CF	04/22/23 00:22
Total/NA	Prep	7470A			384509	XXW3	EET CF	04/17/23 11:16
Total/NA	Analysis	7470A		1	384701	XXW3	EET CF	04/18/23 13:53
Total/NA	Analysis	SM 2540C		1	384188	HE7K	EET CF	04/13/23 08:46
Total/NA	Prep	PrecSep-21			608511	KAC	EET SL	04/24/23 11:07
Total/NA	Analysis	9315		1	611701	FLC	EET SL	05/16/23 21:37
Total/NA	Prep	PrecSep_0			608514	KAC	EET SL	04/24/23 11:36
Total/NA	Analysis	9320		1	611711	FLC	EET SL	05/14/23 00:03
Total/NA	Analysis	Ra226_Ra228		1	611885	SCB	EET SL	05/17/23 10:43

Client Sample ID: NC2MW7
Lab Sample ID: 310-253378-5
Date Collected: 04/10/23 19:14
Matrix: Water
Date Received: 04/12/23 17:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385149	DHM5	EET CF	04/20/23 17:02
Total/NA	Prep	3005A			384266	DHM5	EET CF	04/14/23 08:45
Total/NA	Analysis	6020B		1	385211	ZRI4	EET CF	04/22/23 00:25
Total/NA	Prep	7470A			384509	XXW3	EET CF	04/17/23 11:16
Total/NA	Analysis	7470A		1	384701	XXW3	EET CF	04/18/23 13:55
Total/NA	Analysis	SM 2540C		1	384188	HE7K	EET CF	04/13/23 08:46
Total/NA	Prep	PrecSep-21			608511	KAC	EET SL	04/24/23 11:07
Total/NA	Analysis	9315		1	611701	FLC	EET SL	05/16/23 21:37
Total/NA	Prep	PrecSep_0			608514	KAC	EET SL	04/24/23 11:36
Total/NA	Analysis	9320		1	611711	FLC	EET SL	05/14/23 00:04
Total/NA	Analysis	Ra226_Ra228		1	611885	SCB	EET SL	05/17/23 10:43

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Laboratory: Eurofins Cedar Falls
The accreditations/certifications listed below are applicable to this report.

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

Laboratory: Eurofins St. Louis
All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	06-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-23
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

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

Method Summary

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

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

310-253378 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 4/12/2023 TIME 17:20 Received By: MW

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 4

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? ↓

NC2MW4, MW13, NC2MW2, NC2MW3, DUP2

Temperature Record

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

Thermometer ID: W 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): 0.9 Corrected Temp (°C): 0.9

Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

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 district

City/State: CITY Omaha STATE NE Project:

Receipt Information

Date/Time Received: DATE 4/12/2023 TIME 17:20 Received By: MV

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 4

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? ↓

MW8NC2

Temperature Record

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

Thermometer ID: W Correction Factor (°C): 0

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

Uncorrected Temp (°C): 2.3 Corrected Temp (°C): 2.3

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

Eurofins Cedar Falls

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

TestAmerica

Chain of Custody Record

TestAmerica Omaha SC 268

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 2 CCR / Landfill
Site: Nebraska City Station Unit 2

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

Due Date Requested:
TAT Requested (days):
PO #:
WO #:
TestAmerica Project #: 310075S9
SSOW#:

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 RA226, 9320 RA228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate	Total Number of containers	Special Instructions/Note
			Preservation Code:		N	N	D	D	N		
NC2MW2	4/10/23	12:49	G	W	N	N	X	X	X	4	CCR Appendix III and IV Constituents
NC2MW3	4/11/23	11:39	G	W	N	N	X	X	X	4	CCR Appendix III and IV Constituents
[redacted]											
[redacted]											
[redacted]											
NC2MW8	4/10/23	15:31	G	W	N	N	X	X	X	4	CCR Appendix III and IV Constituents
DUP2	4/11/23	—	G	W	N	N	X	X	X	4	CCR Appendix III and IV Constituents
NC2MW7	4/10/23	15:14	G	W	N	N	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	Company	Received by	Date/Time	Company
	4/12/2023 7:30	OPPD		4/12/23 0745	TA
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	4/12/23 0800	TA	MV	4/12/23 17:20	TA
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:

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-253378-1
SDG Number:

Login Number: 253378
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls

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

Tracer/Carrier Summary

Client: Omaha Public Power District
Job ID: 310-253378-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Method: 9315 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (30-110)
310-253378-1	NC2MW2	76.4
310-253378-2	NC2MW3	44.7
310-253378-3	NC2MW8	77.9
310-253378-4	DUP2	75.4
310-253378-5	NC2MW7	79.4
LCS 160-608511/2-A	Lab Control Sample	72.2
LCSD 160-608511/3-A	Lab Control Sample Dup	70.3
MB 160-608511/1-A	Method Blank	81.6

Tracer/Carrier Legend
Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
310-253378-1	NC2MW2	76.4	89.7
310-253378-2	NC2MW3	44.7	87.5
310-253378-3	NC2MW8	77.9	86.4
310-253378-4	DUP2	75.4	87.1
310-253378-5	NC2MW7	79.4	87.5
LCS 160-608514/2-A	Lab Control Sample	72.2	86.4
LCSD 160-608514/3-A	Lab Control Sample Dup	70.3	86.0
MB 160-608514/1-A	Method Blank	81.6	86.0

Tracer/Carrier Legend
Ba = Ba Carrier
Y = Y Carrier

This page intentionally left blank.

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

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

JOB DESCRIPTION

Nebraska City Station Unit 1&2 CCR/Landfill

JOB NUMBER

310-253380-2

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

myEOL

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

Eurofins Cedar Falls

Job Notes

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

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

Authorization

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

Authorized for release by
Tayler Sanderson, Project Manager I
Tayler.Sanderson@et.eurofinsus.com
(319)595-2017

Table of Contents

Case Narrative

Job ID: 310-253380-2

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-253380-1

Comments
No additional comments.

Receipt
The samples were received on 4/12/2023 5:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.9º C and 2.3º C.

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

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.

Narrative

Job Narrative
310-253380-2

Receipt
The samples were received on 4/12/2023 5:20 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.9°C and 2.3°C

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

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

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

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

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

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

Case Narrative

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

Job ID: 310-253380-2

Job ID: 310-253380-2 (Continued)

Laboratory: Eurofins Cedar Falls (Continued)

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

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

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

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

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

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

Sample Summary

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

Job ID: 310-253380-2

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

Detection Summary

Client: Omaha Public Power District
Job ID: 310-253380-2
Project/Site: Nebraska City Station Unit 1&2 CCR/Landfill

Client Sample ID: NC2MW4
Lab Sample ID: 310-253380-1

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

Client Sample ID: MW13
Lab Sample ID: 310-253380-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12.2		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	31.6		5.00	2.10	mg/L	5		9056A	Total/NA
Arsenic	0.0112		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.281		0.00200	0.000640	mg/L	1		6020B	Total/NA
Boron	0.136		0.100	0.0760	mg/L	1		6020B	Total/NA
Calcium	120		0.500	0.190	mg/L	1		6020B	Total/NA
Cobalt	0.000591		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lithium	0.0345		0.0100	0.00250	mg/L	1		6020B	Total/NA
Total Dissolved Solids	736		50.0	34.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-253380-2
Project/Site: Nebraska City Station Unit 1&2 CCR/Landfill

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

Method: SW846 9056A - Anions, Ion Chromatography

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

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

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

Method: SW846 7470A - Mercury (CVAA)

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

General Chemistry

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

Method: SW846 9315 - Radium-226 (GFPC)

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

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*55.8*		*30 - 110*	*04/27/23 13:34*	*05/19/23 19:48*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

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

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*55.8*		*30 - 110*	*04/27/23 14:08*	*05/16/23 11:22*	*1*
Y Carrier	*81.9*		*30 - 110*	*04/27/23 14:08*	*05/16/23 11:22*	*1*

Client: Omaha Public Power District
Job ID: 310-253380-2
Project/Site: Nebraska City Station Unit 1&2 CCR/Landfill

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

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

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

Client: Omaha Public Power District
Job ID: 310-253380-2
Project/Site: Nebraska City Station Unit 1&2 CCR/Landfill

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

Method: SW846 9056A - Anions, Ion Chromatography

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

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

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

Method: SW846 7470A - Mercury (CVAA)

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

General Chemistry

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

Method: SW846 9315 - Radium-226 (GFPC)

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

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.7*		*30 - 110*	*04/28/23 13:08*	*05/22/23 13:19*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

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

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.7*		*30 - 110*	*04/28/23 13:29*	*05/17/23 16:05*	*1*
Y Carrier	*80.7*		*30 - 110*	*04/28/23 13:29*	*05/17/23 16:05*	*1*

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-253380-2
Project/Site: Nebraska City Station Unit 1&2 CCR/Landfill

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

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

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

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-253380-2
Project/Site: Nebraska City Station Unit 1&2 CCR/Landfill

Qualifiers

Metals

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

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

Client: Omaha Public Power District
Job ID: 310-253380-2
Project/Site: Nebraska City Station Unit 1&2 CCR/Landfill

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-385149/3
Matrix: Water
Analysis Batch: 385149
Client Sample ID: Method Blank
Prep Type: Total/NA

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

Lab Sample ID: LCS 310-385149/4
Matrix: Water
Analysis Batch: 385149
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	10.32		mg/L		103	90 - 110
Fluoride	2.00	2.181		mg/L		109	90 - 110
Sulfate	10.0	10.64		mg/L		106	90 - 110

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-384265/1-A
Matrix: Water
Analysis Batch: 384416
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 384265

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

Lab Sample ID: MB 310-384265/1-A
Matrix: Water
Analysis Batch: 384426
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 384265

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

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

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

Client: Omaha Public Power District
Job ID: 310-253380-2
Project/Site: Nebraska City Station Unit 1&2 CCR/Landfill

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

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.200	0.1926		mg/L		96	80 - 120
Cadmium	0.100	0.1008		mg/L		101	80 - 120
Calcium	2.00	1.812		mg/L		91	80 - 120
Chromium	0.100	0.1003		mg/L		100	80 - 120
Cobalt	0.100	0.09739		mg/L		97	80 - 120
Lead	0.200	0.2083		mg/L		104	80 - 120
Molybdenum	0.200	0.2069		mg/L		103	80 - 120
Selenium	0.400	0.3960		mg/L		99	80 - 120
Thallium	0.200	0.2077		mg/L		104	80 - 120

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.200	0.1969		mg/L		98	80 - 120

Method: 7470A - Mercury (CVAA)

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

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

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

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

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		04/17/23 11:18	04/18/23 14:12	1

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

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

Client: Omaha Public Power District
Job ID: 310-253380-2
Project/Site: Nebraska City Station Unit 1&2 CCR/Landfill

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

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<34.0		50.0	34.0	mg/L			04/13/23 08:53	1

Lab Sample ID: LCS 310-384192/2
Matrix: Water
Analysis Batch: 384192
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	1002		mg/L		100	90 - 110

Method: 9315 - Radium-226 (GFPC)

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

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.05188	U	0.0943	0.0944	1.00	0.166	pCi/L	04/27/23 13:34	05/19/23 19:37	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		30 - 110	04/27/23 13:34	05/19/23 19:37	1

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

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	9.643		1.07	1.00	0.175	pCi/L	85	75 - 113

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	94.3		30 - 110

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

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226	11.3	10.10		1.11	1.00	0.174	pCi/L	89	75 - 113	0.21	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	99.5		30 - 110

Client: Omaha Public Power District
Job ID: 310-253380-2
Project/Site: Nebraska City Station Unit 1&2 CCR/Landfill

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

Lab Sample ID: MB 160-609262/1-A
Matrix: Water
Analysis Batch: 612651
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609262

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

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	108		30 - 110	04/28/23 13:08	05/22/23 13:19	1

Lab Sample ID: LCS 160-609262/2-A
Matrix: Water
Analysis Batch: 612651
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609262

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

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	96.1		30 - 110

Lab Sample ID: LCSD 160-609262/3-A
Matrix: Water
Analysis Batch: 612651
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 609262

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

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

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-609099/1-A
Matrix: Water
Analysis Batch: 611850
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609099

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

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		30 - 110	04/27/23 14:08	05/16/23 11:14	1
Y Carrier	86.7		30 - 110	04/27/23 14:08	05/16/23 11:14	1

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

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

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

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			7.95	8.033		1.12	1.00	0.469	pCi/L	101	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*94.3*		*30 - 110*
Y Carrier	*86.4*		*30 - 110*

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

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

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

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*99.5*		*30 - 110*
Y Carrier	*84.9*		*30 - 110*

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

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

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

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*108*		*30 - 110*	*04/28/23 13:29*	*05/17/23 16:04*	*1*
Y Carrier	*81.1*		*30 - 110*	*04/28/23 13:29*	*05/17/23 16:04*	*1*

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

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

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			8.19	8.004		1.12	1.00	0.498	pCi/L	98	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*96.1*		*30 - 110*
Y Carrier	*84.5*		*30 - 110*

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

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

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

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

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

HPLC/IC

Analysis Batch: 385149

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

Metals

Prep Batch: 384265

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

Analysis Batch: 384416

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

Analysis Batch: 384426

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

Prep Batch: 384509

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

Prep Batch: 384510

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

Analysis Batch: 384701

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

General Chemistry

Analysis Batch: 384192

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

Rad

Prep Batch: 609093

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

Prep Batch: 609099

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

Prep Batch: 609262

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

Prep Batch: 609265

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

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-253380-2
Project/Site: Nebraska City Station Unit 1&2 CCR/Landfill

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

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

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

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

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-253380-2
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)	09-29-23
Georgia	State	IA100001 (OR)	09-29-23
Illinois	NELAP	200024	11-29-23
Iowa	State	007	12-01-23
Kansas	NELAP	E-10341	01-31-24
Minnesota	NELAP	019-999-319	12-31-23
Minnesota (Petrofund)	State	3349	01-18-24
North Dakota	State	R-186	09-29-23
Oregon	NELAP	IA100001	09-29-23

Laboratory: Eurofins St. Louis
All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-23
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

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

Method Summary

Client: Omaha Public Power District
Job ID: 310-253380-2
Project/Site: Nebraska City Station Unit 1&2 CCR/Landfill

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

310-253380 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 4/12/2023 | TIME 17:20 | Received By: MW

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 4

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? ↓

NC2MW4, MW13, NC2MW2, NC2MW3, DUP2

Temperature Record

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

Thermometer ID: W | 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): 0.9 | Corrected Temp (°C): 0.9

• **Sample Container Temperature**

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

Exceptions Noted

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

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

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

Additional Comments

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

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 4/12/2023 | TIME 17:20 | Received By: MV

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 4

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? ↓

MW8NC2

Temperature Record

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

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

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

Uncorrected Temp (°C): 2.3 | Corrected Temp (°C): 2.3

• **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

TestAmerica Omaha SC
268

Chain of Custody Record

COC No
Page
Job #

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
Lab PM: Hayes, Shawn M
E-Mail: shawn.hayes@testamericainc.com
Carrier Tracking No(s)

Due Date Requested
TAT Requested (days)
PO #:
WO #:
TestAmerica Project #: 31007559
SSOW#:

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, Oil/Waste, 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	Total Number of containers	Special Instructions/Note
			Preservation Code:		N	D	D	D	N		
NC2MW4	4/10/23	10:17	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW13	4/10/23	7:02	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

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	Company	Received by	Date/Time	Company
	4/12/2023			4/12/23 17:20	
Relinquished by	4/12/23 0900				
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: 310-253380-1
SDG Number:

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

List Source: Eurofins Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
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: 310-253380-2
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	(30-110)							
310-253380-1	NC2MW4	55.8							
310-253380-2	MW13	85.7							
LCS 160-609093/2-A	Lab Control Sample	94.3							
LCS 160-609262/2-A	Lab Control Sample	96.1							
LCSD 160-609093/3-A	Lab Control Sample Dup	99.5							
LCSD 160-609262/3-A	Lab Control Sample Dup	92.4							
MB 160-609093/1-A	Method Blank	92.9							
MB 160-609262/1-A	Method Blank	108							

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

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

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 11/10/2023 3:59:44 PM

JOB DESCRIPTION

Nebraska City Station Unit 2 CCR/Landfill

JOB NUMBER

310-267069-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

myEOL

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

Eurofins Cedar Falls

Job Notes

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

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

Authorization

Generated
11/10/2023 3:59:44 PM

Authorized for release by
Tayler Sanderson, Project Manager I
Tayler.Sanderson@et.eurofinsus.com
(319)595-2017

Table of Contents

Case Narrative

Job ID: 310-267069-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-267069-2

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

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

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

Receipt
The samples were received on 10/12/2023 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.4°C and 1.8°C

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

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

Sample Summary

Client: Omaha Public Power District
Job ID: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-267069-1	NC2MW2	Water	10/10/23 17:35	10/12/23 17:00
310-267069-2	NC2MW3	Water	10/10/23 15:33	10/12/23 17:00
310-267069-3	NC2MW5	Water	10/10/23 13:42	10/12/23 17:00
310-267069-4	NC2MW6	Water	10/10/23 14:41	10/12/23 17:00
310-267069-5	NC2MW7	Water	10/10/23 18:21	10/12/23 17:00
310-267069-6	NC2MW8	Water	10/10/23 16:47	10/12/23 17:00
310-267069-7	DUP2	Water	10/10/23 00:00	10/12/23 17:00

Detection Summary

Client: Omaha Public Power District
Job ID: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW2 — Lab Sample ID: 310-267069-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.49		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	374		5.00	2.10	mg/L	5		9056A	Total/NA
Antimony	0.00369		0.00200	0.00100	mg/L	1		6020B	Total/NA
Arsenic	0.00155	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.0769		0.00200	0.000640	mg/L	1		6020B	Total/NA
Boron	1.04		0.100	0.0760	mg/L	1		6020B	Total/NA
Cadmium	0.000310		0.000200	0.000100	mg/L	1		6020B	Total/NA
Calcium	222		0.500	0.190	mg/L	1		6020B	Total/NA
Cobalt	0.000607		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000550		0.000500	0.000240	mg/L	1		6020B	Total/NA
Lithium	0.0286		0.0100	0.00250	mg/L	1		6020B	Total/NA
Molybdenum	0.0394		0.00200	0.000910	mg/L	1		6020B	Total/NA
Selenium	0.00228	J	0.00500	0.00140	mg/L	1		6020B	Total/NA
Mercury	0.000222		0.000200	0.000140	mg/L	1		7470A	Total/NA
Total Dissolved Solids	928		50.0	34.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW3 — Lab Sample ID: 310-267069-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.24		5.00	2.25	mg/L	5		9056A	Total/NA
Fluoride	1.26		1.00	0.375	mg/L	5		9056A	Total/NA
Sulfate	427		5.00	2.10	mg/L	5		9056A	Total/NA
Arsenic	0.00323		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.0596		0.00200	0.000640	mg/L	1		6020B	Total/NA
Boron	0.406		0.100	0.0760	mg/L	1		6020B	Total/NA
Cadmium	0.000129	J	0.000200	0.000100	mg/L	1		6020B	Total/NA
Calcium	179		0.500	0.190	mg/L	1		6020B	Total/NA
Cobalt	0.00198		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000469	J	0.000500	0.000240	mg/L	1		6020B	Total/NA
Lithium	0.0278		0.0100	0.00250	mg/L	1		6020B	Total/NA
Molybdenum	0.00417		0.00200	0.000910	mg/L	1		6020B	Total/NA
Selenium	0.00171	J	0.00500	0.00140	mg/L	1		6020B	Total/NA
Mercury	0.000184	J	0.000200	0.000140	mg/L	1		7470A	Total/NA
Total Dissolved Solids	1140		50.0	34.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW5 — Lab Sample ID: 310-267069-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	14.4		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	246		5.00	2.10	mg/L	5		9056A	Total/NA
Arsenic	0.00282		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.0675		0.00200	0.000640	mg/L	1		6020B	Total/NA
Boron	3.27		0.100	0.0760	mg/L	1		6020B	Total/NA
Calcium	186		0.500	0.190	mg/L	1		6020B	Total/NA
Cobalt	0.000253	J	0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000555		0.000500	0.000240	mg/L	1		6020B	Total/NA
Lithium	0.0145		0.0100	0.00250	mg/L	1		6020B	Total/NA
Molybdenum	0.0345		0.00200	0.000910	mg/L	1		6020B	Total/NA
Thallium	0.000523	J	0.00100	0.000260	mg/L	1		6020B	Total/NA
Mercury	0.000169	J	0.000200	0.000140	mg/L	1		7470A	Total/NA
Total Dissolved Solids	874		50.0	34.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Omaha Public Power District
Job ID: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW6 — Lab Sample ID: 310-267069-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.32		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	112		5.00	2.10	mg/L	5		9056A	Total/NA
Arsenic	0.00185	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.157		0.00200	0.000640	mg/L	1		6020B	Total/NA
Boron	2.09		0.100	0.0760	mg/L	1		6020B	Total/NA
Calcium	126		0.500	0.190	mg/L	1		6020B	Total/NA
Chromium	0.00213	J	0.00500	0.00110	mg/L	1		6020B	Total/NA
Cobalt	0.000870		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.00423		0.000500	0.000240	mg/L	1		6020B	Total/NA
Lithium	0.0455		0.0100	0.00250	mg/L	1		6020B	Total/NA
Molybdenum	0.00990		0.00200	0.000910	mg/L	1		6020B	Total/NA
Mercury	0.000141	J	0.000200	0.000140	mg/L	1		7470A	Total/NA
Total Dissolved Solids	580		50.0	34.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW7 — Lab Sample ID: 310-267069-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	10.3		5.00	2.25	mg/L	5		9056A	Total/NA
Arsenic	0.0480		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.618		0.00200	0.000640	mg/L	1		6020B	Total/NA
Boron	0.168		0.100	0.0760	mg/L	1		6020B	Total/NA
Calcium	114		0.500	0.190	mg/L	1		6020B	Total/NA
Cobalt	0.000214	J	0.000500	0.000170	mg/L	1		6020B	Total/NA
Lithium	0.0617		0.0100	0.00250	mg/L	1		6020B	Total/NA
Molybdenum	0.00186	J	0.00200	0.000910	mg/L	1		6020B	Total/NA
Total Dissolved Solids	468		50.0	34.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW8 — Lab Sample ID: 310-267069-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.63		5.00	2.25	mg/L	5		9056A	Total/NA
Sulfate	81.7		5.00	2.10	mg/L	5		9056A	Total/NA
Arsenic	0.0135		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.534		0.00200	0.000640	mg/L	1		6020B	Total/NA
Boron	0.120		0.100	0.0760	mg/L	1		6020B	Total/NA
Calcium	109		0.500	0.190	mg/L	1		6020B	Total/NA
Cobalt	0.00165		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000284	J	0.000500	0.000240	mg/L	1		6020B	Total/NA
Lithium	0.0360		0.0100	0.00250	mg/L	1		6020B	Total/NA
Selenium	0.00198	J	0.00500	0.00140	mg/L	1		6020B	Total/NA
Total Dissolved Solids	454		50.0	34.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP2 — Lab Sample ID: 310-267069-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	10.3		5.00	2.25	mg/L	5		9056A	Total/NA
Arsenic	0.0485		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.615		0.00200	0.000640	mg/L	1		6020B	Total/NA
Boron	0.163		0.100	0.0760	mg/L	1		6020B	Total/NA
Calcium	114		0.500	0.190	mg/L	1		6020B	Total/NA
Cobalt	0.000212	J	0.000500	0.000170	mg/L	1		6020B	Total/NA
Lithium	0.0620		0.0100	0.00250	mg/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Omaha Public Power District
Job ID: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: DUP2 (Continued) — Lab Sample ID: 310-267069-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	0.00182	J	0.00200	0.000910	mg/L	1		6020B	Total/NA
Total Dissolved Solids	478		50.0	34.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: NC2MW2
Lab Sample ID: 310-267069-1
Date Collected: 10/10/23 17:35
Matrix: Water
Date Received: 10/12/23 17:00

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.49		5.00	2.25	mg/L			10/23/23 20:33	5
Fluoride	<0.375		1.00	0.375	mg/L			10/23/23 20:33	5
Sulfate	374		5.00	2.10	mg/L			10/23/23 20:33	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00369		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 14:04	1
Arsenic	0.00155	J	0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 14:04	1
Barium	0.0769		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 14:04	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 14:04	1
Boron	1.04		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 14:04	1
Cadmium	0.000310		0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 14:04	1
Calcium	222		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 14:04	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 14:04	1
Cobalt	0.000607		0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 14:04	1
Lead	0.000550		0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 14:04	1
Lithium	0.0286		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 14:04	1
Molybdenum	0.0394		0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 14:04	1
Selenium	0.00228	J	0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 14:04	1
Thallium	<0.000260	F1	0.00100	0.000260	mg/L		10/17/23 10:30	10/24/23 13:29	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000222		0.000200	0.000140	mg/L		10/24/23 11:44	10/25/23 10:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	928		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.197		0.100	0.102	1.00	0.127	pCi/L	10/17/23 10:37	11/08/23 11:36	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	91.0		30 - 110	10/17/23 10:37	11/08/23 11:36	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	0.484	U	0.407	0.409	1.00	0.634	pCi/L	10/17/23 10:42	11/02/23 11:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	91.0		30 - 110	10/17/23 10:42	11/02/23 11:52	1
Y Carrier	71.0		30 - 110	10/17/23 10:42	11/02/23 11:52	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW2
Lab Sample ID: 310-267069-1
Date Collected: 10/10/23 17:35
Matrix: Water
Date Received: 10/12/23 17:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.681		0.419	0.422	5.00	0.634	pCi/L		11/10/23 09:28	1

Client Sample ID: NC2MW3
Lab Sample ID: 310-267069-2
Date Collected: 10/10/23 15:33
Matrix: Water
Date Received: 10/12/23 17:00

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.24**		5.00	2.25	mg/L			10/23/23 20:50	5
Fluoride	**1.26**		1.00	0.375	mg/L			10/23/23 20:50	5
Sulfate	**427**		5.00	2.10	mg/L			10/23/23 20:50	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 14:17	1
Arsenic	**0.00323**		0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 14:17	1
Barium	**0.0596**		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 14:17	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 14:17	1
Boron	**0.406**		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 14:17	1
Cadmium	**0.000129**	J	0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 14:17	1
Calcium	**179**		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 14:17	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 14:17	1
Cobalt	**0.00198**		0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 14:17	1
Lead	**0.000469**	J	0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 14:17	1
Lithium	**0.0278**		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 14:17	1
Molybdenum	**0.00417**		0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 14:17	1
Selenium	**0.00171**	J	0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 14:17	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/17/23 10:30	10/24/23 13:31	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000184**	J	0.000200	0.000140	mg/L		10/24/23 11:44	10/25/23 10:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**1140**		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.144**		0.0855	0.0865	1.00	0.109	pCi/L	10/17/23 10:37	11/08/23 11:36	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.6*		*30 - 110*	*10/17/23 10:37*	*11/08/23 11:36*	*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	0.311	U	0.403	0.404	1.00	0.672	pCi/L	10/17/23 10:42	11/02/23 11:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.6*		*30 - 110*	*10/17/23 10:42*	*11/02/23 11:52*	*1*
Y Carrier	*74.0*		*30 - 110*	*10/17/23 10:42*	*11/02/23 11:52*	*1*

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW3
Lab Sample ID: 310-267069-2
Date Collected: 10/10/23 15:33
Matrix: Water
Date Received: 10/12/23 17:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.455	U	0.412	0.413	5.00	0.672	pCi/L		11/10/23 09:28	1

Client Sample ID: NC2MW5
Lab Sample ID: 310-267069-3
Date Collected: 10/10/23 13:42
Matrix: Water
Date Received: 10/12/23 17:00

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**14.4**		5.00	2.25	mg/L			10/23/23 21:04	5
Fluoride	<0.375		1.00	0.375	mg/L			10/23/23 21:04	5
Sulfate	**246**		5.00	2.10	mg/L			10/23/23 21:04	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 14:19	1
Arsenic	**0.00282**		0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 14:19	1
Barium	**0.0675**		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 14:19	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 14:19	1
Boron	**3.27**		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 14:19	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 14:19	1
Calcium	**186**		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 14:19	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 14:19	1
Cobalt	**0.000253**	**J**	0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 14:19	1
Lead	**0.000555**		0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 14:19	1
Lithium	**0.0145**		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 14:19	1
Molybdenum	**0.0345**		0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 14:19	1
Selenium	<0.00140		0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 14:19	1
Thallium	**0.000523**	**J**	0.00100	0.000260	mg/L		10/17/23 10:30	10/19/23 14:19	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000169**	**J**	0.000200	0.000140	mg/L		10/24/23 11:44	10/25/23 10:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**874**		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0293	U	0.0975	0.0975	1.00	0.183	pCi/L	10/17/23 10:37	11/08/23 11:36	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.3*		*30 - 110*	*10/17/23 10:37*	*11/08/23 11:36*	*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	0.134	U	0.501	0.501	1.00	0.892	pCi/L	10/17/23 10:42	11/02/23 11:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.3*		*30 - 110*	*10/17/23 10:42*	*11/02/23 11:53*	*1*
Y Carrier	*82.2*		*30 - 110*	*10/17/23 10:42*	*11/02/23 11:53*	*1*

Client Sample Results
Client: Omaha Public Power District
Job ID: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW5
Lab Sample ID: 310-267069-3
Date Collected: 10/10/23 13:42
Matrix: Water
Date Received: 10/12/23 17:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.163	U	0.510	0.510	5.00	0.892	pCi/L		11/10/23 09:28	1

Client Sample ID: NC2MW6
Lab Sample ID: 310-267069-4
Date Collected: 10/10/23 14:41
Matrix: Water
Date Received: 10/12/23 17:00

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.32**		5.00	2.25	mg/L			10/23/23 21:19	5
Fluoride	<0.375		1.00	0.375	mg/L			10/23/23 21:19	5
Sulfate	**112**		5.00	2.10	mg/L			10/23/23 21:19	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 14:21	1
Arsenic	**0.00185**	**J**	0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 14:21	1
Barium	**0.157**		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 14:21	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 14:21	1
Boron	**2.09**		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 14:21	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 14:21	1
Calcium	**126**		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 14:21	1
Chromium	**0.00213**	**J**	0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 14:21	1
Cobalt	**0.000870**		0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 14:21	1
Lead	**0.00423**		0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 14:21	1
Lithium	**0.0455**		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 14:21	1
Molybdenum	**0.00990**		0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 14:21	1
Selenium	<0.00140		0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 14:21	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/17/23 10:30	10/19/23 14:21	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000141**	**J**	0.000200	0.000140	mg/L		10/24/23 11:44	10/25/23 10:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**580**		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.220**		0.129	0.130	1.00	0.169	pCi/L	10/17/23 10:37	11/08/23 11:36	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.4*		*30 - 110*	*10/17/23 10:37*	*11/08/23 11:36*	*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	**1.08**		0.528	0.537	1.00	0.723	pCi/L	10/17/23 10:42	11/02/23 11:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.4*		*30 - 110*	*10/17/23 10:42*	*11/02/23 11:53*	*1*
Y Carrier	*83.4*		*30 - 110*	*10/17/23 10:42*	*11/02/23 11:53*	*1*

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW6
Lab Sample ID: 310-267069-4
Date Collected: 10/10/23 14:41
Matrix: Water
Date Received: 10/12/23 17:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.30**		0.544	0.553	5.00	0.723	pCi/L		11/10/23 09:28	1

Client Sample ID: NC2MW7
Lab Sample ID: 310-267069-5
Date Collected: 10/10/23 18:21
Matrix: Water
Date Received: 10/12/23 17:00

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10.3**		5.00	2.25	mg/L			10/23/23 21:33	5
Fluoride	<0.375		1.00	0.375	mg/L			10/23/23 21:33	5
Sulfate	<2.10		5.00	2.10	mg/L			10/23/23 21:33	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 14:33	1
Arsenic	**0.0480**		0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 14:33	1
Barium	**0.618**		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 14:33	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 14:33	1
Boron	**0.168**		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 14:33	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 14:33	1
Calcium	**114**		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 14:33	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 14:33	1
Cobalt	**0.000214**	**J**	0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 14:33	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 14:33	1
Lithium	**0.0617**		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 14:33	1
Molybdenum	**0.00186**	**J**	0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 14:33	1
Selenium	<0.00140		0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 14:33	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/17/23 10:30	10/19/23 14:33	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		10/24/23 11:44	10/25/23 11:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**468**		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.198**		0.129	0.130	1.00	0.181	pCi/L	10/17/23 10:37	11/08/23 13:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.8*		*30 - 110*	*10/17/23 10:37*	*11/08/23 13:24*	*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	0.417	U	0.441	0.443	1.00	0.716	pCi/L	10/17/23 10:42	11/02/23 11:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.8*		*30 - 110*	*10/17/23 10:42*	*11/02/23 11:54*	*1*
Y Carrier	*83.7*		*30 - 110*	*10/17/23 10:42*	*11/02/23 11:54*	*1*

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW7
Lab Sample ID: 310-267069-5
Date Collected: 10/10/23 18:21
Matrix: Water
Date Received: 10/12/23 17:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.615	U	0.459	0.462	5.00	0.716	pCi/L		11/10/23 09:28	1

Client Sample ID: NC2MW8
Lab Sample ID: 310-267069-6
Date Collected: 10/10/23 16:47
Matrix: Water
Date Received: 10/12/23 17:00

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.63**		5.00	2.25	mg/L			10/23/23 21:48	5
Fluoride	<0.375		1.00	0.375	mg/L			10/23/23 21:48	5
Sulfate	**81.7**		5.00	2.10	mg/L			10/23/23 21:48	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 14:35	1
Arsenic	**0.0135**		0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 14:35	1
Barium	**0.534**		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 14:35	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 14:35	1
Boron	**0.120**		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 14:35	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 14:35	1
Calcium	**109**		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 14:35	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 14:35	1
Cobalt	**0.00165**		0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 14:35	1
Lead	**0.000284**	J	0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 14:35	1
Lithium	**0.0360**		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 14:35	1
Molybdenum	<0.000910		0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 14:35	1
Selenium	**0.00198**	J	0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 14:35	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/17/23 10:30	10/19/23 14:35	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		10/24/23 11:44	10/25/23 11:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**454**		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.358**		0.156	0.159	1.00	0.187	pCi/L	10/17/23 10:37	11/08/23 13:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*30 - 110*	*10/17/23 10:37*	*11/08/23 13:24*	*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	**1.57**		0.617	0.634	1.00	0.820	pCi/L	10/17/23 10:42	11/02/23 11:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*30 - 110*	*10/17/23 10:42*	*11/02/23 11:54*	*1*
Y Carrier	*85.6*		*30 - 110*	*10/17/23 10:42*	*11/02/23 11:54*	*1*

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW8
Lab Sample ID: 310-267069-6
Date Collected: 10/10/23 16:47
Matrix: Water
Date Received: 10/12/23 17:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.92**		0.636	0.654	5.00	0.820	pCi/L		11/10/23 09:28	1

Client Sample ID: DUP2
Lab Sample ID: 310-267069-7
Date Collected: 10/10/23 00:00
Matrix: Water
Date Received: 10/12/23 17:00

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10.3**		5.00	2.25	mg/L			10/23/23 22:02	5
Fluoride	<0.375		1.00	0.375	mg/L			10/23/23 22:02	5
Sulfate	<2.10		5.00	2.10	mg/L			10/23/23 22:02	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 14:37	1
Arsenic	**0.0485**		0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 14:37	1
Barium	**0.615**		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 14:37	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 14:37	1
Boron	**0.163**		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 14:37	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 14:37	1
Calcium	**114**		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 14:37	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 14:37	1
Cobalt	**0.000212**	**J**	0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 14:37	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 14:37	1
Lithium	**0.0620**		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 14:37	1
Molybdenum	**0.00182**	**J**	0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 14:37	1
Selenium	<0.00140		0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 14:37	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/17/23 10:30	10/19/23 14:37	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		10/24/23 11:44	10/25/23 11:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**478**		50.0	34.0	mg/L			10/13/23 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.338**		0.154	0.157	1.00	0.189	pCi/L	10/17/23 10:37	11/08/23 13:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*30 - 110*	*10/17/23 10:37*	*11/08/23 13:24*	*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	0.460	U	0.559	0.561	1.00	0.925	pCi/L	10/17/23 10:42	11/02/23 11:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*30 - 110*	*10/17/23 10:42*	*11/02/23 11:54*	*1*
Y Carrier	*79.3*		*30 - 110*	*10/17/23 10:42*	*11/02/23 11:54*	*1*

Client Sample Results
Client: Omaha Public Power District
Job ID: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: DUP2
Lab Sample ID: 310-267069-7
Date Collected: 10/10/23 00:00
Matrix: Water
Date Received: 10/12/23 17:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.798	U	0.580	0.583	5.00	0.925	pCi/L		11/10/23 09:28	1

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-403563/3
Matrix: Water
Analysis Batch: 403563
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			10/23/23 16:54	1
Fluoride	<0.0750		0.200	0.0750	mg/L			10/23/23 16:54	1
Sulfate	<0.420		1.00	0.420	mg/L			10/23/23 16:54	1

Lab Sample ID: LCS 310-403563/35
Matrix: Water
Analysis Batch: 403563
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	10.00		mg/L		100	90 - 110
Fluoride	2.00	2.138		mg/L		107	90 - 110
Sulfate	10.0	10.35		mg/L		104	90 - 110

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-402688/1-A
Matrix: Water
Analysis Batch: 403133
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 402688

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00100		0.00200	0.00100	mg/L		10/17/23 10:30	10/19/23 14:06	1
Arsenic	<0.000530		0.00200	0.000530	mg/L		10/17/23 10:30	10/19/23 14:06	1
Barium	<0.000640		0.00200	0.000640	mg/L		10/17/23 10:30	10/19/23 14:06	1
Beryllium	<0.000330		0.00100	0.000330	mg/L		10/17/23 10:30	10/19/23 14:06	1
Boron	<0.0760		0.100	0.0760	mg/L		10/17/23 10:30	10/19/23 14:06	1
Cadmium	<0.000100		0.000200	0.000100	mg/L		10/17/23 10:30	10/19/23 14:06	1
Calcium	<0.190		0.500	0.190	mg/L		10/17/23 10:30	10/19/23 14:06	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/17/23 10:30	10/19/23 14:06	1
Cobalt	<0.000170		0.000500	0.000170	mg/L		10/17/23 10:30	10/19/23 14:06	1
Lead	<0.000240		0.000500	0.000240	mg/L		10/17/23 10:30	10/19/23 14:06	1
Lithium	<0.00250		0.0100	0.00250	mg/L		10/17/23 10:30	10/19/23 14:06	1
Molybdenum	<0.000910		0.00200	0.000910	mg/L		10/17/23 10:30	10/19/23 14:06	1
Selenium	<0.00140		0.00500	0.00140	mg/L		10/17/23 10:30	10/19/23 14:06	1

Lab Sample ID: MB 310-402688/1-A
Matrix: Water
Analysis Batch: 403595
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 402688

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

Lab Sample ID: LCS 310-402688/2-A
Matrix: Water
Analysis Batch: 403133
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 402688

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.2337		mg/L		117	80 - 120
Arsenic	0.200	0.1987		mg/L		99	80 - 120
Barium	0.100	0.1003		mg/L		100	80 - 120
Beryllium	0.100	0.09693		mg/L		97	80 - 120

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

Lab Sample ID: LCS 310-402688/2-A
Matrix: Water
Analysis Batch: 403133
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 402688

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

Lab Sample ID: LCS 310-402688/2-A
Matrix: Water
Analysis Batch: 403451
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 402688

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.200	0.1800		mg/L		90	80 - 120

Lab Sample ID: 310-267069-1 MS
Matrix: Water
Analysis Batch: 403133
Client Sample ID: NC2MW2
Prep Type: Total/NA
Prep Batch: 402688

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.00340		0.200	0.2402		mg/L		118	75 - 125
Arsenic	0.00126	J	0.200	0.2074		mg/L		103	75 - 125
Barium	0.0793		0.100	0.1772		mg/L		98	75 - 125
Beryllium	<0.000330		0.100	0.1005		mg/L		101	75 - 125
Boron	1.07		0.200	1.240	4	mg/L		84	75 - 125
Cadmium	0.000205		0.100	0.09599		mg/L		96	75 - 125
Calcium	232		2.00	223.3	4	mg/L		-410	75 - 125
Chromium	<0.00110		0.100	0.09382		mg/L		94	75 - 125
Cobalt	0.000538		0.100	0.1053		mg/L		105	75 - 125
Lead	0.000388	J	0.200	0.1982		mg/L		99	75 - 125
Lithium	0.0292		0.200	0.2370		mg/L		104	75 - 125
Molybdenum	0.0418		0.200	0.2485		mg/L		103	75 - 125
Selenium	<0.00140		0.400	0.4073		mg/L		102	75 - 125
Thallium	<0.000260	F1	0.200	0.1186	F1	mg/L		59	75 - 125

Lab Sample ID: 310-267069-1 MSD
Matrix: Water
Analysis Batch: 403133
Client Sample ID: NC2MW2
Prep Type: Total/NA
Prep Batch: 402688

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.00340		0.200	0.2465		mg/L		122	75 - 125	3	20
Arsenic	0.00126	J	0.200	0.2135		mg/L		106	75 - 125	3	20
Barium	0.0793		0.100	0.1824		mg/L		103	75 - 125	3	20
Beryllium	<0.000330		0.100	0.1031		mg/L		103	75 - 125	3	20
Boron	1.07		0.200	1.253	4	mg/L		90	75 - 125	1	20
Cadmium	0.000205		0.100	0.09937		mg/L		99	75 - 125	3	20
Calcium	232		2.00	222.3	4	mg/L		-463	75 - 125	0	20

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

Lab Sample ID: 310-267069-1 MSD
Matrix: Water
Analysis Batch: 403133
Client Sample ID: NC2MW2
Prep Type: Total/NA
Prep Batch: 402688

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium	<0.00110		0.100	0.09686		mg/L		97	75 - 125	3	20
Cobalt	0.000538		0.100	0.1072		mg/L		107	75 - 125	2	20
Lead	0.000388	J	0.200	0.2053		mg/L		102	75 - 125	4	20
Lithium	0.0292		0.200	0.2449		mg/L		108	75 - 125	3	20
Molybdenum	0.0418		0.200	0.2537		mg/L		106	75 - 125	2	20
Selenium	<0.00140		0.400	0.4161		mg/L		104	75 - 125	2	20
Thallium	<0.000260	F1	0.200	0.1293	F1	mg/L		65	75 - 125	9	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-403532/1-A
Matrix: Water
Analysis Batch: 403743
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 403532

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		10/24/23 11:44	10/25/23 10:36	1

Lab Sample ID: LCS 310-403532/2-A
Matrix: Water
Analysis Batch: 403743
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 403532

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001731		mg/L		104	80 - 120

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

Lab Sample ID: MB 310-402536/1
Matrix: Water
Analysis Batch: 402536
Client Sample ID: Method Blank
Prep Type: Total/NA

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

Lab Sample ID: LCS 310-402536/2
Matrix: Water
Analysis Batch: 402536
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	986.0		mg/L		99	90 - 110

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-632176/1-A
Matrix: Water
Analysis Batch: 635862
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 632176

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.01528	U	0.0538	0.0538	1.00	0.120	pCi/L	10/17/23 10:37	11/08/23 11:36	1

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

Lab Sample ID: MB 160-632176/1-A
Matrix: Water
Analysis Batch: 635862

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 632176

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.3		30 - 110	10/17/23 10:37	11/08/23 11:36	1

Lab Sample ID: LCS 160-632176/2-A
Matrix: Water
Analysis Batch: 635862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 632176

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			11.3	11.56		1.21	1.00	0.123	pCi/L	102	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	94.6		30 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-632177/1-A
Matrix: Water
Analysis Batch: 634835

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 632177

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1497	U	0.323	0.324	1.00	0.565	pCi/L	10/17/23 10:42	11/02/23 11:52	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.3		30 - 110	10/17/23 10:42	11/02/23 11:52	1
Y Carrier	77.4		30 - 110	10/17/23 10:42	11/02/23 11:52	1

Lab Sample ID: LCS 160-632177/2-A
Matrix: Water
Analysis Batch: 634835

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 632177

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			7.75	8.845		1.24	1.00	0.485	pCi/L	114	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	94.6		30 - 110
Y Carrier	80.0		30 - 110

HPLC/IC

Analysis Batch: 403563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267069-1	NC2MW2	Total/NA	Water	9056A	
310-267069-2	NC2MW3	Total/NA	Water	9056A	
310-267069-3	NC2MW5	Total/NA	Water	9056A	
310-267069-4	NC2MW6	Total/NA	Water	9056A	
310-267069-5	NC2MW7	Total/NA	Water	9056A	
310-267069-6	NC2MW8	Total/NA	Water	9056A	
310-267069-7	DUP2	Total/NA	Water	9056A	
MB 310-403563/3	Method Blank	Total/NA	Water	9056A	
LCS 310-403563/35	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 402688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267069-1	NC2MW2	Total/NA	Water	3005A	
310-267069-2	NC2MW3	Total/NA	Water	3005A	
310-267069-3	NC2MW5	Total/NA	Water	3005A	
310-267069-4	NC2MW6	Total/NA	Water	3005A	
310-267069-5	NC2MW7	Total/NA	Water	3005A	
310-267069-6	NC2MW8	Total/NA	Water	3005A	
310-267069-7	DUP2	Total/NA	Water	3005A	
MB 310-402688/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-402688/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-267069-1 MS	NC2MW2	Total/NA	Water	3005A	
310-267069-1 MSD	NC2MW2	Total/NA	Water	3005A	

Analysis Batch: 403133

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267069-1	NC2MW2	Total/NA	Water	6020B	402688
310-267069-2	NC2MW3	Total/NA	Water	6020B	402688
310-267069-3	NC2MW5	Total/NA	Water	6020B	402688
310-267069-4	NC2MW6	Total/NA	Water	6020B	402688
310-267069-5	NC2MW7	Total/NA	Water	6020B	402688
310-267069-6	NC2MW8	Total/NA	Water	6020B	402688
310-267069-7	DUP2	Total/NA	Water	6020B	402688
MB 310-402688/1-A	Method Blank	Total/NA	Water	6020B	402688
LCS 310-402688/2-A	Lab Control Sample	Total/NA	Water	6020B	402688
310-267069-1 MS	NC2MW2	Total/NA	Water	6020B	402688
310-267069-1 MSD	NC2MW2	Total/NA	Water	6020B	402688

Analysis Batch: 403451

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

Prep Batch: 403532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267069-1	NC2MW2	Total/NA	Water	7470A	
310-267069-2	NC2MW3	Total/NA	Water	7470A	
310-267069-3	NC2MW5	Total/NA	Water	7470A	
310-267069-4	NC2MW6	Total/NA	Water	7470A	
310-267069-5	NC2MW7	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 403532 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267069-6	NC2MW8	Total/NA	Water	7470A	
310-267069-7	DUP2	Total/NA	Water	7470A	
MB 310-403532/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-403532/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 403595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267069-1	NC2MW2	Total/NA	Water	6020B	402688
310-267069-2	NC2MW3	Total/NA	Water	6020B	402688
MB 310-402688/1-A	Method Blank	Total/NA	Water	6020B	402688

Analysis Batch: 403743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267069-1	NC2MW2	Total/NA	Water	7470A	403532
310-267069-2	NC2MW3	Total/NA	Water	7470A	403532
310-267069-3	NC2MW5	Total/NA	Water	7470A	403532
310-267069-4	NC2MW6	Total/NA	Water	7470A	403532
310-267069-5	NC2MW7	Total/NA	Water	7470A	403532
310-267069-6	NC2MW8	Total/NA	Water	7470A	403532
310-267069-7	DUP2	Total/NA	Water	7470A	403532
MB 310-403532/1-A	Method Blank	Total/NA	Water	7470A	403532
LCS 310-403532/2-A	Lab Control Sample	Total/NA	Water	7470A	403532

General Chemistry

Analysis Batch: 402536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267069-1	NC2MW2	Total/NA	Water	SM 2540C	
310-267069-2	NC2MW3	Total/NA	Water	SM 2540C	
310-267069-3	NC2MW5	Total/NA	Water	SM 2540C	
310-267069-4	NC2MW6	Total/NA	Water	SM 2540C	
310-267069-5	NC2MW7	Total/NA	Water	SM 2540C	
310-267069-6	NC2MW8	Total/NA	Water	SM 2540C	
310-267069-7	DUP2	Total/NA	Water	SM 2540C	
MB 310-402536/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-402536/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Rad

Prep Batch: 632176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267069-1	NC2MW2	Total/NA	Water	PrecSep-21	
310-267069-2	NC2MW3	Total/NA	Water	PrecSep-21	
310-267069-3	NC2MW5	Total/NA	Water	PrecSep-21	
310-267069-4	NC2MW6	Total/NA	Water	PrecSep-21	
310-267069-5	NC2MW7	Total/NA	Water	PrecSep-21	
310-267069-6	NC2MW8	Total/NA	Water	PrecSep-21	
310-267069-7	DUP2	Total/NA	Water	PrecSep-21	
MB 160-632176/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-632176/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

QC Association Summary
Client: Omaha Public Power District
Job ID: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Rad

Prep Batch: 632177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267069-1	NC2MW2	Total/NA	Water	PrecSep_0	
310-267069-2	NC2MW3	Total/NA	Water	PrecSep_0	
310-267069-3	NC2MW5	Total/NA	Water	PrecSep_0	
310-267069-4	NC2MW6	Total/NA	Water	PrecSep_0	
310-267069-5	NC2MW7	Total/NA	Water	PrecSep_0	
310-267069-6	NC2MW8	Total/NA	Water	PrecSep_0	
310-267069-7	DUP2	Total/NA	Water	PrecSep_0	
MB 160-632177/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-632177/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Client Sample ID: NC2MW2 — **Lab Sample ID: 310-267069-1**
Date Collected: 10/10/23 17:35 — **Matrix: Water**
Date Received: 10/12/23 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403563	QTZ5	EET CF	10/23/23 20:33
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403133	A6US	EET CF	10/19/23 14:04
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403595	A6US	EET CF	10/24/23 13:29
Total/NA	Prep	7470A			403532	NFT2	EET CF	10/24/23 11:44
Total/NA	Analysis	7470A		1	403743	NFT2	EET CF	10/25/23 10:48
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632176	KAC	EET SL	10/17/23 10:37
Total/NA	Analysis	9315		1	635862	SCB	EET SL	11/08/23 11:36
Total/NA	Prep	PrecSep_0			632177	KAC	EET SL	10/17/23 10:42
Total/NA	Analysis	9320		1	634835	CMM	EET SL	11/02/23 11:52
Total/NA	Analysis	Ra226_Ra228		1	636194	EMH	EET SL	11/10/23 09:28

Client Sample ID: NC2MW3 — **Lab Sample ID: 310-267069-2**
Date Collected: 10/10/23 15:33 — **Matrix: Water**
Date Received: 10/12/23 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403563	QTZ5	EET CF	10/23/23 20:50
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403133	A6US	EET CF	10/19/23 14:17
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403595	A6US	EET CF	10/24/23 13:31
Total/NA	Prep	7470A			403532	NFT2	EET CF	10/24/23 11:44
Total/NA	Analysis	7470A		1	403743	NFT2	EET CF	10/25/23 10:50
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632176	KAC	EET SL	10/17/23 10:37
Total/NA	Analysis	9315		1	635862	SCB	EET SL	11/08/23 11:36
Total/NA	Prep	PrecSep_0			632177	KAC	EET SL	10/17/23 10:42
Total/NA	Analysis	9320		1	634835	CMM	EET SL	11/02/23 11:52
Total/NA	Analysis	Ra226_Ra228		1	636194	EMH	EET SL	11/10/23 09:28

Client Sample ID: NC2MW5 — **Lab Sample ID: 310-267069-3**
Date Collected: 10/10/23 13:42 — **Matrix: Water**
Date Received: 10/12/23 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403563	QTZ5	EET CF	10/23/23 21:04
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403133	A6US	EET CF	10/19/23 14:19
Total/NA	Prep	7470A			403532	NFT2	EET CF	10/24/23 11:44
Total/NA	Analysis	7470A		1	403743	NFT2	EET CF	10/25/23 10:52
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59

Client Sample ID: NC2MW5 — **Lab Sample ID: 310-267069-3**
Date Collected: 10/10/23 13:42 — **Matrix: Water**
Date Received: 10/12/23 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			632176	KAC	EET SL	10/17/23 10:37
Total/NA	Analysis	9315		1	635862	SCB	EET SL	11/08/23 11:36
Total/NA	Prep	PrecSep_0			632177	KAC	EET SL	10/17/23 10:42
Total/NA	Analysis	9320		1	634835	CMM	EET SL	11/02/23 11:53
Total/NA	Analysis	Ra226_Ra228		1	636194	EMH	EET SL	11/10/23 09:28

Client Sample ID: NC2MW6 — **Lab Sample ID: 310-267069-4**
Date Collected: 10/10/23 14:41 — **Matrix: Water**
Date Received: 10/12/23 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403563	QTZ5	EET CF	10/23/23 21:19
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403133	A6US	EET CF	10/19/23 14:21
Total/NA	Prep	7470A			403532	NFT2	EET CF	10/24/23 11:44
Total/NA	Analysis	7470A		1	403743	NFT2	EET CF	10/25/23 10:54
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632176	KAC	EET SL	10/17/23 10:37
Total/NA	Analysis	9315		1	635862	SCB	EET SL	11/08/23 11:36
Total/NA	Prep	PrecSep_0			632177	KAC	EET SL	10/17/23 10:42
Total/NA	Analysis	9320		1	634835	CMM	EET SL	11/02/23 11:53
Total/NA	Analysis	Ra226_Ra228		1	636194	EMH	EET SL	11/10/23 09:28

Client Sample ID: NC2MW7 — **Lab Sample ID: 310-267069-5**
Date Collected: 10/10/23 18:21 — **Matrix: Water**
Date Received: 10/12/23 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403563	QTZ5	EET CF	10/23/23 21:33
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403133	A6US	EET CF	10/19/23 14:33
Total/NA	Prep	7470A			403532	NFT2	EET CF	10/24/23 11:44
Total/NA	Analysis	7470A		1	403743	NFT2	EET CF	10/25/23 11:00
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632176	KAC	EET SL	10/17/23 10:37
Total/NA	Analysis	9315		1	635862	SCB	EET SL	11/08/23 13:24
Total/NA	Prep	PrecSep_0			632177	KAC	EET SL	10/17/23 10:42
Total/NA	Analysis	9320		1	634835	CMM	EET SL	11/02/23 11:54
Total/NA	Analysis	Ra226_Ra228		1	636194	EMH	EET SL	11/10/23 09:28

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Client Sample ID: NC2MW8
Lab Sample ID: 310-267069-6
Date Collected: 10/10/23 16:47
Matrix: Water
Date Received: 10/12/23 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403563	QTZ5	EET CF	10/23/23 21:48
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403133	A6US	EET CF	10/19/23 14:35
Total/NA	Prep	7470A			403532	NFT2	EET CF	10/24/23 11:44
Total/NA	Analysis	7470A		1	403743	NFT2	EET CF	10/25/23 11:03
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632176	KAC	EET SL	10/17/23 10:37
Total/NA	Analysis	9315		1	635862	SCB	EET SL	11/08/23 13:24
Total/NA	Prep	PrecSep_0			632177	KAC	EET SL	10/17/23 10:42
Total/NA	Analysis	9320		1	634835	CMM	EET SL	11/02/23 11:54
Total/NA	Analysis	Ra226_Ra228		1	636194	EMH	EET SL	11/10/23 09:28

Client Sample ID: DUP2
Lab Sample ID: 310-267069-7
Date Collected: 10/10/23 00:00
Matrix: Water
Date Received: 10/12/23 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403563	QTZ5	EET CF	10/23/23 22:02
Total/NA	Prep	3005A			402688	KCK5	EET CF	10/17/23 10:30
Total/NA	Analysis	6020B		1	403133	A6US	EET CF	10/19/23 14:37
Total/NA	Prep	7470A			403532	NFT2	EET CF	10/24/23 11:44
Total/NA	Analysis	7470A		1	403743	NFT2	EET CF	10/25/23 11:05
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632176	KAC	EET SL	10/17/23 10:37
Total/NA	Analysis	9315		1	635862	SCB	EET SL	11/08/23 13:24
Total/NA	Prep	PrecSep_0			632177	KAC	EET SL	10/17/23 10:42
Total/NA	Analysis	9320		1	634835	CMM	EET SL	11/02/23 11:54
Total/NA	Analysis	Ra226_Ra228		1	636194	EMH	EET SL	11/10/23 09:28

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: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Laboratory: Eurofins Cedar Falls
The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	IA100001	09-29-24

Laboratory: Eurofins St. Louis
All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oklahoma	NELAP	9997	08-31-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-24
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-24
Virginia	NELAP	10310	06-15-25
Washington	State	C592	08-30-24
West Virginia DEP	State	381	12-31-23

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

Method Summary

Client: Omaha Public Power District
Job ID: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

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

310-267069 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 10/12/23 TIME 1700 | Received By: LR

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: 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): 1.8 | Corrected Temp (°C): 1.8

• **Sample Container Temperature**

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

Exceptions Noted

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

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

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

Additional Comments

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 District	
City/State: CITY STATE	Project:

Receipt Information

Date/Time Received: DATE 10/12/23	TIME 1700	Received By: LR

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: 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): 0.4	Corrected Temp (°C): 0.4

Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

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 262

TestAmerica

Client Information	Sampler: Kyle K. Uhing	Lab PM: Hayes Shawn M	Carrier Tracking No(s)	COC No
Client Contact: Kyle Uhing	Phone: (531) 226-2515	E-Mail: shawn.hayes@testamericainc.com		Page
Company: Omaha Public Power District				Job #:
Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:			
City: Omaha	TAT Requested (days):			
State Zip: NE 68102-2247				
Phone: (531) 226-2515	PO #:			
Email: kkuhing@oppd.com	WO #:			
Project Name: Nebraska City Station Unit 2 CCR / Landfill	TestAmerica Project #: 31007559			
Site: Nebraska City Station Unit 2	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate	Total Number of containers	Special Instructions/Note
				Preservation Code:			D	D	N		
NC2MW2	10/10/23	17:35	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW3	10/10/23	15:33	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW5	10/10/23	13:42	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW6	10/10/23	14:41	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW7	10/10/23	18:21	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW8	10/10/23	16:47	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
DUP2	10/10/23	---	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: 10/11/2023 13:15	Company: OPPD	Received by: [signature]	Date/Time: 10-11-23 1330 Company: ET
Relinquished by: [signature]	Date/Time: 10-12-23 0800	Company: ET	Received by: LR	Date/Time: 10/12/23 1700 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:

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

Client Information (Sub Contract Lab)	Sampler	Lab PM: Sanderson, Tayler E	Carrier Tracking No(s):	COC No: 310-66266.1
Client Contact: Shipping/Receiving	Phone	E-Mail: Tayler.Sanderson@et.eurofinsus.com	State of Origin: Nebraska	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Oregon		Job #: 310-267069-1
Address: 13715 Rider Trail North,	Due Date Requested: 10/25/2023			
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 Station Unit 2 CCR/Landfill	Project #: 31007559			
Site: 310 OPPD Nebraska City Unit 2	SSOW#:			

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

Analysis Requested

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 (GFPC)	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
NC2MW2 (310-267069-1)	10/10/23	17:35 Central		Water			X	X	X	2	
NC2MW3 (310-267069-2)	10/10/23	15:33 Central		Water			X	X	X	2	
NC2MW5 (310-267069-3)	10/10/23	13:42 Central		Water			X	X	X	2	
NC2MW6 (310-267069-4)	10/10/23	14:41 Central		Water			X	X	X	2	
NC2MW7 (310-267069-5)	10/10/23	18:21 Central		Water			X	X	X	2	
NC2MW8 (310-267069-6)	10/10/23	16:47 Central		Water			X	X	X	2	
DUP2 (310-267069-7)	10/10/23	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 our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/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
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: 10/13/23 1120	Company	Received by:	Date/Time: 10/16/23 0950	Company: ETSTL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	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:		

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-267069-2
SDG Number:

Login Number: 267069
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls

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

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-267069-2
SDG Number:

Login Number: 267069
List Number: 2
Creator: Pinette, Meadow L

List Source: Eurofins St. Louis
List Creation: 10/16/23 03:23 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: 310-267069-1
Project/Site: Nebraska City Station Unit 2 CCR/Landfill

Method: 9315 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (30-110)
310-267069-1	NC2MW2	91.0
310-267069-2	NC2MW3	93.6
310-267069-3	NC2MW5	88.3
310-267069-4	NC2MW6	93.4
310-267069-5	NC2MW7	96.8
310-267069-6	NC2MW8	94.4
310-267069-7	DUP2	94.4
LCS 160-632176/2-A	Lab Control Sample	94.6
MB 160-632176/1-A	Method Blank	96.3

Tracer/Carrier Legend
Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
310-267069-1	NC2MW2	91.0	71.0
310-267069-2	NC2MW3	93.6	74.0
310-267069-3	NC2MW5	88.3	82.2
310-267069-4	NC2MW6	93.4	83.4
310-267069-5	NC2MW7	96.8	83.7
310-267069-6	NC2MW8	94.4	85.6
310-267069-7	DUP2	94.4	79.3
LCS 160-632177/2-A	Lab Control Sample	94.6	80.0
MB 160-632177/1-A	Method Blank	96.3	77.4

Tracer/Carrier Legend
Ba = Ba Carrier
Y = Y Carrier

This page intentionally left blank.

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

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

JOB DESCRIPTION

Nebraska City Unit 1 & 2 CCR/ Landfill

JOB NUMBER

310-267008-2

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

Eurofins Cedar Falls

Job Notes

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

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

Authorization

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

Authorized for release by
Tayler Sanderson, Project Manager I
Tayler.Sanderson@et.eurofinsus.com
(319)595-2017

Eurofins Cedar Falls is a laboratory within Eurofins Environment Testing North Central, LLC, a company within Eurofins Environment Testing Group of Companies

Table of Contents

Case Narrative

Job ID: 310-267008-2

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-267008-1

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

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

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

Receipt
The samples were received on 10/12/2023 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.4°C and 1.8°C

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

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

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

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

Narrative

Job Narrative
310-267008-2

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

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

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

Receipt
The samples were received on 10/12/2023 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.4°C and 1.8°C

Gas Flow Proportional Counter
Method 9320_Ra228: Radium-228 prep batch 160-632175:

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

Job ID: 310-267008-2 (Continued)

Laboratory: Eurofins Cedar Falls (Continued)

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

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

Rad

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

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

Detection Summary

Client: Omaha Public Power District
Job ID: 310-267008-2
Project/Site: Nebraska City Unit 1 & 2 CCR/ Landfill

Client Sample ID: NC2MW4
Lab Sample ID: 310-267008-1

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

Client Sample ID: MW13
Lab Sample ID: 310-267008-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11.4		5.00	2.25	mg/L	5		9056A	Total/NA
Fluoride	1.00		1.00	0.375	mg/L	5		9056A	Total/NA
Sulfate	7.56		5.00	2.10	mg/L	5		9056A	Total/NA
Arsenic	0.0411		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.313		0.00200	0.000640	mg/L	1		6020B	Total/NA
Boron	0.0986	J	0.100	0.0760	mg/L	1		6020B	Total/NA
Calcium	141		0.500	0.190	mg/L	1		6020B	Total/NA
Cobalt	0.000726		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000375	J	0.000500	0.000240	mg/L	1		6020B	Total/NA
Lithium	0.0385		0.0100	0.00250	mg/L	1		6020B	Total/NA
Molybdenum	0.00175	J	0.00200	0.000910	mg/L	1		6020B	Total/NA
Total Dissolved Solids	544		50.0	34.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-267008-2
Project/Site: Nebraska City Unit 1 & 2 CCR/ Landfill

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

Method: SW846 9056A - Anions, Ion Chromatography

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

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

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

Method: SW846 7470A - Mercury (CVAA)

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

General Chemistry

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

Method: SW846 9315 - Radium-226 (GFPC)

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

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.5*		*30 - 110*	*10/17/23 10:27*	*11/09/23 19:22*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

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

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.5*		*30 - 110*	*10/17/23 10:34*	*11/07/23 11:32*	*1*
Y Carrier	*85.2*		*30 - 110*	*10/17/23 10:34*	*11/07/23 11:32*	*1*

Client: Omaha Public Power District
Job ID: 310-267008-2
Project/Site: Nebraska City Unit 1 & 2 CCR/ Landfill

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

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

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

Client: Omaha Public Power District
Job ID: 310-267008-2
Project/Site: Nebraska City Unit 1 & 2 CCR/ Landfill

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

Method: SW846 9056A - Anions, Ion Chromatography

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

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

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

Method: SW846 7470A - Mercury (CVAA)

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

General Chemistry

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

Method: SW846 9315 - Radium-226 (GFPC)

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

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.4*		*30 - 110*	*10/17/23 10:27*	*11/09/23 19:22*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

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

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.4*		*30 - 110*	*10/17/23 10:34*	*11/07/23 11:32*	*1*
Y Carrier	*80.0*		*30 - 110*	*10/17/23 10:34*	*11/07/23 11:32*	*1*

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-267008-2
Project/Site: Nebraska City Unit 1 & 2 CCR/ Landfill

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

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

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

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-267008-2
Project/Site: Nebraska City 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.

Rad

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

Glossary

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

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-403828/3
Matrix: Water
Analysis Batch: 403828
Client Sample ID: Method Blank
Prep Type: Total/NA

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

Lab Sample ID: LCS 310-403828/4
Matrix: Water
Analysis Batch: 403828
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

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

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-402832/1-A
Matrix: Water
Analysis Batch: 403508
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 402832

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

Lab Sample ID: MB 310-402832/1-A
Matrix: Water
Analysis Batch: 403595
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 402832

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

Lab Sample ID: LCS 310-402832/2-A
Matrix: Water
Analysis Batch: 403508
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 402832

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

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

Lab Sample ID: LCS 310-402832/2-A
Matrix: Water
Analysis Batch: 403508
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 402832

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

Lab Sample ID: LCS 310-402832/2-A
Matrix: Water
Analysis Batch: 403595
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 402832

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.2054		mg/L		103	80 - 120
Boron	0.200	0.1798		mg/L		90	80 - 120
Molybdenum	0.200	0.1851		mg/L		93	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-403230/1-A
Matrix: Water
Analysis Batch: 403417
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 403230

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000140		0.000200	0.000140	mg/L		10/20/23 10:47	10/23/23 11:04	1

Lab Sample ID: LCS 310-403230/2-A
Matrix: Water
Analysis Batch: 403417
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 403230

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001668		mg/L		100	80 - 120

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

Lab Sample ID: MB 310-402536/1
Matrix: Water
Analysis Batch: 402536
Client Sample ID: Method Blank
Prep Type: Total/NA

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

Lab Sample ID: LCS 310-402536/2
Matrix: Water
Analysis Batch: 402536
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	986.0		mg/L		99	90 - 110

QC Sample Results

Client: Omaha Public Power District
Job ID: 310-267008-2
Project/Site: Nebraska City Unit 1 & 2 CCR/ Landfill

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-632174/1-A
Matrix: Water
Analysis Batch: 636168

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 632174

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.01015	U	0.100	0.100	1.00	0.195	pCi/L	10/17/23 10:27	11/09/23 19:14	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		30 - 110	10/17/23 10:27	11/09/23 19:14	1

Lab Sample ID: LCS 160-632174/2-A
Matrix: Water
Analysis Batch: 636168

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 632174

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	10.79		1.22	1.00	0.212	pCi/L	95	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	90.5		30 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-632175/1-A
Matrix: Water
Analysis Batch: 635643

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 632175

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.5630		0.349	0.352	1.00	0.511	pCi/L	10/17/23 10:34	11/07/23 11:24	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		30 - 110	10/17/23 10:34	11/07/23 11:24	1
Y Carrier	80.0		30 - 110	10/17/23 10:34	11/07/23 11:24	1

Lab Sample ID: LCS 160-632175/2-A
Matrix: Water
Analysis Batch: 635643

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 632175

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	7.74	9.414		1.29	1.00	0.508	pCi/L	122	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	90.5		30 - 110
Y Carrier	82.6		30 - 110

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-267008-2
Project/Site: Nebraska City Unit 1 & 2 CCR/ Landfill

HPLC/IC

Analysis Batch: 403828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	9056A	
310-267008-2	MW13	Total/NA	Water	9056A	
MB 310-403828/3	Method Blank	Total/NA	Water	9056A	
LCS 310-403828/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 402832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	3005A	
310-267008-2	MW13	Total/NA	Water	3005A	
MB 310-402832/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-402832/2-A	Lab Control Sample	Total/NA	Water	3005A	

Prep Batch: 403230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	7470A	
310-267008-2	MW13	Total/NA	Water	7470A	
MB 310-403230/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-403230/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 403331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	6020B	402832
310-267008-2	MW13	Total/NA	Water	6020B	402832

Analysis Batch: 403417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	7470A	403230
310-267008-2	MW13	Total/NA	Water	7470A	403230
MB 310-403230/1-A	Method Blank	Total/NA	Water	7470A	403230
LCS 310-403230/2-A	Lab Control Sample	Total/NA	Water	7470A	403230

Analysis Batch: 403508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	6020B	402832
310-267008-2	MW13	Total/NA	Water	6020B	402832
MB 310-402832/1-A	Method Blank	Total/NA	Water	6020B	402832
LCS 310-402832/2-A	Lab Control Sample	Total/NA	Water	6020B	402832

Analysis Batch: 403595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-402832/1-A	Method Blank	Total/NA	Water	6020B	402832
LCS 310-402832/2-A	Lab Control Sample	Total/NA	Water	6020B	402832

General Chemistry

Analysis Batch: 402536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	SM 2540C	
310-267008-2	MW13	Total/NA	Water	SM 2540C	
MB 310-402536/1	Method Blank	Total/NA	Water	SM 2540C	

QC Association Summary

Client: Omaha Public Power District
Job ID: 310-267008-2
Project/Site: Nebraska City Unit 1 & 2 CCR/ Landfill

General Chemistry (Continued)

Analysis Batch: 402536 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-402536/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Rad

Prep Batch: 632174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	PrecSep-21	
310-267008-2	MW13	Total/NA	Water	PrecSep-21	
MB 160-632174/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-632174/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 632175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267008-1	NC2MW4	Total/NA	Water	PrecSep_0	
310-267008-2	MW13	Total/NA	Water	PrecSep_0	
MB 160-632175/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-632175/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-267008-2
Project/Site: Nebraska City Unit 1 & 2 CCR/ Landfill

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

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403828	QTZ5	EET CF	10/23/23 13:06
Total/NA	Prep	3005A			402832	KCK5	EET CF	10/18/23 09:15
Total/NA	Analysis	6020B		1	403508	A6US	EET CF	10/24/23 01:49
Total/NA	Prep	3005A			402832	KCK5	EET CF	10/18/23 09:15
Total/NA	Analysis	6020B		1	403331	A6US	EET CF	10/20/23 20:11
Total/NA	Prep	7470A			403230	NFT2	EET CF	10/20/23 10:47
Total/NA	Analysis	7470A		1	403417	NFT2	EET CF	10/23/23 11:36
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632174	KAC	EET SL	10/17/23 10:27
Total/NA	Analysis	9315		1	636166	SCB	EET SL	11/09/23 19:22
Total/NA	Prep	PrecSep_0			632175	KAC	EET SL	10/17/23 10:34
Total/NA	Analysis	9320		1	635680	SCB	EET SL	11/07/23 11:32
Total/NA	Analysis	Ra226_Ra228		1	636395	EMH	EET SL	11/10/23 17:32

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

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	403828	QTZ5	EET CF	10/23/23 13:18
Total/NA	Prep	3005A			402832	KCK5	EET CF	10/18/23 09:15
Total/NA	Analysis	6020B		1	403508	A6US	EET CF	10/24/23 02:06
Total/NA	Prep	3005A			402832	KCK5	EET CF	10/18/23 09:15
Total/NA	Analysis	6020B		1	403331	A6US	EET CF	10/20/23 20:13
Total/NA	Prep	7470A			403230	NFT2	EET CF	10/20/23 10:47
Total/NA	Analysis	7470A		1	403417	NFT2	EET CF	10/23/23 11:34
Total/NA	Analysis	SM 2540C		1	402536	D7CP	EET CF	10/13/23 14:59
Total/NA	Prep	PrecSep-21			632174	KAC	EET SL	10/17/23 10:27
Total/NA	Analysis	9315		1	636166	SCB	EET SL	11/09/23 19:22
Total/NA	Prep	PrecSep_0			632175	KAC	EET SL	10/17/23 10:34
Total/NA	Analysis	9320		1	635680	SCB	EET SL	11/07/23 11:32
Total/NA	Analysis	Ra226_Ra228		1	636395	EMH	EET SL	11/10/23 17:32

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-267008-2
Project/Site: Nebraska City 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)	09-29-24
Georgia	State	IA100001 (OR)	09-29-24
Illinois	NELAP	200024	11-29-23
Iowa	State	007	12-01-23
Kansas	NELAP	E-10341	01-31-24
Minnesota	NELAP	019-999-319	12-31-23
Minnesota (Petrofund)	State	3349	01-18-24
North Dakota	State	R-186	09-29-24
Oregon	NELAP	IA100001	09-29-24

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oklahoma	NELAP	9997	08-31-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-24
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-24

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-267008-2
Project/Site: Nebraska City Unit 1 & 2 CCR/ Landfill

Laboratory: Eurofins St. Louis (Continued)

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

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

Method Summary

Client: Omaha Public Power District
Job ID: 310-267008-2
Project/Site: Nebraska City Unit 1 & 2 CCR/ Landfill

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

310-267008 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 10/12/23 | TIME 1700 | Received By: CR

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: 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): 1.8 | Corrected Temp (°C): 1.8

Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

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 | STATE | Project:

Receipt Information

Date/Time Received: DATE 10/12/23 TIME 1700 | Received By: LR

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: 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): 0.4 | Corrected Temp (°C): 0.4

Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

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

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
Due Date Requested:
TAT Requested (days):
PO #:
WO #:
TestAmerica Project #: 31007559
SSOW#:

Lab PM: Hayes, Shawn M
E-Mail: shawn.hayes@testamericainc.com
Carrier Tracking No(s):
COC No:
Page:
Job #:

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, Other:
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)

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)	9316 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	10/10/23	12:51	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW13	10/10/23	12:49	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
[signature]	10/11/2023 13:15	OPPD	[signature]	10/11/23 1350	EF
[signature]	10-12-23 0800	EF	[signature]	10/12/23 1700	

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: 310-267008-1

Login Number: 267008
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls

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

Tracer/Carrier Summary

Client: Omaha Public Power District

Job ID: 310-267008-2

Project/Site: Nebraska City 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	(30-110)
310-267008-1	NC2MW4	79.5
310-267008-2	MW13	81.4
LCS 160-632174/2-A	Lab Control Sample	90.5
MB 160-632174/1-A	Method Blank	98.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
310-267008-1	NC2MW4	79.5	85.2
310-267008-2	MW13	81.4	80.0
LCS 160-632175/2-A	Lab Control Sample	90.5	82.6
MB 160-632175/1-A	Method Blank	98.5	80.0

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Appendix C

April 2023 & October 2023
Statistical Memo

This page intentionally left blank.

Technical Memorandum

Date:	Friday, July 21, 2023
To:	Omaha Public Power District (OPPD)
From:	HDR Engineering, Inc.
Subject:	Summary of Statistical Analysis and Evaluation for SSLs Nebraska City Station NC2 Ash Disposal Area NDEE Title 132 & Federal CCR Groundwater Monitoring Network

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 existing coal combustion residuals (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 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 NC2 Ash Disposal Area. The NC2 Ash Disposal Area is a CCR landfill permitted under the Title 132 regulations for 40.7 acres. Cell 1 was constructed in 2008/2009. The NC2 Ash Disposal Area Cells 2 and 3 and West Leachate Pond were completed in January 2018. Cells 1 through 3 were constructed with a composite liner and leachate collection system.

Groundwater sampling was completed as part of an assessment monitoring program for the NC2 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 Methods Certification*, amended December 2021, and the facility’s most recent Groundwater Sampling and Analysis Plan (dated January 4, 2019; revised March 1, 2019) 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 2022 sampling event and will be reevaluated following the spring 2024 sampling event. The current BTVs were calculated with data obtained during monitoring events performed between March 2016 and April 2022.

Downgradient sampling results from the spring 2023 assessment monitoring were used to evaluate for statistically significant increases (SSIs) over background and statistically significant levels (SSLs) over the groundwater protection standards (GWPS). The calculated BTVs and the evaluation for SSIs for the Appendix III (herein referred to as “detection monitoring”) constituents and Appendix IV (herein referred to as “assessment monitoring”) constituents are provided in **Table D-1**. The calculated lower confidence levels and the evaluation for SSLs over the GWPS for the assessment monitoring constituents are provided in **Table D-2**. The calculated upper confidence levels and the evaluation for SSLs over the GWPS for the corrective action monitoring constituents are provided in **Table D-3**.

Table D-1. Summary of Evaluations for SSIs over Background (April 2023)

		Well ID:	NC2MW-2	NC2MW-3	NC2MW-6**	NC2MW-7	NC2MW-8
Constituent	*BTV (UPL):*	*Unit*	*Assessment Monitoring Results*				
Appendix III (Detection Monitoring) Constituents							
Boron	*4.63*	*mg/L*	0.496	0.265	N.S.	0.142	<0.0760
Calcium	*229*	*mg/L*	**257**	182	N.S.	121	126
Chloride	*36.6*	*mg/L*	19.5	11.1	N.S.	9.73	13.0
Fluoride	*1.89*	*mg/L*	0.442J	1.07	N.S.	0.402J	0.394J
pH	*6.38 – 7.87**	*SU*	6.96	6.91	N.S.	7.37	7.16
Sulfate	*611*	*mg/L*	404	401	N.S.	2.41J	53.2
TDS	*1,390*	*mg/L*	1,070	1,110	N.S.	598	556
Appendix IV (Assessment Monitoring) Constituents							
Antimony	*0.00200*	*mg/L*	**0.00350**	<0.00100	N.S.	<0.00100	<0.00100
Arsenic	*0.0402*	*mg/L*	0.00100J	0.00193J	N.S.	0.0396	0.00971
Barium	*0.447*	*mg/L*	0.139	0.0688	N.S.	**0.523**	**0.462**
Beryllium	*0.00100*	*mg/L*	<0.000330	<0.000330	N.S.	<0.000330	<0.000330
Cadmium	*0.000500*	*mg/L*	0.000283	<0.000100	N.S.	<0.000100	<0.000100
Chromium	*0.00500*	*mg/L*	<0.00110	<0.00110	N.S.	<0.00110	<0.00110
Cobalt	*0.00236*	*mg/L*	**0.00301**	0.00122	N.S.	0.000321J	0.00219
Radium 226+228	*1.94*	*pCi/L*	1.64	**3.88**	N.S.	1.91	1.31
Fluoride	*1.89*	*mg/L*	0.442J	1.07	N.S.	0.402J	0.394J
Lead	*0.00610*	*mg/L*	0.000546	0.000284J	N.S.	<0.000240	0.000252J
Lithium	*0.0423*	*mg/L*	0.0261	0.0271	N.S.	**0.0588**	0.0363
Mercury	*0.000200*	*mg/L*	<0.000140	<0.000140	N.S.	<0.000140	<0.000140
Molybdenum	*0.0339*	*mg/L*	**0.0560**	0.00323	N.S.	0.00177J	0.00200
Selenium	*0.0146*	*mg/L*	0.00962	<0.00140	N.S.	<0.00140	<0.00140
Thallium	*0.00100*	*mg/L*	<0.000260	<0.000260	N.S.	<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).
**NC2MW-6 had insufficient water volume for sample collection. Laboratory analysis was not conducted for the Spring 2023 sampling event.
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 (April 2023)

	Well ID:		NC2MW-2	NC2MW-3	NC2MW-6*	NC2MW-7	NC2MW-8
Constituent	*GWPS[1]*	*Unit*	*Lower Confidence Levels – Appendix IV (Assessment Monitoring) Constituents*				
Antimony	*0.006*	*mg/L*	0.002769	0.00069	0.001	0.00069	0.001
Arsenic	*0.0402 [2]*	*mg/L*	0.000896	0.002284	0.0009551	**0.04023**[3]	0.01062
Barium	*2.0*	*mg/L*	0.1126	0.07938	0.1097	0.5325	0.5108
Beryllium	*0.004*	*mg/L*	0.00027	0.00027	0.00027	0.00027	0.00027
Cadmium	*0.005*	*mg/L*	0.0001261	0.000068	0.00005946	0.000051	0.000051
Chromium	*0.1*	*mg/L*	0.0011	0.0011	0.0011	0.0011	0.0011
Cobalt	*0.006*	*mg/L*	0.0005	0.0008654	0.0002385	0.0002554	0.001951
Fluoride	*4.0*	*mg/L*	0.2576	0.5494	0.2335	0.2758	0.2707
Lead	*0.015*	*mg/L*	0.0006882	0.0003242	0.0004243	0.00021	0.0002576
Lithium	*0.0423 [2]*	*mg/L*	0.02814	0.0214	0.02603	**0.05762**	0.03197
Mercury	*0.002*	*mg/L*	0.00011	0.00011	0.00011	0.00011	0.00011
Molybdenum	*0.1*	*mg/L*	0.01804	0.003004	0.01041	0.001567	0.002117
Radium 226+228	*5.0*	*pCi/L*	1.041	0.7499	0.4482	0.7957	0.7402
Selenium	*0.05*	*mg/L*	0.001437	0.00096	0.00096	0.00096	0.00096
Thallium	*0.002*	*mg/L*	0.00026	0.00026	0.00026	0.00026	0.00026

Bold and underlined concentration indicates an SSL over the GWPS.
[1] GWPS is established as the Environmental Protection Agency's (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.
*NC2MW-6 had insufficient water volume for sample collection. Laboratory analysis was not conducted for the Spring 2023 sampling event.
[3] Arsenic has been shown to be naturally occurring and highly variable, and is therefore not considered a SSL under the ASD approved by NDEE on May 5, 2020.

Table D-3. Summary of Ongoing and Newly Identified SSLs (April 2023)

			Most Recent Result				Consecutive Compliance Dates		
Well	*Constituent*	*Unit*	*(April 2023)*	*Upper Confidence Limit*	*GWPS[1]*	*Initial Exceedance*	*1st Occurrence*	*Most Recent*	*Duration*
NC2MW-7	Lithium[2]	mg/L	**0.0588**	**0.06261**	0.0423	4/2020	N/A	N/A	N/A

Bold and underlined concentration indicate value exceeds the GWPS.
[1] GWPS is established as the Environmental Protection Agency's (EPA) Maximum Contaminant Level (MCL) or the GWPS specified in 40 CFR §257.95(h)(2), unless otherwise specified.
[2] The Upper Prediction Limit for lithium has been set at 0.0423 mg/L which is above the GWPS specified in 40 CFR §257.95(h)(2), therefore, the Site GWPS is set to 0.0423 mg/L.

This page intentionally left blank.

Technical Memorandum

Date:	Wednesday, November 22, 2023
To:	Omaha Public Power District (OPPD)
From:	HDR Engineering, Inc.
Subject:	Summary of Statistical Analysis and Evaluation for SSLs Nebraska City Station NC2 Ash Disposal Area NDEE Title 132 & Federal CCR Groundwater Monitoring Network

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 existing coal combustion residuals (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 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 NC2 Ash Disposal Area. The NC2 Ash Disposal Area is a CCR landfill permitted under the Title 132 regulations for 40.7 acres. Cell 1 was constructed in 2008/2009. The NC2 Ash Disposal Area Cells 2 and 3 and West Leachate Pond were completed in January 2018. Cells 1 through 3 were constructed with a composite liner and leachate collection system.

Groundwater sampling was completed as part of an assessment monitoring program for the NC2 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 Methods Certification*, amended December 2021, and the facility’s most recent Groundwater Sampling and Analysis Plan (dated January 4, 2019; revised March 1, 2019) 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 2022 sampling event and will be reevaluated following the spring 2024 sampling event. The current BTVs were calculated with data obtained during monitoring events performed between March 2016 and April 2022.

Downgradient sampling results from the fall 2023 assessment monitoring were used to evaluate for statistically significant increases (SSIs) over background and statistically significant levels (SSLs) over the groundwater protection standards (GWPS). The calculated BTVs and the evaluation for SSIs for the Appendix III (herein referred to as “detection monitoring”) constituents and Appendix IV (herein referred to as “assessment monitoring”) constituents are provided in **Table D-1**. The calculated lower confidence levels and the evaluation for SSLs over the GWPS for the assessment monitoring constituents are provided in **Table D-2**. The calculated upper confidence levels and the evaluation for SSLs over the GWPS for the corrective action monitoring constituents are provided in **Table D-3**.

Table D-1. Summary of Evaluations for SSIs over Background (October 2023)

		Well ID:	NC2MW-2	NC2MW-3	NC2MW-6	NC2MW-7	NC2MW-8
Constituent	*BTV (UPL):*	*Unit*	*Assessment Monitoring Results*				
Appendix III (Detection Monitoring) Constituents							
Boron	*4.63*	*mg/L*	1.04	0.406	2.09	0.168	0.120
Calcium	*229*	*mg/L*	222	179	126	114	109
Chloride	*36.6*	*mg/L*	9.49	9.24	5.32	10.3	9.63
Fluoride	*1.89*	*mg/L*	<0.375	1.26	<0.375	<0.375	<0.375
pH	*6.38 – 7.87**	*SU*	6.59	6.72	6.60	7.27	6.61
Sulfate	*611*	*mg/L*	374	427	112	<2.10	81.7
TDS	*1,390*	*mg/L*	928	1140	580	468	454
Appendix IV (Assessment Monitoring) Constituents							
Antimony	*0.00200*	*mg/L*	**0.00369**	<0.00100	<0.00100	<0.00100	<0.00100
Arsenic	*0.0402*	*mg/L*	0.00155J	0.00323	0.00185J	**0.0480**	0.0135
Barium	*0.447*	*mg/L*	0.0769	0.0596	0.157	**0.618**	**0.534**
Beryllium	*0.00100*	*mg/L*	<0.000330	<0.000330	<0.000330	<0.000330	<0.000330
Cadmium	*0.000500*	*mg/L*	0.000310	0.000129J	<0.000100	<0.000100	<0.000100
Chromium	*0.00500*	*mg/L*	<0.00110	<0.00110	0.00213J	<0.00110	<0.00110
Cobalt	*0.00236*	*mg/L*	0.000607	0.00198	0.000870	0.000214J	0.00165
Radium 226+228	*1.94*	*pCi/L*	0.681	0.455U	1.30	0.615U	1.92
Fluoride	*1.89*	*mg/L*	<0.375	1.26	<0.375	<0.375	<0.375
Lead	*0.00610*	*mg/L*	0.000550	0.000469J	0.00423	<0.000240	0.000284J
Lithium	*0.0423*	*mg/L*	0.0286	0.0278	**0.0455**	**0.0617**	0.0360
Mercury	*0.000200*	*mg/L*	**0.000222**	0.000184J	0.000141J	<0.000140	<0.000140
Molybdenum	*0.0339*	*mg/L*	**0.0394**	0.00417	0.00990	0.00186J	<0.000910
Selenium	*0.0146*	*mg/L*	0.00228J	0.00171J	<0.00140	<0.00140	0.00198J
Thallium	*0.00100*	*mg/L*	<0.000260	<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 (October 2023)

	Well ID:		NC2MW-2	NC2MW-3	NC2MW-6	NC2MW-7	NC2MW-8
Constituent	*GWPS[1]*	*Unit*	*Lower Confidence Levels – Appendix IV (Assessment Monitoring) Constituents*				
Antimony	*0.006*	*mg/L*	0.00298	0.00069	0.001	0.00069	0.001
Arsenic	*0.0402 [2]*	*mg/L*	0.000907	0.002103	0.0009837	**0.0414**[3]	0.009973
Barium	*2.0*	*mg/L*	0.101	0.0731	0.1126	0.5399	0.5089
Beryllium	*0.004*	*mg/L*	0.00027	0.00027	0.00027	0.00027	0.00027
Cadmium	*0.005*	*mg/L*	0.0001126	0.000072	0.00005946	0.000051	0.000051
Chromium	*0.1*	*mg/L*	0.0011	0.0011	0.001463	0.0011	0.0011
Cobalt	*0.006*	*mg/L*	0.0001821	0.000751	0.0002757	0.0002341	0.001874
Fluoride	*4.0*	*mg/L*	0.2513	0.4931	0.2335	0.25	0.2508
Lead	*0.015*	*mg/L*	0.0006366	0.000352	0.0003817	0.00021	0.0002588
Lithium	*0.0423 [2]*	*mg/L*	0.02663	0.02099	0.02686	**0.05838**	0.03308
Mercury	*0.002*	*mg/L*	0.00011	0.00011	0.00011	0.00011	0.00011
Molybdenum	*0.1*	*mg/L*	0.02295	0.003159	0.01	0.001568	0.001587
Radium 226+228	*5.0*	*pCi/L*	0.9727	0.6542	0.5395	0.773	0.9014
Selenium	*0.05*	*mg/L*	0.001942	0.00096	0.001048	0.00096	0.0009866
Thallium	*0.002*	*mg/L*	0.00026	0.00026	0.00026	0.00026	0.00026

Bold and underlined concentration indicates an SSL over the GWPS.
[1] GWPS is established as the Environmental Protection Agency's (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.
[3] Arsenic has been shown to be naturally occurring and highly variable, and is therefore not considered a SSL under the ASD approved by NDEE on May 5, 2020.

Table D-3. Summary of Ongoing and Newly Identified SSLs (October 2023)

				Most Recent Result			Consecutive Compliance Dates		
Well	*Constituent*	*Unit*	*(Fall 2023)*	*Upper Confidence Limit*	*GWPS[1]*	*Initial Exceedance*	*1st Occurrence*	*Most Recent*	*Duration*
NC2MW-7	Lithium[2]	mg/L	**0.0617**	**0.06307**	0.0423	4/2020	N/A	N/A	N/A

Bold and underlined concentration indicate value exceeds the GWPS.
[1] GWPS is established as the Environmental Protection Agency's (EPA) Maximum Contaminant Level (MCL) or the GWPS specified in 40 CFR §257.95(h)(2), unless otherwise specified.
[2] The Upper Prediction Limit for lithium has been set at 0.0423 mg/L which is above the GWPS specified in 40 CFR §257.95(h)(2), therefore, the Site GWPS is set to 0.0423 mg/L.