2021 NC2 CCR Landfill Annual Groundwater Report

Nebraska City Station NC2
Ash Disposal Area

Nebraska City, Nebraska
January 31, 2022

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Professional Engineer Certification

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

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

Print Name: Megan B. Seymour

Signature: Megan B. Seymour

Date: 1-31-2022

License #: E-15931

My license renewal date is December 31, 2022.

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Executive Summary

Omaha Public Power District (OPPD) owns and operates a two-unit fossil fuel-fired generating station (NC1 and NC2), located 5.5 miles southeast of Nebraska City, Nebraska, along the west shore of the Missouri River. This generating station (Station or Site) has two (2) existing coal combustion residual (CCR) landfills for fossil fuel combustion ash disposal: the NC1 Ash Disposal Area and the NC2 Ash Disposal Area. On April 17, 2015, the United States Environmental Protection Agency (EPA) published the final rule for the regulation and management of coal combustion residuals (CCR) under Subtitle D of the Resource Conservation and Recovery Act. The rule is formally promulgated in the U.S. Code of Federal Regulations (CFR), Title 40, Part 257. The purpose of this report is to provide a summary of CCR groundwater monitoring system activities for calendar year 2021 for the assessment monitoring program under 40 CFR §257.95 and corrective action monitoring under 40 CFR §257.96 for the NC2 Ash Disposal Area which is a lined landfill located at the Site.

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 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 3, 2021 and 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 2021, in accordance with 40 CFR §257.96. For the April 2021 sampling event, results of the analysis indicated six SSIs above background:

- NC2MW-2: Antimony
- NC2MW-3: Fluoride
- NC2MW-7: Arsenic, Barium, and Lithium
- NC2MW-8: Barium

One new SSI (fluoride in NC2MW-3) was detected in April 2021. Analysis of the assessment monitoring constituents indicated there were two (2) detected SSLs above their GWPS:

- NC2MW-7: Arsenic and Lithium

For the October 2021 sampling event, results of the analysis indicated nine SSIs above background:

- NC2MW-2: Cadmium and Molybdenum
- NC2MW-3: Cobalt
- NC2MW-6: Radium 226 + 228
- NC2MW-7: Arsenic, Barium and Lithium
- NC2MW-8: Barium and Radium 226 + 228

Three new SSIs were detected (molybdenum in NC2MW-2 and Radium 226 + 228 for NC2MW-6 and NC2MW-8). Analysis of the assessment monitoring constituents indicated there were two (2) SSLs detected above their GWPS:

- NC2MW-7: Arsenic and Lithium

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 2022.

1 Introduction

On April 17, 2015, the United States Environmental Protection Agency (EPA) published the final rule for the regulation and management of coal combustion 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 2021 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 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 shore of the Missouri River (**Figure 1**). This Station has two existing CCR landfills: the NC1 Ash Disposal Area and NC2 Ash Disposal Area. The CCR landfills are permitted under the current Nebraska Department of Environment and Energy (NDEE) 32 and CCR regulations for fossil fuel combustion ash disposal. 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, one sump in Cell 2 and one sump in Cell 3, 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**. 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.
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.
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 were two SSLs detected (arsenic and lithium at NC2MW-7).

Date	Groundwater Compliance Monitoring Milestones
10/05/2020	Semi-annual assessment monitoring. SSIs detected for downgradient wells for calcium, antimony, arsenic, barium, cadmium, and lithium. There were three SSLs detected (arsenic and lithium at NC2MW-7 & arsenic in NC2MW-8).
11/25/2020	Notification published for detected SSLs and unsuccessful ASD.
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 constituents with detected SSLs.
4/12/2021	Semiannual Assessment Monitoring. SSIs detected for downgradient wells for antimony, arsenic, barium, fluoride, and lithium. There were two SSLs detected (arsenic and lithium at NC2MW-7).
8/25/2021	Public meeting conducted to discuss corrective measures (HDR, 2021a).
10/4/2021	Semiannual Assessment Monitoring. SSIs detected for downgradient wells for arsenic, barium, cadmium, cobalt, radium 226 + 228, and lithium. There were two SSLs detected (arsenic and lithium at NC2MW-7).
11/15/2021	Remedy Selection Report (HDR, 2021a) to select a remedial system for constituents with detected SSLs.

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 2021 and October 2021. 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 2021 and October 2021 as continuation of the semi-annual assessment monitoring program while evaluation of corrective measures was conducted. 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 is 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 all background and downgradient network wells. Field sampling forms from the 2021 sampling

events are provided in **Appendix A**. The collected groundwater samples were analyzed by Eurofins TestAmerica. 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 2021 sampling event indicated a flow direction to the southeast and an average flow velocity of 0.0128 ft/day to 0.0723 ft/day. Groundwater measurement collected during the October 2021 sampling event indicated a flow direction to the southeast and an average flow velocity of 0.0809 ft/day to 0.00458 ft/day. The April 2021 and October 2021 flow velocities are based on a range of hydraulic conductivity at the Site of 6.96 ft/day to 39.4 ft/day (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 2021 and October 2021 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 and October 2021 sampling events. The results of the sampling events conducted in 2021 are presented in **Table 4** (Appendix III constituents) and **Table 5** (Appendix IV constituents).

3.4 Statistical Analysis Results

In the assessment monitoring program, Appendix III and IV constituents are statistically analyzed to evaluate for SSIs above the calculated 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 set in spring 2020 and the next update is planned for the spring 2022 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 July 2021 and October 2021 sampling events are provided in **Appendix C**.

For the April 2021 sampling event, results of the analysis indicated one SSI above background for detection monitoring constituents and five SSIs for assessment monitoring constituents:

- NC2MW-2: Antimony
- NC2MW-3: Fluoride
- NC2MW-7: Arsenic, Barium, and Lithium
- NC2MW-8: Barium

One new SSI (fluoride in NC2MW-3) was detected. Analysis of the assessment monitoring constituents indicated there were two SSLs detected above their GWPS:

- NC2MW-7: Arsenic and Lithium

A subsequent semi-annual sampling event was conducted in October 2021. Results of the analysis indicated no SSIs above background for detection monitoring constituents and nine (9) SSIs for assessment monitoring constituents:

- NC2MW-2: Cadmium and Molybdenum
- NC2MW-3: Cobalt
- NC2MW-6: Radium 226 + 228
- NC2MW-7: Arsenic, Barium and Lithium
- NC2MW-8: Barium and Radium 226 + 228

Three new SSIs (Molybdenum in NC2MW-2 and Radium 226 + 228 for NC2MW-6 and NC2MW-8) was detected. Radium 226 + 228 concentrations observed in NC2MW-4 and NC2MW-6 were significantly higher than historical data, so resamples are being collected in January 2022. Analysis of the assessment monitoring constituents indicated there were two (2) SSLs detected above their GWPS:

- NC2MW-7: Arsenic and Lithium

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

3.5 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 will be 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.

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 implement corrective actions in accordance with the schedule listed in the Remedy Selection Report. Ongoing remedial activities will occur in 2022 by implementing a revised fill plan to reduce active areas of the landfill and implementing 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 2022.

5 References

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

EPA, 2015. 40 CFR 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.

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Figures

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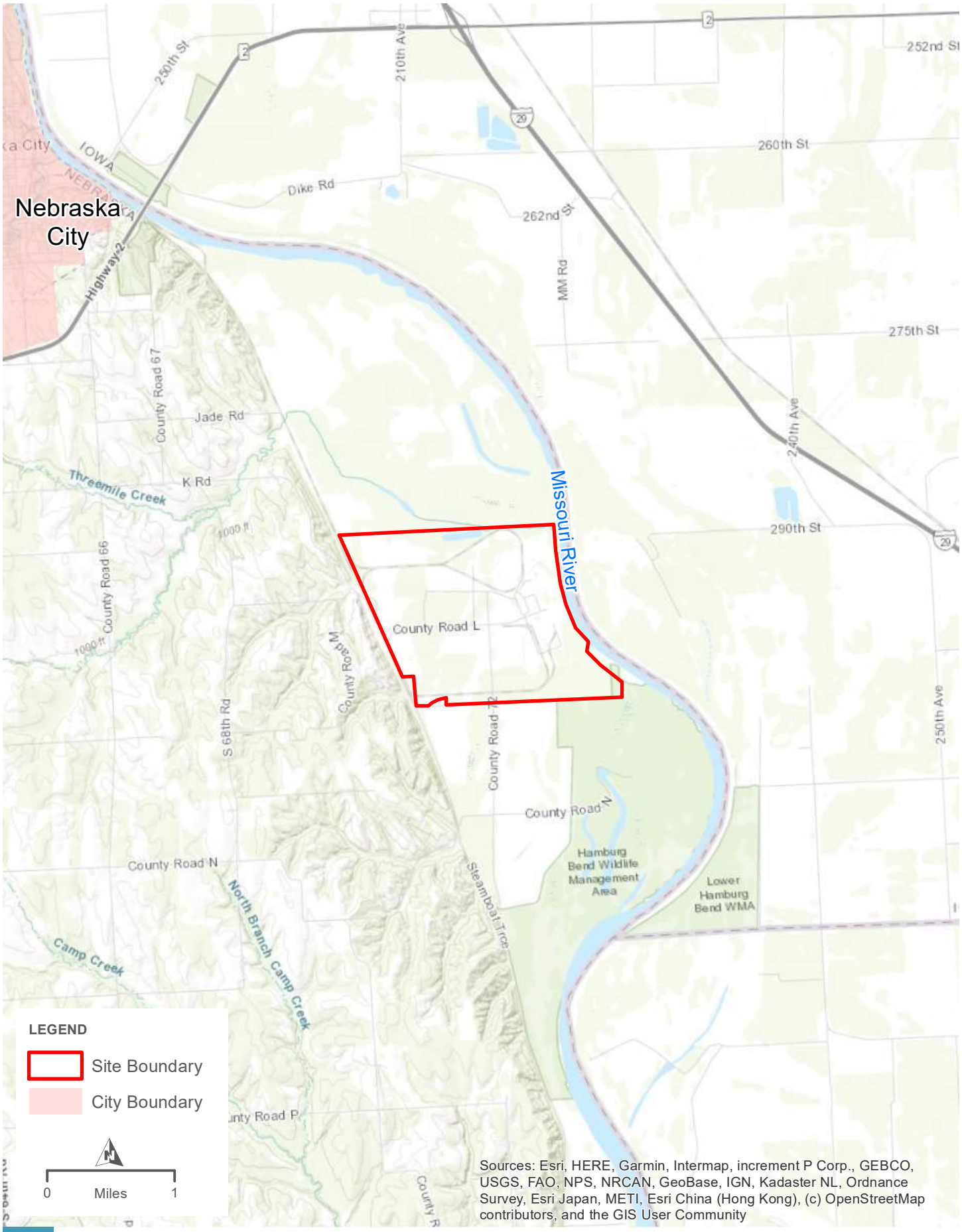

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

SITE LOCATION MAP

OPPD - NEBRASKA CITY STATION

FIGURE 1

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

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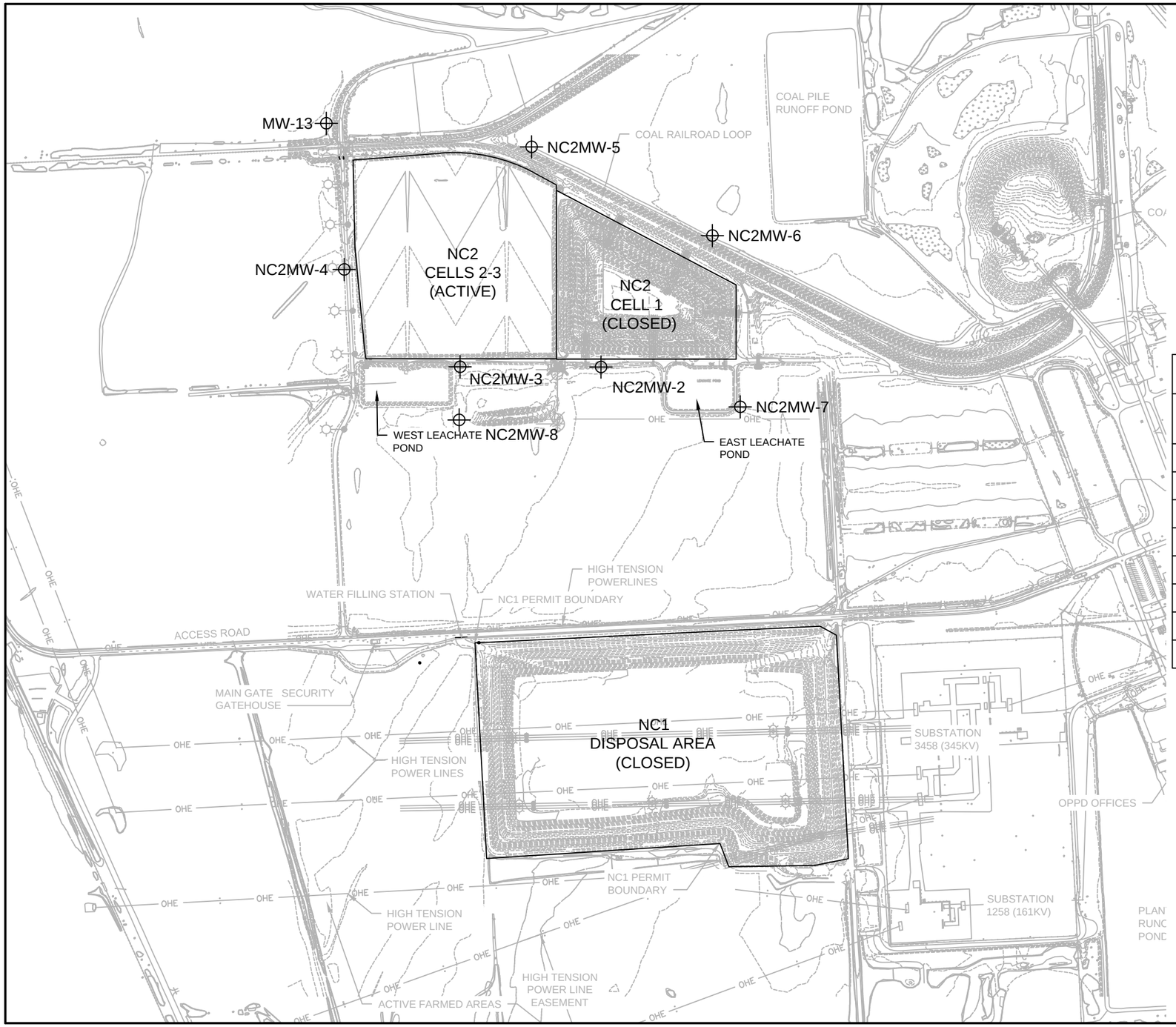

N

600 0 600 1200

SCALE IN FEET

MONITORING WELL NETWORK

WELL ID	NORTHING	EASTING	ELEVATION (TOC)	WELL DEPTH (BGS)	LOCATION WITH RESPECT TO 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.

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

2021 GROUNDWATER MONITORING

DATE
JANAUARY 2022

FIGURE
02

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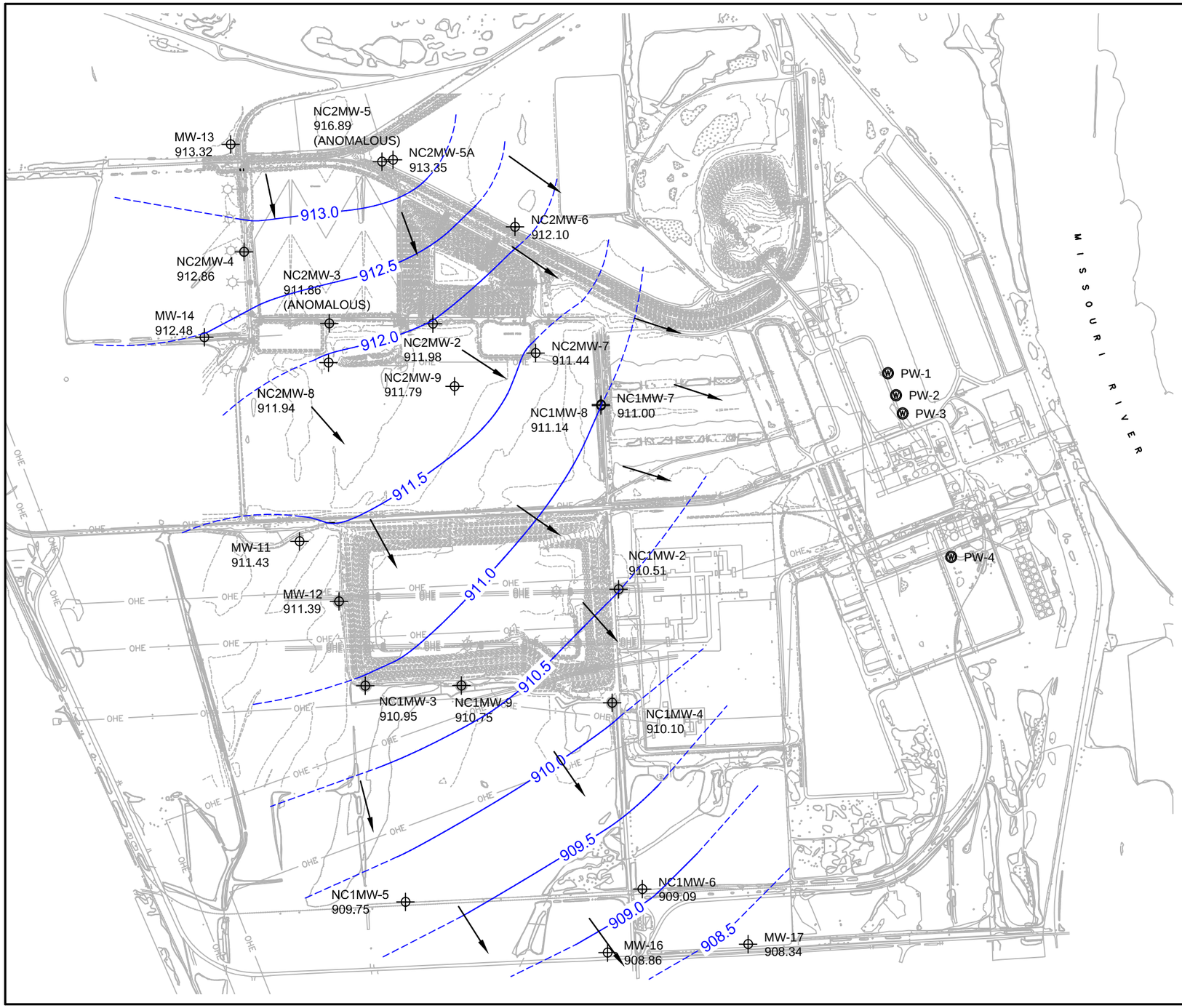

N

800 0 800 1600

SCALE IN FEET

LEGEND:

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

NOTES:

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

VELOCITY COMPUTATIONS

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

K = HYDRAULIC CONDUCTIVITY (SEE TABLE)

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

n = POROSITY = 0.405

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

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OPPD NEBRASKA CITY ASH LANDFILL GROUNDWATER CONTOUR MAP APRIL 2021

2021 GROUNDWATER MONITORING

DATE
JANAUARY 2022

FIGURE
03

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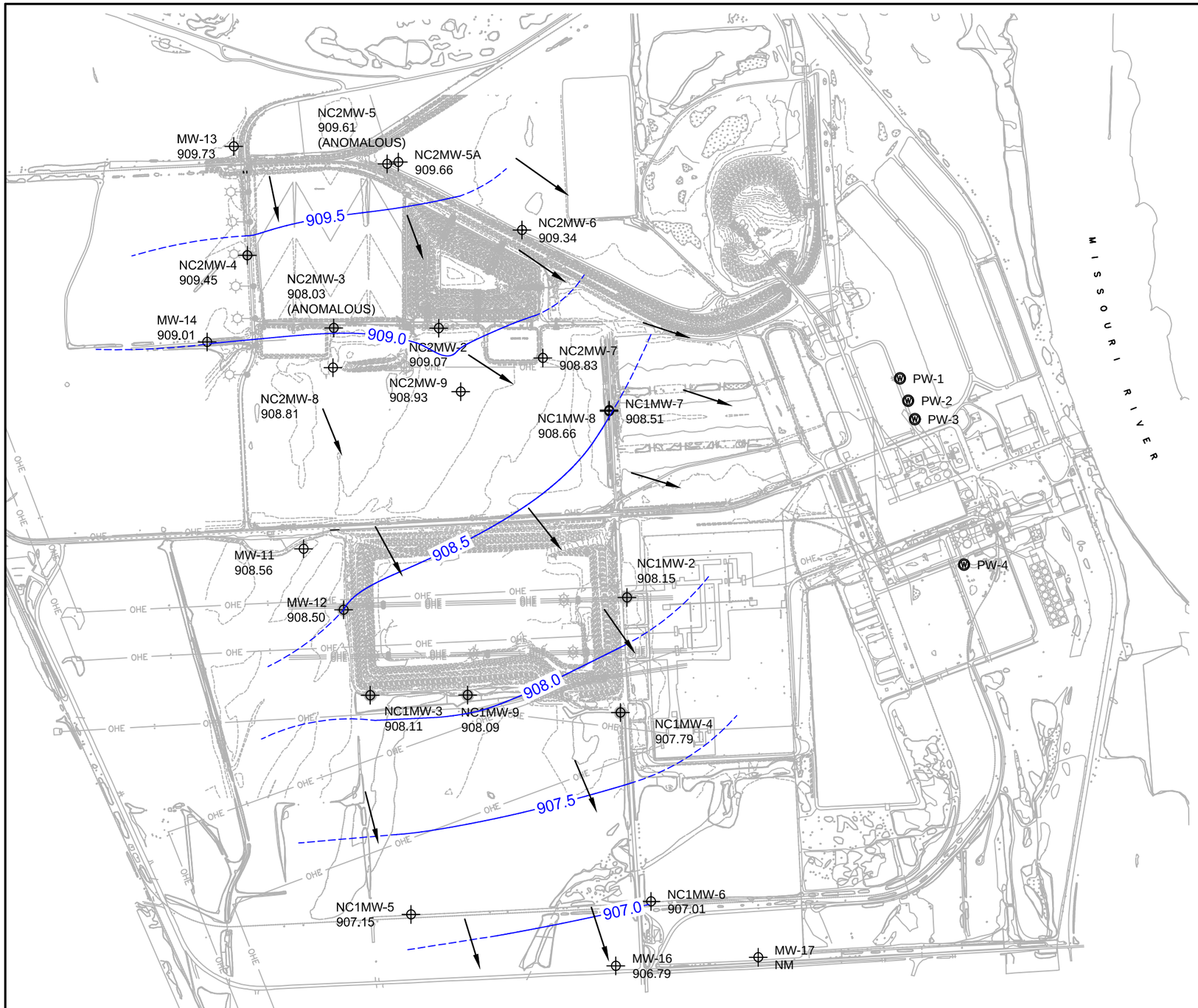

N

800 0 800 1600

SCALE IN FEET

LEGEND:

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

NOTES:

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

VELOCITY COMPUTATIONS

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

K = HYDRAULIC CONDUCTIVITY (SEE TABLE)

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

n = POROSITY = 0.405

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

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OPPD NEBRASKA CITY ASH LANDFILL GROUNDWATER CONTOUR MAP OCTOBER 2021

2021 GROUNDWATER MONITORING

DATE
JANUARY 2022

FIGURE
04

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Tables

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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	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	Downgradient/Crossgradient	917.99	920.99

bgs - below ground surface
AMSL - above mean sea level

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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	5	4/27/2020, 7/14/2020, 10/5/2020, 4/12/2021, 10/4/2021
NC2MW-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	5	4/27/2020, 7/14/2020, 10/5/2020, 4/12/2021, 10/4/2021
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	5	4/27/2020, 7/14/2020, 10/5/2020, 4/12/2021, 10/4/2021
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	5	4/27/2020, 7/14/2020, 10/5/2020, 4/12/2021, 10/4/2021
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	5	4/27/2020, 7/14/2020, 10/5/2020, 4/12/2021, 10/4/2021
NC2MW-6	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	5	4/27/2020, 7/14/2020, 10/5/2020, 4/12/2021, 10/4/2021
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	5	4/27/2020, 7/15/2020, 10/5/2020, 4/12/2021, 10/4/2021
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	3	10/5/2020, 4/12/2021, 10/4/2021

[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 .

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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	909.73	13.48	909.07	11.55	908.03	10.38	909.34	9.37	908.83	9.16	908.81

TOC = Top of PVC well casing

N.M. = not measured

AMSL = above mean sea level

[1] MW-13, NC2-MW-3, and NC2-MW-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.

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

Notes:

TOC = Top of PVC well casing

N.M. = not measured

AMSL = above mean sea level

[1] MW-13, NC2-MW-3, and NC2-MW-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.

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

Notes:

TOC =Top of PVC well casing

N.M. = not measured

AMSL = above mean sea level

[1] MW-13, NC2-MW-3, and NC2-MW-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.

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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	1.1	7.30	33.6	574
	2/14/2017	<0.2	148	<5	<0.5	7.72	39.3	544
	2/15/2017	<0.2	142	10.8	2.43	7.63	39.7	526
	4/24/2017	<0.2	126	<5	1.08	7.08	38.6	574
	4/25/2017	<0.2	122	<5	<0.5	7.28	38.3	594
	6/15/2017	<0.2	122	<5	<0.5	7.09	32.2	552
	6/20/2017	<0.2	119	<5	<0.5	7.13	33.1	558
	7/12/2017	<0.2	104	<5	<0.5	7.88	32.7	580
	7/13/2017	<0.2	112	<5	<0.5	7.98	32.7	664
	11/8/2017	<0.2	133	<5	<0.5	7.15	43.50	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
NC2MW-5	3/14/2016	3.73	210	51	<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	160	34.2	<0.5	6.90 / 7.56 [1]	318.0	826
	6/6/2018	3.81	198	14	<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
MW-13	3/9/2016	<0.2	96.3	11.8	<0.5	7.20	45	408
	3/14/2016	<0.2	90.6	11.4	<0.5	6.97	47.7	438
	6/3/2016	<0.2	87.9	12	<0.5	7.11	37.6	360
	6/7/2016	<0.2	87.1	11.7	<0.5	7.14	39.3	484
	8/31/2016	<0.2	66.6	11.1	<0.5	7.71	31.3	414
	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	0.79	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

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	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	6.9	46.2	508
	4/12/2021	0.0653J	66.9	5.5	0.441J	6.58	101	350
	10/4/2021	0.105	126	11.5	<0.275	6.99	47.4	510
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	5.4	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
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	7.4	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	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	8.9	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
NC2MW-6	3/14/2016	3.83	134	16.5	<0.5	7.21	314.0	728
	6/3/2016	4.14	93	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

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-6	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
NC2MW-7	3/14/2016	<0.2	134	6.55	0.312	6.92	6.9	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	0.544	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
	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
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

N.S. indicates analyte not sampled due to flooding of area around monitoring well.

"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 "<" symbol.

[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.

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

	Constituent	Appendix IV (Assessment Monitoring) Constituents													
		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	1.1	0.00127	<0.05	<0.0002	0.00288	<0.005	<0.001
	2/14/2017	<0.001	<0.002	0.3	<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	1.9	<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	0.023	<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
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	0.012	<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

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

	Constituent	Appendix IV (Assessment Monitoring) Constituents														
		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	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
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	0.69	<0.5	0.000623	<0.05	<0.0002	<0.002	<0.005	<0.001
	8/31/2016	<0.001	0.00623	0.342	<0.001	<0.0005	<0.005	0.00107	1.09	<0.5	<0.0005	<0.05	<0.0002	0.00216	<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	0.8	<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	0.0021	<0.005	<0.001
	7/13/2017	<0.001	0.00325	0.33	<0.001	<0.0005	<0.005	0.00108	0.502	<0.5	<0.0005	<0.05	<0.0002	0.00206	<0.005	<0.001
	3/12/2018	<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
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	0.12	<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

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

	Constituent	Appendix IV (Assessment Monitoring) Constituents													
		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	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
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	0.6	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
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	0.12	<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

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

	Constituent	Appendix IV (Assessment Monitoring) Constituents														
		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	0.064	<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
NC2MW-8[1]	10/3/2018	<0.001	0.0223	0.617	<0.001	<0.0005	<0.005	0.0025	1.7	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	0.036	<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

N.S. indicates analyte not sampled because NC2 was detection monitoring.

< 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.

* 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	237
Chloride	mg/l	36.6
Fluoride [1]	mg/l	1.28
pH (LPL) [2]	SU	6.48
pH (UPL) [3]	SU	7.92
Sulfate	mg/l	611
TDS	mg/l	1,390
Appendix IV (Assessment Monitoring)		
Antimony[4]	mg/l	0.0020
Arsenic	mg/l	0.0111
Barium	mg/l	0.390
Beryllium	mg/l	0.001
Cadmium	mg/l	0.000138
Chromium	mg/l	0.005
Cobalt	mg/l	0.00236
Fluoride [1]	mg/l	1.28
Lead	mg/l	0.0032
Lithium	mg/l	0.0423
Mercury	mg/l	0.0002
Molybdenum	mg/l	0.0339
Radium 226 + 228	pCi/l	1.97
Selenium	mg/l	0.0238
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.

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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	0.0111 [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).

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Appendix A

Field Sampling Forms

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NEBRASKA CITY STATION

Water Levels Prior to Purging (Feet Below TOC)

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

NOTES:

TOC = Top of Casing

NM = Not Measured, Inaccessible

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW2 - 7**	Date: 4/12/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Clear, Sunny, Breezy, 59°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	15:40	Pump Start Time	15:42
Static Water Level (+/- 0.01 feet)*	10.31	Purge Rate (mL/minute)	200-300
Bottom of Well Casing (+/- 0.01 feet)*	17.61	Time to Purge Well (hours:minutes)	0:11
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	4.51		
Actual Volume of Water Purged (mL)	2,700		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
15:47	1,500	13.48	2.20	20.2	6.37	1.58	10.73
15:50	2,100	13.49	2.17	12.2	6.35	1.58	10.77
15:53	2,700	13.55	2.12	11.9	6.34	1.57	10.80

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)
15:53	2,700	13.55	2.12	11.9	6.34	1.57	10.80
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	4/12/2021, 6:26
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: 4/12/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Sunny, Breezy, 55°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	13:50	Pump Start Time	13:53
Static Water Level (+/- 0.01 feet)*	7.36	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	16.00	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)	5.33		
Actual Volume of Water Purged (mL)	3,500		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
13:58	1,250	12.20	0.93	23.2	6.54	1.66	7.82
14:01	2,000	12.27	0.60	16.6	6.54	1.66	7.83
14:04	2,750	12.18	0.53	13.1	6.53	1.66	7.84
14:07	3,500	12.17	0.52	10.3	6.53	1.66	7.84

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
14:07	3,500	12.17	0.52	10.3	6.53	1.66	7.84
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		250

Sample Physical Characteristics / **Equipment Information**

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/12/2021, 6:26
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW4 - 2**	Date: 4/12/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Clear, Sunny, Windy, 46°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:53	Pump Start Time	9:57
Static Water Level (+/- 0.01 feet)*	6.46	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	14.50	Time to Purge Well (hours:minutes)	0:11
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	4.96		
Actual Volume of Water Purged (mL)	2,750		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
10:02	1,250	11.33	6.33	51.5	6.32	0.880	7.22
10:05	2,000	11.27	6.31	29.8	6.29	0.881	7.38
10:08	2,750	11.24	6.31	23.8	6.27	0.882	7.58

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
10:08	2,750	11.24	6.31	23.8	6.27	0.882	7.58
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		250

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/12/2021, 6:26
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW5 - 3**	Date: 4/12/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, Windy, 53°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	11:44	Pump Start Time	11:45
Static Water Level (+/- 0.01 feet)*	5.38	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	15.80	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)	6.43		
Actual Volume of Water Purged (mL)	2,750		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
11:50	1,250	10.66	2.50	6.0	6.60	1.09	5.89
11:53	2,000	10.64	2.46	5.0	6.62	1.08	5.90
11:56	2,750	10.70	2.38	3.7	6.60	1.07	5.90

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)
11:56	2,750	10.70	2.38	3.7	6.60	1.07	5.90
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		250

Sample Physical Characteristics **Equipment Information**

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/12/2021, 6:26
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW6 - 4**	Date: 4/12/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, Windy, 54°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	13:03	Pump Start Time	13:04
Static Water Level (+/- 0.01 feet)*	7.37	Purge Rate (mL/minute)	250
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)	4.40		
Actual Volume of Water Purged (mL)	3,500		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
13:09	1,250	11.00	7.44	7.9	6.69	0.760	7.80
13:12	2,000	10.98	8.62	6.3	6.65	0.758	7.88
13:15	2,750	10.79	8.67	7.1	6.65	0.756	7.93
13:18	3,500	10.64	8.74	7.4	6.65	0.757	7.99

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)
13:18	3,500	10.64	8.74	7.4	6.65	0.757	7.99
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		250

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/12/2021, 6:26
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW7 - 8**	Date: 4/12/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Mostly Clear, Sunny, Breezy, 61^{o}F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	17:46	Pump Start Time	17:52
Static Water Level (+/- 0.01 feet)*	6.54	Purge Rate (mL/minute)	300
Bottom of Well Casing (+/- 0.01 feet)*	24.10	Time to Purge Well (hours:minutes)	0:32
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	10.84		
Actual Volume of Water Purged (mL)	9,600		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
17:57	1,500	13.15	0.46	148	6.82	1.05	6.54
18:00	2,400	13.07	0.30	123	6.83	1.05	6.54
18:03	3,300	12.99	0.28	86.7	6.83	1.05	6.54
18:06	4,200	13.02	0.26	80.4	6.84	1.05	6.54
18:09	5,100	13.04	0.23	68.2	6.84	1.05	6.54
18:12	6,000	12.99	0.21	53.8	6.84	1.05	6.54
18:15	6,900	13.07	0.21	44.3	6.85	1.05	6.54
18:18	7,800	13.09	0.20	34.6	6.85	1.05	6.54
18:21	8,700	13.04	0.20	28.0	6.85	1.05	6.54
18:24	9,600	13.03	0.20	23.7	6.85	1.05	6.54

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
18:24	9,600	13.03	0.20	23.7	6.85	1.05	6.54
Duplicate?	Yes, DUP2	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		300

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/12/2021, 6:26
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: 4/12/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, Breezy, 55^{o}F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	14:30	Pump Start Time	14:31
Static Water Level (+/- 0.01 feet)*	5.78	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)	6.06		
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)
14:36	1,000	12.12	1.43	>1,000	6.68	1.06	5.79
14:39	1,600	12.10	0.72	>1,000	6.60	0.996	5.79
14:42	2,200	11.90	0.58	>1,000	6.57	0.984	5.79
14:45	2,800	11.80	0.54	>1,000	6.56	0.985	5.79
14:48	3,400	11.76	0.51	>1,000	6.56	0.982	5.79
14:51	4,000	11.61	0.46	558	6.55	0.984	5.79
14:54	4,600	11.57	0.42	171	6.56	0.986	5.79
14:57	5,200	11.49	0.37	170	6.56	0.988	5.79
15:00	5,800	11.44	0.39	127	6.56	0.990	5.79
15:03	6,400	11.45	0.37	87.3	6.56	0.992	5.79
15:06	7,000	11.35	0.34	67.2	6.56	0.997	5.79
15:09	7,600	11.35	0.30	52.1	6.57	0.994	5.79
15:12	8,200	11.27	0.27	43.3	6.57	0.996	5.79
15:15	8,800	11.20	0.27	21.4	6.58	0.997	5.79

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)
15:15	8,800	11.20	0.27	21.4	6.58	0.997	5.79
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	4/12/2021, 6:26

Notes / Unusual Occurrences: None - Orange Discharge for First 10 Minutes

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: 4/12/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Partly Cloudy, Sunny, Windy, 45°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:11	Pump Start Time	9:13
Static Water Level (+/- 0.01 feet)*	4.43	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	15.19	Time to Purge Well (hours:minutes)	0:11
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	6.64		
Actual Volume of Water Purged (mL)	2,750		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
9:18	1,250	11.40	0.99	34.2	6.70	0.640	4.48
9:21	2,000	11.20	0.93	24.1	6.59	0.638	4.49
9:24	2,750	11.12	0.98	23.1	6.58	0.640	4.49

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
9:24	2,750	11.12	0.98	23.1	6.58	0.640	4.49
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		250

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	4/12/2021, 6:26
Notes / Unusual Occurrences: None			

Equipment Calibration Sheet

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

Person Calibrating Instrument: Kyle K. Uhing

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

Parameter:	Reading	Units
pH 4	4.00	NA
Conductivity	4.46	µS/cm
Turbidity	0.0	NTU
DO	9.96	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

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NEBRASKA CITY STATION

Water Levels Prior to Purging (Feet Below TOC)

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

NOTES:

TOC = Top of Casing

NM = Not Measured, Inaccessible

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW2 - 7**	Date: 10/4/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 79°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	17:26	Pump Start Time	17:29
Static Water Level (+/- 0.01 feet)*	13.42	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	17.61	Time to Purge Well (hours:minutes)	0:14
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	2.59		
Actual Volume of Water Purged (mL)	3,500		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
17:34	1,250	18.44	0.95	8.0	7.03	1.19	13.88
17:37	2,000	18.41	0.44	10.2	6.97	1.18	13.94
17:40	2,750	18.32	0.41	7.5	6.93	1.17	13.99
17:43	3,500	18.31	0.41	7.3	6.91	1.17	14.02

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)
17:43	3,500	18.31	0.41	7.3	6.91	1.17	14.02
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		200

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/4/2021, 6:09
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW3 - 5**	Date: 10/4/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 81^{o}F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	16:08	Pump Start Time	16:10
Static Water Level (+/- 0.01 feet)*	Top of Pump	Purge Rate (mL/minute)	350
Bottom of Well Casing (+/- 0.01 feet)*	16.00	Time to Purge Well (hours:minutes)	0:14
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	Not Measured		
Actual Volume of Water Purged (mL)	4,900		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
16:15	1,750	20.12	0.58	23.9	7.07	1.34	Top of Pump
16:18	2,800	20.05	0.31	12.6	7.03	1.34	Top of Pump
16:21	3,850	20.03	0.32	8.8	7.02	1.34	Top of Pump
16:24	4,900	20.01	0.30	6.4	7.02	1.34	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)
16:24	4,900	20.01	0.30	6.4	7.02	1.34	Top of Pump
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		350

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/4/2021, 6:09
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: 10/4/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 65°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	10:21	Pump Start Time	10:24
Static Water Level (+/- 0.01 feet)*	10.11	Purge Rate (mL/minute)	125-350
Bottom of Well Casing (+/- 0.01 feet)*	14.50	Time to Purge Well (hours:minutes)	0:29
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	2.71		
Actual Volume of Water Purged (mL)	4,750		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
10:29	1,750	16.69	1.19	76.6	7.04	0.924	10.80
10:32	2,125	16.96	1.00	66.9	6.99	0.928	10.90
10:35	2,500	17.27	2.01	142	6.97	0.924	11.01
10:38	2,875	17.53	2.15	196	6.96	0.921	11.12
10:41	3,250	17.61	2.36	280	6.97	0.919	11.25
10:44	3,625	17.64	2.39	313	6.95	0.917	11.36
10:47	4,000	17.54	2.44	317	6.94	0.919	11.48
10:50	4,375	17.58	2.39	322	6.93	0.919	11.60
10:53	4,750	17.63	2.34	335	6.93	0.920	11.70

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
10:53	4,750	17.63	2.34	335	6.93	0.920	11.70
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		125

Sample Physical Characteristics / **Equipment Information**

Sample Clarity	Mostly Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Light Brown	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/4/2021, 6:09
Notes / Unusual Occurrences: None			

Field Notes For Monitoring Well Sampling

Facility Name: OPPD Nebraska City Station 2	Sampler Name(s): Kyle K. Uhing (29481)
Monitoring Well Identification - Sample Number: **MW5 - 3**	Date: 10/4/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 77°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	12:30	Pump Start Time	12:32
Static Water Level (+/- 0.01 feet)*	13.04	Purge Rate (mL/minute)	150
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)	1.70		
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)
12:37	750	17.70	2.61	60.5	7.17	1.28	Top of Pump
12:40	1,200	17.78	1.84	47.4	7.20	1.29	Top of Pump
12:43	1,650	17.88	1.82	36.6	7.19	1.29	Top of Pump
12:46	2,100	18.09	1.95	22.3	7.19	1.29	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)
12:46	2,100	18.09	1.95	22.3	7.19	1.29	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	10/4/2021, 6:09
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: 10/4/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 81°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	15:17	Pump Start Time	15:18
Static Water Level (+/- 0.01 feet)*	10.29	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	14.50	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)	2.60		
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)
15:23	1,250	19.84	1.27	18.4	7.34	0.944	10.74
15:26	2,000	19.66	1.35	20.5	7.29	0.938	10.92
15:29	2,750	19.59	1.92	36.4	7.23	0.920	11.17
15:32	3,500	19.58	1.87	38.2	7.22	0.918	11.28
15:35	4,250	19.41	1.79	29.6	7.21	0.917	11.65
15:38	5,000	19.42	1.80	23.4	7.20	0.919	12.05

Well Evacuated to Dryness? No

Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
15:38	5,000	19.42	1.80	23.4	7.20	0.919	12.05
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		250

Sample Physical Characteristics / **Equipment Information**

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/4/2021, 6:09

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: **MW7 - 8**	Date: 10/4/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 77°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	18:06	Pump Start Time	18:09
Static Water Level (+/- 0.01 feet)*	9.38	Purge Rate (mL/minute)	250
Bottom of Well Casing (+/- 0.01 feet)*	24.10	Time to Purge Well (hours:minutes)	0:26
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	9.09		
Actual Volume of Water Purged (mL)	6,500		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
18:14	1,250	21.37	0.34	212	7.31	0.898	9.39
18:17	2,000	21.00	0.24	143	7.36	0.900	9.39
18:20	2,750	20.84	0.23	127	7.37	0.901	9.39
18:23	3,500	20.65	0.22	63.1	7.37	0.902	9.39
18:26	4,250	20.45	0.24	50.1	7.38	0.904	9.39
18:29	5,000	20.31	0.23	37.3	7.39	0.905	9.39
18:32	5,750	20.15	0.27	30.7	7.39	0.908	9.39
18:35	6,500	20.03	0.26	23.3	7.38	0.909	9.39

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
18:35	6,500	20.03	0.26	23.3	7.38	0.909	9.39
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	10/4/2021, 6:09
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: 10/4/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 82°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	16:43	Pump Start Time	16:46
Static Water Level (+/- 0.01 feet)*	9.10	Purge Rate (mL/minute)	200
Bottom of Well Casing (+/- 0.01 feet)*	15.60	Time to Purge Well (hours:minutes)	0:14
Pump Intake Elevation (+/- 0.01 feet)*	Not Measured	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	4.01		
Actual Volume of Water Purged (mL)	2,800		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
16:51	1,000	18.38	0.75	538.0	7.26	0.927	9.10
16:54	1,600	17.72	0.50	172	7.25	0.923	9.10
16:57	2,200	17.52	0.44	61.8	7.26	0.928	9.10
17:00	2,800	17.50	0.41	21.6	7.26	0.928	9.10

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)
17:00	2,800	17.50	0.41	21.6	7.26	0.928	9.10
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		200

Sample Physical Characteristics **Equipment Information**

Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/4/2021, 6:09

Notes / Unusual Occurrences: None - Orange Discharge for First 10 Minutes

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: 10/4/2021
Wellhead Inspection (Condition): Compliant	Weather Conditions: Clear, Sunny, 61°F

Groundwater Measurements and Purge Data

Time of Water Level Measurement	9:33	Pump Start Time	9:39
Static Water Level (+/- 0.01 feet)*	8.23	Purge Rate (mL/minute)	200
Bottom of Well Casing (+/- 0.01 feet)*	15.19	Time to Purge Well (hours:minutes)	0:20
Pump Intake Elevation (+/- 0.01 feet)*	908.30	Purge and Sample Equipment: Dedicated Bladder Pump with QED Flow Controller and Nitrogen Gas, Graduated Measuring Bucket and Cup, Multi-Parameter Water Meter, and Electronic Water Level Indicator	
2" Well Casing Volume (L)	4.30		
Actual Volume of Water Purged (mL)	4,000		

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

Groundwater Parameter Data

Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
9:44	1,000	17.13	1.47	21.5	7.05	1.03	8.27
9:47	1,600	17.06	1.22	11.5	7.01	1.04	8.27
9:50	2,200	17.07	0.97	7.4	6.99	1.04	8.27
9:53	2,800	17.09	0.95	6.2	6.99	1.03	8.27
9:56	3,400	17.10	0.90	5.3	6.99	1.03	8.27
9:59	4,000	17.09	0.89	5.0	6.99	1.02	8.27

Well Evacuated to Dryness? No Recharge time? Not Measured

Groundwater Sample Information

Sample Time	Volume Purged (mL)	Temperature (°C)	DO (mg/L)	Turbidity (NTU)	pH	Conductivity (mS/cm)	Water Level (feet)
9:59	4,000	17.09	0.89	5.0	6.99	1.02	8.27
Duplicate?	No	Preservation?	Cool on Ice, HNO_3 for Metals		Pump Rate (mL/minute)		200

Sample Physical Characteristics		**Equipment Information**	
Sample Clarity	Clear	QED Pump Control Information	CPM-2, 27/3, ~20 psi
Sample Color	Clear	Decontamination Procedure	Alconox and DI Water Rinse
Sample Odor	Odorless	Instrument Calibration By	Kyle K. Uhing
Immiscible Layer Observed? If so, thickness?	No	Date and Time of Calibration	10/4/2021, 6:09
Notes / Unusual Occurrences: None			

Equipment Calibration Sheet

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

Person Calibrating Instrument: Kyle K. Uhing

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

Parameter:	Reading	Units
pH 4	4.00	NA
Conductivity	4.46	µS/cm
Turbidity	0.0	NTU
DO	10.09	mg/L

Comments:

The Horiba was calibrated using pH 4.0 AutoCal buffer solution.

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Appendix B

Laboratory Analytical Reports

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eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-204265-1
Client Project/Site: Nebraska City Unit 2 CCR/Landfill

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

Attn: Kyle Uhing

Authorized for release by:
4/23/2021 5:30:02 PM

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

Table of Contents

Case Narrative

Client: Omaha Public Power District
Job ID: 310-204265-1
Project/Site: Nebraska City Unit 2 CCR/Landfill

Job ID: 310-204265-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-204265-1

Comments
No additional comments.

Receipt
The samples were received on 4/14/2021 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were -1.1° C, -0.8° C and 0.0° C.

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

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

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

Sample Summary

Client: Omaha Public Power District
Job ID: 310-204265-1
Project/Site: Nebraska City Unit 2 CCR/Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-204265-1	NC2MW2	Water	04/12/21 15:53	04/14/21 09:30	
310-204265-2	NC2MW3	Water	04/12/21 14:07	04/14/21 09:30	
310-204265-3	NC2MW5	Water	04/12/21 11:56	04/14/21 09:30	
310-204265-4	NC2MW6	Water	04/12/21 13:18	04/14/21 09:30	
310-204265-5	NC2MW7	Water	04/12/21 18:24	04/14/21 09:30	
310-204265-6	NC2MW8	Water	04/12/21 15:15	04/14/21 09:30	
310-204265-7	DUP2	Water	04/12/21 00:00	04/14/21 09:30	

Detection Summary

Client: Omaha Public Power District
Job ID: 310-204265-1
Project/Site: Nebraska City Unit 2 CCR/Landfill

Client Sample ID: NC2MW2 — Lab Sample ID: 310-204265-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	24.7		5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	0.392	J	0.500	0.275	mg/L	5		9056A	Total/NA
Sulfate	458		5.00	2.45	mg/L	5		9056A	Total/NA
Antimony	0.00524		0.00200	0.00110	mg/L	1		6020A	Total/NA
Barium	0.0967		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	0.371		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.0000690	J	0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	235		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000118	J	0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lead	0.000752		0.000500	0.000210	mg/L	1		6020A	Total/NA
Lithium	0.0311		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0178		0.00200	0.00130	mg/L	1		6020A	Total/NA
Selenium	0.00641		0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	1040		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW3 — Lab Sample ID: 310-204265-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	22.7		5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	1.37		0.500	0.275	mg/L	5		9056A	Total/NA
Sulfate	379		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.00113	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.113		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	0.271		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.0000680	J	0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	141		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000188	J	0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lithium	0.0146		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00306		0.00200	0.00130	mg/L	1		6020A	Total/NA
Total Dissolved Solids	1080		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW5 — Lab Sample ID: 310-204265-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.45		5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	0.356	J	0.500	0.275	mg/L	5		9056A	Total/NA
Sulfate	203		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.00170	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.0245		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	2.24		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	114		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000105	J	0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lithium	0.00783	J	0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0252		0.00200	0.00130	mg/L	1		6020A	Total/NA
Selenium	0.00867		0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	606		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW6 — Lab Sample ID: 310-204265-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3.57	J	5.00	2.15	mg/L	5		9056A	Total/NA
Sulfate	101		5.00	2.45	mg/L	5		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Omaha Public Power District
Job ID: 310-204265-1
Project/Site: Nebraska City Unit 2 CCR/Landfill

Client Sample ID: NC2MW6 (Continued) — Lab Sample ID: 310-204265-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0825		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	1.94		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	90.4		0.500	0.190	mg/L	1		6020A	Total/NA
Chromium	0.00176	J	0.00500	0.00110	mg/L	1		6020A	Total/NA
Lead	0.000264	J	0.000500	0.000210	mg/L	1		6020A	Total/NA
Lithium	0.0143		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0207		0.00200	0.00130	mg/L	1		6020A	Total/NA
Selenium	0.00154	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	406		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW7 — Lab Sample ID: 310-204265-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.69		5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	0.415	J	0.500	0.275	mg/L	5		9056A	Total/NA
Arsenic	0.0439		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.530		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	0.227		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	124		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000384	J	0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lithium	0.0640		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00195	J	0.00200	0.00130	mg/L	1		6020A	Total/NA
Total Dissolved Solids	494		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW8 — Lab Sample ID: 310-204265-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11.8		5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	0.393	J	0.500	0.275	mg/L	5		9056A	Total/NA
Sulfate	7.34		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.0108		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.489		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	0.0894	J	0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.0000520	J	0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	121		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00220		0.000500	0.0000910	mg/L	1		6020A	Total/NA
Lead	0.000490	J	0.000500	0.000210	mg/L	1		6020A	Total/NA
Lithium	0.0340		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00267		0.00200	0.00130	mg/L	1		6020A	Total/NA
Selenium	0.00142	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	470		30.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP2 — Lab Sample ID: 310-204265-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.81		5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	0.418	J	0.500	0.275	mg/L	5		9056A	Total/NA
Arsenic	0.0451		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.551		0.00200	0.000300	mg/L	1		6020A	Total/NA
Boron	0.189		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	126		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000394	J	0.000500	0.0000910	mg/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

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

Job ID: 310-204265-1

Client Sample ID: DUP2 (Continued)

Lab Sample ID: 310-204265-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0652		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00201		0.00200	0.00130	mg/L	1		6020A	Total/NA
Total Dissolved Solids	476		30.0	26.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

Job ID: 310-204265-1

Client Sample ID: NC2MW2

Lab Sample ID: 310-204265-1

Date Collected: 04/12/21 15:53
Matrix: Water
Date Received: 04/14/21 09:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24.7		5.00	2.15	mg/L			04/20/21 04:13	5
Fluoride	0.392	J	0.500	0.275	mg/L			04/20/21 04:13	5
Sulfate	458		5.00	2.45	mg/L			04/20/21 04:13	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00524		0.00200	0.00110	mg/L		04/15/21 09:19	04/21/21 21:35	1
Arsenic	<0.000750		0.00200	0.000750	mg/L		04/15/21 09:19	04/21/21 21:35	1
Barium	0.0967		0.00200	0.000300	mg/L		04/15/21 09:19	04/21/21 21:35	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/15/21 09:19	04/21/21 21:35	1
Boron	0.371		0.100	0.0580	mg/L		04/15/21 09:19	04/21/21 21:35	1
Cadmium	0.0000690	J	0.000100	0.0000510	mg/L		04/15/21 09:19	04/21/21 21:35	1
Calcium	235		0.500	0.190	mg/L		04/15/21 09:19	04/21/21 21:35	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/15/21 09:19	04/21/21 21:35	1
Cobalt	0.000118	J	0.000500	0.0000910	mg/L		04/15/21 09:19	04/21/21 21:35	1
Lead	0.000752		0.000500	0.000210	mg/L		04/15/21 09:19	04/21/21 21:35	1
Lithium	0.0311		0.0100	0.00250	mg/L		04/15/21 09:19	04/21/21 21:35	1
Molybdenum	0.0178		0.00200	0.00130	mg/L		04/15/21 09:19	04/21/21 21:35	1
Selenium	0.00641		0.00500	0.000960	mg/L		04/15/21 09:19	04/21/21 21:35	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/15/21 09:19	04/21/21 21:35	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:33	04/21/21 16:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1040		30.0	26.0	mg/L			04/15/21 13:32	1

Client Sample Results

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

Job ID: 310-204265-1

Client Sample ID: NC2MW3
Date Collected: 04/12/21 14:07
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204265-2
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**22.7**		5.00	2.15	mg/L			04/20/21 04:29	5
Fluoride	**1.37**		0.500	0.275	mg/L			04/20/21 04:29	5
Sulfate	**379**		5.00	2.45	mg/L			04/20/21 04:29	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/15/21 09:19	04/21/21 21:38	1
Arsenic	**0.00113**	**J**	0.00200	0.000750	mg/L		04/15/21 09:19	04/21/21 21:38	1
Barium	**0.113**		0.00200	0.000300	mg/L		04/15/21 09:19	04/21/21 21:38	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/15/21 09:19	04/21/21 21:38	1
Boron	**0.271**		0.100	0.0580	mg/L		04/15/21 09:19	04/21/21 21:38	1
Cadmium	**0.0000680**	**J**	0.000100	0.0000510	mg/L		04/15/21 09:19	04/21/21 21:38	1
Calcium	**141**		0.500	0.190	mg/L		04/15/21 09:19	04/21/21 21:38	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/15/21 09:19	04/21/21 21:38	1
Cobalt	**0.000188**	**J**	0.000500	0.0000910	mg/L		04/15/21 09:19	04/21/21 21:38	1
Lead	<0.000210		0.000500	0.000210	mg/L		04/15/21 09:19	04/21/21 21:38	1
Lithium	**0.0146**		0.0100	0.00250	mg/L		04/15/21 09:19	04/21/21 21:38	1
Molybdenum	**0.00306**		0.00200	0.00130	mg/L		04/15/21 09:19	04/21/21 21:38	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/15/21 09:19	04/21/21 21:38	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/15/21 09:19	04/21/21 21:38	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:33	04/21/21 16:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1080**		30.0	26.0	mg/L			04/15/21 13:32	1

Client Sample Results

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

Job ID: 310-204265-1

Client Sample ID: NC2MW5
Date Collected: 04/12/21 11:56
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204265-3
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.45**		5.00	2.15	mg/L			04/20/21 04:44	5
Fluoride	**0.356**	**J**	0.500	0.275	mg/L			04/20/21 04:44	5
Sulfate	**203**		5.00	2.45	mg/L			04/20/21 04:44	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/15/21 09:19	04/21/21 21:40	1
Arsenic	**0.00170**	**J**	0.00200	0.000750	mg/L		04/15/21 09:19	04/21/21 21:40	1
Barium	**0.0245**		0.00200	0.000300	mg/L		04/15/21 09:19	04/21/21 21:40	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/15/21 09:19	04/21/21 21:40	1
Boron	**2.24**		0.100	0.0580	mg/L		04/15/21 09:19	04/21/21 21:40	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		04/15/21 09:19	04/21/21 21:40	1
Calcium	**114**		0.500	0.190	mg/L		04/15/21 09:19	04/21/21 21:40	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/15/21 09:19	04/21/21 21:40	1
Cobalt	**0.000105**	**J**	0.000500	0.0000910	mg/L		04/15/21 09:19	04/21/21 21:40	1
Lead	<0.000210		0.000500	0.000210	mg/L		04/15/21 09:19	04/21/21 21:40	1
Lithium	**0.00783**	**J**	0.0100	0.00250	mg/L		04/15/21 09:19	04/21/21 21:40	1
Molybdenum	**0.0252**		0.00200	0.00130	mg/L		04/15/21 09:19	04/21/21 21:40	1
Selenium	**0.00867**		0.00500	0.000960	mg/L		04/15/21 09:19	04/21/21 21:40	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/15/21 09:19	04/21/21 21:40	1

Method: 7470A - Mercury (CVAA)

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

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**606**		30.0	26.0	mg/L			04/15/21 13:32	1

Client Sample Results

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

Job ID: 310-204265-1

Client Sample ID: NC2MW6
Date Collected: 04/12/21 13:18
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204265-4
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3.57**	**J**	5.00	2.15	mg/L			04/20/21 05:00	5
Fluoride	<0.275		0.500	0.275	mg/L			04/20/21 05:00	5
Sulfate	**101**		5.00	2.45	mg/L			04/20/21 05:00	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/15/21 09:19	04/21/21 21:43	1
Arsenic	<0.000750		0.00200	0.000750	mg/L		04/15/21 09:19	04/21/21 21:43	1
Barium	**0.0825**		0.00200	0.000300	mg/L		04/15/21 09:19	04/21/21 21:43	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/15/21 09:19	04/21/21 21:43	1
Boron	**1.94**		0.100	0.0580	mg/L		04/15/21 09:19	04/21/21 21:43	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		04/15/21 09:19	04/21/21 21:43	1
Calcium	**90.4**		0.500	0.190	mg/L		04/15/21 09:19	04/21/21 21:43	1
Chromium	**0.00176**	**J**	0.00500	0.00110	mg/L		04/15/21 09:19	04/21/21 21:43	1
Cobalt	<0.0000910		0.000500	0.0000910	mg/L		04/15/21 09:19	04/21/21 21:43	1
Lead	**0.000264**	**J**	0.000500	0.000210	mg/L		04/15/21 09:19	04/21/21 21:43	1
Lithium	**0.0143**		0.0100	0.00250	mg/L		04/15/21 09:19	04/21/21 21:43	1
Molybdenum	**0.0207**		0.00200	0.00130	mg/L		04/15/21 09:19	04/21/21 21:43	1
Selenium	**0.00154**	**J**	0.00500	0.000960	mg/L		04/15/21 09:19	04/21/21 21:43	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/15/21 09:19	04/21/21 21:43	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:33	04/21/21 16:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**406**		30.0	26.0	mg/L			04/15/21 13:32	1

Client Sample Results

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

Job ID: 310-204265-1

Client Sample ID: NC2MW7
Date Collected: 04/12/21 18:24
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204265-5
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8.69**		5.00	2.15	mg/L			04/20/21 05:47	5
Fluoride	**0.415**	**J**	0.500	0.275	mg/L			04/20/21 05:47	5
Sulfate	<2.45		5.00	2.45	mg/L			04/20/21 05:47	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/15/21 09:19	04/21/21 21:48	1
Arsenic	**0.0439**		0.00200	0.000750	mg/L		04/15/21 09:19	04/21/21 21:48	1
Barium	**0.530**		0.00200	0.000300	mg/L		04/15/21 09:19	04/21/21 21:48	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/15/21 09:19	04/21/21 21:48	1
Boron	**0.227**		0.100	0.0580	mg/L		04/15/21 09:19	04/21/21 21:48	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		04/15/21 09:19	04/21/21 21:48	1
Calcium	**124**		0.500	0.190	mg/L		04/15/21 09:19	04/21/21 21:48	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/15/21 09:19	04/21/21 21:48	1
Cobalt	**0.000384**	**J**	0.000500	0.0000910	mg/L		04/15/21 09:19	04/21/21 21:48	1
Lead	<0.000210		0.000500	0.000210	mg/L		04/15/21 09:19	04/21/21 21:48	1
Lithium	**0.0640**		0.0100	0.00250	mg/L		04/15/21 09:19	04/21/21 21:48	1
Molybdenum	**0.00195**	**J**	0.00200	0.00130	mg/L		04/15/21 09:19	04/21/21 21:48	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/15/21 09:19	04/21/21 21:48	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/15/21 09:19	04/21/21 21:48	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:33	04/21/21 16:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**494**		30.0	26.0	mg/L			04/15/21 13:32	1

Client Sample Results

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

Job ID: 310-204265-1

Client Sample ID: NC2MW8
Date Collected: 04/12/21 15:15
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204265-6
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11.8**		5.00	2.15	mg/L			04/20/21 06:03	5
Fluoride	**0.393**	**J**	0.500	0.275	mg/L			04/20/21 06:03	5
Sulfate	**7.34**		5.00	2.45	mg/L			04/20/21 06:03	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/15/21 09:19	04/21/21 22:02	1
Arsenic	**0.0108**		0.00200	0.000750	mg/L		04/15/21 09:19	04/21/21 22:02	1
Barium	**0.489**		0.00200	0.000300	mg/L		04/15/21 09:19	04/21/21 22:02	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/15/21 09:19	04/21/21 22:02	1
Boron	**0.0894**	**J**	0.100	0.0580	mg/L		04/15/21 09:19	04/21/21 22:02	1
Cadmium	**0.0000520**	**J**	0.000100	0.0000510	mg/L		04/15/21 09:19	04/21/21 22:02	1
Calcium	**121**		0.500	0.190	mg/L		04/15/21 09:19	04/21/21 22:02	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/15/21 09:19	04/21/21 22:02	1
Cobalt	**0.00220**		0.000500	0.0000910	mg/L		04/15/21 09:19	04/21/21 22:02	1
Lead	**0.000490**	**J**	0.000500	0.000210	mg/L		04/15/21 09:19	04/21/21 22:02	1
Lithium	**0.0340**		0.0100	0.00250	mg/L		04/15/21 09:19	04/21/21 22:02	1
Molybdenum	**0.00267**		0.00200	0.00130	mg/L		04/15/21 09:19	04/21/21 22:02	1
Selenium	**0.00142**	**J**	0.00500	0.000960	mg/L		04/15/21 09:19	04/21/21 22:02	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/15/21 09:19	04/21/21 22:02	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:33	04/21/21 16:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**470**		30.0	26.0	mg/L			04/15/21 13:32	1

Client Sample Results

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

Job ID: 310-204265-1

Client Sample ID: DUP2
Date Collected: 04/12/21 00:00
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204265-7
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8.81**		5.00	2.15	mg/L			04/20/21 06:18	5
Fluoride	**0.418**	**J**	0.500	0.275	mg/L			04/20/21 06:18	5
Sulfate	<2.45		5.00	2.45	mg/L			04/20/21 06:18	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		04/15/21 09:19	04/21/21 22:04	1
Arsenic	**0.0451**		0.00200	0.000750	mg/L		04/15/21 09:19	04/21/21 22:04	1
Barium	**0.551**		0.00200	0.000300	mg/L		04/15/21 09:19	04/21/21 22:04	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		04/15/21 09:19	04/21/21 22:04	1
Boron	**0.189**		0.100	0.0580	mg/L		04/15/21 09:19	04/21/21 22:04	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		04/15/21 09:19	04/21/21 22:04	1
Calcium	**126**		0.500	0.190	mg/L		04/15/21 09:19	04/21/21 22:04	1
Chromium	<0.00110		0.00500	0.00110	mg/L		04/15/21 09:19	04/21/21 22:04	1
Cobalt	**0.000394**	**J**	0.000500	0.0000910	mg/L		04/15/21 09:19	04/21/21 22:04	1
Lead	<0.000210		0.000500	0.000210	mg/L		04/15/21 09:19	04/21/21 22:04	1
Lithium	**0.0652**		0.0100	0.00250	mg/L		04/15/21 09:19	04/21/21 22:04	1
Molybdenum	**0.00201**		0.00200	0.00130	mg/L		04/15/21 09:19	04/21/21 22:04	1
Selenium	<0.000960		0.00500	0.000960	mg/L		04/15/21 09:19	04/21/21 22:04	1
Thallium	<0.000260		0.00100	0.000260	mg/L		04/15/21 09:19	04/21/21 22:04	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		04/20/21 14:33	04/21/21 16:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**476**		30.0	26.0	mg/L			04/15/21 13:32	1

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-204265-1
Project/Site: Nebraska City 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.

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: 310-204265-1
Project/Site: Nebraska City Unit 2 CCR/Landfill

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-313625/3
Matrix: Water
Analysis Batch: 313625
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.430		1.00	0.430	mg/L			04/20/21 02:40	1
Fluoride	<0.0550		0.100	0.0550	mg/L			04/20/21 02:40	1
Sulfate	<0.490		1.00	0.490	mg/L			04/20/21 02:40	1

Lab Sample ID: LCS 310-313625/4
Matrix: Water
Analysis Batch: 313625
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	9.788		mg/L		98	90 - 110
Fluoride	2.00	2.201		mg/L		110	90 - 110
Sulfate	10.0	10.51		mg/L		105	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-312828/1-A
Matrix: Water
Analysis Batch: 313546
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312828

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

Lab Sample ID: LCS 310-312828/2-A
Matrix: Water
Analysis Batch: 313546
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312828

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

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

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

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

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

Lab Sample ID: 310-204265-4 DU
Matrix: Water
Analysis Batch: 313546

Client Sample ID: NC2MW6
Prep Type: Total/NA
Prep Batch: 312828

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.00110		<0.00110		mg/L		NC	20
Arsenic	<0.000750		<0.000750		mg/L		NC	20
Barium	0.0825		0.08312		mg/L		0.7	20
Beryllium	<0.000270		<0.000270		mg/L		NC	20
Boron	1.94		1.928		mg/L		0.4	20
Cadmium	<0.0000510		<0.0000510		mg/L		NC	20
Calcium	90.4		89.46		mg/L		1	20
Chromium	0.00176	J	0.001763	J	mg/L		0.06	20
Cobalt	<0.0000910		<0.0000910		mg/L		NC	20
Lead	0.000264	J	0.0002620	J	mg/L		0.8	20
Lithium	0.0143		0.01426		mg/L		0.6	20
Molybdenum	0.0207		0.02059		mg/L		0.5	20
Selenium	0.00154	J	0.001556	J	mg/L		0.8	20
Thallium	<0.000260		<0.000260		mg/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-313369/1-A
Matrix: Water
Analysis Batch: 313511

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 313369

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

Lab Sample ID: LCS 310-313369/2-A
Matrix: Water
Analysis Batch: 313511

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 313369

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

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

Lab Sample ID: MB 310-312885/1
Matrix: Water
Analysis Batch: 312885

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

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

QC Sample Results

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

Job ID: 310-204265-1

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

Lab Sample ID: LCS 310-312885/2
Matrix: Water
Analysis Batch: 312885

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

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

HPLC/IC

Analysis Batch: 313625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204265-1	NC2MW2	Total/NA	Water	9056A	
310-204265-2	NC2MW3	Total/NA	Water	9056A	
310-204265-3	NC2MW5	Total/NA	Water	9056A	
310-204265-4	NC2MW6	Total/NA	Water	9056A	
310-204265-5	NC2MW7	Total/NA	Water	9056A	
310-204265-6	NC2MW8	Total/NA	Water	9056A	
310-204265-7	DUP2	Total/NA	Water	9056A	
MB 310-313625/3	Method Blank	Total/NA	Water	9056A	
LCS 310-313625/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 312828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204265-1	NC2MW2	Total/NA	Water	3010A	
310-204265-2	NC2MW3	Total/NA	Water	3010A	
310-204265-3	NC2MW5	Total/NA	Water	3010A	
310-204265-4	NC2MW6	Total/NA	Water	3010A	
310-204265-5	NC2MW7	Total/NA	Water	3010A	
310-204265-6	NC2MW8	Total/NA	Water	3010A	
310-204265-7	DUP2	Total/NA	Water	3010A	
MB 310-312828/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-312828/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-204265-4 DU	NC2MW6	Total/NA	Water	3010A	

Prep Batch: 313369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204265-1	NC2MW2	Total/NA	Water	7470A	
310-204265-2	NC2MW3	Total/NA	Water	7470A	
310-204265-3	NC2MW5	Total/NA	Water	7470A	
310-204265-4	NC2MW6	Total/NA	Water	7470A	
310-204265-5	NC2MW7	Total/NA	Water	7470A	
310-204265-6	NC2MW8	Total/NA	Water	7470A	
310-204265-7	DUP2	Total/NA	Water	7470A	
MB 310-313369/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-313369/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 313511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204265-1	NC2MW2	Total/NA	Water	7470A	313369
310-204265-2	NC2MW3	Total/NA	Water	7470A	313369
310-204265-3	NC2MW5	Total/NA	Water	7470A	313369
310-204265-4	NC2MW6	Total/NA	Water	7470A	313369
310-204265-5	NC2MW7	Total/NA	Water	7470A	313369
310-204265-6	NC2MW8	Total/NA	Water	7470A	313369
310-204265-7	DUP2	Total/NA	Water	7470A	313369
MB 310-313369/1-A	Method Blank	Total/NA	Water	7470A	313369
LCS 310-313369/2-A	Lab Control Sample	Total/NA	Water	7470A	313369

Metals

Analysis Batch: 313546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204265-1	NC2MW2	Total/NA	Water	6020A	312828
310-204265-2	NC2MW3	Total/NA	Water	6020A	312828
310-204265-3	NC2MW5	Total/NA	Water	6020A	312828
310-204265-4	NC2MW6	Total/NA	Water	6020A	312828
310-204265-5	NC2MW7	Total/NA	Water	6020A	312828
310-204265-6	NC2MW8	Total/NA	Water	6020A	312828
310-204265-7	DUP2	Total/NA	Water	6020A	312828
MB 310-312828/1-A	Method Blank	Total/NA	Water	6020A	312828
LCS 310-312828/2-A	Lab Control Sample	Total/NA	Water	6020A	312828
310-204265-4 DU	NC2MW6	Total/NA	Water	6020A	312828

General Chemistry

Analysis Batch: 312885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204265-1	NC2MW2	Total/NA	Water	SM 2540C	
310-204265-2	NC2MW3	Total/NA	Water	SM 2540C	
310-204265-3	NC2MW5	Total/NA	Water	SM 2540C	
310-204265-4	NC2MW6	Total/NA	Water	SM 2540C	
310-204265-5	NC2MW7	Total/NA	Water	SM 2540C	
310-204265-6	NC2MW8	Total/NA	Water	SM 2540C	
310-204265-7	DUP2	Total/NA	Water	SM 2540C	
MB 310-312885/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-312885/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Client Sample ID: NC2MW2 — **Lab Sample ID: 310-204265-1**
Date Collected: 04/12/21 15:53 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313625	04/20/21 04:13	SAD	TAL CF
Total/NA	Prep	3010A			312828	04/15/21 09:19	CJT	TAL CF
Total/NA	Analysis	6020A		1	313546	04/21/21 21:35	SAD	TAL CF
Total/NA	Prep	7470A			313369	04/20/21 14:33	HED	TAL CF
Total/NA	Analysis	7470A		1	313511	04/21/21 16:17	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312885	04/15/21 13:32	SAS	TAL CF

Client Sample ID: NC2MW3 — **Lab Sample ID: 310-204265-2**
Date Collected: 04/12/21 14:07 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313625	04/20/21 04:29	SAD	TAL CF
Total/NA	Prep	3010A			312828	04/15/21 09:19	CJT	TAL CF
Total/NA	Analysis	6020A		1	313546	04/21/21 21:38	SAD	TAL CF
Total/NA	Prep	7470A			313369	04/20/21 14:33	HED	TAL CF
Total/NA	Analysis	7470A		1	313511	04/21/21 16:19	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312885	04/15/21 13:32	SAS	TAL CF

Client Sample ID: NC2MW5 — **Lab Sample ID: 310-204265-3**
Date Collected: 04/12/21 11:56 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313625	04/20/21 04:44	SAD	TAL CF
Total/NA	Prep	3010A			312828	04/15/21 09:19	CJT	TAL CF
Total/NA	Analysis	6020A		1	313546	04/21/21 21:40	SAD	TAL CF
Total/NA	Prep	7470A			313369	04/20/21 14:33	HED	TAL CF
Total/NA	Analysis	7470A		1	313511	04/21/21 16:21	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312885	04/15/21 13:32	SAS	TAL CF

Client Sample ID: NC2MW6 — **Lab Sample ID: 310-204265-4**
Date Collected: 04/12/21 13:18 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313625	04/20/21 05:00	SAD	TAL CF
Total/NA	Prep	3010A			312828	04/15/21 09:19	CJT	TAL CF
Total/NA	Analysis	6020A		1	313546	04/21/21 21:43	SAD	TAL CF
Total/NA	Prep	7470A			313369	04/20/21 14:33	HED	TAL CF
Total/NA	Analysis	7470A		1	313511	04/21/21 16:23	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312885	04/15/21 13:32	SAS	TAL CF

Client Sample ID: NC2MW7 — **Lab Sample ID: 310-204265-5**
Date Collected: 04/12/21 18:24 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313625	04/20/21 05:47	SAD	TAL CF
Total/NA	Prep	3010A			312828	04/15/21 09:19	CJT	TAL CF
Total/NA	Analysis	6020A		1	313546	04/21/21 21:48	SAD	TAL CF
Total/NA	Prep	7470A			313369	04/20/21 14:33	HED	TAL CF
Total/NA	Analysis	7470A		1	313511	04/21/21 16:26	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312885	04/15/21 13:32	SAS	TAL CF

Client Sample ID: NC2MW8 — **Lab Sample ID: 310-204265-6**
Date Collected: 04/12/21 15:15 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313625	04/20/21 06:03	SAD	TAL CF
Total/NA	Prep	3010A			312828	04/15/21 09:19	CJT	TAL CF
Total/NA	Analysis	6020A		1	313546	04/21/21 22:02	SAD	TAL CF
Total/NA	Prep	7470A			313369	04/20/21 14:33	HED	TAL CF
Total/NA	Analysis	7470A		1	313511	04/21/21 16:28	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312885	04/15/21 13:32	SAS	TAL CF

Client Sample ID: DUP2 — **Lab Sample ID: 310-204265-7**
Date Collected: 04/12/21 00:00 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313625	04/20/21 06:18	SAD	TAL CF
Total/NA	Prep	3010A			312828	04/15/21 09:19	CJT	TAL CF
Total/NA	Analysis	6020A		1	313546	04/21/21 22:04	SAD	TAL CF
Total/NA	Prep	7470A			313369	04/20/21 14:33	HED	TAL CF
Total/NA	Analysis	7470A		1	313511	04/21/21 16:30	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312885	04/15/21 13:32	SAS	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-204265-1
Project/Site: Nebraska City Unit 2 CCR/Landfill

Laboratory: Eurofins TestAmerica, Cedar Falls

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

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

Method Summary

Client: Omaha Public Power District
Job ID: 310-204265-1
Project/Site: Nebraska City Unit 2 CCR/Landfill

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

Protocol References:

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

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

Laboratory References:

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

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310-204265 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

City/State: CITY Omaha STATE NE

Project: Nebraska City

Receipt Information

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

Received By: AM

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

Condition of Cooler/Containers

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

Temperature Record

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

Thermometer ID: P — Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): -0.9 — Corrected Temp (°C): -0.8

Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

NC1MW2 NC1MW7
NC2MW4 MW11
NC2MW3

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

City/State: CITY Omaha STATE NE

Project: Nebraska City

Receipt Information

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

Received By: AM

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

Condition of Cooler/Containers

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

Temperature Record

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

Thermometer ID: P — Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): -1.2 — Corrected Temp (°C): -1.1

Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

NC2MW5A NC2MW7
NC2MW5
Dup-2

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Cooler/Sample Receipt and Temperature Log Form

Client Information

Client:	Omaha Public Power
City/State:	CITY Omaha STATE NE — Project: Nebraska City

Receipt Information

Date/Time Received:	DATE 4/13/21 TIME 0930 — Received By: AM
Delivery Type:	☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:

Condition of Cooler/Containers

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

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:	☐ NONE
Thermometer ID: P	Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): ~0.1	Corrected Temp (°C): +0.0

• Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

NC2MW4 NC1MW8
NC2MW6
NC2MW8

Document: CF-LG-WI-002
Revision: 25
Date: 06/17/2019

Eurofins TestAmerica, Cedar Falls

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

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

Chain of Custody Record

TestAmerica Omaha SC 268

TestAmerica — THE LEADER IN ENVIRONMENTAL TESTING

Client Information	
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
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 #:	

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

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N		
NC2MW2	4/12/21	15:53	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW3	4/12/21	14:07	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW5	4/12/21	11:56	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW6	4/12/21	13:18	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW7	4/12/21	16:24	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW8	4/12/21	15:15	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
DUP2	4/12/21	—	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:		Time:	Method of Shipment:	
Relinquished by: [signature]	Date/Time: 4/13/2021 1440	Company: OPPD	Received by: [signature]	Date/Time: 4.13.2021 1440	Company: Euro
Relinquished by: [signature]	Date/Time: 4.13.2021 1700	Company: Euro	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by: [signature]	Date/Time: 4/14/21 0930	Company: ETA

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

Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-204265-1
SDG Number:

Login Number: 204265
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins TestAmerica, Cedar Falls

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

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-204265-2
Client Project/Site: Nebraska City Unit 2 CCR/Landfill

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

Attn: Kyle Uhing

Authorized for release by:
5/14/2021 9:56:24 AM

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

LINKS

Review your project results through TotalAccess

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Table of Contents

Case Narrative

Job ID: 310-204265-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-204265-2

Comments
No additional comments.

Receipt
The samples were received on 4/14/2021 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were -1.1° C, -0.8° C and 0.0° C.

RAD
Method PrecSep_0: Radium 228 Prep Batch 160-505918:

During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: NC2MW7 (310-204265-5) and DUP2 (310-204265-7). This is an indicator of matrix interference.

Method PrecSep_0: Radium 228 Prep Batch 160-506128:

During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: NC2MW2 (310-204265-1), NC2MW3 (310-204265-2), NC2MW5 (310-204265-3) and NC2MW6 (310-204265-4). This is an indicator of matrix interference.

Method PrecSep-21: Radium 226 Prep Batch 160-505914:

During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: NC2MW7 (310-204265-5) and DUP2 (310-204265-7). This is an indicator of matrix interference

Method PrecSep-21: Radium 226 Prep Batch 160-506127:

During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: NC2MW2 (310-204265-1), NC2MW3 (310-204265-2), NC2MW5 (310-204265-3) and NC2MW6 (310-204265-4). This is an indicator of matrix interference.

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

Sample Summary

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

Job ID: 310-204265-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-204265-1	NC2MW2	Water	04/12/21 15:53	04/14/21 09:30	
310-204265-2	NC2MW3	Water	04/12/21 14:07	04/14/21 09:30	
310-204265-3	NC2MW5	Water	04/12/21 11:56	04/14/21 09:30	
310-204265-4	NC2MW6	Water	04/12/21 13:18	04/14/21 09:30	
310-204265-5	NC2MW7	Water	04/12/21 18:24	04/14/21 09:30	
310-204265-6	NC2MW8	Water	04/12/21 15:15	04/14/21 09:30	
310-204265-7	DUP2	Water	04/12/21 00:00	04/14/21 09:30	

Client Sample Results

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

Job ID: 310-204265-2

Client Sample ID: NC2MW2 — **Lab Sample ID: 310-204265-1**
Date Collected: 04/12/21 15:53 — **Matrix: Water**
Date Received: 04/14/21 09:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.250		0.113	0.115	1.00	0.119	pCi/L	04/19/21 13:32	05/11/21 07:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.2*		*40 - 110*	*04/19/21 13:32*	*05/11/21 07:35*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.757		0.335	0.342	1.00	0.481	pCi/L	04/19/21 14:01	05/05/21 12:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.2*		*40 - 110*	*04/19/21 14:01*	*05/05/21 12:19*	*1*
Y Carrier	*86.0*		*40 - 110*	*04/19/21 14:01*	*05/05/21 12:19*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.01		0.354	0.361	5.00	0.481	pCi/L		05/13/21 11:32	1

Client Sample Results

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

Job ID: 310-204265-2

Client Sample ID: NC2MW3
Date Collected: 04/12/21 14:07
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204265-2
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0889	U	0.0808	0.0812	1.00	0.120	pCi/L	04/19/21 13:32	05/11/21 07:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.2*		*40 - 110*	*04/19/21 13:32*	*05/11/21 07:35*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0989	U	0.241	0.241	1.00	0.418	pCi/L	04/19/21 14:01	05/05/21 12:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.2*		*40 - 110*	*04/19/21 14:01*	*05/05/21 12:19*	*1*
Y Carrier	*86.4*		*40 - 110*	*04/19/21 14:01*	*05/05/21 12:19*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.188	U	0.254	0.254	5.00	0.418	pCi/L		05/13/21 11:32	1

Client Sample Results

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

Job ID: 310-204265-2

Client Sample ID: NC2MW5
Date Collected: 04/12/21 11:56
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204265-3
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0870	U	0.0902	0.0905	1.00	0.142	pCi/L	04/19/21 13:32	05/11/21 07:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.0*		*40 - 110*	*04/19/21 13:32*	*05/11/21 07:35*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0992	U	0.240	0.240	1.00	0.457	pCi/L	04/19/21 14:01	05/05/21 12:20	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.0*		*40 - 110*	*04/19/21 14:01*	*05/05/21 12:20*	*1*
Y Carrier	*85.2*		*40 - 110*	*04/19/21 14:01*	*05/05/21 12:20*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0122	U	0.256	0.256	5.00	0.457	pCi/L		05/13/21 11:32	1

Client Sample Results

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

Job ID: 310-204265-2

Client Sample ID: NC2MW6
Date Collected: 04/12/21 13:18
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204265-4
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.125	U	0.103	0.103	1.00	0.154	pCi/L	04/19/21 13:32	05/11/21 07:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.5*		*40 - 110*	*04/19/21 13:32*	*05/11/21 07:35*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.311	U	0.257	0.258	1.00	0.407	pCi/L	04/19/21 14:01	05/05/21 12:20	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.5*		*40 - 110*	*04/19/21 14:01*	*05/05/21 12:20*	*1*
Y Carrier	*84.5*		*40 - 110*	*04/19/21 14:01*	*05/05/21 12:20*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.436**		0.277	0.278	5.00	0.407	pCi/L		05/13/21 11:32	1

Client Sample Results

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

Job ID: 310-204265-2

Client Sample ID: NC2MW7
Date Collected: 04/12/21 18:24
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204265-5
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.284**		0.131	0.134	1.00	0.155	pCi/L	04/16/21 15:06	05/11/21 06:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*68.8*		*40 - 110*	*04/16/21 15:06*	*05/11/21 06:41*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.768**		0.370	0.376	1.00	0.538	pCi/L	04/16/21 16:20	05/04/21 17:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*68.8*		*40 - 110*	*04/16/21 16:20*	*05/04/21 17:18*	*1*
Y Carrier	*84.9*		*40 - 110*	*04/16/21 16:20*	*05/04/21 17:18*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.05**		0.393	0.399	5.00	0.538	pCi/L		05/11/21 16:31	1

Client Sample Results

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

Job ID: 310-204265-2

Client Sample ID: NC2MW8
Date Collected: 04/12/21 15:15
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204265-6
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.251		0.112	0.114	1.00	0.125	pCi/L	04/16/21 15:06	05/11/21 06:42	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	75.8		40 - 110	04/16/21 15:06	05/11/21 06:42	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.365	U	0.279	0.281	1.00	0.436	pCi/L	04/16/21 16:20	05/04/21 17:19	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	75.8		40 - 110	04/16/21 16:20	05/04/21 17:19	1
Y Carrier	86.0		40 - 110	04/16/21 16:20	05/04/21 17:19	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.615		0.301	0.303	5.00	0.436	pCi/L		05/11/21 16:31	1

Client Sample Results

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

Job ID: 310-204265-2

Client Sample ID: DUP2
Date Collected: 04/12/21 00:00
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204265-7
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.371		0.179	0.183	1.00	0.210	pCi/L	04/16/21 15:06	05/11/21 06:42	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	59.4		40 - 110	04/16/21 15:06	05/11/21 06:42	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.04		0.542	0.550	1.00	0.798	pCi/L	04/16/21 16:20	05/04/21 17:19	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	59.4		40 - 110	04/16/21 16:20	05/04/21 17:19	1
Y Carrier	85.6		40 - 110	04/16/21 16:20	05/04/21 17:19	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.41		0.571	0.580	5.00	0.798	pCi/L		05/11/21 16:31	1

Definitions/Glossary

Client: Omaha Public Power District
Job ID: 310-204265-2
Project/Site: Nebraska City Unit 2 CCR/Landfill

Qualifiers

Rad

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

Glossary

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

QC Sample Results

Client: Omaha Public Power District
Job ID: 310-204265-2
Project/Site: Nebraska City Unit 2 CCR/Landfill

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-505914/24-B
Matrix: Water
Analysis Batch: 509146
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 505914

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04967	U	0.0769	0.0771	1.00	0.133	pCi/L	04/16/21 15:06	05/11/21 06:45	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	68.8		40 - 110	04/16/21 15:06	05/11/21 06:45	1

Lab Sample ID: LCS 160-505914/1-A
Matrix: Water
Analysis Batch: 509145
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 505914

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.3	10.38		1.11	1.00	0.148	pCi/L	91	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	78.8		40 - 110

Lab Sample ID: MB 160-506127/25-A
Matrix: Water
Analysis Batch: 509250
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 506127

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.008272	U	0.0542	0.0543	1.00	0.112	pCi/L	04/19/21 13:32	05/11/21 10:39	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	77.6		40 - 110	04/19/21 13:32	05/11/21 10:39	1

Lab Sample ID: LCS 160-506127/1-A
Matrix: Water
Analysis Batch: 509250
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506127

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.3	11.01		1.18	1.00	0.110	pCi/L	97	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	77.6		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-505918/24-A
Matrix: Water
Analysis Batch: 508256
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 505918

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4159	U	0.321	0.323	1.00	0.504	pCi/L	04/16/21 16:20	05/04/21 17:31	1

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

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	68.8		40 - 110	04/16/21 16:20	05/04/21 17:31	1
Y Carrier	86.0		40 - 110	04/16/21 16:20	05/04/21 17:31	1

Lab Sample ID: LCS 160-505918/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 508252 — **Prep Batch: 505918**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			7.24	7.837		0.999	1.00	0.463	pCi/L	108	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	78.8		40 - 110
Y Carrier	86.0		40 - 110

Lab Sample ID: MB 160-506128/25-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 508446 — **Prep Batch: 506128**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3693	U	0.276	0.278	1.00	0.432	pCi/L	04/19/21 14:01	05/05/21 12:28	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	77.6		40 - 110	04/19/21 14:01	05/05/21 12:28	1
Y Carrier	88.2		40 - 110	04/19/21 14:01	05/05/21 12:28	1

Lab Sample ID: LCS 160-506128/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 508483 — **Prep Batch: 506128**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			7.23	7.407		0.942	1.00	0.360	pCi/L	102	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	77.6		40 - 110
Y Carrier	85.2		40 - 110

Rad

Prep Batch: 505914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204265-5	NC2MW7	Total/NA	Water	PrecSep-21	
310-204265-6	NC2MW8	Total/NA	Water	PrecSep-21	
310-204265-7	DUP2	Total/NA	Water	PrecSep-21	
MB 160-505914/24-B	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-505914/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 505918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204265-5	NC2MW7	Total/NA	Water	PrecSep_0	
310-204265-6	NC2MW8	Total/NA	Water	PrecSep_0	
310-204265-7	DUP2	Total/NA	Water	PrecSep_0	
MB 160-505918/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-505918/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 506127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204265-1	NC2MW2	Total/NA	Water	PrecSep-21	
310-204265-2	NC2MW3	Total/NA	Water	PrecSep-21	
310-204265-3	NC2MW5	Total/NA	Water	PrecSep-21	
310-204265-4	NC2MW6	Total/NA	Water	PrecSep-21	
MB 160-506127/25-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-506127/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 506128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204265-1	NC2MW2	Total/NA	Water	PrecSep_0	
310-204265-2	NC2MW3	Total/NA	Water	PrecSep_0	
310-204265-3	NC2MW5	Total/NA	Water	PrecSep_0	
310-204265-4	NC2MW6	Total/NA	Water	PrecSep_0	
MB 160-506128/25-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-506128/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Client Sample ID: NC2MW2 — **Lab Sample ID: 310-204265-1**
Date Collected: 04/12/21 15:53 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506127	04/19/21 13:32	RBR	TAL SL
Total/NA	Analysis	9315		1	509250	05/11/21 07:35	ANW	TAL SL
Total/NA	Prep	PrecSep_0			506128	04/19/21 14:01	RBR	TAL SL
Total/NA	Analysis	9320		1	508483	05/05/21 12:19	CMM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509476	05/13/21 11:32	SCB	TAL SL

Client Sample ID: NC2MW3 — **Lab Sample ID: 310-204265-2**
Date Collected: 04/12/21 14:07 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506127	04/19/21 13:32	RBR	TAL SL
Total/NA	Analysis	9315		1	509250	05/11/21 07:35	ANW	TAL SL
Total/NA	Prep	PrecSep_0			506128	04/19/21 14:01	RBR	TAL SL
Total/NA	Analysis	9320		1	508483	05/05/21 12:19	CMM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509476	05/13/21 11:32	SCB	TAL SL

Client Sample ID: NC2MW5 — **Lab Sample ID: 310-204265-3**
Date Collected: 04/12/21 11:56 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506127	04/19/21 13:32	RBR	TAL SL
Total/NA	Analysis	9315		1	509250	05/11/21 07:35	ANW	TAL SL
Total/NA	Prep	PrecSep_0			506128	04/19/21 14:01	RBR	TAL SL
Total/NA	Analysis	9320		1	508483	05/05/21 12:20	CMM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509476	05/13/21 11:32	SCB	TAL SL

Client Sample ID: NC2MW6 — **Lab Sample ID: 310-204265-4**
Date Collected: 04/12/21 13:18 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506127	04/19/21 13:32	RBR	TAL SL
Total/NA	Analysis	9315		1	509250	05/11/21 07:35	ANW	TAL SL
Total/NA	Prep	PrecSep_0			506128	04/19/21 14:01	RBR	TAL SL
Total/NA	Analysis	9320		1	508483	05/05/21 12:20	CMM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509476	05/13/21 11:32	SCB	TAL SL

Client Sample ID: NC2MW7 — **Lab Sample ID: 310-204265-5**
Date Collected: 04/12/21 18:24 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			505914	04/16/21 15:06	RBR	TAL SL
Total/NA	Analysis	9315		1	509145	05/11/21 06:41	FLC	TAL SL
Total/NA	Prep	PrecSep_0			505918	04/16/21 16:20	RBR	TAL SL
Total/NA	Analysis	9320		1	508252	05/04/21 17:18	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509266	05/11/21 16:31	GRW	TAL SL

Client Sample ID: NC2MW8 — **Lab Sample ID: 310-204265-6**
Date Collected: 04/12/21 15:15 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			505914	04/16/21 15:06	RBR	TAL SL
Total/NA	Analysis	9315		1	509145	05/11/21 06:42	FLC	TAL SL
Total/NA	Prep	PrecSep_0			505918	04/16/21 16:20	RBR	TAL SL
Total/NA	Analysis	9320		1	508252	05/04/21 17:19	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509266	05/11/21 16:31	GRW	TAL SL

Client Sample ID: DUP2 — **Lab Sample ID: 310-204265-7**
Date Collected: 04/12/21 00:00 — **Matrix: Water**
Date Received: 04/14/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			505914	04/16/21 15:06	RBR	TAL SL
Total/NA	Analysis	9315		1	509145	05/11/21 06:42	FLC	TAL SL
Total/NA	Prep	PrecSep_0			505918	04/16/21 16:20	RBR	TAL SL
Total/NA	Analysis	9320		1	508252	05/04/21 17:19	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509266	05/11/21 16:31	GRW	TAL SL

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-204265-2
Project/Site: Nebraska City Unit 2 CCR/Landfill

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21 *
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

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

Method Summary

Client: Omaha Public Power District
Job ID: 310-204265-2
Project/Site: Nebraska City Unit 2 CCR/Landfill

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

Protocol References:

None = None

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

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

Laboratory References:

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

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310-204265 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

City/State: CITY Omaha STATE NE

Project: Nebraska City

Receipt Information

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

Received By: AM

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

Condition of Cooler/Containers

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

Temperature Record

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

Thermometer ID: P — Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): -0.9 — Corrected Temp (°C): -0.8

Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

NC1MW2 NC1MW7
NC2MW4 MW11
NC2MW3

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Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

City/State: CITY Omaha STATE NE

Project: Nebraska City

Receipt Information

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

Received By: AM

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

Condition of Cooler/Containers

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

Temperature Record

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

Thermometer ID: P — Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): -1.2 — Corrected Temp (°C): -1.1

Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

NC2MW5A NC2MW7
NC2MW5
Dup-2

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client:	Omaha Public Power		
City/State:	CITY Omaha STATE NE	Project:	Nebraska City

Receipt Information

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

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

Condition of Cooler/Containers

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

Temperature Record

Coolant:	☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: ____		☐ NONE
Thermometer ID:	P	Correction Factor (°C):	+0.1

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

Uncorrected Temp (°C):	-0.1	Corrected Temp (°C):	+0.0

Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

NC2MW4 NC1MW8
NC2MW6
NC2MW8

Document: CF-LG-WI-002
Revision: 25
Date: 06/17/2019

Eurofins TestAmerica, Cedar Falls

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

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

Chain of Custody Record

TestAmerica Omaha SC
268

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information		
Client Contact: Kyle Uhing	Sampler: Kyle K. Uhing	Lab PM: Hayes, Shawn M
Company: Omaha Public Power District	Phone: (531) 226-2515	E-Mail: shawn.hayes@testamericainc.com
Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:	Carrier Tracking No(s):
City: Omaha	TAT Requested (days):	COC No:
State, Zip: NE, 68102-2247	PO #:	Page:
Phone: (531) 226-2515	WO #:	Job #:
Email: kkuhing@oppd.com		
Project Name: Nebraska City Station Unit 2 CCR / Landfill	TestAmerica Project #: 31007559	
Site: Nebraska City Station Unit 2	SSOW#:	

Analysis Requested: Field Filtered Sample (Yes or No); Perform MS/MSD (Yes or No); 9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228; Total 6020A CCR Appendix III and IV, 7470A Mercury; 2540C TDS, 9056A Chloride, Fluoride, Sulfate; Total Number of containers

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered	Perform MS/MSD	9315/9320 Ra226/Ra228	6020A/7470A	2540C/9056A	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N		
NC2MW2	4/12/21	15:53	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW3	4/12/21	14:07	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW5	4/12/21	11:56	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW6	4/12/21	13:18	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW7	4/12/21	18:24	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW8	4/12/21	15:15	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
DUP2	4/12/21	—	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	4/13/2021 1440	OPPD	[signature]	4.13.2021 1440	Euro
[signature]	4.13.2021 1700	Euro	[signature]		
			[signature]	4/14/21 0930	ETA

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

Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-204265-2
SDG Number:

Login Number: 204265
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins TestAmerica, Cedar Falls

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

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-204265-2
SDG Number:

Login Number: 204265
List Number: 2
Creator: Worthington, Sierra M

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

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

Tracer/Carrier Summary

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

Job ID: 310-204265-2

Method: 9315 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-204265-1	NC2MW2	75.2
310-204265-2	NC2MW3	74.2
310-204265-3	NC2MW5	70.0
310-204265-4	NC2MW6	81.5
310-204265-5	NC2MW7	68.8
310-204265-6	NC2MW8	75.8
310-204265-7	DUP2	59.4
LCS 160-505914/1-A	Lab Control Sample	78.8
LCS 160-506127/1-A	Lab Control Sample	77.6
MB 160-505914/24-B	Method Blank	68.8
MB 160-506127/25-A	Method Blank	77.6

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
310-204265-1	NC2MW2	75.2	86.0
310-204265-2	NC2MW3	74.2	86.4
310-204265-3	NC2MW5	70.0	85.2
310-204265-4	NC2MW6	81.5	84.5
310-204265-5	NC2MW7	68.8	84.9
310-204265-6	NC2MW8	75.8	86.0
310-204265-7	DUP2	59.4	85.6
LCS 160-505918/1-A	Lab Control Sample	78.8	86.0
LCS 160-506128/1-A	Lab Control Sample	77.6	85.2
MB 160-505918/24-A	Method Blank	68.8	86.0
MB 160-506128/25-A	Method Blank	77.6	88.2

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-204259-1
Client Project/Site: Nebraska City Unit 1 and 2 CCR/Landfill

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

Attn: Kyle Uhing

Authorized for release by:
4/27/2021 9:56:40 AM

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

Table of Contents

Case Narrative

Job ID: 310-204259-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-204259-1

Comments
No additional comments.

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

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

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

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

Sample Summary

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

Job ID: 310-204259-1

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

Detection Summary

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

Job ID: 310-204259-1

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

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

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

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

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

Job ID: 310-204259-1

Client Sample ID: NC2MW4
Date Collected: 04/12/21 10:08
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204259-1
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

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

Method: 6020A - Metals (ICP/MS)

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

Method: 7470A - Mercury (CVAA)

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

General Chemistry

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

Client Sample Results

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

Job ID: 310-204259-1

Client Sample ID: MW13
Date Collected: 04/12/21 09:24
Date Received: 04/14/21 09:30

Lab Sample ID: 310-204259-2
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

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

Method: 6020A - Metals (ICP/MS)

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

Method: 7470A - Mercury (CVAA)

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

General Chemistry

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

Definitions/Glossary

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

Glossary

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

QC Sample Results

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

Method: 9056A - Anions, Ion Chromatography

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

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

Lab Sample ID: LCS 310-313953/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 313953

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.751		mg/L		98	90 - 110
Fluoride	2.00	2.180		mg/L		109	90 - 110
Sulfate	10.0	10.47		mg/L		105	90 - 110

Method: 6020A - Metals (ICP/MS)

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

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

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

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

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

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

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

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

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

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

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

Method: 7470A - Mercury (CVAA)

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

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

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

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

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

Lab Sample ID: MB 310-312885/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 312885

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

Lab Sample ID: LCS 310-312885/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 312885

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

HPLC/IC

Analysis Batch: 313953

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

Metals

Prep Batch: 312812

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

Prep Batch: 313366

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

Analysis Batch: 313453

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

Analysis Batch: 313497

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

Analysis Batch: 313498

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

General Chemistry

Analysis Batch: 312885

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

Lab Chronicle

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

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

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

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

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313953	04/19/21 21:59	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 21:14	SAD	TAL CF
Total/NA	Prep	7470A			313366	04/20/21 14:04	HED	TAL CF
Total/NA	Analysis	7470A		1	313498	04/21/21 12:43	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312885	04/15/21 13:32	SAS	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

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

Laboratory: Eurofins TestAmerica, Cedar Falls

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

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

Method Summary

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

Job ID: 310-204259-1

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

Protocol References:

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

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

Laboratory References:

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

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

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

Receipt Information

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

Delivery Type: [X] UPS [ ] FedEx [ ] FedEx Ground [ ] US Mail [ ] Spee-Dee [ ] Lab Courier [ ] Lab Field Services [ ] Client Drop-off [ ] Other:

Condition of Cooler/Containers

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

Temperature Record

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

Thermometer ID: P Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.6 Corrected Temp (°C): 0.7

• Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

MW13 MW14

Dup NC1 MW4

Document: CF-LG-WI-002
Revision: 25
Date: 06/17/2019

Eurofins TestAmerica, Cedar Falls

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

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client:	Omaha Public Power		
City/State:	CITY Omaha	STATE NE	Project: Nebraska City

Receipt Information

Date/Time Received:	DATE 4/13/21 TIME 0930	Received By: DM
Delivery Type:	☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee	
	☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:	

Condition of Cooler/Containers

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

Temperature Record

Coolant:	☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:	☐ NONE
Thermometer ID: P		Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): ~0.1	Corrected Temp (°C): +0.0

Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

NC2MW4 NC1MW8
NC2MW6
NC2MW8

Document: CF-LG-WI-002
Revision: 25
Date: 06/17/2019

Eurofins TestAmerica, Cedar Falls

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

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

Chain of Custody Record

TestAmerica Omaha SC 268

TestAmerica THE LEADER IN ENVIRONMENTAL TESTING

Client Information		
Client Contact: Kyle Uhing	Sampler: Kyle K. Uhing	Lab PM: Hayes, Shawn M
Company: Omaha Public Power District	Phone: (531) 226-2515	E-Mail: shawn.hayes@testamericainc.com
Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:	Carrier Tracking No(s):
City: Omaha	TAT Requested (days):	COC No:
State, Zip: NE, 68102-2247	PO #:	Page:
Phone: (531) 226-2515	WO #:	Job #:
Email: kkuhing@oppd.com		
Project Name: Nebraska City Station Unit 1 and 2 CCR / Landfill	TestAmerica Project #: 31007559	
Site: Nebraska City Station Unit 1 and 2	SSOW#:	

Analysis Requested: Field Filtered Sample (Yes or No); Perform MS/MSD (Yes or No); 9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228; Total 6020A CCR Appendix III and IV, 7470A Mercury; 2540C TDS, 9056A Chloride, Fluoride, Sulfate; Total Number of containers

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered	MS/MSD	9315/9320 Ra	6020A/7470A	2540C/9056A	Total Number of containers	Special Instructions/Note
			Preservation Code:				D	D	N		
NC2MW4	4/12/21	10:08	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW13	4/12/21	9:24	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	4/13/2021 1440	OPPD	HW	4-13-2021 1440	Euro
HW	4-13-2021 1700	Euro	[signature]	4/14/21 0930	[illegible]

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

Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-204259-1
SDG Number:

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

List Source: Eurofins TestAmerica, Cedar Falls

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

LINKS

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-204259-2
Client Project/Site: Nebraska City Unit 1 and 2 CCR/Landfill

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

Attn: Kyle Uhing

Authorized for release by:
5/13/2021 4:04:04 PM

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

Table of Contents

Case Narrative

Job ID: 310-204259-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-204259-2

Comments
No additional comments.

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

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

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

Method PrecSep_0: Radium 228 Prep Batch 160-506115:

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

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

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

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

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

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

Sample Summary

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

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

Client Sample Results

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

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

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.279		0.142	0.144	1.00	0.165	pCi/L	04/19/21 11:16	05/11/21 09:58	1

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

Method: 9320 - Radium-228 (GFPC)

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

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

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

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

Client Sample ID: MW13

Lab Sample ID: 310-204259-2

Date Collected: 04/12/21 09:24

Matrix: Water

Date Received: 04/14/21 09:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00130	U	0.0821	0.0821	1.00	0.173	pCi/L	04/19/21 11:16	05/11/21 09:59	1

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

Method: 9320 - Radium-228 (GFPC)

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

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

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

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

Qualifiers

Rad

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

Glossary

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

Method: 9315 - Radium-226 (GFPC)

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

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

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

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

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

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

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

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

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

Method: 9320 - Radium-228 (GFPC)

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

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

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

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

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

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

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

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

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

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

QC Association Summary

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

Rad

Prep Batch: 506114

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

Prep Batch: 506115

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

Lab Chronicle

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

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

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

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

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	9315		1	509146	05/11/21 09:59	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	9320		1	508606	05/06/21 14:24	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	509278	05/11/21 23:07	SCB	TAL SL

Laboratory References:

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

Accreditation/Certification Summary

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

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21 *
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

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

Method Summary

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

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

Protocol References:

None = None

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

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

Laboratory References:

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

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

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

Receipt Information

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

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

Condition of Cooler/Containers

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

Temperature Record

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

Thermometer ID: P Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): 0.6 Corrected Temp (°C): 0.7

• Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

MW13 MW14
Dup 1
NC1MW4

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power

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

Receipt Information

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

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

Condition of Cooler/Containers

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

Temperature Record

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

Thermometer ID: P Correction Factor (°C): +0.1

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

Uncorrected Temp (°C): -0.1 Corrected Temp (°C): +0.0

• Sample Container Temperature

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

Exceptions Noted

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

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

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

Additional Comments

NC2MW4 NC1MW8
NC2MW6
NC2MW8

Document: CF-LG-WI-002
Revision: 25
Date: 06/17/2019

Eurofins TestAmerica, Cedar Falls

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

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5/13/2021

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

Chain of Custody Record

TestAmerica Omaha SC 268

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

Address: 444 South 16th Street Mall 9E/EP1	Due Date Requested:	Analysis Requested	Preservation Codes:
City: Omaha	TAT Requested (days):		A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify)
State, Zip: NE, 68102-2247			
Phone: (531) 226-2515	PO #:		
Email: kkuhing@oppd.com	WO #:		Other:
Project Name: Nebraska City Station Unit 1 and 2 CCR / Landfill	TestAmerica Project #: 31007559		
Site: Nebraska City Station Unit 1 and 2	SSOW#:		

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B/7470A Ra226, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	2540C TDS, 9056A Chloride, Fluoride, Sulfate	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N		
NC2MW4	4/12/21	10:08	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
MW13	4/12/21	9:24	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4/13/2021 1440	OPPD		4-13-2021 1440	Eurofins
2		4-13-2021 1700	Eurofins			
3					4/14/21 0823	

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

Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-204259-2
SDG Number:

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

List Source: Eurofins TestAmerica, Cedar Falls

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

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-204259-2
SDG Number:

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

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

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

Tracer/Carrier Summary

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

Method: 9315 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-204259-1	NC2MW4	85.8
310-204259-2	MW13	83.0
LCS 160-506114/1-A	Lab Control Sample	80.0
LCSD 160-506114/2-A	Lab Control Sample Dup	84.8
MB 160-506114/23-A	Method Blank	87.0

Tracer/Carrier Legend
Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
310-204259-1	NC2MW4	85.8	86.0
310-204259-2	MW13	83.0	86.0
LCS 160-506115/1-A	Lab Control Sample	80.0	90.5
LCSD 160-506115/2-A	Lab Control Sample Dup	84.8	88.6
MB 160-506115/23-A	Method Blank	87.0	90.8

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-216815-1
Client Project/Site: Nebraska City Station Unit 2 CCR

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

Attn: Kyle Uhing

Authorized for release by:
10/25/2021 6:30:08 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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

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

Table of Contents

Case Narrative

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

Job ID: 310-216815-1

Job ID: 310-216815-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-216815-1

Comments
No additional comments.

Receipt
The samples were received on 10/7/2021 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.4° C and 1.0° C.

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

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

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

Sample Summary

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

Job ID: 310-216815-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-216815-1	NC2MW2	Water	10/04/21 17:43	10/07/21 09:40
310-216815-2	NC2MW3	Water	10/04/21 16:24	10/07/21 09:40
310-216815-3	NC2MW5	Water	10/04/21 12:46	10/07/21 09:40
310-216815-4	NC2MW6	Water	10/04/21 15:38	10/07/21 09:40
310-216815-5	NC2MW7	Water	10/04/21 18:35	10/07/21 09:40
310-216815-6	NC2MW8	Water	10/04/21 17:00	10/07/21 09:40
310-216815-7	DUP2	Water	10/04/21 00:00	10/07/21 09:40

Detection Summary

Client: Omaha Public Power District
Job ID: 310-216815-1
Project/Site: Nebraska City Station Unit 2 CCR

Client Sample ID: NC2MW2 — Lab Sample ID: 310-216815-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11.6		5.00	2.15	mg/L	5		9056A	Total/NA
Sulfate	266		5.00	2.45	mg/L	5		9056A	Total/NA
Antimony	0.00323		0.00200	0.00110	mg/L	1		6020A	Total/NA
Arsenic	0.000907	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.106		0.00200	0.000370	mg/L	1		6020A	Total/NA
Boron	0.668		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.000287		0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	183		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00224		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.000609		0.000500	0.000210	mg/L	1		6020A	Total/NA
Lithium	0.0247		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0505		0.00200	0.00130	mg/L	1		6020A	Total/NA
Selenium	0.00128	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	726		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW3 — Lab Sample ID: 310-216815-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12.6		5.00	2.15	mg/L	5		9056A	Total/NA
Fluoride	0.492	J	0.500	0.275	mg/L	5		9056A	Total/NA
Sulfate	292		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.00354		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.0769		0.00200	0.000370	mg/L	1		6020A	Total/NA
Boron	0.306		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.0000820	J	0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	139		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.0115		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.000485	J	0.000500	0.000210	mg/L	1		6020A	Total/NA
Lithium	0.0241		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00356		0.00200	0.00130	mg/L	1		6020A	Total/NA
Total Dissolved Solids	860		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW5 — Lab Sample ID: 310-216815-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.28		5.00	2.15	mg/L	5		9056A	Total/NA
Sulfate	282		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.00245		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.0519		0.00200	0.000370	mg/L	1		6020A	Total/NA
Boron	2.86		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.0000570	J	0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	168		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000226	J	0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.000630		0.000500	0.000210	mg/L	1		6020A	Total/NA
Lithium	0.0120		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0236		0.00200	0.00130	mg/L	1		6020A	Total/NA
Selenium	0.00162	J	0.00500	0.000960	mg/L	1		6020A	Total/NA
Total Dissolved Solids	826		50.0	26.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Omaha Public Power District
Job ID: 310-216815-1
Project/Site: Nebraska City Station Unit 2 CCR

Client Sample ID: NC2MW6 — Lab Sample ID: 310-216815-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.30		5.00	2.15	mg/L	5		9056A	Total/NA
Sulfate	132		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.000925	J	0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.133		0.00200	0.000370	mg/L	1		6020A	Total/NA
Boron	2.48		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.0000800	J	0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	123		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000504		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.000719		0.000500	0.000210	mg/L	1		6020A	Total/NA
Lithium	0.0345		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.0124		0.00200	0.00130	mg/L	1		6020A	Total/NA
Total Dissolved Solids	524		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW7 — Lab Sample ID: 310-216815-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.27		5.00	2.15	mg/L	5		9056A	Total/NA
Arsenic	0.0427		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.592		0.00200	0.000370	mg/L	1		6020A	Total/NA
Boron	0.190		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	118		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000253	J	0.000500	0.000190	mg/L	1		6020A	Total/NA
Lithium	0.0566		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00183	J	0.00200	0.00130	mg/L	1		6020A	Total/NA
Total Dissolved Solids	430		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: NC2MW8 — Lab Sample ID: 310-216815-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	10.3		5.00	2.15	mg/L	5		9056A	Total/NA
Sulfate	7.47		5.00	2.45	mg/L	5		9056A	Total/NA
Arsenic	0.00958		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.616		0.00200	0.000370	mg/L	1		6020A	Total/NA
Boron	0.107		0.100	0.0580	mg/L	1		6020A	Total/NA
Calcium	130		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.00229		0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.000393	J	0.000500	0.000210	mg/L	1		6020A	Total/NA
Lithium	0.0340		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00281		0.00200	0.00130	mg/L	1		6020A	Total/NA
Total Dissolved Solids	436		50.0	26.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP2 — Lab Sample ID: 310-216815-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.29		5.00	2.15	mg/L	5		9056A	Total/NA
Arsenic	0.0431		0.00200	0.000750	mg/L	1		6020A	Total/NA
Barium	0.607		0.00200	0.000370	mg/L	1		6020A	Total/NA
Boron	0.156		0.100	0.0580	mg/L	1		6020A	Total/NA
Cadmium	0.000172		0.000100	0.0000510	mg/L	1		6020A	Total/NA
Calcium	117		0.500	0.190	mg/L	1		6020A	Total/NA
Cobalt	0.000388	J	0.000500	0.000190	mg/L	1		6020A	Total/NA
Lead	0.000235	J	0.000500	0.000210	mg/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Omaha Public Power District
Job ID: 310-216815-1
Project/Site: Nebraska City Station Unit 2 CCR

Client Sample ID: DUP2 (Continued)
Lab Sample ID: 310-216815-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0575		0.0100	0.00250	mg/L	1		6020A	Total/NA
Molybdenum	0.00198	J	0.00200	0.00130	mg/L	1		6020A	Total/NA
Total Dissolved Solids	428		50.0	26.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-216815-1
Project/Site: Nebraska City Station Unit 2 CCR

Client Sample ID: NC2MW2
Lab Sample ID: 310-216815-1
Date Collected: 10/04/21 17:43
Matrix: Water
Date Received: 10/07/21 09:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11.6		5.00	2.15	mg/L			10/11/21 18:48	5
Fluoride	<0.275		0.500	0.275	mg/L			10/11/21 18:48	5
Sulfate	266		5.00	2.45	mg/L			10/11/21 18:48	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00323		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 19:27	1
Arsenic	0.000907	J	0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 19:27	1
Barium	0.106		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 19:27	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 19:27	1
Boron	0.668		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 19:27	1
Cadmium	0.000287		0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 19:27	1
Calcium	183		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 19:27	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 19:27	1
Cobalt	0.00224		0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 19:27	1
Lead	0.000609		0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 19:27	1
Lithium	0.0247		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 19:27	1
Molybdenum	0.0505		0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 19:27	1
Selenium	0.00128	J	0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 19:27	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 19:27	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:25	10/12/21 11:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	726		50.0	26.0	mg/L			10/08/21 15:24	1

Client Sample Results

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

Job ID: 310-216815-1

Client Sample ID: NC2MW3
Date Collected: 10/04/21 16:24
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216815-2
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**12.6**		5.00	2.15	mg/L			10/13/21 08:22	5
Fluoride	**0.492**	J	0.500	0.275	mg/L			10/13/21 08:22	5
Sulfate	**292**		5.00	2.45	mg/L			10/13/21 08:22	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 19:30	1
Arsenic	**0.00354**		0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 19:30	1
Barium	**0.0769**		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 19:30	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 19:30	1
Boron	**0.306**		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 19:30	1
Cadmium	**0.0000820**	J	0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 19:30	1
Calcium	**139**		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 19:30	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 19:30	1
Cobalt	**0.0115**		0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 19:30	1
Lead	**0.000485**	J	0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 19:30	1
Lithium	**0.0241**		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 19:30	1
Molybdenum	**0.00356**		0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 19:30	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 19:30	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 19:30	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:25	10/12/21 11:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**860**		50.0	26.0	mg/L			10/08/21 15:24	1

Client Sample Results

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

Job ID: 310-216815-1

Client Sample ID: NC2MW5
Date Collected: 10/04/21 12:46
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216815-3
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.28**		5.00	2.15	mg/L			10/11/21 19:19	5
Fluoride	<0.275		0.500	0.275	mg/L			10/11/21 19:19	5
Sulfate	**282**		5.00	2.45	mg/L			10/11/21 19:19	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 19:35	1
Arsenic	**0.00245**		0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 19:35	1
Barium	**0.0519**		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 19:35	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 19:35	1
Boron	**2.86**		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 19:35	1
Cadmium	**0.0000570**	J	0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 19:35	1
Calcium	**168**		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 19:35	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 19:35	1
Cobalt	**0.000226**	J	0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 19:35	1
Lead	**0.000630**		0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 19:35	1
Lithium	**0.0120**		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 19:35	1
Molybdenum	**0.0236**		0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 19:35	1
Selenium	**0.00162**	J	0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 19:35	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 19:35	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:25	10/12/21 11:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**826**		50.0	26.0	mg/L			10/08/21 15:24	1

Client Sample Results

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

Job ID: 310-216815-1

Client Sample ID: NC2MW6
Date Collected: 10/04/21 15:38
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216815-4
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.30**		5.00	2.15	mg/L			10/11/21 19:35	5
Fluoride	<0.275		0.500	0.275	mg/L			10/11/21 19:35	5
Sulfate	**132**		5.00	2.45	mg/L			10/11/21 19:35	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 19:38	1
Arsenic	**0.000925**	**J**	0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 19:38	1
Barium	**0.133**		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 19:38	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 19:38	1
Boron	**2.48**		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 19:38	1
Cadmium	**0.0000800**	**J**	0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 19:38	1
Calcium	**123**		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 19:38	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 19:38	1
Cobalt	**0.000504**		0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 19:38	1
Lead	**0.000719**		0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 19:38	1
Lithium	**0.0345**		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 19:38	1
Molybdenum	**0.0124**		0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 19:38	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 19:38	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 19:38	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:25	10/12/21 11:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**524**		50.0	26.0	mg/L			10/08/21 15:24	1

Client Sample Results

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

Job ID: 310-216815-1

Client Sample ID: NC2MW7
Date Collected: 10/04/21 18:35
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216815-5
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.27**		5.00	2.15	mg/L			10/11/21 20:22	5
Fluoride	<0.275		0.500	0.275	mg/L			10/11/21 20:22	5
Sulfate	<2.45		5.00	2.45	mg/L			10/11/21 20:22	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 19:40	1
Arsenic	**0.0427**		0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 19:40	1
Barium	**0.592**		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 19:40	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 19:40	1
Boron	**0.190**		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 19:40	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 19:40	1
Calcium	**118**		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 19:40	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 19:40	1
Cobalt	**0.000253**	**J**	0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 19:40	1
Lead	<0.000210		0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 19:40	1
Lithium	**0.0566**		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 19:40	1
Molybdenum	**0.00183**	**J**	0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 19:40	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 19:40	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 19:40	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:25	10/12/21 11:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**430**		50.0	26.0	mg/L			10/08/21 15:24	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-216815-1
Project/Site: Nebraska City Station Unit 2 CCR

Client Sample ID: NC2MW8
Lab Sample ID: 310-216815-6
Date Collected: 10/04/21 17:00
Matrix: Water
Date Received: 10/07/21 09:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10.3**		5.00	2.15	mg/L			10/11/21 20:37	5
Fluoride	<0.275		0.500	0.275	mg/L			10/11/21 20:37	5
Sulfate	**7.47**		5.00	2.45	mg/L			10/11/21 20:37	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 19:43	1
Arsenic	**0.00958**		0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 19:43	1
Barium	**0.616**		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 19:43	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 19:43	1
Boron	**0.107**		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 19:43	1
Cadmium	<0.0000510		0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 19:43	1
Calcium	**130**		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 19:43	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 19:43	1
Cobalt	**0.00229**		0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 19:43	1
Lead	**0.000393**	**J**	0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 19:43	1
Lithium	**0.0340**		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 19:43	1
Molybdenum	**0.00281**		0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 19:43	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 19:43	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 19:43	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:25	10/12/21 11:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**436**		50.0	26.0	mg/L			10/08/21 15:24	1

Client Sample Results

Client: Omaha Public Power District
Job ID: 310-216815-1
Project/Site: Nebraska City Station Unit 2 CCR

Client Sample ID: DUP2
Lab Sample ID: 310-216815-7
Date Collected: 10/04/21 00:00
Matrix: Water
Date Received: 10/07/21 09:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.29**		5.00	2.15	mg/L			10/11/21 20:53	5
Fluoride	<0.275		0.500	0.275	mg/L			10/11/21 20:53	5
Sulfate	<2.45		5.00	2.45	mg/L			10/11/21 20:53	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00110		0.00200	0.00110	mg/L		10/08/21 09:00	10/22/21 19:56	1
Arsenic	**0.0431**		0.00200	0.000750	mg/L		10/08/21 09:00	10/22/21 19:56	1
Barium	**0.607**		0.00200	0.000370	mg/L		10/08/21 09:00	10/22/21 19:56	1
Beryllium	<0.000270		0.00100	0.000270	mg/L		10/08/21 09:00	10/22/21 19:56	1
Boron	**0.156**		0.100	0.0580	mg/L		10/08/21 09:00	10/22/21 19:56	1
Cadmium	**0.000172**		0.000100	0.0000510	mg/L		10/08/21 09:00	10/22/21 19:56	1
Calcium	**117**		0.500	0.190	mg/L		10/08/21 09:00	10/22/21 19:56	1
Chromium	<0.00110		0.00500	0.00110	mg/L		10/08/21 09:00	10/22/21 19:56	1
Cobalt	**0.000388**	**J**	0.000500	0.000190	mg/L		10/08/21 09:00	10/22/21 19:56	1
Lead	**0.000235**	**J**	0.000500	0.000210	mg/L		10/08/21 09:00	10/22/21 19:56	1
Lithium	**0.0575**		0.0100	0.00250	mg/L		10/08/21 09:00	10/22/21 19:56	1
Molybdenum	**0.00198**	**J**	0.00200	0.00130	mg/L		10/08/21 09:00	10/22/21 19:56	1
Selenium	<0.000960		0.00500	0.000960	mg/L		10/08/21 09:00	10/22/21 19:56	1
Thallium	<0.000260		0.00100	0.000260	mg/L		10/08/21 09:00	10/22/21 19:56	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000150		0.000200	0.000150	mg/L		10/11/21 11:25	10/12/21 11:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**428**		50.0	26.0	mg/L			10/08/21 15:24	1

Qualifiers

HPLC/IC

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

Metals

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

Glossary

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

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-331486/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331486

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.430		1.00	0.430	mg/L			10/11/21 17:14	1
Fluoride	<0.0550		0.100	0.0550	mg/L			10/11/21 17:14	1
Sulfate	<0.490		1.00	0.490	mg/L			10/11/21 17:14	1

Lab Sample ID: LCS 310-331486/33 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331486

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.05		mg/L		101	90 - 110
Fluoride	2.00	2.177		mg/L		109	90 - 110
Sulfate	10.0	10.54		mg/L		105	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-330872/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 332689 — **Prep Batch: 330872**

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

Lab Sample ID: LCS 310-330872/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 332689 — **Prep Batch: 330872**

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

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

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

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

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

Lab Sample ID: 310-216815-2 DU
Matrix: Water
Analysis Batch: 332689

Client Sample ID: NC2MW3
Prep Type: Total/NA
Prep Batch: 330872

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.00110		<0.00110		mg/L		NC	20
Arsenic	0.00354		0.003577		mg/L		1	20
Barium	0.0769		0.07820		mg/L		2	20
Beryllium	<0.000270		<0.000270		mg/L		NC	20
Boron	0.306		0.3021		mg/L		1	20
Cadmium	0.0000820	J	0.00008000	J	mg/L		2	20
Calcium	139		140.8		mg/L		1	20
Chromium	<0.00110		<0.00110		mg/L		NC	20
Cobalt	0.0115		0.01162		mg/L		0.9	20
Lead	0.000485	J	0.0004880	J	mg/L		0.6	20
Lithium	0.0241		0.02454		mg/L		2	20
Molybdenum	0.00356		0.003378		mg/L		5	20
Selenium	<0.000960		0.0009960	J	mg/L		NC	20
Thallium	<0.000260		<0.000260		mg/L		NC	20

Method: 7470A - Mercury (CVAA)

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

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

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

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

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

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

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

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

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

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

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

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

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	910.0		mg/L		91	90 - 110

HPLC/IC

Analysis Batch: 331486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216815-1	NC2MW2	Total/NA	Water	9056A	
310-216815-2	NC2MW3	Total/NA	Water	9056A	
310-216815-3	NC2MW5	Total/NA	Water	9056A	
310-216815-4	NC2MW6	Total/NA	Water	9056A	
310-216815-5	NC2MW7	Total/NA	Water	9056A	
310-216815-6	NC2MW8	Total/NA	Water	9056A	
310-216815-7	DUP2	Total/NA	Water	9056A	
MB 310-331486/3	Method Blank	Total/NA	Water	9056A	
LCS 310-331486/33	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 330872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216815-1	NC2MW2	Total/NA	Water	3010A	
310-216815-2	NC2MW3	Total/NA	Water	3010A	
310-216815-3	NC2MW5	Total/NA	Water	3010A	
310-216815-4	NC2MW6	Total/NA	Water	3010A	
310-216815-5	NC2MW7	Total/NA	Water	3010A	
310-216815-6	NC2MW8	Total/NA	Water	3010A	
310-216815-7	DUP2	Total/NA	Water	3010A	
MB 310-330872/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-330872/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-216815-2 DU	NC2MW3	Total/NA	Water	3010A	

Prep Batch: 331210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216815-1	NC2MW2	Total/NA	Water	7470A	
310-216815-2	NC2MW3	Total/NA	Water	7470A	
310-216815-3	NC2MW5	Total/NA	Water	7470A	
310-216815-4	NC2MW6	Total/NA	Water	7470A	
310-216815-5	NC2MW7	Total/NA	Water	7470A	
310-216815-6	NC2MW8	Total/NA	Water	7470A	
310-216815-7	DUP2	Total/NA	Water	7470A	
MB 310-331210/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-331210/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 331367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216815-1	NC2MW2	Total/NA	Water	7470A	331210
310-216815-2	NC2MW3	Total/NA	Water	7470A	331210
310-216815-3	NC2MW5	Total/NA	Water	7470A	331210
310-216815-4	NC2MW6	Total/NA	Water	7470A	331210
310-216815-5	NC2MW7	Total/NA	Water	7470A	331210
310-216815-6	NC2MW8	Total/NA	Water	7470A	331210
310-216815-7	DUP2	Total/NA	Water	7470A	331210
MB 310-331210/1-A	Method Blank	Total/NA	Water	7470A	331210
LCS 310-331210/2-A	Lab Control Sample	Total/NA	Water	7470A	331210

Metals

Analysis Batch: 332689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216815-1	NC2MW2	Total/NA	Water	6020A	330872
310-216815-2	NC2MW3	Total/NA	Water	6020A	330872
310-216815-3	NC2MW5	Total/NA	Water	6020A	330872
310-216815-4	NC2MW6	Total/NA	Water	6020A	330872
310-216815-5	NC2MW7	Total/NA	Water	6020A	330872
310-216815-6	NC2MW8	Total/NA	Water	6020A	330872
310-216815-7	DUP2	Total/NA	Water	6020A	330872
MB 310-330872/1-A	Method Blank	Total/NA	Water	6020A	330872
LCS 310-330872/2-A	Lab Control Sample	Total/NA	Water	6020A	330872
310-216815-2 DU	NC2MW3	Total/NA	Water	6020A	330872

General Chemistry

Analysis Batch: 331052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216815-1	NC2MW2	Total/NA	Water	SM 2540C	
310-216815-2	NC2MW3	Total/NA	Water	SM 2540C	
310-216815-3	NC2MW5	Total/NA	Water	SM 2540C	
310-216815-4	NC2MW6	Total/NA	Water	SM 2540C	
310-216815-5	NC2MW7	Total/NA	Water	SM 2540C	
310-216815-6	NC2MW8	Total/NA	Water	SM 2540C	
310-216815-7	DUP2	Total/NA	Water	SM 2540C	
MB 310-331052/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-331052/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-216815-1
Project/Site: Nebraska City Station Unit 2 CCR

Client Sample ID: NC2MW2
Lab Sample ID: 310-216815-1
Date Collected: 10/04/21 17:43
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331486	10/11/21 18:48	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 19:27	SAP	TAL CF
Total/NA	Prep	7470A			331210	10/11/21 11:25	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:38	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331052	10/08/21 15:24	ARG	TAL CF

Client Sample ID: NC2MW3
Lab Sample ID: 310-216815-2
Date Collected: 10/04/21 16:24
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331486	10/13/21 08:22	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 19:30	SAP	TAL CF
Total/NA	Prep	7470A			331210	10/11/21 11:25	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:41	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331052	10/08/21 15:24	ARG	TAL CF

Client Sample ID: NC2MW5
Lab Sample ID: 310-216815-3
Date Collected: 10/04/21 12:46
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331486	10/11/21 19:19	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 19:35	SAP	TAL CF
Total/NA	Prep	7470A			331210	10/11/21 11:25	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:43	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331052	10/08/21 15:24	ARG	TAL CF

Client Sample ID: NC2MW6
Lab Sample ID: 310-216815-4
Date Collected: 10/04/21 15:38
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331486	10/11/21 19:35	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 19:38	SAP	TAL CF
Total/NA	Prep	7470A			331210	10/11/21 11:25	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:45	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331052	10/08/21 15:24	ARG	TAL CF

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-216815-1
Project/Site: Nebraska City Station Unit 2 CCR

Client Sample ID: NC2MW7
Lab Sample ID: 310-216815-5
Date Collected: 10/04/21 18:35
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331486	10/11/21 20:22	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 19:40	SAP	TAL CF
Total/NA	Prep	7470A			331210	10/11/21 11:25	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:47	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331052	10/08/21 15:24	ARG	TAL CF

Client Sample ID: NC2MW8
Lab Sample ID: 310-216815-6
Date Collected: 10/04/21 17:00
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331486	10/11/21 20:37	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 19:43	SAP	TAL CF
Total/NA	Prep	7470A			331210	10/11/21 11:25	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:53	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331052	10/08/21 15:24	ARG	TAL CF

Client Sample ID: DUP2
Lab Sample ID: 310-216815-7
Date Collected: 10/04/21 00:00
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331486	10/11/21 20:53	JNR	TAL CF
Total/NA	Prep	3010A			330872	10/08/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332689	10/22/21 19:56	SAP	TAL CF
Total/NA	Prep	7470A			331210	10/11/21 11:25	EAM	TAL CF
Total/NA	Analysis	7470A		1	331367	10/12/21 11:55	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	331052	10/08/21 15:24	ARG	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-216815-1
Project/Site: Nebraska City Station Unit 2 CCR

Laboratory: Eurofins TestAmerica, Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Colorado	Petroleum Storage Tank Program	IA100001 (OR)	09-29-22
Georgia	State	IA100001 (OR)	09-29-22
Illinois	NELAP	200024	11-29-21
Iowa	State	007	12-01-21
Kansas	NELAP	E-10341	01-31-22
Minnesota	NELAP	019-999-319	12-31-21
Minnesota (Petrofund)	State	3349	04-06-23
North Dakota	State	R-186	09-29-21 *
Oregon	NELAP	IA100001	09-29-22
USDA	US Federal Programs	P330-19-00003	01-02-22

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

Method Summary

Client: Omaha Public Power District
Job ID: 310-216815-1
Project/Site: Nebraska City Station Unit 2 CCR

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

Protocol References:

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

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

Laboratory References:

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

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310-216815 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: Nebraska City Station Unit 1/2

Receipt Information

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

Received By: HED

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # -1 of ~~2~~	cc 10-7-21
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact?	☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler?	↓

Temperature Record

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

Thermometer ID: N

Correction Factor (°C): 0

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

Uncorrected Temp (°C): 1.0

Corrected Temp (°C): 1.0

• **Sample Container Temperature**

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

Exceptions Noted

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

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

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

Additional Comments

contained : NC2MW2, NC2MW6, NC2MW8, DUP2

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: Nebraska City Station

Receipt Information

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

Received By: HED

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # ~~5~~ 2 of ~~5~~ 2	cc 10-7-21
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact?	☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler?	↓

Temperature Record

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

Thermometer ID: N

Correction Factor (°C): 0

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

Uncorrected Temp (°C): 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

Contained : NC2MW7, NC2MW3, NC2MW5

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

Chain of Custody Record

TestAmerica

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

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

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6915 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	10/4/21	17:43	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW3	10/4/21	16:24	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
NC2MW5	10/4/21	12:44	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW6	10/4/21	15:39	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW7	10/4/21	18:35	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
NC2MW8	10/4/21	17:00	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted] DUP2	10/4/21	--	G	W	N		X	X	X	4	CCR Appendix III and IV Constituents

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

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

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: 10/6/2021 1530	Company: OPPD	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 10-7-21 0940	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: 310-216815-1

Login Number: 216815
List Number: 1
Creator: Muehling, Angela C

List Source: Eurofins TestAmerica, Cedar Falls

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-216815-2
Client Project/Site: Nebraska City Station Unit 2 CCR

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

Attn: Kyle Uhing

Authorized for release by:
11/16/2021 3:42:38 PM

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

Table of Contents

Case Narrative

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

Job ID: 310-216815-2

Job ID: 310-216815-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-216815-2

Comments
No additional comments.

Receipt
The samples were received on 10/7/2021 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.4° C and 1.0° C.

RAD
Method PrecSep_0: Radium-228 Prep Batch 160-530648
The following samples were prepared at a reduced aliquot due to Matrix: NC2MW2 (310-216815-1), NC2MW3 (310-216815-2), NC2MW5 (310-216815-3), NC2MW6 (310-216815-4) and NC2MW7 (310-216815-5). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-530645
The following samples were prepared at a reduced aliquot due to Matrix: NC2MW2 (310-216815-1), NC2MW3 (310-216815-2), NC2MW5 (310-216815-3), NC2MW6 (310-216815-4) and NC2MW7 (310-216815-5). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

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

Sample Summary

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

Job ID: 310-216815-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-216815-1	NC2MW2	Water	10/04/21 17:43	10/07/21 09:40
310-216815-2	NC2MW3	Water	10/04/21 16:24	10/07/21 09:40
310-216815-3	NC2MW5	Water	10/04/21 12:46	10/07/21 09:40
310-216815-4	NC2MW6	Water	10/04/21 15:38	10/07/21 09:40
310-216815-5	NC2MW7	Water	10/04/21 18:35	10/07/21 09:40
310-216815-6	NC2MW8	Water	10/04/21 17:00	10/07/21 09:40
310-216815-7	DUP2	Water	10/04/21 00:00	10/07/21 09:40

Client Sample Results

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

Job ID: 310-216815-2

Client Sample ID: NC2MW2
Date Collected: 10/04/21 17:43
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216815-1
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.157	U	0.275	0.275	1.00	0.477	pCi/L	10/11/21 10:03	11/03/21 22:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.5*		*40 - 110*	*10/11/21 10:03*	*11/03/21 22:51*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.76**		0.497	0.522	1.00	0.638	pCi/L	10/11/21 10:40	11/03/21 13:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.5*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:14*	*1*
Y Carrier	*82.2*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:14*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.92**		0.568	0.590	5.00	0.638	pCi/L		11/13/21 18:14	1

Client Sample Results

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

Job ID: 310-216815-2

Client Sample ID: NC2MW3
Date Collected: 10/04/21 16:24
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216815-2
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0739	U	0.262	0.262	1.00	0.482	pCi/L	10/11/21 10:03	11/03/21 22:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*10/11/21 10:03*	*11/03/21 22:51*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.824**		0.366	0.374	1.00	0.518	pCi/L	10/11/21 10:40	11/03/21 13:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:14*	*1*
Y Carrier	*82.2*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:14*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.898**		0.450	0.457	5.00	0.518	pCi/L		11/13/21 18:14	1

Client Sample Results

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

Job ID: 310-216815-2

Client Sample ID: NC2MW5
Date Collected: 10/04/21 12:46
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216815-3
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0501	U	0.256	0.256	1.00	0.480	pCi/L	10/11/21 10:03	11/03/21 22:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*10/11/21 10:03*	*11/03/21 22:52*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.10**		0.448	0.459	1.00	0.646	pCi/L	10/11/21 10:40	11/03/21 13:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:14*	*1*
Y Carrier	*82.6*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:14*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.15**		0.516	0.526	5.00	0.646	pCi/L		11/13/21 18:14	1

Client Sample Results

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

Job ID: 310-216815-2

Client Sample ID: NC2MW6
Date Collected: 10/04/21 15:38
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216815-4
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.15**		0.526	0.536	1.00	0.656	pCi/L	10/11/21 10:03	11/04/21 08:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.9*		*40 - 110*	*10/11/21 10:03*	*11/04/21 08:15*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**3.84**		0.749	0.828	1.00	0.783	pCi/L	10/11/21 10:40	11/03/21 13:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.9*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:15*	*1*
Y Carrier	*81.9*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:15*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**4.99**		0.915	0.986	5.00	0.783	pCi/L		11/13/21 18:14	1

Client Sample Results

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

Job ID: 310-216815-2

Client Sample ID: NC2MW7
Date Collected: 10/04/21 18:35
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216815-5
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.477		0.322	0.325	1.00	0.468	pCi/L	10/11/21 10:03	11/04/21 08:15	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110	10/11/21 10:03	11/04/21 08:15	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.22		0.390	0.406	1.00	0.507	pCi/L	10/11/21 10:40	11/03/21 13:15	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110	10/11/21 10:40	11/03/21 13:15	1
Y Carrier	83.7		40 - 110	10/11/21 10:40	11/03/21 13:15	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.70		0.506	0.520	5.00	0.507	pCi/L		11/13/21 18:14	1

Client Sample Results

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

Job ID: 310-216815-2

Client Sample ID: NC2MW8
Date Collected: 10/04/21 17:00
Date Received: 10/07/21 09:40

Lab Sample ID: 310-216815-6
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.886		0.275	0.287	1.00	0.263	pCi/L	10/11/21 10:03	11/04/21 08:18	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	99.5		40 - 110	10/11/21 10:03	11/04/21 08:18	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.44		0.392	0.414	1.00	0.522	pCi/L	10/11/21 10:40	11/03/21 13:15	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	99.5		40 - 110	10/11/21 10:40	11/03/21 13:15	1
Y Carrier	83.0		40 - 110	10/11/21 10:40	11/03/21 13:15	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.32		0.479	0.504	5.00	0.522	pCi/L		11/13/21 18:14	1

Client Sample ID: DUP2
Lab Sample ID: 310-216815-7
Date Collected: 10/04/21 00:00
Matrix: Water
Date Received: 10/07/21 09:40

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.428		0.240	0.243	1.00	0.314	pCi/L	10/12/21 11:32	11/05/21 20:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*10/12/21 11:32*	*11/05/21 20:30*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.46		0.397	0.419	1.00	0.501	pCi/L	10/12/21 12:13	11/04/21 16:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*10/12/21 12:13*	*11/04/21 16:37*	*1*
Y Carrier	*86.4*		*40 - 110*	*10/12/21 12:13*	*11/04/21 16:37*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.89		0.464	0.484	5.00	0.501	pCi/L		11/13/21 18:14	1

Qualifiers

Rad

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

Glossary

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

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-530645/23-A
Matrix: Water
Analysis Batch: 535165

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 530645

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

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

Lab Sample ID: LCS 160-530645/1-A
Matrix: Water
Analysis Batch: 534853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 530645

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

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

Lab Sample ID: LCSD 160-530645/2-A
Matrix: Water
Analysis Batch: 534853

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 530645

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

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

Lab Sample ID: MB 160-531167/24-A
Matrix: Water
Analysis Batch: 535209

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 531167

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1859	U	0.202	0.202	1.00	0.324	pCi/L	10/12/21 11:32	11/05/21 20:33	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110	10/12/21 11:32	11/05/21 20:33	1

Lab Sample ID: LCS 160-531167/1-A
Matrix: Water
Analysis Batch: 535209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 531167

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	13.20		1.64	1.00	0.378	pCi/L	87	75 - 125

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

Lab Sample ID: LCS 160-531167/1-A
Matrix: Water
Analysis Batch: 535209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 531167

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	86.0		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-530648/23-A
Matrix: Water
Analysis Batch: 534860

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 530648

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

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

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

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

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

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

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

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

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

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

Lab Sample ID: MB 160-531213/24-A
Matrix: Water
Analysis Batch: 535030

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 531213

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4763		0.299	0.302	1.00	0.453	pCi/L	10/12/21 12:13	11/04/21 16:38	1

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

Lab Sample ID: MB 160-531213/24-A
Matrix: Water
Analysis Batch: 535030

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 531213

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110	10/12/21 12:13	11/04/21 16:38	1
Y Carrier	85.2		40 - 110	10/12/21 12:13	11/04/21 16:38	1

Lab Sample ID: LCS 160-531213/1-A
Matrix: Water
Analysis Batch: 535031

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 531213

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			12.2	12.94		1.78	1.00	1.05	pCi/L	106	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	86.0		40 - 110
Y Carrier	76.6		40 - 110

Rad

Prep Batch: 530645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216815-1	NC2MW2	Total/NA	Water	PrecSep-21	
310-216815-2	NC2MW3	Total/NA	Water	PrecSep-21	
310-216815-3	NC2MW5	Total/NA	Water	PrecSep-21	
310-216815-4	NC2MW6	Total/NA	Water	PrecSep-21	
310-216815-5	NC2MW7	Total/NA	Water	PrecSep-21	
310-216815-6	NC2MW8	Total/NA	Water	PrecSep-21	
MB 160-530645/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-530645/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-530645/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 530648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216815-1	NC2MW2	Total/NA	Water	PrecSep_0	
310-216815-2	NC2MW3	Total/NA	Water	PrecSep_0	
310-216815-3	NC2MW5	Total/NA	Water	PrecSep_0	
310-216815-4	NC2MW6	Total/NA	Water	PrecSep_0	
310-216815-5	NC2MW7	Total/NA	Water	PrecSep_0	
310-216815-6	NC2MW8	Total/NA	Water	PrecSep_0	
MB 160-530648/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-530648/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-530648/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 531167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216815-7	DUP2	Total/NA	Water	PrecSep-21	
MB 160-531167/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-531167/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 531213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216815-7	DUP2	Total/NA	Water	PrecSep_0	
MB 160-531213/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-531213/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-216815-2
Project/Site: Nebraska City Station Unit 2 CCR

Client Sample ID: NC2MW2
Lab Sample ID: 310-216815-1
Date Collected: 10/04/21 17:43
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			530645	10/11/21 10:03	BMP	TAL SL
Total/NA	Analysis	9315		1	534860	11/03/21 22:51	FLC	TAL SL
Total/NA	Prep	PrecSep_0			530648	10/11/21 10:40	BMP	TAL SL
Total/NA	Analysis	9320		1	534853	11/03/21 13:14	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	536457	11/13/21 18:14	MLK	TAL SL

Client Sample ID: NC2MW3
Lab Sample ID: 310-216815-2
Date Collected: 10/04/21 16:24
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			530645	10/11/21 10:03	BMP	TAL SL
Total/NA	Analysis	9315		1	534860	11/03/21 22:51	FLC	TAL SL
Total/NA	Prep	PrecSep_0			530648	10/11/21 10:40	BMP	TAL SL
Total/NA	Analysis	9320		1	534853	11/03/21 13:14	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	536457	11/13/21 18:14	MLK	TAL SL

Client Sample ID: NC2MW5
Lab Sample ID: 310-216815-3
Date Collected: 10/04/21 12:46
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			530645	10/11/21 10:03	BMP	TAL SL
Total/NA	Analysis	9315		1	534860	11/03/21 22:52	FLC	TAL SL
Total/NA	Prep	PrecSep_0			530648	10/11/21 10:40	BMP	TAL SL
Total/NA	Analysis	9320		1	534853	11/03/21 13:14	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	536457	11/13/21 18:14	MLK	TAL SL

Client Sample ID: NC2MW6
Lab Sample ID: 310-216815-4
Date Collected: 10/04/21 15:38
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			530645	10/11/21 10:03	BMP	TAL SL
Total/NA	Analysis	9315		1	535031	11/04/21 08:15	FLC	TAL SL
Total/NA	Prep	PrecSep_0			530648	10/11/21 10:40	BMP	TAL SL
Total/NA	Analysis	9320		1	534853	11/03/21 13:15	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	536457	11/13/21 18:14	MLK	TAL SL

Lab Chronicle

Client: Omaha Public Power District
Job ID: 310-216815-2
Project/Site: Nebraska City Station Unit 2 CCR

Client Sample ID: NC2MW7
Lab Sample ID: 310-216815-5
Date Collected: 10/04/21 18:35
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			530645	10/11/21 10:03	BMP	TAL SL
Total/NA	Analysis	9315		1	535031	11/04/21 08:15	FLC	TAL SL
Total/NA	Prep	PrecSep_0			530648	10/11/21 10:40	BMP	TAL SL
Total/NA	Analysis	9320		1	534853	11/03/21 13:15	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	536457	11/13/21 18:14	MLK	TAL SL

Client Sample ID: NC2MW8
Lab Sample ID: 310-216815-6
Date Collected: 10/04/21 17:00
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			530645	10/11/21 10:03	BMP	TAL SL
Total/NA	Analysis	9315		1	535165	11/04/21 08:18	ANW	TAL SL
Total/NA	Prep	PrecSep_0			530648	10/11/21 10:40	BMP	TAL SL
Total/NA	Analysis	9320		1	534853	11/03/21 13:15	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	536457	11/13/21 18:14	MLK	TAL SL

Client Sample ID: DUP2
Lab Sample ID: 310-216815-7
Date Collected: 10/04/21 00:00
Matrix: Water
Date Received: 10/07/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			531167	10/12/21 11:32	BMP	TAL SL
Total/NA	Analysis	9315		1	535213	11/05/21 20:30	MLK	TAL SL
Total/NA	Prep	PrecSep_0			531213	10/12/21 12:13	BMP	TAL SL
Total/NA	Analysis	9320		1	535031	11/04/21 16:37	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	536457	11/13/21 18:14	MLK	TAL SL

Laboratory References:

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

Accreditation/Certification Summary

Client: Omaha Public Power District
Job ID: 310-216815-2
Project/Site: Nebraska City Station Unit 2 CCR

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21 *
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

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

Method Summary

Client: Omaha Public Power District
Job ID: 310-216815-2
Project/Site: Nebraska City Station Unit 2 CCR

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

Protocol References:

None = None

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

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

Laboratory References:

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

eurofins | Environment Testing TestAmerica

310-216815 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

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

Receipt Information

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

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # -1 of ~~2~~	cc 10-7-21
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact?	☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler?	↓

Temperature Record

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

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

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

Uncorrected Temp (°C): 1.0 | Corrected Temp (°C): 1.0

• **Sample Container Temperature**

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

Exceptions Noted

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

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

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

Additional Comments

contained : NC2MW2, NC2MW6, NC2MW8, DUP2

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

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

Receipt Information

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

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # ~~5~~ 2 of ~~5~~ 2	cc 10-7-21
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact?	☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler?	↓

Temperature Record

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

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

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

Uncorrected Temp (°C): 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

Contained : NC2MW7, NC2MW3, NC2MW5

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

Chain of Custody Record

TestAmerica

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

Analysis Requested

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

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 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	10/4/21	11:43	G	W	N		X	X	X													4	CCR Appendix III and IV Constituents
NC2MW3	10/4/21	16:24	G	W	N		X	X	X													4	CCR Appendix III and IV Constituents
[redacted]																							[redacted]
NC2MW5	10/4/21	12:46	G	W	N		X	X	X													4	CCR Appendix III and IV Constituents
NC2MW6	10/4/21	15:39	G	W	N		X	X	X													4	CCR Appendix III and IV Constituents
NC2MW7	10/4/21	15:35	G	W	N		X	X	X													4	CCR Appendix III and IV Constituents
NC2MW8	10/4/21	17:00	G	W	N		X	X	X													4	CCR Appendix III and IV Constituents
[redacted]																							[redacted]
DUP2	10/4/21	--	G	W	N		X	X	X													4	CCR Appendix III and IV Constituents

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

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

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: 10/6/2021 1530	Company: OPPD	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 10-7-21 0940	Company

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

Client: Omaha Public Power District

Job Number: 310-216815-2

Login Sample Receipt Checklist

Login Number: 216815
List Number: 1
Creator: Muehling, Angela C

List Source: Eurofins TestAmerica, Cedar Falls

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

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-216815-2

Login Number: 216815
List Number: 2
Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis
List Creation: 10/08/21 07:26 PM

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

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-216815-2

Login Number: 216815
List Number: 3
Creator: Johnson, Autumn R

List Source: Eurofins TestAmerica, St. Louis
List Creation: 10/11/21 04:49 PM

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

Tracer/Carrier Summary

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

Job ID: 310-216815-2

Method: 9315 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
310-216815-1	NC2MW2	91.5
310-216815-2	NC2MW3	100
310-216815-3	NC2MW5	103
310-216815-4	NC2MW6	96.9
310-216815-5	NC2MW7	101
310-216815-6	NC2MW8	99.5
310-216815-7	DUP2	100
LCS 160-530645/1-A	Lab Control Sample	97.4
LCS 160-531167/1-A	Lab Control Sample	86.0
LCSD 160-530645/2-A	Lab Control Sample Dup	97.4
MB 160-530645/23-A	Method Blank	84.2
MB 160-531167/24-A	Method Blank	101

Tracer/Carrier Legend
Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
310-216815-1	NC2MW2	91.5	82.2
310-216815-2	NC2MW3	100	82.2
310-216815-3	NC2MW5	103	82.6
310-216815-4	NC2MW6	96.9	81.9
310-216815-5	NC2MW7	101	83.7
310-216815-6	NC2MW8	99.5	83.0
310-216815-7	DUP2	100	86.4
LCS 160-530648/1-A	Lab Control Sample	97.4	80.4
LCS 160-531213/1-A	Lab Control Sample	86.0	76.6
LCSD 160-530648/2-A	Lab Control Sample Dup	97.4	81.5
MB 160-530648/23-A	Method Blank	84.2	89.3
MB 160-531213/24-A	Method Blank	101	85.2

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

LINKS

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-216812-1
Client Project/Site: Nebraska City Station Unit 1/2 CCR

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

Attn: Kyle Uhing

Authorized for release by:
10/25/2021 6:19:26 PM

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

Table of Contents

Case Narrative

Job ID: 310-216812-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-216812-1

Comments
No additional comments.

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

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

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

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

Sample Summary

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

Job ID: 310-216812-1

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

Detection Summary

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

Job ID: 310-216812-1

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

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

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

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

This Detection Summary does not include radiochemical test results.

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

Lab Sample ID: 310-216812-1
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

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

Method: 6020A - Metals (ICP/MS)

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

Method: 7470A - Mercury (CVAA)

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

General Chemistry

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

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

Lab Sample ID: 310-216812-2
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

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

Method: 6020A - Metals (ICP/MS)

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

Method: 7470A - Mercury (CVAA)

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

General Chemistry

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

Definitions/Glossary

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

Qualifiers

HPLC/IC

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

Metals

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

Glossary

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

QC Sample Results

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

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-331496/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331496

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

Lab Sample ID: LCS 310-331496/33 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331496

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.06		mg/L		101	90 - 110
Fluoride	2.00	2.168		mg/L		108	90 - 110
Sulfate	10.0	10.54		mg/L		105	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-330872/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 332689 — **Prep Batch: 330872**

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

Lab Sample ID: LCS 310-330872/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 332689 — **Prep Batch: 330872**

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

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

Lab Sample ID: LCS 310-330872/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 332689 — **Prep Batch: 330872**

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

Lab Sample ID: 310-216812-2 MS — **Client Sample ID: MW13**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 332689 — **Prep Batch: 330872**

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

Lab Sample ID: 310-216812-2 MSD — **Client Sample ID: MW13**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 332689 — **Prep Batch: 330872**

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

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-331208/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331367 — **Prep Batch: 331208**

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

Lab Sample ID: LCS 310-331208/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331367 — **Prep Batch: 331208**

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

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

Lab Sample ID: MB 310-331052/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331052

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

Lab Sample ID: LCS 310-331052/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331052

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	910.0		mg/L		91	90 - 110

QC Association Summary

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

HPLC/IC

Analysis Batch: 331496

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

Metals

Prep Batch: 330872

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

Prep Batch: 331208

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

Analysis Batch: 331367

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

Analysis Batch: 332689

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

General Chemistry

Analysis Batch: 331052

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

Lab Chronicle

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

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

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

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

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

Laboratory References:

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

Accreditation/Certification Summary

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

Laboratory: Eurofins TestAmerica, Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Colorado	Petroleum Storage Tank Program	IA100001 (OR)	09-29-22
Georgia	State	IA100001 (OR)	09-29-22
Illinois	NELAP	200024	11-29-21
Iowa	State	007	12-01-21
Kansas	NELAP	E-10341	01-31-22
Minnesota	NELAP	019-999-319	12-31-21
Minnesota (Petrofund)	State	3349	04-06-23
North Dakota	State	R-186	09-29-21 *
Oregon	NELAP	IA100001	09-29-22
USDA	US Federal Programs	P330-19-00003	01-02-22

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

Method Summary

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

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

Protocol References:

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

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

Laboratory References:

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

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310-216812 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: Nebraska City Station Unit 1/2

Receipt Information

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

Received By: HED

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	~~☒ Yes~~ ☒ No	*If yes:* Cooler # ~~2 of 5~~	CC 10-7-21
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact? ☒ Yes	☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact? ☐ Yes	☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? 1	

Temperature Record

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

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

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

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

• **Sample Container Temperature**

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

Exceptions Noted

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

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

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

Additional Comments

contained: MW13, NC2MW4, NC1MW3, NC1MW9, DUP1

TestAmerica

Chain of Custody Record

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

Client Information
Client Contact: Kyle Uhing
Company: Omaha Public Power District
Address: 444 South 16th Street 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 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 - Ammchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify); Other:

Special Instructions/Note:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Solid, Oil/Waste, Air)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	25462 TDS, 9056A Chloride, Fluoride, Sulfate	Total Number of containers
[redacted]											
[redacted]											
NC2MW4	10/4/21	1053	G	W		N		X	X	X	4
[redacted]											
[redacted]											
[redacted]											
[redacted]											
MW13	10/4/21	0959	G	W		N		X	X	X	4
[redacted]											

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: Company

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

Relinquished by: Date/Time: Company — Received by: Company — Date/Time: 10-7-21 0940

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

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-216812-1

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

List Source: Eurofins TestAmerica, Cedar Falls

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-216812-2
Client Project/Site: Nebraska City Station Unit 1/2 CCR

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

Attn: Kyle Uhing

Authorized for release by:
11/8/2021 2:30:41 PM

Shawn Hayes, Senior Project Manager
(319)229-8211
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Table of Contents

Case Narrative

Job ID: 310-216812-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-216812-2

Comments
No additional comments.

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

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

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

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

Sample Summary

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

Job ID: 310-216812-2

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

Client Sample Results

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

Job ID: 310-216812-2

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

Lab Sample ID: 310-216812-1
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.23	G	1.40	1.41	1.00	1.96	pCi/L	10/11/21 10:03	11/03/21 22:48	1

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

Method: 9320 - Radium-228 (GFPC)

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

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.7*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:13*	*1*
Y Carrier	*80.7*		*40 - 110*	*10/11/21 10:40*	*11/03/21 13:13*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	8.39		2.34	2.41	5.00	2.45	pCi/L		11/05/21 19:08	1

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

Lab Sample ID: 310-216812-2
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.419	U	0.375	0.377	1.00	0.586	pCi/L	10/11/21 10:03	11/03/21 22:48	1

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

Method: 9320 - Radium-228 (GFPC)

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

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

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

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

Qualifiers

Rad

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

Glossary

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

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-530645/23-A
Matrix: Water
Analysis Batch: 535165

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 530645

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

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

Lab Sample ID: LCS 160-530645/1-A
Matrix: Water
Analysis Batch: 534853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 530645

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

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

Lab Sample ID: LCSD 160-530645/2-A
Matrix: Water
Analysis Batch: 534853

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 530645

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

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

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-530648/23-A
Matrix: Water
Analysis Batch: 534860

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 530648

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

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

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

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

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

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

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

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

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

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

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

QC Association Summary

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

Job ID: 310-216812-2

Rad

Prep Batch: 530645

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

Prep Batch: 530648

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

Lab Chronicle

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

Job ID: 310-216812-2

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

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

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

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

Laboratory References:

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

Accreditation/Certification Summary

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

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21 *
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

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

Method Summary

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

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

Protocol References:

None = None

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

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

Laboratory References:

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

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310-216812 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Omaha Public Power District

City/State: CITY Omaha STATE NE

Project: Nebraska City Station Unit 1/2

Receipt Information

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

Received By: HED

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:
Multiple Coolers?	~~☒ Yes~~ ☒ No CC 10-7-21	*If yes:* Cooler # ~~2 of 5~~
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? 1

Temperature Record

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

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

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

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

• **Sample Container Temperature**

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

Exceptions Noted

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

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

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

Additional Comments

contained: MW13, NC2MW4, NC1MW3, NC1MW9, DUP1

TestAmerica

Chain of Custody Record

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

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

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 #: 31007559

SSOW#:

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO3, F - MeOH, G - Ammchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify), Other:

Special Instructions/Note:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Solid, Oil/Waste, Air, Other)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226, 9320 Ra228, Combined Ra226 and Ra228	Total 6020A CCR Appendix III and IV, 7470A Mercury	25462C TDS, 9056A Chloride, Fluoride, Sulfate	Total Number of containers
[redacted]						D	N	D	D	N	
[redacted]						D	N	D	D	N	
NC2MW4	10/4/21	1053	G	W		N		X	X	X	4
[redacted]						D	N	D	D	N	
[redacted]						D	N	D	D	N	
[redacted]						D	N	D	D	N	
[redacted]						D	N	D	D	N	
MW13	10/4/21	1459	G	W		N		X	X	X	4
[redacted]						D	N	D	D	N	

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

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

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

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

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-216812-2

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

List Source: Eurofins TestAmerica, Cedar Falls

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

Login Sample Receipt Checklist

Client: Omaha Public Power District

Job Number: 310-216812-2

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

List Source: Eurofins TestAmerica, St. Louis
List Creation: 10/08/21 06:18 PM

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

Tracer/Carrier Summary

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

Method: 9315 - Radium-226 (GFPC)

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

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

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
310-216812-1	NC2MW4	70.7	80.7
310-216812-2	MW13	91.2	81.1
LCS 160-530648/1-A	Lab Control Sample	97.4	80.4
LCSD 160-530648/2-A	Lab Control Sample Dup	97.4	81.5
MB 160-530648/23-A	Method Blank	84.2	89.3

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Appendix C

April 2021 & October 2021
Statistical Memo

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Technical Memorandum

Date:	Friday, July 16, 2021
To:	Omaha Public Power District (OPPD)
From:	HDR Engineering, Inc.
Subject:	Summary of Statistical Analysis and Evaluation for SSLs Nebraska City Station 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 in April 2021, as specified in 40 CFR §257.95(d) and Title 132 Chapter 7 Section 005.06. The statistical analysis of groundwater data was performed in accordance with the methods described in the *Groundwater Monitoring Statistical Methods Certification*, amended July 2018, and the facility’s most recent Groundwater Sampling and Analysis Plan (dated January 4, 2019; revised March 1, 2019) as permitted under Title 132. Sampling results used to calculate the background threshold values (BTVs) were obtained during monitoring events performed between March 2016 and April 2020.

Downgradient sampling results from the April 2021 assessment monitoring were used to evaluate for statistically significant increases (SSIs) over background and statistically significant levels (SSLs) over the groundwater protection 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 C-1**. The calculated lower confidence levels and the evaluation for SSLs over the GWPS for the assessment monitoring constituents are provided in **Table C-2**.

Table C-1. Summary of Assessment Monitoring Detections (April 2021)

		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*	0.371	0.271	1.94	0.227	0.0894J
Calcium	*237*	*mg/L*	235	141	90.4	124	121
Chloride	*36.6*	*mg/L*	24.7	22.7	3.57J	8.69	11.8
Fluoride	*1.28*	*mg/L*	0.392J	**1.37**	<0.275	0.415J	0.393J
pH	*6.48 – 7.92**	*SU*	6.34	6.53	6.65	6.85	6.58
Sulfate	*611*	*mg/L*	458	379	101	<2.45	7.34
TDS	*1,390*	*mg/L*	1,040	1,080	406	494	470
Appendix IV (Assessment Monitoring) Constituents							
Antimony	*0.002*	*mg/L*	**0.00524**	<0.00110	<0.00110	<0.00110	<0.00110
Arsenic	*0.0111*	*mg/L*	<0.00075	0.00113J	<0.00075	**0.0439**	0.0108
Barium	*0.390*	*mg/L*	0.0967	0.113	0.0825	**0.530**	**0.489**
Beryllium	*0.00100*	*mg/L*	<0.00027	<0.00027	<0.00027	<0.00027	<0.00027
Cadmium	*0.000138*	*mg/L*	0.000069J	0.000068J	<0.000051	<0.000051	0.0000520J
Chromium	*0.00500*	*mg/L*	<0.0011	<0.0011	0.001796J	<0.0011	<0.0011
Cobalt	*0.00236*	*mg/L*	0.000118J	0.000188J	<0.000091	0.000384J	0.00220
Radium 226+228	*1.97*	*pCi/L*	1.01	0.188U	0.436	1.05	0.615
Fluoride	*1.28*	*mg/L*	0.392J	**1.37**	<0.275	0.415J	0.393J
Lead	*0.00320*	*mg/L*	0.000752	<0.00021	0.000264J	<0.00021	0.00049J
Lithium	*0.0423*	*mg/L*	0.0311	0.0146	0.0143	**0.0640**	0.0340
Mercury	*0.000200*	*mg/L*	<0.00015	<0.00015	<0.00015	<0.00015	<0.00015
Molybdenum	*0.0339*	*mg/L*	0.0178	0.00306	0.0207	0.00195J	0.00267
Selenium	*0.0238*	*mg/L*	0.00641	<0.00096	0.00154J	<0.00096	0.00142J
Thallium	*0.00100*	*mg/L*	<0.00026	<0.00026	<0.00026	<0.00026	<0.00026

Bold and underlined concentration indicates an SSI over background.

* indicates the lower bound of the range is the lower prediction limit (LPL). The upper bound is the upper prediction limit (UPL).

J – Value is less than the Reporting Limit but above the Method Detection Limit, therefore value is an approximation.

U – Parameter was analyzed for but not detected above limiting criteria (such as, but not limited to minimum detectable concentration; total uncertainty; reporting limit) as defined in the analytical laboratory data package.

Table C-2. Summary of Evaluation for SSLs (April 2021)

		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*	0.003	0.001	0.001	0.001	0.001
Arsenic	*0.0111 [2]*	*mg/L*	0.000989	0.00316	0.000889	**0.0377**	0.00977
Barium	*2.0*	*mg/L*	0.118	0.178	0.107	0.530	0.478
Beryllium	*0.004*	*mg/L*	0.001	0.001	0.001	0.001	0.001
Cadmium	*0.005*	*mg/L*	0.0001	0.00007	0.00006	0.0001	0.00005
Chromium	*0.1*	*mg/L*	0.005	0.005	0.002	0.005	0.005
Cobalt	*0.006*	*mg/L*	0.0001	0.0009	0.0001	0.0003	0.0016
Fluoride	*4.0*	*mg/L*	0.256	0.300	0.232	0.322	0.346
Lead	*0.015*	*mg/L*	0.00075	0.00016	0.00037	0.0005	0.0002
Lithium	*0.0423 [2]*	*mg/L*	0.0262	0.0250	0.0257	**0.05662**	0.0297
Mercury	*0.002*	*mg/L*	0.0002	0.0002	0.0002	0.0002	0.0002
Molybdenum	*0.1*	*mg/L*	0.014	0.004	0.010	0.002	0.002
Radium 226+228	*5.0*	*pCi/L*	0.65	0.59	0.43	0.67	0.57
Selenium	*0.05*	*mg/L*	0.001	0.005	0.002	0.005	0.001
Thallium	*0.002*	*mg/L*	0.001	0.001	0.001	0.001	0.001

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.

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Technical Memorandum

Date:	Monday, January 31, 2022
To:	Omaha Public Power District (OPPD)
From:	HDR Engineering, Inc.
Subject:	Summary of Statistical Analysis and Evaluation for SSLs Nebraska City Station 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 in October 2021, as specified in 40 CFR §257.95(d) and Title 132 Chapter 7 Section 005.06. The statistical analysis of groundwater data was performed in accordance with the methods described in the *Groundwater Monitoring Statistical 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. Sampling results used to calculate the background threshold values (BTVs) were obtained during monitoring events performed between March 2016 and April 2020.

Downgradient sampling results from the October 2021 assessment monitoring were used to evaluate for statistically significant increases (SSIs) over background and statistically significant levels (SSLs) over the groundwater protection 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 C-1**. The calculated lower confidence levels and the evaluation for SSLs over the GWPS for the assessment monitoring constituents are provided in **Table C-2**.

Table C-1. Summary of Assessment Monitoring Detections (October 2021)

		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*	0.668	0.306	2.48	0.190	0.107
Calcium	*237*	*mg/L*	183	139	123	118	130
Chloride	*36.6*	*mg/L*	11.6	12.6	6.30	9.27	10.3
Fluoride	*1.28*	*mg/L*	<0.275	0.492J	<0.275	<0.275	<0.275
pH	*6.48 – 7.92**	*SU*	6.91	7.02	7.20	7.38	7.26
Sulfate	*611*	*mg/L*	266	292	132	<2.45	7.47
TDS	*1,390*	*mg/L*	726	860	524	430	436
Appendix IV (Assessment Monitoring) Constituents							
Antimony	*0.002*	*mg/L*	0.000323	<0.00110	<0.00110	<0.00110	<0.00110
Arsenic	*0.0111*	*mg/L*	0.000907J	0.00354	0.000925J	**0.0427**	0.00958
Barium	*0.390*	*mg/L*	0.106	0.0769	0.133	**0.592**	**0.616**
Beryllium	*0.00100*	*mg/L*	<0.000270	<0.000270	<0.000270	<0.000270	<0.000270
Cadmium	*0.000138*	*mg/L*	**0.000287**	0.0000820J	0.0000800J	<0.0000510	<0.0000510
Chromium	*0.00500*	*mg/L*	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110
Cobalt	*0.00236*	*mg/L*	0.00224	**0.0115**	0.000504	0.000253J	0.00229
Radium 226+228	*1.97*	*pCi/L*	1.92	0.898	**4.99**	1.77	**2.32**
Fluoride	*1.28*	*mg/L*	<0.275	0.492J	<0.275	<0.275	<0.275
Lead	*0.00320*	*mg/L*	0.000609	0.000485J	0.000719	<0.000210	0.000393J
Lithium	*0.0423*	*mg/L*	0.0247	0.0241	0.0345	**0.0566**	0.0340
Mercury	*0.000200*	*mg/L*	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150
Molybdenum	*0.0339*	*mg/L*	**0.0505**	0.00356	0.0124	0.00183J	0.00281
Selenium	*0.0238*	*mg/L*	0.00128J	<0.000960	<0.000960	<0.000960	<0.000960
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 C-2. Summary of Evaluation for SSLs (October 2021)

		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*	0.003057	0.001	0.001	0.001	0.001
Arsenic	*0.0111 [2]*	*mg/L*	0.000907	0.00285	0.000889	**0.03808**	0.01026
Barium	*2.0*	*mg/L*	0.1139	0.1574	0.1081	0.5323	0.4821
Beryllium	*0.004*	*mg/L*	0.00027	0.00027	0.00027	0.00027	0.00027
Cadmium	*0.005*	*mg/L*	0.00022	0.0001	0.0001	0.0001	0.000052
Chromium	*0.1*	*mg/L*	0.005	0.0011	0.00176	0.005	0.005
Cobalt	*0.006*	*mg/L*	0.000142	0.001073	0.000122	0.000261	0.001651
Fluoride	*4.0*	*mg/L*	-0.2394	0.3	0.232	0.3212	0.3172
Lead	*0.015*	*mg/L*	0.000735	0.00035	0.000397	0.00021	0.000201
Lithium	*0.0423 [2]*	*mg/L*	0.02719	0.02636	0.02551	**0.05735**	0.02956
Mercury	*0.002*	*mg/L*	0.00015	0.00015	0.00015	0.00015	0.00015
Molybdenum	*0.1*	*mg/L*	0.01482	0.003802	0.0108	0.001561	0.002443
Radium 226+228	*5.0*	*pCi/L*	0.717	0.6264	0.5496	0.8128	0.64
Selenium	*0.05*	*mg/L*	0.00116	0.00096	0.00096	0.00096	0.00096
Thallium	*0.002*	*mg/L*	0.00026	0.00026	0.00026	0.00026	0.001

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.