



# **Annual Water Quality Report for the Neal North Closed CCR Monofill**




**Permit 97-SDP-24-20C  
Neal North Energy Center  
Sergeant Bluff, Iowa**

MidAmerican Energy Company

January 30, 2026

# Certification

Annual Water Quality Report for the Neal North Closed CCR Monofill  
Permit 97-SDP-24-20C  
Neal North Energy Center  
Sergeant Bluff, Iowa  
MidAmerican Energy Company

	<p>I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.</p>	
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# Executive Summary

This Annual Water Quality Report (AWQR) was prepared by GHD Services Inc. (GHD) on behalf of MidAmerican Energy Company (MidAmerican) for the Neal North Energy Center (Neal North) Closed Coal Combustion Residual (CCR) Monofill (Closed Monofill) located near Sergeant Bluff, Iowa. MidAmerican previously requested a variance from Paragraphs 567-103.1(2)f, 567—103.1(4)d, and 567—103.1(4)e of the Iowa Administrative Code (IAC) which was granted in Permit Amendments No. 4 and No. 5, dated November 30, 2016 and March 6, 2017, respectively.

The variance requests were made to match the groundwater monitoring and reporting requirements established under the Federal CCR rule (40 Code of Federal Regulations [CFR] Part 257). Although the Closed Monofill is not subject to the Federal CCR rules, GHD prepared this AWQR for the closed Neal North Monofill to generally reflect the Federal CCR rule monitoring and reporting requirements for consistency in the monitoring and reporting requirements used for the active Neal North Monofill and the requirements of the Hydrologic Monitoring System Plan prepared for the Closed Monofill. The closed portion of the Neal North Monofill was originally permitted under Operating Permit 97-SDP-12-95P; the closed portion of the Monofill has since been assigned Closure Permit 97-SDP-24-20C and the active Monofill cells retained the original operating permit number. The purpose of this AWQR is to summarize results of the assessment groundwater quality monitoring events completed in March 2025 and September 2025 at the Closed Monofill.

The groundwater monitoring network consists of 38 monitoring wells. Groundwater elevation data were collected from the 38 wells, and groundwater samples were collected from 10 of the 38 monitoring wells. The 10 sampled monitoring wells are screened at the water table. Sampling was conducted using dedicated bladder pumps to purge water and collect samples using low-flow sampling techniques. Groundwater samples were analyzed for the parameters specified in 40 CFR Part 257 Appendix III and Appendix IV analytes for the assessment monitoring events.

The predominant Site-wide flow direction is southwest, toward the Missouri River. The Closed Monofill completed baseline monitoring events in June 2022 and conducted detection monitoring in September 2022 and March 2023. September 2023 was the first assessment monitoring event at the Closed Monofill, and the Site has remained in assessment monitoring through the 2025 reporting period. No changes to the monitoring network or sampling procedures are necessary to evaluate groundwater quality upgradient and downgradient of the Closed Monofill.

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# Acronyms/Abbreviations

AL = Action Level

AWQR = Annual Water Quality Report

BGS = Below ground surface

CCR = Coal combustion residue

CFR = Code of Federal Regulations

CL = Control Limit (M+/-2SD)

Closed Monofill = Neal North Closed CCR Monofill

Eurofins = Eurofins Environment Testing North Central, LLC

ft/ft = feet per foot

GWPS = Groundwater Protection Standard

HMSP = Hydrologic System Monitoring Plan

IAC = [Iowa Administrative Code](#)

IDNR = Iowa Department of Natural Resources

K = Geometric mean hydraulic conductivity

m/day = Meter per day

MCL = EPA Maximum Contaminant Level

Methods Certification = Groundwater Statistical Methods Certification

MidAmerican = MidAmerican Energy Company

mg/L = Milligrams per liter

N/A = Not available/not applicable

NC = No Change

Neal North = Neal North Energy Center

ORP = Oxidation-reduction potential

PVC = Polyvinyl chloride

QA/QC = Quality control/quality assurance

RL = Reporting Limit

SS = Statewide Standard

SSI = Statistically significant increase

SSL = Statistically significant level

TDS = Total Dissolved Solids

USEPA = United States Environmental Protection Agency

UTL = Upper tolerance limit

V = Average horizontal linear velocity

# 1. Introduction

This *Annual Water Quality Report (AWQR)* was prepared by GHD Services Inc. (GHD) on behalf of MidAmerican Energy Company (MidAmerican) for the Neal North Energy Center (Neal North) Closed Coal Combustion Residual (CCR) Monofill (Closed Monofill) located near Sergeant Bluff, Iowa. MidAmerican previously requested a variance from Paragraphs 567—103.1(2)f, 567—103.1(4)d, and 567—103.1(4)e of the Iowa Administrative Code (IAC) which was granted in Permit Amendments No. 4 and No. 5, dated November 30, 2016 and March 6, 2017, respectively. The variance requests were made to match the groundwater monitoring and reporting requirements established under the Federal CCR rule (40 Code of Federal Regulations [CFR] Part 257). Although the Closed Monofill is not subject to the Federal CCR rule, GHD prepared this AWQR for the closed Neal North Monofill to generally reflect the Federal CCR rule monitoring and reporting requirements for consistency in the monitoring and reporting requirements used for the active Neal North Monofill and the requirements of the Hydrologic Monitoring System Plan (HMSP; GHD, 2020) prepared for the Closed Monofill. The closed portion of the Neal North Monofill was originally permitted under Operating Permit 97 SDP-12-95P; the closed portion of the Monofill has since been assigned Closure Permit 97-SDP-24-20C and the active Monofill cells retained the original permit number. The purpose of this AWQR is to summarize results of the groundwater quality assessment monitoring events completed in March and September 2025, as well as one verification monitoring event in May 2025 at the Closed Monofill.

The Closed Monofill is located primarily in the NW  $\frac{1}{4}$  of the SW  $\frac{1}{4}$  of Section 30 Township 87N, Range 47W (East Cell) and the E  $\frac{1}{2}$  of the SE  $\frac{1}{4}$  of Section 25 Township 87N Range 48W (West Cell). Portions extend to the S  $\frac{1}{4}$  of the SW  $\frac{1}{4}$  of the NW  $\frac{1}{4}$  of Section 30 Township 87N Range 47W (East Cell) and to the SE  $\frac{1}{4}$  of the SE  $\frac{1}{4}$  of the NE  $\frac{1}{2}$  of Section 25 Township 87N Range 48W (West Cell). The Site Location Map (Figure 1.1) also shows the location of MidAmerican's Neal South Energy Center facility. The Closed Monofill extent and monitoring well locations are shown on Figure 1.2.

Groundwater monitoring has routinely been conducted at the Monofill since 1996 when a network of 20 monitoring wells was installed. Additional monitoring wells were installed around the now-active Monofill areas in 2006, 2009, and 2015 (with subsequent replacement of some wells due to drought conditions), creating the monitoring well network now in place at the Neal North Monofill. Prior to the Federal CCR rule, groundwater monitoring was conducted annually, and findings were documented in AWQRs submitted to the Iowa Department of Natural Resources (IDNR).

The uppermost aquifer at the Closed Monofill is the water table aquifer. Perched groundwater has been encountered at multiple locations and is included in the groundwater monitoring plan. In general, the subsurface geology at the Closed Monofill includes a layer of fine-grained materials (silts and clays) overlying predominately fine sand with some sand and gravel at depth. A layer of clay up to 55 feet thick has been found at the location of monitoring wells MW-17/MW-18, MW-19/MW-20, MW-21/MW-22, and MW-31/MW-32. Although bedrock was not encountered during hydrogeological investigations, bedrock was encountered at 137 feet below ground surface (BGS) near the Neal North generating unit during the installation of a water well.

## 2. Sampling Protocol

### 2.1 Groundwater Monitoring Network

The groundwater monitoring network consists of 38 monitoring wells (Table 1). Groundwater elevation data were collected from the 38 wells, plus monitoring wells associated with additional monitoring networks at the Neal North Energy Center. Groundwater samples were collected from 10 of the 38 monitoring wells (Table 2). The 10 sampled monitoring wells are screened at the water table (approximately 17-29 feet BGS) in the alluvial aquifer. Horizontal spacing between the downgradient alluvial aquifer monitoring wells ranges from approximately 300 to 400 feet. The

groundwater monitoring network includes monitoring wells used for collection of groundwater samples and for gauging groundwater elevations. Groundwater samples are used to assess potential impacts of the Closed Monofill on surrounding groundwater. Groundwater elevation data are used to identify upgradient and downgradient monitoring points and to determine the potential influence of the Missouri River on groundwater conditions.

All monitoring wells in the groundwater monitoring system consist of 2-inch nominal inner-diameter polyvinyl chloride (PVC) casing and screen. Monitoring well construction included placement of clean silica sand in the screened interval and an annular seal of bentonite to the near surface. Monitoring well surface completions consist of either a lockable stick-up surface casing set in a concrete pad and placement of protective bollards in locations where traffic may be of concern, or a flushmount cover with a watertight well plug in high traffic areas where a stick-up well is not suitable. Review of monitoring records and well inspections indicate the monitoring wells have been operated and maintained adequately to meet the design specifications of the monitoring program.

## 2.2 Monitoring Well Inspection

During each sampling event, the monitoring wells were visually inspected, and any deficient conditions of the monitoring wells were noted. The monitoring wells are subject to regular maintenance and performance evaluations as shown in Table 3. Wells are maintained with a well cap and a lockable protective casing. Observations include the condition of the protective casing/vault and surrounding ground surface. All wells were found to be in generally good condition, with no issues affecting well or sample integrity. Due to the surrounding topography, sediment has accumulated on top of some of the monitoring well pads. The sediment will be removed to inspect well pads during the next monitoring event.

On an annual basis, the total well depth of each well in the monitoring network is measured to evaluate the well condition and potential sediment accumulation in the well. Total well depth measurements from the 2025 total depth measurements are presented in Table 4. If screen occlusion greater than 10 percent is determined to be present, the well will be redeveloped prior to the next sampling event. All sampled well screens were at or below the 10 percent criterion.

## 2.3 Sample Collection

Sampling was conducted using dedicated bladder pumps to purge water and collect samples using low-flow sampling techniques.

Prior to sample collection, the temperature, conductivity, pH, oxidation-reduction potential (ORP), dissolved oxygen, and turbidity of the purge water were measured using a calibrated multiparameter water quality instrument and flow cell. The readings were recorded using the multiparameter meter data logger, on well sampling records, or in a field notebook. Upon stabilization, unfiltered samples were collected in laboratory-supplied containers. Copies of the groundwater sampling records for the 2025 monitoring events are included in Appendix A. During the 2025 monitoring events, field duplicate samples were collected from monitoring wells MW-1R (March and September 2025), MW-29R (March 2025), and MW-231SR (September 2025) for quality assurance/quality control (QA/QC) purposes. In May 2025, a duplicate was collected from a monitoring well associated with the additional monitoring networks at Neal North.

## 2.4 Analytical Parameters

Groundwater samples were analyzed for the parameters specified in 40 CFR Part 257 Appendix III and Appendix IV analytes (Table 5) for the assessment monitoring events. The verification sampling event in May 2025 was analyzed for a subset of the Appendix III and IV analytes. The majority of the laboratory analyses were conducted by Eurofins Environment Testing North Central, LLC (Eurofins) in Cedar Falls, Iowa; the radium 226/228 analyses were conducted by Eurofins in St. Louis, Missouri. Analyses were conducted by the laboratory in accordance with the procedures and methods described in the United States Environmental Protection Agency (USEPA) Manual SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (September 1986)," as updated and/or in accordance with

other approved testing procedures. Eurofins provided prepared sample containers for each monitoring event. Analytical reports from each sampling event report total (i.e., unfiltered) sample results in accordance with the Federal CCR rule.

Table 2 summarizes the sample history for each monitoring well and the analyte list used for each event.

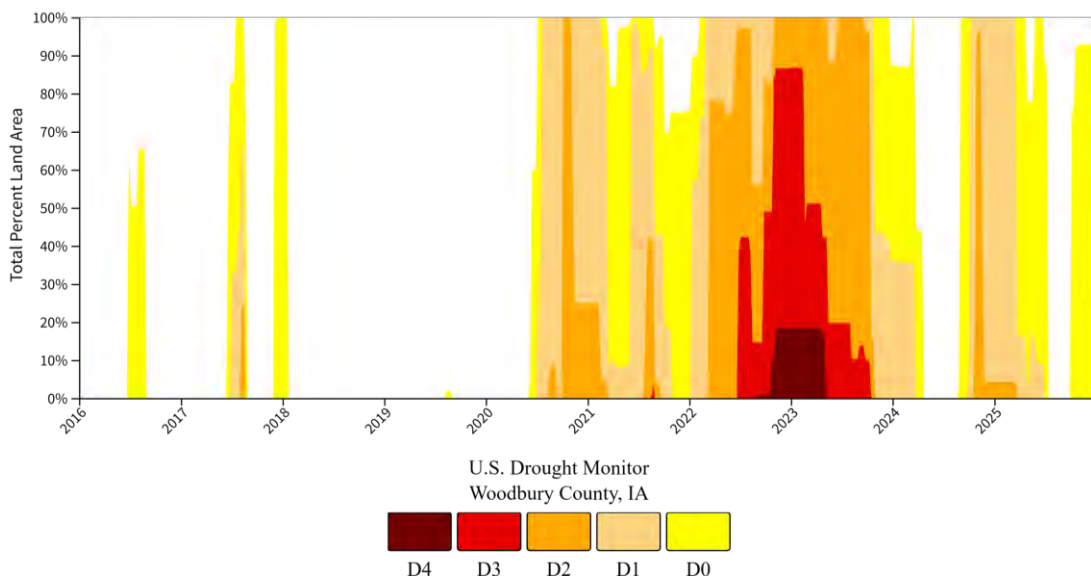
Following receipt of the final laboratory analytical reports from each round of sampling, GHD completed an analytical data quality assessment and validation for the groundwater and field quality assurance samples collected during the baseline monitoring events. Based on these assessments, the data are acceptable for use as reported by the laboratories.

### 3. Groundwater Flow Conditions

#### 3.1 Drought and Flood Conditions

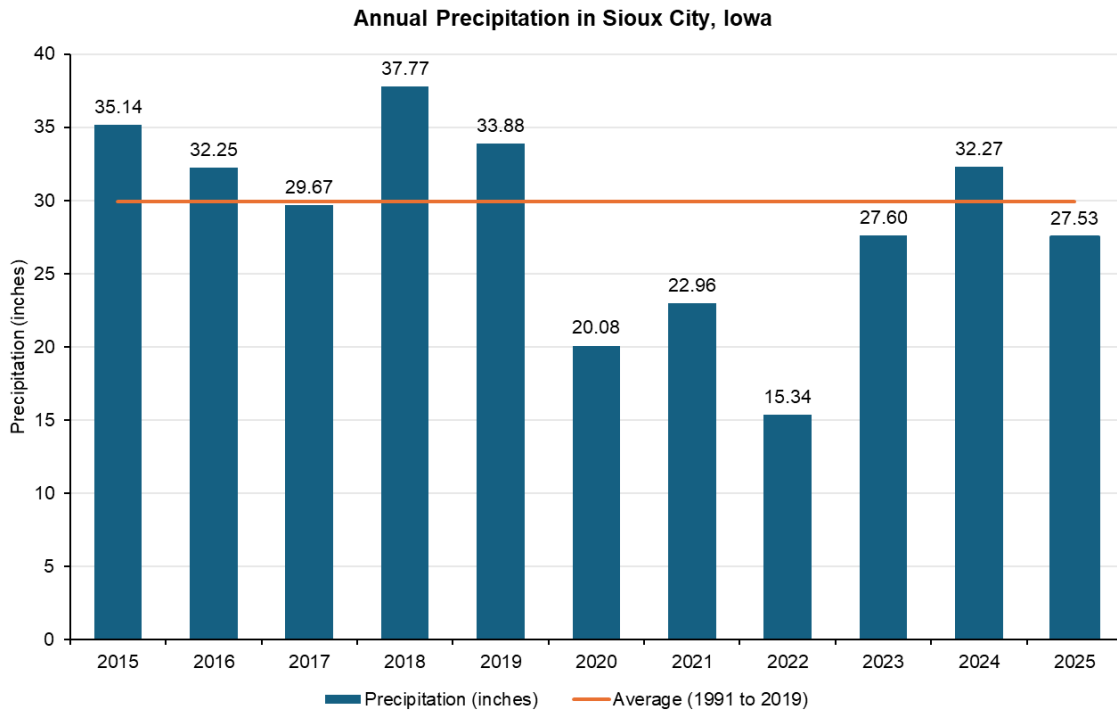
Groundwater levels at Neal North declined over the last few years due to regional drought conditions. Drought conditions for Woodbury County from 2016 through December 31, 2025, reported by the U.S. Drought Monitor are shown on Inset 1. In mid-2020, 100 percent of the area of Woodbury County was recorded as D0 Abnormally Dry, which intensified into D1 Moderate Drought and then D2 Severe Drought for a period of time. In early 2021, approximately 80 percent of Woodbury County was in drought. During early 2022 through late 2023, the entire county was reported as at least D1 Moderate Drought, with significant periods of time where all or most of the county was in D2 Severe Drought or D3 Extreme Drought. During late 2022 and early 2023, almost 20 percent of the county, including Neal North, was reported as D4 Exceptional Drought. Beginning mid-April 2024, all of Woodbury County was out of drought conditions until September 2024. Since October 2024, nearly all of Woodbury County has been reported as at least D0 Abnormally Dry, with a short period of time from mid-July through September where all of Woodbury County was no longer in drought conditions.

On June 21, 2024, Woodbury County underwent a county-wide flood event. Prior to this, pressure transducers were installed at six locations at the Site: MW-217S, MW-218S, MW-219S, MW-227S, MW-230S, and MW-235S. As a response to the anticipated flooding, GHD deployed additional pressure transducers on June 20, 2024, at monitoring wells MW-233S and MW-234S. These transducers assisted in monitoring groundwater elevation changes as a result of the June 21 flooding event, as well as groundwater elevation changes between sampling events.



**Inset 1. Drought conditions for Woodbury County.**  
<https://www.drought.gov/states/iowa/county/Woodbury>

The annual precipitation for the Sioux City, Iowa area is shown on Inset 2. The average annual rainfall (1991 through 2019) at Sioux City, Iowa, is 29.90 inches. Rainfall was near normal from 2016 through 2019. From 2020 through 2023, rainfall had been below the annual average. 2024 was above average for the first time since 2019 but decreased in 2025. Through December 31, 2025, the annual precipitation is 27.53 inches, which is 1.74 inches below the annual average.



**Inset 2. Annual precipitation in Sioux City, Iowa, 2015 through 2025.**  
<https://hprcc.unl.edu/stationtool/explore.php?sid=USW00014943%27>

During 2018 and 2019, releases from the Missouri River reservoir system upstream to the Site were higher-than average. During 2020 through 2023, releases into the Missouri River from the reservoir system decreased river stage near the Site (Inset 3) and reduced precipitation occurred (Inset 2). In mid-2024, the river stage began to increase. The flood event that occurred mid-June is recorded on Inset 3. The river stage increased to levels higher than was recorded in 2019. After June 2024, the river stage returned to similar levels as those observed since 2023.

January 1, 2015 - December 31, 2025  
**Gage height, feet**



*Inset 3. Missouri River elevations at Sioux City, Iowa.*  
<https://waterdata.usgs.gov/monitoring-location/06486000/#parameterCode=00065&period=P2742D>

Groundwater elevations since monitoring began in late 2015 are shown on Inset 4 for select monitoring wells at Neal North. The highest observed groundwater elevations occurred in 2019 and were on a generally decreasing trend though 2023, corresponding with below average precipitation in the area and reduced flows in the Missouri River. Corresponding with an increase in precipitation in the area, groundwater elevations have been showing an increasing trend since 2023.



*Inset 4. Hydrograph for select wells at Neal North.*

## 3.2 Horizontal Groundwater Flow

Groundwater levels were measured at each of the monitoring wells included in the monitoring network during each semiannual monitoring event. Many of the Closed Monofill groundwater monitoring wells are in a nested pair with one shallow and one deep well, as illustrated on Figure 1.2. Table 4 presents groundwater elevations measured in wells during the 2025 monitoring events. A groundwater flow map was prepared using water level measurements from each semiannual monitoring event for both the shallow and deep portions of the alluvial aquifer (Figures 3.1 through 3.6).

The groundwater contour maps show the groundwater flow direction in the shallow portion of the alluvial aquifer and the localized effect that an area of low permeability materials may have on the groundwater flow direction, provided on Figures 3.1, 3.3, and 3.5. Higher groundwater elevations are observed in areas of low permeability sediments that result in local variations in flow directions. However, the predominant Site-wide flow direction is west to west-northwest, toward the Missouri River. Groundwater mounding is observed around monitoring wells MW-19 and MW-21.

Figures 3.2, 3.4, and 3.6 illustrate the southwesterly groundwater flow direction in the deeper portion of the alluvial aquifer. MW-20 is screened in fine-grained material, whereas other deep alluvial aquifer monitoring wells are screened in sand. For this reason, MW-20 was excluded from development of the deep alluvial groundwater contours (Figures 3.2, 3.4, and 3.6). Groundwater flow in the shallow and deep portions of the alluvial aquifer is generally southwest, toward the Missouri River.

## 3.3 Horizontal Gradient and Groundwater Flow Velocity

Hydraulic conductivity estimates for the shallow alluvial aquifer at the Neal North Monofill range from a low of approximately 0.3 meter per day (m/day) to 12.0 m/day (MWH, 2006). Hydraulic conductivity estimates for the deep alluvial aquifer at the Neal North Monofill range from a low of approximately 2.4 m/day to 28.4 m/day (MWH, 2006). The geometric mean hydraulic conductivity for the shallow and deep portions of the alluvial aquifer is 2.3 m/day and 12.2 m/day, respectively (MWH, 2006).

The average horizontal linear groundwater velocity for both portions of the alluvial aquifer was estimated based on hydraulic conductivity, horizontal gradient, and the estimated porosity of the formation using the following equation:

$$V = Ki/n$$

Where V equals the average horizontal linear velocity; K equals the geometric mean hydraulic conductivity (2.3 m/day and 12.2 m/day for shallow and deep portions of the aquifer, respectively); i equals the average horizontal hydraulic gradient; and n equals the effective porosity (estimated at 0.3).

In order to consistently assess groundwater horizontal gradient and flow velocity, gradient was determined between well pairs that have been observed to consistently lie along flow paths. In the shallow portion of the alluvial aquifer, the horizontal gradient was estimated along the groundwater flow path between monitoring wells MW-13R and MW-11R. The gradient in the deeper portion of the alluvial aquifer was determined between monitoring wells MW-30 and MW-6 for the 2025 monitoring events.

During the three 2025 gauging events at the Neal North CCR Monofill, the average linear groundwater velocity was estimated to range between 0.007 m/day (approximately 8 feet per year) during the May 2025 monitoring event and 0.012 m/day (approximately 14 feet per year) during the March 2025 monitoring events in the shallow portion of the alluvial aquifer. The average linear groundwater velocity in the deeper portion of the alluvial aquifer was estimated to range between 0.036 m/day (approximately 43 feet per year) during the May 2025 monitoring event and 0.073 m/day (approximately 87 feet per year) during the March 2025 monitoring event.

### 3.4 Vertical Hydraulic Gradient

Water levels measured in monitoring well pairs during the 2025 monitoring events were used to calculate vertical hydraulic gradient using the equation listed below.

$$\frac{\text{Water Elevation in Deep Well} - \text{Water Elevation in Shallow Well}}{\text{Elevation of Middle of Saturated Zone of Shallow Well Screen} - \text{Elevation of Middle of Saturated Zone of Deep Well Screen}}$$

The difference in groundwater elevations between nested pairs of wells ranged from 0.0 to 0.49 feet at wells pairs MW-3R/MW-4, MW-5R/MW-6, MW-11/MW-12, MW-13/MW-14, MW-23/ MW-24, MW-27/MW-28, MW-29/MW-30, and MW-56/MW-57, to often in excess of several feet at well pairs MW-19/MW-20, MW-21/MW-22, MW-25/MW-26, and MW-31/MW-32, locations where shallow wells were screened in low conductivity sediments. The maximum difference of 14.81 feet was observed at the MW-21/MW-22 well pair during the May 2025 gauging event.

Vertical hydraulic gradients generally ranged from -0.052 feet/foot (ft/ft) downward to 0.027 ft/ft upward during recent gauging events at most locations with nested well pairs. However, downward gradients greater than -0.1 ft/ft were observed in several locations with significant deposits of shallow, poorly drained low permeability materials; in these locations, shallow groundwater levels were elevated relative to the surrounding higher permeability alluvial aquifer (MW-19/MW-20, MW-21/MW-22, and MW-25/MW-26), with downward gradients as high as -0.494 ft/ft. One well pair with significant deposits of low permeability materials (MW-25/MW-26) had an upward vertical gradient observed in May 2025 (0.001 ft/ft) and September 2025 (0.031 ft/ft).

### 3.5 Monitoring Well Network Assessment

The Closed Monofill monitoring network meets the Federal CCR rule requirements of having at least one upgradient monitoring well and three downgradient monitoring wells, and the groundwater monitoring network meets the design and construction requirements of 40 CFR §257.91. Shallow alluvial aquifer monitoring wells MW-13R, MW-27, MW-29R, MW-223S, and MW-231SR have been identified as upgradient background sampling locations.

### 3.6 Leachate and Landfill Gas

The Closed Monofill does not have a leachate collection system or landfill gas monitoring (Table 11 and Table 12).

## 4. Groundwater Monitoring

Groundwater sample collection records are provided in Appendix A and the associated laboratory analytical reports are provided in Appendix B. Appendix C includes time series graphs of concentration verses time for each analyte in the current monitoring program. Analytical results for groundwater samples collected during the eight baseline monitoring events (September 2020 through June 2022) are summarized in Table D.1. The analytical results from the 2025 monitoring events are summarized in Table D.2. These tables, as well as Tables D.3 through D.6, are provided in Appendix D. Further analysis of data from the Closed CCR Monofill is presented in Table 5 through Table 10 and is discussed throughout this section.

Following the assessment and reporting requirements under the Federal CCR rule, groundwater monitoring data are subjected to statistical evaluation to demonstrate compliance with monitoring goals. Evaluation components include:

- Statistical summaries for the data sets obtained (on a per-well, per-parameter basis).
- Preparation of trend plots (concentration vs. time).
- Inter-well comparisons (downgradient vs. upgradient background).
- Intra-well comparisons (vs. baseline conditions at a given well).

The statistical methods used in these evaluation steps for the Neal North Monofill are presented in the Groundwater Statistical Methods Certification (Methods Certification) (GHD, 2017). The procedures in the Methods Certification were selected in accordance with the Federal CCR rule, utilizing methodology presented in the USEPA's *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance* (Unified Guidance) (USEPA, 2009). The present evaluation utilizes the statistical methods presented therein to evaluate monitoring data from groundwater samples collected during the 2025 assessment and verification monitoring events.

Baseline monitoring under the Federal CCR rule occurred at the Neal North Closed Monofill during eight monitoring events conducted between September 2020 and June 2022. These first eight events represent the selected baseline period required for both inter-well and intra-well comparisons. Although the Closed Monofill shares the same upgradient background wells with the Neal North Impoundment 3B and Active Monofill, a new baseline monitoring period was completed (September 2020 and June 2022) to coincide with the initiation of sampling under the 2020 HMSP for the Closed Monofill.

## 4.1 Statistical Analysis Approach

The initial eight rounds of baseline groundwater monitoring data were collected and analyzed for the 40 CFR Part 257 Appendix III and IV constituents (Table 5). One constituent (fluoride) is listed in both the Appendix III and IV constituent lists in the Federal CCR rule. In the present evaluation, fluoride has been included with the Appendix III parameters and is not duplicated again with the other Appendix IV parameters in the various figures and tables of results.

The baseline and 2025 assessment and verification monitoring data for the Neal North Closed Monofill are presented in Tables D.1 and D.2, respectively. Statistical summary information for each data set is provided along with trend analysis results in Tables D.3 (inter-well baseline) and Table D.4 (intra-well baseline).

Groundwater monitoring at the Neal North Closed Monofill is currently conducted under Assessment Monitoring status per the Federal CCR rule. The Closed Monofill is not in an IDNR Groundwater Quality Assessment program so no trend analyses were conducted (Table 10). For downgradient wells, arsenic at MW-1R, cobalt at MW-19, and lithium at MW-19 and MW-21 were the only detections identified above the maximum contaminant level (MCL), groundwater protection standard (GWPS), or Site-specific GWPS. The remaining detections were below the MCL/GWPS (Table D.5). In Tables 6 and 7, background wells with confirmed control limit exceedances are not included but are summarized in Tables 9 and D.6.

No single method of statistical analysis is appropriate for each groundwater constituent dataset; instead, the statistical methods selected for use are dependent upon the data and distributions and should consider the specific constituents and the nature of local hydrogeologic conditions. Depending on characteristics of the Site and the groundwater monitoring data, a mix of inter-well (comparison vs. upgradient background conditions) and intra-well (comparison vs. baseline) tests may be warranted. The statistical methods used for the inter-well and intra-well approaches are selected based on these factors as well as consideration of natural temporal or spatial variability of the concentrations of the groundwater constituents. Substantial natural spatial variability may necessitate intra-well methods. This statistical analysis was completed using both inter-well and intra-well approaches for the purpose of determining if a statistically significant increase (SSI) relative to baseline concentrations has occurred at the Neal North Closed Monofill.

A preliminary statistical analysis of baseline data was conducted to initially assess the constituent data and determine the most appropriate statistical approach(es) for the data. The data were examined for outliers, the percentage of non-detect values, and to determine the statistical data distribution. Time series plots, box plots of upgradient background data, and maps were used to evaluate the potential presence of temporal or spatial variations in constituent concentrations.

All of the Appendix III and IV constituents occur naturally in the environment. For constituents that occur naturally and may vary substantially in concentration across the monitoring network due to natural hydrogeologic or geochemical factors (i.e., exhibiting spatial variability), an inter-well analysis is not appropriate. Constituent concentrations greater than upgradient background conditions might be incorrectly attributed to impact from the Neal North Closed Monofill,

when the differences are actually natural and unrelated to the Neal North Closed Monofill due to locally varying distributions of groundwater constituents. In such cases, an intra-well approach is appropriate.

### 4.1.1 Spatial Variability

The concentration of naturally occurring constituents such as the Appendix III and IV constituents can be affected by the presence of differing aquifer material or geochemistry between monitoring well locations. At the Neal North Monofill, the uppermost groundwater occurs in alluvial deposits, which consist primarily of sands with finer-grained silts and clays. The natural geochemistry of groundwater can vary between these zones and affect the detected concentrations of natural constituents. In the case of the Neal North Monofill, these differing geological materials are intersected by the screened zones of the monitoring wells and may result in spatial variability for some constituents. Box plots, provided in the 2022 AWQR (GHD, 2023), were used to evaluate spatial variability between the upgradient wells.

The presence of spatial variability among the Neal North Closed Monofill upgradient wells (MW-13R, MW-27, MW-29R, MW-223S, and MW-231SR) is evident for many detected constituents during the new baseline period. If no spatial variability is present, the mean and distribution between the upgradient wells would be similar. In contrast, there is strong evidence of spatial variability between wells where interquartile ranges do not overlap, in particular:

- MW-13R and MW-223S appear to have lower concentrations of boron than MW-29R, MW-27, and MW-231SR.
- MW-223S has lower concentrations of calcium, TDS, and lithium than MW-13R, MW-27, MW-29R, and MW-231SR.
- MW-231SR has higher sulfate than MW-13R, MW-27, MW-29R, and MW-223S.
- MW-223S has higher pH than MW-13R, MW-27, MW-29R, and MW-231SR.
- MW-27 and MW-231SR has lower barium concentrations than MW-13R, MW-29R, and MW-223S.

For these constituents, there are observed substantial differences in constituent concentrations in groundwater between the upgradient background wells (MW-13R, MW-27, MW-29R, MW-223S, and MW-231SR). This spatial variability invalidates inter-well comparisons for downgradient wells, since observed differences between downgradient and upgradient conditions could be due to natural variability or could be due to effects of the Neal North Closed Monofill. An inter-well comparison could not distinguish between these two possibilities.

### 4.1.2 Temporal Variability

The Federal CCR rule considers the occurrence of temporal trends in groundwater monitoring data. Where trends are observed, the statistical method selected must take these into account.

For inter-well baseline Upper Tolerance Limits (UTLs), where data from upgradient wells (MW-13R, MW-27, MW-29R, MW-223S, and MW-231SR) were combined, trends were assessed using the Regional Kendall test. This test is a modified Seasonal Kendall test described in detail in USEPA, 2009, Section 14.3.4, substituting the individual wells in the place of the separate seasons. In the test, individual Mann-Kendall statistics are calculated for each analyte at each well separately, and then summed to perform the overall test.

For these constituents, the statistically significant trends impact or invalidate inter-well comparisons, since the statistical methods presented in the Federal CCR rule (40 CFR 257.93 (f)) assume no trends are present in the upgradient data. Further analysis of temporal variability is provided in Section 4.2.1.

### 4.1.3 Summary of Statistical Analysis Approach

The statistical analysis included both inter-well and intra-well approaches for the purpose of determining if SSIs in constituent concentrations in groundwater have occurred at the Neal North Closed Monofill. This approach could change as additional data are collected during future monitoring. If new information warrants such a change, a modification to the statistical approach will be recommended for one or more constituents and/or monitoring wells.

## 4.2 Assessment of Baseline Data

Per the Methods Certification, each of the baseline data sets was subjected to initial screening and assumption checking, considering the following items:

- i. The presence of censored data (i.e., percentage of non-detect results).
- ii. The observed data distribution (i.e., normal, gamma, lognormal, or unknown).
- iii. The presence of statistical outliers.
- iv. Consideration of field duplicate results.

The specific methods employed are described in the Methods Certification. The assumption-checking results for each data set (constituent by well) are presented in Table D.4.

### 4.2.1 Stability Assessment/Baseline Period Trend Analysis

The assessment of temporal trends is included as a precursor to intra-well and inter-well comparisons, as the statistical methods for these comparisons assume that a stable condition is present in the reference data set (i.e., the baseline period for intra-well comparisons, and the upgradient background data set for inter-well comparisons). Where a trend is identified, the comparison procedures must be adjusted to take this into account. Trend tests may also be used as an alternative intra-well comparison procedure when other methods are not appropriate (as noted at the beginning of Section 17.3 of the Unified Guidance [USEPA, 2009]).

The Methods Certification selects two statistical procedures for evaluating trends in the baseline data, namely:

- i. The Mann-Kendall Trend Test.
- ii. The Theil-Sen Median Slope (for data sets identified as having a statistically significant temporal trend by the Mann-Kendall Test).

The applicability and methodology for these procedures are discussed in the Methods Certification. In carrying out the trend tests, a target significance level of 0.05 (i.e., 95 percent confidence) was selected. This significance level is applied on a per-location, per-parameter basis, for all suitable data sets. The Federal CCR rule (40 CFR 257.93 (g)(2)) specifies that a significance level no lower than 0.01 (99 percent confidence) may be applied for individual comparisons, with an overall (site-wide) minimum significance level of 0.05. For current trend screening purposes, a significance level of 0.05 was selected to increase the statistical power of detecting potential trends with data sets containing only eight baseline samples (which is the number of baseline events specified in the Federal CCR rule). Non-detects were accommodated as described in the Methods Certification, considering these to be tied and lower than non-detects in the Mann-Kendall Test, and conservatively substituting the detection limit where needed for calculating the Thiel-Sen median slope.

The baseline data sets presented in Table D.1 were subjected to trend testing as described above. The results of these tests are presented, along with summary statistics, in Table D.4. The trend test findings are also included on trend plots, which are presented in Appendix C, Figures 1 through 10. Note that in the trend plots, field duplicate results are included as discrete points, but in the trend analyses these were averaged prior to trend calculations.

There are a total of 210 baseline data sets that were considered (21 monitoring constituents at each of the 10 wells). Out of these, 74 data sets are comprised entirely of non-detect results. These occur mainly for the following constituents:

- Antimony (all 10 wells).
- Beryllium (all 10 wells).
- Chromium (all 10 wells).
- Fluoride (5 wells).
- Lead (7 wells).
- Mercury (all 10 wells).

- Selenium (7 wells).
- Thallium (8 wells).

Additional constituents with at least one well having no detected results during baseline sampling are arsenic (1 well), cadmium and molybdenum (3 wells each).

There are 23 baseline period data sets containing one or more detected results but having a non-detect frequency greater than 50 percent and were therefore not subjected to trend testing.

The remaining 113 data sets were subjected to trend analysis using the Mann-Kendall Test. The majority of the tests (103 of 113 data sets, or 91 percent) indicated that no statistically significant trends over time were present during the baseline period. Four (4) decreasing trends and six (6) increasing trends were found.

Increasing trends were found for the following wells/constituents:

- Chloride at MW-1R, MW-13R, MW-27, MW-29R, MW-223S, and MW-231SR.

Decreasing trends were found for the following wells/constituents:

- Boron at MW-27.
- Cobalt at MW-1R and MW-3R.
- TDS at MW-3R.

Additionally, there are several data sets noted where there is less confidence of a trend over time (having statistical confidence less than 95 percent but greater than 90 percent), as noted in the comments in Table D.4.

Where trends have been identified in a baseline data set, the methods for intra-well and inter-well comparisons performed below were adjusted to account for non-stationarity during the baseline period.

## 4.2.2 Inter-well Comparisons – Upgradient Background Values

The Federal CCR rule provides a list of alternate statistical procedures applicable to inter-well and intra-well comparisons (see 40 CFR §257.93(f)). In the Methods Certification, the use of upper tolerance limits (UTLs) was selected for assessment of groundwater monitoring data for the Neal North Closed Monofill. A UTL is a statistically-based limit above which a given sample measurement is unlikely to occur if conditions are consistent with the reference population. For inter-well comparisons, the reference population is the data set of constituent concentrations in upgradient background well(s). Since there are five upgradient background wells (MW-13R, MW-27, MW-29R, MW-223S, and MW-231SR), the data from these five wells have been pooled to calculate the upgradient background UTLs for each constituent.

Statistical UTLs have two descriptive parameters: (i) their coverage; and (ii) their confidence. Coverage refers to the percentage of the reference population that is within the tolerance limit. For example, if a coverage of 0.99 is selected, then 99 percent of the reference population will be within the tolerance limit (which in the case of a one-sided UTL, represents the 99th percentile of the reference population). Confidence refers to the probability that the specified coverage based on the samples collected will include the true value from the entire population. For example, if a 95 percent confidence level is selected, then there is no more than a 5 percent probability that the calculated UTL will not provide the selected coverage (e.g., true 99th percentile) of the population.

In Section 5 of the Methods Certification, two type of UTLs are specified:

- A 95/95 UTL, which has a coverage of 0.95 (i.e., 95th percentile) with 95 percent confidence.
- iA 99/95 UTL, which has a coverage of 0.99 (i.e., 99th percentile) with 95 percent confidence.

Comparisons against these UTLs are to be interpreted as follows:

- If a given future observation exceeds a 95/95 UTL, but not a 99/95 UTL, the next regularly scheduled monitoring event will be used as the verification resample for determining an SSI.

- b. If a given future observation exceeds both the 95/95 and 99/95 UTLs, then a verification resample or other appropriate response will be undertaken prior to the next regularly scheduled monitoring event.

An SSI is only identified after an original sample and its verification resample (either the next regularly scheduled sample or a special verification sample) exceed the given UTL.

Calculations of UTLs for inter-well comparisons were completed using the logic and methodology presented in USEPA's Technical Guide for its ProUCL software (USEPA, 2022, version 5.2). The results of the inter-well UTL calculations are provided in Table D.3.

### 4.2.3 Intra-well Comparisons – Well-specific Baseline Values

As noted in the Methods Certification, the statistical methods (i.e., UTLs) for intra-well comparisons are analogous to those for inter-well comparisons. In this case, the reference population is the data set of constituent concentrations in a given well observed during the baseline period. Calculation of the upgradient background 95/95 UTL and 99/95 UTL values is performed using the same methods used for the inter-well comparisons.

Where temporal trends were identified over the baseline period, tolerance limits are not calculated (due to violation of the statistical assumptions of the UTL calculations) and a baseline range is provided as a reference. For such data sets, future sample results are to be compared both against the baseline range and what would be expected based on the observed trend over the baseline period.

The calculated updated intra-well baseline values (UTLs) for each constituent at each well are provided in Table D.4.

## 4.3 Evaluation of 2025 Groundwater Monitoring Data

### 4.3.1 Appendix III Analytes

The Appendix III constituent data sets from sampling conducted during 2024 are presented in Table 8 and Table D.2 and summarized below. The historical and current Appendix III monitoring data is compared against the background level and GWPS in Table 9.

- Boron. No MCL has been established for boron. The maximum boron concentration detected in 2025 was 0.64 milligrams per liter (mg/L) at MW-19 (March 2025).
- Calcium. No MCL has been established for calcium. The maximum calcium concentration detected in 2025 was 560 mg/L at well MW-21 (March 2025).
- Chloride. No MCL has been established for chloride. The maximum chloride concentration detected in the 2025 monitoring events was 53.8 / 53.3 mg/L at well MW-1R (September 2025).
- Fluoride. The MCL for fluoride is 4.0 mg/L. All wells were below the associated reporting limit (1.00 mg/L and 0.200 mg/L, depending on sample).
- pH. No MCL has been established for pH. The lowest pH measurement recorded in 2025 was 6.6 J at MW-19 (May 2025). The highest pH measurement recorded in 2025 was 7.8 J at upgradient locations MW-13R, MW-27, and MW-231SR (March 2025). The highest pH measurement in downgradient wells was 7.7 J at wells MW-1R, MW-3R, and MW-5R (March and September 2025).
- Sulfate. No MCL has been established for sulfate. The maximum sulfate concentration detected in 2025 was 1,690 mg/L at MW-21 (May 2025).
- Total Dissolved Solids (TDS). No MCL has been established for TDS. The maximum TDS concentration in 2025 was 3,000 mg/L at MW-21 (March 2025).

## 4.3.2 Appendix IV Analytes

The March, May, and September 2025 Appendix IV results are presented in Table 8 and Table D.2 and summarized below. The historical and current Appendix IV monitoring data is compared against the background level and GWPS in Table 9.

- Antimony. Antimony was not detected above the method reporting limit (0.00200 mg/L) or the established MCL (0.006 mg/L) in samples from any monitoring well during the 2025 monitoring events.
- Arsenic. The Site-specific GWPS for arsenic is the maximum background concentration (0.0512 mg/L) because the background concentration is higher than arsenic MCL of 0.010 mg/L. Arsenic was detected at all wells during the 2025 monitoring events, except at MW-21 (September 2025) and MW-231SR (September 2025). The maximum concentration detected was 0.0759 mg/L at upgradient well MW-27 in September 2025. The maximum concentration detected at downgradient wells was 0.054 / 0.056 mg/L at well MW-1R (March 2025), which is above the Site-specific GWPS. The subsequent sample from MW-1R in September 2025 was also above the Site-specific GWPS (0.0528 / 0.0532 mg/L).
- Barium. The MCL for barium is 2.0 mg/L. Barium was detected in all of the monitored wells in 2025 with a maximum concentration of 0.24 mg/L at upgradient location MW-29R in September 2025. The maximum concentration detected at downgradient wells was 0.2 mg/L at MW-3R (March 2025), which is below the MCL.
- Beryllium. Beryllium was not detected above the method reporting limit (0.00100 mg/L) or the established MCL (0.004 mg/L) in samples from any monitoring well during the 2025 monitoring events.
- Cadmium. The method reporting limit for cadmium is 0.000200 mg/L and the MCL is 0.005 mg/L. Cadmium was not detected above the reporting limit at the majority of the monitoring wells during the 2025 monitoring events, except at MW-21 (0.00029 mg/L in March 2025), which is above the MCL. The subsequent sample from MW-21 in September 2025 is also above the MCL .
- Chromium. Chromium was not detected above the method reporting limit (0.00500 mg/L) or the established MCL (0.1 mg/L) in any monitoring well during the 2025 monitoring events.
- Cobalt. No MCL has been established for cobalt; the GWPS established under 40 CFR §257.95(h)(2) for cobalt is 0.006 mg/L. The maximum concentration detected was 0.015 mg/L at MW-19 in March 2025, which is above the GWPS. The September 2025 result (0.00858 mg/L) was also greater than the GWPS.
- Lead. No MCL has been established for lead; the GWPS established under 40 CFR §257.95(h)(2) for lead is 0.015 mg/L. All wells were below the method reporting limit (0.000500 mg/L) during the 2025 monitoring events.
- Lithium. No MCL has been established for lithium; the GWPS established under 40 CFR §257.95(h)(2) for lithium is 0.040 mg/L; and the background concentration in groundwater is 0.205 mg/L. Since the Site-specific background concentration is higher than the 40 CFR §257.95(h)(2) value for lithium, the Site-specific GWPS for lithium is 0.205 mg/L. Lithium was detected in all wells during the 2025 monitoring events. The maximum concentration detected was 0.35 mg/L at MW-21 (March 2025), which is above the background concentration and the Site-specific GWPS. The September 2025 result (0.308 mg/L) also exceeded the GWPS. Lithium was also above the site-specific GWPS at MW-19 in March and September 2025 (0.28 and 0.257 mg/L, respectively).
- Mercury. Mercury was not detected above the method reporting limit (0.000200 mg/L) or the established MCL (0.002 mg/L) in samples from any monitoring well during the 2025 monitoring events.
- Molybdenum. No MCL has been established for molybdenum; the GWPS established under 40 CFR §257.95(h)(2) for molybdenum is 0.100 mg/L. Molybdenum was detected in the majority of wells during 2025, except at MW-19, MW-21, MW-27, MW-29R, MW-223S (September 2025), and MW-231SR. The maximum concentration detected was at MW-1R, which had a concentration of 0.00478 / 0.00452 mg/L in September 2025. This concentration is below the GWPS.
- Radium 226 and 228 (combined). Radium 226 and 228 (combined) was not detected above the established MCL of 5 picocuries per liter (pCi/L) in any of the wells during the 2025 monitoring events. Radium 226 and 228 (combined) was detected in all wells during all monitoring events in 2025 except at MW-1R (duplicate sample in September 2025), MW-27 (March 2025), and MW-29R (duplicate sample in March 2025). The highest

concentration detected during the 2025 events was 1.29 pCi/L at upgradient well MW-29R in September 2025. The maximum concentration in downgradient wells was 1.03 pCi/L at MW-3R in September 2025.

- Selenium. The MCL for selenium is 0.05 mg/L. Majority of selenium concentrations were below the method reporting limit (0.00500 mg/L) during the 2025 monitoring events except at MW-21 (March and September 2025) and MW-231SR (September 2025). The maximum detected selenium concentration was 0.0153 mg/L at MW-21 in September 2025, which is below the MCL.
- Thallium. The MCL for thallium is 0.002 mg/L. All wells were below the method reporting limit (0.00100 mg/L) for thallium during the 2025 monitoring events.

### 4.3.3 Inter-well Comparisons (vs. Upgradient Background)

Inter-well comparisons of current monitoring data are conducted by comparing monitoring data from the 2025 sampling events to the upgradient background UTLs derived from the baseline period data (September 2020 through June 2022). These comparisons are presented in Table D.5. A further comparison of newly identified as well as ongoing inter-well background exceedances are presented in Table 6 and Table 7, respectively.

The results of the inter-well comparisons identify observations at the five downgradient monitoring wells where the 2025 monitoring events had a constituent concentration or measurement outside of baseline conditions represented by the upgradient background wells (MW-13R, MW-27, MW-29R, MW-223S, and MW-231SR). These include:

- Arsenic at MW-1R.
- Boron at MW-1R, MW-3R, MW-19, and MW-21.
- Cadmium at MW-21.
- Calcium at MW-19 and MW-21.
- Chloride at MW-1R.
- Cobalt at MW-19.
- Lithium at MW-19 and MW-21.
- Molybdenum at MW-1R and MW-5R.
- pH at MW-19 and MW-21 (values were below the UTL).
- Sulfate at MW-19 and MW-21.
- TDS at MW-19 and MW-21.

Several concentrations exceeding the inter-well background were confirmed with two successive samples above the UTL. The following samples from March or May 2025 were not confirmed in the subsequent sampling event:

- Boron at MW-1R.
- pH at MW-19 and MW-21.

Remaining unconfirmed SSIs observed during the September 2025 sampling event (chloride and molybdenum at MW-1R) will be confirmed during the next sampling event.

### 4.3.4 Intra-well Comparisons (vs. Well-Specific Baseline Values)

Intra-well comparisons of current monitoring data are conducted by comparing monitoring results from the 2025 sampling events to the baseline period (September 2020 through June 2022) UTLs for each given well. These comparisons are presented in Table D.6.

The results of the intra-well comparisons indicate that the Appendix III and IV constituent concentrations were not above those observed during the baseline period with a few exceptions. These include:

- Arsenic at MW-27 (upgradient) and MW-223S (upgradient).
- Barium at MW-27 (upgradient).

- Boron at MW-223S (upgradient).
- Cadmium at MW-21.
- Calcium at MW-223S (upgradient).
- Chloride at MW-223S (upgradient) and MW-231SR (upgradient).
- pH at MW-5R, MW-19, and upgradient wells MW-13R, MW-27, MW-29R, MW-223S, and MW-231SR.
- Sulfate at MW-223S (upgradient).
- TDS at MW-223S (upgradient).

All exceedances of intra-well baseline values were at upgradient locations except cadmium (MW-21) and pH (MW-5R and MW-19). Of these, cadmium at MW-21 is the only confirmed SSI, with two successive samples above the UTL. Unverified SSIs that did not exceed in the immediately following sampling event are pH at MW-5R and MW-19, which exceeded the UTL in March 2025, did not exceed during the verification resampling event in May 2025, but exceeded the UTL again in September 2025. These unconfirmed SSIs will be verified during the next sampling event.

## 5. Conclusions and Recommendations

### 5.1 Groundwater Flow and Evaluation of the Monitoring Network

Groundwater flow in the shallow and deep portions of the alluvial aquifer in the vicinity of the Neal North Monofill is predominantly to the west and west-northwest, toward the Missouri River. The shallow alluvial groundwater contour maps (Figures 3.1, 3.3, and 3.5) show the localized effect an area of low permeability materials may have on the groundwater flow direction.

The groundwater flow evaluation (see Figures 3.1 through 3.6) indicates the monitoring network is sufficient and has appropriately located upgradient and downgradient well locations. The predominant flow direction was observed to be to the southwest, toward the Missouri River.

### 5.2 Groundwater Quality

A statistical evaluation of groundwater monitoring data collected during the baseline period (September 2020 to June 2022) has been conducted in accordance with the Federal CCR rule and Unified Guidance for assessing groundwater data (USEPA, 2009). This evaluation was successful in characterizing the baseline data sets, assessing the baseline data for trends, and generating inter-well upgradient background reference values and intra-well baseline values against which future monitoring data may be evaluated.

Additionally, an assessment of monitoring data from samples collected were analyzed for the parameters specified in 40 CFR Part 257 Appendix III and Appendix IV analytes for the monitoring events completed in March, May, and September 2025.

Key results of the evaluation include:

- Constituent concentrations appear to vary between the upgradient background wells. Assessment of the baseline period data indicates significant spatial variability in groundwater collected at different monitoring wells at the Site, requiring intra-well comparisons.
- Significant concentration trends over time were observed in some baseline data sets at both downgradient wells and upgradient wells.
- Inter-well baseline values (UTLs) have been calculated from the baseline data for five upgradient background wells (MW-13R, MW-27, MW-29R, MW-223S, and MW-231SR).

- Intra-well baseline values (UTLs) have been calculated on a per-constituent, per-well basis for Appendix III and Appendix IV constituents.
- Assessment of the 2025 monitoring events data indicates that:
  - Inter-well comparisons - The monitoring results at downgradient wells are mainly consistent with upgradient background conditions during the baseline period but remain elevated for one or more constituents at all five downgradient wells (boron and arsenic at MW-1R; boron at MW-3R; molybdenum at MW-5R; boron, calcium, cobalt, lithium, sulfate, and/or TDS at MW-19; cadmium, calcium, lithium, sulfate, and/or TDS at MW-21). These SSIs, as well as the unconfirmed SSIs noted in Section 4.3.3 (chloride and molybdenum at MW-1R), will be assessed by future sampling.
  - Intra-well comparisons - All upgradient locations exceeded their corresponding intra-well baseline value for one or more constituents (arsenic, barium, boron, calcium, chloride, pH, sulfate, and/or TDS) during at least one sampling event in 2025. In downgradient wells, cadmium at MW-21 and pH at MW-5R and MW-19, exceeded their corresponding intra-well baseline values. These confirmed (cadmium) and unconfirmed (pH) SSIs will be assessed by future sampling.
- The MCL or GWPS was exceeded for the following constituents and downgradient locations:
  - Arsenic (Site-specific GWPS) at MW-1R in March and September 2025.
  - Cobalt (GWPS) at MW-19 in March and September 2025.
  - Lithium (Site-specific GWPS) at MW-19 and MW-21 in March and September 2025.
- The MCL or GWPS was exceeded for the following constituents and upgradient locations:
  - Arsenic (Site-specific GWPS) at background location MW-13R (March 2025) and MW-27 (March and September 2025)

## 5.3 Recommendations

Currently, the Neal North Closed Monofill remains in assessment monitoring. No changes to the monitoring network or sampling procedures are necessary.

## 6. References

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# Tables

Table 1

**Monitoring Program Summary**  
**2025 Annual Water Quality Report**  
**Neal North Energy Center - Closed CCR Monofill**  
**Permit No. 97-SDP-24-20C**

Monitoring Well	Formation	Current Monitoring Program	Change for next sampling event	Control Limit Exceedances	Total # of Samples in each monitoring program since December 1, 2015		
					Appendix III	Appendix IV	Corrective Measures
MW-1R	Alluvial Aquifer	Assessment	No Change	N/A	15	13	0
MW-3R	Alluvial Aquifer	Assessment	No Change	N/A	15	13	0
MW-5R	Alluvial Aquifer	Assessment	No Change	N/A	15	13	0
MW-13/13R (Background)	Alluvial Aquifer	Assessment	No Change	N/A	13	13	0
MW-19	Alluvial Aquifer	Assessment	No Change	N/A	15	13	0
MW-21	Alluvial Aquifer	Assessment	No Change	N/A	15	13	0
MW-27 (Background)	Alluvial Aquifer	Assessment	No Change	N/A	15	13	0
MW-29/29R (Background)	Alluvial Aquifer	Assessment	No Change	N/A	13	13	0
MW-223S (Background)	Alluvial Aquifer	Assessment	No Change	N/A	15	13	0
MW-231S/231SR (Background)	Alluvial Aquifer	Assessment	No Change	N/A	15	13	0
<b>Other monitoring points</b>							
MW-4	Deep Portion of Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-6	Deep Portion of Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-7	Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-8	Deep Portion of Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-9	Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-10	Deep Portion of Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-11/11R	Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-12	Deep Portion of Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-14	Deep Portion of Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-15R	Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-16	Deep Portion of Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-17	Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-18	Deep Portion of Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-20	Deep Portion of Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-22	Deep Portion of Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-23/23R	Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-24	Deep Portion of Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-25	Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-26	Deep Portion of Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-28	Deep Portion of Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-30	Deep Portion of Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-31	Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-32	Deep Portion of Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-56	Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-57/57R	Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-58S	Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-59S	Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0
MW-60S	Alluvial Aquifer	Gauging location	No Change	N/A	0	0	0

Comments:

None.

Table 2

**Monitoring Program Implementation Schedule  
2025 Annual Water Quality Report  
Neal North Energy Center - Closed CCR Monofill  
Permit No. 97-SDP-24-20C**

Monitoring Well	Recent Sampling Dates and Constituents				
	9/22/2020 - 9/24/2020	12/9/2020-12/10/2020	2/2/2021-2/4/2021	5/10/2021-5/11/2021	7/13/2021-7/15/2021
MW-1R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-3R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-5R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-13/13R	Appendix III and IV	Appendix III and IV	Not Sampled	Not Sampled	Appendix III and IV
MW-19	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-21	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-27	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-29/29R	Appendix III and IV	Appendix III and IV	Not Sampled	Not Sampled	Appendix III and IV
MW-223S	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-231S/231SR	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV

Monitoring Well	Recent Sampling Dates and Constituents				
	10/12/2021-10/14/2021	3/8/2022-3/11/2022	6/7/2022-6/9/2022	9/12/2022-9/15/2022	3/27-3/29 & 4/3/2023
MW-1R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III	Appendix III
MW-3R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III	Appendix III
MW-5R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III	Appendix III
MW-13/13R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III	Appendix III
MW-19	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III	Appendix III
MW-21	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III	Appendix III
MW-27	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III	Appendix III
MW-29/29R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III	Appendix III
MW-223S	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III	Appendix III
MW-231S/231SR	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III	Appendix III

Monitoring Well	Recent Sampling Dates and Constituents				
	9/11/2023-9/13/2023	3/18/2024-3/21/2024	9/9/2024-9/13/2024	3/10/2025-3/17/2025	9/15/2025-9/19/2025
MW-1R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-3R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-5R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-13/13R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-19	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-21	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-27	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-29/29R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-223S	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-231S/231SR	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV

Table 2

**Monitoring Program Implementation Schedule  
2025 Annual Water Quality Report  
Neal North Energy Center - Closed CCR Monofill  
Permit No. 97-SDP-24-20C**

Monitoring Well	Upcoming Sampling Dates and Constituents			
	March 2026	September 2026	March 2027	September 2027
MW-1R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-3R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-5R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-13/13R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-19	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-21	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-27	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-29/29R	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-223S	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV
MW-231S/231SR	Appendix III and IV	Appendix III and IV	Appendix III and IV	Appendix III and IV

Comments:

Appendix III - boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids.

Appendix IV - antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, selenium, thallium, and radium 226 and 228 combined.

**Table 3**

**Monitoring Well Maintenance and Performance Reevaluation Schedule  
2025 Annual Water Quality Report  
Neal North Energy Center - Closed CCR Monofill  
Permit No. 97-SDP-24-20C**

Compliance with:				
	2020	2021	2022	2023
Check well depths (annual)	Completed	Completed	Completed	Completed
Compliance with:				
	2024	2025	2026	2027
Check well depths (annual)	Completed	Completed	Scheduled	Scheduled
Compliance with:				
	2028	2029	2030	
Check well depths (annual)	Scheduled	Scheduled	Scheduled	

Comments:  
None.

**Table 4**  
**Monitoring Well Maintenance and Performance Summary**  
**2025 Annual Water Quality Report**  
**Neal North Energy Center - Closed CCR Monofill**  
**Permit No. 97-SDP-24-20C**

(includes all wells, underdrains etc.)

Well	Top of Casing	Top of Screen	Total Depth		Date of Measurements			Maximum Depth
					3/10/2025	5/19/2025	9/15/2025	Discrepancy (ft)
MW-1R	1077.64	1065.69	37.00	Groundwater Level (ft)	26.05	nm	21.98	-0.19
				Groundwater Elevation (Ft MSL)	1051.59	nm	1055.66	
				Measured Well Depth (ft)	nm	nm	37.19	
				Submerged screen	N	nm	N	
MW-3R	1075.94	1064.34	36.60	Groundwater Level (ft)	23.15	19.68	19.56	-0.20
				Groundwater Elevation (Ft MSL)	1052.79	1056.26	1056.38	
				Measured Well Depth (ft)	nm	nm	36.80	
				Submerged screen	N	N	N	
MW-4	1076.18	1035.54	45.60	Groundwater Level (ft)	23.38	19.88	19.79	-0.26
				Groundwater Elevation (Ft MSL)	1052.80	1056.30	1056.39	
				Measured Well Depth (ft)	nm	nm	45.86	
				Submerged screen	Y	Y	Y	
MW-5R	1079.54	1067.89	36.70	Groundwater Level (ft)	27.30	23.42	23.48	-0.18
				Groundwater Elevation (Ft MSL)	1052.24	1056.12	1056.06	
				Measured Well Depth (ft)	nm	nm	36.88	
				Submerged screen	N	N	N	
MW-6	1079.12	1037.25	46.90	Groundwater Level (ft)	26.88	23.03	23.07	-0.17
				Groundwater Elevation (Ft MSL)	1052.24	1056.09	1056.05	
				Measured Well Depth (ft)	nm	nm	47.07	
				Submerged screen	Y	Y	Y	
MW-7	1075.96	1067.51	18.50	Groundwater Level (ft)	dry	dry	dry	-0.14
				Groundwater Elevation (Ft MSL)	dry	dry	dry	
				Measured Well Depth (ft)	nm	nm	18.64	
				Submerged screen	N	N	N	
MW-8	1075.96	1035.66	45.30	Groundwater Level (ft)	24.77	20.51	20.79	0.20
				Groundwater Elevation (Ft MSL)	1051.19	1055.45	1055.17	
				Measured Well Depth (ft)	nm	nm	45.10	
				Submerged screen	Y	Y	Y	
MW-9	1088.63	1069.98	28.70	Groundwater Level (ft)	dry	dry	dry	-0.13
				Groundwater Elevation (Ft MSL)	dry	dry	dry	
				Measured Well Depth (ft)	nm	nm	28.83	
				Submerged screen	N	N	N	
MW-10	1088.69	1038.03	55.70	Groundwater Level (ft)	37.08	33.50	33.45	0.14
				Groundwater Elevation (Ft MSL)	1051.61	1055.19	1055.24	
				Measured Well Depth (ft)	nm	nm	55.56	
				Submerged screen	Y	Y	Y	
MW-11R	1091.23	1065.10	41.10	Groundwater Level (ft)	35.09	33.55	32.74	-0.01
				Groundwater Elevation (Ft MSL)	1056.14	1057.68	1058.49	
				Measured Well Depth (ft)	nm	nm	41.11	
				Submerged screen	N	N	N	
MW-12	1089.79	1037.58	57.20	Groundwater Level (ft)	33.57	31.94	31.16	0.09
				Groundwater Elevation (Ft MSL)	1056.22	1057.85	1058.63	
				Measured Well Depth (ft)	nm	nm	57.11	
				Submerged screen	Y	Y	Y	
MW-13R	1089.22	1066.10	38.16	Groundwater Level (ft)	31.06	30.31	29.20	0.00
				Groundwater Elevation (Ft MSL)	1058.16	1058.91	1060.02	
				Measured Well Depth (ft)	nm	nm	38.16	
				Submerged screen	N	N	N	
MW-14	1087.64	1036.94	55.70	Groundwater Level (ft)	29.34	28.60	27.44	0.13
				Groundwater Elevation (Ft MSL)	1058.30	1059.04	1060.20	
				Measured Well Depth (ft)	nm	nm	55.57	
				Submerged screen	Y	Y	Y	
MW-15R	1089.45	1077.25	37.20	Groundwater Level (ft)	31.91	nm	29.80	-0.06
				Groundwater Elevation (Ft MSL)	1057.54	nm	1059.65	
				Measured Well Depth (ft)	nm	nm	37.26	
				Submerged screen	N	nm	N	

Table 4

**Monitoring Well Maintenance and Performance Summary  
2025 Annual Water Quality Report  
Neal North Energy Center - Closed CCR Monofill  
Permit No. 97-SDP-24-20C**

(includes all wells, underdrains etc.)

Well	Top of Casing	Top of Screen	Total Depth		Date of Measurements			Maximum Depth
					3/10/2025	5/19/2025	9/15/2025	Discrepancy (ft)
MW-16	1089.82	1042.17	52.70	Groundwater Level (ft)	32.37	nm	30.26	-0.16
				Groundwater Elevation (Ft MSL)	1057.45	nm	1059.56	
				Measured Well Depth (ft)	nm	nm	52.86	
				Submerged screen	Y	nm	Y	
MW-17	1088.34	1077.72	25.60	Groundwater Level (ft)	20.16	nm	19.07	0.39
				Groundwater Elevation (Ft MSL)	1068.18	nm	1069.27	
				Measured Well Depth (ft)	nm	nm	25.21	
				Submerged screen	N	nm	N	
MW-18	1088.34	1036.18	57.20	Groundwater Level (ft)	32.72	nm	30.11	0.18
				Groundwater Elevation (Ft MSL)	1055.62	nm	1058.23	
				Measured Well Depth (ft)	nm	nm	57.02	
				Submerged screen	Y	nm	Y	
MW-19	1088.76	1069.85	28.90	Groundwater Level (ft)	14.35	12.80	12.41	-0.13
				Groundwater Elevation (Ft MSL)	1074.41	1075.96	1076.35	
				Measured Well Depth (ft)	nm	nm	29.03	
				Submerged screen	Y	Y	Y	
MW-20	1088.56	1036.85	56.70	Groundwater Level (ft)	25.61	24.80	24.02	-0.19
				Groundwater Elevation (Ft MSL)	1062.95	1063.76	1064.54	
				Measured Well Depth (ft)	nm	nm	56.89	
				Submerged screen	Y	Y	Y	
MW-21	1087.51	1070.90	31.60	Groundwater Level (ft)	21.11	15.95	18.60	-0.55
				Groundwater Elevation (Ft MSL)	1066.40	1071.56	1068.91	
				Measured Well Depth (ft)	nm	nm	32.15	
				Submerged screen	N	Y	N	
MW-22	1087.40	1035.90	56.50	Groundwater Level (ft)	33.84	30.65	30.36	-0.91
				Groundwater Elevation (Ft MSL)	1053.56	1056.75	1057.04	
				Measured Well Depth (ft)	nm	nm	57.41	
				Submerged screen	Y	Y	Y	
MW-23R	1089.13	1062.90	41.25	Groundwater Level (ft)	35.80	33.50	32.94	0.01
				Groundwater Elevation (Ft MSL)	1053.33	1055.63	1056.19	
				Measured Well Depth (ft)	nm	nm	41.24	
				Submerged screen	N	N	N	
MW-24	1090.00	1036.20	58.80	Groundwater Level (ft)	36.44	34.10	33.56	-0.63
				Groundwater Elevation (Ft MSL)	1053.56	1055.90	1056.44	
				Measured Well Depth (ft)	nm	nm	59.43	
				Submerged screen	Y	Y	Y	
MW-25	1089.62	1065.90	33.70	Groundwater Level (ft)	30.77	31.64	31.52	0.70
				Groundwater Elevation (Ft MSL)	1058.85	1057.98	1058.10	
				Measured Well Depth (ft)	nm	nm	33.00	
				Submerged screen	N	N	N	
MW-26	1089.59	1036.90	57.70	Groundwater Level (ft)	33.23	31.58	30.78	-0.11
				Groundwater Elevation (Ft MSL)	1056.36	1058.01	1058.81	
				Measured Well Depth (ft)	nm	nm	57.81	
				Submerged screen	Y	Y	Y	
MW-27	1087.29	1063.90	33.40	Groundwater Level (ft)	29.59	28.62	27.50	-0.10
				Groundwater Elevation (Ft MSL)	1057.70	1058.67	1059.79	
				Measured Well Depth (ft)	nm	nm	33.50	
				Submerged screen	N	N	N	
MW-28	1087.17	1033.90	58.30	Groundwater Level (ft)	29.51	28.55	27.41	-0.40
				Groundwater Elevation (Ft MSL)	1057.66	1058.62	1059.76	
				Measured Well Depth (ft)	nm	nm	58.70	
				Submerged screen	Y	Y	Y	
MW-29R	1088.92	1068.70	35.20	Groundwater Level (ft)	30.98	30.10	28.97	0.04
				Groundwater Elevation (Ft MSL)	1057.94	1058.82	1059.95	
				Measured Well Depth (ft)	nm	nm	35.16	
				Submerged screen	N	N	N	

Table 4

**Monitoring Well Maintenance and Performance Summary**  
**2025 Annual Water Quality Report**  
**Neal North Energy Center - Closed CCR Monofill**  
**Permit No. 97-SDP-24-20C**

(includes all wells, underdrains etc.)

Well	Top of Casing	Top of Screen	Total Depth		Date of Measurements			Maximum Depth
					3/10/2025	5/19/2025	9/15/2025	Discrepancy (ft)
MW-30	1090.13	1040.30	54.80	Groundwater Level (ft)	31.70	31.00	29.88	-0.54
				Groundwater Elevation (Ft MSL)	1058.43	1059.13	1060.25	
				Measured Well Depth (ft)	nm	nm	55.34	
				Submerged screen	Y	Y	Y	
MW-31	1091.78	1068.30	33.50	Groundwater Level (ft)	33.63	32.25	31.53	-0.28
				Groundwater Elevation (Ft MSL)	1058.15	1059.53	1060.25	
				Measured Well Depth (ft)	nm	nm	33.78	
				Submerged screen	N	N	N	
MW-32	1091.78	1039.30	57.50	Groundwater Level (ft)	34.71	33.41	32.55	0.21
				Groundwater Elevation (Ft MSL)	1057.07	1058.37	1059.23	
				Measured Well Depth (ft)	nm	nm	57.29	
				Submerged screen	Y	Y	Y	
MW-56	1094.60	1027.40	72.20	Groundwater Level (ft)	40.11	37.58	37.13	0.25
				Groundwater Elevation (Ft MSL)	1054.49	1057.02	1057.47	
				Measured Well Depth (ft)	nm	nm	71.95	
				Submerged screen	Y	Y	Y	
MW-57R	1094.61	1061.90	47.75	Groundwater Level (ft)	40.34	37.59	37.40	0.05
				Groundwater Elevation (Ft MSL)	1054.27	1057.02	1057.21	
				Measured Well Depth (ft)	nm	nm	47.70	
				Submerged screen	N	N	N	
MW-58S	1089.12	1070.38	34.10	Groundwater Level (ft)	31.20	30.33	29.20	0.10
				Groundwater Elevation (Ft MSL)	1057.92	1058.79	1059.92	
				Measured Well Depth (ft)	nm	nm	34.00	
				Submerged screen	N	N	N	
MW-59S	1090.33	1065.05	40.30	Groundwater Level (ft)	35.30	33.17	32.59	0.02
				Groundwater Elevation (Ft MSL)	1055.03	1057.16	1057.74	
				Measured Well Depth (ft)	nm	nm	40.28	
				Submerged screen	N	N	N	
MW-60S	1094.85	1064.80	45.10	Groundwater Level (ft)	40.85	38.22	37.85	0.07
				Groundwater Elevation (Ft MSL)	1054.00	1056.63	1057.00	
				Measured Well Depth (ft)	nm	nm	45.03	
				Submerged screen	N	N	N	
MW-223S	1081.33	1069.59	26.74	Groundwater Level (ft)	22.83	22.34	21.14	0.04
				Groundwater Elevation (Ft MSL)	1058.50	1058.99	1060.19	
				Measured Well Depth (ft)	nm	nm	26.70	
				Submerged screen	N	N	N	
MW-231SR	1080.09	1066.02	29.07	Groundwater Level (ft)	25.22	23.30	22.78	-0.01
				Groundwater Elevation (Ft MSL)	1054.87	1056.79	1057.31	
				Measured Well Depth (ft)	nm	nm	29.08	
				Submerged screen	N	N	N	

Comments:

nm - no measurement.

Table 5

**Background Summary**  
**2025 Annual Water Quality Report**  
**Neal North Energy Center - Closed CCR Monofill**  
**Permit No. 97-SDP-24-20C**

**Interwell Background/Control Limit (MW-13/13R, MW-27, MW-29/29R, MW-223S, and MW-231S/231SR)**

Constituent	Units	Samples	Detections	Background level	Statistical Test	Action Level	Source
<b>Appendix III</b>							
Boron	mg/L	36	29	0.386	KM Normal	None	--
Calcium	mg/L	36	36	263.5	Normal	None	--
Chloride	mg/L	36	34	49.37	KM Approx. Lognormal	None	--
Fluoride	mg/L	36	0	< 0.500	Detection Limit	4.0	MCL <sup>a</sup>
pH	mg/L	36	36	7.0 J - 7.9 J	-	None	--
Sulfate	mg/L	36	36	481	WH Approx. Gamma (KM)	None	--
Total Dissolved Solids (TDS)	mg/L	36	36	1206	Normal	None	--
<b>Appendix IV</b>							
Antimony	mg/L	36	0	< 0.00200	Detection Limit	0.006	MCL <sup>a</sup>
<b>Arsenic</b>	<b>mg/L</b>	<b>36</b>	<b>26</b>	<b>&lt; 0.00200 - 0.0512</b>	<b>--</b>	<b>0.01</b>	<b>MCL<sup>a</sup></b>
Barium	mg/L	36	36	0.0508 - 0.348	--	2.0	MCL <sup>a</sup>
Beryllium	mg/L	36	0	< 0.00100	Detection Limit	0.004	MCL <sup>a</sup>
Cadmium	mg/L	36	5	0.000227	Non-parametric	0.005	MCL <sup>a</sup>
Chromium	mg/L	36	0	< 0.00500	Detection Limit	0.1	MCL <sup>a</sup>
Cobalt	mg/L	36	29	0.00456	KM Approx. Normal	0.006	GWPS <sup>b</sup>
Fluoride	mg/L	36	0	< 0.500	Detection Limit	4.0	MCL <sup>a</sup>
Lead	mg/L	36	0	< 0.000500	Detection Limit	0.015	GWPS <sup>b</sup>
<b>Lithium</b>	<b>mg/L</b>	<b>36</b>	<b>36</b>	<b>0.205</b>	<b>Approx. Normal</b>	<b>0.040</b>	<b>GWPS<sup>b</sup></b>
Mercury	mg/L	36	0	< 0.000200	Detection Limit	0.002	MCL <sup>a</sup>
Molybdenum	mg/L	36	15	0.00351	KM Approx. Normal	0.100	GWPS <sup>b</sup>
Radium 226 and 228 combined	mg/L	36	30	1.764	KM Normal	5	MCL <sup>a</sup>
Selenium	mg/L	36	7	0.0332	KM Approx. Lognormal	0.05	MCL <sup>a</sup>
Thallium	mg/L	36	1	0.00122	Non-parametric	0.002	MCL <sup>a</sup>

## Comments:

<sup>a</sup> Maximum contaminant level (MCL).

<sup>b</sup> Groundwater protection standard (GWPS) established under 40 CFR 257.95(h)(2).

Bolded constituents indicate background levels are higher than the Action Level.

Table 6

**Summary of Well/Detected Constituent Pairs With No Immediately Preceding Control Limit Exceedances**  
**2025 Annual Water Quality Report**  
**Neal North Energy Center - Closed CCR Monofill**  
**Permit No. 97-SDP-24-20C**

Well	Constituent	Units	Most recent result	Control Limit
MW-1R	Chloride	mg/L	53.8 /53.3	49.37
	Molybdenum	mg/L	0.00478 /0.00452	0.00351
MW-3R	N/A	--	--	--
MW-5R	N/A	--	--	--
MW-19	N/A	--	--	--
MW-21	N/A	--	--	--

Comments:

Table reflects verified new control limit exceedances in downgradient well locations only.  
Any background well with verified new control limit exceedances are not included in this table.

Table 7

**Summary of Ongoing and Newly Identified Control Limit Exceedances  
2025 Annual Water Quality Report  
Neal North Energy Center - Closed CCR Monofill  
Permit No. 97-SDP-24-20C**

Well	Constituent	Units	Most recent result	Background Standard	Groundwater Protection Standard 40 CFR §257.95(h)
MW-1R	Boron	mg/L	0.415 /0.388	0.386	None
	Chloride	mg/L	53.8 /53.3	49.4	None
	Arsenic	mg/L	0.0528 /0.0532	< 0.00200 - 0.0512	< 0.00200 - 0.0512
	Molybdenum	mg/L	0.00478 /0.00452	0.00351	0.100
MW-3R	Boron	mg/L	0.474	0.386	None
MW-5R	Molybdenum	mg/L	0.00445	0.00351	0.100
MW-13/13R (Background)	Arsenic	mg/L	0.0503	< 0.00200 - 0.0512	< 0.00200 - 0.0512
	Molybdenum	mg/L	0.00445	0.00351	0.100
MW-19	Boron	mg/L	0.554	0.386	None
	Calcium	mg/L	364	263.5	None
	Sulfate	mg/L	854	481	None
	TDS	mg/L	2130	1206	None
	Cobalt	mg/L	0.00858	0.00456	0.006
	Lithium	mg/L	0.257	0.205	0.205
MW-21	Calcium	mg/L	437	263.5	None
	Sulfate	mg/L	1180	481	None
	TDS	mg/L	2350	1206	None
	Cadmium	mg/L	0.000245	0.000227	0.005
	Lithium	mg/L	0.308	0.205	0.205
MW-27 (Background)	Arsenic	mg/L	0.0759	< 0.00200 - 0.0512	< 0.00200 - 0.0512
MW-29/MW-29R (Background)	None	--	--	--	--
MW-223S (Background)	None	--	--	--	--
MW-231S/MW-231SR (Background)	None	--	--	--	--

## Comments:

Statistics are based on the background concentration (95/95 UTL Inter-well) developed in accordance with the Federal CCR rule.

Analytical Data Summary  
2025 Annual Water Quality Report  
Neal North Energy Center - Closed CCR Monofill  
Permit No. 97-SDP-24-20C

Constituent (CAS #)	Sample Date	Units	MW-1R DwnGrad	MW-3R DwnGrad	MW-5R DwnGrad	MW-13/MW-13R Bkgrnd	MW-19 DwnGrad	MW-21 DwnGrad	MW-27 Bkgrnd	MW-29/MW-29R Bkgrnd	MW-223S Bkgrnd	MW-231S/MW-231SR Bkgrnd
Antimony (7440-36-0) MCL = 0.006	9/22/2020	mg/L	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	12/9/2020	mg/L	< 0.00100	< 0.00100 / < 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	2/1/2021	mg/L	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100 / < 0.00100	< 0.00100
	5/10/2021	mg/L	< 0.00200	< 0.00200	< 0.00200	--	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200 / < 0.00200	< 0.00200
	7/12/2021	mg/L	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200 / < 0.00200	< 0.00200
	10/5/2021	mg/L	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200 / < 0.00200	< 0.00200
	3/8/2022	mg/L	< 0.00200	< 0.00200	< 0.00200	< 0.00200 / < 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200
	6/7/2022	mg/L	< 0.00200	< 0.00200	< 0.00200	< 0.00200 / < 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200
	9/12/2022	mg/L	--	--	--	--	--	--	--	--	--	--
	3/27/2023	mg/L	--	--	--	< 0.00200	--	--	--	--	--	--
	3/28/2023	mg/L	--	--	--	--	--	--	--	--	--	< 0.00200
	3/29/2023	mg/L	--	--	--	--	--	--	< 0.00200	< 0.00200	< 0.00200 / < 0.00200	--
	9/12/2023	mg/L	--	--	--	< 0.00200	--	--	< 0.00200	< 0.00200	< 0.00200 / < 0.00200	--
	9/13/2023	mg/L	< 0.00200 / < 0.00200	< 0.00200	< 0.00200	--	< 0.00200	< 0.00200	--	--	--	< 0.00200
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	< 0.00200
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	< 0.00200
	3/18/2024	mg/L	--	--	--	< 0.00200	--	--	< 0.00200	< 0.00200	< 0.00200	< 0.00200
	3/19/2024	mg/L	--	--	--	--	--	--	--	--	--	< 0.00200
	3/20/2024	mg/L	--	< 0.00200	< 0.00200	--	--	--	--	--	--	< 0.00200
	3/21/2024	mg/L	< 0.00200 / < 0.00200	--	--	--	< 0.00200	< 0.00200	--	--	--	< 0.00200
	9/10/2024	mg/L	--	--	--	--	--	--	< 0.00200 / < 0.00200	< 0.00200	< 0.00200	< 0.00200
	9/11/2024	mg/L	--	--	--	< 0.00200	--	--	--	--	--	--
	9/12/2024	mg/L	< 0.00200 / < 0.00200	--	< 0.00200	--	--	--	--	--	--	--
	9/13/2024	mg/L	--	< 0.00200	--	--	< 0.00200	< 0.00200	--	--	--	--
	3/11/2025	mg/L	--	--	--	< 0.00200	--	--	--	--	--	--
	3/12/2025	mg/L	--	--	--	--	--	--	--	< 0.00200	< 0.00200 / < 0.00200	--
	3/13/2025	mg/L	--	--	--	--	--	--	--	--	< 0.00200	< 0.00200
3/17/2025	mg/L	< 0.0020 / < 0.0020	< 0.0020	< 0.0020	--	< 0.0020	0.0011 J	--	--	--	< 0.00200	
9/16/2025	mg/L	--	--	--	--	--	--	< 0.00200	< 0.00200	--	--	
9/17/2025	mg/L	--	--	--	< 0.00200	--	--	--	--	< 0.00200	< 0.00200	
9/19/2025	mg/L	< 0.00200 / < 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	--	--	--	< 0.00200 / < 0.00200	
Arsenic (7440-38-2) MCL = 0.01 Site-specific GWPS = 0.0512	9/22/2020	mg/L	0.0208	0.0314	0.0335	0.00200 U	0.00413	0.00200 U	0.00527	0.00200 U	0.00200 U	0.00200 U
	12/9/2020	mg/L	0.0379	0.0368 / 0.0388	0.0279	< 0.00200	< 0.00200	< 0.00200	0.00773	0.00762	0.00206	< 0.00200
	2/1/2021	mg/L	0.0226	0.0447	0.0446	--	0.00367	< 0.00200	0.00796	--	0.00220 / 0.00219	< 0.00200
	5/10/2021	mg/L	0.0140	0.0429	0.0337	--	0.00415	< 0.00200	0.0146	--	0.00302 / 0.00347	< 0.00200
	7/12/2021	mg/L	0.0191	0.0416	0.0351	0.0382	0.00821	< 0.00200	0.0101	0.0206	0.00403 / 0.00346	< 0.00200
	10/5/2021	mg/L	0.0221	0.0448	0.0347	0.0472	0.00523	< 0.00200	0.0202	0.0273	0.00516 / 0.00698	< 0.00200
	3/8/2022	mg/L	0.0452	0.0365	0.0378	0.0512 / 0.0498	0.00357	< 0.00200	0.0310	0.0314	0.00929	0.00850
	6/7/2022	mg/L	0.0400	0.0348	0.0345	0.0441 / 0.0457	0.00340	< 0.00200	0.0414	0.0320	0.00969	0.00440
	9/12/2022	mg/L	--	--	--	0.0459	--	--	0.0359	0.0240	0.0116 / 0.0117	0.0146
	3/27/2023	mg/L	--	--	--	0.0510	--	--	--	--	--	--
	3/28/2023	mg/L	--	--	--	--	--	--	--	--	--	0.0121
	3/29/2023	mg/L	--	--	--	--	--	--	0.0513	0.0258	0.0172 / 0.0167	--
	9/12/2023	mg/L	--	--	--	0.0483 J+	--	--	0.0616 J+	0.0233 J+	0.0133 J+ / 0.0132 J+	--
	9/13/2023	mg/L	0.0436 / 0.0420	0.0418	0.0283	--	0.00298	< 0.00200	--	--	--	0.00967
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	0.00460
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	0.00746
	3/18/2024	mg/L	--	--	--	0.0521	--	--	0.0591	0.0311	0.0164	--
	3/19/2024	mg/L	--	--	--	--	--	--	--	0.0155	0.0155	0.0112
	3/20/2024	mg/L	--	0.0468	0.0330	--	--	--	--	--	--	--
	3/21/2024	mg/L	0.0955 / 0.0922	--	--	--	0.00458	< 0.00200	--	--	--	--
	6/5/2024	mg/L	0.0464	--	--	--	--	--	--	--	--	--
	9/10/2024	mg/L	--	--	--	--	--	--	0.0663 / 0.0675	0.0277	0.0124	< 0.00200
	9/11/2024	mg/L	--	--	--	0.0426	--	--	--	--	--	--
	9/12/2024	mg/L	0.0472 / 0.0475	--	0.0291	--	--	--	--	--	--	--
	9/13/2024	mg/L	--	0.0305	--	--	0.00666	< 0.00200	--	--	--	--
	3/11/2025	mg/L	--	--	--	0.0592	--	--	--	--	--	--
	3/12/2025	mg/L	--	--	--	--	--	--	0.0613	0.0241 / 0.0240	--	--
3/13/2025	mg/L	--	--	--	--	--	--	--	--	0.0116	0.00229	
3/17/2025	mg/L	0.056 / 0.054	0.042	0.031	--	0.0054	0.00068 J	--	0.0759	0.0281	--	
9/16/2025	mg/L	--	--	--	--	--	--	--	--	--	--	
9/17/2025	mg/L	--	--	--	0.0503	--	--	--	--	0.0503	< 0.00200 / < 0.00200	
9/19/2025	mg/L	0.0532 / 0.0528	0.0372	0.0286	--	0.00443	< 0.00200	--	--	--	--	
Barium (7440-39-3) MCL = 2.0	9/22/2020	mg/L	0.0668	0.211	0.165	0.119	0.0227	0.0290	0.0847	0.195	0.203	0.0969
	12/9/2020	mg/L	0.0958	0.156 / 0.157	0.142	0.221	0.0251	0.0301	0.109	0.226	0.253	0.116
	2/1/2021	mg/L	0.0855	0.191	0.195	--	0.0208	0.0280	0.0876	--	0.233 / 0.236	0.0903
	5/10/2021	mg/L	0.0891	0.306	0.206	--	0.0221	0.0561	0.106	--	0.264 / 0.262	0.120
	7/12/2021	mg/L	0.0925	0.267	0.182	0.253	0.0214	0.0639	0.109	0.289	0.281 / 0.258	0.0508
	10/5/2021	mg/L	0.0884	0.305	0.180	0.236	0.0207	0.0372	0.103	0.271	0.314 / 0.348	0.0875
	3/8/2022	mg/L	0.118	0.209	0.278	0.272 / 0.262	0.0230	0.0222	0.107	0.268	0.282	0.125
	6/7/2022	mg/L	0.101	0.290	0.161	0.262 / 0.262	0.0229	0.0187	0.123	0.255	0.341	0.115
	9/12/2022	mg/L	--	--	--	0.211	--	--	0.124	0.226	0.330 / 0.314	0.133
	3/27/2023	mg/L	--	--	--	0.200	--	--	--	--	--	--
	3/28/2023	mg/L	--	--	--	--	--	--	--	--	--	0.136
	3/29/2023	mg/L	--	--	--	--	--	--	0.130	0.261	0.377 / 0.382	--
	9/12/2023	mg/L	--	--	--	0.210 J+	--	--	0.164 J+	0.248 J+	0.256 J+ / 0.244 J+	--
	9/13/2023	mg/L	0.0966 / 0.0917	0.292	0.100	--	0.0166	0.0139	--	--	--	0.120
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	0.124
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	0.166

Analytical Data Summary  
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Neal North Energy Center - Closed CCR Monofill  
Permit No. 97-SDP-24-20C

Constituent (CAS #)	Sample Date	Units	MW-1R DwnGrad	MW-3R DwnGrad	MW-5R DwnGrad	MW-13/MW-13R Bkgrnd	MW-19 DwnGrad	MW-21 DwnGrad	MW-27 Bkgrnd	MW-29/MW-29R Bkgrnd	MW-223S Bkgrnd	MW-231S/MW-231SR Bkgrnd
Barium (7440-39-3) MCL = 2.0	3/18/2024	mg/L	--	--	--	0.212	--	--	0.156	0.228	0.286	--
	3/19/2024	mg/L	--	--	--	--	--	--	--	--	0.289	0.218
	3/20/2024	mg/L	--	0.296	0.143	--	--	--	--	--	--	--
	3/21/2024	mg/L	0.110 / 0.113	--	--	--	0.0202	0.0133	--	--	--	--
	9/10/2024	mg/L	--	--	--	--	--	--	0.178 / 0.181	0.206	0.186	0.127
	9/11/2024	mg/L	--	--	--	0.228	--	--	--	--	--	--
	9/12/2024	mg/L	0.0898 / 0.0904	--	0.126	--	--	--	--	--	--	--
	9/13/2024	mg/L	--	0.268	--	--	0.0197	0.0420	--	--	--	--
	3/11/2025	mg/L	--	--	--	0.226	--	--	--	--	--	--
	3/12/2025	mg/L	--	--	--	--	--	--	0.158	0.213 / 0.222	--	--
	3/13/2025	mg/L	--	--	--	--	--	--	--	--	0.166	0.147
	3/17/2025	mg/L	0.12 / 0.12	0.20	0.14	--	0.023	0.019	--	--	--	--
	9/16/2025	mg/L	--	--	--	--	--	--	0.183	0.240	--	--
9/17/2025	mg/L	--	--	--	0.217	--	--	--	--	0.240	0.0890 / 0.0865	
9/19/2025	mg/L	0.101 / 0.100	0.195	0.0972	--	0.0189	0.0174	--	--	--	--	
Beryllium (7440-41-7) MCL = 0.004	9/22/2020	mg/L	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U
	12/9/2020	mg/L	< 0.00100	< 0.00100 / < 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	2/1/2021	mg/L	< 0.00100	< 0.00100	< 0.00100	--	< 0.00100	< 0.00100	< 0.00100	--	< 0.00100 / < 0.00100	< 0.00100
	5/10/2021	mg/L	< 0.00100	< 0.00100	< 0.00100	--	< 0.00100	< 0.00100	< 0.00100	--	< 0.00100 / < 0.00100	< 0.00100
	7/12/2021	mg/L	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100 / < 0.00100	< 0.00100
	10/5/2021	mg/L	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100 / < 0.00100	< 0.00100
	3/8/2022	mg/L	< 0.00100	< 0.00100	< 0.00100	< 0.00100 / < 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	6/7/2022	mg/L	< 0.00100	< 0.00100	< 0.00100	< 0.00100 / < 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	9/12/2022	mg/L	--	--	--	< 0.00100	--	--	< 0.00100	< 0.00100	< 0.00100 / < 0.00100	< 0.00100
	3/27/2023	mg/L	--	--	--	< 0.00100	--	--	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	3/28/2023	mg/L	--	--	--	--	--	--	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	3/29/2023	mg/L	--	--	--	--	--	--	< 0.00100	< 0.00100	< 0.00100 / < 0.00100	< 0.00100
	9/12/2023	mg/L	--	--	--	< 0.00100	--	--	< 0.00100	< 0.00100	< 0.00100 / < 0.00100	< 0.00100
	9/13/2023	mg/L	< 0.00100 / < 0.00100	< 0.00100	< 0.00100	--	< 0.00100	< 0.00100	--	--	< 0.00100 / < 0.00100	< 0.00100
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	< 0.00100
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	< 0.00100
	3/18/2024	mg/L	--	--	--	< 0.00100	--	--	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	3/19/2024	mg/L	--	--	--	--	--	--	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	3/20/2024	mg/L	--	< 0.00100	< 0.00100	--	--	--	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	3/21/2024	mg/L	< 0.00100 / < 0.00100	--	--	--	< 0.00100	< 0.00100	--	--	--	--
	9/10/2024	mg/L	--	--	--	--	--	--	< 0.00100 / < 0.00100	< 0.00100	< 0.00100	< 0.00100
	9/11/2024	mg/L	--	--	--	< 0.00100	--	--	--	--	--	--
	9/12/2024	mg/L	< 0.00100 / < 0.00100	--	< 0.00100	--	--	--	--	--	--	--
	9/13/2024	mg/L	--	< 0.00100	--	--	< 0.00100	< 0.00100	--	--	--	--
	3/11/2025	mg/L	--	--	--	< 0.00100	--	--	< 0.00100	< 0.00100 / < 0.00100	--	--
	3/12/2025	mg/L	--	--	--	--	--	--	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	3/13/2025	mg/L	--	--	--	--	--	--	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	3/17/2025	mg/L	< 0.00100 / < 0.00100	< 0.00100	< 0.00100	--	< 0.00100	< 0.00100	--	--	< 0.00100	< 0.00100
	9/16/2025	mg/L	--	--	--	--	--	--	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	9/17/2025	mg/L	--	--	--	< 0.00100	--	--	--	< 0.00100	< 0.00100	< 0.00100 / < 0.00100
	9/19/2025	mg/L	< 0.00100 / < 0.00100	< 0.00100	< 0.00100	--	< 0.00100	< 0.00100	--	--	< 0.00100	< 0.00100 / < 0.00100
	Boron (7440-42-8) N/A	9/22/2020	mg/L	0.417	0.738	0.233	0.100 U	0.589	0.352	0.302	0.197	0.100 U
12/9/2020		mg/L	0.402	0.914 / 0.923	0.243	0.139	0.672	0.359	0.305	0.183	< 0.100	0.196
2/1/2021		mg/L	0.398	0.629	0.289	--	0.654	0.391	0.272	--	< 0.100 / < 0.100	0.337
5/10/2021		mg/L	0.370	0.294	0.177	--	0.701	0.299	0.271	--	< 0.100 / < 0.100	0.291
7/12/2021		mg/L	0.412 J	0.300 J	0.182 J	0.114	0.565 J	0.297 J	0.274	0.230	< 0.100 / < 0.100	0.358
10/5/2021		mg/L	0.342	0.289	0.189	0.134	0.466	0.301	0.243	0.194	0.112 / 0.121	0.415
3/8/2022		mg/L	0.384	0.353	0.287	0.108 / 0.112	0.740	0.474	0.251	0.199	0.109	0.231
6/7/2022		mg/L	0.361	0.338	0.418	0.110 / 0.105	0.634	0.345	0.203	0.144	< 0.100	0.297
9/12/2022		mg/L	0.395 / 0.375	0.327	0.257	0.113	0.619	0.363	0.226	0.143	0.100 / 0.106	0.312
3/27/2023		mg/L	--	--	--	0.138	--	--	--	--	--	--
3/28/2023		mg/L	--	--	--	--	--	--	--	--	--	0.500
3/29/2023		mg/L	--	--	--	--	--	--	--	--	--	--
4/3/2023		mg/L	0.331 / 0.336	0.258	0.297	--	0.584	0.329	--	0.246	0.158	0.140 / 0.137
9/12/2023		mg/L	--	--	--	0.122 J+	--	0.606	--	0.222 J+	0.184 J+	0.154 J+ / 0.149 J+
9/13/2023		mg/L	0.460 / 0.476	0.352	0.427	--	--	0.519	--	--	--	--
12/5/2023		mg/L	--	--	--	--	--	0.337	--	--	--	--
1/23/2024		mg/L	--	--	--	--	--	--	--	--	--	0.208
2/20/2024		mg/L	--	--	--	--	--	--	--	--	--	0.220 J
3/18/2024		mg/L	--	--	--	0.163	--	--	0.254	0.166	0.129	--
3/19/2024		mg/L	--	0.400	0.298	--	--	--	--	--	0.135	0.227
3/20/2024		mg/L	--	--	--	--	--	--	--	--	--	--
3/21/2024		mg/L	0.333 / 0.322	--	--	--	0.606	0.366	--	--	--	--
9/10/2024		mg/L	--	--	--	--	--	--	0.182 / 0.179	0.114	0.172	0.400
9/11/2024		mg/L	--	--	--	< 0.100	--	--	--	--	--	--
9/12/2024		mg/L	0.401 / 0.402	--	0.310	--	--	--	--	--	--	--
9/13/2024		mg/L	--	0.405	--	--	0.538	0.333	--	--	--	--
3/11/2025		mg/L	--	--	--	0.136	--	--	--	--	--	--
3/12/2025	mg/L	--	--	--	--	--	--	0.228	0.156 / 0.158	--	--	
3/13/2025	mg/L	--	--	--	--	--	--	--	--	0.142	0.200	
3/17/2025	mg/L	0.45 / 0.46	0.55	0.37	--	0.64	0.46	--	--	--	--	
9/16/2025	mg/L	--	--	--	--	--	--	0.274	0.173	--	--	
9/17/2025	mg/L	--	--	--	0.131	--	--	--	--	0.180	0.221 / 0.231	
9/19/2025	mg/L	0.388 / 0.415	0.474	0.208	--	0.554	0.348	--	--	--	--	

Analytical Data Summary  
 2025 Annual Water Quality Report  
 Neal North Energy Center - Closed CCR Monofill  
 Permit No. 97-SDP-24-20C

Constituent (CAS #)	Sample Date	Units	MW-1R DwnGrad	MW-3R DwnGrad	MW-5R DwnGrad	MW-13/MW-13R Bkgrnd	MW-19 DwnGrad	MW-21 DwnGrad	MW-27 Bkgrnd	MW-29/MW-29R Bkgrnd	MW-223S Bkgrnd	MW-231S/MW-231SR Bkgrnd
<b>Cadmium (7440-43-9)</b> MCL = 0.005	9/22/2020	mg/L	0.000100 U	0.000100 U	0.000100 U	0.000100 U	0.000100 U	0.000173	0.000114	0.000100 U	0.000100 U	0.000100 U
	12/9/2020	mg/L	< 0.000100	< 0.000100 / < 0.000100	< 0.000100	0.000227	< 0.000100	< 0.000100	< 0.000100	< 0.000100	0.000123	0.000139
	2/1/2021	mg/L	0.000409	0.000776	< 0.000100	--	< 0.000100	< 0.000100	< 0.000100	--	< 0.000100 / < 0.000100	0.000119
	5/10/2021	mg/L	< 0.000100	< 0.000100	< 0.000100	--	< 0.000100	< 0.000100	< 0.000100	--	< 0.000100 / < 0.000100	< 0.000100
	7/12/2021	mg/L	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100 / < 0.000100	< 0.000100
	10/5/2021	mg/L	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	0.000121	< 0.000100	< 0.000100	< 0.000100 / < 0.000100	< 0.000100
	3/8/2022	mg/L	< 0.000100	< 0.000100	< 0.000100	< 0.000100 / < 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100
	6/7/2022	mg/L	< 0.000100	< 0.000100	< 0.000100	< 0.000100 / < 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100
	9/12/2022	mg/L	--	--	--	< 0.000100	--	--	< 0.000100	< 0.000100	< 0.000100 / < 0.000100	< 0.000100
	3/27/2023	mg/L	--	--	--	0.000211	--	--	--	--	--	--
	3/28/2023	mg/L	--	--	--	--	--	--	--	--	--	< 0.000100
	3/29/2023	mg/L	--	--	--	--	--	--	< 0.000200	< 0.000100	< 0.000100 / < 0.000100	--
	9/12/2023	mg/L	--	--	--	< 0.000200	--	--	0.000207 J+	< 0.000200	< 0.000200 / < 0.000200	--
	9/13/2023	mg/L	< 0.000200 / < 0.000200	< 0.000200	< 0.000200	--	< 0.000200	0.000346	--	--	--	< 0.000200
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	< 0.000200
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	< 0.000200
	3/18/2024	mg/L	--	--	--	< 0.000200	--	--	< 0.000200	< 0.000200	< 0.000200	< 0.000200
	3/19/2024	mg/L	--	--	--	--	--	--	--	--	< 0.000200	< 0.000200
	3/20/2024	mg/L	--	< 0.000200	< 0.000200	--	--	--	--	--	--	--
	3/21/2024	mg/L	< 0.000200 / < 0.000200	--	--	--	< 0.000200	< 0.000200	--	--	--	--
	9/10/2024	mg/L	--	--	--	--	--	--	< 0.000200 / < 0.000200	< 0.000200	< 0.000200	< 0.000200
9/11/2024	mg/L	--	--	--	< 0.000200	--	--	--	--	--	--	
9/12/2024	mg/L	< 0.000200 / < 0.000200	--	< 0.000200	--	--	--	--	--	--	--	
9/13/2024	mg/L	--	< 0.000200	--	--	< 0.000200	< 0.000200	--	--	--	--	
3/11/2025	mg/L	--	--	--	< 0.000200	--	--	--	--	--	--	
3/12/2025	mg/L	--	--	--	--	--	--	< 0.000200	< 0.000200 / < 0.000200	--	--	
3/13/2025	mg/L	--	--	--	--	--	--	--	--	< 0.000200	< 0.000200	
3/17/2025	mg/L	< 0.00020 / < 0.00020	< 0.00020	< 0.00020	--	< 0.00020	0.00029	--	--	--	--	
9/16/2025	mg/L	--	--	--	--	--	--	< 0.000200	< 0.000200	--	--	
9/17/2025	mg/L	--	--	--	< 0.000200	--	--	--	--	< 0.000200	< 0.000200 / < 0.000200	
9/19/2025	mg/L	< 0.000200 / < 0.000200	< 0.000200	< 0.000200	--	< 0.000200	0.000245	--	--	--	--	
<b>Calcium (7440-70-2)</b> N/A	9/22/2020	mg/L	127	161	92.8	160	350	341	178	148	104	196
	12/9/2020	mg/L	155	157 / 166	112	205	301	438	212	167	127	238
	2/1/2021	mg/L	132	129	117	--	349	480	170	--	106 / 105	216
	5/10/2021	mg/L	145	142	126	--	379	188	174	--	120 / 116	234
	7/12/2021	mg/L	151	138	112	158	562	265	184	209	112 / 119	294
	10/5/2021	mg/L	137	145	109	150	424	397	162	207	126 / 129	215
	3/8/2022	mg/L	167	130	175	175 / 172	339	464	166	201	117	191
	6/7/2022	mg/L	149	130	158	126 / 129	372	509	118	136	114	178
	9/12/2022	mg/L	152 / 155	150	132	137	389	498	162	177	135 / 138	200
	3/27/2023	mg/L	--	--	--	130	--	--	--	--	--	--
	3/28/2023	mg/L	--	--	--	--	--	--	--	--	--	204
	3/29/2023	mg/L	--	--	--	--	--	--	158	200	186 / 188	--
	4/3/2023	mg/L	182 / 182	154	192	--	415	523	--	--	--	--
	9/12/2023	mg/L	--	--	--	135	--	--	169	222	122 / 126	--
	9/13/2023	mg/L	153 / 144	143	92.9	--	334	474	--	--	--	172
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	169
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	169
	3/18/2024	mg/L	--	--	--	119	--	--	156	166	160	--
	3/19/2024	mg/L	--	--	--	--	--	--	--	--	161	216
	3/20/2024	mg/L	--	141	145	--	--	--	--	--	--	--
	3/21/2024	mg/L	146 / 155	--	--	--	316	510	--	--	--	--
9/10/2024	mg/L	--	--	--	--	--	--	167 / 170	163	167	259	
9/11/2024	mg/L	--	--	--	138	--	--	--	--	--	--	
9/12/2024	mg/L	159 / 158	--	162	--	--	--	--	--	--	--	
9/13/2024	mg/L	--	168	--	--	419	202	--	--	--	--	
3/11/2025	mg/L	--	--	--	147	--	--	--	--	--	--	
3/12/2025	mg/L	--	--	--	--	--	--	157	190 / 187	--	--	
3/13/2025	mg/L	--	--	--	--	--	--	--	--	130	190	
3/17/2025	mg/L	170 / 170	150	160	--	420	560	--	--	--	--	
5/19/2025	mg/L	--	--	--	--	--	441	--	--	--	--	
9/16/2025	mg/L	--	--	--	--	--	--	160	203	--	--	
9/17/2025	mg/L	--	--	--	141	--	--	--	--	200	171 / 177	
9/19/2025	mg/L	155 / 152	132	109	--	364	437	--	--	--	--	

Analytical Data Summary  
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Constituent (CAS #)	Sample Date	Units	MW-1R DwnGrad	MW-3R DwnGrad	MW-5R DwnGrad	MW-13/MW-13R Bkgnd	MW-19 DwnGrad	MW-21 DwnGrad	MW-27 Bkgnd	MW-29/MW-29R Bkgnd	MW-223S Bkgnd	MW-231S/MW-231SR Bkgnd
<b>Chloride (16887-00-6)</b> N/A	9/22/2020	mg/L	27.9	20.9	9.02	15.3	19.0	6.61	18.9	10.1	5.12	10.6
	12/9/2020	mg/L	28.4	17.3/18.6	8.71	15.3	17.4	7.63	28.5	10.6	7.15	12.8
	2/1/2021	mg/L	28.4	17.3	9.92	---	19.0	7.30	22.9	---	6.27/6.03	9.58
	5/10/2021	mg/L	27.4	19.9	8.33	---	15.9	< 5.00	16.9	---	< 5.00 / < 5.00	6.12
	7/12/2021	mg/L	31.7	18.8	8.97	35.9 J-	17.8	6.58	13.1 J-	9.75 J-	6.26 J- / 6.40 J-	9.27 J-
	10/5/2021	mg/L	68.0	21.2	8.94	42.1	19.4	6.12	17.7	9.81	5.25/5.24	9.62
	3/8/2022	mg/L	33.2	7.64	13.1	74.6/73.3	16.3	6.88	15.2	12.1	< 5.00	5.37
	6/7/2022	mg/L	40.1	10.8	11.3	42.8/42.5	17.8	7.11	11.8	12.0	5.58	12.8
	9/12/2022	mg/L	62.5/64.5	9.83	9.73	16.7	17.8	1.37	12.5	10.6	4.08/4.02	5.69
	3/27/2023	mg/L	---	---	---	18.9	---	---	---	---	---	---
	3/28/2023	mg/L	---	---	---	---	---	---	---	---	---	9.32
	3/29/2023	mg/L	---	---	---	---	---	---	---	---	---	---
	4/3/2023	mg/L	34.6 / 34.4	10.0	13.7	---	18.0	7.94	---	11.9	11.9	6.06 J / <1.00 J
	9/12/2023	mg/L	---	---	---	12.3	---	---	---	13.9	10.8	4.37 / 5.00
	9/13/2023	mg/L	61.9 / 61.5	9.02	10.4	---	19.1	8.18	---	---	---	---
	1/23/2024	mg/L	---	---	---	---	---	---	---	---	---	---
	2/20/2024	mg/L	---	---	---	---	---	---	---	---	---	7.78
	3/18/2024	mg/L	---	---	---	9.26	---	---	---	17.3	10.3	5.43
	3/19/2024	mg/L	---	---	---	---	---	---	---	---	---	5.64
	3/20/2024	mg/L	---	8.58	11.4	---	---	---	---	---	---	10.2
	3/21/2024	mg/L	33.7 / 34.8	---	---	---	16.8	6.98	---	---	---	---
	9/10/2024	mg/L	---	---	---	---	---	---	24.8 / 24.9	11.3	39.8	116
	9/11/2024	mg/L	---	---	---	10.5	---	---	---	---	---	---
	9/12/2024	mg/L	61.8 / 61.5	---	11.1	---	---	---	---	---	---	---
	9/13/2024	mg/L	---	10.8	---	---	19.4	<5.00	---	---	---	---
	3/11/2025	mg/L	---	---	---	17.3	---	---	---	---	---	---
3/12/2025	mg/L	---	---	---	---	---	---	24.5	12.0 / 9.49	---	---	
3/13/2025	mg/L	---	---	---	---	---	---	---	---	15.2	9.30	
3/17/2025	mg/L	37 / 37	6.7	10	---	20	6.7	---	---	---	---	
9/16/2025	mg/L	---	---	---	---	---	---	15.5	8.73	---	---	
9/17/2025	mg/L	---	---	---	11.0	---	---	---	---	22.8	16.3 / 14.2	
9/19/2025	mg/L	53.3 / 53.8	8.02	9.06	---	19.3	6.51	---	---	---	---	
9/22/2020	mg/L	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U
12/9/2020	mg/L	< 0.00500	< 0.00500 / < 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
2/1/2021	mg/L	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
5/10/2021	mg/L	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
7/12/2021	mg/L	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
10/5/2021	mg/L	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
3/8/2022	mg/L	< 0.00500	< 0.00500	< 0.00500	< 0.00500 / < 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
6/7/2022	mg/L	< 0.00500	< 0.00500	< 0.00500	< 0.00500 / < 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
9/12/2022	mg/L	---	< 0.00500	---	< 0.00500	---	---	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
3/27/2023	mg/L	---	---	---	< 0.00500	---	---	---	---	---	---	< 0.00500
3/28/2023	mg/L	---	---	---	---	---	---	---	---	---	---	< 0.00500
3/29/2023	mg/L	---	---	---	---	---	---	< 0.00500	< 0.00500	< 0.00500 / < 0.00500	---	---
9/12/2023	mg/L	---	---	---	< 0.00500	---	---	< 0.00500	< 0.00500	< 0.00500 / < 0.00500	---	---
9/13/2023	mg/L	< 0.00500 / < 0.00500	< 0.00500	< 0.00500	---	< 0.00500	< 0.00500	---	---	---	< 0.00500	
1/23/2024	mg/L	---	---	---	---	---	---	---	---	---	< 0.00500	
2/20/2024	mg/L	---	---	---	---	---	---	---	---	---	< 0.00500	
3/18/2024	mg/L	---	---	---	< 0.00500	---	---	< 0.00500	< 0.00500	< 0.00500	< 0.00500	
3/19/2024	mg/L	---	---	---	---	---	---	---	---	---	< 0.00500	
3/20/2024	mg/L	---	< 0.00500	< 0.00500	---	---	---	---	---	---	< 0.00500	
3/21/2024	mg/L	< 0.00500 / < 0.00500	---	---	---	< 0.00500	< 0.00500	---	---	---	< 0.00500	
9/10/2024	mg/L	---	---	---	---	---	---	< 0.00500 / < 0.00500	< 0.00500	< 0.00500	< 0.00500	
9/11/2024	mg/L	---	---	---	< 0.00500	---	---	---	---	---	< 0.00500	
9/12/2024	mg/L	< 0.00500 / < 0.00500	< 0.00500	< 0.00500	---	< 0.00500	< 0.00500	---	---	---	< 0.00500	
9/13/2024	mg/L	---	< 0.00500	---	---	< 0.00500	< 0.00500	---	---	---	< 0.00500	
3/11/2025	mg/L	---	---	---	< 0.00500	---	---	---	---	---	< 0.00500	
3/12/2025	mg/L	---	---	---	---	---	---	< 0.00500	< 0.00500 / < 0.00500	---	< 0.00500	
3/13/2025	mg/L	---	---	---	---	---	---	---	---	---	< 0.00500	
3/17/2025	mg/L	< 0.0050 / < 0.0050	< 0.0050	< 0.0050	---	< 0.0050	< 0.0050	---	---	---	< 0.00500	
9/16/2025	mg/L	---	---	---	---	---	---	< 0.00500	< 0.00500	---	< 0.00500	
9/17/2025	mg/L	---	---	---	< 0.00500	---	---	---	---	---	< 0.00500	
9/19/2025	mg/L	< 0.00500 / < 0.00500	< 0.00500	< 0.00500	---	< 0.00500	< 0.00500	---	---	---	< 0.00500 / < 0.00500	
9/22/2020	mg/L	0.00104	0.000848	0.000500 U	0.000500 U	0.0107	0.000510	0.00154	0.000500 U	0.000500 U	0.00225	
12/9/2020	mg/L	0.000998	0.00155 / 0.00161	0.000604	< 0.000500	0.00389	0.000956	0.00142	0.00269	< 0.000500	< 0.000500	
2/1/2021	mg/L	0.000747	0.00131	0.000550	---	0.00890	0.000664	0.00102	---	< 0.000500 / < 0.000500	0.00188	
5/10/2021	mg/L	< 0.000500	0.000526	0.000613	---	0.0103	< 0.000500	0.000977	---	0.000764 / 0.000712	0.00188	
7/12/2021	mg/L	0.000595	0.000647	0.000543	0.00335	0.0225	< 0.000500	0.000940	0.00694	0.00104 / 0.000914	0.000539	
10/5/2021	mg/L	< 0.000500	< 0.000500	< 0.000500	0.00125	0.0121	< 0.000500	0.000759	0.00442	0.00128 / 0.00118	0.00216	
3/8/2022	mg/L	< 0.000500	< 0.000500	0.000730	0.00137 / 0.00141	0.00806	0.00397	0.000666	0.00354	0.000653	0.00351	
6/7/2022	mg/L	< 0.000500	< 0.000500	0.000613	0.00110 / 0.00107	0.00845	0.00151	0.000699	0.00254	0.000699	0.00275	
9/12/2022	mg/L	---	---	---	0.000940	---	---	0.000650	0.00251	0.000905 / 0.000885	0.00323	
3/27/2023	mg/L	---	---	---	0.00105	---	---	---	---	---	---	
3/28/2023	mg/L	---	---	---	---	---	---	---	---	---	0.00330	
3/29/2023	mg/L	---	---	---	---	---	---	0.000561	0.00265	0.00107 / 0.00103	---	
9/12/2023	mg/L	---	---	---	0.000806 J+	---	---	0.000978 J+	0.00270 J+	0.000638 J+ / 0.000667 J+	---	

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Constituent (CAS #)	Sample Date	Units	MW-1R DwnGrad	MW-3R DwnGrad	MW-5R DwnGrad	MW-13/MW-13R Bkgrnd	MW-19 DwnGrad	MW-21 DwnGrad	MW-27 Bkgrnd	MW-29/MW-29R Bkgrnd	MW-223S Bkgrnd	MW-231S/MW-231SR Bkgrnd
Cobalt (7440-48-4) GWPS = 0.006	9/13/2023	mg/L	<0.000500 / <0.000500	<0.000500	<0.000500	--	0.00670	0.000983	--	--	--	0.00257
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	0.00251
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	0.00209
	3/18/2024	mg/L	--	--	--	0.000733	--	--	0.000537	0.00279	0.000901	--
	3/19/2024	mg/L	--	--	--	--	--	--	--	--	0.000913	0.00347
	3/20/2024	mg/L	--	<0.000500	0.000662	--	--	--	--	--	--	--
	3/21/2024	mg/L	<0.000500 / <0.000500	--	--	--	0.00755	<0.000500	--	--	--	--
	9/10/2024	mg/L	--	--	--	--	--	--	0.000867 / 0.000849	0.00217	0.000728	0.00692
	9/11/2024	mg/L	--	--	--	0.000874	--	--	--	--	--	--
	9/12/2024	mg/L	0.00116 / 0.00112	--	0.000694	--	--	--	--	--	--	--
	9/13/2024	mg/L	--	0.000703	--	--	0.0127	<0.000500	--	--	--	--
	3/11/2025	mg/L	--	--	--	0.00102	--	--	--	--	--	--
	3/12/2025	mg/L	--	--	--	--	--	--	0.000635	0.00285 / 0.00280	--	--
	3/13/2025	mg/L	--	--	--	--	--	--	--	--	0.000767	0.00253
	3/17/2025	mg/L	0.00057 / 0.00059	0.00064	0.00055	--	0.015	0.00082	--	--	--	--
	9/16/2025	mg/L	--	--	--	--	--	--	0.000796	0.00250	--	--
	9/17/2025	mg/L	--	--	--	0.000946	--	--	--	--	0.00131	0.00311 / 0.00305
9/19/2025	mg/L	<0.000500 / <0.000500	0.000530	<0.000500	--	0.00858	<0.000500	--	--	--	--	
Fluoride (16984-48-8) MCL = 4.0	9/22/2020	mg/L	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
	12/9/2020	mg/L	< 0.500	< 0.500 / < 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500
	2/1/2021	mg/L	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500
	5/10/2021	mg/L	0.808	0.631	0.675	--	--	--	--	--	--	--
	7/12/2021	mg/L	< 0.500	< 0.500	< 0.500	< 0.500 J	< 0.500	< 0.500	< 0.500 J	< 0.500 J	< 0.500 J	< 0.500 J
	10/5/2021	mg/L	< 0.500	< 0.500	< 0.500	< 0.500	2.36	2.85	< 0.500	< 0.500	< 0.500	< 0.500
	3/8/2022	mg/L	< 0.500	< 0.500	< 0.500	< 0.500 / < 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500
	6/7/2022	mg/L	< 0.500	< 0.500	< 0.500	< 0.500 / < 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500
	9/12/2022	mg/L	< 0.500 / < 0.500	< 0.500	0.652	< 0.500	< 0.500	< 0.100	< 0.500	< 0.500	< 0.500	< 0.100
	3/27/2023	mg/L	--	--	--	< 0.500	--	--	--	--	--	--
	3/28/2023	mg/L	--	--	--	--	--	--	--	--	--	0.163
	3/29/2023	mg/L	--	--	--	--	--	--	< 0.500	< 0.500	< 0.500 / 0.269	--
	4/3/2023	mg/L	< 0.500 / < 0.500	< 0.500	< 0.500	--	< 0.500	0.791	--	--	--	--
	9/12/2023	mg/L	--	--	--	< 1.00	--	--	< 1.00	< 1.00	< 0.200 / < 1.00	--
	9/13/2023	mg/L	< 1.00 / < 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 0.200 / < 1.00	< 0.200
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	< 1.00
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	< 1.00
3/18/2024	mg/L	--	--	--	< 1.00	--	--	< 1.00	< 1.00	< 1.00	< 0.200	
3/19/2024	mg/L	--	--	--	--	--	--	--	--	< 0.200	< 0.200	
3/20/2024	mg/L	--	< 1.00	< 1.00	< 1.00	--	--	--	--	--	--	
3/21/2024	mg/L	< 1.00 / < 1.00	--	--	--	< 1.00	< 1.00	< 1.00	< 1.00 / < 1.00	< 1.00	< 0.200	
9/10/2024	mg/L	--	--	--	--	--	--	--	< 1.00	< 0.200	< 0.200	
9/11/2024	mg/L	--	--	--	< 1.00	--	--	--	--	--	--	
9/12/2024	mg/L	< 1.00 / < 1.00	--	< 1.00	--	--	--	--	--	--	--	
9/13/2024	mg/L	--	< 1.00	--	--	< 1.00	< 1.00	--	--	--	--	
3/11/2025	mg/L	--	--	--	< 1.00	--	--	< 1.00	< 1.00 / < 1.00	--	--	
3/12/2025	mg/L	--	--	--	--	--	--	< 1.00	< 1.00 / < 1.00	--	--	
3/13/2025	mg/L	--	--	--	--	--	--	--	--	< 0.200	< 0.200	
3/17/2025	mg/L	< 1.0 / < 1.0	< 1.0	< 1.0	--	< 1.0	< 1.0	--	--	--	--	
9/16/2025	mg/L	--	--	--	--	--	--	< 1.00	< 1.00	--	--	
9/17/2025	mg/L	--	--	--	< 1.00	--	--	--	--	< 0.200	< 1.00 / < 0.200	
9/19/2025	mg/L	< 1.00 / < 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 0.200	< 0.200	
Lead (7439-92-1) GWPS = 0.015	9/22/2020	mg/L	0.000500 U	0.000500 U	0.000500 U	0.000500 U	0.000500 U	0.000500 U	0.000500 U	0.000500 U	0.000500 U	0.000500 U
	12/9/2020	mg/L	< 0.000500	< 0.000500 / < 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500
	2/1/2021	mg/L	< 0.000500	0.00160	< 0.000500	--	--	--	< 0.000500	< 0.000500	< 0.000500 / < 0.000500	< 0.000500
	5/10/2021	mg/L	< 0.000500	< 0.000500	< 0.000500	--	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500 / < 0.000500	< 0.000500
	7/12/2021	mg/L	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500 / < 0.000500	< 0.000500
	10/5/2021	mg/L	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500 / < 0.000500	< 0.000500
	3/8/2022	mg/L	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500 / < 0.000500	< 0.000500
	6/7/2022	mg/L	< 0.000500	< 0.000500	< 0.000500	< 0.000500 / < 0.000500	0.000747	0.000899	< 0.000500	< 0.000500	< 0.000500	< 0.000500
	9/12/2022	mg/L	< 0.000500	< 0.000500	< 0.000500	< 0.000500 / < 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500 / < 0.000500	< 0.000500
	3/27/2023	mg/L	--	--	--	0.000593	--	--	--	--	--	< 0.000500
	3/28/2023	mg/L	--	--	--	--	--	--	--	--	--	< 0.000500
	3/29/2023	mg/L	--	--	--	--	--	--	< 0.000500	< 0.000500	< 0.000500 / < 0.000500	--
	9/12/2023	mg/L	--	--	--	< 0.000500	--	--	0.000513 J+	< 0.000500	< 0.000500 / < 0.000500	--
	9/13/2023	mg/L	< 0.000500 / < 0.000500	< 0.000500	< 0.000500	--	< 0.000500	< 0.000500	--	--	--	< 0.000500
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	< 0.000500
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	< 0.000500
	3/18/2024	mg/L	--	--	--	< 0.000500	--	--	< 0.000500	< 0.000500	< 0.000500	< 0.000500
3/19/2024	mg/L	--	--	--	--	--	--	--	--	< 0.000500	< 0.000500	
3/20/2024	mg/L	--	< 0.000500	< 0.000500	--	--	--	--	--	--	--	
3/21/2024	mg/L	< 0.000500 / < 0.000500	--	--	--	< 0.000500	< 0.000500	--	--	--	--	
9/10/2024	mg/L	--	--	--	--	< 0.000500	< 0.000500	< 0.000500 / < 0.000500	< 0.000500	< 0.000500	< 0.000500	
9/11/2024	mg/L	--	--	--	< 0.000500	--	--	--	--	--	--	
9/12/2024	mg/L	< 0.000500 / < 0.000500	--	< 0.000500	--	--	--	--	--	--	--	
9/13/2024	mg/L	--	< 0.000500	--	--	< 0.000500	< 0.000500	--	--	--	--	
3/11/2025	mg/L	--	--	--	< 0.000500	--	--	--	--	--	--	
3/12/2025	mg/L	--	--	--	--	--	--	< 0.000500	< 0.000500 / < 0.000500	--	< 0.000500	
3/13/2025	mg/L	--	--	--	--	--	--	--	--	< 0.000500	< 0.000500	
3/17/2025	mg/L	< 0.000500 / < 0.000500	< 0.000500	< 0.000500	--	< 0.000500	< 0.000500	--	--	--	--	
9/16/2025	mg/L	--	--	--	--	--	--	< 0.000500	< 0.000500	--	--	
9/17/2025	mg/L	--	--	--	< 0.000500	--	--	--	--	< 0.000500	< 0.000500 / < 0.000500	
9/19/2025	mg/L	< 0.000500 / < 0.000500	< 0.000500	< 0.000500	--	< 0.000500	< 0.000500	--	--	< 0.000500	< 0.000500 / < 0.000500	

Table 8

Analytical Data Summary  
 2025 Annual Water Quality Report  
 Neal North Energy Center - Closed CCR Monofill  
 Permit No. 97-SDP-24-20C

Constituent (CAS #)	Sample Date	Units	MW-1R DwnGrad	MW-3R DwnGrad	MW-5R DwnGrad	MW-13/MW-13R Bkgrnd	MW-19 DwnGrad	MW-21 DwnGrad	MW-27 Bkgrnd	MW-29/MW-29R Bkgrnd	MW-223S Bkgrnd	MW-231S/MW-231SR Bkgrnd
<b>Lithium (7439-93-2)</b> GWPS = 0.040 Site-specific GWPS = 0.205	9/22/2020	mg/L	0.0656	0.0854	0.0565	0.0982	0.222	0.244	0.196	0.0934	0.0418	0.0776
	12/9/2020	mg/L	0.0813	0.0982 / 0.0969	0.0649	0.130	0.239	0.316	0.243	0.112	0.0500	0.0929
	2/1/2021	mg/L	0.0747	0.0877	0.0695	--	0.273	0.332	0.187	--	0.0517 / 0.0492	0.0952
	5/10/2021	mg/L	0.0711	0.0837	0.0717	--	0.245	0.188	0.169	--	0.0545 / 0.0544	0.100
	7/12/2021	mg/L	0.0755	0.0844	0.0697	0.0806	0.300	0.233	0.187	0.131	0.0572 / 0.0584	0.0994
	10/5/2021	mg/L	0.0503	0.0615	0.0489	0.0582	0.200	0.208	0.115	0.0865	0.0581 / 0.0544	0.102
	3/8/2022	mg/L	0.0812	0.0854	0.0808	0.0900 / 0.0868	0.254	0.334	0.159	0.126	0.0504	0.109
	6/7/2022	mg/L	0.0709	0.0793	0.0723	0.0841 / 0.0816	0.254	0.321	0.118	0.101	0.0581	0.0964
	9/12/2022	mg/L	--	--	--	0.0830	--	--	0.141	0.103	0.0565 / 0.0572	0.104
	3/27/2023	mg/L	--	--	--	0.0873	--	--	--	--	--	--
	3/28/2023	mg/L	--	--	--	--	--	--	--	--	--	0.110
	3/29/2023	mg/L	--	--	--	--	--	--	0.129	0.109	0.0674 / 0.0684	--
	9/12/2023	mg/L	--	--	--	0.0880 J+	--	--	0.113 J+	0.118 J+	0.0517 J+ / 0.0504 J+	--
	9/13/2023	mg/L	0.0600 / 0.0660	0.0763	0.0578	--	0.234	0.301	--	--	--	0.0851
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	0.0905
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	0.0805 J
	3/18/2024	mg/L	--	--	--	0.0884	--	--	0.126	0.103	0.0575	--
	3/19/2024	mg/L	--	--	--	--	--	--	--	--	0.0585	0.103
	3/20/2024	mg/L	--	0.0856	0.0734	--	--	--	--	--	--	--
	3/21/2024	mg/L	0.0705 / 0.0734	--	--	--	0.239	0.328	--	--	--	--
	9/10/2024	mg/L	--	--	--	--	--	--	0.105 / 0.105	0.0908	0.0610	0.0951
	9/11/2024	mg/L	--	--	--	0.0906	--	--	--	--	--	--
	9/12/2024	mg/L	0.0765 / 0.0768	--	0.0725	--	--	--	--	--	--	--
	9/13/2024	mg/L	--	0.0875	--	--	0.255	0.205	--	--	--	--
	3/11/2025	mg/L	--	--	--	0.0846	--	--	--	--	--	--
	3/12/2025	mg/L	--	--	--	--	--	--	0.110	0.0957 / 0.0968	--	--
	3/13/2025	mg/L	--	--	--	--	--	--	--	--	0.0540	0.0856
	3/17/2025	mg/L	0.087 / 0.089	0.087	0.074	--	0.28	0.35	--	--	--	--
	9/16/2025	mg/L	--	--	--	--	--	--	0.106	0.0941	--	--
	9/17/2025	mg/L	--	--	--	0.0743	--	--	--	--	0.0692	0.0846 / 0.0869
	9/19/2025	mg/L	0.0802 / 0.0806	0.0802	0.0686	--	0.257	0.308	--	--	--	--
<b>Mercury (7439-97-6)</b> MCL = 0.002	9/22/2020	mg/L	0.000200 U	0.000200 U	0.000200 U	0.000200 U	0.000200 U	0.000200 U	0.000200 U	0.000200 U	0.000200 U	0.000200 U
	12/9/2020	mg/L	< 0.000200	< 0.000200 / < 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200
	2/1/2021	mg/L	< 0.000200	< 0.000200	< 0.000200	--	< 0.000200	< 0.000200	< 0.000200	--	< 0.000200 / < 0.000200	< 0.000200
	5/10/2021	mg/L	< 0.000200	< 0.000200	< 0.000200	--	< 0.000200	< 0.000200	< 0.000200	--	< 0.000200 / < 0.000200	< 0.000200
	7/12/2021	mg/L	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200 / < 0.000200	< 0.000200
	10/5/2021	mg/L	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200 / < 0.000200	< 0.000200
	3/8/2022	mg/L	< 0.000200	< 0.000200	< 0.000200	< 0.000200 / < 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200
	6/7/2022	mg/L	< 0.000200	< 0.000200	< 0.000200	< 0.000200 / < 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200
	9/12/2022	mg/L	--	--	--	< 0.000200	--	--	< 0.000200	< 0.000200	< 0.000200 / < 0.000200	< 0.000200
	3/27/2023	mg/L	--	--	--	< 0.000200	--	--	--	--	--	--
	3/28/2023	mg/L	--	--	--	--	--	--	--	--	--	< 0.000200
	3/29/2023	mg/L	--	--	--	--	--	--	< 0.000200	< 0.000200	< 0.000200 / < 0.000200	--
	9/12/2023	mg/L	--	--	--	< 0.000200	--	--	< 0.000200	< 0.000200	< 0.000200 / < 0.000200	--
	9/13/2023	mg/L	< 0.000200 / < 0.000200	< 0.000200	< 0.000200	--	< 0.000200	< 0.000200	--	--	--	< 0.000200
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	< 0.000200
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	< 0.000200
	3/18/2024	mg/L	--	--	--	< 0.000200	--	--	< 0.000200	< 0.000200	< 0.000200	< 0.000200
	3/19/2024	mg/L	--	--	--	--	--	--	--	--	< 0.000200	< 0.000200
	3/20/2024	mg/L	--	< 0.000200	< 0.000200	--	--	--	--	--	--	--
	3/21/2024	mg/L	< 0.000200 / < 0.000200	--	--	--	< 0.000200	< 0.000200	--	--	--	--
	9/10/2024	mg/L	--	--	--	--	--	--	< 0.000200 / < 0.000200	< 0.000200	< 0.000200	< 0.000200
	9/11/2024	mg/L	--	--	--	< 0.000200	--	--	--	--	--	< 0.000200
	9/12/2024	mg/L	< 0.000200 / < 0.000200	--	< 0.000200	--	--	--	--	--	--	--
	9/13/2024	mg/L	--	< 0.000200	--	--	< 0.000200	< 0.000200	--	--	--	--
	3/11/2025	mg/L	--	--	--	< 0.000200	--	--	--	--	--	--
	3/12/2025	mg/L	--	--	--	--	--	--	< 0.000200	< 0.000200 / < 0.000200	--	--
	3/13/2025	mg/L	--	--	--	--	--	--	--	--	< 0.000200	< 0.000200
	3/17/2025	mg/L	< 0.00020 / < 0.00020	< 0.00020	< 0.00020	--	< 0.00020	< 0.00020	--	--	--	--
	9/16/2025	mg/L	--	--	--	--	--	--	< 0.000200	< 0.000200	--	--
	9/17/2025	mg/L	--	--	--	< 0.000200	--	--	< 0.000200	< 0.000200	--	< 0.000200 / < 0.000200
	9/19/2025	mg/L	< 0.000200 / < 0.000200	< 0.000200	< 0.000200	--	< 0.000200	< 0.000200	--	--	< 0.000200	< 0.000200 / < 0.000200
<b>Molybdenum (7439-98-7)</b> GWPS = 0.100	9/22/2020	mg/L	0.00394	0.00200 U	0.00394	0.00231	0.00200 U	0.00200 U	0.00200 U	0.00200 U	0.00200 U	0.00200 U
	12/9/2020	mg/L	0.00421	< 0.00200 / < 0.00200	0.00394	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	0.00316	< 0.00200
	2/1/2021	mg/L	0.00554	0.00651	0.00448	< 0.00200	< 0.00200	< 0.00200	< 0.00200	--	0.00221 / 0.00238	0.00200
	5/10/2021	mg/L	0.00527	0.00212	0.00401	< 0.00200	< 0.00200	< 0.00200	< 0.00200	--	0.00272 / 0.00218	< 0.00200
	7/12/2021	mg/L	0.00568	0.00240	0.00423	0.00420	< 0.00200	< 0.00200	< 0.00200	0.00335	0.00258 / 0.00226	< 0.00200
	10/5/2021	mg/L	0.00464	0.00210	0.00363	0.00286	< 0.00200	< 0.00200	< 0.00200	< 0.00200	0.00240 / 0.00239	< 0.00200
	3/8/2022	mg/L	0.00425	0.00212	0.00355	0.00321 / 0.00309	< 0.00200	< 0.00200	< 0.00200	< 0.00200	0.00246	0.00242
	6/7/2022	mg/L	0.00526	0.00219	0.00383	0.00359 / 0.00407	< 0.00200	< 0.00200	< 0.00200	< 0.00200	0.00241	< 0.00200
	9/12/2022	mg/L	--	--	--	0.00395	--	--	< 0.00200	< 0.00200	0.00265 / 0.00259	0.00205
	3/27/2023	mg/L	--	--	--	0.00492	--	--	--	--	--	--
	3/28/2023	mg/L	--	--	--	--	--	--	--	--	--	0.00347
	3/29/2023	mg/L	--	--	--	--	--	--	< 0.00200	0.00232	0.00288 / 0.00296	--
	9/12/2023	mg/L	--	--	--	0.00411 J+	--	--	0.00284 J+	0.00205 J+	0.00291 J+ / 0.00305 J+	--
	9/13/2023	mg/L	0.00489 / 0.00517	0.00236	0.00393	--	< 0.00200	< 0.00200	--	--	--	0.00219
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	0.00222
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	0.00215
	3/18/2024	mg/L	--	--	--	0.00413	--	--	< 0.00200	0.00200	0.00238	--
	3/19/2024	mg/L	--	--	--	--	--	--	--	--	0.00228	0.00248
	3/20/2024	mg/L	--	0.00218	0.00361	--	--	--	--	--	--	--

Analytical Data Summary  
 2025 Annual Water Quality Report  
 Neal North Energy Center - Closed CCR Monofill  
 Permit No. 97-SDP-24-20C

Constituent (CAS #)	Sample Date	Units	MW-1R DwnGrad	MW-3R DwnGrad	MW-5R DwnGrad	MW-13/MW-13R Bkgnd	MW-19 DwnGrad	MW-21 DwnGrad	MW-27 Bkgnd	MW-29/MW-29R Bkgnd	MW-223S Bkgnd	MW-231S/MW-231SR Bkgnd	
Molybdenum (7439-98-7) GWPS = 0.100	3/21/2024	mg/L	0.00508 / 0.00456	--	--	--	<0.00200	<0.00200	--	--	--	--	
	9/10/2024	mg/L	--	--	--	--	--	--	<0.00200 / <0.00200	<0.00200	0.00237	<0.00200	
	9/11/2024	mg/L	--	--	--	0.00362	--	--	--	--	--	--	
	9/12/2024	mg/L	0.00464 / 0.00473	--	0.00357	--	--	--	--	--	--	--	
	9/13/2024	mg/L	--	0.00227	--	--	<0.00200	<0.00200	--	--	--	--	
	3/11/2025	mg/L	--	--	--	0.00377	--	--	--	--	--	--	
	3/12/2025	mg/L	--	--	--	--	--	--	<0.00200	<0.00200 / <0.00200	--	--	
	3/13/2025	mg/L	--	--	--	--	--	--	--	--	0.00205	<0.00200	
	3/17/2025	mg/L	0.0034 / 0.0036	0.0019 J	0.0036	--	<0.0020	<0.0020	--	--	--	--	
	9/16/2025	mg/L	--	--	--	--	--	--	<0.00200	<0.00200	--	--	
	9/17/2025	mg/L	--	--	--	0.00445	--	--	--	--	<0.00200	<0.00200 / <0.00200	
	9/19/2025	mg/L	0.00478 / 0.00452	0.00241	0.00445	--	<0.00200	<0.00200	--	--	--	--	
	pH, lab N/A	9/22/2020	s.u.	7.3 J	7.2 J	7.3 J	7.2 J	6.7 J	7.2 J	7.0 J	7.0 J	7.5 J	7.1 J
		12/9/2020	s.u.	7.2 J	7.1 J / 7.1 J	7.2 J	7.4 J	6.9 J	6.8 J	7.1 J	7.2 J	7.4 J	7.1 J
2/1/2021		s.u.	7.6 J	7.5 J	7.5 J	--	7.1 J	7.2 J	7.1 J	--	7.6 J / 7.6 J	7.2 J	
5/10/2021		s.u.	7.2 J	7.3 J	7.2 J	--	6.7 J	7.1 J	7.0 J	--	7.5 J / 7.6 J	7.2 J	
7/12/2021		s.u.	7.3 J	7.4 J	7.3 J	7.2 J	6.7 J	7.0 J	7.1 J	7.0 J	7.5 J / 7.4 J	7.2 J	
10/5/2021		s.u.	7.3 J	7.4 J	7.4 J	7.2 J	6.6 J	6.9 J	7.1 J	7.1 J	7.4 J / 7.9 J	7.4 J	
3/8/2022		s.u.	7.3 J	7.3 J	7.4 J	7.2 J / 7.2 J	6.8 J	6.8 J	7.3 J	7.2 J	7.4 J	7.4 J	
6/7/2022		s.u.	7.2 J	7.3 J	7.2 J	7.3 J / 7.2 J	6.8 J	6.8 J	7.2 J	7.1 J	7.5 J	7.2 J	
9/12/2022		s.u.	7.3 J / 7.5 J	8.2 J	7.3 J	7.2 J	7.2 J	7.0 J	7.2 J	7.1 J	7.4 J / 7.5 J	7.1 J	
3/27/2023		s.u.	--	--	--	7.3 J	--	--	--	--	--	--	
3/28/2023		s.u.	--	--	--	--	--	--	--	--	--	7.2 J	
3/29/2023		s.u.	--	--	--	--	--	--	7.1 J	7.1 J	7.4 J / 7.4 J	--	
4/3/2023		s.u.	7.2 J / 7.3 J	7.4 J	7.3 J	--	6.7 J	6.8 J	--	--	--	--	
9/12/2023		s.u.	--	--	--	7.2 J	--	--	7.1 J	7.0 J	7.4 J / 7.5 J	--	
9/13/2023		s.u.	7.2 J / 7.1 J	7.2 J	7.3 J	--	6.7 J	6.7 J	--	--	--	7.1 J	
1/23/2024		s.u.	--	--	--	--	--	--	--	--	--	7.1 J	
2/20/2024		s.u.	--	--	--	--	--	--	--	--	--	7.2 J	
3/18/2024		s.u.	--	--	--	7.3 J	--	--	7.2 J	7.2 J	7.3 J	--	
3/19/2024		s.u.	--	--	--	--	--	--	--	--	7.3 J	7.1 J	
3/20/2024		s.u.	--	--	8.0 J	8.0 J	--	--	--	--	--	--	
3/21/2024		s.u.	8.0 J / 8.0 J	--	--	--	7.8 J	7.8 J	--	--	--	--	
6/5/2024		s.u.	--	--	7.4 J	--	--	7.0 J	--	--	--	--	
9/10/2024		s.u.	--	--	--	--	--	--	7.0 J / 7.0 J	7.0 J	7.5 J	7.1 J	
9/11/2024		s.u.	--	--	--	7.1 J	--	--	--	--	--	--	
9/12/2024		s.u.	7.1 J / 7.1 J	--	7.2 J	--	--	--	--	--	--	--	
9/13/2024		s.u.	--	7.2 J	--	--	6.6 J	7.2 J	--	--	--	--	
3/11/2025		s.u.	--	--	--	7.8 J	--	--	--	--	--	--	
3/12/2025		s.u.	--	--	--	--	--	--	7.8 J	7.7 J / 7.7 J	--	--	
3/13/2025	s.u.	--	--	--	--	--	--	--	--	7.6 J	7.8 J		
3/17/2025	s.u.	7.7 J / 7.7 J	7.7 J	7.7 J	--	7.4 J	7.4 J	--	--	--	--		
5/19/2025	s.u.	--	--	--	--	6.6 J	6.8 J	--	--	--	--		
5/20/2025	s.u.	--	--	7.3 J	--	--	--	--	--	--	7.2 J		
9/16/2025	s.u.	--	--	--	--	--	--	7.1 J	7.0 J	--	--		
9/17/2025	s.u.	--	--	--	7.1 J	--	--	--	--	7.0 J	7.1 J / 7.0 J		
9/19/2025	s.u.	7.7 J / 7.7 J	7.7 J	7.7 J	--	7.3 J	7.4 J	--	--	--	--		
Radium-226 & 228 MCL = 5.0	9/22/2020	pCi/L	1.58 ± 0.436	1.15 ± 0.473	0.683 ± 0.537 U	0.595 ± 0.409 U	0.920 ± 0.388	1.17 ± 0.397	1.02 ± 0.453	1.67 ± 0.467	1.37 ± 0.421	0.973 ± 0.416	
	12/9/2020	pCi/L	< 0.460	1.23 / < 0.235	< 0.274	0.735	< 0.383	< 0.471	0.728	0.579	0.497	0.994	
	2/1/2021	pCi/L	< 0.484	0.764	< 0.292	--	0.720	< 0.290	0.675	--	< 0.0527 / < 0.0912	< 0.349	
	5/10/2021	pCi/L	< -0.0461	0.707	0.732	--	< 0.123	< 0.291	0.573	--	0.618 / 0.808	< 0.429	
	7/12/2021	pCi/L	0.379	0.878	0.734	1.53	0.662	0.546	0.898	1.79	< 0.270 / 0.658	< 0.291	
	10/5/2021	pCi/L	< 0.0779	< 0.470	0.669	1.12	0.815	0.696	0.803	0.865	0.698 / 0.785	0.582	
	3/8/2022	pCi/L	0.757	0.504	0.608	0.794 / 1.16	0.777	0.353	1.14	1.18	0.438	0.925	
	6/7/2022	pCi/L	0.822	1.15	< 0.491	1.22 / 0.878	< 0.456	0.626	< 0.361	1.33	0.832	0.902	
	9/12/2022	pCi/L	--	--	--	1.73	--	--	--	1.15	0.937	0.858 / 1.04	
	3/27/2023	pCi/L	--	--	--	1.18	--	--	--	--	--	--	
	3/28/2023	pCi/L	--	--	--	--	--	--	--	--	--	< 0.362	
	3/29/2023	pCi/L	--	--	--	--	--	--	< 0.0863	0.842	0.877 / < 0.468	--	
	9/12/2023	pCi/L	--	--	--	0.996	--	--	1.46	1.15	1.15 / 0.795	--	
	9/13/2023	pCi/L	1.32 / 1.88	1.46	1.04	--	0.984	1.17	--	--	--	1.48	
	1/23/2024	pCi/L	--	--	--	--	--	--	--	--	--	1.18	
	2/20/2024	pCi/L	--	--	--	--	--	--	--	--	--	0.599	
	3/18/2024	pCi/L	--	--	--	1.01	--	--	0.650	1.19	< 0.453	--	
3/19/2024	pCi/L	--	--	--	--	--	--	--	--	< 0.335	2.98		

Table 8

Analytical Data Summary  
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Permit No. 97-SDP-24-20C

Constituent (CAS #)	Sample Date	Units	MW-1R DwnGrad	MW-3R DwnGrad	MW-5R DwnGrad	MW-13/MW-13R Bkgnd	MW-19 DwnGrad	MW-21 DwnGrad	MW-27 Bkgnd	MW-29/MW-29R Bkgnd	MW-223S Bkgnd	MW-231S/MW-231SR Bkgnd
<b>Radium-226 &amp; 228</b> MCL = 5.0	3/20/2024	pCi/L	--	0.727	<0.447	--	--	--	--	--	--	--
	3/21/2024	pCi/L	0.924 / 0.791	--	--	--	<0.514	<0.405	--	--	--	--
	9/10/2024	pCi/L	--	--	--	--	--	--	0.848 / 0.806	1.00	0.919	1.06
	9/11/2024	pCi/L	--	--	--	1.18	--	--	--	--	--	--
	9/12/2024	pCi/L	0.0214 / 0.735	--	0.413	--	--	--	--	--	--	--
	9/13/2024	pCi/L	--	0.342	--	--	1.08	0.612	--	--	--	--
	3/11/2025	pCi/L	--	--	--	0.828	--	--	--	--	--	--
	3/12/2025	pCi/L	--	--	--	--	--	--	0.257	0.568 / 0.696	--	--
	3/13/2025	pCi/L	--	--	--	--	--	--	--	--	0.577	0.612
	3/17/2025	pCi/L	0.924 / 0.468	0.855	0.646	--	0.801	0.622	--	--	--	--
	9/16/2025	pCi/L	--	--	--	--	--	--	1.25	1.29	--	--
9/17/2025	pCi/L	--	--	--	1.09	--	--	--	--	1.12	1.26 / 0.936	
9/19/2025	pCi/L	0.574 / 0.863	1.03	0.609	--	0.899	0.810	--	--	--	--	
<b>Selenium (7782-49-2)</b> MCL = 0.05	9/22/2020	mg/L	0.00500 U	0.00500 U	0.00500 U	0.0982	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.0174
	12/9/2020	mg/L	< 0.00500	< 0.00500 / < 0.00500	< 0.00500	0.111	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.0144
	2/1/2021	mg/L	< 0.00500	< 0.00500	< 0.00500	--	< 0.00500	< 0.00500	< 0.00500	--	< 0.00500 / < 0.00500	0.0165
	5/10/2021	mg/L	< 0.00500	< 0.00500	< 0.00500	--	< 0.00500	0.0398	< 0.00500	--	< 0.00500 / < 0.00500	< 0.00500
	7/12/2021	mg/L	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00549	< 0.00500	< 0.00500	< 0.00500 / < 0.00500	0.00984
	10/5/2021	mg/L	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500 / < 0.00500	0.00624
	3/8/2022	mg/L	< 0.00500	< 0.00500	< 0.00500	< 0.00500 / < 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
	6/7/2022	mg/L	< 0.00500	< 0.00500	< 0.00500	< 0.00500 / < 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
	9/12/2022	mg/L	--	--	--	< 0.00500	--	--	< 0.00500	< 0.00500	< 0.00500 / < 0.00500	< 0.00500
	3/27/2023	mg/L	--	--	--	< 0.00500	--	--	< 0.00500	< 0.00500	< 0.00500 / < 0.00500	< 0.00500
	3/28/2023	mg/L	--	--	--	--	--	--	--	--	--	< 0.00500
	3/29/2023	mg/L	--	--	--	--	--	--	< 0.00500	< 0.00500	< 0.00500 / < 0.00500	--
	9/12/2023	mg/L	--	--	--	< 0.00500	--	--	< 0.00500	< 0.00500	< 0.00500 / < 0.00500	--
	9/13/2023	mg/L	< 0.00500 / < 0.00500	< 0.00500	< 0.00500	--	< 0.00500	< 0.00500	--	--	--	< 0.00500
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	0.00559
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	< 0.00500
	3/18/2024	mg/L	--	--	--	< 0.00500	--	--	< 0.00500	< 0.00500	< 0.00500	< 0.00500
	3/19/2024	mg/L	--	--	--	--	--	--	< 0.00500	< 0.00500	< 0.00500	< 0.00500
	3/20/2024	mg/L	--	< 0.00500	< 0.00500	--	--	--	--	--	--	--
	3/21/2024	mg/L	< 0.00500 / < 0.00500	--	--	--	0.00932	< 0.00500	--	--	--	--
	9/10/2024	mg/L	--	--	--	--	--	--	< 0.00500 / < 0.00500	< 0.00500	< 0.00500	0.0117
	9/11/2024	mg/L	--	--	--	< 0.00500	--	--	--	--	--	--
	9/12/2024	mg/L	< 0.00500 / < 0.00500	--	< 0.00500	--	--	--	--	--	--	--
	9/13/2024	mg/L	--	< 0.00500	--	--	< 0.00500	0.191	--	--	--	--
	3/11/2025	mg/L	--	--	--	< 0.00500	--	--	--	--	--	--
	3/12/2025	mg/L	--	--	--	--	--	--	< 0.00500	< 0.00500 / < 0.00500	--	--
	3/13/2025	mg/L	--	--	--	--	--	--	--	--	< 0.00500	< 0.00500
	3/17/2025	mg/L	< 0.0050 / < 0.0050	< 0.0050	< 0.0050	--	< 0.0050	0.0038 J	--	--	--	< 0.00500
	9/16/2025	mg/L	--	--	--	--	--	--	< 0.00500	< 0.00500	< 0.00500	< 0.00500
	9/17/2025	mg/L	--	--	--	< 0.00500	--	--	--	--	< 0.00500	0.00597 / 0.00580
9/19/2025	mg/L	< 0.00500 / < 0.00500	< 0.00500	< 0.00500	--	< 0.00500	0.0153	--	--	--	--	
<b>Sulfate (14808-79-8)</b> N/A	9/22/2020	mg/L	222	241	130	79.0	984	924	199	67.0	32.9	284
	12/9/2020	mg/L	220	181 / 186	138	74.9	607	1250	311	69.8	44.9	299
	2/1/2021	mg/L	217	145	169	851	851	658	259	--	34.8 / 36.1	331
	5/10/2021	mg/L	242	149	168	1000	299	191	191	--	35.7 / 36.1	287
	7/12/2021	mg/L	209	133	124	51.6	1040	393	100	191	43.1 / 43.3	485
	10/5/2021	mg/L	204	128	109	47.5	1140	1150	175	172	113 / 113	322
	3/8/2022	mg/L	262	157	340	69.5 / 68.4	769	1540	144	185	35.6	127
	6/7/2022	mg/L	215	153	315	60.8 / 61.1	911	1530	101	82.3	81.8	305
	9/12/2022	mg/L	194 / 198	184	153	56.4	828	1250	111	66.4	64.3 / 65.5	110
	3/27/2023	mg/L	--	--	--	68.4	--	--	--	--	--	--
	3/28/2023	mg/L	--	--	--	--	--	--	--	--	--	176
	3/29/2023	mg/L	--	--	--	--	--	--	96.4	121	110 / 113	--
	4/3/2023	mg/L	235 / 236	205	318	--	1020	1610	--	--	--	--
	9/12/2023	mg/L	--	--	--	58.6	--	--	97.1	205	64.3 / 61.1	--
	9/13/2023	mg/L	209 / 213	219	160	--	736	1550	--	--	--	158
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	121
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	154
	3/18/2024	mg/L	--	--	--	61.8	--	--	105	109	217	287
	3/19/2024	mg/L	--	--	--	--	--	--	--	--	214	287
	3/20/2024	mg/L	--	180	264	--	--	--	--	--	--	--
	3/21/2024	mg/L	218 / 218	--	--	--	715	1590	--	--	--	--
	9/10/2024	mg/L	--	--	--	--	--	--	78.4 / 78.3	60.4	120	177
	9/11/2024	mg/L	--	--	--	29.0	--	--	--	--	--	--
	9/12/2024	mg/L	198 / 195	--	275	--	--	--	--	--	--	--
	9/13/2024	mg/L	--	234	--	--	939	316	--	--	--	--
	3/11/2025	mg/L	--	--	--	38.7	--	--	--	--	--	--
	3/12/2025	mg/L	--	--	--	--	--	--	81.1	136 / 140	--	--
	3/13/2025	mg/L	--	--	--	--	--	--	--	--	88.5	177
	3/17/2025	mg/L	230 / 230	170	320	--	1000	1600	--	--	--	--
5/19/2025	mg/L	--	--	--	--	--	1690	--	--	--	--	
9/16/2025	mg/L	--	--	--	--	--	--	53.7	133	--	--	
9/17/2025	mg/L	--	--	--	47.4	--	--	--	--	222	103 / 110	
9/19/2025	mg/L	189 / 192	166	121	--	854	1180	--	--	--	--	

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Constituent (CAS #)	Sample Date	Units	MW-1R DwnGrad	MW-3R DwnGrad	MW-5R DwnGrad	MW-13/MW-13R Bkgrnd	MW-19 DwnGrad	MW-21 DwnGrad	MW-27 Bkgrnd	MW-29/MW-29R Bkgrnd	MW-223S Bkgrnd	MW-231S/MW-231SR Bkgrnd
<b>Thallium (7440-28-0)</b>	9/22/2020	mg/L	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U
<b>MCL = 0.002</b>	12/9/2020	mg/L	< 0.00100	< 0.00100 / < 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	2/1/2021	mg/L	< 0.00100	0.00694	< 0.00100	--	< 0.00100	< 0.00100	< 0.00100	--	< 0.00100 / < 0.00100	0.00122
	5/10/2021	mg/L	< 0.00100	< 0.00100	< 0.00100	--	< 0.00100	< 0.00100	< 0.00100	--	< 0.00100 / < 0.00100	< 0.00100
	7/12/2021	mg/L	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100 / < 0.00100	< 0.00100
	10/5/2021	mg/L	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100 / < 0.00100	< 0.00100
	3/8/2022	mg/L	< 0.00100	< 0.00100	< 0.00100	< 0.00100 / < 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	6/7/2022	mg/L	< 0.00100	< 0.00100	< 0.00100	< 0.00100 / < 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	9/12/2022	mg/L	--	--	--	< 0.00100	--	--	< 0.00100	< 0.00100	< 0.00100 / < 0.00100	< 0.00100
	3/27/2023	mg/L	--	--	--	0.00146	--	--	--	--	--	--
	3/28/2023	mg/L	--	--	--	--	--	--	--	--	--	0.00147
	3/29/2023	mg/L	--	--	--	--	--	--	< 0.00100	< 0.00100	< 0.00100 / < 0.00100	--
	9/12/2023	mg/L	--	--	--	< 0.00100	--	--	< 0.00100	< 0.00100	< 0.00100 / < 0.00100	--
	9/13/2023	mg/L	< 0.00100 / < 0.00100	< 0.00100	< 0.00100	--	< 0.00100	< 0.00100	--	--	--	< 0.00100
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	< 0.00100
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	< 0.00100
	3/18/2024	mg/L	--	--	--	< 0.00100	--	--	< 0.00100	< 0.00100	< 0.00100	< 0.00100
	3/19/2024	mg/L	--	--	--	--	--	--	--	--	< 0.00100	< 0.00100
	3/20/2024	mg/L	--	< 0.00100	< 0.00100	--	--	--	--	--	--	--
	3/21/2024	mg/L	< 0.00100 / < 0.00100	--	--	--	< 0.00100	< 0.00100	--	--	--	--
	9/10/2024	mg/L	--	--	--	--	--	--	< 0.00100 / < 0.00100	< 0.00100	< 0.00100	< 0.00100
	9/11/2024	mg/L	--	--	--	< 0.00100	--	--	--	--	--	--
	9/12/2024	mg/L	< 0.00100 / < 0.00100	--	< 0.00100	--	--	--	--	--	--	--
	9/13/2024	mg/L	--	< 0.00100	--	--	< 0.00100	< 0.00100	--	--	--	--
	3/11/2025	mg/L	--	--	--	< 0.00100	--	--	--	--	--	--
	3/12/2025	mg/L	--	--	--	--	--	--	< 0.00100	< 0.00100 / < 0.00100	--	--
	3/13/2025	mg/L	--	--	--	--	--	--	--	--	< 0.00100	< 0.00100
	3/17/2025	mg/L	< 0.0010 / < 0.0010	< 0.0010	< 0.0010	--	< 0.0010	< 0.0010	--	--	--	--
	9/16/2025	mg/L	--	--	--	--	--	--	< 0.00100	< 0.00100	--	--
	9/17/2025	mg/L	--	--	--	< 0.00100	--	--	--	--	< 0.00100	< 0.00100 / < 0.00100
	9/19/2025	mg/L	< 0.00100 / < 0.00100	< 0.00100	< 0.00100	--	< 0.00100	< 0.00100	--	--	--	--
<b>Total dissolved solids (TDS)</b>	9/22/2020	mg/L	804	894	512	790	2330	2020	496	594	240	824
<b>N/A</b>	12/9/2020	mg/L	902	808 / 824	632	862	1570	2520	1160	676	524	1000
	2/1/2021	mg/L	830	700	640	--	1970	2790	1030	--	402 / 370	986
	5/10/2021	mg/L	824	692	626	--	2040	730	856	--	408 / 412	948
	7/12/2021	mg/L	834	712	528	506	2420	1030	662	856	392 / 352	1200
	10/5/2021	mg/L	750	642	470	548	2590	2270	760	826	464 / 470	920
	3/8/2022	mg/L	908	614	918	630 / 604	1780	2470	698	808	366	706
	6/7/2022	mg/L	816	658	892	606 / 620	1810	2490	622	704	514	932
	9/12/2022	mg/L	794 / 828	742	614	518	2030	2510	712	670	476 / 460	710
	3/27/2023	mg/L	--	--	--	502	--	--	--	--	--	--
	3/28/2023	mg/L	--	--	--	--	--	--	--	--	--	788
	3/29/2023	mg/L	--	--	--	--	--	--	634	724	606 / 600	--
	4/3/2023	mg/L	934 / 926	756	920	--	2220	3050	--	--	--	--
	9/12/2023	mg/L	--	--	--	542	--	--	716	906	456 / 474	--
	9/13/2023	mg/L	872 / 860	812	626	--	2360	3110	--	--	--	716
	1/23/2024	mg/L	--	--	--	--	--	--	--	--	--	628
	2/20/2024	mg/L	--	--	--	--	--	--	--	--	--	694
	3/18/2024	mg/L	--	--	--	522	--	--	704	698	698	694
	3/19/2024	mg/L	--	--	--	--	--	--	--	--	702	898
	3/20/2024	mg/L	--	742	868	--	--	--	--	--	--	--
	3/21/2024	mg/L	916 / 902	--	--	--	1750	2890	--	--	--	--
	9/10/2024	mg/L	--	--	--	--	--	--	682 / 638	606	594	960
	9/11/2024	mg/L	--	--	--	566	--	--	--	--	--	--
	9/12/2024	mg/L	820 / 858	--	696	--	--	--	--	--	--	--
	9/13/2024	mg/L	--	808	--	--	2070	800	--	--	--	--
	3/11/2025	mg/L	--	--	--	580	--	--	--	--	--	--
	3/12/2025	mg/L	--	--	--	--	--	--	692	768 / 774	--	--
	3/13/2025	mg/L	--	--	--	--	--	--	--	--	510	788
	3/17/2025	mg/L	970 / 940	760	930	--	2300	3000	--	--	--	--
	5/19/2025	mg/L	--	--	--	--	--	2730	--	--	--	--
	9/16/2025	mg/L	--	--	--	--	--	--	658	850	--	--
	9/17/2025	mg/L	--	--	--	540	--	--	--	--	778	648 / 740
	9/19/2025	mg/L	890 / 876	680	556	--	2130	2350	--	--	--	--

Comments:  
Maximum contaminant level (MCL). Groundwater protection standard (GWPS) established under 40 CFR 257.95(h)(2).  
N/A - No MCL or GWPS is applicable.

**Table 9**  
**Historical Control Limit & GWPS Exceedances**  
**2025 Annual Water Quality Report**  
**Neal North Energy Center - Closed CCR Monofill**  
**Permit No. 97-SDP-24-20C**

Key: gray =CL; black =GWPS		February 2021	May 2021	July 2021	October 2021	March 2022	June 2022	September 2022	March/April 2023	September 2023	March 2024	June 2024	September 2024	March 2025	May 2025	September 2025
Well	Constituent															
MW-1R	Boron											na			ns	
	Chloride											na			ns	
	Flouride											na			ns	
	pH, lab											na			ns	
	Arsenic														ns	
	Cadmium							na	na			na			ns	
	Molybdenum							na	na			na			ns	
	Radium-226 & 228							na	na			na			ns	
MW-3R	Boron											ns			ns	
	Flouride											ns			ns	
	pH, lab											ns			ns	
	Cadmium							na	na			ns			ns	
	Lead							na	na			ns			ns	
	Molybdenum							na	na			ns			ns	
	Thallium							na	na			ns			ns	
MW-5R	Boron											na			na	
	Fluoride											na			na	
	pH, lab															
	Molybdenum							na	na			na			na	
MW-13/13R (Background)	Chloride	ns	ns									ns			ns	
	Arsenic	ns	ns									ns			ns	
	Lead	ns	ns									ns			ns	
	Molybdenum	ns	ns									ns			ns	
	Selenium	ns	ns									ns			ns	
	Thallium	ns	ns									ns			ns	
MW-19	Boron											na			na	
	Calcium											na			na	
	Flouride											na			na	
	pH, lab															
	Sulfate											na			na	
	TDS											na			na	
	Cobalt							na	na			na			na	
	Lead							na	na			na			na	
MW-21	Lithium							na	na			na			na	
	Boron											na			na	
	Calcium											na			na	
	Flouride											na			na	
	pH, lab															
	Sulfate											na			na	
	TDS											na			na	
	Cadmium							na	na			na			na	
	Cobalt							na	na			na			na	
	Lead							na	na			na			na	
Selenium							na	na			na			na		

**Table 9**  
**Historical Control Limit & GWPS Exceedances**  
**2025 Annual Water Quality Report**  
**Neal North Energy Center - Closed CCR Monofill**  
**Permit No. 97-SDP-24-20C**


Key: gray =CL; black =GWPS		February 2021	May 2021	July 2021	October 2021	March 2022	June 2022	September 2022	March/April 2023	September 2023	March 2024	June 2024	September 2024	March 2025	May 2025	September 2025
Well	Constituent															
MW-27 (Background)	Arsenic											ns			ns	
	Lead											ns			ns	
	Lithium											ns			ns	
MW-29/29R (Background)	Cobalt	ns	ns									ns			ns	
	Radium-226 & 228	ns	ns									ns			ns	
MW-223S (Background)	Barium											ns			ns	
MW-231S/231SR (Background)	Boron											ns			na	
	Calcium											ns			na	
	Chloride											ns			na	
	Sulfate											ns			na	
	TDS											ns			na	
	Cobalt											ns			na	
	Radium-226 & 228											ns			na	
	Thallium											ns			na	

Comments:

Groundwater Protection Standard (GWPS) established under 40 CFR §257.95(h).

ns - No sample collected during this sampling event.

na - Constituent not analyzed.

 Grey shading indicates exceedance of the 95/95 UTL background concentration


 Black shading indicates exceedance of the site-specific GWPS.

Table 10

**Groundwater Quality Assessment Plan Trend Analysis  
2025 Annual Water Quality Report  
Neal North Energy Center - Closed CCR Monofill  
Permit No. 97-SDP-24-20C**

Well	Current SSL	Trend
MW-1R	None	N/A
MW-3R	None	N/A
MW-5R	None	N/A
MW-13/13R (background)	None	N/A
MW-19	None	N/A
MW-21	None	N/A
MW-27 (background)	None	N/A
MW-29/29R (background)	None	N/A
MW-223S (background)	None	N/A
MW-231S/231SR (background)	None	N/A

## Comments:

Site is not in an IDNR Groundwater Quality Assessment program.

**Table 11**

**Leachate Management Summary  
2025 Leachate Control System Performance Evaluation Report  
Neal North Energy Center - Closed CCR Monofill  
Permit No. 97-SDP-24-20C**

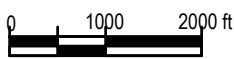
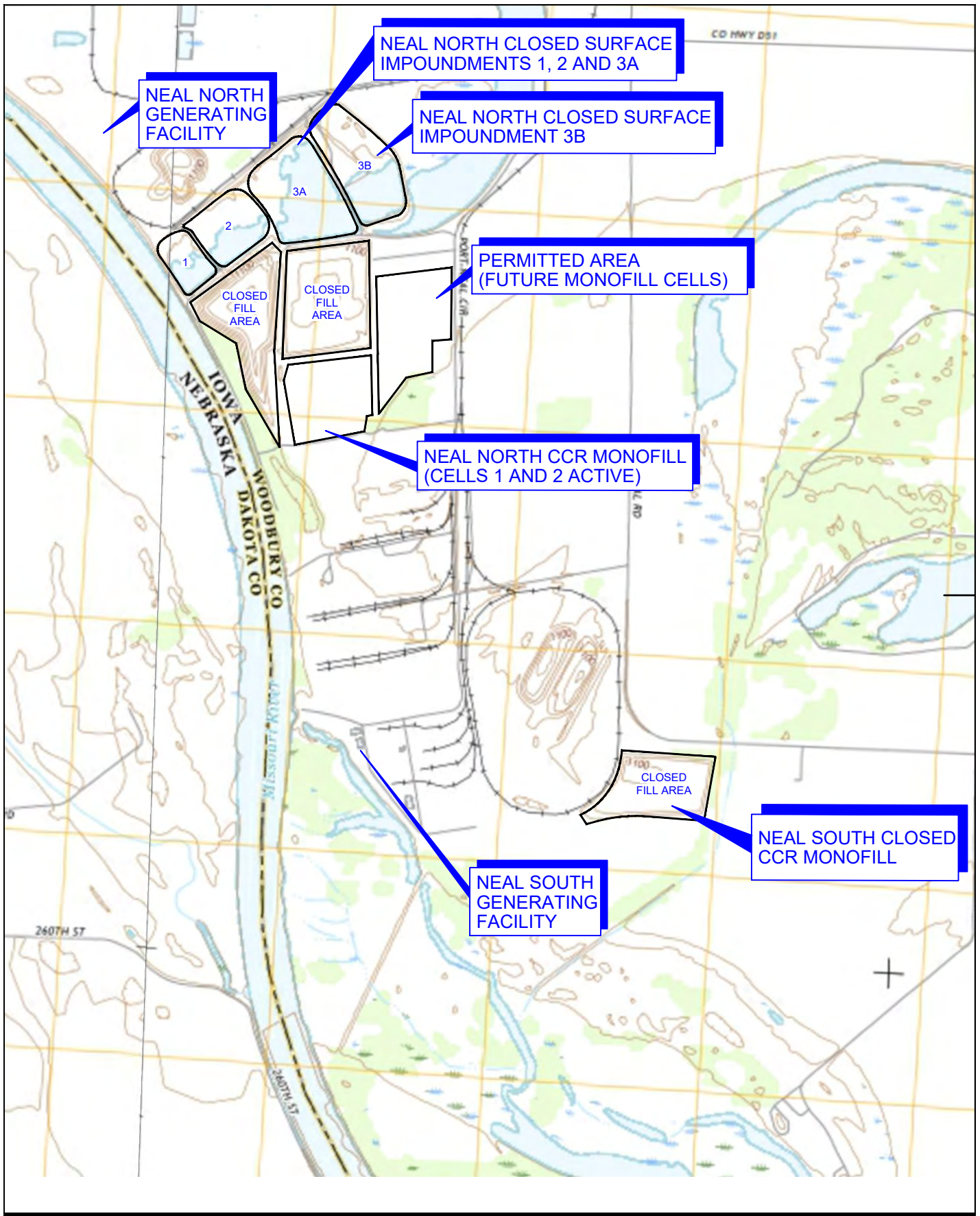
**Table 11, Leachate Management Summary, is not applicable to the Closed Neal North Monofill because it does not have a leachate collection system.**

**Table 12**

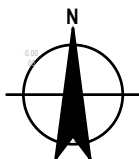
**Gas Monitoring Summary  
2025 Gas Monitoring Report  
Neal North Energy Center - Closed CCR Monofill  
Permit No. 97-SDP-24-20C**

**Table 12, Gas Monitoring Summary, is not applicable to the Closed Neal North Monofill because it is a CCR Monofill.**

# Figures



1" = 2000 ft  
 Coordinate System:  
 UTM ZONE 17, NAD83



MIDAMERICAN ENERGY COMPANY  
 NEAL NORTH CCR CLOSED MONOFILL  
 SERGEANT BLUFF, IOWA

Project No. 12576482  
 Date December 2025

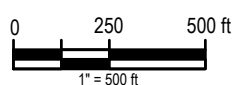
**SITE LOCATION MAP**

**FIGURE 1.1**

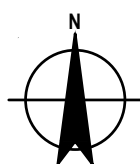


**LEGEND**

- MW-29 SHALLOW GROUNDWATER MONITORING WELL
- MW-30 DEEP GROUNDWATER MONITORING WELL
- △ BACKGROUND SAMPLING LOCATION
- DOWNGRADIENT SAMPLING LOCATION
- ◇ GAUGING LOCATION



Coordinate System:  
STATE PLANE  
IOWA NORTH NAD83

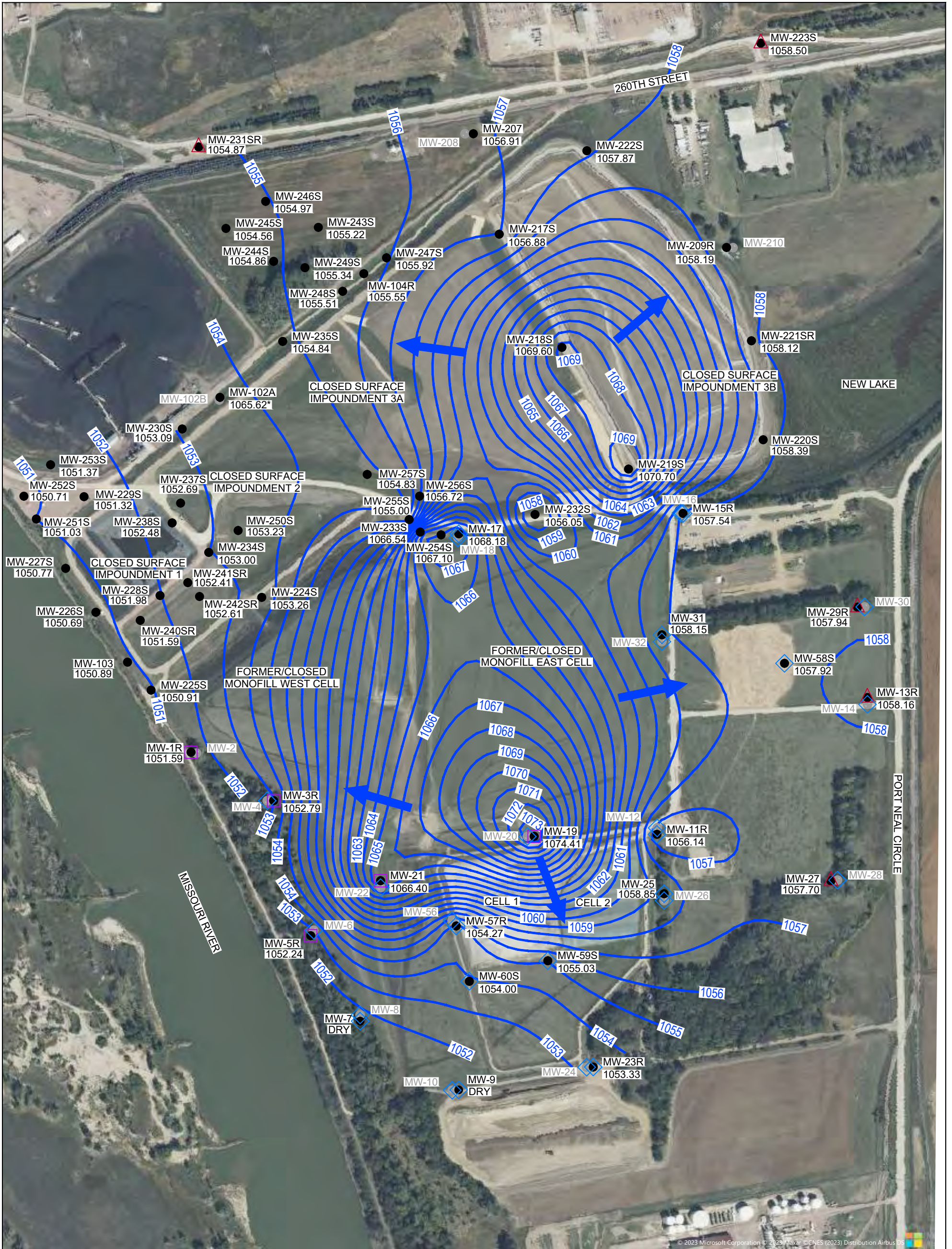


MIDAMERICAN ENERGY COMPANY  
NEAL NORTH CCR CLOSED MONOFILL  
SERGEANT BLUFF, IOWA

Project No. 12576482  
Date December 2025

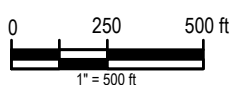
**SITE MAP AND MONITORING NETWORK**

**FIGURE 1.2**

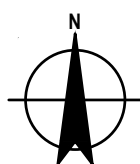


**LEGEND**

- MW-31 SHALLOW GROUNDWATER MONITORING WELL
- MW-30 DEEP GROUNDWATER MONITORING WELL
- 1058.15 GROUNDWATER ELEVATION (ft. NAVD88)
- 1055 — GROUNDWATER CONTOUR (ft NAVD88)
- ➔ GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION NOT USED FOR CONTOURING
- △ BACKGROUND SAMPLING LOCATION
- DOWNGRADIENT SAMPLING LOCATION
- ◇ GAUGING LOCATION



Coordinate System:  
NAD83 STATE PLANE  
IOWA NORTH



MIDAMERICAN ENERGY COMPANY  
NEAL NORTH CCR CLOSED MONOFILL  
SERGEANT BLUFF, IOWA  
**SHALLOW ALLUVIAL AQUIFER  
GROUNDWATER FLOW MAP**  
MARCH 10, 2025

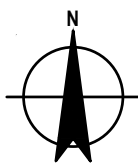
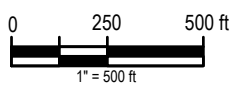
Project No. 12576482  
Date December 2025

**FIGURE 3.1**



**LEGEND**

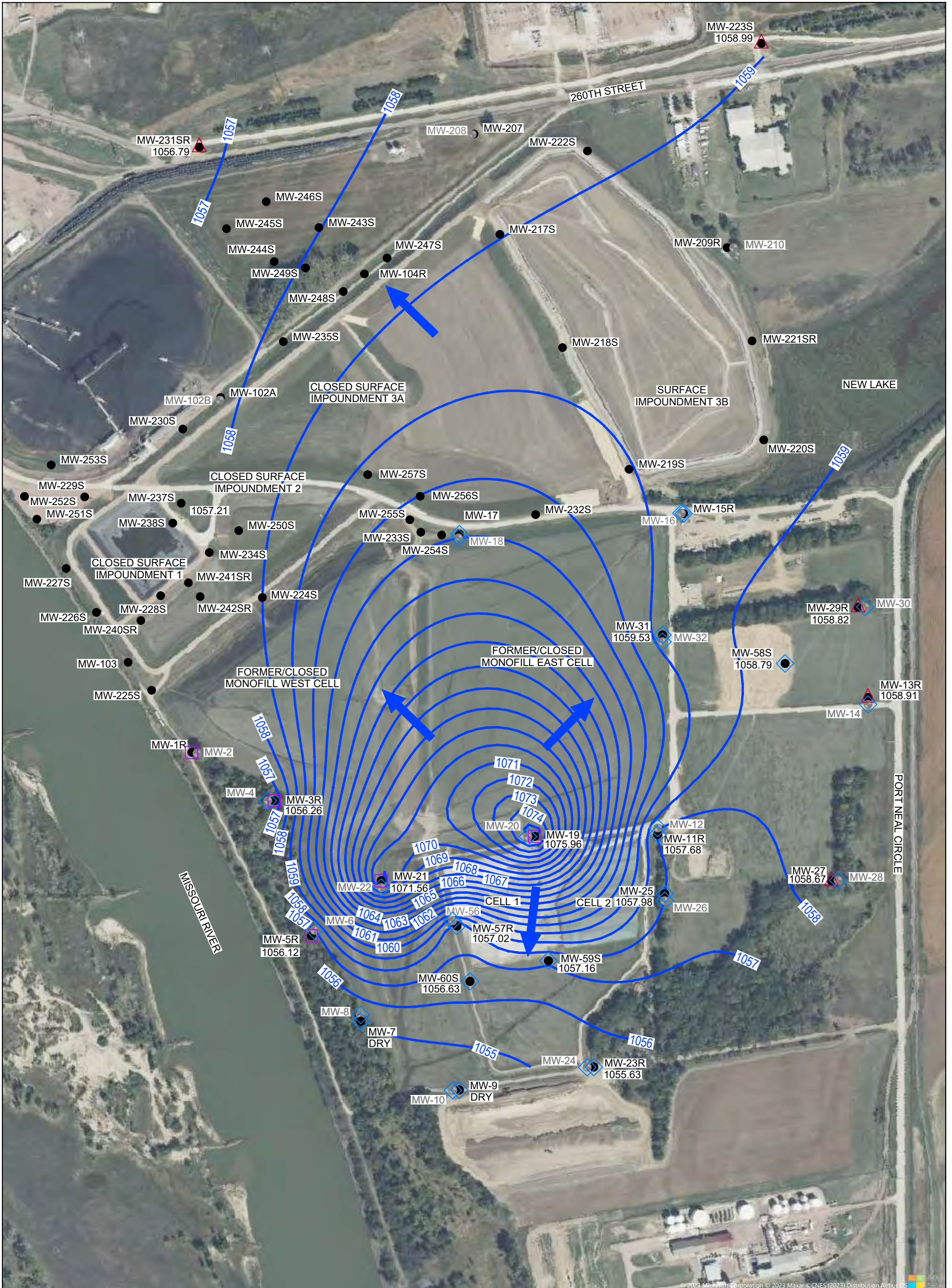
- MW-29 SHALLOW GROUNDWATER MONITORING WELL
- MW-10 DEEP GROUNDWATER MONITORING WELL
- 1051.61 GROUNDWATER ELEVATION (ft. NAVD88)
- 1054 — GROUNDWATER CONTOUR (ft NAVD88)
- ➔ GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION NOT USED FOR CONTOURING
- △ BACKGROUND SAMPLING LOCATION
- DOWNGRADIENT SAMPLING LOCATION
- ◇ GAUGING LOCATION



MIDAMERICAN ENERGY COMPANY  
NEAL NORTH CCR CLOSED MONOFILL  
SERGEANT BLUFF, IOWA  
**DEEP ALLUVIAL AQUIFER  
GROUNDWATER FLOW MAP**  
MARCH 10, 2025

Project No. 12576482  
Date December 2025

**FIGURE 3.2**



**LEGEND**

- MW-60S SHALLOW GROUNDWATER MONITORING WELL
- MW-30 DEEP GROUNDWATER MONITORING WELL
- 1056.63 GROUNDWATER ELEVATION (ft. NAVD88)
- 1055 — GROUNDWATER CONTOUR (ft NAVD88)
- ➔ GROUNDWATER FLOW DIRECTION
- \* GROUNDWATER ELEVATION NOT USED FOR CONTOURING
- △ BACKGROUND SAMPLING LOCATION
- DOWNGRADIENT SAMPLING LOCATION
- ◇ GAUGING LOCATION

<p>0 250 500 ft</p> <p>1" = 500 ft</p> <p>Coordinate System: STATE PLANE IOWA NORTH NAD83</p>			<p>MIDAMERICAN ENERGY COMPANY NEAL NORTH CCR CLOSED MONOFILL SERGEANT BLUFF, IOWA</p> <p>SHALLOW ALLUVIAL AQUIFER GROUNDWATER FLOW MAP - MAY 19, 2025</p>	<p>Project No. 12576482 Date December 2025</p>
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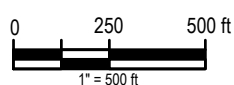
**FIGURE 3.3**

Filename: N:\US\Des Moines\Projects\56312576482\Digital\_Design\ACAD\Figures\RPT02112576482-GHD-00-00-RPT-EN-D105\_021.dwg  
Plot Date: 10 December 2025 10:41 AM

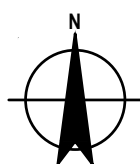


**LEGEND**

- MW-29 SHALLOW GROUNDWATER MONITORING WELL
- MW-10 DEEP GROUNDWATER MONITORING WELL
- 1055.19 GROUNDWATER ELEVATION (ft. NAVD88)
- 1054 — GROUNDWATER CONTOUR (ft NAVD88)
- ➔ GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION NOT USED FOR CONTOURING
- △ BACKGROUND SAMPLING LOCATION
- DOWNGRADIENT SAMPLING LOCATION
- ◇ GAUGING LOCATION



Coordinate System:  
NAD83 STATE PLANE  
IOWA NORTH

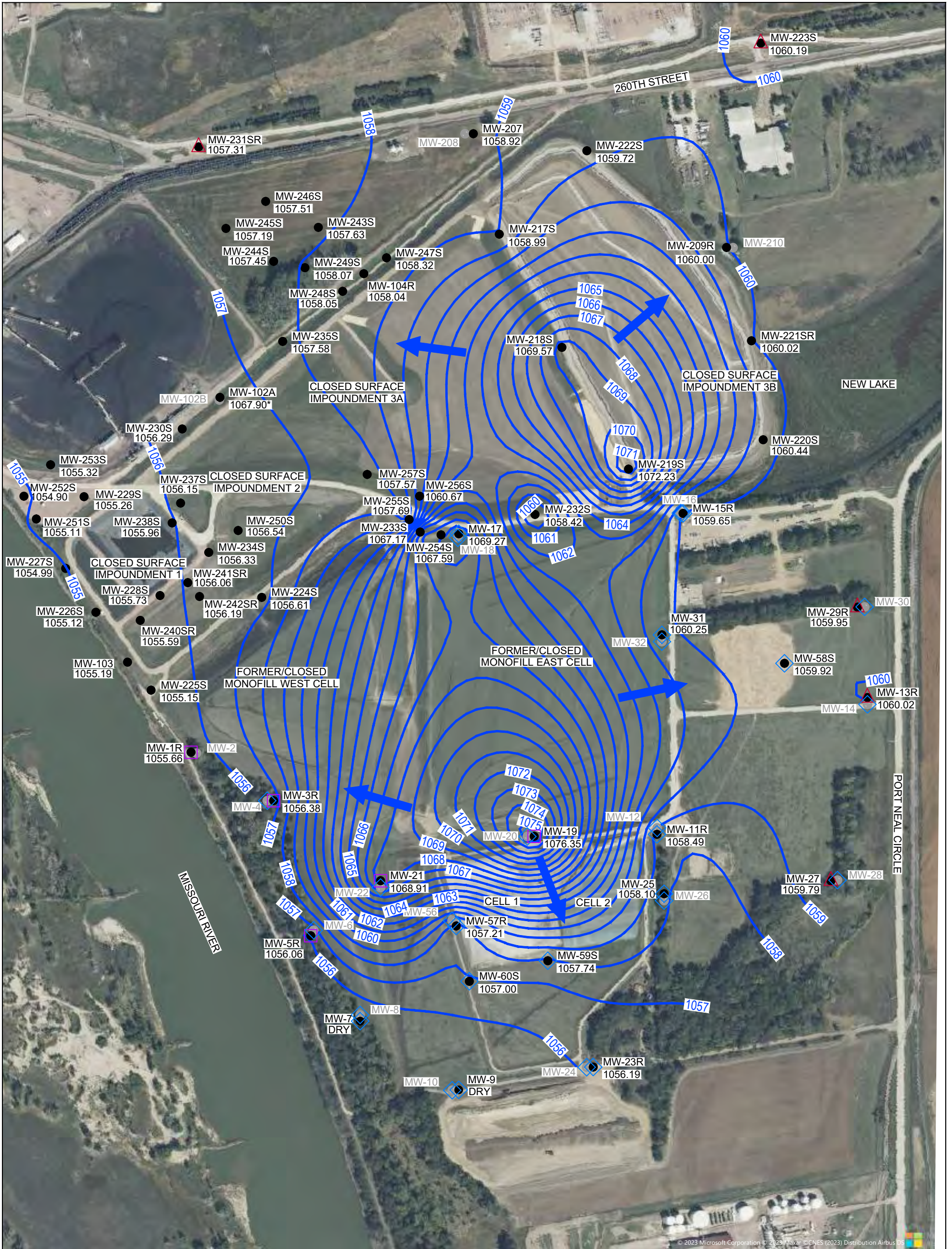


MIDAMERICAN ENERGY COMPANY  
NEAL NORTH CCR CLOSED MONOFILL  
SERGEANT BLUFF, IOWA

DEEP ALLUVIAL AQUIFER  
GROUNDWATER FLOW MAP -  
MAY 19, 2025

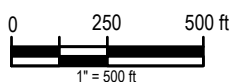
Project No. 12576482  
Date January 2026

**FIGURE 3.4**

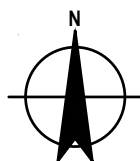


**LEGEND**

- MW-31 SHALLOW GROUNDWATER MONITORING WELL
- MW-30 DEEP GROUNDWATER MONITORING WELL
- 1060.25 GROUNDWATER ELEVATION (ft. NAVD88)
- 1061 — GROUNDWATER CONTOUR (ft NAVD88)
- ➔ GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION NOT USED FOR CONTOURING
- △ BACKGROUND SAMPLING LOCATION
- DOWNGRADIENT SAMPLING LOCATION
- ◇ GAUGING LOCATION



Coordinate System:  
NAD83 STATE PLANE  
IOWA NORTH



MIDAMERICAN ENERGY COMPANY  
NEAL NORTH CCR CLOSED MONOFILL  
SERGEANT BLUFF, IOWA  
**SHALLOW ALLUVIAL AQUIFER  
GROUNDWATER FLOW MAP  
SEPTEMBER 15, 2025**

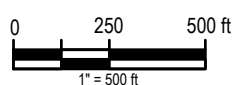
Project No. 12576482  
Date January 2026

**FIGURE 3.5**

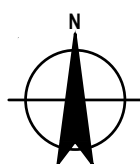


**LEGEND**

- MW-29 SHALLOW GROUNDWATER MONITORING WELL
- MW-10 DEEP GROUNDWATER MONITORING WELL
- 1055.24 GROUNDWATER ELEVATION (ft. NAVD88)
- 1056 — GROUNDWATER CONTOUR (ft NAVD88)
- ➔ GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION NOT USED FOR CONTOURING
- △ BACKGROUND SAMPLING LOCATION
- DOWNGRADIENT SAMPLING LOCATION
- ◇ GAUGING LOCATION



Coordinate System:  
NAD83 STATE PLANE  
IOWA NORTH



MIDAMERICAN ENERGY COMPANY  
NEAL NORTH CCR CLOSED MONOFILL  
SERGEANT BLUFF, IOWA

DEEP ALLUVIAL AQUIFER  
GROUNDWATER FLOW MAP  
SEPTEMBER 15, 2025

Project No. 12576482  
Date January 2026

**FIGURE 3.6**

# Appendices

# **Appendix A**

## **Groundwater Sample Collection Records**

# Low-Flow Test Report:

**Test Date / Time:** 3/17/2025 3:30:34 PM

**Project:** Neal North MW-1R

**Operator Name:** Thao Larson

<p><b>Location Name: MW-1R</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 25 ft</b>  <b>Top of Screen: 11.94 ft</b>  <b>Total Depth: 36.95 ft</b>  <b>Initial Depth to Water: 26.18 ft</b></p>	<p><b>Pump Type: Solinst Model 407 Bladder Pump</b>  <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b>  <b>Tubing Inner Diameter: 0.125 in</b>  <b>Tubing Length: 34.35 ft</b>  <b>Pump Intake From TOC: 36.35 ft</b>  <b>Estimated Total Volume Pumped: 21105 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 175 ml/min</b>  <b>Final Draw Down: 0.04 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 1050309</b></p>
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**Test Notes:**

Sample time 1740

**Weather Conditions:**

Sunny 61°F

**Low-Flow Readings:**

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
3/17/2025 3:30 PM	00:00	7.02 pH	16.85 °C	1.48 mS/cm	5.86 mg/L	105.04 NTU	-94.9 mV	26.18 ft	300.00 ml/min
3/17/2025 3:32 PM	02:06	7.24 pH	14.77 °C	1.58 mS/cm	0.51 mg/L	21.88 NTU	-141.9 mV	26.22 ft	300.00 ml/min
3/17/2025 3:34 PM	04:12	7.09 pH	14.42 °C	1.58 mS/cm	0.30 mg/L	50.53 NTU	-141.6 mV	26.25 ft	300.00 ml/min
3/17/2025 3:36 PM	06:18	6.98 pH	14.41 °C	1.58 mS/cm	0.30 mg/L	61.92 NTU	-139.9 mV	26.28 ft	300.00 ml/min
3/17/2025 3:38 PM	08:24	6.95 pH	14.20 °C	1.58 mS/cm	0.23 mg/L	62.20 NTU	-141.4 mV	26.27 ft	300.00 ml/min
3/17/2025 3:41 PM	10:30	6.96 pH	14.20 °C	1.58 mS/cm	0.23 mg/L	53.05 NTU	-143.8 mV	26.25 ft	300.00 ml/min
3/17/2025 3:43 PM	12:36	6.97 pH	14.38 °C	1.59 mS/cm	0.18 mg/L	42.14 NTU	-145.1 mV	26.21 ft	300.00 ml/min
3/17/2025 3:45 PM	14:42	6.96 pH	14.17 °C	1.59 mS/cm	0.15 mg/L	32.08 NTU	-145.8 mV	26.21 ft	300.00 ml/min
3/17/2025 3:47 PM	16:48	6.96 pH	14.27 °C	1.59 mS/cm	0.14 mg/L	36.19 NTU	-147.5 mV	26.25 ft	300.00 ml/min
3/17/2025 3:49 PM	18:54	6.96 pH	14.23 °C	1.59 mS/cm	0.14 mg/L	24.74 NTU	-148.2 mV	26.25 ft	300.00 ml/min
3/17/2025 3:51 PM	21:00	6.97 pH	14.14 °C	1.59 mS/cm	0.13 mg/L	18.92 NTU	-148.9 mV	26.23 ft	300.00 ml/min

3/17/2025 3:53 PM	23:06	6.98 pH	14.26 °C	1.59 mS/cm	0.13 mg/L	21.95 NTU	-150.2 mV	26.23 ft	300.00 ml/min
3/17/2025 3:55 PM	25:12	7.00 pH	14.14 °C	1.59 mS/cm	0.12 mg/L	18.52 NTU	-151.6 mV	26.26 ft	300.00 ml/min
3/17/2025 3:57 PM	27:18	7.02 pH	14.13 °C	1.60 mS/cm	0.11 mg/L	22.03 NTU	-153.8 mV	26.26 ft	300.00 ml/min
3/17/2025 3:59 PM	29:24	7.05 pH	14.20 °C	1.59 mS/cm	0.11 mg/L	19.88 NTU	-155.6 mV	26.26 ft	300.00 ml/min
3/17/2025 4:02 PM	31:30	7.06 pH	14.12 °C	1.60 mS/cm	0.10 mg/L	16.03 NTU	-156.4 mV	26.26 ft	300.00 ml/min
3/17/2025 4:04 PM	33:36	7.06 pH	14.23 °C	1.60 mS/cm	0.10 mg/L	16.89 NTU	-156.7 mV	26.25 ft	300.00 ml/min
3/17/2025 4:06 PM	35:42	7.07 pH	14.19 °C	1.60 mS/cm	0.10 mg/L	12.49 NTU	-157.5 mV	26.24 ft	300.00 ml/min
3/17/2025 4:08 PM	37:48	7.08 pH	14.11 °C	1.60 mS/cm	0.10 mg/L	17.93 NTU	-157.8 mV	26.26 ft	300.00 ml/min
3/17/2025 4:10 PM	39:54	7.07 pH	14.22 °C	1.60 mS/cm	0.10 mg/L	29.76 NTU	-157.7 mV	26.26 ft	300.00 ml/min
3/17/2025 4:12 PM	42:00	7.08 pH	14.20 °C	1.61 mS/cm	1.42 mg/L	19.55 NTU	-149.8 mV	26.26 ft	300.00 ml/min
3/17/2025 4:14 PM	44:06	7.13 pH	14.16 °C	1.60 mS/cm	0.37 mg/L	18.59 NTU	-155.3 mV	26.26 ft	300.00 ml/min
3/17/2025 4:16 PM	46:12	7.14 pH	14.31 °C	1.61 mS/cm	0.34 mg/L	14.46 NTU	-156.2 mV	26.26 ft	300.00 ml/min
3/17/2025 4:18 PM	48:18	7.15 pH	14.29 °C	1.60 mS/cm	0.28 mg/L	13.78 NTU	-158.1 mV	26.26 ft	175.00 ml/min
3/17/2025 4:20 PM	50:24	7.16 pH	15.25 °C	1.61 mS/cm	0.28 mg/L	18.46 NTU	-159.8 mV	26.26 ft	175.00 ml/min
3/17/2025 4:23 PM	52:30	7.17 pH	15.41 °C	1.60 mS/cm	0.28 mg/L	21.51 NTU	-160.7 mV	26.22 ft	175.00 ml/min
3/17/2025 4:25 PM	54:36	7.18 pH	15.47 °C	1.60 mS/cm	0.26 mg/L	19.70 NTU	-161.6 mV	26.22 ft	175.00 ml/min
3/17/2025 4:27 PM	56:42	7.17 pH	15.59 °C	1.61 mS/cm	0.23 mg/L	13.52 NTU	-161.8 mV	26.22 ft	175.00 ml/min
3/17/2025 4:29 PM	58:48	7.18 pH	15.40 °C	1.60 mS/cm	0.21 mg/L	13.97 NTU	-162.1 mV	26.22 ft	175.00 ml/min
3/17/2025 4:31 PM	01:00:54	7.18 pH	15.44 °C	1.60 mS/cm	0.20 mg/L	12.38 NTU	-162.1 mV	26.22 ft	175.00 ml/min
3/17/2025 4:33 PM	01:03:00	7.18 pH	15.56 °C	1.60 mS/cm	0.18 mg/L	15.10 NTU	-162.3 mV	26.22 ft	175.00 ml/min
3/17/2025 4:35 PM	01:05:06	7.18 pH	15.42 °C	1.60 mS/cm	0.17 mg/L	14.11 NTU	-162.3 mV	26.22 ft	175.00 ml/min
3/17/2025 4:37 PM	01:07:12	7.17 pH	15.47 °C	1.60 mS/cm	0.16 mg/L	15.94 NTU	-162.3 mV	26.22 ft	175.00 ml/min
3/17/2025 4:39 PM	01:09:18	7.18 pH	15.39 °C	1.59 mS/cm	0.15 mg/L	16.71 NTU	-162.5 mV	26.22 ft	175.00 ml/min
3/17/2025 4:41 PM	01:11:24	7.16 pH	15.38 °C	1.60 mS/cm	0.15 mg/L	14.43 NTU	-161.6 mV	26.22 ft	175.00 ml/min
3/17/2025 4:44 PM	01:13:30	7.15 pH	15.58 °C	1.60 mS/cm	0.14 mg/L	10.15 NTU	-160.4 mV	26.22 ft	175.00 ml/min
3/17/2025 4:46 PM	01:15:36	7.15 pH	15.41 °C	1.60 mS/cm	0.13 mg/L	13.39 NTU	-159.8 mV	26.22 ft	175.00 ml/min
3/17/2025 4:48 PM	01:17:42	7.15 pH	15.45 °C	1.60 mS/cm	0.13 mg/L	11.75 NTU	-159.8 mV	26.22 ft	175.00 ml/min
3/17/2025 4:50 PM	01:19:48	7.15 pH	15.64 °C	1.60 mS/cm	0.12 mg/L	11.02 NTU	-159.7 mV	26.22 ft	175.00 ml/min
3/17/2025 4:52 PM	01:21:54	7.15 pH	15.38 °C	1.60 mS/cm	0.12 mg/L	11.12 NTU	-160.0 mV	26.22 ft	175.00 ml/min

3/17/2025 4:54 PM	01:24:00	7.16 pH	15.45 °C	1.60 mS/cm	0.12 mg/L	12.56 NTU	-160.4 mV	26.22 ft	175.00 ml/min
3/17/2025 4:56 PM	01:26:06	7.16 pH	15.56 °C	1.59 mS/cm	0.11 mg/L	8.68 NTU	-160.9 mV	26.22 ft	175.00 ml/min

## Samples

Sample ID:	Description:
MW1R-GW-0325	APP III & IV
DP05-GW-0325	APP III & IV

# Low-Flow Test Report:

**Test Date / Time:** 3/17/2025 5:23:16 PM

**Project:** Neal North MW-3R

**Operator Name:** Paige Richards

<p><b>Location Name: MW-3R</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 25 ft</b>  <b>Top of Screen: 11.64 ft</b>  <b>Total Depth: 36.6 ft</b>  <b>Initial Depth to Water: 23.38 ft</b></p>	<p><b>Pump Type: Solinst Model 407 Bladder Pump</b>  <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b>  <b>Tubing Inner Diameter: 0.125 in</b>  <b>Tubing Length: 34 ft</b>  <b>Pump Intake From TOC: 36 ft</b>  <b>Estimated Total Volume Pumped: 9025.833 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 200 ml/min</b>  <b>Final Draw Down: 0.01 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600</b>  <b>Serial Number: 876572</b></p>
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**Test Notes:**

Sample time: 1835

**Weather Conditions:**

Sunny, 83 degrees F

**Low-Flow Readings:**

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
3/17/2025 5:23 PM	00:00	7.16 pH	14.94 °C	1.24 mS/cm	6.73 mg/L	159.52 NTU	-4.1 mV	23.38 ft	425.00 ml/min
3/17/2025 5:25 PM	02:06	7.01 pH	13.76 °C	1.31 mS/cm	0.45 mg/L	9.01 NTU	-99.5 mV	23.39 ft	200.00 ml/min
3/17/2025 5:27 PM	04:12	6.96 pH	13.78 °C	1.30 mS/cm	0.36 mg/L	53.23 NTU	-109.7 mV	23.39 ft	200.00 ml/min
3/17/2025 5:29 PM	06:18	6.94 pH	13.65 °C	1.31 mS/cm	0.32 mg/L	20.62 NTU	-113.6 mV	23.39 ft	200.00 ml/min
3/17/2025 5:31 PM	08:24	6.94 pH	13.62 °C	1.30 mS/cm	0.27 mg/L	35.50 NTU	-115.9 mV	23.39 ft	200.00 ml/min
3/17/2025 5:33 PM	10:30	6.94 pH	13.71 °C	1.30 mS/cm	0.30 mg/L	164.13 NTU	-117.7 mV	23.39 ft	200.00 ml/min
3/17/2025 5:35 PM	12:36	6.94 pH	13.55 °C	1.29 mS/cm	0.27 mg/L	43.06 NTU	-118.8 mV	23.39 ft	200.00 ml/min
3/17/2025 5:37 PM	14:42	6.94 pH	13.73 °C	1.29 mS/cm	0.24 mg/L	44.07 NTU	-119.9 mV	23.39 ft	200.00 ml/min
3/17/2025 5:40 PM	16:48	6.94 pH	13.65 °C	1.28 mS/cm	0.24 mg/L	31.91 NTU	-120.9 mV	23.39 ft	200.00 ml/min
3/17/2025 5:42 PM	18:54	6.94 pH	13.64 °C	1.27 mS/cm	0.18 mg/L	33.10 NTU	-121.6 mV	23.39 ft	200.00 ml/min
3/17/2025 5:44 PM	21:00	6.95 pH	13.59 °C	1.27 mS/cm	0.17 mg/L	35.94 NTU	-122.2 mV	23.39 ft	200.00 ml/min

3/17/2025 5:46 PM	23:06	6.95 pH	13.48 °C	1.26 mS/cm	0.16 mg/L	14.36 NTU	-122.5 mV	23.39 ft	200.00 ml/min
3/17/2025 5:48 PM	25:12	6.95 pH	13.47 °C	1.25 mS/cm	0.15 mg/L	28.01 NTU	-122.8 mV	23.39 ft	200.00 ml/min
3/17/2025 5:50 PM	27:18	6.95 pH	13.64 °C	1.25 mS/cm	0.16 mg/L	49.08 NTU	-123.2 mV	23.39 ft	200.00 ml/min
3/17/2025 5:52 PM	29:24	6.95 pH	13.60 °C	1.25 mS/cm	0.14 mg/L	34.13 NTU	-123.7 mV	23.39 ft	200.00 ml/min
3/17/2025 5:57 PM	34:22	7.12 pH	14.08 °C	1.23 mS/cm	4.29 mg/L	18.32 NTU	-109.7 mV	23.39 ft	200.00 ml/min
3/17/2025 5:59 PM	36:28	7.04 pH	13.39 °C	1.24 mS/cm	0.32 mg/L	12.71 NTU	-118.5 mV	23.39 ft	200.00 ml/min
3/17/2025 6:01 PM	38:34	7.02 pH	13.13 °C	1.23 mS/cm	0.21 mg/L	10.86 NTU	-120.5 mV	23.39 ft	200.00 ml/min
3/17/2025 6:03 PM	40:40	7.00 pH	13.11 °C	1.23 mS/cm	0.20 mg/L	10.31 NTU	-121.5 mV	23.39 ft	200.00 ml/min
3/17/2025 6:06 PM	42:46	7.00 pH	13.17 °C	1.23 mS/cm	0.18 mg/L	2.96 NTU	-122.5 mV	23.39 ft	200.00 ml/min

## Samples

Sample ID:	Description:
MW3R-GW-0325	1L plastic w/ nitric x2 1L plastic unpreserved x1 250mL plastic w/ nitric x1 250mL plastic unpreserved x1

# Low-Flow Test Report:

**Test Date / Time:** 3/17/2025 5:53:27 PM

**Project:** Neal North MW-5R

**Operator Name:** Thao Larson

<p><b>Location Name: MW-5R</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 25 ft</b>  <b>Top of Screen: 11.64 ft</b>  <b>Total Depth: 36.7 ft</b>  <b>Initial Depth to Water: 27.4 ft</b></p>	<p><b>Pump Type: Solinst Model 407 Bladder Pump</b>  <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b>  <b>Tubing Inner Diameter: 0.125 in</b>  <b>Tubing Length: 32.4 ft</b>  <b>Pump Intake From TOC: 34.4 ft</b>  <b>Estimated Total Volume Pumped: 4739.583 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 250 ml/min</b>  <b>Final Draw Down: 0.05 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 1050309</b></p>
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**Test Notes:**

Sample time 1630

**Weather Conditions:**

Sunny 61°F

**Low-Flow Readings:**

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
3/17/2025 5:53 PM	00:00	7.21 pH	16.23 °C	1.26 mS/cm	2.71 mg/L	48.33 NTU	-141.2 mV	27.40 ft	175.00 ml/min
3/17/2025 5:55 PM	02:05	7.28 pH	15.33 °C	1.29 mS/cm	0.82 mg/L	21.33 NTU	-156.7 mV	27.45 ft	175.00 ml/min
3/17/2025 5:57 PM	04:10	6.98 pH	15.04 °C	1.31 mS/cm	0.63 mg/L	20.90 NTU	-143.7 mV	27.45 ft	175.00 ml/min
3/17/2025 5:59 PM	06:15	6.91 pH	14.42 °C	1.31 mS/cm	0.58 mg/L	11.24 NTU	-140.1 mV	27.45 ft	250.00 ml/min
3/17/2025 6:01 PM	08:20	6.87 pH	14.29 °C	1.33 mS/cm	0.44 mg/L	12.80 NTU	-138.9 mV	27.45 ft	250.00 ml/min
3/17/2025 6:03 PM	10:25	6.85 pH	13.81 °C	1.34 mS/cm	0.40 mg/L	15.09 NTU	-138.7 mV	27.45 ft	250.00 ml/min
3/17/2025 6:05 PM	12:30	6.84 pH	13.81 °C	1.37 mS/cm	0.39 mg/L	11.44 NTU	-138.2 mV	27.45 ft	250.00 ml/min
3/17/2025 6:08 PM	14:35	6.84 pH	13.74 °C	1.37 mS/cm	0.37 mg/L	5.82 NTU	-138.5 mV	27.45 ft	250.00 ml/min
3/17/2025 6:10 PM	16:40	6.85 pH	13.54 °C	1.38 mS/cm	0.34 mg/L	5.38 NTU	-139.1 mV	27.45 ft	250.00 ml/min
3/17/2025 6:12 PM	18:45	6.85 pH	13.57 °C	1.38 mS/cm	0.32 mg/L	6.36 NTU	-139.8 mV	27.45 ft	250.00 ml/min
3/17/2025 6:14 PM	20:50	6.86 pH	13.54 °C	1.39 mS/cm	0.29 mg/L	3.84 NTU	-140.2 mV	27.45 ft	250.00 ml/min

**Samples**

Sample ID:	Description:
MW05R-GW-0325	APP III & IV

# Low-Flow Test Report:

Test Date / Time: 3/11/2025 4:54:15 PM

Project: Neal North MW-13R

Operator Name: Thao Larson

<b>Location Name: MW-13R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 15 ft</b> <b>Top of Screen: 23.2 ft</b> <b>Total Depth: 38.2 ft</b> <b>Initial Depth to Water: 31.07 ft</b>	<b>Pump Type: Solinst Model 407 Bladder Pump</b> <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b> <b>Tubing Inner Diameter: 0.125 in</b> <b>Tubing Length: 35.7 ft</b> <b>Pump Intake From TOC: 37.7 ft</b> <b>Estimated Total Volume Pumped: 18838.334 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 0.04 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 1050309</b>
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## Test Notes:

Sample time 1940

## Weather Conditions:

Sunny 50°F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
3/11/2025 4:54 PM	00:00	7.02 pH	13.81 °C	1.14 mS/cm	6.00 mg/L	691.47 NTU	-80.9 mV	31.07 ft	250.00 ml/min
3/11/2025 4:56 PM	02:07	7.20 pH	12.75 °C	1.21 mS/cm	1.33 mg/L	371.56 NTU	-119.3 mV	31.11 ft	250.00 ml/min
3/11/2025 4:58 PM	04:14	7.23 pH	12.37 °C	1.17 mS/cm	0.64 mg/L	97.36 NTU	-125.0 mV	31.13 ft	250.00 ml/min
3/11/2025 5:00 PM	06:21	7.17 pH	12.45 °C	1.14 mS/cm	0.53 mg/L	84.24 NTU	-123.6 mV	31.13 ft	250.00 ml/min
3/11/2025 5:02 PM	08:28	7.11 pH	12.28 °C	1.13 mS/cm	0.49 mg/L	38.47 NTU	-121.2 mV	31.13 ft	250.00 ml/min
3/11/2025 5:04 PM	10:35	7.07 pH	12.39 °C	1.13 mS/cm	0.47 mg/L	35.28 NTU	-119.8 mV	31.13 ft	250.00 ml/min
3/11/2025 5:06 PM	12:42	7.05 pH	12.29 °C	1.12 mS/cm	0.48 mg/L	26.38 NTU	-118.4 mV	31.13 ft	250.00 ml/min
3/11/2025 5:09 PM	14:49	7.03 pH	12.36 °C	1.12 mS/cm	0.48 mg/L	18.63 NTU	-117.5 mV	31.13 ft	250.00 ml/min
3/11/2025 5:11 PM	16:56	7.02 pH	12.36 °C	1.12 mS/cm	0.49 mg/L	32.58 NTU	-116.1 mV	31.13 ft	250.00 ml/min
3/11/2025 5:13 PM	19:03	7.02 pH	12.39 °C	1.12 mS/cm	0.48 mg/L	21.47 NTU	-115.3 mV	31.13 ft	250.00 ml/min
3/11/2025 5:15 PM	21:10	7.02 pH	12.34 °C	1.11 mS/cm	0.46 mg/L	25.87 NTU	-115.2 mV	31.13 ft	250.00 ml/min

3/11/2025 5:17 PM	23:17	7.03 pH	12.38 °C	1.12 mS/cm	0.46 mg/L	31.94 NTU	-115.1 mV	31.13 ft	250.00 ml/min
3/11/2025 5:19 PM	25:24	7.04 pH	12.46 °C	1.11 mS/cm	0.46 mg/L	35.35 NTU	-115.7 mV	31.13 ft	250.00 ml/min
3/11/2025 5:21 PM	27:31	7.05 pH	12.44 °C	1.12 mS/cm	0.60 mg/L	20.76 NTU	-112.8 mV	31.13 ft	250.00 ml/min
3/11/2025 5:23 PM	29:38	7.06 pH	12.40 °C	1.12 mS/cm	0.34 mg/L	20.50 NTU	-115.6 mV	31.13 ft	250.00 ml/min
3/11/2025 5:26 PM	31:45	7.06 pH	12.40 °C	1.12 mS/cm	0.29 mg/L	11.76 NTU	-117.5 mV	31.13 ft	250.00 ml/min
3/11/2025 5:28 PM	33:52	7.07 pH	12.42 °C	1.12 mS/cm	0.27 mg/L	9.87 NTU	-118.4 mV	31.13 ft	250.00 ml/min
3/11/2025 5:30 PM	35:59	7.07 pH	12.37 °C	1.12 mS/cm	0.24 mg/L	10.35 NTU	-119.4 mV	31.13 ft	250.00 ml/min
3/11/2025 5:32 PM	38:06	7.08 pH	12.36 °C	1.12 mS/cm	0.45 mg/L	22.19 NTU	-119.5 mV	31.13 ft	200.00 ml/min
3/11/2025 5:34 PM	40:13	7.08 pH	12.56 °C	1.12 mS/cm	0.34 mg/L	35.48 NTU	-119.8 mV	31.13 ft	200.00 ml/min
3/11/2025 5:36 PM	42:20	7.08 pH	12.69 °C	1.12 mS/cm	0.39 mg/L	56.20 NTU	-119.3 mV	31.13 ft	200.00 ml/min
3/11/2025 5:38 PM	44:27	7.09 pH	12.64 °C	1.14 mS/cm	0.39 mg/L	109.30 NTU	-120.6 mV	31.13 ft	200.00 ml/min
3/11/2025 5:40 PM	46:34	7.09 pH	12.67 °C	1.13 mS/cm	0.36 mg/L	62.36 NTU	-121.0 mV	31.13 ft	200.00 ml/min
3/11/2025 5:42 PM	48:41	7.10 pH	12.68 °C	1.13 mS/cm	0.38 mg/L	48.34 NTU	-120.9 mV	31.13 ft	200.00 ml/min
3/11/2025 5:45 PM	50:48	7.10 pH	12.55 °C	1.12 mS/cm	0.41 mg/L	16.35 NTU	-119.7 mV	31.13 ft	200.00 ml/min
3/11/2025 5:47 PM	52:55	7.10 pH	12.26 °C	1.12 mS/cm	0.35 mg/L	9.66 NTU	-120.1 mV	31.13 ft	200.00 ml/min
3/11/2025 5:49 PM	55:02	7.11 pH	12.20 °C	1.12 mS/cm	0.29 mg/L	10.44 NTU	-120.3 mV	31.13 ft	200.00 ml/min
3/11/2025 5:51 PM	57:09	7.11 pH	12.15 °C	1.12 mS/cm	0.25 mg/L	20.87 NTU	-120.9 mV	31.13 ft	200.00 ml/min
3/11/2025 5:53 PM	59:16	7.11 pH	12.10 °C	1.12 mS/cm	0.24 mg/L	16.46 NTU	-121.0 mV	31.13 ft	200.00 ml/min
3/11/2025 5:55 PM	01:01:23	7.11 pH	11.97 °C	1.12 mS/cm	0.22 mg/L	23.70 NTU	-120.8 mV	31.13 ft	200.00 ml/min
3/11/2025 5:57 PM	01:03:30	7.10 pH	11.97 °C	1.12 mS/cm	0.22 mg/L	20.66 NTU	-120.7 mV	31.13 ft	200.00 ml/min
3/11/2025 5:59 PM	01:05:37	7.10 pH	11.86 °C	1.12 mS/cm	0.21 mg/L	19.13 NTU	-120.4 mV	31.13 ft	200.00 ml/min
3/11/2025 6:01 PM	01:07:44	7.09 pH	11.83 °C	1.12 mS/cm	0.20 mg/L	12.67 NTU	-120.1 mV	31.13 ft	200.00 ml/min
3/11/2025 6:04 PM	01:09:51	7.09 pH	11.86 °C	1.12 mS/cm	0.20 mg/L	16.24 NTU	-119.8 mV	31.11 ft	200.00 ml/min
3/11/2025 6:06 PM	01:11:58	7.08 pH	11.82 °C	1.12 mS/cm	0.20 mg/L	8.28 NTU	-119.4 mV	31.11 ft	200.00 ml/min
3/11/2025 6:08 PM	01:14:05	7.08 pH	11.79 °C	1.12 mS/cm	0.19 mg/L	8.19 NTU	-119.0 mV	31.11 ft	200.00 ml/min
3/11/2025 6:10 PM	01:16:12	7.07 pH	11.78 °C	1.11 mS/cm	0.19 mg/L	24.57 NTU	-118.9 mV	31.11 ft	200.00 ml/min
3/11/2025 6:12 PM	01:18:19	7.07 pH	11.74 °C	1.12 mS/cm	0.19 mg/L	10.08 NTU	-118.8 mV	31.11 ft	200.00 ml/min
3/11/2025 6:14 PM	01:20:26	7.07 pH	11.71 °C	1.12 mS/cm	0.18 mg/L	9.11 NTU	-118.9 mV	31.11 ft	200.00 ml/min
3/11/2025 6:16 PM	01:22:33	7.07 pH	11.61 °C	1.11 mS/cm	0.18 mg/L	12.77 NTU	-118.7 mV	31.11 ft	200.00 ml/min

3/11/2025 6:18 PM	01:24:40	7.07 pH	11.62 °C	1.11 mS/cm	0.18 mg/L	8.39 NTU	-118.3 mV	31.11 ft	200.00 ml/min
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## Samples

Sample ID:	Description:
MW13R-GW-0325	
MW13R-GW-0325 MS	
MW13R-GW-0325 MSD	

# Low-Flow Test Report:

Test Date / Time: 3/17/2025 6:46:29 PM

Project: Neal North MW-19

Operator Name: Paige Richards

<b>Location Name: MW-19</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 15 ft</b> <b>Top of Screen: 18.6 ft</b> <b>Total Depth: 33.6 ft</b> <b>Initial Depth to Water: 14.52 ft</b>	<b>Pump Type: Solinst Model 407 Bladder Pump</b> <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b> <b>Tubing Inner Diameter: 0.125 in</b> <b>Tubing Length: 22.6 ft</b> <b>Pump Intake From TOC: 24.6 ft</b> <b>Estimated Total Volume Pumped: 3146.667 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 125 ml/min</b> <b>Final Draw Down: 3.03 ft</b>	<b>Instrument Used: Aqua TROLL 600</b> <b>Serial Number: 876572</b>
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## Test Notes:

Sample time: 1945

## Weather Conditions:

Cloudy, 77 degrees F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
3/17/2025 6:46 PM	00:00	6.77 pH	13.85 °C	2.79 mS/cm	7.25 mg/L	13.10 NTU	19.2 mV	14.52 ft	250.00 ml/min
3/17/2025 6:48 PM	01:58	6.43 pH	12.41 °C	3.59 mS/cm	0.65 mg/L	3.89 NTU	8.1 mV	15.82 ft	250.00 ml/min
3/17/2025 6:50 PM	03:56	6.48 pH	12.46 °C	3.42 mS/cm	0.29 mg/L	2.12 NTU	-10.7 mV	15.82 ft	225.00 ml/min
3/17/2025 6:52 PM	05:54	6.51 pH	12.62 °C	3.27 mS/cm	0.23 mg/L	2.26 NTU	-27.3 mV	16.31 ft	125.00 ml/min
3/17/2025 6:54 PM	07:52	6.51 pH	12.88 °C	3.23 mS/cm	0.27 mg/L	2.05 NTU	-35.5 mV	16.60 ft	125.00 ml/min
3/17/2025 6:56 PM	09:50	6.49 pH	12.82 °C	3.23 mS/cm	0.28 mg/L	3.01 NTU	-37.9 mV	16.79 ft	125.00 ml/min
3/17/2025 6:58 PM	11:48	6.49 pH	12.70 °C	3.18 mS/cm	0.29 mg/L	2.13 NTU	-38.2 mV	16.79 ft	125.00 ml/min
3/17/2025 7:00 PM	13:46	6.49 pH	12.53 °C	3.13 mS/cm	0.27 mg/L	2.35 NTU	-37.5 mV	17.09 ft	125.00 ml/min
3/17/2025 7:02 PM	15:44	6.48 pH	12.59 °C	3.07 mS/cm	0.25 mg/L	2.27 NTU	-35.8 mV	17.09 ft	125.00 ml/min
3/17/2025 7:04 PM	17:42	6.47 pH	12.66 °C	3.03 mS/cm	0.24 mg/L	1.78 NTU	-33.0 mV	17.09 ft	125.00 ml/min
3/17/2025 7:06 PM	19:40	6.46 pH	12.65 °C	2.99 mS/cm	0.23 mg/L	1.14 NTU	-28.9 mV	17.55 ft	125.00 ml/min

**Samples**

Sample ID:	Description:
MW19-GW-0325	1L plastic w/ nitric x2 1L plastic unpreserved x1 250mL plastic w/ nitric x1 250mL plastic unpreserved x1

# Low-Flow Test Report:

Test Date / Time: 3/17/2025 6:45:25 PM

Project: Neal North MW-21

Operator Name: Thao Larson

<b>Location Name: MW-21</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 15 ft</b> <b>Top of Screen: 8.2 ft</b> <b>Total Depth: 23.2 ft</b> <b>Initial Depth to Water: 21.23 ft</b>	<b>Pump Type: Solinst Model 407 Bladder Pump</b> <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b> <b>Tubing Inner Diameter: 0.125 in</b> <b>Tubing Length: 27.3 ft</b> <b>Pump Intake From TOC: 29.3 ft</b> <b>Estimated Total Volume Pumped: 1915.833 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.9 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 1050309</b>
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## Test Notes:

Sample time 1925

## Weather Conditions:

Sunny 61°F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
3/17/2025 6:45 PM	00:00	6.59 pH	14.88 °C	2.34 mS/cm	6.16 mg/L	4.71 NTU	9.7 mV	21.23 ft	200.00 ml/min
3/17/2025 6:47 PM	02:01	6.47 pH	13.25 °C	3.33 mS/cm	1.42 mg/L	1.43 NTU	34.4 mV	21.66 ft	150.00 ml/min
3/17/2025 6:49 PM	04:02	6.41 pH	13.47 °C	3.35 mS/cm	1.45 mg/L	1.34 NTU	43.3 mV	21.72 ft	150.00 ml/min
3/17/2025 6:51 PM	06:03	6.40 pH	13.33 °C	3.36 mS/cm	1.41 mg/L	1.36 NTU	48.3 mV	21.83 ft	150.00 ml/min
3/17/2025 6:53 PM	08:04	6.39 pH	13.22 °C	3.36 mS/cm	1.36 mg/L	1.36 NTU	52.0 mV	21.91 ft	150.00 ml/min
3/17/2025 6:55 PM	10:05	6.39 pH	13.32 °C	3.36 mS/cm	1.30 mg/L	1.35 NTU	55.0 mV	22.02 ft	150.00 ml/min
3/17/2025 6:57 PM	12:06	6.38 pH	13.20 °C	3.36 mS/cm	1.26 mg/L	1.40 NTU	57.5 mV	22.13 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW21-GW-0325

APP III & IV

Created using VuSitu from In-Situ, Inc.

# Low-Flow Test Report:

**Test Date / Time:** 3/12/2025 5:19:05 PM

**Project:** Neal North MW-27

**Operator Name:** Paige Richards

<p><b>Location Name: MW-27</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 10 ft</b>  <b>Top of Screen: 23.7 ft</b>  <b>Total Depth: 33.7 ft</b>  <b>Initial Depth to Water: 29.65 ft</b></p>	<p><b>Pump Type: Solinst Model 407 Bladder Pump</b>  <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b>  <b>Tubing Inner Diameter: 0.125 in</b>  <b>Tubing Length: 29.4 ft</b>  <b>Pump Intake From TOC: 31.4 ft</b>  <b>Estimated Total Volume Pumped: 3280 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 100 ml/min</b>  <b>Final Draw Down: 0.28 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600</b>  <b>Serial Number: 876572</b></p>
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**Test Notes:**

Sample time: 1905

**Weather Conditions:**

Sunny, 71 degrees F

**Low-Flow Readings:**

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
3/12/2025 5:19 PM	00:00	7.40 pH	21.31 °C	1.29 mS/cm	7.85 mg/L	54.59 NTU	-23.3 mV	29.65 ft	100.00 ml/min
3/12/2025 5:21 PM	02:03	6.92 pH	16.52 °C	1.13 mS/cm	3.56 mg/L	57.14 NTU	-111.4 mV	29.80 ft	100.00 ml/min
3/12/2025 5:23 PM	04:06	6.77 pH	15.59 °C	1.09 mS/cm	1.58 mg/L	30.68 NTU	-107.4 mV	29.80 ft	100.00 ml/min
3/12/2025 5:25 PM	06:09	6.73 pH	15.02 °C	1.11 mS/cm	1.10 mg/L	36.10 NTU	-105.0 mV	29.80 ft	100.00 ml/min
3/12/2025 5:27 PM	08:12	6.71 pH	14.85 °C	1.10 mS/cm	0.89 mg/L	37.27 NTU	-104.0 mV	29.80 ft	100.00 ml/min
3/12/2025 5:29 PM	10:15	6.70 pH	14.80 °C	1.10 mS/cm	0.79 mg/L	41.60 NTU	-102.8 mV	29.80 ft	100.00 ml/min
3/12/2025 5:31 PM	12:18	6.70 pH	14.75 °C	1.09 mS/cm	0.75 mg/L	39.60 NTU	-102.8 mV	29.80 ft	100.00 ml/min
3/12/2025 5:33 PM	14:21	6.71 pH	14.58 °C	1.09 mS/cm	0.71 mg/L	34.94 NTU	-103.8 mV	29.80 ft	100.00 ml/min
3/12/2025 5:35 PM	16:24	6.71 pH	14.38 °C	1.10 mS/cm	0.67 mg/L	25.75 NTU	-104.9 mV	29.80 ft	100.00 ml/min
3/12/2025 5:37 PM	18:27	6.71 pH	14.43 °C	1.10 mS/cm	0.63 mg/L	18.86 NTU	-105.8 mV	29.80 ft	100.00 ml/min
3/12/2025 5:39 PM	20:30	6.70 pH	14.47 °C	1.10 mS/cm	0.62 mg/L	14.36 NTU	-106.4 mV	29.80 ft	100.00 ml/min

3/12/2025 5:41 PM	22:33	6.70 pH	14.55 °C	1.10 mS/cm	0.60 mg/L	9.63 NTU	-107.3 mV	29.90 ft	100.00 ml/min
3/12/2025 5:43 PM	24:36	6.70 pH	14.39 °C	1.10 mS/cm	0.60 mg/L	7.79 NTU	-108.5 mV	29.90 ft	100.00 ml/min
3/12/2025 5:45 PM	26:39	6.71 pH	14.35 °C	1.10 mS/cm	0.59 mg/L	6.57 NTU	-109.3 mV	29.90 ft	100.00 ml/min
3/12/2025 5:47 PM	28:42	6.71 pH	14.34 °C	1.09 mS/cm	0.58 mg/L	5.44 NTU	-110.6 mV	29.90 ft	100.00 ml/min
3/12/2025 5:49 PM	30:45	6.71 pH	14.36 °C	1.10 mS/cm	0.57 mg/L	5.14 NTU	-110.8 mV	29.90 ft	100.00 ml/min
3/12/2025 5:51 PM	32:48	6.72 pH	14.11 °C	1.09 mS/cm	0.56 mg/L	4.71 NTU	-111.5 mV	29.93 ft	100.00 ml/min

## Samples

Sample ID:	Description:
MW27-GW-0325	1L plastic w/ nitric x2 1L plastic unpreserved x1 250mL plastic w/ nitric x1 250mL plastic unpreserved x1

# Low-Flow Test Report:

**Test Date / Time:** 3/12/2025 3:07:55 PM

**Project:** Neal North MW-29R

**Operator Name:** Thao Larson

<p><b>Location Name: MW-29R</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 15 ft</b>  <b>Top of Screen: 20.2 ft</b>  <b>Total Depth: 35.2 ft</b>  <b>Initial Depth to Water: 30.83 ft</b></p>	<p><b>Pump Type: Solinst Model 407 Bladder Pump</b>  <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b>  <b>Tubing Inner Diameter: 0.125 in</b>  <b>Tubing Length: 32.7 ft</b>  <b>Pump Intake From TOC: 34.7 ft</b>  <b>Estimated Total Volume Pumped: 7916.667 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 100 ml/min</b>  <b>Final Draw Down: 0.01 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 1050309</b></p>
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**Test Notes:**

Sample time 1750

**Weather Conditions:**

Sunny 58°F

**Low-Flow Readings:**

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
3/12/2025 3:07 PM	00:00	7.14 pH	22.42 °C	1.04 mS/cm	7.83 mg/L	269.35 NTU	-71.2 mV	30.83 ft	100.00 ml/min
3/12/2025 3:10 PM	02:05	6.66 pH	18.23 °C	1.24 mS/cm	3.13 mg/L	420.99 NTU	-80.2 mV	30.85 ft	100.00 ml/min
3/12/2025 3:12 PM	04:10	6.55 pH	16.70 °C	1.28 mS/cm	1.64 mg/L	157.13 NTU	-77.7 mV	30.84 ft	100.00 ml/min
3/12/2025 3:14 PM	06:15	6.53 pH	16.41 °C	1.29 mS/cm	1.27 mg/L	133.29 NTU	-79.9 mV	30.84 ft	100.00 ml/min
3/12/2025 3:16 PM	08:20	6.54 pH	16.56 °C	1.29 mS/cm	1.14 mg/L	107.25 NTU	-83.5 mV	30.84 ft	100.00 ml/min
3/12/2025 3:18 PM	10:25	6.55 pH	16.28 °C	1.29 mS/cm	1.09 mg/L	88.64 NTU	-85.5 mV	30.84 ft	100.00 ml/min
3/12/2025 3:20 PM	12:30	6.56 pH	16.39 °C	1.29 mS/cm	1.06 mg/L	83.49 NTU	-86.4 mV	30.84 ft	100.00 ml/min
3/12/2025 3:22 PM	14:35	6.57 pH	16.49 °C	1.29 mS/cm	1.00 mg/L	65.66 NTU	-87.0 mV	30.84 ft	100.00 ml/min
3/12/2025 3:24 PM	16:40	6.58 pH	16.23 °C	1.29 mS/cm	0.89 mg/L	59.48 NTU	-88.7 mV	30.84 ft	100.00 ml/min
3/12/2025 3:26 PM	18:45	6.58 pH	16.45 °C	1.29 mS/cm	0.79 mg/L	51.14 NTU	-88.8 mV	30.84 ft	100.00 ml/min
3/12/2025 3:28 PM	20:50	6.58 pH	16.34 °C	1.28 mS/cm	0.71 mg/L	41.23 NTU	-89.4 mV	30.84 ft	100.00 ml/min

3/12/2025 3:30 PM	22:55	6.59 pH	15.92 °C	1.28 mS/cm	0.65 mg/L	44.99 NTU	-89.4 mV	30.84 ft	100.00 ml/min
3/12/2025 3:32 PM	25:00	6.59 pH	16.08 °C	1.28 mS/cm	0.62 mg/L	33.41 NTU	-89.6 mV	30.84 ft	100.00 ml/min
3/12/2025 3:35 PM	27:05	6.59 pH	16.16 °C	1.28 mS/cm	0.60 mg/L	45.14 NTU	-89.3 mV	30.84 ft	100.00 ml/min
3/12/2025 3:37 PM	29:10	6.59 pH	16.29 °C	1.27 mS/cm	0.59 mg/L	54.92 NTU	-89.5 mV	30.84 ft	100.00 ml/min
3/12/2025 3:39 PM	31:15	6.63 pH	16.15 °C	1.28 mS/cm	4.08 mg/L	32.83 NTU	-85.0 mV	30.84 ft	100.00 ml/min
3/12/2025 3:41 PM	33:20	6.62 pH	15.94 °C	1.29 mS/cm	1.68 mg/L	22.48 NTU	-83.8 mV	30.84 ft	100.00 ml/min
3/12/2025 3:43 PM	35:25	6.60 pH	16.02 °C	1.29 mS/cm	1.15 mg/L	19.21 NTU	-83.8 mV	30.84 ft	100.00 ml/min
3/12/2025 3:45 PM	37:30	6.60 pH	15.95 °C	1.28 mS/cm	1.00 mg/L	16.09 NTU	-84.8 mV	30.84 ft	100.00 ml/min
3/12/2025 3:47 PM	39:35	6.60 pH	15.99 °C	1.28 mS/cm	0.91 mg/L	14.44 NTU	-85.4 mV	30.84 ft	100.00 ml/min
3/12/2025 3:49 PM	41:40	6.60 pH	15.84 °C	1.28 mS/cm	0.80 mg/L	14.74 NTU	-85.6 mV	30.84 ft	100.00 ml/min
3/12/2025 3:51 PM	43:45	6.61 pH	15.41 °C	1.28 mS/cm	0.77 mg/L	9.98 NTU	-86.2 mV	30.84 ft	100.00 ml/min
3/12/2025 3:53 PM	45:50	6.61 pH	15.49 °C	1.28 mS/cm	0.71 mg/L	9.15 NTU	-87.3 mV	30.84 ft	100.00 ml/min
3/12/2025 3:55 PM	47:55	6.61 pH	15.61 °C	1.28 mS/cm	0.66 mg/L	10.42 NTU	-87.6 mV	30.84 ft	100.00 ml/min
3/12/2025 3:57 PM	50:00	6.61 pH	15.60 °C	1.28 mS/cm	0.62 mg/L	12.83 NTU	-88.0 mV	30.84 ft	100.00 ml/min
3/12/2025 4:00 PM	52:05	6.61 pH	15.69 °C	1.28 mS/cm	0.57 mg/L	13.09 NTU	-88.7 mV	30.84 ft	100.00 ml/min
3/12/2025 4:02 PM	54:10	6.62 pH	15.76 °C	1.27 mS/cm	0.52 mg/L	11.72 NTU	-88.8 mV	30.84 ft	100.00 ml/min
3/12/2025 4:04 PM	56:15	6.62 pH	15.42 °C	1.27 mS/cm	0.50 mg/L	14.91 NTU	-89.3 mV	30.84 ft	100.00 ml/min
3/12/2025 4:06 PM	58:20	6.63 pH	15.37 °C	1.27 mS/cm	0.48 mg/L	15.22 NTU	-89.6 mV	30.84 ft	100.00 ml/min
3/12/2025 4:08 PM	01:00:25	6.64 pH	15.32 °C	1.27 mS/cm	0.82 mg/L	10.49 NTU	-88.5 mV	30.84 ft	100.00 ml/min
3/12/2025 4:10 PM	01:02:30	6.63 pH	15.22 °C	1.26 mS/cm	1.08 mg/L	9.64 NTU	-85.9 mV	30.84 ft	100.00 ml/min
3/12/2025 4:12 PM	01:04:35	6.63 pH	14.96 °C	1.27 mS/cm	1.08 mg/L	8.07 NTU	-85.3 mV	30.84 ft	100.00 ml/min
3/12/2025 4:14 PM	01:06:40	6.64 pH	14.96 °C	1.27 mS/cm	1.02 mg/L	8.15 NTU	-85.1 mV	30.84 ft	100.00 ml/min
3/12/2025 4:16 PM	01:08:45	6.64 pH	14.95 °C	1.27 mS/cm	0.94 mg/L	8.52 NTU	-85.5 mV	30.84 ft	100.00 ml/min
3/12/2025 4:18 PM	01:10:50	6.64 pH	14.78 °C	1.26 mS/cm	0.91 mg/L	7.97 NTU	-85.2 mV	30.84 ft	100.00 ml/min
3/12/2025 4:20 PM	01:12:55	6.64 pH	14.74 °C	1.27 mS/cm	0.84 mg/L	8.90 NTU	-85.7 mV	30.84 ft	100.00 ml/min
3/12/2025 4:22 PM	01:15:00	6.65 pH	14.71 °C	1.26 mS/cm	0.78 mg/L	6.55 NTU	-85.8 mV	30.84 ft	100.00 ml/min
3/12/2025 4:25 PM	01:17:05	6.65 pH	14.54 °C	1.26 mS/cm	0.75 mg/L	6.02 NTU	-85.9 mV	30.84 ft	100.00 ml/min
3/12/2025 4:27 PM	01:19:10	6.65 pH	14.65 °C	1.26 mS/cm	0.71 mg/L	5.16 NTU	-86.8 mV	30.84 ft	100.00 ml/min

**Samples**

Sample ID:	Description:
MW29R-GW-0325	
DP01-GW-0325	

# Low-Flow Test Report:

**Test Date / Time:** 3/13/2025 8:17:22 AM

**Project:** Neal North MW-223S

**Operator Name:** Paige Richards

<p><b>Location Name: MW-223S</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 15 ft</b>  <b>Top of Screen: 11.7 ft</b>  <b>Total Depth: 26.7 ft</b>  <b>Initial Depth to Water: 22.88 ft</b></p>	<p><b>Pump Type: Solinst Model 407 Bladder Pump</b>  <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b>  <b>Tubing Inner Diameter: 0.125 in</b>  <b>Tubing Length: 22.4 ft</b>  <b>Pump Intake From TOC: 24.4 ft</b>  <b>Estimated Total Volume Pumped: 5175 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 75 ml/min</b>  <b>Final Draw Down: 0.01 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600</b>  <b>Serial Number: 876572</b></p>
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**Test Notes:**

Sample time: 1035

**Weather Conditions:**

Sunny, 33 degrees F

**Low-Flow Readings:**

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
3/13/2025 8:17 AM	00:00	6.80 pH	6.72 °C	1.03 mS/cm	7.46 mg/L	134.87 NTU	40.7 mV	22.88 ft	75.00 ml/min
3/13/2025 8:19 AM	01:55	6.79 pH	8.01 °C	0.85 mS/cm	2.60 mg/L	589.20 NTU	-9.3 mV	22.89 ft	75.00 ml/min
3/13/2025 8:21 AM	03:50	6.84 pH	8.41 °C	0.81 mS/cm	1.20 mg/L	502.19 NTU	-30.2 mV	22.89 ft	75.00 ml/min
3/13/2025 8:23 AM	05:45	6.86 pH	8.64 °C	0.80 mS/cm	0.70 mg/L	413.43 NTU	-40.5 mV	22.89 ft	75.00 ml/min
3/13/2025 8:25 AM	07:40	6.89 pH	8.84 °C	0.80 mS/cm	0.54 mg/L	391.23 NTU	-51.2 mV	22.89 ft	75.00 ml/min
3/13/2025 8:26 AM	09:35	6.91 pH	8.93 °C	0.80 mS/cm	0.46 mg/L	201.75 NTU	-62.3 mV	22.89 ft	75.00 ml/min
3/13/2025 8:28 AM	11:30	6.94 pH	9.04 °C	0.80 mS/cm	0.43 mg/L	135.40 NTU	-68.4 mV	22.89 ft	75.00 ml/min
3/13/2025 8:30 AM	13:25	6.94 pH	9.12 °C	0.80 mS/cm	0.41 mg/L	84.93 NTU	-69.6 mV	22.89 ft	75.00 ml/min
3/13/2025 8:32 AM	15:20	6.95 pH	9.22 °C	0.80 mS/cm	0.40 mg/L	59.07 NTU	-70.6 mV	22.89 ft	75.00 ml/min
3/13/2025 8:34 AM	17:15	6.95 pH	9.28 °C	0.80 mS/cm	0.39 mg/L	100.10 NTU	-69.7 mV	22.89 ft	75.00 ml/min
3/13/2025 8:36 AM	19:10	6.94 pH	9.31 °C	0.80 mS/cm	0.38 mg/L	73.44 NTU	-68.1 mV	22.89 ft	75.00 ml/min

3/13/2025 8:38 AM	21:05	6.95 pH	9.35 °C	0.80 mS/cm	0.38 mg/L	36.15 NTU	-67.7 mV	22.89 ft	75.00 ml/min
3/13/2025 8:40 AM	23:00	6.94 pH	9.39 °C	0.80 mS/cm	0.38 mg/L	23.00 NTU	-66.7 mV	22.89 ft	75.00 ml/min
3/13/2025 8:42 AM	24:55	6.94 pH	9.43 °C	0.80 mS/cm	0.38 mg/L	16.59 NTU	-65.8 mV	22.89 ft	75.00 ml/min
3/13/2025 8:44 AM	26:50	6.95 pH	9.41 °C	0.80 mS/cm	0.37 mg/L	12.91 NTU	-66.6 mV	22.89 ft	75.00 ml/min
3/13/2025 8:46 AM	28:45	6.96 pH	9.47 °C	0.80 mS/cm	0.37 mg/L	47.71 NTU	-67.7 mV	22.89 ft	75.00 ml/min
3/13/2025 8:48 AM	30:40	6.97 pH	9.40 °C	0.80 mS/cm	0.36 mg/L	22.28 NTU	-69.5 mV	22.89 ft	75.00 ml/min
3/13/2025 8:49 AM	32:35	6.97 pH	9.40 °C	0.80 mS/cm	0.36 mg/L	18.90 NTU	-68.7 mV	22.89 ft	75.00 ml/min
3/13/2025 8:51 AM	34:30	6.98 pH	9.38 °C	0.80 mS/cm	0.35 mg/L	129.42 NTU	-70.0 mV	22.89 ft	75.00 ml/min
3/13/2025 8:53 AM	36:25	6.98 pH	9.39 °C	0.80 mS/cm	0.35 mg/L	75.93 NTU	-71.3 mV	22.89 ft	75.00 ml/min
3/13/2025 8:55 AM	38:20	7.00 pH	9.41 °C	0.80 mS/cm	0.35 mg/L	41.94 NTU	-73.5 mV	22.89 ft	75.00 ml/min
3/13/2025 8:57 AM	40:15	6.99 pH	9.42 °C	0.80 mS/cm	0.35 mg/L	29.61 NTU	-72.6 mV	22.89 ft	75.00 ml/min
3/13/2025 8:59 AM	42:10	6.99 pH	9.51 °C	0.80 mS/cm	0.35 mg/L	35.99 NTU	-73.0 mV	22.89 ft	75.00 ml/min
3/13/2025 9:01 AM	44:05	7.00 pH	9.49 °C	0.80 mS/cm	0.34 mg/L	11.45 NTU	-74.0 mV	22.89 ft	75.00 ml/min
3/13/2025 9:03 AM	46:00	7.01 pH	9.54 °C	0.80 mS/cm	0.34 mg/L	11.59 NTU	-74.8 mV	22.89 ft	75.00 ml/min
3/13/2025 9:05 AM	47:55	7.01 pH	9.56 °C	0.80 mS/cm	0.34 mg/L	12.62 NTU	-75.5 mV	22.89 ft	75.00 ml/min
3/13/2025 9:07 AM	49:50	7.01 pH	9.62 °C	0.80 mS/cm	0.33 mg/L	154.66 NTU	-76.7 mV	22.89 ft	75.00 ml/min
3/13/2025 9:09 AM	51:45	7.01 pH	9.63 °C	0.80 mS/cm	0.33 mg/L	79.87 NTU	-75.8 mV	22.89 ft	75.00 ml/min
3/13/2025 9:11 AM	53:40	7.01 pH	9.61 °C	0.80 mS/cm	0.33 mg/L	49.04 NTU	-76.3 mV	22.89 ft	75.00 ml/min
3/13/2025 9:12 AM	55:35	7.02 pH	9.64 °C	0.80 mS/cm	0.33 mg/L	39.67 NTU	-78.3 mV	22.89 ft	75.00 ml/min
3/13/2025 9:14 AM	57:30	7.02 pH	9.67 °C	0.80 mS/cm	0.33 mg/L	19.83 NTU	-78.2 mV	22.89 ft	75.00 ml/min
3/13/2025 9:16 AM	59:25	7.03 pH	9.75 °C	0.80 mS/cm	0.33 mg/L	10.60 NTU	-79.2 mV	22.89 ft	75.00 ml/min
3/13/2025 9:18 AM	01:01:20	7.02 pH	9.83 °C	0.80 mS/cm	0.32 mg/L	12.14 NTU	-79.2 mV	22.89 ft	75.00 ml/min
3/13/2025 9:20 AM	01:03:15	7.03 pH	9.83 °C	0.80 mS/cm	0.32 mg/L	17.63 NTU	-80.3 mV	22.89 ft	75.00 ml/min
3/13/2025 9:22 AM	01:05:10	7.03 pH	9.92 °C	0.81 mS/cm	0.32 mg/L	11.51 NTU	-80.2 mV	22.89 ft	75.00 ml/min
3/13/2025 9:24 AM	01:07:05	7.03 pH	9.88 °C	0.80 mS/cm	0.32 mg/L	17.13 NTU	-80.4 mV	22.89 ft	75.00 ml/min
3/13/2025 9:26 AM	01:09:00	7.03 pH	9.81 °C	0.80 mS/cm	0.32 mg/L	4.85 NTU	-80.8 mV	22.89 ft	75.00 ml/min

## Samples

<b>Sample ID:</b>	<b>Description:</b>
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MW223S-GW-0325

1L plastic w/ nitric x2  
1L plastic unpreserved x1  
250mL plastic w/ nitric x2  
250mL plastic unpreserved x1  
40mL voa vials w/ sulfuric x3

# Low-Flow Test Report:

**Test Date / Time:** 3/12/2025 6:10:01 PM

**Project:** Neal North MW-231SR

**Operator Name:** Thao Larson

<p><b>Location Name: MW-231SR</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 15 ft</b>  <b>Top of Screen: 14.07 ft</b>  <b>Total Depth: 29.07 ft</b>  <b>Initial Depth to Water: 25.27 ft</b></p>	<p><b>Pump Type: Solinst Model 407 Bladder Pump</b>  <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b>  <b>Tubing Inner Diameter: 0.125 in</b>  <b>Tubing Length: 26.57 ft</b>  <b>Pump Intake From TOC: 28.57 ft</b>  <b>Estimated Total Volume Pumped: 4386.25 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 75 ml/min</b>  <b>Final Draw Down: 0.01 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 1050309</b></p>
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**Test Notes:**

Sample time 0905

Stabilized 3/12, sample collected 3/13

**Weather Conditions:**

Sunny 64°F

**Low-Flow Readings:**

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
3/12/2025 6:10 PM	00:00	7.12 pH	18.30 °C	1.43 mS/cm	7.16 mg/L	29.14 NTU	-74.4 mV	25.27 ft	75.00 ml/min
3/12/2025 6:12 PM	02:01	7.16 pH	16.93 °C	1.32 mS/cm	4.47 mg/L	26.12 NTU	-97.4 mV	25.28 ft	75.00 ml/min
3/12/2025 6:14 PM	04:02	6.82 pH	15.66 °C	1.24 mS/cm	2.32 mg/L	16.90 NTU	-83.8 mV	25.28 ft	75.00 ml/min
3/12/2025 6:16 PM	06:03	6.73 pH	15.12 °C	1.22 mS/cm	1.78 mg/L	12.02 NTU	-79.6 mV	25.28 ft	75.00 ml/min
3/12/2025 6:18 PM	08:04	6.70 pH	14.74 °C	1.21 mS/cm	1.55 mg/L	11.15 NTU	-76.9 mV	25.28 ft	75.00 ml/min
3/12/2025 6:20 PM	10:05	6.68 pH	14.49 °C	1.21 mS/cm	1.45 mg/L	14.62 NTU	-74.8 mV	25.28 ft	75.00 ml/min
3/12/2025 6:22 PM	12:06	6.68 pH	14.27 °C	1.21 mS/cm	1.40 mg/L	17.26 NTU	-72.5 mV	25.28 ft	75.00 ml/min
3/12/2025 6:24 PM	14:07	6.68 pH	14.06 °C	1.20 mS/cm	1.35 mg/L	18.67 NTU	-71.2 mV	25.28 ft	75.00 ml/min
3/12/2025 6:26 PM	16:08	6.67 pH	13.80 °C	1.21 mS/cm	1.26 mg/L	15.29 NTU	-69.8 mV	25.28 ft	75.00 ml/min
3/12/2025 6:28 PM	18:09	6.68 pH	13.72 °C	1.21 mS/cm	1.23 mg/L	17.72 NTU	-68.9 mV	25.28 ft	75.00 ml/min
3/12/2025 6:30 PM	20:10	6.68 pH	13.56 °C	1.21 mS/cm	1.28 mg/L	16.26 NTU	-68.3 mV	25.28 ft	75.00 ml/min

3/12/2025 6:32 PM	22:11	6.68 pH	13.47 °C	1.22 mS/cm	1.26 mg/L	11.78 NTU	-67.8 mV	25.28 ft	75.00 ml/min
3/12/2025 6:34 PM	24:12	6.68 pH	13.31 °C	1.22 mS/cm	1.22 mg/L	12.96 NTU	-67.5 mV	25.28 ft	75.00 ml/min
3/12/2025 6:36 PM	26:13	6.69 pH	13.26 °C	1.22 mS/cm	1.22 mg/L	14.07 NTU	-66.9 mV	25.28 ft	75.00 ml/min
3/12/2025 6:38 PM	28:14	6.69 pH	13.27 °C	1.22 mS/cm	1.38 mg/L	11.20 NTU	-66.5 mV	25.28 ft	75.00 ml/min
3/12/2025 6:40 PM	30:15	6.69 pH	13.27 °C	1.22 mS/cm	1.34 mg/L	7.51 NTU	-65.8 mV	25.28 ft	75.00 ml/min
3/12/2025 6:42 PM	32:16	6.68 pH	13.21 °C	1.21 mS/cm	1.27 mg/L	12.30 NTU	-65.3 mV	25.28 ft	75.00 ml/min
3/12/2025 6:44 PM	34:17	6.68 pH	13.15 °C	1.22 mS/cm	1.23 mg/L	8.28 NTU	-64.9 mV	25.28 ft	75.00 ml/min
3/12/2025 6:46 PM	36:18	6.71 pH	12.99 °C	1.22 mS/cm	1.59 mg/L	9.55 NTU	-65.9 mV	25.28 ft	75.00 ml/min
3/12/2025 6:48 PM	38:19	6.72 pH	12.88 °C	1.22 mS/cm	2.02 mg/L	7.22 NTU	-65.4 mV	25.28 ft	75.00 ml/min
3/12/2025 6:50 PM	40:20	6.73 pH	12.85 °C	1.22 mS/cm	2.30 mg/L	9.04 NTU	-64.7 mV	25.28 ft	75.00 ml/min
3/12/2025 6:52 PM	42:21	6.70 pH	12.84 °C	1.22 mS/cm	2.02 mg/L	7.69 NTU	-62.6 mV	25.28 ft	75.00 ml/min
3/12/2025 6:54 PM	44:22	6.69 pH	12.76 °C	1.22 mS/cm	1.74 mg/L	8.56 NTU	-61.7 mV	25.28 ft	75.00 ml/min
3/12/2025 6:56 PM	46:23	6.69 pH	12.70 °C	1.22 mS/cm	1.58 mg/L	7.51 NTU	-61.5 mV	25.28 ft	75.00 ml/min
3/12/2025 6:58 PM	48:24	6.69 pH	12.66 °C	1.22 mS/cm	1.48 mg/L	6.27 NTU	-61.4 mV	25.28 ft	75.00 ml/min
3/12/2025 7:00 PM	50:25	6.68 pH	12.59 °C	1.22 mS/cm	1.41 mg/L	6.19 NTU	-61.2 mV	25.28 ft	75.00 ml/min
3/12/2025 7:02 PM	52:26	6.69 pH	12.52 °C	1.22 mS/cm	1.30 mg/L	5.95 NTU	-61.7 mV	25.28 ft	75.00 ml/min
3/12/2025 7:04 PM	54:27	6.69 pH	12.51 °C	1.22 mS/cm	1.25 mg/L	6.51 NTU	-62.3 mV	25.28 ft	75.00 ml/min
3/12/2025 7:06 PM	56:28	6.69 pH	12.43 °C	1.22 mS/cm	1.20 mg/L	5.05 NTU	-62.5 mV	25.28 ft	75.00 ml/min
3/12/2025 7:08 PM	58:29	6.69 pH	12.38 °C	1.22 mS/cm	1.16 mg/L	5.08 NTU	-62.5 mV	25.28 ft	75.00 ml/min

## Samples

Sample ID:	Description:
MW231SR-GW-0325	MNA

# Low-Flow Test Report:

Test Date / Time: 5/20/2025 9:14:22 AM

Project: Neal North MW-5R

Operator Name: Paige Richards

<b>Location Name: MW-5R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 25 ft</b> <b>Top of Screen: 11.64 ft</b> <b>Total Depth: 36.7 ft</b> <b>Initial Depth to Water: 23.25 ft</b>	<b>Pump Type: Solinst Model 407 Bladder Pump</b> <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b> <b>Tubing Inner Diameter: 0.125 in</b> <b>Tubing Length: 32.4 ft</b> <b>Pump Intake From TOC: 34.4 ft</b> <b>Estimated Total Volume Pumped: 5208.333 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 0.01 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 1170039</b>
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## Test Notes:

Sample time: 0950

Water visually clear

## Weather Conditions:

Cloudy, 55 degrees F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
5/20/2025 9:14 AM	00:00	7.09 pH	13.01 °C	1.17 mS/cm		79.41 NTU	-0.2 mV	23.25 ft	100.00 ml/min
5/20/2025 9:16 AM	02:05	7.10 pH	12.67 °C	0.90 mS/cm		117.33 NTU	-89.0 mV	23.25 ft	100.00 ml/min
5/20/2025 9:18 AM	04:10	7.09 pH	12.58 °C	0.87 mS/cm		77.23 NTU	-105.9 mV	23.25 ft	100.00 ml/min
5/20/2025 9:20 AM	06:15	7.07 pH	12.36 °C	0.86 mS/cm		39.35 NTU	-114.7 mV	23.26 ft	200.00 ml/min
5/20/2025 9:22 AM	08:20	7.06 pH	12.37 °C	0.86 mS/cm		61.75 NTU	-120.1 mV	23.26 ft	200.00 ml/min
5/20/2025 9:24 AM	10:25	7.04 pH	12.35 °C	0.86 mS/cm		153.04 NTU	-122.9 mV	23.26 ft	200.00 ml/min
5/20/2025 9:26 AM	12:30	7.03 pH	12.29 °C	0.86 mS/cm		171.14 NTU	-123.9 mV	23.26 ft	200.00 ml/min
5/20/2025 9:28 AM	14:35	7.02 pH	12.30 °C	0.86 mS/cm		30.25 NTU	-125.5 mV	23.26 ft	200.00 ml/min
5/20/2025 9:31 AM	16:40	7.01 pH	12.32 °C	0.86 mS/cm		44.98 NTU	-126.5 mV	23.26 ft	200.00 ml/min
5/20/2025 9:33 AM	18:45	7.00 pH	12.29 °C	0.86 mS/cm		28.89 NTU	-127.3 mV	23.26 ft	200.00 ml/min

5/20/2025 9:35 AM	20:50	6.99 pH	12.29 °C	0.86 mS/cm		18.04 NTU	-127.7 mV	23.26 ft	200.00 ml/min
5/20/2025 9:37 AM	22:55	6.98 pH	12.29 °C	0.86 mS/cm		17.20 NTU	-128.0 mV	23.26 ft	200.00 ml/min
5/20/2025 9:39 AM	25:00	6.98 pH	12.26 °C	0.86 mS/cm		13.42 NTU	-128.4 mV	23.26 ft	200.00 ml/min
5/20/2025 9:41 AM	27:05	6.97 pH	12.27 °C	0.86 mS/cm		3.17 NTU	-128.0 mV	23.26 ft	200.00 ml/min
5/20/2025 9:43 AM	29:10	6.96 pH	12.28 °C	0.86 mS/cm		2.14 NTU	-127.8 mV	23.26 ft	200.00 ml/min

## Samples

Sample ID:	Description:
MW5R-GW-0525	1L plastic unpreserved x1

# Low-Flow Test Report:

**Test Date / Time:** 5/19/2025 4:29:08 PM

**Project:** Neal North MW-19

**Operator Name:** Paige Richards

<p><b>Location Name: MW-19</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 15 ft</b>  <b>Top of Screen: 18.6 ft</b>  <b>Total Depth: 33.6 ft</b>  <b>Initial Depth to Water: 12.53 ft</b></p>	<p><b>Pump Type: Solinst Model 407 Bladder Pump</b>  <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b>  <b>Tubing Inner Diameter: 0.125 in</b>  <b>Tubing Length: 29.6 ft</b>  <b>Pump Intake From TOC: 24.6 ft</b>  <b>Estimated Total Volume Pumped: 5525.833 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 100 ml/min</b>  <b>Final Draw Down: 3.75 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 1170039</b></p>
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**Test Notes:**

Sample time: 1735

Water visually clear; final live reading:

T: 12.58 °C

ORP: -34.0 mV

pH: 6.17

Conductivity: 2.68 mS/cm

Turbidity: 0.64 NTU

**Weather Conditions:**

Cloudy, rain, 61 degrees F

**Low-Flow Readings:**

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
5/19/2025 4:29 PM	00:00	6.74 pH	13.60 °C	2.51 mS/cm		20.50 NTU	61.0 mV	12.53 ft	150.00 ml/min
5/19/2025 4:31 PM	02:03	6.31 pH	12.70 °C	3.29 mS/cm		7.75 NTU	7.3 mV	12.53 ft	150.00 ml/min
5/19/2025 4:33 PM	04:06	6.31 pH	12.76 °C	3.21 mS/cm		6.26 NTU	-11.1 mV	13.55 ft	150.00 ml/min
5/19/2025 4:35 PM	06:09	6.32 pH	12.70 °C	3.17 mS/cm		13.67 NTU	-21.0 mV	13.83 ft	150.00 ml/min
5/19/2025 4:37 PM	08:12	6.33 pH	12.28 °C	3.05 mS/cm		18.39 NTU	-26.7 mV	13.83 ft	150.00 ml/min
5/19/2025 4:39 PM	10:15	6.34 pH	12.65 °C	2.93 mS/cm		11.05 NTU	-33.0 mV	14.43 ft	100.00 ml/min
5/19/2025 4:41 PM	12:18	6.35 pH	12.84 °C	2.84 mS/cm		8.11 NTU	-36.2 mV	14.43 ft	100.00 ml/min

5/19/2025 4:43 PM	14:21	6.34 pH	12.83 °C	2.83 mS/cm		11.26 NTU	-35.1 mV	14.70 ft	100.00 ml/min
5/19/2025 4:45 PM	16:24	6.32 pH	12.84 °C	2.84 mS/cm		15.49 NTU	-31.7 mV	14.70 ft	100.00 ml/min
5/19/2025 4:47 PM	18:27	6.30 pH	12.83 °C	2.83 mS/cm		22.78 NTU	-28.6 mV	14.70 ft	100.00 ml/min
5/19/2025 4:49 PM	20:30	6.29 pH	12.87 °C	2.85 mS/cm		28.09 NTU	-25.1 mV	15.07 ft	100.00 ml/min
5/19/2025 4:51 PM	22:33	6.28 pH	12.88 °C	2.78 mS/cm		25.28 NTU	-22.2 mV	15.07 ft	100.00 ml/min
5/19/2025 4:53 PM	24:36	6.28 pH	12.85 °C	2.72 mS/cm		27.76 NTU	-18.4 mV	15.07 ft	100.00 ml/min
5/19/2025 4:55 PM	26:39	6.25 pH	12.84 °C	2.73 mS/cm		31.98 NTU	-13.6 mV	15.42 ft	100.00 ml/min
5/19/2025 4:57 PM	28:42	6.23 pH	12.85 °C	2.70 mS/cm		40.63 NTU	-9.8 mV	15.42 ft	100.00 ml/min
5/19/2025 4:59 PM	30:45	6.21 pH	12.84 °C	2.68 mS/cm		58.34 NTU	-7.1 mV	15.42 ft	100.00 ml/min
5/19/2025 5:01 PM	32:48	6.20 pH	12.86 °C	2.65 mS/cm		77.14 NTU	-5.3 mV	15.42 ft	100.00 ml/min
5/19/2025 5:03 PM	34:51	6.18 pH	12.88 °C	2.67 mS/cm		146.35 NTU	-4.5 mV	15.77 ft	100.00 ml/min
5/19/2025 5:06 PM	36:54	6.17 pH	12.86 °C	2.67 mS/cm		157.89 NTU	-3.6 mV	15.77 ft	100.00 ml/min
5/19/2025 5:09 PM	40:39	6.18 pH	13.24 °C	2.84 mS/cm		1.41 NTU	-43.6 mV	16.02 ft	100.00 ml/min
5/19/2025 5:11 PM	42:42	6.15 pH	13.00 °C	2.80 mS/cm		1.03 NTU	-24.6 mV	16.02 ft	100.00 ml/min
5/19/2025 5:13 PM	44:45	6.14 pH	12.89 °C	2.71 mS/cm		2.98 NTU	-17.3 mV	16.02 ft	100.00 ml/min
5/19/2025 5:15 PM	46:48	6.13 pH	12.90 °C	2.77 mS/cm		7.19 NTU	-13.5 mV	16.28 ft	100.00 ml/min
5/19/2025 5:17 PM	48:05	6.13 pH	12.90 °C	2.78 mS/cm		34.63 NTU	-12.3 mV	16.28 ft	100.00 ml/min
5/19/2025 5:19 PM	50:08	6.12 pH	12.91 °C	2.77 mS/cm		55.44 NTU	-10.5 mV	16.28 ft	100.00 ml/min

## Samples

Sample ID:	Description:
MW19-GW-0525	1L plastic unpreserved x1

# Low-Flow Test Report:

Test Date / Time: 5/19/2025 3:47:52 PM

Project: Neal North MW-21

Operator Name: Paige Richards

<b>Location Name: MW-21</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 15 ft</b> <b>Top of Screen: 16.6 ft</b> <b>Total Depth: 31.6 ft</b> <b>Initial Depth to Water: 15.89 ft</b>	<b>Pump Type: Solinst Model 407 Bladder Pump</b> <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b> <b>Tubing Inner Diameter: 0.125 in</b> <b>Tubing Length: 27.3 ft</b> <b>Pump Intake From TOC: 29.3 ft</b> <b>Estimated Total Volume Pumped: 2016.667 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.73 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 1170039</b>
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## Test Notes:

Sample time: 1615

Water visually clear

## Weather Conditions:

Cloudy, 61 degrees F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
5/19/2025 3:47 PM	00:00	6.66 pH	13.28 °C	2.90 mS/cm		4.39 NTU	40.1 mV	15.89 ft	400.00 ml/min
5/19/2025 3:49 PM	02:01	6.40 pH	12.79 °C	2.87 mS/cm		0.00 NTU	49.9 mV	15.89 ft	150.00 ml/min
5/19/2025 3:51 PM	04:02	6.38 pH	12.85 °C	2.87 mS/cm		1.11 NTU	52.3 mV	16.30 ft	150.00 ml/min
5/19/2025 3:53 PM	06:03	6.37 pH	12.81 °C	2.87 mS/cm		0.77 NTU	53.5 mV	16.46 ft	150.00 ml/min
5/19/2025 3:55 PM	08:04	6.36 pH	12.75 °C	2.87 mS/cm		0.93 NTU	54.5 mV	16.46 ft	150.00 ml/min
5/19/2025 3:57 PM	10:05	6.35 pH	12.75 °C	2.86 mS/cm		0.93 NTU	55.4 mV	16.62 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW21-GW-0525

1L plastic unpreserved x1  
250mL plastic unpreserved x1  
250mL plastic w/ nitric x1

# Low-Flow Test Report:

**Test Date / Time:** 5/20/2025 10:08:25 AM

**Project:** Neal North MW-231SR

**Operator Name:** Paige Richards

<b>Location Name:</b> MW-231SR <b>Well Diameter:</b> 2 in <b>Casing Type:</b> PVC <b>Screen Length:</b> 15 ft <b>Top of Screen:</b> 14.07 ft <b>Total Depth:</b> 29.07 ft <b>Initial Depth to Water:</b> 23.2 ft	<b>Pump Type:</b> Solinst Model 407 Bladder Pump <b>Tubing Type:</b> Teflon-lined 1/4" x 1/4" twin-bonded tubing <b>Tubing Inner Diameter:</b> 0.125 in <b>Tubing Length:</b> 26.57 ft <b>Pump Intake From TOC:</b> 28.57 ft <b>Estimated Total Volume Pumped:</b> 10083.333 ml <b>Flow Cell Volume:</b> 130 ml <b>Final Flow Rate:</b> 200 ml/min <b>Final Draw Down:</b> 0.02 ft	<b>Instrument Used:</b> Aqua TROLL 600 Vented <b>Serial Number:</b> 1170039
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## Test Notes:

Sample time: 1110

Water visually clear

## Weather Conditions:

Cloudy, 53 degrees F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
5/20/2025 10:08 AM	00:00	6.77 pH	13.43 °C	1.15 mS/cm		35.33 NTU	8.6 mV	23.20 ft	200.00 ml/min
5/20/2025 10:10 AM	02:01	6.72 pH	12.80 °C	1.21 mS/cm		87.51 NTU	-49.3 mV	23.22 ft	200.00 ml/min
5/20/2025 10:12 AM	04:02	6.71 pH	12.68 °C	1.21 mS/cm		63.59 NTU	-62.3 mV	23.22 ft	200.00 ml/min
5/20/2025 10:14 AM	06:03	6.70 pH	12.61 °C	1.21 mS/cm		55.78 NTU	-67.7 mV	23.22 ft	200.00 ml/min
5/20/2025 10:16 AM	08:04	6.70 pH	12.54 °C	1.21 mS/cm		32.30 NTU	-70.3 mV	23.22 ft	200.00 ml/min
5/20/2025 10:18 AM	10:05	6.69 pH	12.52 °C	1.20 mS/cm		26.38 NTU	-71.3 mV	23.22 ft	200.00 ml/min
5/20/2025 10:20 AM	12:06	6.68 pH	12.54 °C	1.20 mS/cm		18.55 NTU	-72.2 mV	23.22 ft	200.00 ml/min
5/20/2025 10:22 AM	14:07	6.67 pH	12.54 °C	1.19 mS/cm		18.54 NTU	-72.6 mV	23.22 ft	200.00 ml/min
5/20/2025 10:24 AM	16:08	6.67 pH	12.57 °C	1.19 mS/cm		44.67 NTU	-73.5 mV	23.22 ft	200.00 ml/min
5/20/2025 10:26 AM	18:09	6.67 pH	12.51 °C	1.19 mS/cm		42.31 NTU	-73.0 mV	23.22 ft	200.00 ml/min

5/20/2025 10:28 AM	20:10	6.67 pH	12.53 °C	1.18 mS/cm		37.26 NTU	-72.8 mV	23.22 ft	200.00 ml/min
5/20/2025 10:30 AM	22:11	6.66 pH	12.54 °C	1.18 mS/cm		31.66 NTU	-72.0 mV	23.22 ft	200.00 ml/min
5/20/2025 10:32 AM	24:12	6.66 pH	12.53 °C	1.18 mS/cm		27.72 NTU	-71.3 mV	23.22 ft	200.00 ml/min
5/20/2025 10:34 AM	26:13	6.66 pH	12.51 °C	1.18 mS/cm		24.07 NTU	-70.6 mV	23.22 ft	200.00 ml/min
5/20/2025 10:36 AM	28:14	6.66 pH	12.48 °C	1.17 mS/cm		21.63 NTU	-70.0 mV	23.22 ft	200.00 ml/min
5/20/2025 10:38 AM	30:15	6.66 pH	12.49 °C	1.17 mS/cm		21.87 NTU	-69.4 mV	23.22 ft	200.00 ml/min
5/20/2025 10:40 AM	32:16	6.66 pH	12.52 °C	1.17 mS/cm		19.15 NTU	-68.7 mV	23.22 ft	200.00 ml/min
5/20/2025 10:42 AM	34:17	6.67 pH	12.49 °C	1.17 mS/cm		15.15 NTU	-68.5 mV	23.22 ft	200.00 ml/min
5/20/2025 10:44 AM	36:18	6.66 pH	12.49 °C	1.17 mS/cm		10.03 NTU	-68.4 mV	23.22 ft	200.00 ml/min
5/20/2025 10:46 AM	38:19	6.66 pH	12.52 °C	1.17 mS/cm		13.69 NTU	-67.6 mV	23.22 ft	200.00 ml/min
5/20/2025 10:48 AM	40:20	6.66 pH	12.60 °C	1.17 mS/cm		12.06 NTU	-67.1 mV	23.22 ft	200.00 ml/min
5/20/2025 10:50 AM	42:21	6.67 pH	12.67 °C	1.16 mS/cm		7.52 NTU	-67.2 mV	23.22 ft	200.00 ml/min
5/20/2025 10:52 AM	44:22	6.66 pH	12.67 °C	1.16 mS/cm		10.38 NTU	-66.6 mV	23.22 ft	200.00 ml/min
5/20/2025 10:54 AM	46:23	6.66 pH	12.71 °C	1.16 mS/cm		6.93 NTU	-65.4 mV	23.22 ft	200.00 ml/min
5/20/2025 10:56 AM	48:24	6.66 pH	12.73 °C	1.16 mS/cm		8.06 NTU	-65.0 mV	23.22 ft	200.00 ml/min
5/20/2025 10:58 AM	50:25	6.66 pH	12.75 °C	1.16 mS/cm		3.67 NTU	-65.3 mV	23.22 ft	200.00 ml/min

## Samples

Sample ID:	Description:
MW231SR-GW-0525	1L plastic unpreserved x1

# Low-Flow Test Report:

**Test Date / Time:** 9/19/2025 7:16:18 AM

**Project:** Neal North MW-1R

**Operator Name:** Paige Richards

<p><b>Location Name:</b> MW-1R  <b>Well Diameter:</b> 2 in  <b>Casing Type:</b> PVC  <b>Screen Length:</b> 25 ft  <b>Top of Screen:</b> 11.94 ft  <b>Total Depth:</b> 36.95 ft  <b>Initial Depth to Water:</b> 22.09 ft</p>	<p><b>Pump Type:</b> Solinst Model 407  <b>Bladder Pump</b>  <b>Tubing Type:</b> Teflon-lined 1/4" x 1/4" twin-bonded tubing  <b>Tubing Inner Diameter:</b> 0.125 in  <b>Tubing Length:</b> 34.35 ft  <b>Pump Intake From TOC:</b> 36.35 ft  <b>Estimated Total Volume Pumped:</b> 22166.666 ml  <b>Flow Cell Volume:</b> 130 ml  <b>Final Flow Rate:</b> 250 ml/min  <b>Final Draw Down:</b> 0.02 ft</p>	<p><b>Instrument Used:</b> Aqua TROLL 600  <b>Vented</b>  <b>Serial Number:</b> 1050309</p>
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**Test Notes:**

Sample time: 0915

Water visually clear, turbidity after sample collection: 8.87 NTU @ 0918

**Weather Conditions:**

Cloudy, 59 degrees F

**Low-Flow Readings:**

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
9/19/2025 7:16 AM	00:00	6.84 pH	14.45 °C	1.32 mS/cm	5.70 mg/L	134.53 NTU	-60.5 mV	22.09 ft	250.00 ml/min
9/19/2025 7:18 AM	02:06	6.86 pH	13.05 °C	1.27 mS/cm	0.20 mg/L	37.20 NTU	-105.0 mV	22.11 ft	250.00 ml/min
9/19/2025 7:20 AM	04:12	6.90 pH	12.90 °C	1.27 mS/cm	0.06 mg/L	57.87 NTU	-115.4 mV	22.11 ft	250.00 ml/min
9/19/2025 7:22 AM	06:18	6.93 pH	12.95 °C	1.27 mS/cm	0.05 mg/L	345.77 NTU	-120.3 mV	22.11 ft	250.00 ml/min
9/19/2025 7:24 AM	08:24	6.94 pH	12.83 °C	1.27 mS/cm	0.04 mg/L	753.41 NTU	-124.6 mV	22.11 ft	250.00 ml/min
9/19/2025 7:26 AM	10:30	6.96 pH	12.82 °C	1.27 mS/cm	0.03 mg/L	256.71 NTU	-129.0 mV	22.11 ft	250.00 ml/min
9/19/2025 7:28 AM	12:36	6.95 pH	12.83 °C	1.27 mS/cm	0.02 mg/L	144.50 NTU	-128.6 mV	22.11 ft	250.00 ml/min
9/19/2025 7:31 AM	14:42	6.93 pH	12.81 °C	1.28 mS/cm	0.01 mg/L	167.26 NTU	-126.8 mV	22.11 ft	250.00 ml/min
9/19/2025 7:33 AM	16:48	6.93 pH	12.81 °C	1.28 mS/cm	0.00 mg/L	123.10 NTU	-126.9 mV	22.11 ft	250.00 ml/min
9/19/2025 7:35 AM	18:54	6.93 pH	12.82 °C	1.28 mS/cm	0.00 mg/L	38.53 NTU	-128.1 mV	22.11 ft	250.00 ml/min

9/19/2025 7:37 AM	21:00	6.92 pH	12.77 °C	1.29 mS/cm	0.00 mg/L	40.51 NTU	-128.3 mV	22.11 ft	250.00 ml/min
9/19/2025 7:39 AM	23:06	6.92 pH	12.81 °C	1.29 mS/cm	0.00 mg/L	63.16 NTU	-128.4 mV	22.11 ft	250.00 ml/min
9/19/2025 7:41 AM	25:12	6.92 pH	12.79 °C	1.29 mS/cm	0.00 mg/L	52.04 NTU	-129.4 mV	22.11 ft	250.00 ml/min
9/19/2025 7:43 AM	27:18	6.92 pH	12.82 °C	1.30 mS/cm	0.00 mg/L	27.28 NTU	-130.1 mV	22.11 ft	250.00 ml/min
9/19/2025 7:45 AM	29:24	6.92 pH	12.83 °C	1.29 mS/cm	0.00 mg/L	27.48 NTU	-131.4 mV	22.11 ft	250.00 ml/min
9/19/2025 7:47 AM	31:30	6.92 pH	12.79 °C	1.30 mS/cm	0.00 mg/L	32.13 NTU	-131.6 mV	22.11 ft	250.00 ml/min
9/19/2025 7:49 AM	33:36	6.92 pH	12.84 °C	1.30 mS/cm	0.00 mg/L	19.38 NTU	-132.3 mV	22.11 ft	250.00 ml/min
9/19/2025 7:52 AM	35:42	6.94 pH	12.86 °C	1.29 mS/cm	0.00 mg/L	64.16 NTU	-133.8 mV	22.11 ft	250.00 ml/min
9/19/2025 7:54 AM	37:48	6.93 pH	12.82 °C	1.30 mS/cm	0.00 mg/L	16.45 NTU	-133.9 mV	22.11 ft	250.00 ml/min
9/19/2025 7:56 AM	39:54	6.93 pH	12.86 °C	1.30 mS/cm	0.00 mg/L	46.99 NTU	-134.4 mV	22.11 ft	250.00 ml/min
9/19/2025 7:58 AM	42:00	6.93 pH	12.84 °C	1.30 mS/cm	0.00 mg/L	16.67 NTU	-134.6 mV	22.11 ft	250.00 ml/min
9/19/2025 8:00 AM	44:06	6.93 pH	12.86 °C	1.30 mS/cm	0.00 mg/L	22.52 NTU	-135.0 mV	22.11 ft	250.00 ml/min
9/19/2025 8:02 AM	46:12	6.94 pH	12.87 °C	1.30 mS/cm	0.00 mg/L	14.26 NTU	-135.7 mV	22.11 ft	250.00 ml/min
9/19/2025 8:04 AM	48:18	6.94 pH	12.87 °C	1.30 mS/cm	0.00 mg/L	14.11 NTU	-135.9 mV	22.11 ft	250.00 ml/min
9/19/2025 8:06 AM	50:24	6.95 pH	12.87 °C	1.30 mS/cm	0.00 mg/L	26.86 NTU	-136.7 mV	22.11 ft	250.00 ml/min
9/19/2025 8:08 AM	52:30	6.96 pH	12.84 °C	1.31 mS/cm	0.00 mg/L	15.71 NTU	-137.3 mV	22.11 ft	250.00 ml/min
9/19/2025 8:10 AM	54:36	6.96 pH	12.87 °C	1.30 mS/cm	0.00 mg/L	15.98 NTU	-137.6 mV	22.11 ft	250.00 ml/min
9/19/2025 8:13 AM	56:42	6.97 pH	12.88 °C	1.30 mS/cm	0.00 mg/L	19.17 NTU	-138.3 mV	22.11 ft	250.00 ml/min
9/19/2025 8:15 AM	58:48	6.98 pH	12.87 °C	1.30 mS/cm	0.00 mg/L	24.27 NTU	-138.9 mV	22.11 ft	250.00 ml/min
9/19/2025 8:17 AM	01:00:54	6.98 pH	12.91 °C	1.30 mS/cm	0.00 mg/L	20.65 NTU	-139.4 mV	22.11 ft	250.00 ml/min
9/19/2025 8:19 AM	01:03:28	6.99 pH	13.00 °C	1.30 mS/cm	3.36 mg/L	16.44 NTU	-125.3 mV	22.11 ft	250.00 ml/min
9/19/2025 8:21 AM	01:05:34	6.98 pH	12.93 °C	1.30 mS/cm	0.02 mg/L	23.83 NTU	-130.7 mV	22.11 ft	250.00 ml/min
9/19/2025 8:23 AM	01:07:40	6.99 pH	12.92 °C	1.30 mS/cm	0.00 mg/L	12.29 NTU	-133.6 mV	22.11 ft	250.00 ml/min
9/19/2025 8:26 AM	01:09:46	6.99 pH	12.92 °C	1.30 mS/cm	0.00 mg/L	18.04 NTU	-135.4 mV	22.11 ft	250.00 ml/min
9/19/2025 8:28 AM	01:11:52	6.99 pH	12.91 °C	1.30 mS/cm	0.00 mg/L	12.78 NTU	-136.2 mV	22.11 ft	250.00 ml/min
9/19/2025 8:30 AM	01:13:58	6.99 pH	12.93 °C	1.31 mS/cm	0.00 mg/L	9.37 NTU	-136.8 mV	22.11 ft	250.00 ml/min
9/19/2025 8:32 AM	01:16:04	7.00 pH	12.85 °C	1.31 mS/cm	0.00 mg/L	8.84 NTU	-137.6 mV	22.11 ft	250.00 ml/min
9/19/2025 8:34 AM	01:18:10	7.00 pH	12.90 °C	1.31 mS/cm	0.00 mg/L	10.48 NTU	-138.0 mV	22.11 ft	250.00 ml/min
9/19/2025 8:36 AM	01:20:16	7.00 pH	12.94 °C	1.31 mS/cm	0.00 mg/L	14.52 NTU	-138.5 mV	22.11 ft	250.00 ml/min

9/19/2025 8:38 AM	01:22:22	7.00 pH	12.93 °C	1.31 mS/cm	0.00 mg/L	14.83 NTU	-139.2 mV	22.11 ft	250.00 ml/min
9/19/2025 8:40 AM	01:24:28	7.00 pH	12.93 °C	1.31 mS/cm	0.00 mg/L	13.10 NTU	-139.2 mV	22.11 ft	250.00 ml/min
9/19/2025 8:42 AM	01:26:34	7.01 pH	12.91 °C	1.31 mS/cm	0.00 mg/L	12.20 NTU	-139.8 mV	22.11 ft	250.00 ml/min
9/19/2025 8:44 AM	01:28:40	7.01 pH	12.89 °C	1.31 mS/cm	0.00 mg/L	8.10 NTU	-139.5 mV	22.11 ft	250.00 ml/min

## Samples

Sample ID:	Description:
MW1R-GW-0925	1L plastic w/ nitric x2 1L plastic unpreserved x1 250mL plastic w/ nitric x1 250mL plastic unpreserved x1
DP05-GW-0925	1L plastic w/ nitric x2 1L plastic unpreserved x1 250mL plastic w/ nitric x1 250mL plastic unpreserved x1

# Low-Flow Test Report:

**Test Date / Time:** 9/19/2025 9:34:01 AM

**Project:** Neal North MW-3R

**Operator Name:** Paige Richards

<p><b>Location Name: MW-3R</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 25 ft</b>  <b>Top of Screen: 11.64 ft</b>  <b>Total Depth: 36.6 ft</b>  <b>Initial Depth to Water: 19.67 ft</b></p>	<p><b>Pump Type: Solinst Model 407 Bladder Pump</b>  <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b>  <b>Tubing Inner Diameter: 0.125 in</b>  <b>Tubing Length: 34 ft</b>  <b>Pump Intake From TOC: 36 ft</b>  <b>Estimated Total Volume Pumped: 15225 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 250 ml/min</b>  <b>Final Draw Down: 0 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 1050309</b></p>
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**Test Notes:**

Sample time: 1100

Water visually clear

**Weather Conditions:**

Cloudy, misty, 62 degrees F

**Low-Flow Readings:**

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
9/19/2025 9:34 AM	00:00	7.16 pH	13.51 °C	1.16 mS/cm	3.29 mg/L	41.51 NTU	-109.6 mV	19.67 ft	250.00 ml/min
9/19/2025 9:36 AM	02:06	7.19 pH	13.35 °C	1.17 mS/cm	0.37 mg/L	72.11 NTU	-127.8 mV	19.67 ft	250.00 ml/min
9/19/2025 9:38 AM	04:12	7.18 pH	13.30 °C	1.16 mS/cm	0.17 mg/L	67.85 NTU	-130.8 mV	19.67 ft	250.00 ml/min
9/19/2025 9:40 AM	06:18	7.17 pH	13.19 °C	1.15 mS/cm	0.11 mg/L	57.26 NTU	-132.0 mV	19.67 ft	250.00 ml/min
9/19/2025 9:42 AM	08:24	7.16 pH	13.21 °C	1.12 mS/cm	0.08 mg/L	42.51 NTU	-132.3 mV	19.67 ft	250.00 ml/min
9/19/2025 9:44 AM	10:30	7.15 pH	13.11 °C	1.10 mS/cm	0.06 mg/L	46.84 NTU	-132.2 mV	19.67 ft	250.00 ml/min
9/19/2025 9:46 AM	12:36	7.14 pH	13.18 °C	1.08 mS/cm	0.04 mg/L	83.00 NTU	-132.0 mV	19.67 ft	250.00 ml/min
9/19/2025 9:48 AM	14:42	7.13 pH	13.17 °C	1.06 mS/cm	0.03 mg/L	51.86 NTU	-131.9 mV	19.67 ft	250.00 ml/min
9/19/2025 9:50 AM	16:48	7.12 pH	13.14 °C	1.04 mS/cm	0.02 mg/L	46.98 NTU	-131.5 mV	19.67 ft	250.00 ml/min
9/19/2025 9:52 AM	18:54	7.12 pH	13.17 °C	1.03 mS/cm	0.15 mg/L	70.28 NTU	-130.6 mV	19.67 ft	250.00 ml/min

9/19/2025 9:55 AM	21:00	7.11 pH	13.19 °C	1.02 mS/cm	0.02 mg/L	29.08 NTU	-130.6 mV	19.67 ft	250.00 ml/min
9/19/2025 9:57 AM	23:06	7.10 pH	13.15 °C	1.01 mS/cm	0.00 mg/L	34.42 NTU	-130.1 mV	19.67 ft	250.00 ml/min
9/19/2025 9:59 AM	25:12	7.09 pH	13.18 °C	1.01 mS/cm	0.00 mg/L	50.77 NTU	-129.9 mV	19.67 ft	250.00 ml/min
9/19/2025 10:01 AM	27:18	7.08 pH	13.14 °C	1.01 mS/cm	0.00 mg/L	30.88 NTU	-129.7 mV	19.67 ft	250.00 ml/min
9/19/2025 10:03 AM	29:24	7.08 pH	13.16 °C	1.01 mS/cm	0.00 mg/L	28.71 NTU	-129.6 mV	19.67 ft	250.00 ml/min
9/19/2025 10:05 AM	31:30	7.07 pH	13.18 °C	1.01 mS/cm	0.00 mg/L	32.15 NTU	-129.5 mV	19.67 ft	250.00 ml/min
9/19/2025 10:07 AM	33:36	7.07 pH	13.15 °C	1.01 mS/cm	0.00 mg/L	12.65 NTU	-129.4 mV	19.67 ft	250.00 ml/min
9/19/2025 10:09 AM	35:42	7.06 pH	13.19 °C	1.01 mS/cm	0.00 mg/L	15.56 NTU	-129.4 mV	19.67 ft	250.00 ml/min
9/19/2025 10:11 AM	37:48	7.07 pH	13.18 °C	1.01 mS/cm	0.00 mg/L	17.18 NTU	-129.8 mV	19.67 ft	250.00 ml/min
9/19/2025 10:13 AM	39:54	7.06 pH	13.14 °C	1.01 mS/cm	0.00 mg/L	19.06 NTU	-129.5 mV	19.67 ft	250.00 ml/min
9/19/2025 10:16 AM	42:00	7.06 pH	13.16 °C	1.01 mS/cm	0.00 mg/L	9.65 NTU	-129.6 mV	19.67 ft	250.00 ml/min
9/19/2025 10:18 AM	44:06	7.06 pH	13.13 °C	1.01 mS/cm	0.00 mg/L	25.49 NTU	-129.8 mV	19.67 ft	250.00 ml/min
9/19/2025 10:20 AM	46:12	7.06 pH	13.18 °C	1.01 mS/cm	0.00 mg/L	28.59 NTU	-130.1 mV	19.67 ft	250.00 ml/min
9/19/2025 10:22 AM	48:18	7.07 pH	13.18 °C	1.01 mS/cm	0.00 mg/L	13.82 NTU	-130.4 mV	19.67 ft	250.00 ml/min
9/19/2025 10:24 AM	50:24	7.07 pH	13.15 °C	1.01 mS/cm	0.00 mg/L	13.90 NTU	-130.6 mV	19.67 ft	250.00 ml/min
9/19/2025 10:26 AM	52:30	7.07 pH	13.20 °C	1.01 mS/cm	0.00 mg/L	14.17 NTU	-131.0 mV	19.67 ft	250.00 ml/min
9/19/2025 10:28 AM	54:36	7.09 pH	13.17 °C	1.01 mS/cm	0.00 mg/L	9.40 NTU	-131.6 mV	19.67 ft	250.00 ml/min
9/19/2025 10:30 AM	56:42	7.08 pH	13.17 °C	1.00 mS/cm	0.00 mg/L	15.64 NTU	-131.5 mV	19.67 ft	250.00 ml/min
9/19/2025 10:32 AM	58:48	7.09 pH	13.15 °C	1.01 mS/cm	0.00 mg/L	10.36 NTU	-131.8 mV	19.67 ft	250.00 ml/min
9/19/2025 10:34 AM	01:00:54	7.09 pH	13.16 °C	1.01 mS/cm	0.00 mg/L	4.84 NTU	-132.2 mV	19.67 ft	250.00 ml/min

## Samples

Sample ID:	Description:
MW3R-GW-0925	1L plastic w/ nitric x2 1L plastic unpreserved x1 250mL plastic w/ nitric x1 250mL plastic unpreserved x1

# Low-Flow Test Report:

**Test Date / Time:** 9/19/2025 11:08:22 AM

**Project:** Neal North MW-5R

**Operator Name:** Paige Richards

<b>Location Name:</b> MW-5R <b>Well Diameter:</b> 2 in <b>Casing Type:</b> PVC <b>Screen Length:</b> 25 ft <b>Top of Screen:</b> 11.64 ft <b>Total Depth:</b> 36.7 ft <b>Initial Depth to Water:</b> 23.61 ft	<b>Pump Type:</b> Solinst Model 407 Bladder Pump <b>Tubing Type:</b> Teflon-lined 1/4" x 1/4" twin-bonded tubing <b>Tubing Inner Diameter:</b> 0.125 in <b>Tubing Length:</b> 32.4 ft <b>Pump Intake From TOC:</b> 34.4 ft <b>Estimated Total Volume Pumped:</b> 4687.5 ml <b>Flow Cell Volume:</b> 130 ml <b>Final Flow Rate:</b> 150 ml/min <b>Final Draw Down:</b> 0 ft	<b>Instrument Used:</b> Aqua TROLL 600 Vented <b>Serial Number:</b> 1050309
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## Test Notes:

Sample time: 1215

Water visually clear

## Weather Conditions:

Cloudy, 66 degrees F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
9/19/2025 11:08 AM	00:00	7.33 pH	16.12 °C	0.86 mS/cm	9.27 mg/L	54.08 NTU	-14.3 mV	23.61 ft	150.00 ml/min
9/19/2025 11:10 AM	02:05	7.27 pH	14.88 °C	0.86 mS/cm	2.14 mg/L	46.58 NTU	-102.3 mV	23.61 ft	150.00 ml/min
9/19/2025 11:12 AM	04:10	7.29 pH	14.55 °C	0.85 mS/cm	0.77 mg/L	29.67 NTU	-119.2 mV	23.61 ft	150.00 ml/min
9/19/2025 11:14 AM	06:15	7.28 pH	14.39 °C	0.85 mS/cm	0.48 mg/L	37.95 NTU	-125.5 mV	23.61 ft	150.00 ml/min
9/19/2025 11:16 AM	08:20	7.27 pH	14.42 °C	0.85 mS/cm	0.40 mg/L	28.92 NTU	-128.6 mV	23.61 ft	150.00 ml/min
9/19/2025 11:18 AM	10:25	7.26 pH	14.44 °C	0.85 mS/cm	0.35 mg/L	17.17 NTU	-130.5 mV	23.61 ft	150.00 ml/min
9/19/2025 11:20 AM	12:30	7.25 pH	14.40 °C	0.86 mS/cm	0.33 mg/L	30.65 NTU	-131.3 mV	23.61 ft	150.00 ml/min
9/19/2025 11:22 AM	14:35	7.24 pH	14.42 °C	0.85 mS/cm	0.32 mg/L	19.54 NTU	-131.8 mV	23.61 ft	150.00 ml/min
9/19/2025 11:25 AM	16:40	7.23 pH	14.50 °C	0.85 mS/cm	0.31 mg/L	9.31 NTU	-132.5 mV	23.61 ft	150.00 ml/min
9/19/2025 11:27 AM	18:45	7.22 pH	14.42 °C	0.85 mS/cm	0.29 mg/L	12.81 NTU	-132.9 mV	23.61 ft	150.00 ml/min

9/19/2025 11:29 AM	20:50	7.21 pH	14.46 °C	0.85 mS/cm	0.25 mg/L	11.09 NTU	-132.8 mV	23.61 ft	150.00 ml/min
9/19/2025 11:31 AM	22:55	7.21 pH	14.43 °C	0.85 mS/cm	0.23 mg/L	10.20 NTU	-133.0 mV	23.61 ft	150.00 ml/min
9/19/2025 11:33 AM	25:00	7.19 pH	14.40 °C	0.85 mS/cm	0.21 mg/L	9.36 NTU	-133.1 mV	23.61 ft	150.00 ml/min
9/19/2025 11:35 AM	27:05	7.19 pH	14.44 °C	0.85 mS/cm	0.22 mg/L	5.39 NTU	-132.8 mV	23.61 ft	150.00 ml/min
9/19/2025 11:37 AM	29:10	7.18 pH	14.42 °C	0.85 mS/cm	0.22 mg/L	8.99 NTU	-132.7 mV	23.61 ft	150.00 ml/min
9/19/2025 11:39 AM	31:15	7.18 pH	14.44 °C	0.85 mS/cm	0.22 mg/L	4.38 NTU	-132.7 mV	23.61 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW5R-GW-0925	1L plastic w/ nitric x2 1L plastic unpreserved x1 250mL plastic w/ nitric x1 250mL plastic unpreserved x1

# Low-Flow Test Report:

**Test Date / Time:** 9/17/2025 2:01:51 PM

**Project:** Neal North MW-13R

**Operator Name:** Thao Larson

<p><b>Location Name: MW-13R</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 15 ft</b>  <b>Top of Screen: 23.2 ft</b>  <b>Total Depth: 38.2 ft</b>  <b>Initial Depth to Water: 29.05 ft</b></p>	<p><b>Pump Type: Solinst Model 407 Bladder Pump</b>  <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b>  <b>Tubing Inner Diameter: 0.125 in</b>  <b>Tubing Length: 35.7 ft</b>  <b>Pump Intake From TOC: 37.7 ft</b>  <b>Estimated Total Volume Pumped: 23706.666 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 400 ml/min</b>  <b>Final Draw Down: 0 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600</b>  <b>Serial Number: 876572</b></p>
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**Test Notes:**

Sample time 1515

**Weather Conditions:**

Overcast 73°F

**Low-Flow Readings:**

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
9/17/2025 2:01 PM	00:00	7.106 pH	16.23 °C	0.874 mS/cm	4.247 mg/L	2,190 NTU	-57.3 mV	29.05 ft	400.0 ml/min
9/17/2025 2:03 PM	02:07	7.047 pH	13.68 °C	0.857 mS/cm	0.572 mg/L	361.9 NTU	-85.0 mV	29.05 ft	400.0 ml/min
9/17/2025 2:06 PM	04:14	7.044 pH	13.74 °C	0.859 mS/cm	0.372 mg/L	86.28 NTU	-89.1 mV	29.05 ft	400.0 ml/min
9/17/2025 2:08 PM	06:21	7.056 pH	13.47 °C	0.871 mS/cm	0.310 mg/L	31.37 NTU	-91.0 mV	29.05 ft	400.0 ml/min
9/17/2025 2:10 PM	08:28	7.045 pH	13.55 °C	0.873 mS/cm	0.267 mg/L	37.56 NTU	-91.4 mV	29.05 ft	400.0 ml/min
9/17/2025 2:12 PM	10:35	7.040 pH	13.55 °C	0.874 mS/cm	0.232 mg/L	32.12 NTU	-92.1 mV	29.05 ft	400.0 ml/min
9/17/2025 2:14 PM	12:42	7.039 pH	13.53 °C	0.871 mS/cm	0.209 mg/L	16.05 NTU	-92.9 mV	29.05 ft	400.0 ml/min
9/17/2025 2:16 PM	14:49	7.036 pH	13.58 °C	0.876 mS/cm	0.190 mg/L	41.33 NTU	-93.1 mV	29.05 ft	400.0 ml/min
9/17/2025 2:18 PM	16:56	7.036 pH	13.49 °C	0.877 mS/cm	0.179 mg/L	13.56 NTU	-93.6 mV	29.05 ft	400.0 ml/min
9/17/2025 2:20 PM	19:03	7.041 pH	13.51 °C	0.879 mS/cm	0.161 mg/L	35.55 NTU	-94.2 mV	29.05 ft	400.0 ml/min
9/17/2025 2:23 PM	21:10	7.049 pH	13.43 °C	0.876 mS/cm	0.149 mg/L	33.81 NTU	-95.2 mV	29.05 ft	400.0 ml/min

9/17/2025 2:25 PM	23:17	7.054 pH	13.47 °C	0.879 mS/cm	0.138 mg/L	21.88 NTU	-96.0 mV	29.05 ft	400.0 ml/min
9/17/2025 2:27 PM	25:24	7.067 pH	13.41 °C	0.881 mS/cm	0.407 mg/L	18.56 NTU	-91.6 mV	29.05 ft	400.0 ml/min
9/17/2025 2:29 PM	27:31	7.078 pH	13.47 °C	0.881 mS/cm	0.155 mg/L	12.22 NTU	-94.3 mV	29.05 ft	400.0 ml/min
9/17/2025 2:31 PM	29:38	7.093 pH	13.46 °C	0.880 mS/cm	0.134 mg/L	11.76 NTU	-95.9 mV	29.05 ft	400.0 ml/min
9/17/2025 2:33 PM	31:45	7.104 pH	13.44 °C	0.882 mS/cm	0.113 mg/L	11.74 NTU	-97.2 mV	29.05 ft	400.0 ml/min
9/17/2025 2:35 PM	33:52	7.111 pH	13.54 °C	0.883 mS/cm	0.103 mg/L	10.08 NTU	-97.9 mV	29.05 ft	400.0 ml/min
9/17/2025 2:37 PM	35:59	7.119 pH	13.42 °C	0.883 mS/cm	0.100 mg/L	9.746 NTU	-98.8 mV	29.05 ft	400.0 ml/min
9/17/2025 2:39 PM	38:06	7.125 pH	13.46 °C	0.885 mS/cm	0.094 mg/L	11.24 NTU	-99.3 mV	29.05 ft	400.0 ml/min
9/17/2025 2:42 PM	40:13	7.128 pH	13.37 °C	0.887 mS/cm	0.090 mg/L	9.698 NTU	-99.5 mV	29.05 ft	400.0 ml/min
9/17/2025 2:44 PM	42:20	7.132 pH	13.43 °C	0.883 mS/cm	0.085 mg/L	9.558 NTU	-100.1 mV	29.05 ft	400.0 ml/min
9/17/2025 2:46 PM	44:27	7.139 pH	13.40 °C	0.882 mS/cm	0.081 mg/L	8.571 NTU	-101.0 mV	29.05 ft	400.0 ml/min
9/17/2025 2:48 PM	46:34	7.137 pH	13.40 °C	0.887 mS/cm	0.076 mg/L	12.93 NTU	-101.0 mV	29.05 ft	400.0 ml/min
9/17/2025 2:50 PM	48:41	7.143 pH	13.42 °C	0.883 mS/cm	0.075 mg/L	6.220 NTU	-101.4 mV	29.05 ft	400.0 ml/min
9/17/2025 2:52 PM	50:48	7.149 pH	13.40 °C	0.884 mS/cm	0.072 mg/L	7.914 NTU	-102.1 mV	29.05 ft	400.0 ml/min
9/17/2025 2:54 PM	52:55	7.151 pH	13.49 °C	0.883 mS/cm	0.069 mg/L	6.693 NTU	-102.0 mV	29.05 ft	400.0 ml/min
9/17/2025 2:56 PM	55:02	7.153 pH	13.42 °C	0.884 mS/cm	0.068 mg/L	5.735 NTU	-102.4 mV	29.05 ft	400.0 ml/min
9/17/2025 2:59 PM	57:09	7.151 pH	13.43 °C	0.890 mS/cm	0.068 mg/L	6.053 NTU	-102.2 mV	29.05 ft	400.0 ml/min
9/17/2025 3:01 PM	59:16	7.161 pH	13.37 °C	0.882 mS/cm	0.064 mg/L	4.705 NTU	-103.2 mV	29.05 ft	400.0 ml/min

## Samples

Sample ID:	Description:
MW13R-GW-0925	Background
MW13R-GW-0925 MS	Background
MW13R-GW-0925 MSD	Background

# Low-Flow Test Report:

Test Date / Time: 9/19/2025 9:28:36 AM

Project: Neal North MW-19

Operator Name: Thao Larson

<b>Location Name: MW-19</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 18.9 ft</b> <b>Total Depth: 28.9 ft</b> <b>Initial Depth to Water: 12.44 ft</b>	<b>Pump Type: Solinst Model 407</b> <b>Bladder Pump</b> <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b> <b>Tubing Inner Diameter: 0.125 in</b> <b>Tubing Length: 22.6 ft</b> <b>Pump Intake From TOC: 24.6 ft</b> <b>Estimated Total Volume Pumped: 3933.333 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 3.93 ft</b>	<b>Instrument Used: Aqua TROLL 600</b> <b>Serial Number: 876572</b>
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## Test Notes:

Sample time 1000

## Weather Conditions:

Overcast 59°F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
9/19/2025 9:28 AM	00:00	6.718 pH	14.23 °C	3.232 mS/cm	3.941 mg/L	16.59 NTU	-5.1 mV	12.44 ft	200.0 ml/min
9/19/2025 9:30 AM	01:58	6.638 pH	13.65 °C	3.252 mS/cm	0.740 mg/L	6.289 NTU	-20.6 mV	13.16 ft	200.0 ml/min
9/19/2025 9:32 AM	03:56	6.681 pH	13.40 °C	3.117 mS/cm	0.356 mg/L	3.915 NTU	-33.5 mV	13.75 ft	200.0 ml/min
9/19/2025 9:34 AM	05:54	6.720 pH	13.38 °C	2.971 mS/cm	0.258 mg/L	3.470 NTU	-41.7 mV	14.31 ft	200.0 ml/min
9/19/2025 9:36 AM	07:52	6.737 pH	13.43 °C	2.848 mS/cm	0.241 mg/L	3.134 NTU	-43.2 mV	14.82 ft	200.0 ml/min
9/19/2025 9:38 AM	09:50	6.737 pH	13.37 °C	2.737 mS/cm	0.230 mg/L	3.000 NTU	-38.8 mV	14.82 ft	200.0 ml/min
9/19/2025 9:40 AM	11:48	6.727 pH	13.37 °C	2.636 mS/cm	0.221 mg/L	3.067 NTU	-29.5 mV	15.30 ft	200.0 ml/min
9/19/2025 9:42 AM	13:46	6.709 pH	13.47 °C	2.561 mS/cm	0.217 mg/L	3.006 NTU	-14.4 mV	15.56 ft	200.0 ml/min
9/19/2025 9:44 AM	15:44	6.694 pH	13.54 °C	2.502 mS/cm	0.220 mg/L	2.613 NTU	-3.6 mV	15.83 ft	200.0 ml/min
9/19/2025 9:46 AM	17:42	6.689 pH	13.56 °C	2.466 mS/cm	0.219 mg/L	2.568 NTU	-0.5 mV	16.10 ft	200.0 ml/min
9/19/2025 9:48 AM	19:40	6.689 pH	13.65 °C	2.432 mS/cm	0.222 mg/L	2.525 NTU	0.2 mV	16.37 ft	200.0 ml/min

**Samples**

Sample ID:	Description:
MW19-GW-0925	APP III & IV

# Low-Flow Test Report:

Test Date / Time: 9/19/2025 8:40:36 AM

Project: Neal North MW-21

Operator Name: Thao Larson

<b>Location Name: MW-21</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 15 ft</b> <b>Top of Screen: 16.6 ft</b> <b>Total Depth: 31.6 ft</b> <b>Initial Depth to Water: 18.66 ft</b>	<b>Pump Type: Solinst Model 407</b> <b>Bladder Pump</b> <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b> <b>Tubing Inner Diameter: 0.125 in</b> <b>Tubing Length: 27.3 ft</b> <b>Pump Intake From TOC: 29.3 ft</b> <b>Estimated Total Volume Pumped: 4033.333 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 1.7 ft</b>	<b>Instrument Used: Aqua TROLL 600</b> <b>Serial Number: 876572</b>
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## Test Notes:

Sample time 0910

## Weather Conditions:

Overcast 59°F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
9/19/2025 8:40 AM	00:00	6.807 pH	13.23 °C	2.791 mS/cm	3.782 mg/L	2.949 NTU	41.9 mV	18.66 ft	400.0 ml/min
9/19/2025 8:42 AM	02:01	6.711 pH	12.17 °C	2.808 mS/cm	0.669 mg/L	2.628 NTU	78.8 mV	19.34 ft	200.0 ml/min
9/19/2025 8:44 AM	04:02	6.705 pH	12.50 °C	2.851 mS/cm	0.443 mg/L	2.436 NTU	92.4 mV	19.53 ft	200.0 ml/min
9/19/2025 8:46 AM	06:03	6.703 pH	12.65 °C	2.848 mS/cm	0.255 mg/L	2.424 NTU	100.5 mV	19.53 ft	200.0 ml/min
9/19/2025 8:48 AM	08:04	6.705 pH	12.67 °C	2.848 mS/cm	0.395 mg/L	2.313 NTU	106.3 mV	19.70 ft	200.0 ml/min
9/19/2025 8:50 AM	10:05	6.706 pH	12.61 °C	2.826 mS/cm	0.488 mg/L	2.328 NTU	110.7 mV	19.83 ft	200.0 ml/min
9/19/2025 8:52 AM	12:06	6.716 pH	12.66 °C	2.781 mS/cm	0.533 mg/L	2.341 NTU	113.9 mV	19.83 ft	200.0 ml/min
9/19/2025 8:54 AM	14:07	6.733 pH	12.66 °C	2.720 mS/cm	0.502 mg/L	2.318 NTU	116.2 mV	19.97 ft	200.0 ml/min
9/19/2025 8:56 AM	16:08	6.734 pH	12.63 °C	2.698 mS/cm	0.488 mg/L	2.282 NTU	118.5 mV	20.15 ft	200.0 ml/min
9/19/2025 8:58 AM	18:09	6.736 pH	12.65 °C	2.689 mS/cm	0.474 mg/L	2.236 NTU	120.4 mV	20.36 ft	200.0 ml/min

**Samples**

Sample ID:	Description:
MW21-GW-0925	APP III & IV

# Low-Flow Test Report:

Test Date / Time: 9/16/2025 4:33:00 PM

Project: Neal North MW-27

Operator Name: Paige Richards/Thao Larson

<b>Location Name: MW-27</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 23.7 ft</b> <b>Total Depth: 33.7 ft</b> <b>Initial Depth to Water: 27.46 ft</b>	<b>Pump Type: Solinst Model 407 Bladder Pump</b> <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b> <b>Tubing Inner Diameter: 0.125 in</b> <b>Tubing Length: 29.4 ft</b> <b>Pump Intake From TOC: 31.4 ft</b> <b>Estimated Total Volume Pumped: 2562.5 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 75 ml/min</b> <b>Final Draw Down: 0.4 ft</b>	<b>Instrument Used: Aqua TROLL 600</b> <b>Serial Number: 876572</b>
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## Test Notes:

Sample time 1710

## Weather Conditions:

Sunny 90°F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
9/16/2025 4:33 PM	00:00	7.162 pH	21.43 °C	1.348 mS/cm	7.241 mg/L	58.34 NTU	-60.8 mV	27.46 ft	50.00 ml/min
9/16/2025 4:35 PM	02:03	6.892 pH	17.07 °C	1.383 mS/cm	3.089 mg/L	28.48 NTU	-101.4 mV	27.73 ft	75.00 ml/min
9/16/2025 4:37 PM	04:06	6.877 pH	16.65 °C	1.384 mS/cm	2.835 mg/L	35.53 NTU	-100.4 mV	27.73 ft	75.00 ml/min
9/16/2025 4:39 PM	06:09	6.827 pH	16.77 °C	1.383 mS/cm	2.852 mg/L	35.29 NTU	-97.6 mV	27.79 ft	75.00 ml/min
9/16/2025 4:41 PM	08:12	6.797 pH	16.64 °C	1.384 mS/cm	2.896 mg/L	38.64 NTU	-95.3 mV	27.79 ft	75.00 ml/min
9/16/2025 4:43 PM	10:15	6.781 pH	16.75 °C	1.384 mS/cm	2.760 mg/L	34.44 NTU	-94.6 mV	27.79 ft	75.00 ml/min
9/16/2025 4:45 PM	12:18	6.771 pH	16.89 °C	1.381 mS/cm	2.643 mg/L	28.89 NTU	-94.2 mV	27.79 ft	75.00 ml/min
9/16/2025 4:47 PM	14:21	6.766 pH	16.87 °C	1.378 mS/cm	2.666 mg/L	19.45 NTU	-93.4 mV	27.79 ft	75.00 ml/min
9/16/2025 4:49 PM	16:24	6.763 pH	16.80 °C	1.376 mS/cm	2.564 mg/L	16.86 NTU	-93.3 mV	27.84 ft	75.00 ml/min
9/16/2025 4:51 PM	18:27	6.763 pH	16.74 °C	1.374 mS/cm	2.500 mg/L	11.20 NTU	-93.4 mV	27.84 ft	75.00 ml/min
9/16/2025 4:53 PM	20:30	6.763 pH	16.65 °C	1.376 mS/cm	2.398 mg/L	7.715 NTU	-93.8 mV	27.84 ft	75.00 ml/min

9/16/2025 4:55 PM	22:33	6.765 pH	16.74 °C	1.377 mS/cm	2.348 mg/L	7.583 NTU	-94.8 mV	27.86 ft	75.00 ml/min
9/16/2025 4:57 PM	24:36	6.771 pH	16.71 °C	1.377 mS/cm	2.314 mg/L	8.539 NTU	-95.3 mV	27.86 ft	75.00 ml/min
9/16/2025 4:59 PM	26:39	6.777 pH	16.69 °C	1.376 mS/cm	2.264 mg/L	7.078 NTU	-95.8 mV	27.86 ft	75.00 ml/min
9/16/2025 5:01 PM	28:42	6.780 pH	16.85 °C	1.375 mS/cm	2.223 mg/L	8.528 NTU	-96.7 mV	27.86 ft	75.00 ml/min
9/16/2025 5:03 PM	30:45	6.788 pH	16.97 °C	1.374 mS/cm	2.160 mg/L	8.509 NTU	-97.6 mV	27.86 ft	75.00 ml/min
9/16/2025 5:05 PM	32:48	6.800 pH	16.95 °C	1.374 mS/cm	2.074 mg/L	6.113 NTU	-98.6 mV	27.86 ft	75.00 ml/min
9/16/2025 5:07 PM	34:51	6.809 pH	17.11 °C	1.373 mS/cm	2.018 mg/L	5.191 NTU	-99.1 mV	27.86 ft	75.00 ml/min

## Samples

Sample ID:	Description:
MW27-GW-0925	Background

# Low-Flow Test Report:

Test Date / Time: 9/16/2025 6:08:44 PM

Project: Neal North MW-29R

Operator Name: Paige Richards/Thao Larson

<b>Location Name: MW-29R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 15 ft</b> <b>Top of Screen: 20.2 ft</b> <b>Total Depth: 35.2 ft</b> <b>Initial Depth to Water: 28.81 ft</b>	<b>Pump Type: Solinst Model 407 Bladder Pump</b> <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b> <b>Tubing Inner Diameter: 0.125 in</b> <b>Tubing Length: 32.7 ft</b> <b>Pump Intake From TOC: 34.7 ft</b> <b>Estimated Total Volume Pumped: 8333.333 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 0.06 ft</b>	<b>Instrument Used: Aqua TROLL 600</b> <b>Serial Number: 876572</b>
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## Test Notes:

Sample time 1855

## Weather Conditions:

Sunny 90°F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
9/16/2025 6:08 PM	00:00	6.883 pH	17.13 °C	1.424 mS/cm	5.119 mg/L	510.1 NTU	-66.4 mV	28.81 ft	200.0 ml/min
9/16/2025 6:10 PM	02:05	6.772 pH	14.86 °C	1.494 mS/cm	1.214 mg/L	148.5 NTU	-69.1 mV	28.81 ft	200.0 ml/min
9/16/2025 6:12 PM	04:10	6.728 pH	14.70 °C	1.499 mS/cm	1.061 mg/L	189.3 NTU	-68.3 mV	28.81 ft	200.0 ml/min
9/16/2025 6:14 PM	06:15	6.692 pH	14.34 °C	1.492 mS/cm	1.023 mg/L	167.8 NTU	-68.0 mV	28.87 ft	200.0 ml/min
9/16/2025 6:17 PM	08:20	6.671 pH	14.26 °C	1.499 mS/cm	0.855 mg/L	68.00 NTU	-67.7 mV	28.87 ft	200.0 ml/min
9/16/2025 6:19 PM	10:25	6.662 pH	14.00 °C	1.496 mS/cm	0.822 mg/L	103.5 NTU	-66.6 mV	28.87 ft	200.0 ml/min
9/16/2025 6:21 PM	12:30	6.654 pH	13.93 °C	1.493 mS/cm	0.925 mg/L	18.86 NTU	-64.6 mV	28.87 ft	200.0 ml/min
9/16/2025 6:23 PM	14:35	6.647 pH	13.81 °C	1.494 mS/cm	0.958 mg/L	37.62 NTU	-63.2 mV	28.87 ft	200.0 ml/min
9/16/2025 6:25 PM	16:40	6.640 pH	13.90 °C	1.493 mS/cm	0.705 mg/L	8.362 NTU	-63.4 mV	28.87 ft	200.0 ml/min
9/16/2025 6:27 PM	18:45	6.640 pH	13.83 °C	1.491 mS/cm	0.704 mg/L	9.273 NTU	-64.3 mV	28.87 ft	200.0 ml/min
9/16/2025 6:29 PM	20:50	6.641 pH	13.73 °C	1.488 mS/cm	0.733 mg/L	9.078 NTU	-64.7 mV	28.87 ft	200.0 ml/min

9/16/2025 6:31 PM	22:55	6.643 pH	13.69 °C	1.489 mS/cm	0.762 mg/L	16.29 NTU	-64.9 mV	28.87 ft	200.0 ml/min
9/16/2025 6:33 PM	25:00	6.645 pH	13.72 °C	1.490 mS/cm	0.757 mg/L	9.939 NTU	-65.3 mV	28.87 ft	200.0 ml/min
9/16/2025 6:35 PM	27:05	6.649 pH	13.70 °C	1.489 mS/cm	0.743 mg/L	10.73 NTU	-65.5 mV	28.87 ft	200.0 ml/min
9/16/2025 6:37 PM	29:10	6.651 pH	13.81 °C	1.490 mS/cm	0.720 mg/L	41.66 NTU	-65.7 mV	28.87 ft	200.0 ml/min
9/16/2025 6:39 PM	31:15	6.658 pH	13.80 °C	1.490 mS/cm	0.755 mg/L	29.03 NTU	-66.1 mV	28.87 ft	200.0 ml/min
9/16/2025 6:42 PM	33:20	6.664 pH	13.72 °C	1.488 mS/cm	0.785 mg/L	20.85 NTU	-66.4 mV	28.87 ft	200.0 ml/min
9/16/2025 6:44 PM	35:25	6.668 pH	13.64 °C	1.489 mS/cm	0.765 mg/L	7.078 NTU	-66.4 mV	28.87 ft	200.0 ml/min
9/16/2025 6:46 PM	37:30	6.672 pH	13.65 °C	1.489 mS/cm	0.708 mg/L	6.839 NTU	-67.1 mV	28.87 ft	200.0 ml/min
9/16/2025 6:48 PM	39:35	6.678 pH	13.55 °C	1.491 mS/cm	0.730 mg/L	6.641 NTU	-67.3 mV	28.87 ft	200.0 ml/min
9/16/2025 6:50 PM	41:40	6.682 pH	13.55 °C	1.491 mS/cm	0.706 mg/L	4.121 NTU	-67.5 mV	28.87 ft	200.0 ml/min

## Samples

Sample ID:	Description:
MW27R-GW-0925	MNA

# Low-Flow Test Report:

Test Date / Time: 9/17/2025 9:46:53 AM

Project: Neal North MW-223S

Operator Name: Thao Larson

<b>Location Name: MW-223S</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 15 ft</b> <b>Top of Screen: 11.7 ft</b> <b>Total Depth: 26.7 ft</b> <b>Initial Depth to Water: 21.14 ft</b>	<b>Pump Type: Solinst Model 407 Bladder Pump</b> <b>Tubing Type: Teflon-lined 1/4" x 1/4" twin-bonded tubing</b> <b>Tubing Inner Diameter: 0.125 in</b> <b>Tubing Length: 22.4 ft</b> <b>Pump Intake From TOC: 24.4 ft</b> <b>Estimated Total Volume Pumped: 2300 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 50 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600</b> <b>Serial Number: 876572</b>
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## Test Notes:

Sample time 1040

## Weather Conditions:

Overcast 60°F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
9/17/2025 9:46 AM	00:00	7.470 pH	18.55 °C	0.995 mS/cm	2.949 mg/L	536.1 NTU	-85.0 mV	21.14 ft	50.00 ml/min
9/17/2025 9:48 AM	01:55	7.044 pH	18.12 °C	1.105 mS/cm	1.795 mg/L	434.4 NTU	-72.4 mV	21.14 ft	50.00 ml/min
9/17/2025 9:50 AM	03:50	6.930 pH	17.70 °C	1.121 mS/cm	1.412 mg/L	328.7 NTU	-69.8 mV	21.14 ft	50.00 ml/min
9/17/2025 9:52 AM	05:45	6.854 pH	17.37 °C	1.122 mS/cm	1.488 mg/L	327.8 NTU	-67.2 mV	21.14 ft	50.00 ml/min
9/17/2025 9:54 AM	07:40	6.836 pH	17.26 °C	1.113 mS/cm	1.629 mg/L	171.0 NTU	-64.9 mV	21.14 ft	50.00 ml/min
9/17/2025 9:56 AM	09:35	6.829 pH	16.96 °C	1.113 mS/cm	1.727 mg/L	164.2 NTU	-63.3 mV	21.14 ft	50.00 ml/min
9/17/2025 9:58 AM	11:30	6.830 pH	16.81 °C	1.108 mS/cm	1.742 mg/L	129.7 NTU	-63.2 mV	21.14 ft	50.00 ml/min
9/17/2025 10:00 AM	13:25	6.848 pH	16.67 °C	1.101 mS/cm	1.784 mg/L	74.16 NTU	-64.6 mV	21.14 ft	50.00 ml/min
9/17/2025 10:02 AM	15:20	6.857 pH	16.52 °C	1.095 mS/cm	1.803 mg/L	82.27 NTU	-64.2 mV	21.14 ft	50.00 ml/min
9/17/2025 10:04 AM	17:15	6.861 pH	16.53 °C	1.089 mS/cm	1.745 mg/L	96.33 NTU	-63.6 mV	21.14 ft	50.00 ml/min
9/17/2025 10:06 AM	19:10	6.878 pH	16.49 °C	1.091 mS/cm	1.771 mg/L	123.2 NTU	-64.1 mV	21.14 ft	50.00 ml/min

9/17/2025 10:07 AM	21:05	6.886 pH	16.47 °C	1.083 mS/cm	1.733 mg/L	114.4 NTU	-64.2 mV	21.14 ft	50.00 ml/min
9/17/2025 10:09 AM	23:00	6.892 pH	16.48 °C	1.090 mS/cm	1.751 mg/L	68.14 NTU	-64.0 mV	21.14 ft	50.00 ml/min
9/17/2025 10:11 AM	24:55	6.905 pH	16.48 °C	1.087 mS/cm	1.730 mg/L	50.05 NTU	-63.8 mV	21.14 ft	50.00 ml/min
9/17/2025 10:13 AM	26:50	6.906 pH	16.51 °C	1.086 mS/cm	1.741 mg/L	27.22 NTU	-63.5 mV	21.14 ft	50.00 ml/min
9/17/2025 10:15 AM	28:45	6.901 pH	16.62 °C	1.081 mS/cm	1.762 mg/L	36.78 NTU	-62.3 mV	21.14 ft	50.00 ml/min
9/17/2025 10:17 AM	30:40	6.914 pH	16.70 °C	1.084 mS/cm	1.763 mg/L	23.98 NTU	-62.4 mV	21.14 ft	50.00 ml/min
9/17/2025 10:19 AM	32:35	6.912 pH	16.75 °C	1.083 mS/cm	1.705 mg/L	23.95 NTU	-61.8 mV	21.14 ft	50.00 ml/min
9/17/2025 10:21 AM	34:30	6.899 pH	16.87 °C	1.077 mS/cm	1.745 mg/L	26.32 NTU	-60.2 mV	21.14 ft	50.00 ml/min
9/17/2025 10:23 AM	36:25	6.914 pH	16.95 °C	1.081 mS/cm	1.741 mg/L	74.04 NTU	-60.9 mV	21.14 ft	50.00 ml/min
9/17/2025 10:25 AM	38:20	6.910 pH	17.03 °C	1.078 mS/cm	1.684 mg/L	42.61 NTU	-60.8 mV	21.14 ft	50.00 ml/min
9/17/2025 10:27 AM	40:15	6.916 pH	17.11 °C	1.076 mS/cm	1.713 mg/L	29.73 NTU	-60.7 mV	21.14 ft	50.00 ml/min
9/17/2025 10:29 AM	42:10	6.915 pH	17.13 °C	1.081 mS/cm	1.710 mg/L	24.76 NTU	-60.7 mV	21.14 ft	50.00 ml/min
9/17/2025 10:30 AM	44:05	6.907 pH	17.25 °C	1.082 mS/cm	1.665 mg/L	19.11 NTU	-60.4 mV	21.14 ft	50.00 ml/min
9/17/2025 10:32 AM	46:00	6.916 pH	17.32 °C	1.081 mS/cm	1.667 mg/L	12.64 NTU	-60.6 mV	21.14 ft	50.00 ml/min

## Samples

Sample ID:	Description:
MW223S-GW-0925	MNA BACKGROUND

# Low-Flow Test Report:

**Test Date / Time:** 9/17/2025 10:08:21 AM

**Project:** Neal North MW-231SR

**Operator Name:** Paige Richards

<b>Location Name:</b> MW-231SR <b>Well Diameter:</b> 2 in <b>Casing Type:</b> PVC <b>Screen Length:</b> 15 ft <b>Top of Screen:</b> 14.07 ft <b>Total Depth:</b> 29.07 ft <b>Initial Depth to Water:</b> 22.79 ft	<b>Pump Type:</b> Solinst Model 407 Bladder Pump <b>Tubing Type:</b> Teflon-lined 1/4" x 1/4" twin-bonded tubing <b>Tubing Inner Diameter:</b> 0.125 in <b>Tubing Length:</b> 26.57 ft <b>Pump Intake From TOC:</b> 28.57 ft <b>Estimated Total Volume Pumped:</b> 3630 ml <b>Flow Cell Volume:</b> 130 ml <b>Final Flow Rate:</b> 300 ml/min <b>Final Draw Down:</b> 0.02 ft	<b>Instrument Used:</b> Aqua TROLL 600 Vented <b>Serial Number:</b> 1050309
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## Test Notes:

Sample time: 1050

Water visually clear

## Weather Conditions:

Cloudy, rain, 68 degrees F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.2	+/- 0.2	+/- 3 %	+/- 0.2	+/- 10	+/- 20	+/- 5	
9/17/2025 10:08 AM	00:00	6.56 pH	14.37 °C	1.08 mS/cm	0.09 mg/L	9.55 NTU	-15.5 mV	22.79 ft	300.00 ml/min
9/17/2025 10:10 AM	02:01	6.54 pH	14.36 °C	1.08 mS/cm	0.08 mg/L	11.37 NTU	-17.4 mV	22.81 ft	300.00 ml/min
9/17/2025 10:12 AM	04:02	6.53 pH	14.37 °C	1.08 mS/cm	0.12 mg/L	8.55 NTU	-18.3 mV	22.81 ft	300.00 ml/min
9/17/2025 10:14 AM	06:03	6.53 pH	14.40 °C	1.08 mS/cm	0.11 mg/L	7.87 NTU	-23.8 mV	22.81 ft	300.00 ml/min
9/17/2025 10:16 AM	08:04	6.54 pH	14.40 °C	1.07 mS/cm	0.10 mg/L	7.19 NTU	-28.5 mV	22.81 ft	300.00 ml/min
9/17/2025 10:18 AM	10:05	6.52 pH	14.45 °C	1.07 mS/cm	0.12 mg/L	5.54 NTU	-29.4 mV	22.81 ft	300.00 ml/min
9/17/2025 10:20 AM	12:06	6.53 pH	14.42 °C	1.08 mS/cm	0.13 mg/L	4.76 NTU	-29.3 mV	22.81 ft	300.00 ml/min

## Samples

Sample ID:	Description:
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MW231SR-GW-0925	1L plastic w/ nitric x2 1L plastic unpreserved x1 250mL plastic w/ nitric x2 250mL plastic unpreserved x1 40mL voa vials w/ sulfuric x3
DP01-GW-0925	1L plastic w/ nitric x2 1L plastic unpreserved x1 250mL plastic w/ nitric x1 250mL plastic unpreserved x1

# **Appendix B**

**Laboratory Analytical Reports**

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Kevin Armstrong  
GHD Services Inc.  
11228 Aurora Avenue  
Des Moines, Iowa 50322-7905

Generated 4/24/2025 1:13:52 PM

**JOB DESCRIPTION**

MEC Neal North-Background  
MEC Neal North-Background

**JOB NUMBER**

310-302066-1

# Eurofins Cedar Falls

## Job Notes

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

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

## Authorization



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4/24/2025 1:13:52 PM

Authorized for release by  
Zach Bindert, Senior Project Manager  
[Zach.Bindert@et.eurofinsus.com](mailto:Zach.Bindert@et.eurofinsus.com)  
(319)595-2016



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# Case Narrative

Client: GHD Services Inc.  
Project: MEC Neal North-Background

Job ID: 310-302066-1

**Job ID: 310-302066-1**

**Eurofins Cedar Falls**

## Job Narrative 310-302066-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

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

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

### Receipt

The samples were received on 3/14/2025 9:00 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 0.1°C and 4.1°C.

### HPLC/IC

Method 9056A\_ORGFM\_28D: The following samples were diluted due to the nature of the sample matrix: MW13R-GW-0325 (310-302066-1), MW27-GW-0325 (310-302066-2) and MW29R-GW-0325 (310-302066-3). Elevated reporting limits (RLs) are provided.

Method 9056A\_ORGFM\_28D: The following sample was diluted due to the nature of the sample matrix: DP01-GW-0325 (310-302066-6). Elevated reporting limits (RLs) are provided.

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

### Metals

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

### General Chemistry

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

Eurofins Cedar Falls

# Case Narrative

Client: GHD Services Inc.  
Project: MEC Neal North-Background

Job ID: 310-302066-1

**Job ID: 310-302066-3**

**Eurofins Cedar Falls**

## Job Narrative 310-302066-3

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

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

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

### Receipt

The samples were received on 3/14/2025 9:00 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 0.1°C and 4.1°C.

### HPLC/IC

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

Eurofins Cedar Falls

# Sample Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-302066-1	MW13R-GW-0325	Water	03/11/25 19:40	03/14/25 09:00
310-302066-2	MW27-GW-0325	Water	03/12/25 19:05	03/14/25 09:00
310-302066-3	MW29R-GW-0325	Water	03/12/25 17:50	03/14/25 09:00
310-302066-5	MW231SR-GW-0325	Water	03/13/25 09:05	03/14/25 09:00
310-302066-6	DP01-GW-0325	Water	03/12/25 00:00	03/14/25 09:00
310-302066-7	MW223S-GW-0325	Water	03/13/25 10:35	03/14/25 09:00

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

**Client Sample ID: MW13R-GW-0325**

**Lab Sample ID: 310-302066-1**

Date Collected: 03/11/25 19:40

Matrix: Water

Date Received: 03/14/25 09:00

### Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>17.3</b>		5.00		mg/L			03/18/25 11:19	5
Fluoride	<1.00		1.00		mg/L			03/18/25 11:19	5
<b>Sulfate</b>	<b>38.7</b>		5.00		mg/L			03/18/25 11:19	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		03/17/25 09:00	03/24/25 17:44	1
<b>Arsenic</b>	<b>0.0592</b>		0.00200		mg/L		03/17/25 09:00	03/24/25 17:44	1
<b>Barium</b>	<b>0.226</b>		0.00200		mg/L		03/17/25 09:00	03/24/25 17:44	1
Beryllium	<0.00100		0.00100		mg/L		03/17/25 09:00	03/24/25 17:44	1
<b>Boron</b>	<b>0.136</b>		0.100		mg/L		03/17/25 09:00	03/24/25 17:44	1
Cadmium	<0.000200		0.000200		mg/L		03/17/25 09:00	03/24/25 17:44	1
<b>Calcium</b>	<b>147</b>		0.500		mg/L		03/17/25 09:00	03/25/25 15:14	1
Chromium	<0.00500		0.00500		mg/L		03/17/25 09:00	03/24/25 17:44	1
<b>Cobalt</b>	<b>0.00102</b>		0.000500		mg/L		03/17/25 09:00	03/24/25 17:44	1
<b>Lithium</b>	<b>0.0846</b>		0.0100		mg/L		03/17/25 09:00	03/24/25 17:44	1
Lead	<0.000500		0.000500		mg/L		03/17/25 09:00	03/25/25 15:14	1
<b>Molybdenum</b>	<b>0.00377</b>		0.00200		mg/L		03/17/25 09:00	03/24/25 17:44	1
Selenium	<0.00500		0.00500		mg/L		03/17/25 09:00	03/24/25 17:44	1
Thallium	<0.00100		0.00100		mg/L		03/17/25 09:00	03/24/25 17:44	1

### Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		03/31/25 14:25	04/01/25 10:48	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>580</b>		50.0		mg/L			03/17/25 11:48	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.8</b>	<b>HF</b>	1.0		SU			03/14/25 17:22	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

**Client Sample ID: MW27-GW-0325**

**Lab Sample ID: 310-302066-2**

Date Collected: 03/12/25 19:05

Matrix: Water

Date Received: 03/14/25 09:00

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>24.5</b>		5.00		mg/L			03/18/25 12:09	5
Fluoride	<1.00		1.00		mg/L			03/18/25 12:09	5
<b>Sulfate</b>	<b>81.1</b>		5.00		mg/L			03/18/25 12:09	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		03/17/25 09:00	03/24/25 17:58	1
<b>Arsenic</b>	<b>0.0613</b>		0.00200		mg/L		03/17/25 09:00	03/24/25 17:58	1
<b>Barium</b>	<b>0.158</b>		0.00200		mg/L		03/17/25 09:00	03/24/25 17:58	1
Beryllium	<0.00100		0.00100		mg/L		03/17/25 09:00	03/24/25 17:58	1
<b>Boron</b>	<b>0.228</b>		0.100		mg/L		03/17/25 09:00	03/24/25 17:58	1
Cadmium	<0.000200		0.000200		mg/L		03/17/25 09:00	03/24/25 17:58	1
<b>Calcium</b>	<b>157</b>		0.500		mg/L		03/17/25 09:00	03/25/25 15:31	1
Chromium	<0.00500		0.00500		mg/L		03/17/25 09:00	03/24/25 17:58	1
<b>Cobalt</b>	<b>0.000635</b>		0.000500		mg/L		03/17/25 09:00	03/24/25 17:58	1
<b>Lithium</b>	<b>0.110</b>		0.0100		mg/L		03/17/25 09:00	03/24/25 17:58	1
Lead	<0.000500		0.000500		mg/L		03/17/25 09:00	03/25/25 15:31	1
Molybdenum	<0.00200		0.00200		mg/L		03/17/25 09:00	03/24/25 17:58	1
Selenium	<0.00500		0.00500		mg/L		03/17/25 09:00	03/24/25 17:58	1
Thallium	<0.00100		0.00100		mg/L		03/17/25 09:00	03/24/25 17:58	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		03/31/25 14:25	04/01/25 10:55	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>692</b>		50.0		mg/L			03/17/25 11:48	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.8</b>	<b>HF</b>	1.0		SU			03/14/25 17:30	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

**Client Sample ID: MW29R-GW-0325**

**Lab Sample ID: 310-302066-3**

Date Collected: 03/12/25 17:50

Matrix: Water

Date Received: 03/14/25 09:00

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>12.0</b>		5.00		mg/L			03/18/25 12:19	5
Fluoride	<1.00		1.00		mg/L			03/18/25 12:19	5
<b>Sulfate</b>	<b>140</b>		5.00		mg/L			03/18/25 12:19	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		03/17/25 09:00	03/24/25 18:01	1
<b>Arsenic</b>	<b>0.0240</b>		0.00200		mg/L		03/17/25 09:00	03/24/25 18:01	1
<b>Barium</b>	<b>0.213</b>		0.00200		mg/L		03/17/25 09:00	03/24/25 18:01	1
Beryllium	<0.00100		0.00100		mg/L		03/17/25 09:00	03/24/25 18:01	1
<b>Boron</b>	<b>0.158</b>		0.100		mg/L		03/17/25 09:00	03/24/25 18:01	1
Cadmium	<0.000200		0.000200		mg/L		03/17/25 09:00	03/24/25 18:01	1
<b>Calcium</b>	<b>187</b>		0.500		mg/L		03/17/25 09:00	03/25/25 15:34	1
Chromium	<0.00500		0.00500		mg/L		03/17/25 09:00	03/24/25 18:01	1
<b>Cobalt</b>	<b>0.00280</b>		0.000500		mg/L		03/17/25 09:00	03/24/25 18:01	1
<b>Lithium</b>	<b>0.0957</b>		0.0100		mg/L		03/17/25 09:00	03/24/25 18:01	1
Lead	<0.000500		0.000500		mg/L		03/17/25 09:00	03/25/25 15:34	1
Molybdenum	<0.00200		0.00200		mg/L		03/17/25 09:00	03/24/25 18:01	1
Selenium	<0.00500		0.00500		mg/L		03/17/25 09:00	03/24/25 18:01	1
Thallium	<0.00100		0.00100		mg/L		03/17/25 09:00	03/24/25 18:01	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		03/31/25 14:25	04/01/25 10:57	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>774</b>		50.0		mg/L			03/17/25 11:48	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.7</b>	<b>HF</b>	1.0		SU			03/14/25 17:34	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

**Client Sample ID: MW231SR-GW-0325**

**Lab Sample ID: 310-302066-5**

Date Collected: 03/13/25 09:05

Matrix: Water

Date Received: 03/14/25 09:00

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>9.30</b>		1.00		mg/L			03/14/25 12:28	1
Nitrate as N	<0.200		0.200		mg/L			03/14/25 12:28	1
Fluoride	<0.200		0.200		mg/L			03/14/25 12:28	1
<b>Sulfate</b>	<b>177</b>		10.0		mg/L			03/14/25 14:59	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		03/17/25 09:00	03/24/25 18:03	1
<b>Arsenic</b>	<b>0.00229</b>		0.00200		mg/L		03/17/25 09:00	03/24/25 18:03	1
<b>Barium</b>	<b>0.147</b>		0.00200		mg/L		03/17/25 09:00	03/24/25 18:03	1
Beryllium	<0.00100		0.00100		mg/L		03/17/25 09:00	03/24/25 18:03	1
<b>Boron</b>	<b>0.200</b>		0.100		mg/L		03/17/25 09:00	03/24/25 18:03	1
Cadmium	<0.000200		0.000200		mg/L		03/17/25 09:00	03/24/25 18:03	1
<b>Calcium</b>	<b>190</b>		0.500		mg/L		03/17/25 09:00	03/25/25 15:37	1
Chromium	<0.00500		0.00500		mg/L		03/17/25 09:00	03/24/25 18:03	1
<b>Cobalt</b>	<b>0.00253</b>		0.000500		mg/L		03/17/25 09:00	03/24/25 18:03	1
<b>Iron</b>	<b>6.38</b>		0.100		mg/L		03/17/25 09:00	03/25/25 15:37	1
Lead	<0.000500		0.000500		mg/L		03/17/25 09:00	03/25/25 15:37	1
<b>Lithium</b>	<b>0.0856</b>		0.0100		mg/L		03/17/25 09:00	03/24/25 18:03	1
<b>Manganese</b>	<b>1.07</b>		0.0100		mg/L		03/17/25 09:00	03/24/25 18:03	1
Molybdenum	<0.00200		0.00200		mg/L		03/17/25 09:00	03/24/25 18:03	1
Selenium	<0.00500		0.00500		mg/L		03/17/25 09:00	03/24/25 18:03	1
Thallium	<0.00100		0.00100		mg/L		03/17/25 09:00	03/24/25 18:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron</b>	<b>5.53</b>		0.100		mg/L		03/19/25 08:30	03/19/25 16:01	1
<b>Manganese</b>	<b>1.21</b>		0.0100		mg/L		03/19/25 08:30	03/19/25 16:01	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		03/31/25 14:25	04/01/25 11:03	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Organic Carbon (SW846 9060A)</b>	<b>3.73</b>		1.00		mg/L			03/24/25 19:46	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>788</b>		50.0		mg/L			03/18/25 14:18	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.8</b>	<b>HF</b>	1.0		SU			03/14/25 17:38	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

**Client Sample ID: DP01-GW-0325**

**Lab Sample ID: 310-302066-6**

Date Collected: 03/12/25 00:00

Matrix: Water

Date Received: 03/14/25 09:00

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>9.49</b>		5.00		mg/L			03/28/25 15:34	5
Fluoride	<1.00		1.00		mg/L			03/28/25 15:34	5
<b>Sulfate</b>	<b>136</b>		5.00		mg/L			03/28/25 15:34	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		03/17/25 09:00	03/24/25 18:05	1
<b>Arsenic</b>	<b>0.0241</b>		0.00200		mg/L		03/17/25 09:00	03/24/25 18:05	1
<b>Barium</b>	<b>0.222</b>		0.00200		mg/L		03/17/25 09:00	03/24/25 18:05	1
Beryllium	<0.00100		0.00100		mg/L		03/17/25 09:00	03/24/25 18:05	1
<b>Boron</b>	<b>0.156</b>		0.100		mg/L		03/17/25 09:00	03/24/25 18:05	1
Cadmium	<0.000200		0.000200		mg/L		03/17/25 09:00	03/24/25 18:05	1
<b>Calcium</b>	<b>190</b>		0.500		mg/L		03/17/25 09:00	03/25/25 15:40	1
Chromium	<0.00500		0.00500		mg/L		03/17/25 09:00	03/24/25 18:05	1
<b>Cobalt</b>	<b>0.00285</b>		0.000500		mg/L		03/17/25 09:00	03/24/25 18:05	1
<b>Lithium</b>	<b>0.0968</b>		0.0100		mg/L		03/17/25 09:00	03/24/25 18:05	1
Lead	<0.000500		0.000500		mg/L		03/17/25 09:00	03/25/25 15:40	1
Molybdenum	<0.00200		0.00200		mg/L		03/17/25 09:00	03/24/25 18:05	1
Selenium	<0.00500		0.00500		mg/L		03/17/25 09:00	03/24/25 18:05	1
Thallium	<0.00100		0.00100		mg/L		03/17/25 09:00	03/24/25 18:05	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		03/31/25 14:25	04/01/25 11:05	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>768</b>		50.0		mg/L			03/17/25 11:48	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.7</b>	<b>HF</b>	1.0		SU			03/14/25 17:43	1

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

**Client Sample ID: MW223S-GW-0325**

**Lab Sample ID: 310-302066-7**

Date Collected: 03/13/25 10:35

Matrix: Water

Date Received: 03/14/25 09:00

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>15.2</b>		1.00		mg/L			03/14/25 11:58	1
Nitrate as N	<0.200		0.200		mg/L			03/14/25 11:58	1
Fluoride	<0.200		0.200		mg/L			03/14/25 11:58	1
<b>Sulfate</b>	<b>88.5</b>		1.00		mg/L			03/14/25 11:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		03/17/25 09:00	03/24/25 18:08	1
<b>Arsenic</b>	<b>0.0116</b>		0.00200		mg/L		03/17/25 09:00	03/24/25 18:08	1
<b>Barium</b>	<b>0.166</b>		0.00200		mg/L		03/17/25 09:00	03/24/25 18:08	1
Beryllium	<0.00100		0.00100		mg/L		03/17/25 09:00	03/24/25 18:08	1
<b>Boron</b>	<b>0.142</b>		0.100		mg/L		03/17/25 09:00	03/24/25 18:08	1
Cadmium	<0.000200		0.000200		mg/L		03/17/25 09:00	03/24/25 18:08	1
<b>Calcium</b>	<b>130</b>		0.500		mg/L		03/17/25 09:00	03/25/25 15:42	1
Chromium	<0.00500		0.00500		mg/L		03/17/25 09:00	03/24/25 18:08	1
<b>Cobalt</b>	<b>0.000767</b>		0.000500		mg/L		03/17/25 09:00	03/24/25 18:08	1
<b>Iron</b>	<b>5.79</b>		0.100		mg/L		03/17/25 09:00	03/25/25 15:42	1
Lead	<0.000500		0.000500		mg/L		03/17/25 09:00	03/25/25 15:42	1
<b>Lithium</b>	<b>0.0540</b>		0.0100		mg/L		03/17/25 09:00	03/24/25 18:08	1
<b>Manganese</b>	<b>2.59</b>		0.0100		mg/L		03/17/25 09:00	03/24/25 18:08	1
<b>Molybdenum</b>	<b>0.00205</b>		0.00200		mg/L		03/17/25 09:00	03/24/25 18:08	1
Selenium	<0.00500		0.00500		mg/L		03/17/25 09:00	03/24/25 18:08	1
Thallium	<0.00100		0.00100		mg/L		03/17/25 09:00	03/24/25 18:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron</b>	<b>4.20</b>		0.100		mg/L		03/19/25 08:30	03/19/25 16:04	1
<b>Manganese</b>	<b>2.95</b>		0.0100		mg/L		03/19/25 08:30	03/19/25 16:04	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		03/31/25 14:25	04/01/25 11:07	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Organic Carbon (SW846 9060A)</b>	<b>2.81</b>		1.00		mg/L			03/20/25 15:38	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>510</b>		50.0		mg/L			03/18/25 14:18	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.6</b>	<b>HF</b>	1.0		SU			03/14/25 18:36	1

# Definitions/Glossary

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

## Qualifiers

### HPLC/IC

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.

### 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.

### General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

## 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: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

## Method: 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 310-449523/3**  
**Matrix: Water**  
**Analysis Batch: 449523**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.00		1.00		mg/L			03/18/25 09:48	1
Fluoride	<0.200		0.200		mg/L			03/18/25 09:48	1
Sulfate	<1.00		1.00		mg/L			03/18/25 09:48	1

**Lab Sample ID: LCS 310-449523/4**  
**Matrix: Water**  
**Analysis Batch: 449523**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	10.29		mg/L		103	90 - 110
Fluoride	2.00	2.123		mg/L		106	90 - 110
Sulfate	10.0	10.32		mg/L		103	90 - 110

**Lab Sample ID: 310-302066-1 MS**  
**Matrix: Water**  
**Analysis Batch: 449523**

**Client Sample ID: MW13R-GW-0325**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	17.3		25.0	41.38		mg/L		96	80 - 120
Fluoride	<1.00		5.00	5.569		mg/L		111	80 - 120
Sulfate	38.7		25.0	64.96		mg/L		105	80 - 120

**Lab Sample ID: 310-302066-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 449523**

**Client Sample ID: MW13R-GW-0325**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	17.3		25.0	41.19		mg/L		95	80 - 120	0	15
Fluoride	<1.00		5.00	5.546		mg/L		111	80 - 120	0	15
Sulfate	38.7		25.0	64.87		mg/L		105	80 - 120	0	15

**Lab Sample ID: MB 310-449542/3**  
**Matrix: Water**  
**Analysis Batch: 449542**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.00		1.00		mg/L			03/14/25 11:38	1
Nitrate as N	<0.200		0.200		mg/L			03/14/25 11:38	1
Fluoride	<0.200		0.200		mg/L			03/14/25 11:38	1
Sulfate	<1.00		1.00		mg/L			03/14/25 11:38	1

**Lab Sample ID: LCS 310-449542/4**  
**Matrix: Water**  
**Analysis Batch: 449542**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	10.21		mg/L		102	90 - 110
Nitrate as N	2.00	2.097		mg/L		105	90 - 110
Fluoride	2.00	2.107		mg/L		105	90 - 110
Sulfate	10.0	10.22		mg/L		102	90 - 110

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# QC Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

## Method: 9056A - Anions, Ion Chromatography

**Lab Sample ID: 310-302066-7 MS**  
**Matrix: Water**  
**Analysis Batch: 449542**

**Client Sample ID: MW223S-GW-0325**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	15.2		5.00	19.26		mg/L		81	80 - 120
Nitrate as N	<0.200		1.00	1.002		mg/L		100	80 - 120
Fluoride	<0.200		1.00	1.008		mg/L		89	80 - 120
Sulfate	88.5		5.00	92.58	4	mg/L		83	80 - 120

**Lab Sample ID: 310-302066-7 MSD**  
**Matrix: Water**  
**Analysis Batch: 449542**

**Client Sample ID: MW223S-GW-0325**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	15.2		5.00	19.31		mg/L		82	80 - 120	0	15
Nitrate as N	<0.200		1.00	0.9976		mg/L		100	80 - 120	0	15
Fluoride	<0.200		1.00	1.142		mg/L		102	80 - 120	12	15
Sulfate	88.5		5.00	92.62	4	mg/L		83	80 - 120	0	15

**Lab Sample ID: MB 310-450143/3**  
**Matrix: Water**  
**Analysis Batch: 450143**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.00		1.00		mg/L			03/28/25 15:04	1
Fluoride	<0.200		0.200		mg/L			03/28/25 15:04	1
Sulfate	<1.00		1.00		mg/L			03/28/25 15:04	1

**Lab Sample ID: LCS 310-450143/4**  
**Matrix: Water**  
**Analysis Batch: 450143**

**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	9.951		mg/L		100	90 - 110
Fluoride	2.00	2.005		mg/L		100	90 - 110
Sulfate	10.0	10.19		mg/L		102	90 - 110

**Lab Sample ID: 310-302066-6 MS**  
**Matrix: Water**  
**Analysis Batch: 450143**

**Client Sample ID: DP01-GW-0325**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	9.49		25.0	32.59		mg/L		92	80 - 120
Fluoride	<1.00		5.00	5.010		mg/L		100	80 - 120
Sulfate	136		25.0	158.3	4	mg/L		89	80 - 120

**Lab Sample ID: 310-302066-6 MSD**  
**Matrix: Water**  
**Analysis Batch: 450143**

**Client Sample ID: DP01-GW-0325**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	9.49		25.0	33.09		mg/L		94	80 - 120	1	15
Fluoride	<1.00		5.00	5.246		mg/L		105	80 - 120	5	15
Sulfate	136		25.0	158.6	4	mg/L		90	80 - 120	0	15

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# QC Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

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

**Lab Sample ID: MB 310-448970/1-A**  
**Matrix: Water**  
**Analysis Batch: 449682**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 448970**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<0.00200		0.00200		mg/L		03/17/25 09:00	03/24/25 17:34	1
Arsenic	<0.00200		0.00200		mg/L		03/17/25 09:00	03/24/25 17:34	1
Barium	<0.00200		0.00200		mg/L		03/17/25 09:00	03/24/25 17:34	1
Beryllium	<0.00100		0.00100		mg/L		03/17/25 09:00	03/24/25 17:34	1
Boron	<0.100		0.100		mg/L		03/17/25 09:00	03/24/25 17:34	1
Cadmium	<0.000200		0.000200		mg/L		03/17/25 09:00	03/24/25 17:34	1
Chromium	<0.00500		0.00500		mg/L		03/17/25 09:00	03/24/25 17:34	1
Cobalt	<0.000500		0.000500		mg/L		03/17/25 09:00	03/24/25 17:34	1
Iron	<0.100		0.100		mg/L		03/17/25 09:00	03/24/25 17:34	1
Lithium	<0.0100		0.0100		mg/L		03/17/25 09:00	03/24/25 17:34	1
Manganese	<0.0100		0.0100		mg/L		03/17/25 09:00	03/24/25 17:34	1
Molybdenum	<0.00200		0.00200		mg/L		03/17/25 09:00	03/24/25 17:34	1
Selenium	<0.00500		0.00500		mg/L		03/17/25 09:00	03/24/25 17:34	1
Thallium	<0.00100		0.00100		mg/L		03/17/25 09:00	03/24/25 17:34	1

**Lab Sample ID: MB 310-448970/1-A**  
**Matrix: Water**  
**Analysis Batch: 449792**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 448970**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Calcium	<0.500		0.500		mg/L		03/17/25 09:00	03/25/25 15:03	1
Lead	<0.000500		0.000500		mg/L		03/17/25 09:00	03/25/25 15:03	1

**Lab Sample ID: LCS 310-448970/2-A**  
**Matrix: Water**  
**Analysis Batch: 449682**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 448970**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.200	0.1980		mg/L		99	80 - 120
Barium	0.100	0.1025		mg/L		102	80 - 120
Beryllium	0.100	0.1014		mg/L		101	80 - 120
Boron	0.200	0.2068		mg/L		103	80 - 120
Cadmium	0.100	0.09647		mg/L		96	80 - 120
Chromium	0.100	0.1014		mg/L		101	80 - 120
Cobalt	0.100	0.1082		mg/L		108	80 - 120
Iron	0.200	0.2167		mg/L		108	80 - 120
Lithium	0.200	0.2050		mg/L		102	80 - 120
Manganese	0.100	0.09537		mg/L		95	80 - 120
Molybdenum	0.200	0.2129		mg/L		106	80 - 120
Selenium	0.400	0.3866		mg/L		97	80 - 120
Thallium	0.100	0.09185		mg/L		92	80 - 120

**Lab Sample ID: LCS 310-448970/2-A**  
**Matrix: Water**  
**Analysis Batch: 449792**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 448970**

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

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# QC Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

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

**Lab Sample ID: LCS 310-448970/2-A**  
**Matrix: Water**  
**Analysis Batch: 449792**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 448970**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	0.200	0.2050		mg/L		103	80 - 120

**Lab Sample ID: 310-302066-1 MS**  
**Matrix: Water**  
**Analysis Batch: 449682**

**Client Sample ID: MW13R-GW-0325**  
**Prep Type: Total/NA**  
**Prep Batch: 448970**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.00200		0.200	0.2342		mg/L		117	75 - 125
Arsenic	0.0592		0.200	0.2678		mg/L		104	75 - 125
Barium	0.226		0.100	0.3386		mg/L		112	75 - 125
Beryllium	<0.00100		0.100	0.1093		mg/L		109	75 - 125
Boron	0.136		0.200	0.3230		mg/L		93	75 - 125
Cadmium	<0.000200		0.100	0.09679		mg/L		97	75 - 125
Chromium	<0.00500		0.100	0.1013		mg/L		101	75 - 125
Cobalt	0.00102		0.100	0.1064		mg/L		105	75 - 125
Lithium	0.0846		0.200	0.2919		mg/L		104	75 - 125
Molybdenum	0.00377		0.200	0.2214		mg/L		109	75 - 125
Selenium	<0.00500		0.400	0.3987		mg/L		100	75 - 125
Thallium	<0.00100		0.100	0.08277		mg/L		83	75 - 125

**Lab Sample ID: 310-302066-1 MS**  
**Matrix: Water**  
**Analysis Batch: 449792**

**Client Sample ID: MW13R-GW-0325**  
**Prep Type: Total/NA**  
**Prep Batch: 448970**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	147		2.00	149.2	4	mg/L		119	75 - 125
Lead	<0.000500		0.200	0.2155		mg/L		108	75 - 125

**Lab Sample ID: 310-302066-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 449682**

**Client Sample ID: MW13R-GW-0325**  
**Prep Type: Total/NA**  
**Prep Batch: 448970**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Antimony	<0.00200		0.200	0.2247		mg/L		112	75 - 125	4	20
Arsenic	0.0592		0.200	0.2594		mg/L		100	75 - 125	3	20
Barium	0.226		0.100	0.3327		mg/L		106	75 - 125	2	20
Beryllium	<0.00100		0.100	0.1068		mg/L		107	75 - 125	2	20
Boron	0.136		0.200	0.3207		mg/L		92	75 - 125	1	20
Cadmium	<0.000200		0.100	0.09260		mg/L		93	75 - 125	4	20
Chromium	<0.00500		0.100	0.09826		mg/L		98	75 - 125	3	20
Cobalt	0.00102		0.100	0.1054		mg/L		104	75 - 125	1	20
Lithium	0.0846		0.200	0.2876		mg/L		101	75 - 125	2	20
Molybdenum	0.00377		0.200	0.2163		mg/L		106	75 - 125	2	20
Selenium	<0.00500		0.400	0.3938		mg/L		98	75 - 125	1	20
Thallium	<0.00100		0.100	0.07836		mg/L		78	75 - 125	5	20

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

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

Lab Sample ID: 310-302066-1 MSD  
Matrix: Water  
Analysis Batch: 449792

Client Sample ID: MW13R-GW-0325  
Prep Type: Total/NA  
Prep Batch: 448970

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Calcium	147		2.00	148.8	4	mg/L		97	75 - 125	0	20
Lead	<0.000500		0.200	0.2099		mg/L		105	75 - 125	3	20

Lab Sample ID: MB 310-449194/1-A  
Matrix: Water  
Analysis Batch: 449331

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 449194

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Iron	<0.100		0.100		mg/L		03/19/25 08:30	03/19/25 14:44	1
Manganese	<0.0100		0.0100		mg/L		03/19/25 08:30	03/19/25 14:44	1

Lab Sample ID: LCS 310-449194/2-A  
Matrix: Water  
Analysis Batch: 449331

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 449194

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Iron	0.200	0.1939		mg/L		97	80 - 120
Manganese	0.100	0.09896		mg/L		99	80 - 120

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-450153/1-A  
Matrix: Water  
Analysis Batch: 450371

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 450153

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	<0.000200		0.000200		mg/L		03/31/25 14:25	04/01/25 10:44	1

Lab Sample ID: LCS 310-450153/2-A  
Matrix: Water  
Analysis Batch: 450371

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 450153

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Mercury	0.00167	0.001697		mg/L		102	80 - 120

Lab Sample ID: 310-302066-1 MS  
Matrix: Water  
Analysis Batch: 450371

Client Sample ID: MW13R-GW-0325  
Prep Type: Total/NA  
Prep Batch: 450153

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				Limits
Mercury	<0.000200		0.00167	0.001825		mg/L		110	80 - 120

Lab Sample ID: 310-302066-1 MSD  
Matrix: Water  
Analysis Batch: 450371

Client Sample ID: MW13R-GW-0325  
Prep Type: Total/NA  
Prep Batch: 450153

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Mercury	<0.000200		0.00167	0.001803		mg/L		108	80 - 120	1	20

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# QC Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

## Method: 9060A - Organic Carbon, Total (TOC)

**Lab Sample ID: MB 310-449466/11**  
**Matrix: Water**  
**Analysis Batch: 449466**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	<1.00		1.00		mg/L			03/20/25 14:25	1

**Lab Sample ID: LCS 310-449466/12**  
**Matrix: Water**  
**Analysis Batch: 449466**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	9.99	10.67		mg/L		107	85 - 115

**Lab Sample ID: 310-302066-7 DU**  
**Matrix: Water**  
**Analysis Batch: 449466**

**Client Sample ID: MW223S-GW-0325**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	2.81		2.791		mg/L		0.7	15

**Lab Sample ID: MB 310-449734/11**  
**Matrix: Water**  
**Analysis Batch: 449734**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	<1.00		1.00		mg/L			03/24/25 14:22	1

**Lab Sample ID: LCS 310-449734/12**  
**Matrix: Water**  
**Analysis Batch: 449734**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	9.99	10.44		mg/L		104	85 - 115

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

**Lab Sample ID: MB 310-449070/1**  
**Matrix: Water**  
**Analysis Batch: 449070**

**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	<50.0		50.0		mg/L			03/17/25 11:48	1

**Lab Sample ID: LCS 310-449070/2**  
**Matrix: Water**  
**Analysis Batch: 449070**

**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	998.0		mg/L		100	88 - 110

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# QC Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

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

Lab Sample ID: MB 310-449203/1  
Matrix: Water  
Analysis Batch: 449203

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	<50.0		50.0		mg/L			03/18/25 14:18	1

Lab Sample ID: LCS 310-449203/2  
Matrix: Water  
Analysis Batch: 449203

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	1004		mg/L		100	88 - 110

## Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-448986/1  
Matrix: Water  
Analysis Batch: 448986

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		101	98 - 102

Lab Sample ID: 310-302066-1 DU  
Matrix: Water  
Analysis Batch: 448986

Client Sample ID: MW13R-GW-0325  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8	HF	7.8		SU		0.5	20

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

## HPLC/IC

### Analysis Batch: 449523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-1	MW13R-GW-0325	Total/NA	Water	9056A	
310-302066-2	MW27-GW-0325	Total/NA	Water	9056A	
310-302066-3	MW29R-GW-0325	Total/NA	Water	9056A	
MB 310-449523/3	Method Blank	Total/NA	Water	9056A	
LCS 310-449523/4	Lab Control Sample	Total/NA	Water	9056A	
310-302066-1 MS	MW13R-GW-0325	Total/NA	Water	9056A	
310-302066-1 MSD	MW13R-GW-0325	Total/NA	Water	9056A	

### Analysis Batch: 449542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-5	MW231SR-GW-0325	Total/NA	Water	9056A	
310-302066-5	MW231SR-GW-0325	Total/NA	Water	9056A	
310-302066-7	MW223S-GW-0325	Total/NA	Water	9056A	
MB 310-449542/3	Method Blank	Total/NA	Water	9056A	
LCS 310-449542/4	Lab Control Sample	Total/NA	Water	9056A	
310-302066-7 MS	MW223S-GW-0325	Total/NA	Water	9056A	
310-302066-7 MSD	MW223S-GW-0325	Total/NA	Water	9056A	

### Analysis Batch: 450143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-6	DP01-GW-0325	Total/NA	Water	9056A	
MB 310-450143/3	Method Blank	Total/NA	Water	9056A	
LCS 310-450143/4	Lab Control Sample	Total/NA	Water	9056A	
310-302066-6 MS	DP01-GW-0325	Total/NA	Water	9056A	
310-302066-6 MSD	DP01-GW-0325	Total/NA	Water	9056A	

## Metals

### Prep Batch: 448970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-1	MW13R-GW-0325	Total/NA	Water	3005A	
310-302066-2	MW27-GW-0325	Total/NA	Water	3005A	
310-302066-3	MW29R-GW-0325	Total/NA	Water	3005A	
310-302066-5	MW231SR-GW-0325	Total/NA	Water	3005A	
310-302066-6	DP01-GW-0325	Total/NA	Water	3005A	
310-302066-7	MW223S-GW-0325	Total/NA	Water	3005A	
MB 310-448970/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-448970/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-302066-1 MS	MW13R-GW-0325	Total/NA	Water	3005A	
310-302066-1 MSD	MW13R-GW-0325	Total/NA	Water	3005A	

### Prep Batch: 449194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-5	MW231SR-GW-0325	Dissolved	Water	3005A	
310-302066-7	MW223S-GW-0325	Dissolved	Water	3005A	
MB 310-449194/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-449194/2-A	Lab Control Sample	Total/NA	Water	3005A	

### Analysis Batch: 449331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-5	MW231SR-GW-0325	Dissolved	Water	6020B	449194

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# QC Association Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

## Metals (Continued)

### Analysis Batch: 449331 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-7	MW223S-GW-0325	Dissolved	Water	6020B	449194
MB 310-449194/1-A	Method Blank	Total/NA	Water	6020B	449194
LCS 310-449194/2-A	Lab Control Sample	Total/NA	Water	6020B	449194

### Analysis Batch: 449682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-1	MW13R-GW-0325	Total/NA	Water	6020B	448970
310-302066-2	MW27-GW-0325	Total/NA	Water	6020B	448970
310-302066-3	MW29R-GW-0325	Total/NA	Water	6020B	448970
310-302066-5	MW231SR-GW-0325	Total/NA	Water	6020B	448970
310-302066-6	DP01-GW-0325	Total/NA	Water	6020B	448970
310-302066-7	MW223S-GW-0325	Total/NA	Water	6020B	448970
MB 310-448970/1-A	Method Blank	Total/NA	Water	6020B	448970
LCS 310-448970/2-A	Lab Control Sample	Total/NA	Water	6020B	448970
310-302066-1 MS	MW13R-GW-0325	Total/NA	Water	6020B	448970
310-302066-1 MSD	MW13R-GW-0325	Total/NA	Water	6020B	448970

### Analysis Batch: 449792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-1	MW13R-GW-0325	Total/NA	Water	6020B	448970
310-302066-2	MW27-GW-0325	Total/NA	Water	6020B	448970
310-302066-3	MW29R-GW-0325	Total/NA	Water	6020B	448970
310-302066-5	MW231SR-GW-0325	Total/NA	Water	6020B	448970
310-302066-6	DP01-GW-0325	Total/NA	Water	6020B	448970
310-302066-7	MW223S-GW-0325	Total/NA	Water	6020B	448970
MB 310-448970/1-A	Method Blank	Total/NA	Water	6020B	448970
LCS 310-448970/2-A	Lab Control Sample	Total/NA	Water	6020B	448970
310-302066-1 MS	MW13R-GW-0325	Total/NA	Water	6020B	448970
310-302066-1 MSD	MW13R-GW-0325	Total/NA	Water	6020B	448970

### Prep Batch: 450153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-1	MW13R-GW-0325	Total/NA	Water	7470A	
310-302066-2	MW27-GW-0325	Total/NA	Water	7470A	
310-302066-3	MW29R-GW-0325	Total/NA	Water	7470A	
310-302066-5	MW231SR-GW-0325	Total/NA	Water	7470A	
310-302066-6	DP01-GW-0325	Total/NA	Water	7470A	
310-302066-7	MW223S-GW-0325	Total/NA	Water	7470A	
MB 310-450153/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-450153/2-A	Lab Control Sample	Total/NA	Water	7470A	
310-302066-1 MS	MW13R-GW-0325	Total/NA	Water	7470A	
310-302066-1 MSD	MW13R-GW-0325	Total/NA	Water	7470A	

### Analysis Batch: 450371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-1	MW13R-GW-0325	Total/NA	Water	7470A	450153
310-302066-2	MW27-GW-0325	Total/NA	Water	7470A	450153
310-302066-3	MW29R-GW-0325	Total/NA	Water	7470A	450153
310-302066-5	MW231SR-GW-0325	Total/NA	Water	7470A	450153
310-302066-6	DP01-GW-0325	Total/NA	Water	7470A	450153
310-302066-7	MW223S-GW-0325	Total/NA	Water	7470A	450153

Eurofins Cedar Falls

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

## Metals (Continued)

### Analysis Batch: 450371 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-450153/1-A	Method Blank	Total/NA	Water	7470A	450153
LCS 310-450153/2-A	Lab Control Sample	Total/NA	Water	7470A	450153
310-302066-1 MS	MW13R-GW-0325	Total/NA	Water	7470A	450153
310-302066-1 MSD	MW13R-GW-0325	Total/NA	Water	7470A	450153

## General Chemistry

### Analysis Batch: 448986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-1	MW13R-GW-0325	Total/NA	Water	SM 4500 H+ B	
310-302066-2	MW27-GW-0325	Total/NA	Water	SM 4500 H+ B	
310-302066-3	MW29R-GW-0325	Total/NA	Water	SM 4500 H+ B	
310-302066-5	MW231SR-GW-0325	Total/NA	Water	SM 4500 H+ B	
310-302066-6	DP01-GW-0325	Total/NA	Water	SM 4500 H+ B	
310-302066-7	MW223S-GW-0325	Total/NA	Water	SM 4500 H+ B	
LCS 310-448986/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-302066-1 DU	MW13R-GW-0325	Total/NA	Water	SM 4500 H+ B	

### Analysis Batch: 449070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-1	MW13R-GW-0325	Total/NA	Water	SM 2540C	
310-302066-2	MW27-GW-0325	Total/NA	Water	SM 2540C	
310-302066-3	MW29R-GW-0325	Total/NA	Water	SM 2540C	
310-302066-6	DP01-GW-0325	Total/NA	Water	SM 2540C	
MB 310-449070/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-449070/2	Lab Control Sample	Total/NA	Water	SM 2540C	

### Analysis Batch: 449203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-5	MW231SR-GW-0325	Total/NA	Water	SM 2540C	
310-302066-7	MW223S-GW-0325	Total/NA	Water	SM 2540C	
MB 310-449203/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-449203/2	Lab Control Sample	Total/NA	Water	SM 2540C	

### Analysis Batch: 449466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-7	MW223S-GW-0325	Total/NA	Water	9060A	
MB 310-449466/11	Method Blank	Total/NA	Water	9060A	
LCS 310-449466/12	Lab Control Sample	Total/NA	Water	9060A	
310-302066-7 DU	MW223S-GW-0325	Total/NA	Water	9060A	

### Analysis Batch: 449734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-5	MW231SR-GW-0325	Total/NA	Water	9060A	
MB 310-449734/11	Method Blank	Total/NA	Water	9060A	
LCS 310-449734/12	Lab Control Sample	Total/NA	Water	9060A	

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

**Client Sample ID: MW13R-GW-0325**

**Lab Sample ID: 310-302066-1**

**Date Collected: 03/11/25 19:40**

**Matrix: Water**

**Date Received: 03/14/25 09:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	449523	WZC8	EET CF	03/18/25 11:19
Total/NA	Prep	3005A			448970	QTZ5	EET CF	03/17/25 09:00
Total/NA	Analysis	6020B		1	449682	NFT2	EET CF	03/24/25 17:44
Total/NA	Prep	3005A			448970	QTZ5	EET CF	03/17/25 09:00
Total/NA	Analysis	6020B		1	449792	NFT2	EET CF	03/25/25 15:14
Total/NA	Prep	7470A			450153	QTZ5	EET CF	03/31/25 14:25
Total/NA	Analysis	7470A		1	450371	F5MW	EET CF	04/01/25 10:48
Total/NA	Analysis	SM 2540C		1	449070	MDU9	EET CF	03/17/25 11:48
Total/NA	Analysis	SM 4500 H+ B		1	448986	WZC8	EET CF	03/14/25 17:22

**Client Sample ID: MW27-GW-0325**

**Lab Sample ID: 310-302066-2**

**Date Collected: 03/12/25 19:05**

**Matrix: Water**

**Date Received: 03/14/25 09:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	449523	WZC8	EET CF	03/18/25 12:09
Total/NA	Prep	3005A			448970	QTZ5	EET CF	03/17/25 09:00
Total/NA	Analysis	6020B		1	449682	NFT2	EET CF	03/24/25 17:58
Total/NA	Prep	3005A			448970	QTZ5	EET CF	03/17/25 09:00
Total/NA	Analysis	6020B		1	449792	NFT2	EET CF	03/25/25 15:31
Total/NA	Prep	7470A			450153	QTZ5	EET CF	03/31/25 14:25
Total/NA	Analysis	7470A		1	450371	F5MW	EET CF	04/01/25 10:55
Total/NA	Analysis	SM 2540C		1	449070	MDU9	EET CF	03/17/25 11:48
Total/NA	Analysis	SM 4500 H+ B		1	448986	WZC8	EET CF	03/14/25 17:30

**Client Sample ID: MW29R-GW-0325**

**Lab Sample ID: 310-302066-3**

**Date Collected: 03/12/25 17:50**

**Matrix: Water**

**Date Received: 03/14/25 09:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	449523	WZC8	EET CF	03/18/25 12:19
Total/NA	Prep	3005A			448970	QTZ5	EET CF	03/17/25 09:00
Total/NA	Analysis	6020B		1	449682	NFT2	EET CF	03/24/25 18:01
Total/NA	Prep	3005A			448970	QTZ5	EET CF	03/17/25 09:00
Total/NA	Analysis	6020B		1	449792	NFT2	EET CF	03/25/25 15:34
Total/NA	Prep	7470A			450153	QTZ5	EET CF	03/31/25 14:25
Total/NA	Analysis	7470A		1	450371	F5MW	EET CF	04/01/25 10:57
Total/NA	Analysis	SM 2540C		1	449070	MDU9	EET CF	03/17/25 11:48
Total/NA	Analysis	SM 4500 H+ B		1	448986	WZC8	EET CF	03/14/25 17:34

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

**Client Sample ID: MW231SR-GW-0325**

**Lab Sample ID: 310-302066-5**

**Date Collected: 03/13/25 09:05**

**Matrix: Water**

**Date Received: 03/14/25 09:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		1	449542	WZC8	EET CF	03/14/25 12:28
Total/NA	Analysis	9056A		10	449542	WZC8	EET CF	03/14/25 14:59
Dissolved	Prep	3005A			449194	F5MW	EET CF	03/19/25 08:30
Dissolved	Analysis	6020B		1	449331	NFT2	EET CF	03/19/25 16:01
Total/NA	Prep	3005A			448970	QTZ5	EET CF	03/17/25 09:00
Total/NA	Analysis	6020B		1	449682	NFT2	EET CF	03/24/25 18:03
Total/NA	Prep	3005A			448970	QTZ5	EET CF	03/17/25 09:00
Total/NA	Analysis	6020B		1	449792	NFT2	EET CF	03/25/25 15:37
Total/NA	Prep	7470A			450153	QTZ5	EET CF	03/31/25 14:25
Total/NA	Analysis	7470A		1	450371	F5MW	EET CF	04/01/25 11:03
Total/NA	Analysis	9060A		1	449734	HE7K	EET CF	03/24/25 19:46
Total/NA	Analysis	SM 2540C		1	449203	XJ7V	EET CF	03/18/25 14:18
Total/NA	Analysis	SM 4500 H+ B		1	448986	WZC8	EET CF	03/14/25 17:38

**Client Sample ID: DP01-GW-0325**

**Lab Sample ID: 310-302066-6**

**Date Collected: 03/12/25 00:00**

**Matrix: Water**

**Date Received: 03/14/25 09:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	450143	QTZ5	EET CF	03/28/25 15:34
Total/NA	Prep	3005A			448970	QTZ5	EET CF	03/17/25 09:00
Total/NA	Analysis	6020B		1	449682	NFT2	EET CF	03/24/25 18:05
Total/NA	Prep	3005A			448970	QTZ5	EET CF	03/17/25 09:00
Total/NA	Analysis	6020B		1	449792	NFT2	EET CF	03/25/25 15:40
Total/NA	Prep	7470A			450153	QTZ5	EET CF	03/31/25 14:25
Total/NA	Analysis	7470A		1	450371	F5MW	EET CF	04/01/25 11:05
Total/NA	Analysis	SM 2540C		1	449070	MDU9	EET CF	03/17/25 11:48
Total/NA	Analysis	SM 4500 H+ B		1	448986	WZC8	EET CF	03/14/25 17:43

**Client Sample ID: MW223S-GW-0325**

**Lab Sample ID: 310-302066-7**

**Date Collected: 03/13/25 10:35**

**Matrix: Water**

**Date Received: 03/14/25 09:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		1	449542	WZC8	EET CF	03/14/25 11:58
Dissolved	Prep	3005A			449194	F5MW	EET CF	03/19/25 08:30
Dissolved	Analysis	6020B		1	449331	NFT2	EET CF	03/19/25 16:04
Total/NA	Prep	3005A			448970	QTZ5	EET CF	03/17/25 09:00
Total/NA	Analysis	6020B		1	449682	NFT2	EET CF	03/24/25 18:08
Total/NA	Prep	3005A			448970	QTZ5	EET CF	03/17/25 09:00
Total/NA	Analysis	6020B		1	449792	NFT2	EET CF	03/25/25 15:42
Total/NA	Prep	7470A			450153	QTZ5	EET CF	03/31/25 14:25
Total/NA	Analysis	7470A		1	450371	F5MW	EET CF	04/01/25 11:07
Total/NA	Analysis	9060A		1	449466	HE7K	EET CF	03/20/25 15:38

Eurofins Cedar Falls

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

**Client Sample ID: MW223S-GW-0325**

**Lab Sample ID: 310-302066-7**

**Date Collected: 03/13/25 10:35**

**Matrix: Water**

**Date Received: 03/14/25 09:00**

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Total/NA	Analysis	SM 2540C		1	449203	XJ7V	EET CF	03/18/25 14:18
Total/NA	Analysis	SM 4500 H+ B		1	448986	WZC8	EET CF	03/14/25 18:36

**Laboratory References:**

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



# Accreditation/Certification Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

## Laboratory: Eurofins Cedar Falls

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6020B	3005A	Water	Lithium

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

# Method Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
9060A	Organic Carbon, Total (TOC)	SW846	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF

#### Protocol References:

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

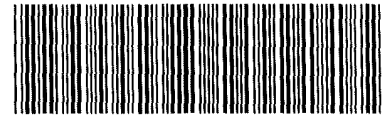
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

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



Environment Testing  
America



310-302066 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <u>GTHD Services</u>			
City/State:	<small>CITY</small> <u>Des Moines</u>	<small>STATE</small> <u>IA</u>	Project:
<b>Receipt Information</b>			
Date/Time Received:	<small>DATE</small> <u>3-14-25</u>	<small>TIME</small> <u>0900</u>	Received By:
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes: Cooler ID:</i>			
Multiple Coolers? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes: Cooler # <u>1</u> of <u>2</u></i>			
Cooler Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Cooler custody seals intact?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No			
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Sample custody seals intact?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No			
Trip Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Which VOA samples are in cooler?</i> ↓			
<b>Temperature Record</b>			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>B</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.1</u>		Corrected Temp (°C): <u>0.1</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) <i>If yes: Is there evidence that the chilling process began?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			





Environment Testing  
America

Place COC scanning label  
here

Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <u>GHD Services</u>			
City/State:	CITY <u>Des Moines</u>	STATE <u>IA</u>	Project:
<b>Receipt Information</b>			
Date/Time Received:	DATE <u>3.14.25</u>	TIME <u>0900</u>	Received By: <u>CGC</u>
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>2</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<b>Temperature Record</b>			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>4.1</u>		Corrected Temp (°C): <u>4.1</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE. If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			
<u>MW 2235-GW-0325 not received</u>			



# Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 310-302066-1

**Login Number: 302066**

**List Source: Eurofins Cedar Falls**

**List Number: 1**

**Creator: Homolar, Dana J**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> 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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.



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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Kevin Armstrong  
GHD Services Inc.  
11228 Aurora Avenue  
Des Moines, Iowa 50322-7905

Generated 5/8/2025 2:43:42 PM

## JOB DESCRIPTION

MEC Neal North-Background  
MEC Neal North-Background

## JOB NUMBER

310-302066-2

# Eurofins Cedar Falls

## Job Notes

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

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

## Authorization



Generated  
5/8/2025 2:43:42 PM

Authorized for release by  
Zach Bindert, Senior Project Manager  
[Zach.Bindert@et.eurofinsus.com](mailto:Zach.Bindert@et.eurofinsus.com)  
(319)595-2016



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# Case Narrative

Client: GHD Services Inc.  
Project: MEC Neal North-Background

Job ID: 310-302066-2

**Job ID: 310-302066-2**

**Eurofins Cedar Falls**

## Job Narrative 310-302066-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

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

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

### Receipt

The samples were received on 3/14/2025 9:00 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 0.1°C and 4.1°C.

### Gas Flow Proportional Counter

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

### Rad

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

Eurofins Cedar Falls

# Sample Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-302066-1	MW13R-GW-0325	Water	03/11/25 19:40	03/14/25 09:00
310-302066-2	MW27-GW-0325	Water	03/12/25 19:05	03/14/25 09:00
310-302066-3	MW29R-GW-0325	Water	03/12/25 17:50	03/14/25 09:00
310-302066-5	MW231SR-GW-0325	Water	03/13/25 09:05	03/14/25 09:00
310-302066-6	DP01-GW-0325	Water	03/12/25 00:00	03/14/25 09:00
310-302066-7	MW223S-GW-0325	Water	03/13/25 10:35	03/14/25 09:00

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

**Client Sample ID: MW13R-GW-0325**

**Lab Sample ID: 310-302066-1**

Date Collected: 03/11/25 19:40

Matrix: Water

Date Received: 03/14/25 09:00

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.296		0.103	0.107	1.00	0.106	pCi/L	04/16/25 07:43	05/08/25 07:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	90.2		30 - 110					04/16/25 07:43	05/08/25 07:35	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.551	U	0.365	0.368	1.00	0.551	pCi/L	04/16/25 07:46	04/23/25 11:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	90.2		30 - 110					04/16/25 07:46	04/23/25 11:47	1
Y Carrier	85.2		30 - 110					04/16/25 07:46	04/23/25 11:47	1

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.828		0.379	0.383	5.00	0.551	pCi/L		05/07/25 17:02	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

**Client Sample ID: MW27-GW-0325**

**Lab Sample ID: 310-302066-2**

Date Collected: 03/12/25 19:05

Matrix: Water

Date Received: 03/14/25 09:00

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.217		0.0908	0.0929	1.00	0.0939	pCi/L	04/16/25 07:43	05/08/25 07:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	82.6		30 - 110					04/16/25 07:43	05/08/25 07:35	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.718	U	0.396	0.396	1.00	0.718	pCi/L	04/16/25 07:46	04/23/25 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	82.6		30 - 110					04/16/25 07:46	04/23/25 11:48	1
Y Carrier	80.4		30 - 110					04/16/25 07:46	04/23/25 11:48	1

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.718	U	0.406	0.407	5.00	0.718	pCi/L		05/07/25 17:02	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

**Client Sample ID: MW29R-GW-0325**

**Lab Sample ID: 310-302066-3**

Date Collected: 03/12/25 17:50

Matrix: Water

Date Received: 03/14/25 09:00

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.178		0.0782	0.0798	1.00	0.0753	pCi/L	04/16/25 07:43	05/08/25 07:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	86.9		30 - 110					04/16/25 07:43	05/08/25 07:35	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.596	U	0.389	0.392	1.00	0.596	pCi/L	04/16/25 07:46	04/23/25 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	86.9		30 - 110					04/16/25 07:46	04/23/25 11:48	1
Y Carrier	79.3		30 - 110					04/16/25 07:46	04/23/25 11:48	1

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.696		0.397	0.400	5.00	0.596	pCi/L		05/07/25 17:02	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

**Client Sample ID: MW231SR-GW-0325**

**Lab Sample ID: 310-302066-5**

Date Collected: 03/13/25 09:05

Matrix: Water

Date Received: 03/14/25 09:00

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.258		0.0920	0.0949	1.00	0.0871	pCi/L	04/16/25 07:43	05/08/25 07:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	93.2		30 - 110					04/16/25 07:43	05/08/25 07:45	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.499	U	0.316	0.318	1.00	0.499	pCi/L	04/16/25 07:46	04/23/25 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	93.2		30 - 110					04/16/25 07:46	04/23/25 11:48	1
Y Carrier	86.0		30 - 110					04/16/25 07:46	04/23/25 11:48	1

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.612		0.329	0.332	5.00	0.499	pCi/L		05/07/25 17:02	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

**Client Sample ID: DP01-GW-0325**

**Lab Sample ID: 310-302066-6**

Date Collected: 03/12/25 00:00

Matrix: Water

Date Received: 03/14/25 09:00

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.164		0.0807	0.0821	1.00	0.0946	pCi/L	04/16/25 07:43	05/08/25 07:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	89.9		30 - 110					04/16/25 07:43	05/08/25 07:45	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.580	U	0.365	0.367	1.00	0.580	pCi/L	04/16/25 07:46	04/23/25 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	89.9		30 - 110					04/16/25 07:46	04/23/25 11:48	1
Y Carrier	80.7		30 - 110					04/16/25 07:46	04/23/25 11:48	1

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.580	U	0.374	0.376	5.00	0.580	pCi/L		05/07/25 17:02	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

**Client Sample ID: MW223S-GW-0325**

**Lab Sample ID: 310-302066-7**

Date Collected: 03/13/25 10:35

Matrix: Water

Date Received: 03/14/25 09:00

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.159		0.0906	0.0917	1.00	0.121	pCi/L	04/16/25 07:43	05/08/25 07:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	92.9		30 - 110					04/16/25 07:43	05/08/25 07:45	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.528	U	0.339	0.342	1.00	0.528	pCi/L	04/16/25 07:46	04/23/25 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	92.9		30 - 110					04/16/25 07:46	04/23/25 11:48	1
Y Carrier	84.5		30 - 110					04/16/25 07:46	04/23/25 11:48	1

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.577		0.351	0.354	5.00	0.528	pCi/L		05/08/25 14:36	1

# Definitions/Glossary

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

## 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: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

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

**Lab Sample ID: MB 160-712637/1-A**  
**Matrix: Water**  
**Analysis Batch: 716565**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 712637**

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	<0.100	U	0.0474	0.0474	1.00	0.100	pCi/L	04/16/25 07:43	05/08/25 07:33	1
Carrier	MB		Limits			Prepared	Analyzed		Dil Fac	
Barium	87.6		30 - 110			04/16/25 07:43	05/08/25 07:33		1	

**Lab Sample ID: LCS 160-712637/2-A**  
**Matrix: Water**  
**Analysis Batch: 716565**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 712637**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	9.58	10.47		1.08	1.00	0.103	pCi/L	109	75 - 125
Carrier	LCS	LCS	Limits						
Barium	87.6		30 - 110						

**Lab Sample ID: 310-302066-1 MS**  
**Matrix: Water**  
**Analysis Batch: 716556**

**Client Sample ID: MW13R-GW-0325**  
**Prep Type: Total/NA**  
**Prep Batch: 712637**

Analyte	Sample	Sample	Spike Added	MS	MS	Total	RL	MDC	Unit	%Rec	%Rec Limits
	Result	Qual		Result	Qual	Uncert. (2σ+/-)					
Radium-226	0.296		9.57	8.192		0.880	1.00	0.0902	pCi/L	82	60 - 140
Carrier	MS	MS	Limits								
Barium	88.1		30 - 110								

**Lab Sample ID: 310-302066-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 716556**

**Client Sample ID: MW13R-GW-0325**  
**Prep Type: Total/NA**  
**Prep Batch: 712637**

Analyte	Sample	Sample	Spike Added	MSD	MSD	Total	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
	Result	Qual		Result	Qual	Uncert. (2σ+/-)							
Radium-226	0.296		9.57	8.019		0.863	1.00	0.0982	pCi/L	81	60 - 140	0.1	1
Carrier	MSD	MSD	Limits										
Barium	88.6		30 - 110										

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

**Lab Sample ID: MB 160-712638/1-A**  
**Matrix: Water**  
**Analysis Batch: 713902**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 712638**

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	<0.597	U	0.323	0.323	1.00	0.597	pCi/L	04/16/25 07:46	04/23/25 11:46	1

Eurofins Cedar Falls

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

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

Carrier	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Yield	Qualifier				
Barium	87.6		30 - 110	04/16/25 07:46	04/23/25 11:46	1
Y Carrier	83.4		30 - 110	04/16/25 07:46	04/23/25 11:46	1

Lab Sample ID: LCS 160-712638/2-A  
Matrix: Water  
Analysis Batch: 713902

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 712638

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits

Carrier	LCS LCS		Limits
	%Yield	Qualifier	
Barium	87.6		30 - 110
Y Carrier	86.7		30 - 110

Lab Sample ID: 310-302066-1 MS  
Matrix: Water  
Analysis Batch: 713893

Client Sample ID: MW13R-GW-0325  
Prep Type: Total/NA  
Prep Batch: 712638

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits

Carrier	MS MS		Limits
	%Yield	Qualifier	
Barium	88.1		30 - 110
Y Carrier	81.5		30 - 110

Lab Sample ID: 310-302066-1 MSD  
Matrix: Water  
Analysis Batch: 713893

Client Sample ID: MW13R-GW-0325  
Prep Type: Total/NA  
Prep Batch: 712638

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	Limit

Carrier	MSD MSD		Limits
	%Yield	Qualifier	
Barium	88.6		30 - 110
Y Carrier	84.1		30 - 110

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

## Rad

### Prep Batch: 712637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-1	MW13R-GW-0325	Total/NA	Water	PrecSep-21	
310-302066-2	MW27-GW-0325	Total/NA	Water	PrecSep-21	
310-302066-3	MW29R-GW-0325	Total/NA	Water	PrecSep-21	
310-302066-5	MW231SR-GW-0325	Total/NA	Water	PrecSep-21	
310-302066-6	DP01-GW-0325	Total/NA	Water	PrecSep-21	
310-302066-7	MW223S-GW-0325	Total/NA	Water	PrecSep-21	
MB 160-712637/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-712637/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
310-302066-1 MS	MW13R-GW-0325	Total/NA	Water	PrecSep-21	
310-302066-1 MSD	MW13R-GW-0325	Total/NA	Water	PrecSep-21	

### Prep Batch: 712638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302066-1	MW13R-GW-0325	Total/NA	Water	PrecSep_0	
310-302066-2	MW27-GW-0325	Total/NA	Water	PrecSep_0	
310-302066-3	MW29R-GW-0325	Total/NA	Water	PrecSep_0	
310-302066-5	MW231SR-GW-0325	Total/NA	Water	PrecSep_0	
310-302066-6	DP01-GW-0325	Total/NA	Water	PrecSep_0	
310-302066-7	MW223S-GW-0325	Total/NA	Water	PrecSep_0	
MB 160-712638/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-712638/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
310-302066-1 MS	MW13R-GW-0325	Total/NA	Water	PrecSep_0	
310-302066-1 MSD	MW13R-GW-0325	Total/NA	Water	PrecSep_0	

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

## Client Sample ID: MW13R-GW-0325

## Lab Sample ID: 310-302066-1

Date Collected: 03/11/25 19:40

Matrix: Water

Date Received: 03/14/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			712637	OGC	EET SL	04/16/25 07:43
Total/NA	Analysis	9315		1	716556	SWS	EET SL	05/08/25 07:35
Total/NA	Prep	PrecSep_0			712638	OGC	EET SL	04/16/25 07:46
Total/NA	Analysis	9320		1	713893	SWS	EET SL	04/23/25 11:47
Total/NA	Analysis	Ra226_Ra228		1	716234	EMH	EET SL	05/07/25 17:02

## Client Sample ID: MW27-GW-0325

## Lab Sample ID: 310-302066-2

Date Collected: 03/12/25 19:05

Matrix: Water

Date Received: 03/14/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			712637	OGC	EET SL	04/16/25 07:43
Total/NA	Analysis	9315		1	716556	SWS	EET SL	05/08/25 07:35
Total/NA	Prep	PrecSep_0			712638	OGC	EET SL	04/16/25 07:46
Total/NA	Analysis	9320		1	713893	SWS	EET SL	04/23/25 11:48
Total/NA	Analysis	Ra226_Ra228		1	716234	EMH	EET SL	05/07/25 17:02

## Client Sample ID: MW29R-GW-0325

## Lab Sample ID: 310-302066-3

Date Collected: 03/12/25 17:50

Matrix: Water

Date Received: 03/14/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			712637	OGC	EET SL	04/16/25 07:43
Total/NA	Analysis	9315		1	716556	SWS	EET SL	05/08/25 07:35
Total/NA	Prep	PrecSep_0			712638	OGC	EET SL	04/16/25 07:46
Total/NA	Analysis	9320		1	713893	SWS	EET SL	04/23/25 11:48
Total/NA	Analysis	Ra226_Ra228		1	716234	EMH	EET SL	05/07/25 17:02

## Client Sample ID: MW231SR-GW-0325

## Lab Sample ID: 310-302066-5

Date Collected: 03/13/25 09:05

Matrix: Water

Date Received: 03/14/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			712637	OGC	EET SL	04/16/25 07:43
Total/NA	Analysis	9315		1	716563	SWS	EET SL	05/08/25 07:45
Total/NA	Prep	PrecSep_0			712638	OGC	EET SL	04/16/25 07:46
Total/NA	Analysis	9320		1	713893	SWS	EET SL	04/23/25 11:48
Total/NA	Analysis	Ra226_Ra228		1	716234	EMH	EET SL	05/07/25 17:02

# Lab Chronicle

Client: GHD Services Inc.  
 Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

**Client Sample ID: DP01-GW-0325**

**Lab Sample ID: 310-302066-6**

Date Collected: 03/12/25 00:00

Matrix: Water

Date Received: 03/14/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			712637	OGC	EET SL	04/16/25 07:43
Total/NA	Analysis	9315		1	716563	SWS	EET SL	05/08/25 07:45
Total/NA	Prep	PrecSep_0			712638	OGC	EET SL	04/16/25 07:46
Total/NA	Analysis	9320		1	713893	SWS	EET SL	04/23/25 11:48
Total/NA	Analysis	Ra226_Ra228		1	716234	EMH	EET SL	05/07/25 17:02

**Client Sample ID: MW223S-GW-0325**

**Lab Sample ID: 310-302066-7**

Date Collected: 03/13/25 10:35

Matrix: Water

Date Received: 03/14/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			712637	OGC	EET SL	04/16/25 07:43
Total/NA	Analysis	9315		1	716563	SWS	EET SL	05/08/25 07:45
Total/NA	Prep	PrecSep_0			712638	OGC	EET SL	04/16/25 07:46
Total/NA	Analysis	9320		1	713893	SWS	EET SL	04/23/25 11:48
Total/NA	Analysis	Ra226_Ra228		1	716234	EMH	EET SL	05/08/25 14:36

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

## Laboratory: Eurofins St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	373	12-01-26

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
9315	PrecSep-21	Water	Radium-226
9320	PrecSep_0	Water	Radium-228
Ra226_Ra228		Water	Combined Radium 226 + 228



# Method Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

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

**Protocol References:**

None = None

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

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

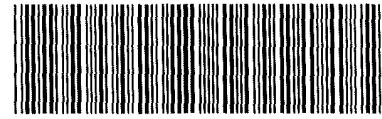
**Laboratory References:**

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





Environment Testing  
America



310-302066 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <u>GTHD Services</u>			
City/State:	<small>CITY</small> <u>Des Moines</u>	<small>STATE</small> <u>IA</u>	Project:
<b>Receipt Information</b>			
Date/Time Received:	<small>DATE</small> <u>3-14-25</u>	<small>TIME</small> <u>0900</u>	Received By:
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes: Cooler ID:</i>			
Multiple Coolers? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes: Cooler # <u>1</u> of <u>2</u></i>			
Cooler Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No</i>			
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No</i>			
Trip Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Which VOA samples are in cooler? ↓</i>			
<b>Temperature Record</b>			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>B</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.1</u>		Corrected Temp (°C): <u>0.1</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) <i>If yes: Is there evidence that the chilling process began?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			





Environment Testing  
America

Place COC scanning label  
here

**Cooler/Sample Receipt and Temperature Log Form**

<b>Client Information</b>			
Client: <u>GHD Services</u>			
City/State:	CITY <u>Des Moines</u>	STATE <u>IA</u>	Project:
<b>Receipt Information</b>			
Date/Time Received:	DATE <u>3.14.25</u>	TIME <u>0900</u>	Received By: <u>CGC</u>
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>2</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<b>Temperature Record</b>			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>4.1</u>		Corrected Temp (°C): <u>4.1</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE. If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			
<u>MW 2235-GW-0325 not received</u>			

**Chain of Custody Record**

214 DSM



214 DSM

Client Information		Lab PM		Carrier Tracking No(s)		COC No:											
Client Contact: <b>Kevin Armstrong</b> Company: <b>GHD Services Inc.</b> Address: <b>11228 Aurora Avenue</b> City: <b>Des Moines</b> State, Zip: <b>IA, 50322-7905</b> Phone: <b>515-414-3935</b> Email: <b>Kevin.Armstrong@ghd.com</b> Project Name: <b>MEC Neal North-Background</b> Site: <b>Neal North CCR</b>		Zach Bindert E-Mail: <b>zach.bindert@eurofins.com</b>		Zach Bindert E-Mail: <b>zach.bindert@eurofins.com</b>		Page: <b>Page 1 of 1</b> Job #:											
Due Date Requested:		TAT Requested (days):		Analysis Requested		Special Instructions/Note:											
Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No PO #: <b>340-017045</b> WO #: <b>12576482-004 01</b> Project #: <b>31017263</b> SSON#: <b>12576482-002</b>		Standard		9060A - TOC Duplicates 9060B - Dissolved Fe and Mn (field-filtered) 9060C, 7470A - Appendix III and IV Metals 9060A_ORGFM_28D - Chloride, Fluoride & Sulfate 9060A_ORGFM_48H - SHORT HOLD 9060B_7470A - Appendix III and IV Metals + Iron and Manganese 9060A_ORGFM_48H - SHORT HOLD 9060B - TOC Duplicates 9060C, 7470A - Appendix III and IV Metals + Iron and Manganese		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Y - Trizma Z - other (specify) Other:											
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Solid, On-tissue, AsAir)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9316_Ra226 - Standard Target List	9320_Ra228 - Standard Target List	9060A_ORGFM_28D - Chloride, Fluoride & Sulfate	9060B_7470A - Appendix III and IV Metals	2840C_Calcd, SM4500_H+	9060B - Dissolved Fe and Mn (field-filtered)	9060A - TOC Duplicates	9060A_ORGFM_48H - SHORT HOLD	9060B_7470A - Appendix III and IV Metals + Iron and Manganese	Total Number of Containers	Special Instructions/Note:
MW13R-GW-0325	3/11/25	1940	G	Water	N	N	X	X	X	X	X	X	X	X	X	5	
MW27-GW-0325	3/12/25	1905	G	Water	N	N	X	X	X	X	X	X	X	X	X	5	
MW29R-GW-0325	3/12/25	1750	G	Water	N	N	X	X	X	X	X	X	X	X	X	9	Short Hold
MW22SS-GW-0325	3/13/25	1035	G	Water	Y	N	X	X	X	X	X	X	X	X	X	9	Short Hold
MW231SR-GW-0325	3/13/25	0905	G	Water	Y	N	X	X	X	X	X	X	X	X	X	5	
DP01-GW-0325	3/17/25		G	Water	N	N	X	X	X	X	X	X	X	X	X	5	

# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler: N/A	Lab PM: Bindert, Zach T	Carrier Tracking No(s): 310-81259-1							
Client Contact: Shipping/Receiving		Phone: N/A	E-Mail: Zach.Bindert@et.eurofins.com	State of Origin: Iowa							
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Iowa									
Address: 13715 Rider Trail North,		Due Date Requested: 4/14/2025									
City: Earth City		TAT Requested (days): N/A									
State, Zip: MO, 63045		PO #: N/A									
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		WO #: N/A									
Email: N/A		Project #: 31017263									
Project Name: MEC Neal North-Background		SSOW#: N/A									
Site: MEC Neal Nort											
Sample Identification - Client ID (Lab ID)											
Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra22Ra228_GFC	9315_Ra228/PreSep_21 Standard Target List	9320_Ra228/PreSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
MW13R-GW-0325 (310-302066-1)	3/11/25	19:40 Central	G	Water	X	X	X	X	X	2	
MW13R-GW-0325 (310-302066-1MS)	3/11/25	19:40 Central	G	Water	X	X	X	X	X	2	
MW13R-GW-0325 (310-302066-1MSD)	3/11/25	19:40 Central	G	Water	X	X	X	X	X	2	
MW27-GW-0325 (310-302066-2)	3/12/25	19:05 Central	G	Water	X	X	X	X	X	2	
MW29R-GW-0325 (310-302066-3)	3/12/25	17:50 Central	G	Water	X	X	X	X	X	2	
MW231SR-GW-0325 (310-302066-5)	3/13/25	09:05 Central	G	Water	X	X	X	X	X	2	
DP01-GW-0325 (310-302066-6)	3/12/25	Central	G	Water	X	X	X	X	X	2	
MW223S-GW-0325 (310-302066-7)	3/13/25	10:35 Central	G	Water	X	X	X	X	X	2	
<p>Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.</p>											
<b>Possible Hazard Identification</b>					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months						
Unconfirmed					Special Instructions/QC Requirements:						
Deliverable Requested: I, II, III, IV, Other (specify)					Primary Deliverable Rank: 2						
Empty Kit Relinquished by:					Date: _____ Time: _____						
Relinquished by: <i>[Signature]</i>					Date/Time: 3/14/25 1145						
Relinquished by:					Date/Time: _____						
Relinquished by:					Date/Time: _____						
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No					Custody Seal No.:						
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No					Cooler Temperature(s) °C and Other Remarks:						
Received by: <i>[Signature]</i>					Date/Time: 0810 MAR 17 2025						
Received by: Cheyenne Forrest					Company: <i>[Signature]</i>						
Received by:					Date/Time: _____						



## Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 310-302066-2

**Login Number: 302066**

**List Source: Eurofins Cedar Falls**

**List Number: 1**

**Creator: Homolar, Dana J**

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	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

## Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 310-302066-2

**Login Number: 302066**

**List Number: 2**

**Creator: Forrest, Cheyenne L**

**List Source: Eurofins St. Louis**

**List Creation: 03/17/25 12:22 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?	N/A	
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.



# Tracer/Carrier Summary

Client: GHD Services Inc.  
 Project/Site: MEC Neal North-Background

Job ID: 310-302066-2

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

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba	
		(30-110)	
310-302066-1	MW13R-GW-0325	90.2	
310-302066-1 MS	MW13R-GW-0325	88.1	
310-302066-1 MSD	MW13R-GW-0325	88.6	
310-302066-2	MW27-GW-0325	82.6	
310-302066-3	MW29R-GW-0325	86.9	
310-302066-5	MW231SR-GW-0325	93.2	
310-302066-6	DP01-GW-0325	89.9	
310-302066-7	MW223S-GW-0325	92.9	
LCS 160-712637/2-A	Lab Control Sample	87.6	
MB 160-712637/1-A	Method Blank	87.6	

**Tracer/Carrier Legend**  
 Ba = Barium

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

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba	Y
		(30-110)	(30-110)
310-302066-1	MW13R-GW-0325	90.2	85.2
310-302066-1 MS	MW13R-GW-0325	88.1	81.5
310-302066-1 MSD	MW13R-GW-0325	88.6	84.1
310-302066-2	MW27-GW-0325	82.6	80.4
310-302066-3	MW29R-GW-0325	86.9	79.3
310-302066-5	MW231SR-GW-0325	93.2	86.0
310-302066-6	DP01-GW-0325	89.9	80.7
310-302066-7	MW223S-GW-0325	92.9	84.5
LCS 160-712638/2-A	Lab Control Sample	87.6	86.7
MB 160-712638/1-A	Method Blank	87.6	83.4

**Tracer/Carrier Legend**  
 Ba = Barium  
 Y = Y Carrier

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Kevin Armstrong  
GHD Services Inc.  
11228 Aurora Avenue  
Des Moines, Iowa 50322-7905

Generated 4/21/2025 8:53:59 AM

## JOB DESCRIPTION

Neal North Closed CCR Monofill

## JOB NUMBER

310-302361-1

# Eurofins Cedar Falls

## Job Notes

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

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

## Authorization



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4/21/2025 8:53:59 AM

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Authorized for release by  
Zach Bindert, Senior Project Manager  
[Zach.Bindert@et.eurofinsus.com](mailto:Zach.Bindert@et.eurofinsus.com)  
(319)595-2016



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# Case Narrative

Client: GHD Services Inc.  
Project: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Job ID: 310-302361-1**

**Eurofins Cedar Falls**

## Job Narrative 310-302361-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

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

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

### Receipt

The samples were received on 3/19/2025 3:10 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.1°C and 0.6°C.

### HPLC/IC

Method 9056A\_ORGFM\_28D: The following samples were diluted due to the nature of the sample matrix: MW01R-GW-0325 (310-302361-1), MW03R-GW-0325 (310-302361-2), MW05R-GW-0325 (310-302361-3), MW19-GW-0325 (310-302361-4), MW21-GW-0325 (310-302361-5) and DP05-GW-0325 (310-302361-6). Elevated reporting limits (RLs) are provided.

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

### Metals

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

### General Chemistry

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

Eurofins Cedar Falls

# Case Narrative

Client: GHD Services Inc.  
Project: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Job ID: 310-302361-2**

**Eurofins Cedar Falls**

## Job Narrative 310-302361-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

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

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

### Receipt

The samples were received on 3/19/2025 3:10 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.1°C and 0.6°C.

### Gas Flow Proportional Counter

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

### Rad

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

Eurofins Cedar Falls

# Sample Summary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-302361-1	MW01R-GW-0325	Water	03/17/25 17:40	03/19/25 15:10
310-302361-2	MW03R-GW-0325	Water	03/17/25 18:35	03/19/25 15:10
310-302361-3	MW05R-GW-0325	Water	03/17/25 18:30	03/19/25 15:10
310-302361-4	MW19-GW-0325	Water	03/17/25 19:45	03/19/25 15:10
310-302361-5	MW21-GW-0325	Water	03/17/25 19:25	03/19/25 15:10
310-302361-6	DP05-GW-0325	Water	03/17/25 00:00	03/19/25 15:10

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Client Sample ID: MW01R-GW-0325**

**Lab Sample ID: 310-302361-1**

Date Collected: 03/17/25 17:40

Matrix: Water

Date Received: 03/19/25 15:10

### Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>37</b>		5.0	2.3	mg/L			03/28/25 19:28	5
Fluoride	<0.38		1.0	0.38	mg/L			03/28/25 19:28	5
<b>Sulfate</b>	<b>230</b>		5.0	2.1	mg/L			03/28/25 19:28	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0020	0.0010	mg/L		03/21/25 08:30	03/26/25 17:14	1
<b>Arsenic</b>	<b>0.054</b>		0.0020	0.00053	mg/L		03/21/25 08:30	03/26/25 17:14	1
<b>Barium</b>	<b>0.12</b>		0.0020	0.00066	mg/L		03/21/25 08:30	03/26/25 17:14	1
Beryllium	<0.00033		0.0010	0.00033	mg/L		03/21/25 08:30	03/26/25 17:14	1
<b>Boron</b>	<b>0.45</b>		0.10	0.076	mg/L		03/21/25 08:30	03/27/25 13:25	1
Cadmium	<0.00010		0.00020	0.00010	mg/L		03/21/25 08:30	03/26/25 17:14	1
<b>Calcium</b>	<b>170</b>		0.50	0.19	mg/L		03/21/25 08:30	03/26/25 17:14	1
Chromium	<0.0012		0.0050	0.0012	mg/L		03/21/25 08:30	03/26/25 17:14	1
<b>Cobalt</b>	<b>0.00057</b>		0.00050	0.00017	mg/L		03/21/25 08:30	03/26/25 17:14	1
<b>Lithium</b>	<b>0.087</b>		0.010	0.0025	mg/L		03/21/25 08:30	03/26/25 17:14	1
Lead	<0.00026		0.00050	0.00026	mg/L		03/21/25 08:30	03/26/25 17:14	1
<b>Molybdenum</b>	<b>0.0034</b>		0.0020	0.0013	mg/L		03/21/25 08:30	03/26/25 17:14	1
Selenium	<0.0014		0.0050	0.0014	mg/L		03/21/25 08:30	03/26/25 17:14	1
Thallium	<0.00057		0.0010	0.00057	mg/L		03/21/25 08:30	03/26/25 17:14	1

### Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00011		0.00020	0.00011	mg/L		03/28/25 11:50	03/29/25 09:12	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>940</b>		50	36	mg/L			03/20/25 15:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.7</b>	<b>HF</b>	1.0	1.0	SU			03/19/25 20:36	1

### Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.353	U	0.215	0.215	1.00	0.353	pCi/L	03/24/25 07:33	04/18/25 16:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	81.9		30 - 110					03/24/25 07:33	04/18/25 16:10	1

### Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.579	U	0.351	0.352	1.00	0.579	pCi/L	03/24/25 07:36	04/18/25 11:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	81.9		30 - 110					03/24/25 07:36	04/18/25 11:33	1
Y Carrier	81.1		30 - 110					03/24/25 07:36	04/18/25 11:33	1

Eurofins Cedar Falls

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Client Sample ID: MW01R-GW-0325**

**Lab Sample ID: 310-302361-1**

**Date Collected: 03/17/25 17:40**

**Matrix: Water**

**Date Received: 03/19/25 15:10**

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.579	U	0.412	0.412	5.00	0.579	pCi/L		04/21/25 08:21	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Client Sample ID: MW03R-GW-0325**

**Lab Sample ID: 310-302361-2**

Date Collected: 03/17/25 18:35

Matrix: Water

Date Received: 03/19/25 15:10

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>6.7</b>		5.0	2.3	mg/L			03/28/25 19:44	5
Fluoride	<0.38		1.0	0.38	mg/L			03/28/25 19:44	5
<b>Sulfate</b>	<b>170</b>		5.0	2.1	mg/L			03/28/25 19:44	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0020	0.0010	mg/L		03/21/25 08:30	03/26/25 17:17	1
<b>Arsenic</b>	<b>0.042</b>		0.0020	0.00053	mg/L		03/21/25 08:30	03/26/25 17:17	1
<b>Barium</b>	<b>0.20</b>		0.0020	0.00066	mg/L		03/21/25 08:30	03/26/25 17:17	1
Beryllium	<0.00033		0.0010	0.00033	mg/L		03/21/25 08:30	03/26/25 17:17	1
<b>Boron</b>	<b>0.55</b>		0.10	0.076	mg/L		03/21/25 08:30	03/27/25 13:37	1
Cadmium	<0.00010		0.00020	0.00010	mg/L		03/21/25 08:30	03/26/25 17:17	1
<b>Calcium</b>	<b>150</b>		0.50	0.19	mg/L		03/21/25 08:30	03/26/25 17:17	1
Chromium	<0.0012		0.0050	0.0012	mg/L		03/21/25 08:30	03/26/25 17:17	1
<b>Cobalt</b>	<b>0.00064</b>		0.00050	0.00017	mg/L		03/21/25 08:30	03/26/25 17:17	1
<b>Lithium</b>	<b>0.087</b>		0.010	0.0025	mg/L		03/21/25 08:30	03/26/25 17:17	1
Lead	<0.00026		0.00050	0.00026	mg/L		03/21/25 08:30	03/26/25 17:17	1
<b>Molybdenum</b>	<b>0.0019 J</b>		0.0020	0.0013	mg/L		03/21/25 08:30	03/26/25 17:17	1
Selenium	<0.0014		0.0050	0.0014	mg/L		03/21/25 08:30	03/26/25 17:17	1
Thallium	<0.00057		0.0010	0.00057	mg/L		03/21/25 08:30	03/26/25 17:17	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00011		0.00020	0.00011	mg/L		03/28/25 11:50	03/29/25 09:14	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>760</b>		50	36	mg/L			03/20/25 15:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.7</b>	<b>HF</b>	1.0	1.0	SU			03/19/25 19:51	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.358	U	0.184	0.184	1.00	0.358	pCi/L	03/24/25 07:33	04/18/25 16:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	82.4		30 - 110					03/24/25 07:33	04/18/25 16:10	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>0.812</b>		0.391	0.398	1.00	0.524	pCi/L	03/24/25 07:36	04/18/25 11:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	82.4		30 - 110					03/24/25 07:36	04/18/25 11:35	1
Y Carrier	80.7		30 - 110					03/24/25 07:36	04/18/25 11:35	1

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Client Sample ID: MW03R-GW-0325**

**Lab Sample ID: 310-302361-2**

Date Collected: 03/17/25 18:35

Matrix: Water

Date Received: 03/19/25 15:10

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.855		0.432	0.438	5.00	0.524	pCi/L		04/21/25 08:21	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Client Sample ID: MW05R-GW-0325**

**Lab Sample ID: 310-302361-3**

Date Collected: 03/17/25 18:30

Matrix: Water

Date Received: 03/19/25 15:10

### Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>10</b>		5.0	2.3	mg/L			03/28/25 19:59	5
Fluoride	<0.38		1.0	0.38	mg/L			03/28/25 19:59	5
<b>Sulfate</b>	<b>320</b>		5.0	2.1	mg/L			03/28/25 19:59	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0020	0.0010	mg/L		03/21/25 08:30	03/26/25 17:19	1
<b>Arsenic</b>	<b>0.031</b>		0.0020	0.00053	mg/L		03/21/25 08:30	03/26/25 17:19	1
<b>Barium</b>	<b>0.14</b>		0.0020	0.00066	mg/L		03/21/25 08:30	03/26/25 17:19	1
Beryllium	<0.00033		0.0010	0.00033	mg/L		03/21/25 08:30	03/26/25 17:19	1
<b>Boron</b>	<b>0.37</b>		0.10	0.076	mg/L		03/21/25 08:30	03/27/25 13:39	1
Cadmium	<0.00010		0.00020	0.00010	mg/L		03/21/25 08:30	03/26/25 17:19	1
<b>Calcium</b>	<b>160</b>		0.50	0.19	mg/L		03/21/25 08:30	03/26/25 17:19	1
Chromium	<0.0012		0.0050	0.0012	mg/L		03/21/25 08:30	03/26/25 17:19	1
<b>Cobalt</b>	<b>0.00055</b>		0.00050	0.00017	mg/L		03/21/25 08:30	03/26/25 17:19	1
<b>Lithium</b>	<b>0.074</b>		0.010	0.0025	mg/L		03/21/25 08:30	03/26/25 17:19	1
Lead	<0.00026		0.00050	0.00026	mg/L		03/21/25 08:30	03/26/25 17:19	1
<b>Molybdenum</b>	<b>0.0036</b>		0.0020	0.0013	mg/L		03/21/25 08:30	03/26/25 17:19	1
Selenium	<0.0014		0.0050	0.0014	mg/L		03/21/25 08:30	03/26/25 17:19	1
Thallium	<0.00057		0.0010	0.00057	mg/L		03/21/25 08:30	03/26/25 17:19	1

### Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00011		0.00020	0.00011	mg/L		03/28/25 11:50	03/29/25 09:17	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>930</b>		50	36	mg/L			03/20/25 15:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.7</b>	<b>HF</b>	1.0	1.0	SU			03/19/25 19:55	1

### Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.270	U	0.151	0.151	1.00	0.270	pCi/L	03/24/25 07:33	04/18/25 16:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	89.7		30 - 110					03/24/25 07:33	04/18/25 16:10	1

### Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>0.561</b>		0.354	0.358	1.00	0.522	pCi/L	03/24/25 07:36	04/18/25 11:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	89.7		30 - 110					03/24/25 07:36	04/18/25 11:35	1
Y Carrier	80.7		30 - 110					03/24/25 07:36	04/18/25 11:35	1

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# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Client Sample ID: MW05R-GW-0325**  
 Date Collected: 03/17/25 18:30  
 Date Received: 03/19/25 15:10

**Lab Sample ID: 310-302361-3**  
 Matrix: Water

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.646		0.385	0.389	5.00	0.522	pCi/L		04/21/25 08:21	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Client Sample ID: MW19-GW-0325**

**Lab Sample ID: 310-302361-4**

Date Collected: 03/17/25 19:45

Matrix: Water

Date Received: 03/19/25 15:10

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>20</b>		5.0	2.3	mg/L			03/28/25 20:15	5
Fluoride	<0.38		1.0	0.38	mg/L			03/28/25 20:15	5
<b>Sulfate</b>	<b>1000</b>		20	8.4	mg/L			03/28/25 20:30	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0020	0.0010	mg/L		03/21/25 08:30	03/26/25 17:21	1
<b>Arsenic</b>	<b>0.0054</b>		0.0020	0.00053	mg/L		03/21/25 08:30	03/26/25 17:21	1
<b>Barium</b>	<b>0.023</b>		0.0020	0.00066	mg/L		03/21/25 08:30	03/26/25 17:21	1
Beryllium	<0.00033		0.0010	0.00033	mg/L		03/21/25 08:30	03/26/25 17:21	1
<b>Boron</b>	<b>0.64</b>		0.40	0.30	mg/L		03/21/25 08:30	03/27/25 13:42	4
Cadmium	<0.00010		0.00020	0.00010	mg/L		03/21/25 08:30	03/26/25 17:21	1
<b>Calcium</b>	<b>420</b>		0.50	0.19	mg/L		03/21/25 08:30	03/26/25 17:21	1
Chromium	<0.0012		0.0050	0.0012	mg/L		03/21/25 08:30	03/26/25 17:21	1
<b>Cobalt</b>	<b>0.015</b>		0.00050	0.00017	mg/L		03/21/25 08:30	03/26/25 17:21	1
<b>Lithium</b>	<b>0.28</b>		0.010	0.0025	mg/L		03/21/25 08:30	03/26/25 17:21	1
Lead	<0.00026		0.00050	0.00026	mg/L		03/21/25 08:30	03/26/25 17:21	1
Molybdenum	<0.0013		0.0020	0.0013	mg/L		03/21/25 08:30	03/26/25 17:21	1
Selenium	<0.0014		0.0050	0.0014	mg/L		03/21/25 08:30	03/26/25 17:21	1
Thallium	<0.00057		0.0010	0.00057	mg/L		03/21/25 08:30	03/26/25 17:21	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00011		0.00020	0.00011	mg/L		03/28/25 11:50	03/29/25 09:19	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>2300</b>		50	36	mg/L			03/20/25 15:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.4</b>	<b>HF</b>	1.0	1.0	SU			03/19/25 20:32	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	<0.314	U	0.172	0.172	1.00	0.314	pCi/L	03/24/25 07:33	04/18/25 16:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	87.3		30 - 110					03/24/25 07:33	04/18/25 16:10	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
<b>Radium-228</b>	<b>0.717</b>		0.422	0.427	1.00	0.624	pCi/L	03/24/25 07:36	04/18/25 11:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	87.3		30 - 110					03/24/25 07:36	04/18/25 11:35	1
Y Carrier	82.2		30 - 110					03/24/25 07:36	04/18/25 11:35	1

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# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Client Sample ID: MW19-GW-0325**

**Lab Sample ID: 310-302361-4**

Date Collected: 03/17/25 19:45

Matrix: Water

Date Received: 03/19/25 15:10

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.801		0.456	0.460	5.00	0.624	pCi/L		04/21/25 08:21	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Client Sample ID: MW21-GW-0325**

**Lab Sample ID: 310-302361-5**

Date Collected: 03/17/25 19:25

Matrix: Water

Date Received: 03/19/25 15:10

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.7		5.0	2.3	mg/L			03/28/25 21:17	5
Fluoride	<0.38		1.0	0.38	mg/L			03/28/25 21:17	5
Sulfate	1600		20	8.4	mg/L			03/28/25 21:33	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0011	J	0.0020	0.0010	mg/L		03/21/25 08:30	03/26/25 17:33	1
Arsenic	0.00068	J	0.0020	0.00053	mg/L		03/21/25 08:30	03/26/25 17:33	1
Barium	0.019		0.0020	0.00066	mg/L		03/21/25 08:30	03/26/25 17:33	1
Beryllium	<0.00033		0.0010	0.00033	mg/L		03/21/25 08:30	03/26/25 17:33	1
Boron	0.46		0.40	0.30	mg/L		03/21/25 08:30	03/27/25 13:48	4
Cadmium	0.00029		0.00020	0.00010	mg/L		03/21/25 08:30	03/26/25 17:33	1
Calcium	560		2.0	0.76	mg/L		03/21/25 08:30	03/27/25 13:48	4
Chromium	<0.0012		0.0050	0.0012	mg/L		03/21/25 08:30	03/26/25 17:33	1
Cobalt	0.00082		0.00050	0.00017	mg/L		03/21/25 08:30	03/26/25 17:33	1
Lithium	0.35		0.010	0.0025	mg/L		03/21/25 08:30	03/26/25 17:33	1
Lead	<0.00026		0.00050	0.00026	mg/L		03/21/25 08:30	03/26/25 17:33	1
Molybdenum	<0.0013		0.0020	0.0013	mg/L		03/21/25 08:30	03/26/25 17:33	1
Selenium	0.0038	J	0.0050	0.0014	mg/L		03/21/25 08:30	03/26/25 17:33	1
Thallium	<0.00057		0.0010	0.00057	mg/L		03/21/25 08:30	03/26/25 17:33	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00011		0.00020	0.00011	mg/L		03/28/25 11:50	03/29/25 09:21	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	3000		50	36	mg/L			03/20/25 15:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.4	HF	1.0	1.0	SU			03/19/25 20:19	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.462	U	0.216	0.216	1.00	0.462	pCi/L	03/24/25 07:33	04/18/25 16:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	84.6		30 - 110					03/24/25 07:33	04/18/25 16:10	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.716		0.397	0.403	1.00	0.571	pCi/L	03/24/25 07:36	04/18/25 11:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	84.6		30 - 110					03/24/25 07:36	04/18/25 11:35	1
Y Carrier	83.0		30 - 110					03/24/25 07:36	04/18/25 11:35	1

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# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Client Sample ID: MW21-GW-0325**

**Lab Sample ID: 310-302361-5**

Date Collected: 03/17/25 19:25

Matrix: Water

Date Received: 03/19/25 15:10

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.622		0.452	0.457	5.00	0.571	pCi/L		04/21/25 08:21	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Client Sample ID: DP05-GW-0325**

**Lab Sample ID: 310-302361-6**

Date Collected: 03/17/25 00:00

Matrix: Water

Date Received: 03/19/25 15:10

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>37</b>		5.0	2.3	mg/L			03/28/25 21:48	5
Fluoride	<0.38		1.0	0.38	mg/L			03/28/25 21:48	5
<b>Sulfate</b>	<b>230</b>		5.0	2.1	mg/L			03/28/25 21:48	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0020	0.0010	mg/L		03/21/25 08:30	03/26/25 17:36	1
<b>Arsenic</b>	<b>0.056</b>		0.0020	0.00053	mg/L		03/21/25 08:30	03/26/25 17:36	1
<b>Barium</b>	<b>0.12</b>		0.0020	0.00066	mg/L		03/21/25 08:30	03/26/25 17:36	1
Beryllium	<0.00033		0.0010	0.00033	mg/L		03/21/25 08:30	03/26/25 17:36	1
<b>Boron</b>	<b>0.46</b>		0.10	0.076	mg/L		03/21/25 08:30	03/27/25 13:51	1
Cadmium	<0.00010		0.00020	0.00010	mg/L		03/21/25 08:30	03/26/25 17:36	1
<b>Calcium</b>	<b>170</b>		0.50	0.19	mg/L		03/21/25 08:30	03/26/25 17:36	1
Chromium	<0.0012		0.0050	0.0012	mg/L		03/21/25 08:30	03/26/25 17:36	1
<b>Cobalt</b>	<b>0.00059</b>		0.00050	0.00017	mg/L		03/21/25 08:30	03/26/25 17:36	1
<b>Lithium</b>	<b>0.089</b>		0.010	0.0025	mg/L		03/21/25 08:30	03/26/25 17:36	1
Lead	<0.00026		0.00050	0.00026	mg/L		03/21/25 08:30	03/26/25 17:36	1
<b>Molybdenum</b>	<b>0.0036</b>		0.0020	0.0013	mg/L		03/21/25 08:30	03/26/25 17:36	1
Selenium	<0.0014		0.0050	0.0014	mg/L		03/21/25 08:30	03/26/25 17:36	1
Thallium	<0.00057		0.0010	0.00057	mg/L		03/21/25 08:30	03/26/25 17:36	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00011		0.00020	0.00011	mg/L		03/28/25 11:50	03/29/25 09:23	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>970</b>		50	36	mg/L			03/20/25 15:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.7</b>	<b>HF</b>	1.0	1.0	SU			03/19/25 20:23	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.500	U	0.302	0.302	1.00	0.500	pCi/L	03/24/25 07:33	04/18/25 16:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	82.6		30 - 110					03/24/25 07:33	04/18/25 16:10	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>0.682</b>		0.387	0.392	1.00	0.554	pCi/L	03/24/25 07:36	04/18/25 11:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	82.6		30 - 110					03/24/25 07:36	04/18/25 11:35	1
Y Carrier	81.9		30 - 110					03/24/25 07:36	04/18/25 11:35	1

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# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Client Sample ID: DP05-GW-0325**

**Lab Sample ID: 310-302361-6**

Date Collected: 03/17/25 00:00

Matrix: Water

Date Received: 03/19/25 15:10

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.924		0.491	0.495	5.00	0.554	pCi/L		04/21/25 08:21	1

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# Definitions/Glossary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

## Qualifiers

### Metals

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

### General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

### 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: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

## Method: 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 310-450143/3**  
**Matrix: Water**  
**Analysis Batch: 450143**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.45		1.0	0.45	mg/L			03/28/25 15:04	1
Fluoride	<0.075		0.20	0.075	mg/L			03/28/25 15:04	1
Sulfate	<0.42		1.0	0.42	mg/L			03/28/25 15:04	1

**Lab Sample ID: LCS 310-450143/4**  
**Matrix: Water**  
**Analysis Batch: 450143**

**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	9.95		mg/L		100	90 - 110
Fluoride	2.00	2.00		mg/L		100	90 - 110
Sulfate	10.0	10.2		mg/L		102	90 - 110

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

**Lab Sample ID: MB 310-449393/1-A**  
**Matrix: Water**  
**Analysis Batch: 449894**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 449393**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0020	0.0010	mg/L		03/21/25 08:30	03/26/25 16:38	1
Arsenic	<0.00053		0.0020	0.00053	mg/L		03/21/25 08:30	03/26/25 16:38	1
Barium	<0.00066		0.0020	0.00066	mg/L		03/21/25 08:30	03/26/25 16:38	1
Beryllium	<0.00033		0.0010	0.00033	mg/L		03/21/25 08:30	03/26/25 16:38	1
Cadmium	<0.00010		0.00020	0.00010	mg/L		03/21/25 08:30	03/26/25 16:38	1
Calcium	<0.19		0.50	0.19	mg/L		03/21/25 08:30	03/26/25 16:38	1
Chromium	<0.0012		0.0050	0.0012	mg/L		03/21/25 08:30	03/26/25 16:38	1
Cobalt	<0.00017		0.00050	0.00017	mg/L		03/21/25 08:30	03/26/25 16:38	1
Lithium	<0.0025		0.010	0.0025	mg/L		03/21/25 08:30	03/26/25 16:38	1
Lead	<0.00026		0.00050	0.00026	mg/L		03/21/25 08:30	03/26/25 16:38	1
Molybdenum	<0.0013		0.0020	0.0013	mg/L		03/21/25 08:30	03/26/25 16:38	1
Selenium	<0.0014		0.0050	0.0014	mg/L		03/21/25 08:30	03/26/25 16:38	1
Thallium	<0.00057		0.0010	0.00057	mg/L		03/21/25 08:30	03/26/25 16:38	1

**Lab Sample ID: MB 310-449393/1-A**  
**Matrix: Water**  
**Analysis Batch: 449985**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 449393**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.076		0.10	0.076	mg/L		03/21/25 08:30	03/27/25 12:45	1

**Lab Sample ID: LCS 310-449393/2-A**  
**Matrix: Water**  
**Analysis Batch: 449894**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 449393**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.223		mg/L		111	80 - 120
Arsenic	0.200	0.203		mg/L		101	80 - 120
Barium	0.100	0.103		mg/L		103	80 - 120
Beryllium	0.100	0.0952		mg/L		95	80 - 120

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# QC Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

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

**Lab Sample ID: LCS 310-449393/2-A**  
**Matrix: Water**  
**Analysis Batch: 449894**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 449393**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	0.100	0.0989		mg/L		99	80 - 120
Calcium	2.00	1.88		mg/L		94	80 - 120
Chromium	0.100	0.101		mg/L		101	80 - 120
Cobalt	0.100	0.107		mg/L		107	80 - 120
Lithium	0.200	0.205		mg/L		102	80 - 120
Lead	0.200	0.209		mg/L		105	80 - 120
Molybdenum	0.200	0.204		mg/L		102	80 - 120
Selenium	0.400	0.383		mg/L		96	80 - 120
Thallium	0.100	0.0880		mg/L		88	80 - 120

**Lab Sample ID: LCS 310-449393/2-A**  
**Matrix: Water**  
**Analysis Batch: 449985**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 449393**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.200	0.230		mg/L		115	80 - 120

**Lab Sample ID: 310-302361-4 DU**  
**Matrix: Water**  
**Analysis Batch: 449894**

**Client Sample ID: MW19-GW-0325**  
**Prep Type: Total/NA**  
**Prep Batch: 449393**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Antimony	<0.0010		<0.0010		mg/L		NC	20
Arsenic	0.0054		0.00528		mg/L		3	20
Barium	0.023		0.0222		mg/L		3	20
Beryllium	<0.00033		<0.00033		mg/L		NC	20
Cadmium	<0.00010		<0.00010		mg/L		NC	20
Calcium	420		405		mg/L		3	20
Chromium	<0.0012		<0.0012		mg/L		NC	20
Cobalt	0.015		0.0145		mg/L		3	20
Lithium	0.28		0.268		mg/L		5	20
Lead	<0.00026		<0.00026		mg/L		NC	20
Molybdenum	<0.0013		<0.0013		mg/L		NC	20
Selenium	<0.0014		<0.0014		mg/L		NC	20
Thallium	<0.00057		<0.00057		mg/L		NC	20

**Lab Sample ID: 310-302361-4 DU**  
**Matrix: Water**  
**Analysis Batch: 449985**

**Client Sample ID: MW19-GW-0325**  
**Prep Type: Total/NA**  
**Prep Batch: 449393**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Boron	0.64		0.623		mg/L		3	20

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-450061/1-A  
Matrix: Water  
Analysis Batch: 450149

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 450061

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00011		0.00020	0.00011	mg/L		03/28/25 11:50	03/29/25 08:51	1

Lab Sample ID: LCS 310-450061/2-A  
Matrix: Water  
Analysis Batch: 450149

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 450061

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

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

Lab Sample ID: MB 310-449414/1  
Matrix: Water  
Analysis Batch: 449414

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	<36		50	36	mg/L			03/20/25 15:16	1

Lab Sample ID: LCS 310-449414/2  
Matrix: Water  
Analysis Batch: 449414

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	998		mg/L		100	88 - 110

## Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-449339/1  
Matrix: Water  
Analysis Batch: 449339

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100	98 - 102

Lab Sample ID: 310-302361-6 DU  
Matrix: Water  
Analysis Batch: 449339

Client Sample ID: DP05-GW-0325  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.7	HF	7.7		SU		0.05	20

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

Lab Sample ID: MB 160-709051/1-A  
Matrix: Water  
Analysis Batch: 713073

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 709051

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.308	U	0.170	0.170	1.00	0.308	pCi/L	03/24/25 07:33	04/18/25 15:58	1

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# QC Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

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

**Lab Sample ID: MB 160-709051/1-A**  
**Matrix: Water**  
**Analysis Batch: 713073**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 709051**

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Barium	88.5		30 - 110	03/24/25 07:33	04/18/25 15:58	1

**Lab Sample ID: LCS 160-709051/2-A**  
**Matrix: Water**  
**Analysis Batch: 713073**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 709051**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	9.58	8.392		1.18	1.00	0.280	pCi/L	88	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Barium	87.5		30 - 110

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

**Lab Sample ID: MB 160-709052/1-A**  
**Matrix: Water**  
**Analysis Batch: 713073**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 709052**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.529	U	0.300	0.301	1.00	0.529	pCi/L	03/24/25 07:36	04/18/25 11:33	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Barium	88.5		30 - 110	03/24/25 07:36	04/18/25 11:33	1
Y Carrier	86.0		30 - 110	03/24/25 07:36	04/18/25 11:33	1

**Lab Sample ID: LCS 160-709052/2-A**  
**Matrix: Water**  
**Analysis Batch: 713073**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 709052**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	9.53	9.281		1.28	1.00	0.582	pCi/L	97	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Barium	87.5		30 - 110
Y Carrier	83.7		30 - 110

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

## HPLC/IC

### Analysis Batch: 450143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302361-1	MW01R-GW-0325	Total/NA	Water	9056A	
310-302361-2	MW03R-GW-0325	Total/NA	Water	9056A	
310-302361-3	MW05R-GW-0325	Total/NA	Water	9056A	
310-302361-4	MW19-GW-0325	Total/NA	Water	9056A	
310-302361-4	MW19-GW-0325	Total/NA	Water	9056A	
310-302361-5	MW21-GW-0325	Total/NA	Water	9056A	
310-302361-5	MW21-GW-0325	Total/NA	Water	9056A	
310-302361-6	DP05-GW-0325	Total/NA	Water	9056A	
MB 310-450143/3	Method Blank	Total/NA	Water	9056A	
LCS 310-450143/4	Lab Control Sample	Total/NA	Water	9056A	

## Metals

### Prep Batch: 449393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302361-1	MW01R-GW-0325	Total/NA	Water	3005A	
310-302361-2	MW03R-GW-0325	Total/NA	Water	3005A	
310-302361-3	MW05R-GW-0325	Total/NA	Water	3005A	
310-302361-4	MW19-GW-0325	Total/NA	Water	3005A	
310-302361-5	MW21-GW-0325	Total/NA	Water	3005A	
310-302361-6	DP05-GW-0325	Total/NA	Water	3005A	
MB 310-449393/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-449393/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-302361-4 DU	MW19-GW-0325	Total/NA	Water	3005A	

### Analysis Batch: 449894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302361-1	MW01R-GW-0325	Total/NA	Water	6020B	449393
310-302361-2	MW03R-GW-0325	Total/NA	Water	6020B	449393
310-302361-3	MW05R-GW-0325	Total/NA	Water	6020B	449393
310-302361-4	MW19-GW-0325	Total/NA	Water	6020B	449393
310-302361-5	MW21-GW-0325	Total/NA	Water	6020B	449393
310-302361-6	DP05-GW-0325	Total/NA	Water	6020B	449393
MB 310-449393/1-A	Method Blank	Total/NA	Water	6020B	449393
LCS 310-449393/2-A	Lab Control Sample	Total/NA	Water	6020B	449393
310-302361-4 DU	MW19-GW-0325	Total/NA	Water	6020B	449393

### Analysis Batch: 449985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302361-1	MW01R-GW-0325	Total/NA	Water	6020B	449393
310-302361-2	MW03R-GW-0325	Total/NA	Water	6020B	449393
310-302361-3	MW05R-GW-0325	Total/NA	Water	6020B	449393
310-302361-4	MW19-GW-0325	Total/NA	Water	6020B	449393
310-302361-5	MW21-GW-0325	Total/NA	Water	6020B	449393
310-302361-6	DP05-GW-0325	Total/NA	Water	6020B	449393
MB 310-449393/1-A	Method Blank	Total/NA	Water	6020B	449393
LCS 310-449393/2-A	Lab Control Sample	Total/NA	Water	6020B	449393
310-302361-4 DU	MW19-GW-0325	Total/NA	Water	6020B	449393

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

## Metals

### Prep Batch: 450061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302361-1	MW01R-GW-0325	Total/NA	Water	7470A	
310-302361-2	MW03R-GW-0325	Total/NA	Water	7470A	
310-302361-3	MW05R-GW-0325	Total/NA	Water	7470A	
310-302361-4	MW19-GW-0325	Total/NA	Water	7470A	
310-302361-5	MW21-GW-0325	Total/NA	Water	7470A	
310-302361-6	DP05-GW-0325	Total/NA	Water	7470A	
MB 310-450061/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-450061/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Analysis Batch: 450149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302361-1	MW01R-GW-0325	Total/NA	Water	7470A	450061
310-302361-2	MW03R-GW-0325	Total/NA	Water	7470A	450061
310-302361-3	MW05R-GW-0325	Total/NA	Water	7470A	450061
310-302361-4	MW19-GW-0325	Total/NA	Water	7470A	450061
310-302361-5	MW21-GW-0325	Total/NA	Water	7470A	450061
310-302361-6	DP05-GW-0325	Total/NA	Water	7470A	450061
MB 310-450061/1-A	Method Blank	Total/NA	Water	7470A	450061
LCS 310-450061/2-A	Lab Control Sample	Total/NA	Water	7470A	450061

## General Chemistry

### Analysis Batch: 449339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302361-1	MW01R-GW-0325	Total/NA	Water	SM 4500 H+ B	
310-302361-2	MW03R-GW-0325	Total/NA	Water	SM 4500 H+ B	
310-302361-3	MW05R-GW-0325	Total/NA	Water	SM 4500 H+ B	
310-302361-4	MW19-GW-0325	Total/NA	Water	SM 4500 H+ B	
310-302361-5	MW21-GW-0325	Total/NA	Water	SM 4500 H+ B	
310-302361-6	DP05-GW-0325	Total/NA	Water	SM 4500 H+ B	
LCS 310-449339/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-302361-6 DU	DP05-GW-0325	Total/NA	Water	SM 4500 H+ B	

### Analysis Batch: 449414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302361-1	MW01R-GW-0325	Total/NA	Water	SM 2540C	
310-302361-2	MW03R-GW-0325	Total/NA	Water	SM 2540C	
310-302361-3	MW05R-GW-0325	Total/NA	Water	SM 2540C	
310-302361-4	MW19-GW-0325	Total/NA	Water	SM 2540C	
310-302361-5	MW21-GW-0325	Total/NA	Water	SM 2540C	
310-302361-6	DP05-GW-0325	Total/NA	Water	SM 2540C	
MB 310-449414/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-449414/2	Lab Control Sample	Total/NA	Water	SM 2540C	

## Rad

### Prep Batch: 709051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302361-1	MW01R-GW-0325	Total/NA	Water	PrecSep-21	
310-302361-2	MW03R-GW-0325	Total/NA	Water	PrecSep-21	
310-302361-3	MW05R-GW-0325	Total/NA	Water	PrecSep-21	
310-302361-4	MW19-GW-0325	Total/NA	Water	PrecSep-21	

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# QC Association Summary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

## Rad (Continued)

### Prep Batch: 709051 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302361-5	MW21-GW-0325	Total/NA	Water	PrecSep-21	
310-302361-6	DP05-GW-0325	Total/NA	Water	PrecSep-21	
MB 160-709051/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-709051/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

### Prep Batch: 709052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302361-1	MW01R-GW-0325	Total/NA	Water	PrecSep_0	
310-302361-2	MW03R-GW-0325	Total/NA	Water	PrecSep_0	
310-302361-3	MW05R-GW-0325	Total/NA	Water	PrecSep_0	
310-302361-4	MW19-GW-0325	Total/NA	Water	PrecSep_0	
310-302361-5	MW21-GW-0325	Total/NA	Water	PrecSep_0	
310-302361-6	DP05-GW-0325	Total/NA	Water	PrecSep_0	
MB 160-709052/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-709052/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

# Lab Chronicle

Client: GHD Services Inc.  
 Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Client Sample ID: MW01R-GW-0325**  
**Date Collected: 03/17/25 17:40**  
**Date Received: 03/19/25 15:10**

**Lab Sample ID: 310-302361-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	450143	QTZ5	EET CF	03/28/25 19:28
Total/NA	Prep	3005A			449393	F5MW	EET CF	03/21/25 08:30
Total/NA	Analysis	6020B		1	449894	NFT2	EET CF	03/26/25 17:14
Total/NA	Prep	3005A			449393	F5MW	EET CF	03/21/25 08:30
Total/NA	Analysis	6020B		1	449985	NFT2	EET CF	03/27/25 13:25
Total/NA	Prep	7470A			450061	QTZ5	EET CF	03/28/25 11:50
Total/NA	Analysis	7470A		1	450149	QTZ5	EET CF	03/29/25 09:12
Total/NA	Analysis	SM 2540C		1	449414	XJ7V	EET CF	03/20/25 15:16
Total/NA	Analysis	SM 4500 H+ B		1	449339	MDU9	EET CF	03/19/25 20:36
Total/NA	Prep	PrecSep-21			709051	OGC	EET SL	03/24/25 07:33
Total/NA	Analysis	9315		1	713079	FLC	EET SL	04/18/25 16:10
Total/NA	Prep	PrecSep_0			709052	OGC	EET SL	03/24/25 07:36
Total/NA	Analysis	9320		1	713073	FLC	EET SL	04/18/25 11:33
Total/NA	Analysis	Ra226_Ra228		1	713498	FLC	EET SL	04/21/25 08:21

**Client Sample ID: MW03R-GW-0325**  
**Date Collected: 03/17/25 18:35**  
**Date Received: 03/19/25 15:10**

**Lab Sample ID: 310-302361-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	450143	QTZ5	EET CF	03/28/25 19:44
Total/NA	Prep	3005A			449393	F5MW	EET CF	03/21/25 08:30
Total/NA	Analysis	6020B		1	449894	NFT2	EET CF	03/26/25 17:17
Total/NA	Prep	3005A			449393	F5MW	EET CF	03/21/25 08:30
Total/NA	Analysis	6020B		1	449985	NFT2	EET CF	03/27/25 13:37
Total/NA	Prep	7470A			450061	QTZ5	EET CF	03/28/25 11:50
Total/NA	Analysis	7470A		1	450149	QTZ5	EET CF	03/29/25 09:14
Total/NA	Analysis	SM 2540C		1	449414	XJ7V	EET CF	03/20/25 15:16
Total/NA	Analysis	SM 4500 H+ B		1	449339	MDU9	EET CF	03/19/25 19:51
Total/NA	Prep	PrecSep-21			709051	OGC	EET SL	03/24/25 07:33
Total/NA	Analysis	9315		1	713079	FLC	EET SL	04/18/25 16:10
Total/NA	Prep	PrecSep_0			709052	OGC	EET SL	03/24/25 07:36
Total/NA	Analysis	9320		1	713073	FLC	EET SL	04/18/25 11:35
Total/NA	Analysis	Ra226_Ra228		1	713498	FLC	EET SL	04/21/25 08:21

**Client Sample ID: MW05R-GW-0325**  
**Date Collected: 03/17/25 18:30**  
**Date Received: 03/19/25 15:10**

**Lab Sample ID: 310-302361-3**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	450143	QTZ5	EET CF	03/28/25 19:59
Total/NA	Prep	3005A			449393	F5MW	EET CF	03/21/25 08:30
Total/NA	Analysis	6020B		1	449894	NFT2	EET CF	03/26/25 17:19

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Client Sample ID: MW05R-GW-0325**  
**Date Collected: 03/17/25 18:30**  
**Date Received: 03/19/25 15:10**

**Lab Sample ID: 310-302361-3**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			449393	F5MW	EET CF	03/21/25 08:30
Total/NA	Analysis	6020B		1	449985	NFT2	EET CF	03/27/25 13:39
Total/NA	Prep	7470A			450061	QTZ5	EET CF	03/28/25 11:50
Total/NA	Analysis	7470A		1	450149	QTZ5	EET CF	03/29/25 09:17
Total/NA	Analysis	SM 2540C		1	449414	XJ7V	EET CF	03/20/25 15:16
Total/NA	Analysis	SM 4500 H+ B		1	449339	MDU9	EET CF	03/19/25 19:55
Total/NA	Prep	PrecSep-21			709051	OGC	EET SL	03/24/25 07:33
Total/NA	Analysis	9315		1	713079	FLC	EET SL	04/18/25 16:10
Total/NA	Prep	PrecSep_0			709052	OGC	EET SL	03/24/25 07:36
Total/NA	Analysis	9320		1	713073	FLC	EET SL	04/18/25 11:35
Total/NA	Analysis	Ra226_Ra228		1	713498	FLC	EET SL	04/21/25 08:21

**Client Sample ID: MW19-GW-0325**  
**Date Collected: 03/17/25 19:45**  
**Date Received: 03/19/25 15:10**

**Lab Sample ID: 310-302361-4**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	450143	QTZ5	EET CF	03/28/25 20:15
Total/NA	Analysis	9056A		20	450143	QTZ5	EET CF	03/28/25 20:30
Total/NA	Prep	3005A			449393	F5MW	EET CF	03/21/25 08:30
Total/NA	Analysis	6020B		1	449894	NFT2	EET CF	03/26/25 17:21
Total/NA	Prep	3005A			449393	F5MW	EET CF	03/21/25 08:30
Total/NA	Analysis	6020B		4	449985	NFT2	EET CF	03/27/25 13:42
Total/NA	Prep	7470A			450061	QTZ5	EET CF	03/28/25 11:50
Total/NA	Analysis	7470A		1	450149	QTZ5	EET CF	03/29/25 09:19
Total/NA	Analysis	SM 2540C		1	449414	XJ7V	EET CF	03/20/25 15:16
Total/NA	Analysis	SM 4500 H+ B		1	449339	MDU9	EET CF	03/19/25 20:32
Total/NA	Prep	PrecSep-21			709051	OGC	EET SL	03/24/25 07:33
Total/NA	Analysis	9315		1	713079	FLC	EET SL	04/18/25 16:10
Total/NA	Prep	PrecSep_0			709052	OGC	EET SL	03/24/25 07:36
Total/NA	Analysis	9320		1	713073	FLC	EET SL	04/18/25 11:35
Total/NA	Analysis	Ra226_Ra228		1	713498	FLC	EET SL	04/21/25 08:21

**Client Sample ID: MW21-GW-0325**  
**Date Collected: 03/17/25 19:25**  
**Date Received: 03/19/25 15:10**

**Lab Sample ID: 310-302361-5**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	450143	QTZ5	EET CF	03/28/25 21:17
Total/NA	Analysis	9056A		20	450143	QTZ5	EET CF	03/28/25 21:33
Total/NA	Prep	3005A			449393	F5MW	EET CF	03/21/25 08:30
Total/NA	Analysis	6020B		1	449894	NFT2	EET CF	03/26/25 17:33
Total/NA	Prep	3005A			449393	F5MW	EET CF	03/21/25 08:30
Total/NA	Analysis	6020B		4	449985	NFT2	EET CF	03/27/25 13:48

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

**Client Sample ID: MW21-GW-0325**

**Lab Sample ID: 310-302361-5**

**Date Collected: 03/17/25 19:25**

**Matrix: Water**

**Date Received: 03/19/25 15:10**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			450061	QTZ5	EET CF	03/28/25 11:50
Total/NA	Analysis	7470A		1	450149	QTZ5	EET CF	03/29/25 09:21
Total/NA	Analysis	SM 2540C		1	449414	XJ7V	EET CF	03/20/25 15:16
Total/NA	Analysis	SM 4500 H+ B		1	449339	MDU9	EET CF	03/19/25 20:19
Total/NA	Prep	PrecSep-21			709051	OGC	EET SL	03/24/25 07:33
Total/NA	Analysis	9315		1	713079	FLC	EET SL	04/18/25 16:10
Total/NA	Prep	PrecSep_0			709052	OGC	EET SL	03/24/25 07:36
Total/NA	Analysis	9320		1	713073	FLC	EET SL	04/18/25 11:35
Total/NA	Analysis	Ra226_Ra228		1	713498	FLC	EET SL	04/21/25 08:21

**Client Sample ID: DP05-GW-0325**

**Lab Sample ID: 310-302361-6**

**Date Collected: 03/17/25 00:00**

**Matrix: Water**

**Date Received: 03/19/25 15:10**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	450143	QTZ5	EET CF	03/28/25 21:48
Total/NA	Prep	3005A			449393	F5MW	EET CF	03/21/25 08:30
Total/NA	Analysis	6020B		1	449894	NFT2	EET CF	03/26/25 17:36
Total/NA	Prep	3005A			449393	F5MW	EET CF	03/21/25 08:30
Total/NA	Analysis	6020B		1	449985	NFT2	EET CF	03/27/25 13:51
Total/NA	Prep	7470A			450061	QTZ5	EET CF	03/28/25 11:50
Total/NA	Analysis	7470A		1	450149	QTZ5	EET CF	03/29/25 09:23
Total/NA	Analysis	SM 2540C		1	449414	XJ7V	EET CF	03/20/25 15:16
Total/NA	Analysis	SM 4500 H+ B		1	449339	MDU9	EET CF	03/19/25 20:23
Total/NA	Prep	PrecSep-21			709051	OGC	EET SL	03/24/25 07:33
Total/NA	Analysis	9315		1	713079	FLC	EET SL	04/18/25 16:10
Total/NA	Prep	PrecSep_0			709052	OGC	EET SL	03/24/25 07:36
Total/NA	Analysis	9320		1	713073	FLC	EET SL	04/18/25 11:35
Total/NA	Analysis	Ra226_Ra228		1	713498	FLC	EET SL	04/21/25 08:21

**Laboratory References:**

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

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

# Accreditation/Certification Summary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

## Laboratory: Eurofins Cedar Falls

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6020B	3005A	Water	Lithium

## Laboratory: Eurofins St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	373	12-01-26

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
9315	PrecSep-21	Water	Radium-226
9320	PrecSep_0	Water	Radium-228
Ra226_Ra228		Water	Combined Radium 226 + 228

# Method Summary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
9315	Radium-226 (GFPC)	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

#### Protocol References:

None = None

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

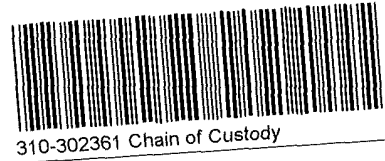
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

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

#### Laboratory References:

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

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



Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <u>GeHD Services</u>			
City/State:	CITY	STATE	Project:
<b>Receipt Information</b>			
Date/Time Received:	DATE	TIME	Received By:
	<u>3-19-25</u>	<u>1510</u>	<u>CGC</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee			
<input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler ID: _____			
Multiple Coolers? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Cooler # <u>1</u> of <u>2</u>			
Cooler Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Trip Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Which VOA samples are in cooler? ↓			
<b>Temperature Record</b>			
Coolant <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.6</u>		Corrected Temp (°C): <u>0.6</u>	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE If yes, contact PM before proceeding If no, proceed with login			
<b>Additional Comments</b>			



Environment Testing  
America

Place COC scanning label  
here

Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <u>GeHD Services</u>			
City/State:	CITY	STATE	Project:
<b>Receipt Information</b>			
Date/Time Received:	DATE	TIME	Received By:
	<u>3-19-25</u>	<u>1510</u>	<u>CGC</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler ID: _____			
Multiple Coolers? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Cooler # <u>2</u> of <u>2</u>			
Cooler Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Trip Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Which VOA samples are in cooler? ↓			
<b>Temperature Record</b>			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.1</u>		Corrected Temp (°C): <u>0.1</u>	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			



<b>Client Information</b>		Sampler: <b>Zach Bindert</b>		Lab PM		Carrier Tracking No(s):		COC No:	
Client Contact: <b>Kevin Armstrong</b>		Phone: <b>712-308-9051</b>		E-Mail: <b>zach.bindert@eurofins.com</b>		State of Origin: <b>Iowa</b>		Page: <b>Page 1 of 1</b>	
Company: <b>GHD Services Inc.</b>		PWSID:						Job #:	
Address: <b>11228 Aurora Avenue</b>		Due Date Requested:						Preservation Codes:	
City: <b>Des Moines</b>		TAT Requested (days): <b>Standard</b>						A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
State, Zip: <b>IA, 50322-7905</b>		Compliance Project: <b>Δ Yes Δ No</b>						M - Hexane N - None O - AsMeO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecaldehyde U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	
Phone: <b>515-414-9935</b>		PO #: <b>340-017045</b>						Total Number of Containers:	
Email: <b>Kevin.Armstrong@ghd.com</b>		WO #: <b>12576482-004 01</b>						Special Instructions/Note:	
Project Name: <b>Neal North Closed CCR Monofill (IDNR)</b>		Project #: <b>31017263</b>							
Site: <b>Neal North Closed CCR Monofill</b>		SSOW#: <b>12576482-002</b>							

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Seawater, Other)	Preservation Code:	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		9315_Ra226 - Standard Target List	9320_Ra228 - Standard Target List	9066A_ORGM_28D - Chloride, Fluoride & Sulfate	6020B_7470A - Appendix III and IV Metals	2640C_Calcd, SM4500_H+	Total Number of Containers	Special Instructions/Note:
						Field Filtered	MS/MSD	Field Filtered	MS/MSD							
MW01R-GW-0325	3/17/25	1740	G	Water		N	N	N	N	X	X	X	X	X	5	
MW03R-GW-0325	3/17/25	1835	G	Water		N	N	N	N	X	X	X	X	X	5	
MW05R-GW-0325	3/17/25	1830	G	Water		N	N	N	N	X	X	X	X	X	5	
MW19-GW-0325	3/17/25	1945	G	Water		N	N	N	N	X	X	X	X	X	5	
MW21-GW-0325	3/17/25	1925	G	Water		N	N	N	N	X	X	X	X	X	5	
DP05-GW-0325	3/17/25	-	G	Water		N	N	N	N	X	X	X	X	X	5	
<b>PP</b>																

**Possible Hazard Identification**

Non-Hazard  
  Flammable  
  Skin Irritant  
  Poison B  
  Unknown  
  Radiological

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

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by: **Kevin Armstrong** Date/Time: **3/19/25 12:30** Company: **Eurofins**

Relinquished by: **Kevin Armstrong** Date/Time: **3-19-25 1510** Company: **Eurofins**

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

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

Cooler Temperature(s) °C and Other Remarks:



# Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 310-302361-1

**Login Number: 302361**

**List Source: Eurofins Cedar Falls**

**List Number: 1**

**Creator: Bunker, Xavier M**

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

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

# Tracer/Carrier Summary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill

Job ID: 310-302361-1

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

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)
310-302361-1	MW01R-GW-0325	81.9
310-302361-2	MW03R-GW-0325	82.4
310-302361-3	MW05R-GW-0325	89.7
310-302361-4	MW19-GW-0325	87.3
310-302361-5	MW21-GW-0325	84.6
310-302361-6	DP05-GW-0325	82.6
LCS 160-709051/2-A	Lab Control Sample	87.5
MB 160-709051/1-A	Method Blank	88.5

#### Tracer/Carrier Legend

Ba = Barium

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

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
310-302361-1	MW01R-GW-0325	81.9	81.1
310-302361-2	MW03R-GW-0325	82.4	80.7
310-302361-3	MW05R-GW-0325	89.7	80.7
310-302361-4	MW19-GW-0325	87.3	82.2
310-302361-5	MW21-GW-0325	84.6	83.0
310-302361-6	DP05-GW-0325	82.6	81.9
LCS 160-709052/2-A	Lab Control Sample	87.5	83.7
MB 160-709052/1-A	Method Blank	88.5	86.0

#### Tracer/Carrier Legend

Ba = Barium

Y = Y Carrier



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Kevin Armstrong  
GHD Services Inc.  
11228 Aurora Avenue  
Des Moines, Iowa 50322-7905

Generated 6/9/2025 3:00:28 PM Revision 1

## JOB DESCRIPTION

MEC Neal North - Additional May 2025  
MEC Neal North - Additional May 2025

## JOB NUMBER

310-306944-1

# Eurofins Cedar Falls

## Job Notes

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

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

## Authorization



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Revision 1



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# Case Narrative

Client: GHD Services Inc.  
Project: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

**Job ID: 310-306944-1**

**Eurofins Cedar Falls**

**Job Narrative  
310-306944-1**

## REVISION

The report being provided is a revision of the original report sent on 6/9/2025. The report (revision 1) is being revised due to This report was revised 6/09/2025. Boron removed from the target list..

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

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

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

## **Receipt**

The samples were received on 5/21/2025 4:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.1°C.

## **HPLC/IC**

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

## **Metals**

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

## **General Chemistry**

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

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# Sample Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-306944-1	MW59S-GW-0525	Water	05/19/25 15:30	05/21/25 16:00
310-306944-2	MW21-GW-0525	Water	05/19/25 16:15	05/21/25 16:00
310-306944-3	MW05R-GW-0525	Water	05/20/25 09:50	05/21/25 16:00
310-306944-4	MW19-GW-0525	Water	05/19/25 17:35	05/21/25 16:00
310-306944-5	MW57R-GW-0525	Water	05/20/25 09:00	05/21/25 16:00
310-306944-6	MW60S-GW-0525	Water	05/19/25 14:10	05/21/25 16:00
310-306944-7	MW231SR-GW-0525	Water	05/20/25 11:10	05/21/25 16:00
310-306944-8	DP01-GW-0525	Water	05/20/25 00:00	05/21/25 16:00

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

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

**Client Sample ID: MW59S-GW-0525**

**Lab Sample ID: 310-306944-1**

Date Collected: 05/19/25 15:30

Matrix: Water

Date Received: 05/21/25 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	143		0.500		mg/L		05/23/25 09:30	05/29/25 14:53	1

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.2	HF	1.0		SU			05/21/25 18:51	1

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

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

**Client Sample ID: MW21-GW-0525**

**Lab Sample ID: 310-306944-2**

Date Collected: 05/19/25 16:15

Matrix: Water

Date Received: 05/21/25 16:00

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1690		100		mg/L			05/29/25 12:32	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	441		0.500		mg/L		05/23/25 09:30	05/28/25 19:03	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2730		50.0		mg/L			05/22/25 16:52	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	6.8	HF	1.0		SU			05/21/25 18:54	1

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

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

**Client Sample ID: MW05R-GW-0525**

**Lab Sample ID: 310-306944-3**

Date Collected: 05/20/25 09:50

Matrix: Water

Date Received: 05/21/25 16:00

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	1.0		SU			05/21/25 18:46	1

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

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

**Client Sample ID: MW19-GW-0525**

**Lab Sample ID: 310-306944-4**

**Date Collected: 05/19/25 17:35**

**Matrix: Water**

**Date Received: 05/21/25 16:00**

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	6.6	HF	1.0		SU			05/21/25 18:53	1

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

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

**Client Sample ID: MW57R-GW-0525**

**Lab Sample ID: 310-306944-5**

**Date Collected: 05/20/25 09:00**

**Matrix: Water**

**Date Received: 05/21/25 16:00**

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.1	HF	1.0		SU			05/21/25 18:48	1

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

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

**Client Sample ID: MW60S-GW-0525**

**Lab Sample ID: 310-306944-6**

Date Collected: 05/19/25 14:10

Matrix: Water

Date Received: 05/21/25 16:00

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.2	HF	1.0		SU			05/21/25 18:52	1

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

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

**Client Sample ID: MW231SR-GW-0525**

**Lab Sample ID: 310-306944-7**

**Date Collected: 05/20/25 11:10**

**Matrix: Water**

**Date Received: 05/21/25 16:00**

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.2	HF	1.0		SU			05/21/25 18:50	1

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

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

**Client Sample ID: DP01-GW-0525**

**Lab Sample ID: 310-306944-8**

**Date Collected: 05/20/25 00:00**

**Matrix: Water**

**Date Received: 05/21/25 16:00**

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.1	HF	1.0		SU			05/21/25 18:44	1

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

# Definitions/Glossary

Client: GHD Services Inc.  
Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

### General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

## 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: GHD Services Inc.  
 Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

## Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-456121/3  
 Matrix: Water  
 Analysis Batch: 456121

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<1.00		1.00		mg/L			05/28/25 10:40	1

Lab Sample ID: LCS 310-456121/4  
 Matrix: Water  
 Analysis Batch: 456121

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	10.0	10.12		mg/L		101	90 - 110

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

Lab Sample ID: MB 310-455526/1-A  
 Matrix: Water  
 Analysis Batch: 456144

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 455526

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.500		0.500		mg/L		05/23/25 09:30	05/29/25 14:47	1

Lab Sample ID: LCS 310-455526/2-A  
 Matrix: Water  
 Analysis Batch: 456144

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 455526

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	6.00	5.066		mg/L		84	80 - 120

Lab Sample ID: 310-306944-1 MS  
 Matrix: Water  
 Analysis Batch: 456023

Client Sample ID: MW59S-GW-0525  
 Prep Type: Total/NA  
 Prep Batch: 455526

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	91.5	*-	6.00	137.8	4	mg/L		771	75 - 125

Lab Sample ID: 310-306944-1 MSD  
 Matrix: Water  
 Analysis Batch: 456023

Client Sample ID: MW59S-GW-0525  
 Prep Type: Total/NA  
 Prep Batch: 455526

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	91.5	*-	6.00	138.6	4	mg/L		784	75 - 125	1	20

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

Lab Sample ID: MB 310-455527/1  
 Matrix: Water  
 Analysis Batch: 455527

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	<50.0		50.0		mg/L			05/22/25 16:52	1

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# QC Sample Results

Client: GHD Services Inc.  
 Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

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

Lab Sample ID: LCS 310-455527/2  
 Matrix: Water  
 Analysis Batch: 455527

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	972.0		mg/L		97	88 - 110

## Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-455357/1  
 Matrix: Water  
 Analysis Batch: 455357

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.1		SU		101	98 - 102

Lab Sample ID: 310-306944-3 DU  
 Matrix: Water  
 Analysis Batch: 455357

Client Sample ID: MW05R-GW-0525  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.3	HF	7.3		SU		0.3	20

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

## HPLC/IC

### Analysis Batch: 456121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-306944-2	MW21-GW-0525	Total/NA	Water	9056A	
MB 310-456121/3	Method Blank	Total/NA	Water	9056A	
LCS 310-456121/4	Lab Control Sample	Total/NA	Water	9056A	

## Metals

### Prep Batch: 455526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-306944-1	MW59S-GW-0525	Total/NA	Water	3005A	
310-306944-2	MW21-GW-0525	Total/NA	Water	3005A	
MB 310-455526/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-455526/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-306944-1 MS	MW59S-GW-0525	Total/NA	Water	3005A	
310-306944-1 MSD	MW59S-GW-0525	Total/NA	Water	3005A	

### Analysis Batch: 456023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-306944-2	MW21-GW-0525	Total/NA	Water	6020B	455526
310-306944-1 MS	MW59S-GW-0525	Total/NA	Water	6020B	455526
310-306944-1 MSD	MW59S-GW-0525	Total/NA	Water	6020B	455526

### Analysis Batch: 456144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-306944-1	MW59S-GW-0525	Total/NA	Water	6020B	455526
MB 310-455526/1-A	Method Blank	Total/NA	Water	6020B	455526
LCS 310-455526/2-A	Lab Control Sample	Total/NA	Water	6020B	455526

## General Chemistry

### Analysis Batch: 455357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-306944-1	MW59S-GW-0525	Total/NA	Water	SM 4500 H+ B	
310-306944-2	MW21-GW-0525	Total/NA	Water	SM 4500 H+ B	
310-306944-3	MW05R-GW-0525	Total/NA	Water	SM 4500 H+ B	
310-306944-4	MW19-GW-0525	Total/NA	Water	SM 4500 H+ B	
310-306944-5	MW57R-GW-0525	Total/NA	Water	SM 4500 H+ B	
310-306944-6	MW60S-GW-0525	Total/NA	Water	SM 4500 H+ B	
310-306944-7	MW231SR-GW-0525	Total/NA	Water	SM 4500 H+ B	
310-306944-8	DP01-GW-0525	Total/NA	Water	SM 4500 H+ B	
LCS 310-455357/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-306944-3 DU	MW05R-GW-0525	Total/NA	Water	SM 4500 H+ B	

### Analysis Batch: 455527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-306944-2	MW21-GW-0525	Total/NA	Water	SM 2540C	
MB 310-455527/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-455527/2	Lab Control Sample	Total/NA	Water	SM 2540C	

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# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

## Client Sample ID: MW59S-GW-0525

Lab Sample ID: 310-306944-1

Date Collected: 05/19/25 15:30

Matrix: Water

Date Received: 05/21/25 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			455526	QTZ5	EET CF	05/23/25 09:30
Total/NA	Analysis	6020B		1	456144	NFT2	EET CF	05/29/25 14:53
Total/NA	Analysis	SM 4500 H+ B		1	455357	W9YR	EET CF	05/21/25 18:51

## Client Sample ID: MW21-GW-0525

Lab Sample ID: 310-306944-2

Date Collected: 05/19/25 16:15

Matrix: Water

Date Received: 05/21/25 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		100	456121	QTZ5	EET CF	05/29/25 12:32
Total/NA	Prep	3005A			455526	QTZ5	EET CF	05/23/25 09:30
Total/NA	Analysis	6020B		1	456023	NFT2	EET CF	05/28/25 19:03
Total/NA	Analysis	SM 2540C		1	455527	MDU9	EET CF	05/22/25 16:52
Total/NA	Analysis	SM 4500 H+ B		1	455357	W9YR	EET CF	05/21/25 18:54

## Client Sample ID: MW05R-GW-0525

Lab Sample ID: 310-306944-3

Date Collected: 05/20/25 09:50

Matrix: Water

Date Received: 05/21/25 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	455357	W9YR	EET CF	05/21/25 18:46

## Client Sample ID: MW19-GW-0525

Lab Sample ID: 310-306944-4

Date Collected: 05/19/25 17:35

Matrix: Water

Date Received: 05/21/25 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	455357	W9YR	EET CF	05/21/25 18:53

## Client Sample ID: MW57R-GW-0525

Lab Sample ID: 310-306944-5

Date Collected: 05/20/25 09:00

Matrix: Water

Date Received: 05/21/25 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	455357	W9YR	EET CF	05/21/25 18:48

## Client Sample ID: MW60S-GW-0525

Lab Sample ID: 310-306944-6

Date Collected: 05/19/25 14:10

Matrix: Water

Date Received: 05/21/25 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	455357	W9YR	EET CF	05/21/25 18:52

Eurofins Cedar Falls

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

**Client Sample ID: MW231SR-GW-0525**

**Lab Sample ID: 310-306944-7**

**Date Collected: 05/20/25 11:10**

**Matrix: Water**

**Date Received: 05/21/25 16:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	455357	W9YR	EET CF	05/21/25 18:50

**Client Sample ID: DP01-GW-0525**

**Lab Sample ID: 310-306944-8**

**Date Collected: 05/20/25 00:00**

**Matrix: Water**

**Date Received: 05/21/25 16:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	455357	W9YR	EET CF	05/21/25 18:44

**Laboratory References:**

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



# Accreditation/Certification Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

## Laboratory: Eurofins Cedar Falls

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 2540C		Water	Total Dissolved Solids
SM 4500 H+ B		Water	pH

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

# Method Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North - Additional May 2025

Job ID: 310-306944-1

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

#### Protocol References:

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

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

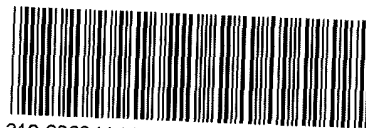
#### Laboratory References:

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





Environment Testing  
America



310-306944 Chain of Custody

### Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <b>GTD Services</b>			
City/State:	CITY	STATE	Project:
<b>Receipt Information</b>			
Date/Time Received.	DATE	TIME	Received By:
	<b>5-21-25</b>	<b>1600</b>	<b>CLC</b>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee			
<input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other, _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes. Cooler ID:</i>			
Multiple Coolers? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Cooler # ____ of ____</i>			
Cooler Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Cooler custody seals intact?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No			
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Sample custody seals intact?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No			
Trip Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Which VOA samples are in cooler? ↓</i>			
<b>Temperature Record</b>			
Coolant. <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <b>AA</b>		Correction Factor (°C): <b>0</b>	
• <b>Temp Blank Temperature</b> – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <b>0.1</b>		Corrected Temp (°C): <b>0.1</b>	
• <b>Sample Container Temperature</b>			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) <i>If yes: Is there evidence that the chilling process began?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g , bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			



**Chain of Custody Record**

<b>Client Information</b>		Sampler: <b>Paul Richards</b>		Lab PM: <b>Bindert, Zach T</b>		Carrier Tracking No(s):		COC No: <b>310-106594-28405 1</b>	
Client Contact: <b>Kevin Armstrong</b>		Phone: <b>712-898-9031</b>		E-Mail: <b>Zach Bindert@eurofins.com</b>		State of Origin:		Page: <b>Page 1 of 1</b>	
Company: <b>GHD Services Inc.</b>		PWSID:		Analysis Requested:		Preservation Codes: D - HNO3 N - None		Job #:	
Address: <b>11228 Aurora Avenue</b>		Due Date Requested:		Field Filtered Sample (Yes or No)		Total Number of Containers:		Other:	
City: <b>Des Moines</b>		TAT Requested (days): <b>Standard</b>		Perform MS/MSD (Yes or No)		Special Instructions/Note:			
State, Zip: <b>IA, 50322-7905</b>		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		6020B - Calcium					
Phone: <b>515-414-3935(Tel)</b>		PO #: <b>340-017045</b>		9056A_ORGFM_28D - Sulfate					
Email: <b>Kevin.Armstrong@ghd.com</b>		WO #: <b>12576482-003 01</b>		2540C_Calcid, SM4500_H+					
Project Name: <b>MEC Neal North - Additional May 2025</b>		Eurofins Project #: <b>31017263</b>							
Site: <b>Iowa</b>		SSOW#:							

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Solid, On-water, Oil)	Preservation Code	Field Filtered Sample (Yes or No)	6020B - Calcium	9056A_ORGFM_28D - Sulfate	2540C_Calcid, SM4500_H+	Analysis Requested	Special Instructions/Note
MW59S-GW-0525	5/19/25	1630	G	Water		N	X	X	X		20
MW21-GW-0525	5/19/25	1015	G	Water		N	X	X	X		3
MW05R-GW-0525	5/20/25	0950	G	Water		N	X	X	X		1
MW19-GW-0525	5/19/25	1735	G	Water		N	X	X	X		1
<del>MW05-GW-0525</del>			G	Water		N	X	X	X		1
MW57R-GW-0525	5/20/25	0900	G	Water		N	X	X	X		1
MW60S-GW-0525	5/19/25	1410	G	Water		N	X	X	X		1
MW231SR-GW-0525	5/20/25	1110	G	Water		N	X	X	X		1
DP01-GW-0525	5/20/25	-	G	Water		N	X	X	X		1

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: \_\_\_\_\_

Relinquished by: **Paul Richards** Date/Time: **5/21/25 1100** Company: **GHD**

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact:  Yes  No  Custody Seal No

Received by: **CGC** Date/Time: **5-21-25 1600** Company: **Eurofins**

Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Cooler Temperature(s) °C and Other Remarks:



# Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 310-306944-1

**Login Number: 306944**

**List Number: 1**

**Creator: Hirsch, Preston**

**List Source: Eurofins Cedar Falls**

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



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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Kevin Armstrong  
GHD Services Inc.  
11228 Aurora Avenue  
Des Moines, Iowa 50322-7905

Generated 10/17/2025 2:19:28 PM

## JOB DESCRIPTION

MEC Neal North Energy Center CCR  
MEC Neal North-Background

## JOB NUMBER

310-315980-1

# Eurofins Cedar Falls

## Job Notes

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

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

## Authorization



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10/17/2025 2:19:28 PM

Authorized for release by  
Zach Bindert, Senior Project Manager  
[Zach.Bindert@et.eurofinsus.com](mailto:Zach.Bindert@et.eurofinsus.com)  
(319)595-2016



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# Case Narrative

Client: GHD Services Inc.  
Project: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Job ID: 310-315980-1**

**Eurofins Cedar Falls**

## Job Narrative 310-315980-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

### Receipt

The samples were received on 9/18/2025 9:50 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 time was 5.6°C.

### HPLC/IC

Method 9056A\_ORGFM\_28D: The following samples were diluted due to the nature of the sample matrix: MW13R-GW-0925 (310-315980-1), MW27-GW-0925 (310-315980-2), MW29R-GW-0925 (310-315980-3) and DP01-GW-0925 (310-315980-6). Elevated reporting limits (RLs) are provided.

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

### Metals

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

### General Chemistry

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

Eurofins Cedar Falls

# Case Narrative

Client: GHD Services Inc.  
Project: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Job ID: 310-315980-2**

**Eurofins Cedar Falls**

## Job Narrative 310-315980-2

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

### Receipt

The samples were received on 9/18/2025 9:50 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 time was 5.6°C.

### Gas Flow Proportional Counter

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

### Rad

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

Eurofins Cedar Falls

# Case Narrative

Client: GHD Services Inc.  
Project: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Job ID: 310-315980-3**

**Eurofins Cedar Falls**

## Job Narrative 310-315980-3

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

### Receipt

The samples were received on 9/18/2025 9:50 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 time was 5.6°C.

### HPLC/IC

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

Eurofins Cedar Falls



# Sample Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
310-315980-1	MW13R-GW-0925	Water	09/17/25 15:15	09/18/25 09:50	Iowa
310-315980-2	MW27-GW-0925	Water	09/16/25 17:10	09/18/25 09:50	Iowa
310-315980-3	MW29R-GW-0925	Water	09/16/25 18:55	09/18/25 09:50	Iowa
310-315980-4	MW223S-GW-0925	Water	09/17/25 10:40	09/18/25 09:50	Iowa
310-315980-5	MW231SR-GW-0925	Water	09/17/25 10:50	09/18/25 09:50	Iowa
310-315980-6	DP01-GW-0925	Water	09/17/25 00:00	09/18/25 09:50	Iowa

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# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Client Sample ID: MW13R-GW-0925**

**Lab Sample ID: 310-315980-1**

Date Collected: 09/17/25 15:15

Matrix: Water

Date Received: 09/18/25 09:50

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>11.0</b>		5.00		mg/L			09/24/25 17:36	5
Fluoride	<1.00		1.00		mg/L			09/24/25 17:36	5
<b>Sulfate</b>	<b>47.4</b>		5.00		mg/L			09/24/25 17:36	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 14:55	1
<b>Arsenic</b>	<b>0.0503</b>		0.00200		mg/L		09/23/25 08:45	09/25/25 14:55	1
<b>Barium</b>	<b>0.217</b>		0.00200		mg/L		09/23/25 08:45	09/25/25 14:55	1
Beryllium	<0.00100		0.00100		mg/L		09/23/25 08:45	09/25/25 14:55	1
<b>Boron</b>	<b>0.131</b>		0.100		mg/L		09/23/25 08:45	09/26/25 14:01	1
Cadmium	<0.000200		0.000200		mg/L		09/23/25 08:45	09/25/25 14:55	1
<b>Calcium</b>	<b>141</b>		0.500		mg/L		09/23/25 08:45	09/25/25 14:55	1
Chromium	<0.00500		0.00500		mg/L		09/23/25 08:45	09/25/25 14:55	1
<b>Cobalt</b>	<b>0.000946</b>		0.000500		mg/L		09/23/25 08:45	09/25/25 14:55	1
<b>Lithium</b>	<b>0.0743</b>		0.0100		mg/L		09/23/25 08:45	09/25/25 14:55	1
Lead	<0.000500		0.000500		mg/L		09/23/25 08:45	09/25/25 14:55	1
<b>Molybdenum</b>	<b>0.00445</b>		0.00200		mg/L		09/23/25 08:45	09/25/25 14:55	1
Selenium	<0.00500		0.00500		mg/L		09/23/25 08:45	09/25/25 14:55	1
Thallium	<0.00100		0.00100		mg/L		09/23/25 08:45	09/25/25 14:55	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/23/25 11:55	09/24/25 10:18	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>540</b>		50.0		mg/L			09/19/25 17:23	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.1</b>	<b>HF</b>	1.0		SU			09/18/25 11:39	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>0.491</b>		0.256	0.260	1.00	0.326	pCi/L	09/23/25 07:52	10/15/25 23:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	89.6		30 - 110					09/23/25 07:52	10/15/25 23:04	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.662	U	0.432	0.436	1.00	0.662	pCi/L	09/23/25 07:56	10/15/25 12:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	89.6		30 - 110					09/23/25 07:56	10/15/25 12:06	1
Y Carrier	75.1		30 - 110					09/23/25 07:56	10/15/25 12:06	1

Eurofins Cedar Falls

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Client Sample ID: MW13R-GW-0925**

**Lab Sample ID: 310-315980-1**

Date Collected: 09/17/25 15:15

Matrix: Water

Date Received: 09/18/25 09:50

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.09		0.502	0.508	5.00	0.662	pCi/L		10/17/25 13:48	1

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# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Client Sample ID: MW27-GW-0925**

**Lab Sample ID: 310-315980-2**

Date Collected: 09/16/25 17:10

Matrix: Water

Date Received: 09/18/25 09:50

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>15.5</b>		5.00		mg/L			09/25/25 10:50	5
Fluoride	<1.00		1.00		mg/L			09/25/25 10:50	5
<b>Sulfate</b>	<b>53.7</b>		5.00		mg/L			09/25/25 10:50	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 15:12	1
<b>Arsenic</b>	<b>0.0759</b>		0.00200		mg/L		09/23/25 08:45	09/25/25 15:12	1
<b>Barium</b>	<b>0.183</b>		0.00200		mg/L		09/23/25 08:45	09/25/25 15:12	1
Beryllium	<0.00100		0.00100		mg/L		09/23/25 08:45	09/25/25 15:12	1
<b>Boron</b>	<b>0.274</b>		0.100		mg/L		09/23/25 08:45	09/26/25 14:09	1
Cadmium	<0.000200		0.000200		mg/L		09/23/25 08:45	09/25/25 15:12	1
<b>Calcium</b>	<b>160</b>		0.500		mg/L		09/23/25 08:45	09/25/25 15:12	1
Chromium	<0.00500		0.00500		mg/L		09/23/25 08:45	09/25/25 15:12	1
<b>Cobalt</b>	<b>0.000796</b>		0.000500		mg/L		09/23/25 08:45	09/25/25 15:12	1
<b>Lithium</b>	<b>0.106</b>		0.0100		mg/L		09/23/25 08:45	09/25/25 15:12	1
Lead	<0.000500		0.000500		mg/L		09/23/25 08:45	09/25/25 15:12	1
Molybdenum	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 15:12	1
Selenium	<0.00500		0.00500		mg/L		09/23/25 08:45	09/25/25 15:12	1
Thallium	<0.00100		0.00100		mg/L		09/23/25 08:45	09/25/25 15:12	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/23/25 11:55	09/24/25 10:24	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>658</b>		50.0		mg/L			09/19/25 17:23	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.1</b>	<b>HF</b>	1.0		SU			09/18/25 11:43	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.281	U	0.188	0.189	1.00	0.281	pCi/L	09/23/25 07:52	10/15/25 23:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	91.1		30 - 110					09/23/25 07:52	10/15/25 23:04	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>1.03</b>		0.440	0.450	1.00	0.581	pCi/L	09/23/25 07:56	10/15/25 12:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	91.1		30 - 110					09/23/25 07:56	10/15/25 12:06	1
Y Carrier	78.5		30 - 110					09/23/25 07:56	10/15/25 12:06	1

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# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Client Sample ID: MW27-GW-0925**

**Lab Sample ID: 310-315980-2**

Date Collected: 09/16/25 17:10

Matrix: Water

Date Received: 09/18/25 09:50

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.25		0.478	0.488	5.00	0.581	pCi/L		10/17/25 13:48	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Client Sample ID: MW29R-GW-0925**

**Lab Sample ID: 310-315980-3**

Date Collected: 09/16/25 18:55

Matrix: Water

Date Received: 09/18/25 09:50

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>8.73</b>		5.00		mg/L			09/25/25 11:01	5
Fluoride	<1.00		1.00		mg/L			09/25/25 11:01	5
<b>Sulfate</b>	<b>133</b>		5.00		mg/L			09/25/25 11:01	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 15:15	1
<b>Arsenic</b>	<b>0.0281</b>		0.00200		mg/L		09/23/25 08:45	09/25/25 15:15	1
<b>Barium</b>	<b>0.240</b>		0.00200		mg/L		09/23/25 08:45	09/25/25 15:15	1
Beryllium	<0.00100		0.00100		mg/L		09/23/25 08:45	09/25/25 15:15	1
<b>Boron</b>	<b>0.173</b>		0.100		mg/L		09/23/25 08:45	09/26/25 14:11	1
Cadmium	<0.000200		0.000200		mg/L		09/23/25 08:45	09/25/25 15:15	1
<b>Calcium</b>	<b>203</b>		0.500		mg/L		09/23/25 08:45	09/25/25 15:15	1
Chromium	<0.00500		0.00500		mg/L		09/23/25 08:45	09/25/25 15:15	1
<b>Cobalt</b>	<b>0.00250</b>		0.000500		mg/L		09/23/25 08:45	09/25/25 15:15	1
<b>Lithium</b>	<b>0.0941</b>		0.0100		mg/L		09/23/25 08:45	09/25/25 15:15	1
Lead	<0.000500		0.000500		mg/L		09/23/25 08:45	09/25/25 15:15	1
Molybdenum	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 15:15	1
Selenium	<0.00500		0.00500		mg/L		09/23/25 08:45	09/25/25 15:15	1
Thallium	<0.00100		0.00100		mg/L		09/23/25 08:45	09/25/25 15:15	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/23/25 11:55	09/24/25 10:26	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>850</b>		50.0		mg/L			09/19/25 17:23	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.0</b>	<b>HF</b>	1.0		SU			09/18/25 11:42	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.327	U	0.217	0.219	1.00	0.327	pCi/L	09/23/25 07:52	10/15/25 23:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	90.4		30 - 110					09/23/25 07:52	10/15/25 23:07	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>1.03</b>		0.446	0.456	1.00	0.595	pCi/L	09/23/25 07:56	10/15/25 12:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	90.4		30 - 110					09/23/25 07:56	10/15/25 12:06	1
Y Carrier	77.4		30 - 110					09/23/25 07:56	10/15/25 12:06	1

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# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Client Sample ID: MW29R-GW-0925**

**Lab Sample ID: 310-315980-3**

Date Collected: 09/16/25 18:55

Matrix: Water

Date Received: 09/18/25 09:50

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.29		0.496	0.506	5.00	0.595	pCi/L		10/17/25 13:48	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Client Sample ID: MW223S-GW-0925**

**Lab Sample ID: 310-315980-4**

Date Collected: 09/17/25 10:40

Matrix: Water

Date Received: 09/18/25 09:50

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>22.8</b>		1.00		mg/L			09/18/25 11:51	1
Nitrate as N	<0.200		0.200		mg/L			09/18/25 11:51	1
Fluoride	<0.200		0.200		mg/L			09/18/25 11:51	1
<b>Sulfate</b>	<b>222</b>		20.0		mg/L			09/18/25 15:29	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 15:27	1
<b>Arsenic</b>	<b>0.0503</b>		0.00200		mg/L		09/23/25 08:45	09/25/25 15:27	1
<b>Barium</b>	<b>0.240</b>		0.00200		mg/L		09/23/25 08:45	09/25/25 15:27	1
Beryllium	<0.00100		0.00100		mg/L		09/23/25 08:45	09/25/25 15:27	1
<b>Boron</b>	<b>0.180</b>		0.100		mg/L		09/23/25 08:45	09/26/25 14:14	1
Cadmium	<0.000200		0.000200		mg/L		09/23/25 08:45	09/25/25 15:27	1
<b>Calcium</b>	<b>200</b>		0.500		mg/L		09/23/25 08:45	09/25/25 15:27	1
Chromium	<0.00500		0.00500		mg/L		09/23/25 08:45	09/25/25 15:27	1
<b>Cobalt</b>	<b>0.00131</b>		0.000500		mg/L		09/23/25 08:45	09/25/25 15:27	1
<b>Iron</b>	<b>17.3</b>		0.100		mg/L		09/23/25 08:45	09/25/25 15:27	1
Lead	<0.000500		0.000500		mg/L		09/23/25 08:45	09/25/25 15:27	1
<b>Lithium</b>	<b>0.0692</b>		0.0100		mg/L		09/23/25 08:45	09/25/25 15:27	1
<b>Manganese</b>	<b>3.24</b>		0.0100		mg/L		09/23/25 08:45	09/25/25 15:27	1
Molybdenum	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 15:27	1
Selenium	<0.00500		0.00500		mg/L		09/23/25 08:45	09/25/25 15:27	1
Thallium	<0.00100		0.00100		mg/L		09/23/25 08:45	09/25/25 15:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron</b>	<b>7.78</b>		0.100		mg/L		09/29/25 09:00	10/01/25 17:16	1
<b>Manganese</b>	<b>3.09</b>		0.0100		mg/L		09/29/25 09:00	10/01/25 17:16	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/29/25 12:45	09/30/25 14:25	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Organic Carbon (SW846 9060A)</b>	<b>3.48</b>		1.00		mg/L			09/23/25 19:41	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>778</b>		50.0		mg/L			09/19/25 17:23	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.0</b>	<b>HF</b>	1.0		SU			09/18/25 11:45	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.313	U	0.200	0.201	1.00	0.313	pCi/L	09/23/25 07:52	10/15/25 23:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	88.3		30 - 110					09/23/25 07:52	10/15/25 23:07	1

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Client Sample ID: MW223S-GW-0925**

**Lab Sample ID: 310-315980-4**

Date Collected: 09/17/25 10:40

Matrix: Water

Date Received: 09/18/25 09:50

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.914		0.410	0.418	1.00	0.541	pCi/L	09/23/25 07:56	10/15/25 12:06	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Barium	88.3		30 - 110					09/23/25 07:56	10/15/25 12:06	1
Y Carrier	80.0		30 - 110					09/23/25 07:56	10/15/25 12:06	1

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.12		0.456	0.464	5.00	0.541	pCi/L		10/17/25 13:48	1



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Client Sample ID: MW231SR-GW-0925**

**Lab Sample ID: 310-315980-5**

Date Collected: 09/17/25 10:50

Matrix: Water

Date Received: 09/18/25 09:50

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.3		1.00		mg/L			09/18/25 12:05	1
Nitrate as N	0.225		0.200		mg/L			09/18/25 12:05	1
Fluoride	<0.200		0.200		mg/L			09/18/25 12:05	1
Sulfate	110		20.0		mg/L			09/18/25 15:42	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 15:30	1
Arsenic	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 15:30	1
Barium	0.0865		0.00200		mg/L		09/23/25 08:45	09/25/25 15:30	1
Beryllium	<0.00100		0.00100		mg/L		09/23/25 08:45	09/25/25 15:30	1
Boron	0.221		0.100		mg/L		09/23/25 08:45	09/26/25 14:16	1
Cadmium	<0.000200		0.000200		mg/L		09/23/25 08:45	09/25/25 15:30	1
Calcium	171		0.500		mg/L		09/23/25 08:45	09/25/25 15:30	1
Chromium	<0.00500		0.00500		mg/L		09/23/25 08:45	09/25/25 15:30	1
Cobalt	0.00305		0.000500		mg/L		09/23/25 08:45	09/25/25 15:30	1
Iron	2.66		0.100		mg/L		09/23/25 08:45	09/25/25 15:30	1
Lead	<0.000500		0.000500		mg/L		09/23/25 08:45	09/25/25 15:30	1
Lithium	0.0846		0.0100		mg/L		09/23/25 08:45	09/25/25 15:30	1
Manganese	0.889		0.0100		mg/L		09/23/25 08:45	09/25/25 15:30	1
Molybdenum	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 15:30	1
Selenium	0.00580		0.00500		mg/L		09/23/25 08:45	09/25/25 15:30	1
Thallium	<0.00100		0.00100		mg/L		09/23/25 08:45	09/25/25 15:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	2.75		0.100		mg/L		09/29/25 09:00	10/01/25 17:19	1
Manganese	0.912		0.0100		mg/L		09/29/25 09:00	10/01/25 17:19	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/29/25 12:45	09/30/25 14:27	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	3.62		1.00		mg/L			09/23/25 22:06	1
Total Dissolved Solids (SM 2540C)	740		50.0		mg/L			09/19/25 17:23	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.0	HF	1.0		SU			09/18/25 11:44	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.318		0.186	0.188	1.00	0.239	pCi/L	09/23/25 07:52	10/16/25 09:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	91.1		30 - 110					09/23/25 07:52	10/16/25 09:40	1

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# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Client Sample ID: MW231SR-GW-0925**

**Lab Sample ID: 310-315980-5**

Date Collected: 09/17/25 10:50

Matrix: Water

Date Received: 09/18/25 09:50

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.945		0.402	0.412	1.00	0.520	pCi/L	09/23/25 07:56	10/15/25 12:06	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Barium	91.1		30 - 110					09/23/25 07:56	10/15/25 12:06	1
Y Carrier	78.9		30 - 110					09/23/25 07:56	10/15/25 12:06	1

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.26		0.443	0.453	5.00	0.520	pCi/L		10/17/25 13:48	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Client Sample ID: DP01-GW-0925**

**Lab Sample ID: 310-315980-6**

Date Collected: 09/17/25 00:00

Matrix: Water

Date Received: 09/18/25 09:50

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14.2		5.00		mg/L			09/25/25 11:12	5
Fluoride	<1.00		1.00		mg/L			09/25/25 11:12	5
Sulfate	103		5.00		mg/L			09/25/25 11:12	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 15:32	1
Arsenic	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 15:32	1
Barium	0.0890		0.00200		mg/L		09/23/25 08:45	09/25/25 15:32	1
Beryllium	<0.00100		0.00100		mg/L		09/23/25 08:45	09/25/25 15:32	1
Boron	0.231		0.100		mg/L		09/23/25 08:45	09/26/25 14:19	1
Cadmium	<0.000200		0.000200		mg/L		09/23/25 08:45	09/25/25 15:32	1
Calcium	177		0.500		mg/L		09/23/25 08:45	09/25/25 15:32	1
Chromium	<0.00500		0.00500		mg/L		09/23/25 08:45	09/25/25 15:32	1
Cobalt	0.00311		0.000500		mg/L		09/23/25 08:45	09/25/25 15:32	1
Lithium	0.0869		0.0100		mg/L		09/23/25 08:45	09/25/25 15:32	1
Lead	<0.000500		0.000500		mg/L		09/23/25 08:45	09/25/25 15:32	1
Molybdenum	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 15:32	1
Selenium	0.00597		0.00500		mg/L		09/23/25 08:45	09/25/25 15:32	1
Thallium	<0.00100		0.00100		mg/L		09/23/25 08:45	09/25/25 15:32	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/29/25 12:45	09/30/25 14:29	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	648		50.0		mg/L			09/19/25 17:23	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.1	HF	1.0		SU			09/18/25 11:56	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.329	U	0.205	0.206	1.00	0.329	pCi/L	09/23/25 07:52	10/16/25 09:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	91.9		30 - 110					09/23/25 07:52	10/16/25 09:41	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.739		0.380	0.386	1.00	0.530	pCi/L	09/23/25 07:56	10/15/25 12:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	91.9		30 - 110					09/23/25 07:56	10/15/25 12:06	1
Y Carrier	81.9		30 - 110					09/23/25 07:56	10/15/25 12:06	1

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# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Client Sample ID: DP01-GW-0925**

**Lab Sample ID: 310-315980-6**

Date Collected: 09/17/25 00:00

Matrix: Water

Date Received: 09/18/25 09:50

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.936		0.432	0.438	5.00	0.530	pCi/L		10/17/25 13:48	1

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

# Definitions/Glossary

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

### General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

### 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: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

## Method: 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 310-467490/3**  
**Matrix: Water**  
**Analysis Batch: 467490**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.00		1.00		mg/L			09/18/25 10:43	1
Nitrate as N	<0.200		0.200		mg/L			09/18/25 10:43	1
Fluoride	<0.200		0.200		mg/L			09/18/25 10:43	1
Sulfate	<1.00		1.00		mg/L			09/18/25 10:43	1

**Lab Sample ID: LCS 310-467490/4**  
**Matrix: Water**  
**Analysis Batch: 467490**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	10.09		mg/L		101	90 - 110
Nitrate as N	2.00	2.054		mg/L		103	90 - 110
Fluoride	2.00	2.091		mg/L		105	90 - 110
Sulfate	10.0	10.13		mg/L		101	90 - 110

**Lab Sample ID: MB 310-467960/3**  
**Matrix: Water**  
**Analysis Batch: 467960**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.00		1.00		mg/L			09/24/25 14:06	1
Fluoride	<0.200		0.200		mg/L			09/24/25 14:06	1
Sulfate	<1.00		1.00		mg/L			09/24/25 14:06	1

**Lab Sample ID: LCS 310-467960/4**  
**Matrix: Water**  
**Analysis Batch: 467960**

**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	9.309		mg/L		93	90 - 110
Fluoride	2.00	2.029		mg/L		101	90 - 110
Sulfate	10.0	10.05		mg/L		101	90 - 110

**Lab Sample ID: 310-315980-1 MS**  
**Matrix: Water**  
**Analysis Batch: 467960**

**Client Sample ID: MW13R-GW-0925**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	11.0		25.0	33.55		mg/L		90	80 - 120
Fluoride	<1.00		5.00	5.621		mg/L		112	80 - 120
Sulfate	47.4		25.0	76.91		mg/L		118	80 - 120

**Lab Sample ID: 310-315980-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 467960**

**Client Sample ID: MW13R-GW-0925**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	11.0		25.0	34.11		mg/L		92	80 - 120	2	15
Fluoride	<1.00		5.00	5.687		mg/L		114	80 - 120	1	15
Sulfate	47.4		25.0	74.95		mg/L		110	80 - 120	3	15

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# QC Sample Results

Client: GHD Services Inc.  
 Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

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

**Lab Sample ID: MB 310-467526/1-A**  
**Matrix: Water**  
**Analysis Batch: 468018**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 467526**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 14:50	1
Arsenic	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 14:50	1
Barium	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 14:50	1
Beryllium	<0.00100		0.00100		mg/L		09/23/25 08:45	09/25/25 14:50	1
Cadmium	<0.000200		0.000200		mg/L		09/23/25 08:45	09/25/25 14:50	1
Calcium	<0.500		0.500		mg/L		09/23/25 08:45	09/25/25 14:50	1
Chromium	<0.00500		0.00500		mg/L		09/23/25 08:45	09/25/25 14:50	1
Cobalt	<0.000500		0.000500		mg/L		09/23/25 08:45	09/25/25 14:50	1
Iron	<0.100		0.100		mg/L		09/23/25 08:45	09/25/25 14:50	1
Lead	<0.000500		0.000500		mg/L		09/23/25 08:45	09/25/25 14:50	1
Lithium	<0.0100		0.0100		mg/L		09/23/25 08:45	09/25/25 14:50	1
Manganese	<0.0100		0.0100		mg/L		09/23/25 08:45	09/25/25 14:50	1
Molybdenum	<0.00200		0.00200		mg/L		09/23/25 08:45	09/25/25 14:50	1
Selenium	<0.00500		0.00500		mg/L		09/23/25 08:45	09/25/25 14:50	1
Thallium	<0.00100		0.00100		mg/L		09/23/25 08:45	09/25/25 14:50	1

**Lab Sample ID: MB 310-467526/1-A**  
**Matrix: Water**  
**Analysis Batch: 468195**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 467526**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Boron	<0.100		0.100		mg/L		09/23/25 08:45	09/26/25 13:56	1

**Lab Sample ID: LCS 310-467526/2-A**  
**Matrix: Water**  
**Analysis Batch: 468018**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 467526**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	Limits
Arsenic	0.200	0.1977		mg/L		99	80 - 120	
Barium	0.100	0.09794		mg/L		98	80 - 120	
Beryllium	0.100	0.1013		mg/L		101	80 - 120	
Cadmium	0.100	0.1039		mg/L		104	80 - 120	
Calcium	2.00	1.978		mg/L		99	80 - 120	
Chromium	0.100	0.1039		mg/L		104	80 - 120	
Cobalt	0.100	0.1000		mg/L		100	80 - 120	
Iron	0.200	0.1983		mg/L		99	80 - 120	
Lead	0.200	0.2045		mg/L		102	80 - 120	
Lithium	0.200	0.2016		mg/L		101	80 - 120	
Manganese	0.100	0.09386		mg/L		94	80 - 120	
Molybdenum	0.200	0.2180		mg/L		109	80 - 120	
Selenium	0.400	0.3951		mg/L		99	80 - 120	
Thallium	0.100	0.1028		mg/L		103	80 - 120	

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

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

**Lab Sample ID: LCS 310-467526/2-A**  
**Matrix: Water**  
**Analysis Batch: 468195**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 467526**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.200	0.2152		mg/L		108	80 - 120

**Lab Sample ID: 310-315980-1 MS**  
**Matrix: Water**  
**Analysis Batch: 468018**

**Client Sample ID: MW13R-GW-0925**  
**Prep Type: Total/NA**  
**Prep Batch: 467526**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.00200		0.200	0.2201		mg/L		110	75 - 125
Arsenic	0.0503		0.200	0.2586		mg/L		104	75 - 125
Barium	0.217		0.100	0.3169		mg/L		100	75 - 125
Beryllium	<0.00100		0.100	0.1046		mg/L		105	75 - 125
Cadmium	<0.000200		0.100	0.1018		mg/L		102	75 - 125
Calcium	141		2.00	140.2	4	mg/L		-39	75 - 125
Chromium	<0.00500		0.100	0.1029		mg/L		103	75 - 125
Cobalt	0.000946		0.100	0.09703		mg/L		96	75 - 125
Lithium	0.0743		0.200	0.2754		mg/L		101	75 - 125
Lead	<0.000500		0.200	0.1962		mg/L		98	75 - 125
Molybdenum	0.00445		0.200	0.2219		mg/L		109	75 - 125
Selenium	<0.00500		0.400	0.4119		mg/L		103	75 - 125
Thallium	<0.00100		0.100	0.09398		mg/L		94	75 - 125

**Lab Sample ID: 310-315980-1 MS**  
**Matrix: Water**  
**Analysis Batch: 468195**

**Client Sample ID: MW13R-GW-0925**  
**Prep Type: Total/NA**  
**Prep Batch: 467526**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.131		0.200	0.3551		mg/L		112	75 - 125

**Lab Sample ID: 310-315980-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 468018**

**Client Sample ID: MW13R-GW-0925**  
**Prep Type: Total/NA**  
**Prep Batch: 467526**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Antimony	<0.00200		0.200	0.2238		mg/L		112	75 - 125	2	20
Arsenic	0.0503		0.200	0.2615		mg/L		106	75 - 125	1	20
Barium	0.217		0.100	0.3208		mg/L		104	75 - 125	1	20
Beryllium	<0.00100		0.100	0.1039		mg/L		104	75 - 125	1	20
Cadmium	<0.000200		0.100	0.1029		mg/L		103	75 - 125	1	20
Calcium	141		2.00	142.4	4	mg/L		68	75 - 125	2	20
Chromium	<0.00500		0.100	0.1047		mg/L		105	75 - 125	2	20
Cobalt	0.000946		0.100	0.09849		mg/L		98	75 - 125	1	20
Lithium	0.0743		0.200	0.2748		mg/L		100	75 - 125	0	20
Lead	<0.000500		0.200	0.1995		mg/L		100	75 - 125	2	20
Molybdenum	0.00445		0.200	0.2260		mg/L		111	75 - 125	2	20
Selenium	<0.00500		0.400	0.4147		mg/L		104	75 - 125	1	20
Thallium	<0.00100		0.100	0.09552		mg/L		96	75 - 125	2	20

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

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

Lab Sample ID: 310-315980-1 MSD  
Matrix: Water  
Analysis Batch: 468195

Client Sample ID: MW13R-GW-0925  
Prep Type: Total/NA  
Prep Batch: 467526

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.131		0.200	0.3687		mg/L		119	75 - 125	4	20

Lab Sample ID: MB 310-468136/1-A  
Matrix: Water  
Analysis Batch: 468610

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 468136

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.100		0.100		mg/L		09/29/25 09:00	10/01/25 16:16	1
Manganese	<0.0100		0.0100		mg/L		09/29/25 09:00	10/01/25 16:16	1

Lab Sample ID: LCS 310-468136/2-A  
Matrix: Water  
Analysis Batch: 468610

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 468136

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	0.200	0.2052		mg/L		103	80 - 120
Manganese	0.100	0.09492		mg/L		95	80 - 120

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-467595/1-A  
Matrix: Water  
Analysis Batch: 467781

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 467595

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/23/25 11:55	09/24/25 10:13	1

Lab Sample ID: LCS 310-467595/2-A  
Matrix: Water  
Analysis Batch: 467781

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 467595

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001653		mg/L		99	80 - 120

Lab Sample ID: 310-315980-1 MS  
Matrix: Water  
Analysis Batch: 467781

Client Sample ID: MW13R-GW-0925  
Prep Type: Total/NA  
Prep Batch: 467595

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.000200		0.00167	0.001663		mg/L		100	80 - 120

Lab Sample ID: 310-315980-1 MSD  
Matrix: Water  
Analysis Batch: 467781

Client Sample ID: MW13R-GW-0925  
Prep Type: Total/NA  
Prep Batch: 467595

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.000200		0.00167	0.001681		mg/L		101	80 - 120	1	20

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

## Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: MB 310-468227/1-A  
Matrix: Water  
Analysis Batch: 468446

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 468227

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/29/25 12:45	09/30/25 13:51	1

Lab Sample ID: LCS 310-468227/2-A  
Matrix: Water  
Analysis Batch: 468446

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 468227

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001611		mg/L		97	80 - 120

## Method: 9060A - Organic Carbon, Total (TOC)

Lab Sample ID: MB 310-467741/11  
Matrix: Water  
Analysis Batch: 467741

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	<1.00		1.00		mg/L			09/23/25 14:17	1

Lab Sample ID: LCS 310-467741/12  
Matrix: Water  
Analysis Batch: 467741

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	9.99	10.69		mg/L		107	85 - 115

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

Lab Sample ID: MB 310-467364/1  
Matrix: Water  
Analysis Batch: 467364

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	<50.0		50.0		mg/L			09/19/25 17:23	1

Lab Sample ID: LCS 310-467364/2  
Matrix: Water  
Analysis Batch: 467364

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	938.0		mg/L		94	89 - 110

## Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-467144/1  
Matrix: Water  
Analysis Batch: 467144

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100	98 - 102

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# QC Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

## Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 310-315980-1 DU  
Matrix: Water  
Analysis Batch: 467144

Client Sample ID: MW13R-GW-0925  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	7.1	HF	7.1		SU		0.3	20

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

Lab Sample ID: MB 160-737252/1-A  
Matrix: Water  
Analysis Batch: 740742

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 737252

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.282	U	0.139	0.139	1.00	0.282	pCi/L	09/23/25 07:52	10/15/25 23:01	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	90.1		30 - 110					09/23/25 07:52	10/15/25 23:01	1

Lab Sample ID: LCS 160-737252/2-A  
Matrix: Water  
Analysis Batch: 740742

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 737252

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	9.57	9.526		1.23	1.00	0.380	pCi/L	99	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Barium	93.1		30 - 110						

Lab Sample ID: 310-315980-1 MS  
Matrix: Water  
Analysis Batch: 740742

Client Sample ID: MW13R-GW-0925  
Prep Type: Total/NA  
Prep Batch: 737252

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	0.491		9.56	9.032		1.20	1.00	0.277	pCi/L	89	60 - 140
Carrier	MS %Yield	MS Qualifier	Limits								
Barium	88.6		30 - 110								

Lab Sample ID: 310-315980-1 MSD  
Matrix: Water  
Analysis Batch: 740742

Client Sample ID: MW13R-GW-0925  
Prep Type: Total/NA  
Prep Batch: 737252

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	Limit
Radium-226	0.491		9.50	9.427		1.23	1.00	0.328	pCi/L	94	60 - 140	0.16	1
Carrier	MSD %Yield	MSD Qualifier	Limits										
Barium	91.6		30 - 110										

Eurofins Cedar Falls

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

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

**Lab Sample ID: MB 160-737253/1-A**  
**Matrix: Water**  
**Analysis Batch: 740746**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 737253**

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	<0.584	U	0.357	0.359	1.00	0.584	pCi/L	09/23/25 07:56	10/15/25 11:56	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Barium	90.1		30 - 110		09/23/25 07:56	10/15/25 11:56	1			
Y Carrier	76.6		30 - 110		09/23/25 07:56	10/15/25 11:56	1			

**Lab Sample ID: LCS 160-737253/2-A**  
**Matrix: Water**  
**Analysis Batch: 740746**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 737253**

Analyte	Spike Added	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec Limits
		Result	Qual	Uncert. (2σ+/-)					
Radium-228	8.01	8.949		1.25	1.00	0.558	pCi/L	112	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Barium	93.1		30 - 110						
Y Carrier	78.9		30 - 110						

**Lab Sample ID: 310-315980-1 MS**  
**Matrix: Water**  
**Analysis Batch: 740745**

**Client Sample ID: MW13R-GW-0925**  
**Prep Type: Total/NA**  
**Prep Batch: 737253**

Analyte	Sample	Sample	Spike	MS	MS	Total	RL	MDC	Unit	%Rec	%Rec Limits
	Result	Qual	Added	Result	Qual	Uncert. (2σ+/-)					
Radium-228	<0.662	U	8.00	10.24		1.45	1.00	0.640	pCi/L	121	60 - 140
Carrier	MS %Yield	MS Qualifier	Limits								
Barium	88.6		30 - 110								
Y Carrier	70.3		30 - 110								

**Lab Sample ID: 310-315980-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 740745**

**Client Sample ID: MW13R-GW-0925**  
**Prep Type: Total/NA**  
**Prep Batch: 737253**

Analyte	Sample	Sample	Spike	MSD	MSD	Total	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
	Result	Qual	Added	Result	Qual	Uncert. (2σ+/-)							
Radium-228	<0.662	U	7.95	8.479		1.23	1.00	0.577	pCi/L	99	60 - 140	0.66	1
Carrier	MSD %Yield	MSD Qualifier	Limits										
Barium	91.6		30 - 110										
Y Carrier	75.9		30 - 110										

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

## HPLC/IC

### Analysis Batch: 467490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-4	MW223S-GW-0925	Total/NA	Water	9056A	
310-315980-4	MW223S-GW-0925	Total/NA	Water	9056A	
310-315980-5	MW231SR-GW-0925	Total/NA	Water	9056A	
310-315980-5	MW231SR-GW-0925	Total/NA	Water	9056A	
MB 310-467490/3	Method Blank	Total/NA	Water	9056A	
LCS 310-467490/4	Lab Control Sample	Total/NA	Water	9056A	

### Analysis Batch: 467960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-1	MW13R-GW-0925	Total/NA	Water	9056A	
310-315980-2	MW27-GW-0925	Total/NA	Water	9056A	
310-315980-3	MW29R-GW-0925	Total/NA	Water	9056A	
310-315980-6	DP01-GW-0925	Total/NA	Water	9056A	
MB 310-467960/3	Method Blank	Total/NA	Water	9056A	
LCS 310-467960/4	Lab Control Sample	Total/NA	Water	9056A	
310-315980-1 MS	MW13R-GW-0925	Total/NA	Water	9056A	
310-315980-1 MSD	MW13R-GW-0925	Total/NA	Water	9056A	

## Metals

### Prep Batch: 467526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-1	MW13R-GW-0925	Total/NA	Water	3005A	
310-315980-2	MW27-GW-0925	Total/NA	Water	3005A	
310-315980-3	MW29R-GW-0925	Total/NA	Water	3005A	
310-315980-4	MW223S-GW-0925	Total/NA	Water	3005A	
310-315980-5	MW231SR-GW-0925	Total/NA	Water	3005A	
310-315980-6	DP01-GW-0925	Total/NA	Water	3005A	
MB 310-467526/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-467526/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-315980-1 MS	MW13R-GW-0925	Total/NA	Water	3005A	
310-315980-1 MSD	MW13R-GW-0925	Total/NA	Water	3005A	

### Prep Batch: 467595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-1	MW13R-GW-0925	Total/NA	Water	7470A	
310-315980-2	MW27-GW-0925	Total/NA	Water	7470A	
310-315980-3	MW29R-GW-0925	Total/NA	Water	7470A	
MB 310-467595/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-467595/2-A	Lab Control Sample	Total/NA	Water	7470A	
310-315980-1 MS	MW13R-GW-0925	Total/NA	Water	7470A	
310-315980-1 MSD	MW13R-GW-0925	Total/NA	Water	7470A	

### Analysis Batch: 467781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-1	MW13R-GW-0925	Total/NA	Water	7470A	467595
310-315980-2	MW27-GW-0925	Total/NA	Water	7470A	467595
310-315980-3	MW29R-GW-0925	Total/NA	Water	7470A	467595
MB 310-467595/1-A	Method Blank	Total/NA	Water	7470A	467595
LCS 310-467595/2-A	Lab Control Sample	Total/NA	Water	7470A	467595
310-315980-1 MS	MW13R-GW-0925	Total/NA	Water	7470A	467595

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# QC Association Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

## Metals (Continued)

### Analysis Batch: 467781 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-1 MSD	MW13R-GW-0925	Total/NA	Water	7470A	467595

### Analysis Batch: 468018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-1	MW13R-GW-0925	Total/NA	Water	6020B	467526
310-315980-2	MW27-GW-0925	Total/NA	Water	6020B	467526
310-315980-3	MW29R-GW-0925	Total/NA	Water	6020B	467526
310-315980-4	MW223S-GW-0925	Total/NA	Water	6020B	467526
310-315980-5	MW231SR-GW-0925	Total/NA	Water	6020B	467526
310-315980-6	DP01-GW-0925	Total/NA	Water	6020B	467526
MB 310-467526/1-A	Method Blank	Total/NA	Water	6020B	467526
LCS 310-467526/2-A	Lab Control Sample	Total/NA	Water	6020B	467526
310-315980-1 MS	MW13R-GW-0925	Total/NA	Water	6020B	467526
310-315980-1 MSD	MW13R-GW-0925	Total/NA	Water	6020B	467526

### Prep Batch: 468136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-4	MW223S-GW-0925	Dissolved	Water	3005A	
310-315980-5	MW231SR-GW-0925	Dissolved	Water	3005A	
MB 310-468136/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-468136/2-A	Lab Control Sample	Total/NA	Water	3005A	

### Analysis Batch: 468195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-1	MW13R-GW-0925	Total/NA	Water	6020B	467526
310-315980-2	MW27-GW-0925	Total/NA	Water	6020B	467526
310-315980-3	MW29R-GW-0925	Total/NA	Water	6020B	467526
310-315980-4	MW223S-GW-0925	Total/NA	Water	6020B	467526
310-315980-5	MW231SR-GW-0925	Total/NA	Water	6020B	467526
310-315980-6	DP01-GW-0925	Total/NA	Water	6020B	467526
MB 310-467526/1-A	Method Blank	Total/NA	Water	6020B	467526
LCS 310-467526/2-A	Lab Control Sample	Total/NA	Water	6020B	467526
310-315980-1 MS	MW13R-GW-0925	Total/NA	Water	6020B	467526
310-315980-1 MSD	MW13R-GW-0925	Total/NA	Water	6020B	467526

### Prep Batch: 468227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-4	MW223S-GW-0925	Total/NA	Water	7470A	
310-315980-5	MW231SR-GW-0925	Total/NA	Water	7470A	
310-315980-6	DP01-GW-0925	Total/NA	Water	7470A	
MB 310-468227/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-468227/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Analysis Batch: 468446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-4	MW223S-GW-0925	Total/NA	Water	7470A	468227
310-315980-5	MW231SR-GW-0925	Total/NA	Water	7470A	468227
310-315980-6	DP01-GW-0925	Total/NA	Water	7470A	468227
MB 310-468227/1-A	Method Blank	Total/NA	Water	7470A	468227
LCS 310-468227/2-A	Lab Control Sample	Total/NA	Water	7470A	468227

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

## Metals

### Analysis Batch: 468610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-4	MW223S-GW-0925	Dissolved	Water	6020B	468136
310-315980-5	MW231SR-GW-0925	Dissolved	Water	6020B	468136
MB 310-468136/1-A	Method Blank	Total/NA	Water	6020B	468136
LCS 310-468136/2-A	Lab Control Sample	Total/NA	Water	6020B	468136

## General Chemistry

### Analysis Batch: 467144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-1	MW13R-GW-0925	Total/NA	Water	SM 4500 H+ B	
310-315980-2	MW27-GW-0925	Total/NA	Water	SM 4500 H+ B	
310-315980-3	MW29R-GW-0925	Total/NA	Water	SM 4500 H+ B	
310-315980-4	MW223S-GW-0925	Total/NA	Water	SM 4500 H+ B	
310-315980-5	MW231SR-GW-0925	Total/NA	Water	SM 4500 H+ B	
310-315980-6	DP01-GW-0925	Total/NA	Water	SM 4500 H+ B	
LCS 310-467144/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-315980-1 DU	MW13R-GW-0925	Total/NA	Water	SM 4500 H+ B	

### Analysis Batch: 467364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-1	MW13R-GW-0925	Total/NA	Water	SM 2540C	
310-315980-2	MW27-GW-0925	Total/NA	Water	SM 2540C	
310-315980-3	MW29R-GW-0925	Total/NA	Water	SM 2540C	
310-315980-4	MW223S-GW-0925	Total/NA	Water	SM 2540C	
310-315980-5	MW231SR-GW-0925	Total/NA	Water	SM 2540C	
310-315980-6	DP01-GW-0925	Total/NA	Water	SM 2540C	
MB 310-467364/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-467364/2	Lab Control Sample	Total/NA	Water	SM 2540C	

### Analysis Batch: 467741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-4	MW223S-GW-0925	Total/NA	Water	9060A	
310-315980-5	MW231SR-GW-0925	Total/NA	Water	9060A	
MB 310-467741/11	Method Blank	Total/NA	Water	9060A	
LCS 310-467741/12	Lab Control Sample	Total/NA	Water	9060A	

## Rad

### Prep Batch: 737252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-1	MW13R-GW-0925	Total/NA	Water	PrecSep-21	
310-315980-2	MW27-GW-0925	Total/NA	Water	PrecSep-21	
310-315980-3	MW29R-GW-0925	Total/NA	Water	PrecSep-21	
310-315980-4	MW223S-GW-0925	Total/NA	Water	PrecSep-21	
310-315980-5	MW231SR-GW-0925	Total/NA	Water	PrecSep-21	
310-315980-6	DP01-GW-0925	Total/NA	Water	PrecSep-21	
MB 160-737252/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-737252/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
310-315980-1 MS	MW13R-GW-0925	Total/NA	Water	PrecSep-21	
310-315980-1 MSD	MW13R-GW-0925	Total/NA	Water	PrecSep-21	

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# QC Association Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

## Rad

### Prep Batch: 737253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315980-1	MW13R-GW-0925	Total/NA	Water	PrecSep_0	
310-315980-2	MW27-GW-0925	Total/NA	Water	PrecSep_0	
310-315980-3	MW29R-GW-0925	Total/NA	Water	PrecSep_0	
310-315980-4	MW223S-GW-0925	Total/NA	Water	PrecSep_0	
310-315980-5	MW231SR-GW-0925	Total/NA	Water	PrecSep_0	
310-315980-6	DP01-GW-0925	Total/NA	Water	PrecSep_0	
MB 160-737253/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-737253/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
310-315980-1 MS	MW13R-GW-0925	Total/NA	Water	PrecSep_0	
310-315980-1 MSD	MW13R-GW-0925	Total/NA	Water	PrecSep_0	

# Lab Chronicle

Client: GHD Services Inc.  
 Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Client Sample ID: MW13R-GW-0925**

**Lab Sample ID: 310-315980-1**

**Date Collected: 09/17/25 15:15**

**Matrix: Water**

**Date Received: 09/18/25 09:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	467960	QTZ5	EET CF	09/24/25 17:36
Total/NA	Prep	3005A			467526	QTZ5	EET CF	09/23/25 08:45
Total/NA	Analysis	6020B		1	468195	ZRI4	EET CF	09/26/25 14:01
Total/NA	Prep	3005A			467526	QTZ5	EET CF	09/23/25 08:45
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 14:55
Total/NA	Prep	7470A			467595	RLT9	EET CF	09/23/25 11:55
Total/NA	Analysis	7470A		1	467781	RLT9	EET CF	09/24/25 10:18
Total/NA	Analysis	SM 2540C		1	467364	HE7K	EET CF	09/19/25 17:23
Total/NA	Analysis	SM 4500 H+ B		1	467144	W9YR	EET CF	09/18/25 11:39
Total/NA	Prep	PrecSep-21			737252	JTR	EET SL	09/23/25 07:52
Total/NA	Analysis	9315		1	740742	SWS	EET SL	10/15/25 23:04
Total/NA	Prep	PrecSep_0			737253	JTR	EET SL	09/23/25 07:56
Total/NA	Analysis	9320		1	740745	SWS	EET SL	10/15/25 12:06
Total/NA	Analysis	Ra226_Ra228		1	740621	CAH	EET SL	10/17/25 13:48

**Client Sample ID: MW27-GW-0925**

**Lab Sample ID: 310-315980-2**

**Date Collected: 09/16/25 17:10**

**Matrix: Water**

**Date Received: 09/18/25 09:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	467960	QTZ5	EET CF	09/25/25 10:50
Total/NA	Prep	3005A			467526	QTZ5	EET CF	09/23/25 08:45
Total/NA	Analysis	6020B		1	468195	ZRI4	EET CF	09/26/25 14:09
Total/NA	Prep	3005A			467526	QTZ5	EET CF	09/23/25 08:45
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 15:12
Total/NA	Prep	7470A			467595	RLT9	EET CF	09/23/25 11:55
Total/NA	Analysis	7470A		1	467781	RLT9	EET CF	09/24/25 10:24
Total/NA	Analysis	SM 2540C		1	467364	HE7K	EET CF	09/19/25 17:23
Total/NA	Analysis	SM 4500 H+ B		1	467144	W9YR	EET CF	09/18/25 11:43
Total/NA	Prep	PrecSep-21			737252	JTR	EET SL	09/23/25 07:52
Total/NA	Analysis	9315		1	740742	SWS	EET SL	10/15/25 23:04
Total/NA	Prep	PrecSep_0			737253	JTR	EET SL	09/23/25 07:56
Total/NA	Analysis	9320		1	740745	SWS	EET SL	10/15/25 12:06
Total/NA	Analysis	Ra226_Ra228		1	740621	CAH	EET SL	10/17/25 13:48

**Client Sample ID: MW29R-GW-0925**

**Lab Sample ID: 310-315980-3**

**Date Collected: 09/16/25 18:55**

**Matrix: Water**

**Date Received: 09/18/25 09:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	467960	QTZ5	EET CF	09/25/25 11:01
Total/NA	Prep	3005A			467526	QTZ5	EET CF	09/23/25 08:45
Total/NA	Analysis	6020B		1	468195	ZRI4	EET CF	09/26/25 14:11

# Lab Chronicle

Client: GHD Services Inc.  
 Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Client Sample ID: MW29R-GW-0925**

**Lab Sample ID: 310-315980-3**

**Date Collected: 09/16/25 18:55**

**Matrix: Water**

**Date Received: 09/18/25 09:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			467526	QTZ5	EET CF	09/23/25 08:45
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 15:15
Total/NA	Prep	7470A			467595	RLT9	EET CF	09/23/25 11:55
Total/NA	Analysis	7470A		1	467781	RLT9	EET CF	09/24/25 10:26
Total/NA	Analysis	SM 2540C		1	467364	HE7K	EET CF	09/19/25 17:23
Total/NA	Analysis	SM 4500 H+ B		1	467144	W9YR	EET CF	09/18/25 11:42
Total/NA	Prep	PrecSep-21			737252	JTR	EET SL	09/23/25 07:52
Total/NA	Analysis	9315		1	740746	SWS	EET SL	10/15/25 23:07
Total/NA	Prep	PrecSep_0			737253	JTR	EET SL	09/23/25 07:56
Total/NA	Analysis	9320		1	740745	SWS	EET SL	10/15/25 12:06
Total/NA	Analysis	Ra226_Ra228		1	740621	CAH	EET SL	10/17/25 13:48

**Client Sample ID: MW223S-GW-0925**

**Lab Sample ID: 310-315980-4**

**Date Collected: 09/17/25 10:40**

**Matrix: Water**

**Date Received: 09/18/25 09:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		1	467490	ZRI4	EET CF	09/18/25 11:51
Total/NA	Analysis	9056A		20	467490	ZRI4	EET CF	09/18/25 15:29
Dissolved	Prep	3005A			468136	QTZ5	EET CF	09/29/25 09:00
Dissolved	Analysis	6020B		1	468610	NFT2	EET CF	10/01/25 17:16
Total/NA	Prep	3005A			467526	QTZ5	EET CF	09/23/25 08:45
Total/NA	Analysis	6020B		1	468195	ZRI4	EET CF	09/26/25 14:14
Total/NA	Prep	3005A			467526	QTZ5	EET CF	09/23/25 08:45
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 15:27
Total/NA	Prep	7470A			468227	RLT9	EET CF	09/29/25 12:45
Total/NA	Analysis	7470A		1	468446	RLT9	EET CF	09/30/25 14:25
Total/NA	Analysis	9060A		1	467741	WZC8	EET CF	09/23/25 19:41
Total/NA	Analysis	SM 2540C		1	467364	HE7K	EET CF	09/19/25 17:23
Total/NA	Analysis	SM 4500 H+ B		1	467144	W9YR	EET CF	09/18/25 11:45
Total/NA	Prep	PrecSep-21			737252	JTR	EET SL	09/23/25 07:52
Total/NA	Analysis	9315		1	740746	SWS	EET SL	10/15/25 23:07
Total/NA	Prep	PrecSep_0			737253	JTR	EET SL	09/23/25 07:56
Total/NA	Analysis	9320		1	740745	SWS	EET SL	10/15/25 12:06
Total/NA	Analysis	Ra226_Ra228		1	740621	CAH	EET SL	10/17/25 13:48

**Client Sample ID: MW231SR-GW-0925**

**Lab Sample ID: 310-315980-5**

**Date Collected: 09/17/25 10:50**

**Matrix: Water**

**Date Received: 09/18/25 09:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		1	467490	ZRI4	EET CF	09/18/25 12:05
Total/NA	Analysis	9056A		20	467490	ZRI4	EET CF	09/18/25 15:42

# Lab Chronicle

Client: GHD Services Inc.  
 Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

**Client Sample ID: MW231SR-GW-0925**

**Lab Sample ID: 310-315980-5**

**Date Collected: 09/17/25 10:50**

**Matrix: Water**

**Date Received: 09/18/25 09:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			468136	QTZ5	EET CF	09/29/25 09:00
Dissolved	Analysis	6020B		1	468610	NFT2	EET CF	10/01/25 17:19
Total/NA	Prep	3005A			467526	QTZ5	EET CF	09/23/25 08:45
Total/NA	Analysis	6020B		1	468195	ZRI4	EET CF	09/26/25 14:16
Total/NA	Prep	3005A			467526	QTZ5	EET CF	09/23/25 08:45
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 15:30
Total/NA	Prep	7470A			468227	RLT9	EET CF	09/29/25 12:45
Total/NA	Analysis	7470A		1	468446	RLT9	EET CF	09/30/25 14:27
Total/NA	Analysis	9060A		1	467741	WZC8	EET CF	09/23/25 22:06
Total/NA	Analysis	SM 2540C		1	467364	HE7K	EET CF	09/19/25 17:23
Total/NA	Analysis	SM 4500 H+ B		1	467144	W9YR	EET CF	09/18/25 11:44
Total/NA	Prep	PrecSep-21			737252	JTR	EET SL	09/23/25 07:52
Total/NA	Analysis	9315		1	740951	FLC	EET SL	10/16/25 09:40
Total/NA	Prep	PrecSep_0			737253	JTR	EET SL	09/23/25 07:56
Total/NA	Analysis	9320		1	740745	SWS	EET SL	10/15/25 12:06
Total/NA	Analysis	Ra226_Ra228		1	740621	CAH	EET SL	10/17/25 13:48

**Client Sample ID: DP01-GW-0925**

**Lab Sample ID: 310-315980-6**

**Date Collected: 09/17/25 00:00**

**Matrix: Water**

**Date Received: 09/18/25 09:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	467960	QTZ5	EET CF	09/25/25 11:12
Total/NA	Prep	3005A			467526	QTZ5	EET CF	09/23/25 08:45
Total/NA	Analysis	6020B		1	468195	ZRI4	EET CF	09/26/25 14:19
Total/NA	Prep	3005A			467526	QTZ5	EET CF	09/23/25 08:45
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 15:32
Total/NA	Prep	7470A			468227	RLT9	EET CF	09/29/25 12:45
Total/NA	Analysis	7470A		1	468446	RLT9	EET CF	09/30/25 14:29
Total/NA	Analysis	SM 2540C		1	467364	HE7K	EET CF	09/19/25 17:23
Total/NA	Analysis	SM 4500 H+ B		1	467144	W9YR	EET CF	09/18/25 11:56
Total/NA	Prep	PrecSep-21			737252	JTR	EET SL	09/23/25 07:52
Total/NA	Analysis	9315		1	740951	FLC	EET SL	10/16/25 09:41
Total/NA	Prep	PrecSep_0			737253	JTR	EET SL	09/23/25 07:56
Total/NA	Analysis	9320		1	740745	SWS	EET SL	10/15/25 12:06
Total/NA	Analysis	Ra226_Ra228		1	740621	CAH	EET SL	10/17/25 13:48

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

## Laboratory: Eurofins Cedar Falls

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6020B	3005A	Water	Lithium

## Laboratory: Eurofins St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	373	12-01-26

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
9315	PrecSep-21	Water	Radium-226
9320	PrecSep_0	Water	Radium-228
Ra226_Ra228		Water	Combined Radium 226 + 228

# Method Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
9060A	Organic Carbon, Total (TOC)	SW846	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
9315	Radium-226 (GFPC)	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

### Protocol References:

None = None

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

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

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

### Laboratory References:

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

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



Environment Testing  
America



310-315980 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <b>GHD</b>			
City/State.	CITY <b>Des Moines</b>	STATE <b>IA</b>	Project:
<b>Receipt Information</b>			
Date/Time Received.	DATE <b>9/18/25</b>	TIME <b>0950</b>	Received By: <b>BP</b>
Delivery Type. <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID. <b>9/18/25</b>	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # <b>1</b> of <b>3</b>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes. Which VOA samples are in cooler? ↓	
<b>Temperature Record</b>			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <b>AA</b>		Correction Factor (°C): <b>±0</b>	
• <b>Temp Blank Temperature</b> – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C) <b>5.6</b>		Corrected Temp (°C): <b>5.6</b>	
• <b>Sample Container Temperature</b>			
Container(s) used	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE If yes, contact PM before proceeding If no, proceed with login			
<b>Additional Comments</b>			



<b>Client Information</b> Client Contact: Kevin Armstrong Company: GHD Services Inc. Address: 11228 Aurora Avenue City: Des Moines State, Zip: IA, 50322-7905 Phone: 515-414-3935 Email: Kevin.Armstrong@ghd.com Project Name: MEC Neal North-Background Site: Neal North CCR		Lab PM: Zach Bindert E-Mail: zach_bindert@eurofins.com Carrier Tracking No(s): State of Origin: Iowa Page: Page 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): <b>Standard</b> Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: 340-017045 WO #: 12576482-004 01 Project #: 31017263 SSO# #: 12576482-002		<b>Analysis Requested</b> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> 9316_Ra226 - Standard Target List <input checked="" type="checkbox"/> D 9320_Ra228 - Standard Target List <input checked="" type="checkbox"/> D 9066A_ORGFM_28D - Chloride, Fluoride & Sulfate <input checked="" type="checkbox"/> N 9066A_ORGFM_49H SHORT HOLD <input checked="" type="checkbox"/> N 9060A - TOC Duplicates <input checked="" type="checkbox"/> S 6020B - Dissolved Fe and Mn (field-filtered) <input checked="" type="checkbox"/> D 2640C_Calcd, SM4500_H+ <input checked="" type="checkbox"/> N 6020B, 7470A - Appendix III and IV Metals <input checked="" type="checkbox"/> D 6020B, 7470A - Appendix III and IV Metals <input checked="" type="checkbox"/> D Manganese <input checked="" type="checkbox"/> D Total Number of Containers: <b>15</b>	
<b>Sample Identification</b> Sample Date: 9/17/25 Sample Time: 1515 Sample Type (C=comp, G=grab): G Matrix (W=water, S=solid, O=soil, T=tissue, A=air): Water Preservation Code:		Special Instructions/Note: Short Hold Short Hold Short Hold	
MW13R-GW-0925 MW27-GW-0925 MW29R-GW-0925 MW23S-GW-0925 MW231SR-GW-0925 DP01-GW-0925		9/17/25 1515 9/17/25 1710 9/17/25 1855 9/17/25 1040 9/17/25 1050 9/17/25 -	
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological			
Deliverable Requested I, II, III, IV, Other (specify)			
Empty Kit Relinquished by:			
Relinquished by: <b>Paul Pischke</b> Date/Time: 9/17/25 1015 Company: GHD		Received by: <b>Paul Pischke</b> Date/Time: 9/17/25 1015 Company: GHD	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks:	



# Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 310-315980-1

**Login Number: 315980**

**List Source: Eurofins Cedar Falls**

**List Number: 1**

**Creator: Homolar, Dana J**

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

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

# Tracer/Carrier Summary

Client: GHD Services Inc.  
Project/Site: MEC Neal North Energy Center CCR

Job ID: 310-315980-1

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

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)
310-315980-1	MW13R-GW-0925	89.6
310-315980-1 MS	MW13R-GW-0925	88.6
310-315980-1 MSD	MW13R-GW-0925	91.6
310-315980-2	MW27-GW-0925	91.1
310-315980-3	MW29R-GW-0925	90.4
310-315980-4	MW223S-GW-0925	88.3
310-315980-5	MW231SR-GW-0925	91.1
310-315980-6	DP01-GW-0925	91.9
LCS 160-737252/2-A	Lab Control Sample	93.1
MB 160-737252/1-A	Method Blank	90.1

#### Tracer/Carrier Legend

Ba = Barium

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

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
310-315980-1	MW13R-GW-0925	89.6	75.1
310-315980-1 MS	MW13R-GW-0925	88.6	70.3
310-315980-1 MSD	MW13R-GW-0925	91.6	75.9
310-315980-2	MW27-GW-0925	91.1	78.5
310-315980-3	MW29R-GW-0925	90.4	77.4
310-315980-4	MW223S-GW-0925	88.3	80.0
310-315980-5	MW231SR-GW-0925	91.1	78.9
310-315980-6	DP01-GW-0925	91.9	81.9
LCS 160-737253/2-A	Lab Control Sample	93.1	78.9
MB 160-737253/1-A	Method Blank	90.1	76.6

#### Tracer/Carrier Legend

Ba = Barium

Y = Y Carrier



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Kevin Armstrong  
GHD Services Inc.  
11228 Aurora Avenue  
Des Moines, Iowa 50322-7905

Generated 10/22/2025 12:53:00 PM

## JOB DESCRIPTION

Neal North Closed CCR Monofill (IDNR)  
MEC Neal North Closed Monofill

## JOB NUMBER

310-316241-1

# Eurofins Cedar Falls

## Job Notes

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

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

## Authorization



Generated  
10/22/2025 12:53:00 PM

Authorized for release by  
Zach Bindert, Senior Project Manager  
[Zach.Bindert@et.eurofinsus.com](mailto:Zach.Bindert@et.eurofinsus.com)  
(319)595-2016



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# Case Narrative

Client: GHD Services Inc.  
Project: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Job ID: 310-316241-1**

**Eurofins Cedar Falls**

## Job Narrative 310-316241-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

### Receipt

The samples were received on 9/22/2025 4:05 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.8°C, 2.1°C, 2.8°C and 3.1°C.

### HPLC/IC

Method 9056A\_ORGFM\_28D: The following samples were diluted due to the nature of the sample matrix: MW01R-GW-0925 (310-316241-1), MW03R-GW-0925 (310-316241-2), MW05R-GW-0925 (310-316241-3), MW19-GW-0925 (310-316241-4), MW21-GW-0925 (310-316241-5) and DP05-GW-0925 (310-316241-6). Elevated reporting limits (RLs) are provided.

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

### Metals

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

### General Chemistry

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

Eurofins Cedar Falls

# Case Narrative

Client: GHD Services Inc.  
Project: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Job ID: 310-316241-2**

**Eurofins Cedar Falls**

## Job Narrative 310-316241-2

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

### Receipt

The samples were received on 9/22/2025 4:05 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.8°C, 2.1°C, 2.8°C and 3.1°C.

### Gas Flow Proportional Counter

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

### Rad

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

Eurofins Cedar Falls

# Sample Summary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
310-316241-1	MW01R-GW-0925	Water	09/19/25 09:15	09/22/25 16:05	Iowa
310-316241-2	MW03R-GW-0925	Water	09/19/25 11:00	09/22/25 16:05	Iowa
310-316241-3	MW05R-GW-0925	Water	09/19/25 12:15	09/22/25 16:05	Iowa
310-316241-4	MW19-GW-0925	Water	09/19/25 10:00	09/22/25 16:05	Iowa
310-316241-5	MW21-GW-0925	Water	09/19/25 09:10	09/22/25 16:05	Iowa
310-316241-6	DP05-GW-0925	Water	09/19/25 00:00	09/22/25 16:05	Iowa

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

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Client Sample ID: MW01R-GW-0925**

**Lab Sample ID: 310-316241-1**

Date Collected: 09/19/25 09:15

Matrix: Water

Date Received: 09/22/25 16:05

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>53.8</b>		5.00		mg/L			09/26/25 16:04	5
Fluoride	<1.00		1.00		mg/L			09/26/25 16:04	5
<b>Sulfate</b>	<b>189</b>		5.00		mg/L			09/26/25 16:04	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		09/30/25 09:00	10/03/25 18:16	1
<b>Arsenic</b>	<b>0.0528</b>		0.00200		mg/L		09/30/25 09:00	10/03/25 18:16	1
<b>Barium</b>	<b>0.101</b>		0.00200		mg/L		09/30/25 09:00	10/03/25 18:16	1
Beryllium	<0.00100		0.00100		mg/L		09/30/25 09:00	10/03/25 18:16	1
<b>Boron</b>	<b>0.415</b>		0.100		mg/L		09/30/25 09:00	10/03/25 18:16	1
Cadmium	<0.000200		0.000200		mg/L		09/30/25 09:00	10/03/25 18:16	1
<b>Calcium</b>	<b>155</b>		0.500		mg/L		09/30/25 09:00	10/03/25 18:16	1
Chromium	<0.00500		0.00500		mg/L		09/30/25 09:00	10/03/25 18:16	1
Cobalt	<0.000500		0.000500		mg/L		09/30/25 09:00	10/03/25 18:16	1
<b>Lithium</b>	<b>0.0806</b>		0.0100		mg/L		09/30/25 09:00	10/03/25 18:16	1
Lead	<0.000500		0.000500		mg/L		09/30/25 09:00	10/03/25 18:16	1
<b>Molybdenum</b>	<b>0.00478</b>		0.00200		mg/L		09/30/25 09:00	10/03/25 18:16	1
Selenium	<0.00500		0.00500		mg/L		09/30/25 09:00	10/03/25 18:16	1
Thallium	<0.00100		0.00100		mg/L		09/30/25 09:00	10/03/25 18:16	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		10/01/25 15:10	10/02/25 09:55	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>890</b>		50.0		mg/L			09/24/25 13:08	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.7</b>	<b>HF</b>	1.0		SU			09/23/25 00:09	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.307	U	0.183	0.184	1.00	0.307	pCi/L	09/24/25 15:19	10/21/25 21:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	91.1		30 - 110					09/24/25 15:19	10/21/25 21:17	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>0.725</b>		0.384	0.390	1.00	0.543	pCi/L	09/24/25 15:25	10/21/25 09:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	91.1		30 - 110					09/24/25 15:25	10/21/25 09:57	1
Y Carrier	83.0		30 - 110					09/24/25 15:25	10/21/25 09:57	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Client Sample ID: MW01R-GW-0925**

**Lab Sample ID: 310-316241-1**

Date Collected: 09/19/25 09:15

Matrix: Water

Date Received: 09/22/25 16:05

Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.863		0.425	0.431	5.00	0.543	pCi/L		10/22/25 12:32	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Client Sample ID: MW03R-GW-0925**

**Lab Sample ID: 310-316241-2**

Date Collected: 09/19/25 11:00

Matrix: Water

Date Received: 09/22/25 16:05

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>8.02</b>		5.00		mg/L			09/26/25 16:17	5
Fluoride	<1.00		1.00		mg/L			09/26/25 16:17	5
<b>Sulfate</b>	<b>166</b>		5.00		mg/L			09/26/25 16:17	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		09/30/25 09:00	10/03/25 18:33	1
<b>Arsenic</b>	<b>0.0372</b>		0.00200		mg/L		09/30/25 09:00	10/03/25 18:33	1
<b>Barium</b>	<b>0.195</b>		0.00200		mg/L		09/30/25 09:00	10/03/25 18:33	1
Beryllium	<0.00100		0.00100		mg/L		09/30/25 09:00	10/03/25 18:33	1
<b>Boron</b>	<b>0.474</b>		0.100		mg/L		09/30/25 09:00	10/03/25 18:33	1
Cadmium	<0.000200		0.000200		mg/L		09/30/25 09:00	10/03/25 18:33	1
<b>Calcium</b>	<b>132</b>		0.500		mg/L		09/30/25 09:00	10/03/25 18:33	1
Chromium	<0.00500		0.00500		mg/L		09/30/25 09:00	10/03/25 18:33	1
<b>Cobalt</b>	<b>0.000530</b>		0.000500		mg/L		09/30/25 09:00	10/03/25 18:33	1
<b>Lithium</b>	<b>0.0802</b>		0.0100		mg/L		09/30/25 09:00	10/03/25 18:33	1
Lead	<0.000500		0.000500		mg/L		09/30/25 09:00	10/03/25 18:33	1
<b>Molybdenum</b>	<b>0.00241</b>		0.00200		mg/L		09/30/25 09:00	10/03/25 18:33	1
Selenium	<0.00500		0.00500		mg/L		09/30/25 09:00	10/03/25 18:33	1
Thallium	<0.00100		0.00100		mg/L		09/30/25 09:00	10/03/25 18:33	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		10/01/25 15:10	10/02/25 10:01	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>680</b>		50.0		mg/L			09/24/25 13:08	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.7</b>	<b>HF</b>	1.0		SU			09/23/25 00:20	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.324	U	0.164	0.164	1.00	0.324	pCi/L	09/24/25 15:19	10/21/25 21:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	86.0		30 - 110					09/24/25 15:19	10/21/25 21:17	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>1.01</b>		0.453	0.462	1.00	0.612	pCi/L	09/24/25 15:25	10/21/25 09:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	86.0		30 - 110					09/24/25 15:25	10/21/25 09:57	1
Y Carrier	78.5		30 - 110					09/24/25 15:25	10/21/25 09:57	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Client Sample ID: MW03R-GW-0925**

**Lab Sample ID: 310-316241-2**

Date Collected: 09/19/25 11:00

Matrix: Water

Date Received: 09/22/25 16:05

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.03		0.482	0.490	5.00	0.612	pCi/L		10/22/25 12:32	1

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# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Client Sample ID: MW05R-GW-0925**

**Lab Sample ID: 310-316241-3**

Date Collected: 09/19/25 12:15

Matrix: Water

Date Received: 09/22/25 16:05

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>9.06</b>		5.00		mg/L			09/26/25 16:31	5
Fluoride	<1.00		1.00		mg/L			09/26/25 16:31	5
<b>Sulfate</b>	<b>121</b>		5.00		mg/L			09/26/25 16:31	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		09/30/25 09:00	10/03/25 18:36	1
<b>Arsenic</b>	<b>0.0286</b>		0.00200		mg/L		09/30/25 09:00	10/03/25 18:36	1
<b>Barium</b>	<b>0.0972</b>		0.00200		mg/L		09/30/25 09:00	10/03/25 18:36	1
Beryllium	<0.00100		0.00100		mg/L		09/30/25 09:00	10/03/25 18:36	1
<b>Boron</b>	<b>0.208</b>		0.100		mg/L		09/30/25 09:00	10/03/25 18:36	1
Cadmium	<0.000200		0.000200		mg/L		09/30/25 09:00	10/03/25 18:36	1
<b>Calcium</b>	<b>109</b>		0.500		mg/L		09/30/25 09:00	10/03/25 18:36	1
Chromium	<0.00500		0.00500		mg/L		09/30/25 09:00	10/03/25 18:36	1
Cobalt	<0.000500		0.000500		mg/L		09/30/25 09:00	10/03/25 18:36	1
<b>Lithium</b>	<b>0.0686</b>		0.0100		mg/L		09/30/25 09:00	10/03/25 18:36	1
Lead	<0.000500		0.000500		mg/L		09/30/25 09:00	10/03/25 18:36	1
<b>Molybdenum</b>	<b>0.00445</b>		0.00200		mg/L		09/30/25 09:00	10/03/25 18:36	1
Selenium	<0.00500		0.00500		mg/L		09/30/25 09:00	10/03/25 18:36	1
Thallium	<0.00100		0.00100		mg/L		09/30/25 09:00	10/03/25 18:36	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		10/01/25 15:10	10/02/25 10:04	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>556</b>		50.0		mg/L			09/24/25 13:08	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.7</b>	<b>HF</b>	1.0		SU			09/23/25 00:25	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.271	U	0.171	0.172	1.00	0.271	pCi/L	09/24/25 15:19	10/21/25 21:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	90.9		30 - 110					09/24/25 15:19	10/21/25 21:17	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.529	U	0.346	0.348	1.00	0.529	pCi/L	09/24/25 15:25	10/21/25 09:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	90.9		30 - 110					09/24/25 15:25	10/21/25 09:57	1
Y Carrier	76.6		30 - 110					09/24/25 15:25	10/21/25 09:57	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Client Sample ID: MW05R-GW-0925**

**Lab Sample ID: 310-316241-3**

Date Collected: 09/19/25 12:15

Matrix: Water

Date Received: 09/22/25 16:05

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.609		0.386	0.388	5.00	0.529	pCi/L		10/22/25 12:32	1

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# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Client Sample ID: MW19-GW-0925**

**Lab Sample ID: 310-316241-4**

Date Collected: 09/19/25 10:00

Matrix: Water

Date Received: 09/22/25 16:05

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19.3		5.00		mg/L			09/26/25 16:45	5
Fluoride	<1.00		1.00		mg/L			09/26/25 16:45	5
Sulfate	854		50.0		mg/L			09/27/25 09:29	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		09/30/25 09:00	10/03/25 18:38	1
Arsenic	0.00443		0.00200		mg/L		09/30/25 09:00	10/03/25 18:38	1
Barium	0.0189		0.00200		mg/L		09/30/25 09:00	10/03/25 18:38	1
Beryllium	<0.00100		0.00100		mg/L		09/30/25 09:00	10/03/25 18:38	1
Boron	0.554		0.100		mg/L		09/30/25 09:00	10/03/25 18:38	1
Cadmium	<0.000200		0.000200		mg/L		09/30/25 09:00	10/03/25 18:38	1
Calcium	364		0.500		mg/L		09/30/25 09:00	10/03/25 18:38	1
Chromium	<0.00500		0.00500		mg/L		09/30/25 09:00	10/03/25 18:38	1
Cobalt	0.00858		0.000500		mg/L		09/30/25 09:00	10/03/25 18:38	1
Lithium	0.257		0.0100		mg/L		09/30/25 09:00	10/03/25 18:38	1
Lead	<0.000500		0.000500		mg/L		09/30/25 09:00	10/03/25 18:38	1
Molybdenum	<0.00200		0.00200		mg/L		09/30/25 09:00	10/03/25 18:38	1
Selenium	<0.00500		0.00500		mg/L		09/30/25 09:00	10/03/25 18:38	1
Thallium	<0.00100		0.00100		mg/L		09/30/25 09:00	10/03/25 18:38	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		10/01/25 15:10	10/02/25 10:06	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2130		250		mg/L			09/26/25 12:50	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	1.0		SU			09/23/25 00:34	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.397	U	0.216	0.216	1.00	0.397	pCi/L	09/24/25 15:19	10/21/25 21:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	94.2		30 - 110					09/24/25 15:19	10/21/25 21:17	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.833		0.385	0.393	1.00	0.520	pCi/L	09/24/25 15:25	10/21/25 09:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	94.2		30 - 110					09/24/25 15:25	10/21/25 09:58	1
Y Carrier	80.0		30 - 110					09/24/25 15:25	10/21/25 09:58	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Client Sample ID: MW19-GW-0925**

**Lab Sample ID: 310-316241-4**

Date Collected: 09/19/25 10:00

Matrix: Water

Date Received: 09/22/25 16:05

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.899		0.441	0.448	5.00	0.520	pCi/L		10/22/25 12:32	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Client Sample ID: MW21-GW-0925**

**Lab Sample ID: 310-316241-5**

Date Collected: 09/19/25 09:10

Matrix: Water

Date Received: 09/22/25 16:05

### Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.51		5.00		mg/L			09/26/25 16:58	5
Fluoride	<1.00		1.00		mg/L			09/26/25 16:58	5
Sulfate	1180		50.0		mg/L			09/27/25 09:42	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		09/30/25 09:00	10/03/25 18:41	1
Arsenic	<0.00200		0.00200		mg/L		09/30/25 09:00	10/03/25 18:41	1
Barium	0.0174		0.00200		mg/L		09/30/25 09:00	10/03/25 18:41	1
Beryllium	<0.00100		0.00100		mg/L		09/30/25 09:00	10/03/25 18:41	1
Boron	0.348		0.100		mg/L		09/30/25 09:00	10/03/25 18:41	1
Cadmium	0.000245		0.000200		mg/L		09/30/25 09:00	10/03/25 18:41	1
Calcium	437		0.500		mg/L		09/30/25 09:00	10/03/25 18:41	1
Chromium	<0.00500		0.00500		mg/L		09/30/25 09:00	10/03/25 18:41	1
Cobalt	<0.000500		0.000500		mg/L		09/30/25 09:00	10/03/25 18:41	1
Lithium	0.308		0.0100		mg/L		09/30/25 09:00	10/03/25 18:41	1
Lead	<0.000500		0.000500		mg/L		09/30/25 09:00	10/03/25 18:41	1
Molybdenum	<0.00200		0.00200		mg/L		09/30/25 09:00	10/03/25 18:41	1
Selenium	0.0153		0.00500		mg/L		09/30/25 09:00	10/03/25 18:41	1
Thallium	<0.00100		0.00100		mg/L		09/30/25 09:00	10/03/25 18:41	1

### Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		10/01/25 15:10	10/02/25 10:08	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2350		50.0		mg/L			09/25/25 14:31	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.4	HF	1.0		SU			09/23/25 00:38	1

### Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.298	U	0.137	0.137	1.00	0.298	pCi/L	09/24/25 15:19	10/21/25 21:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	90.9		30 - 110					09/24/25 15:19	10/21/25 21:17	1

### Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.840		0.428	0.435	1.00	0.606	pCi/L	09/24/25 15:25	10/21/25 09:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	90.9		30 - 110					09/24/25 15:25	10/21/25 09:58	1
Y Carrier	78.9		30 - 110					09/24/25 15:25	10/21/25 09:58	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Client Sample ID: MW21-GW-0925**

**Lab Sample ID: 310-316241-5**

Date Collected: 09/19/25 09:10

Matrix: Water

Date Received: 09/22/25 16:05

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.810		0.449	0.456	5.00	0.606	pCi/L		10/22/25 12:32	1

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# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Client Sample ID: DP05-GW-0925**

**Lab Sample ID: 310-316241-6**

Date Collected: 09/19/25 00:00

Matrix: Water

Date Received: 09/22/25 16:05

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>53.3</b>		5.00		mg/L			09/26/25 17:12	5
Fluoride	<1.00		1.00		mg/L			09/26/25 17:12	5
<b>Sulfate</b>	<b>192</b>		5.00		mg/L			09/26/25 17:12	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		09/30/25 09:00	10/03/25 18:44	1
<b>Arsenic</b>	<b>0.0532</b>		0.00200		mg/L		09/30/25 09:00	10/03/25 18:44	1
<b>Barium</b>	<b>0.100</b>		0.00200		mg/L		09/30/25 09:00	10/03/25 18:44	1
Beryllium	<0.00100		0.00100		mg/L		09/30/25 09:00	10/03/25 18:44	1
<b>Boron</b>	<b>0.388</b>		0.100		mg/L		09/30/25 09:00	10/03/25 18:44	1
Cadmium	<0.000200		0.000200		mg/L		09/30/25 09:00	10/03/25 18:44	1
<b>Calcium</b>	<b>152</b>		0.500		mg/L		09/30/25 09:00	10/03/25 18:44	1
Chromium	<0.00500		0.00500		mg/L		09/30/25 09:00	10/03/25 18:44	1
Cobalt	<0.000500		0.000500		mg/L		09/30/25 09:00	10/03/25 18:44	1
<b>Lithium</b>	<b>0.0802</b>		0.0100		mg/L		09/30/25 09:00	10/03/25 18:44	1
Lead	<0.000500		0.000500		mg/L		09/30/25 09:00	10/03/25 18:44	1
<b>Molybdenum</b>	<b>0.00452</b>		0.00200		mg/L		09/30/25 09:00	10/03/25 18:44	1
Selenium	<0.00500		0.00500		mg/L		09/30/25 09:00	10/03/25 18:44	1
Thallium	<0.00100		0.00100		mg/L		09/30/25 09:00	10/03/25 18:44	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		10/01/25 15:10	10/02/25 10:10	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>876</b>		50.0		mg/L			09/25/25 14:31	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.7</b>	<b>HF</b>	1.0		SU			09/23/25 00:42	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.368	U	0.184	0.184	1.00	0.368	pCi/L	09/24/25 15:19	10/21/25 21:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	86.8		30 - 110					09/24/25 15:19	10/21/25 21:17	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.667	U	0.431	0.435	1.00	0.667	pCi/L	09/24/25 15:25	10/21/25 09:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	86.8		30 - 110					09/24/25 15:25	10/21/25 09:58	1
Y Carrier	76.6		30 - 110					09/24/25 15:25	10/21/25 09:58	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Client Sample ID: DP05-GW-0925**

**Lab Sample ID: 310-316241-6**

**Date Collected: 09/19/25 00:00**

**Matrix: Water**

**Date Received: 09/22/25 16:05**

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.667	U	0.469	0.472	5.00	0.667	pCi/L		10/22/25 12:32	1

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

# Definitions/Glossary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

### General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

### 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: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

## Method: 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 310-468164/3**  
**Matrix: Water**  
**Analysis Batch: 468164**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.00		1.00		mg/L			09/26/25 12:02	1
Fluoride	<0.200		0.200		mg/L			09/26/25 12:02	1
Sulfate	<1.00		1.00		mg/L			09/26/25 12:02	1

**Lab Sample ID: LCS 310-468164/4**  
**Matrix: Water**  
**Analysis Batch: 468164**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	10.18		mg/L		102	90 - 110
Fluoride	2.00	2.099		mg/L		105	90 - 110
Sulfate	10.0	10.50		mg/L		105	90 - 110

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

**Lab Sample ID: MB 310-468307/1-A**  
**Matrix: Water**  
**Analysis Batch: 468963**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 468307**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		09/30/25 09:00	10/03/25 18:10	1
Arsenic	<0.00200		0.00200		mg/L		09/30/25 09:00	10/03/25 18:10	1
Barium	<0.00200		0.00200		mg/L		09/30/25 09:00	10/03/25 18:10	1
Beryllium	<0.00100		0.00100		mg/L		09/30/25 09:00	10/03/25 18:10	1
Boron	<0.100		0.100		mg/L		09/30/25 09:00	10/03/25 18:10	1
Cadmium	<0.000200		0.000200		mg/L		09/30/25 09:00	10/03/25 18:10	1
Calcium	<0.500		0.500		mg/L		09/30/25 09:00	10/03/25 18:10	1
Chromium	<0.00500		0.00500		mg/L		09/30/25 09:00	10/03/25 18:10	1
Cobalt	<0.000500		0.000500		mg/L		09/30/25 09:00	10/03/25 18:10	1
Lithium	<0.0100		0.0100		mg/L		09/30/25 09:00	10/03/25 18:10	1
Lead	<0.000500		0.000500		mg/L		09/30/25 09:00	10/03/25 18:10	1
Molybdenum	<0.00200		0.00200		mg/L		09/30/25 09:00	10/03/25 18:10	1
Selenium	<0.00500		0.00500		mg/L		09/30/25 09:00	10/03/25 18:10	1
Thallium	<0.00100		0.00100		mg/L		09/30/25 09:00	10/03/25 18:10	1

**Lab Sample ID: LCS 310-468307/2-A**  
**Matrix: Water**  
**Analysis Batch: 468963**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 468307**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.2015		mg/L		101	80 - 120
Arsenic	0.200	0.2016		mg/L		101	80 - 120
Barium	0.100	0.09352		mg/L		94	80 - 120
Beryllium	0.100	0.09844		mg/L		98	80 - 120
Boron	0.200	0.2159		mg/L		108	80 - 120
Cadmium	0.100	0.09359		mg/L		94	80 - 120
Calcium	2.00	2.051		mg/L		103	80 - 120
Chromium	0.100	0.09596		mg/L		96	80 - 120
Cobalt	0.100	0.09515		mg/L		95	80 - 120

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# QC Sample Results

Client: GHD Services Inc.  
 Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

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

**Lab Sample ID: LCS 310-468307/2-A**  
**Matrix: Water**  
**Analysis Batch: 468963**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 468307**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.200	0.2083		mg/L		104	80 - 120
Lead	0.200	0.1942		mg/L		97	80 - 120
Molybdenum	0.200	0.2107		mg/L		105	80 - 120
Selenium	0.400	0.3714		mg/L		93	80 - 120
Thallium	0.100	0.09888		mg/L		99	80 - 120

**Lab Sample ID: 310-316241-1 MS**  
**Matrix: Water**  
**Analysis Batch: 468963**

**Client Sample ID: MW01R-GW-0925**  
**Prep Type: Total/NA**  
**Prep Batch: 468307**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.00200		0.200	0.2098		mg/L		105	75 - 125
Arsenic	0.0528		0.200	0.2612		mg/L		104	75 - 125
Barium	0.101		0.100	0.2039		mg/L		102	75 - 125
Beryllium	<0.00100		0.100	0.09985		mg/L		100	75 - 125
Boron	0.415		0.200	0.6270		mg/L		106	75 - 125
Cadmium	<0.000200		0.100	0.09817		mg/L		98	75 - 125
Calcium	155		2.00	157.5	4	mg/L		143	75 - 125
Chromium	<0.00500		0.100	0.09617		mg/L		96	75 - 125
Cobalt	<0.000500		0.100	0.09282		mg/L		92	75 - 125
Lithium	0.0806		0.200	0.2810		mg/L		100	75 - 125
Lead	<0.000500		0.200	0.1841		mg/L		92	75 - 125
Molybdenum	0.00478		0.200	0.2174		mg/L		106	75 - 125
Selenium	<0.00500		0.400	0.3950		mg/L		99	75 - 125
Thallium	<0.00100		0.100	0.08791		mg/L		88	75 - 125

**Lab Sample ID: 310-316241-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 468963**

**Client Sample ID: MW01R-GW-0925**  
**Prep Type: Total/NA**  
**Prep Batch: 468307**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.00200		0.200	0.2072		mg/L		104	75 - 125	1	20
Arsenic	0.0528		0.200	0.2572		mg/L		102	75 - 125	2	20
Barium	0.101		0.100	0.2013		mg/L		100	75 - 125	1	20
Beryllium	<0.00100		0.100	0.09786		mg/L		98	75 - 125	2	20
Boron	0.415		0.200	0.6195		mg/L		102	75 - 125	1	20
Cadmium	<0.000200		0.100	0.09591		mg/L		96	75 - 125	2	20
Calcium	155		2.00	156.8	4	mg/L		110	75 - 125	0	20
Chromium	<0.00500		0.100	0.09415		mg/L		94	75 - 125	2	20
Cobalt	<0.000500		0.100	0.09093		mg/L		91	75 - 125	2	20
Lithium	0.0806		0.200	0.2773		mg/L		98	75 - 125	1	20
Lead	<0.000500		0.200	0.1825		mg/L		91	75 - 125	1	20
Molybdenum	0.00478		0.200	0.2136		mg/L		104	75 - 125	2	20
Selenium	<0.00500		0.400	0.3819		mg/L		95	75 - 125	3	20
Thallium	<0.00100		0.100	0.08997		mg/L		90	75 - 125	2	20

# QC Sample Results

Client: GHD Services Inc.  
 Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

## Method: 7470A - Mercury (CVAA)

**Lab Sample ID: MB 310-468529/1-A**  
**Matrix: Water**  
**Analysis Batch: 468697**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 468529**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		10/01/25 15:10	10/02/25 09:15	1

**Lab Sample ID: LCS 310-468529/2-A**  
**Matrix: Water**  
**Analysis Batch: 468697**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 468529**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001663		mg/L		100	80 - 120

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

**Lab Sample ID: MB 310-467795/1**  
**Matrix: Water**  
**Analysis Batch: 467795**

**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	<50.0		50.0		mg/L			09/24/25 13:08	1

**Lab Sample ID: LCS 310-467795/2**  
**Matrix: Water**  
**Analysis Batch: 467795**

**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	994.0		mg/L		99	89 - 110

**Lab Sample ID: MB 310-467966/1**  
**Matrix: Water**  
**Analysis Batch: 467966**

**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	<50.0		50.0		mg/L			09/25/25 14:31	1

**Lab Sample ID: LCS 310-467966/2**  
**Matrix: Water**  
**Analysis Batch: 467966**

**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	962.0		mg/L		96	89 - 110

**Lab Sample ID: MB 310-468084/1**  
**Matrix: Water**  
**Analysis Batch: 468084**

**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	<50.0		50.0		mg/L			09/26/25 12:50	1

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

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

Lab Sample ID: LCS 310-468084/2  
Matrix: Water  
Analysis Batch: 468084

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	916.0		mg/L		92	89 - 110

Lab Sample ID: 310-316241-4 DU  
Matrix: Water  
Analysis Batch: 468084

Client Sample ID: MW19-GW-0925  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	2130		2020		mg/L		5	13

## Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-467536/1  
Matrix: Water  
Analysis Batch: 467536

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		101	98 - 102

Lab Sample ID: 310-316241-3 DU  
Matrix: Water  
Analysis Batch: 467536

Client Sample ID: MW05R-GW-0925  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.7	HF	7.8		SU		0.2	20

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

Lab Sample ID: MB 160-737502/1-A  
Matrix: Water  
Analysis Batch: 741557

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 737502

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.415	U	0.205	0.205	1.00	0.415	pCi/L	09/24/25 15:19	10/21/25 21:16	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	77.7		30 - 110					09/24/25 15:19	10/21/25 21:16	1

Lab Sample ID: LCS 160-737502/2-A  
Matrix: Water  
Analysis Batch: 741557

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 737502

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	9.57	9.693		1.27	1.00	0.348	pCi/L	101	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Barium	87.8		30 - 110						

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# QC Sample Results

Client: GHD Services Inc.  
 Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

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

**Lab Sample ID: MB 160-737503/1-A**  
**Matrix: Water**  
**Analysis Batch: 741557**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 737503**

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.8615		0.458	0.465	1.00	0.652	pCi/L	09/24/25 15:25	10/21/25 09:57	1
Carrier	MB	MB	Limits				Prepared		Analyzed	Dil Fac
	%Yield	Qualifier								
Barium	77.7		30 - 110				09/24/25 15:25		10/21/25 09:57	1
Y Carrier	82.6		30 - 110				09/24/25 15:25		10/21/25 09:57	1

**Lab Sample ID: LCS 160-737503/2-A**  
**Matrix: Water**  
**Analysis Batch: 741557**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 737503**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-228	7.99	8.247		1.22	1.00	0.650	pCi/L	103	75 - 125
Carrier	LCS	LCS	Limits						
	%Yield	Qualifier							
Barium	87.8		30 - 110						
Y Carrier	78.9		30 - 110						

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

## HPLC/IC

### Analysis Batch: 468164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-316241-1	MW01R-GW-0925	Total/NA	Water	9056A	
310-316241-2	MW03R-GW-0925	Total/NA	Water	9056A	
310-316241-3	MW05R-GW-0925	Total/NA	Water	9056A	
310-316241-4	MW19-GW-0925	Total/NA	Water	9056A	
310-316241-4	MW19-GW-0925	Total/NA	Water	9056A	
310-316241-5	MW21-GW-0925	Total/NA	Water	9056A	
310-316241-5	MW21-GW-0925	Total/NA	Water	9056A	
310-316241-6	DP05-GW-0925	Total/NA	Water	9056A	
MB 310-468164/3	Method Blank	Total/NA	Water	9056A	
LCS 310-468164/4	Lab Control Sample	Total/NA	Water	9056A	

## Metals

### Prep Batch: 468307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-316241-1	MW01R-GW-0925	Total/NA	Water	3005A	
310-316241-2	MW03R-GW-0925	Total/NA	Water	3005A	
310-316241-3	MW05R-GW-0925	Total/NA	Water	3005A	
310-316241-4	MW19-GW-0925	Total/NA	Water	3005A	
310-316241-5	MW21-GW-0925	Total/NA	Water	3005A	
310-316241-6	DP05-GW-0925	Total/NA	Water	3005A	
MB 310-468307/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-468307/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-316241-1 MS	MW01R-GW-0925	Total/NA	Water	3005A	
310-316241-1 MSD	MW01R-GW-0925	Total/NA	Water	3005A	

### Prep Batch: 468529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-316241-1	MW01R-GW-0925	Total/NA	Water	7470A	
310-316241-2	MW03R-GW-0925	Total/NA	Water	7470A	
310-316241-3	MW05R-GW-0925	Total/NA	Water	7470A	
310-316241-4	MW19-GW-0925	Total/NA	Water	7470A	
310-316241-5	MW21-GW-0925	Total/NA	Water	7470A	
310-316241-6	DP05-GW-0925	Total/NA	Water	7470A	
MB 310-468529/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-468529/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Analysis Batch: 468697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-316241-1	MW01R-GW-0925	Total/NA	Water	7470A	468529
310-316241-2	MW03R-GW-0925	Total/NA	Water	7470A	468529
310-316241-3	MW05R-GW-0925	Total/NA	Water	7470A	468529
310-316241-4	MW19-GW-0925	Total/NA	Water	7470A	468529
310-316241-5	MW21-GW-0925	Total/NA	Water	7470A	468529
310-316241-6	DP05-GW-0925	Total/NA	Water	7470A	468529
MB 310-468529/1-A	Method Blank	Total/NA	Water	7470A	468529
LCS 310-468529/2-A	Lab Control Sample	Total/NA	Water	7470A	468529

### Analysis Batch: 468963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-316241-1	MW01R-GW-0925	Total/NA	Water	6020B	468307

Eurofins Cedar Falls

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

## Metals (Continued)

### Analysis Batch: 468963 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-316241-2	MW03R-GW-0925	Total/NA	Water	6020B	468307
310-316241-3	MW05R-GW-0925	Total/NA	Water	6020B	468307
310-316241-4	MW19-GW-0925	Total/NA	Water	6020B	468307
310-316241-5	MW21-GW-0925	Total/NA	Water	6020B	468307
310-316241-6	DP05-GW-0925	Total/NA	Water	6020B	468307
MB 310-468307/1-A	Method Blank	Total/NA	Water	6020B	468307
LCS 310-468307/2-A	Lab Control Sample	Total/NA	Water	6020B	468307
310-316241-1 MS	MW01R-GW-0925	Total/NA	Water	6020B	468307
310-316241-1 MSD	MW01R-GW-0925	Total/NA	Water	6020B	468307

## General Chemistry

### Analysis Batch: 467536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-316241-1	MW01R-GW-0925	Total/NA	Water	SM 4500 H+ B	
310-316241-2	MW03R-GW-0925	Total/NA	Water	SM 4500 H+ B	
310-316241-3	MW05R-GW-0925	Total/NA	Water	SM 4500 H+ B	
310-316241-4	MW19-GW-0925	Total/NA	Water	SM 4500 H+ B	
310-316241-5	MW21-GW-0925	Total/NA	Water	SM 4500 H+ B	
310-316241-6	DP05-GW-0925	Total/NA	Water	SM 4500 H+ B	
LCS 310-467536/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-316241-3 DU	MW05R-GW-0925	Total/NA	Water	SM 4500 H+ B	

### Analysis Batch: 467795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-316241-1	MW01R-GW-0925	Total/NA	Water	SM 2540C	
310-316241-2	MW03R-GW-0925	Total/NA	Water	SM 2540C	
310-316241-3	MW05R-GW-0925	Total/NA	Water	SM 2540C	
MB 310-467795/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-467795/2	Lab Control Sample	Total/NA	Water	SM 2540C	

### Analysis Batch: 467966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-316241-5	MW21-GW-0925	Total/NA	Water	SM 2540C	
310-316241-6	DP05-GW-0925	Total/NA	Water	SM 2540C	
MB 310-467966/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-467966/2	Lab Control Sample	Total/NA	Water	SM 2540C	

### Analysis Batch: 468084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-316241-4	MW19-GW-0925	Total/NA	Water	SM 2540C	
MB 310-468084/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-468084/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-316241-4 DU	MW19-GW-0925	Total/NA	Water	SM 2540C	

## Rad

### Prep Batch: 737502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-316241-1	MW01R-GW-0925	Total/NA	Water	PrecSep-21	
310-316241-2	MW03R-GW-0925	Total/NA	Water	PrecSep-21	
310-316241-3	MW05R-GW-0925	Total/NA	Water	PrecSep-21	

Eurofins Cedar Falls

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

## Rad (Continued)

### Prep Batch: 737502 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-316241-4	MW19-GW-0925	Total/NA	Water	PrecSep-21	
310-316241-5	MW21-GW-0925	Total/NA	Water	PrecSep-21	
310-316241-6	DP05-GW-0925	Total/NA	Water	PrecSep-21	
MB 160-737502/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-737502/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

### Prep Batch: 737503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-316241-1	MW01R-GW-0925	Total/NA	Water	PrecSep_0	
310-316241-2	MW03R-GW-0925	Total/NA	Water	PrecSep_0	
310-316241-3	MW05R-GW-0925	Total/NA	Water	PrecSep_0	
310-316241-4	MW19-GW-0925	Total/NA	Water	PrecSep_0	
310-316241-5	MW21-GW-0925	Total/NA	Water	PrecSep_0	
310-316241-6	DP05-GW-0925	Total/NA	Water	PrecSep_0	
MB 160-737503/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-737503/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

# Lab Chronicle

Client: GHD Services Inc.  
 Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Client Sample ID: MW01R-GW-0925**

**Lab Sample ID: 310-316241-1**

**Date Collected: 09/19/25 09:15**

**Matrix: Water**

**Date Received: 09/22/25 16:05**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	468164	QTZ5	EET CF	09/26/25 16:04
Total/NA	Prep	3005A			468307	QTZ5	EET CF	09/30/25 09:00
Total/NA	Analysis	6020B		1	468963	NFT2	EET CF	10/03/25 18:16
Total/NA	Prep	7470A			468529	RLT9	EET CF	10/01/25 15:10
Total/NA	Analysis	7470A		1	468697	RLT9	EET CF	10/02/25 09:55
Total/NA	Analysis	SM 2540C		1	467795	TGN5	EET CF	09/24/25 13:08
Total/NA	Analysis	SM 4500 H+ B		1	467536	ZJX4	EET CF	09/23/25 00:09
Total/NA	Prep	PrecSep-21			737502	JTR	EET SL	09/24/25 15:19
Total/NA	Analysis	9315		1	741557	FLC	EET SL	10/21/25 21:17
Total/NA	Prep	PrecSep_0			737503	JTR	EET SL	09/24/25 15:25
Total/NA	Analysis	9320		1	741557	FLC	EET SL	10/21/25 09:57
Total/NA	Analysis	Ra226_Ra228		1	741768	EMH	EET SL	10/22/25 12:32

**Client Sample ID: MW03R-GW-0925**

**Lab Sample ID: 310-316241-2**

**Date Collected: 09/19/25 11:00**

**Matrix: Water**

**Date Received: 09/22/25 16:05**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	468164	QTZ5	EET CF	09/26/25 16:17
Total/NA	Prep	3005A			468307	QTZ5	EET CF	09/30/25 09:00
Total/NA	Analysis	6020B		1	468963	NFT2	EET CF	10/03/25 18:33
Total/NA	Prep	7470A			468529	RLT9	EET CF	10/01/25 15:10
Total/NA	Analysis	7470A		1	468697	RLT9	EET CF	10/02/25 10:01
Total/NA	Analysis	SM 2540C		1	467795	TGN5	EET CF	09/24/25 13:08
Total/NA	Analysis	SM 4500 H+ B		1	467536	ZJX4	EET CF	09/23/25 00:20
Total/NA	Prep	PrecSep-21			737502	JTR	EET SL	09/24/25 15:19
Total/NA	Analysis	9315		1	741557	FLC	EET SL	10/21/25 21:17
Total/NA	Prep	PrecSep_0			737503	JTR	EET SL	09/24/25 15:25
Total/NA	Analysis	9320		1	741557	FLC	EET SL	10/21/25 09:57
Total/NA	Analysis	Ra226_Ra228		1	741768	EMH	EET SL	10/22/25 12:32

**Client Sample ID: MW05R-GW-0925**

**Lab Sample ID: 310-316241-3**

**Date Collected: 09/19/25 12:15**

**Matrix: Water**

**Date Received: 09/22/25 16:05**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	468164	QTZ5	EET CF	09/26/25 16:31
Total/NA	Prep	3005A			468307	QTZ5	EET CF	09/30/25 09:00
Total/NA	Analysis	6020B		1	468963	NFT2	EET CF	10/03/25 18:36
Total/NA	Prep	7470A			468529	RLT9	EET CF	10/01/25 15:10
Total/NA	Analysis	7470A		1	468697	RLT9	EET CF	10/02/25 10:04
Total/NA	Analysis	SM 2540C		1	467795	TGN5	EET CF	09/24/25 13:08
Total/NA	Analysis	SM 4500 H+ B		1	467536	ZJX4	EET CF	09/23/25 00:25

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

## Client Sample ID: MW05R-GW-0925

## Lab Sample ID: 310-316241-3

Date Collected: 09/19/25 12:15

Matrix: Water

Date Received: 09/22/25 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			737502	JTR	EET SL	09/24/25 15:19
Total/NA	Analysis	9315		1	741557	FLC	EET SL	10/21/25 21:17
Total/NA	Prep	PrecSep_0			737503	JTR	EET SL	09/24/25 15:25
Total/NA	Analysis	9320		1	741557	FLC	EET SL	10/21/25 09:57
Total/NA	Analysis	Ra226_Ra228		1	741768	EMH	EET SL	10/22/25 12:32

## Client Sample ID: MW19-GW-0925

## Lab Sample ID: 310-316241-4

Date Collected: 09/19/25 10:00

Matrix: Water

Date Received: 09/22/25 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	468164	QTZ5	EET CF	09/26/25 16:45
Total/NA	Analysis	9056A		50	468164	QTZ5	EET CF	09/27/25 09:29
Total/NA	Prep	3005A			468307	QTZ5	EET CF	09/30/25 09:00
Total/NA	Analysis	6020B		1	468963	NFT2	EET CF	10/03/25 18:38
Total/NA	Prep	7470A			468529	RLT9	EET CF	10/01/25 15:10
Total/NA	Analysis	7470A		1	468697	RLT9	EET CF	10/02/25 10:06
Total/NA	Analysis	SM 2540C		1	468084	TGN5	EET CF	09/26/25 12:50
Total/NA	Analysis	SM 4500 H+ B		1	467536	ZJX4	EET CF	09/23/25 00:34
Total/NA	Prep	PrecSep-21			737502	JTR	EET SL	09/24/25 15:19
Total/NA	Analysis	9315		1	741557	FLC	EET SL	10/21/25 21:17
Total/NA	Prep	PrecSep_0			737503	JTR	EET SL	09/24/25 15:25
Total/NA	Analysis	9320		1	741557	FLC	EET SL	10/21/25 09:58
Total/NA	Analysis	Ra226_Ra228		1	741768	EMH	EET SL	10/22/25 12:32

## Client Sample ID: MW21-GW-0925

## Lab Sample ID: 310-316241-5

Date Collected: 09/19/25 09:10

Matrix: Water

Date Received: 09/22/25 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	468164	QTZ5	EET CF	09/26/25 16:58
Total/NA	Analysis	9056A		50	468164	QTZ5	EET CF	09/27/25 09:42
Total/NA	Prep	3005A			468307	QTZ5	EET CF	09/30/25 09:00
Total/NA	Analysis	6020B		1	468963	NFT2	EET CF	10/03/25 18:41
Total/NA	Prep	7470A			468529	RLT9	EET CF	10/01/25 15:10
Total/NA	Analysis	7470A		1	468697	RLT9	EET CF	10/02/25 10:08
Total/NA	Analysis	SM 2540C		1	467966	TGN5	EET CF	09/25/25 14:31
Total/NA	Analysis	SM 4500 H+ B		1	467536	ZJX4	EET CF	09/23/25 00:38
Total/NA	Prep	PrecSep-21			737502	JTR	EET SL	09/24/25 15:19
Total/NA	Analysis	9315		1	741557	FLC	EET SL	10/21/25 21:17
Total/NA	Prep	PrecSep_0			737503	JTR	EET SL	09/24/25 15:25
Total/NA	Analysis	9320		1	741557	FLC	EET SL	10/21/25 09:58
Total/NA	Analysis	Ra226_Ra228		1	741768	EMH	EET SL	10/22/25 12:32

# Lab Chronicle

Client: GHD Services Inc.  
 Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

**Client Sample ID: DP05-GW-0925**

**Lab Sample ID: 310-316241-6**

**Date Collected: 09/19/25 00:00**

**Matrix: Water**

**Date Received: 09/22/25 16:05**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	468164	QTZ5	EET CF	09/26/25 17:12
Total/NA	Prep	3005A			468307	QTZ5	EET CF	09/30/25 09:00
Total/NA	Analysis	6020B		1	468963	NFT2	EET CF	10/03/25 18:44
Total/NA	Prep	7470A			468529	RLT9	EET CF	10/01/25 15:10
Total/NA	Analysis	7470A		1	468697	RLT9	EET CF	10/02/25 10:10
Total/NA	Analysis	SM 2540C		1	467966	TGN5	EET CF	09/25/25 14:31
Total/NA	Analysis	SM 4500 H+ B		1	467536	ZJX4	EET CF	09/23/25 00:42
Total/NA	Prep	PrecSep-21			737502	JTR	EET SL	09/24/25 15:19
Total/NA	Analysis	9315		1	741557	FLC	EET SL	10/21/25 21:17
Total/NA	Prep	PrecSep_0			737503	JTR	EET SL	09/24/25 15:25
Total/NA	Analysis	9320		1	741557	FLC	EET SL	10/21/25 09:58
Total/NA	Analysis	Ra226_Ra228		1	741768	EMH	EET SL	10/22/25 12:32

**Laboratory References:**

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

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



# Accreditation/Certification Summary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

## Laboratory: Eurofins Cedar Falls

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6020B	3005A	Water	Lithium

## Laboratory: Eurofins St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	373	12-01-26

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
9315	PrecSep-21	Water	Radium-226
9320	PrecSep_0	Water	Radium-228
Ra226_Ra228		Water	Combined Radium 226 + 228



# Method Summary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
9315	Radium-226 (GFPC)	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

#### Protocol References:

None = None

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

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

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

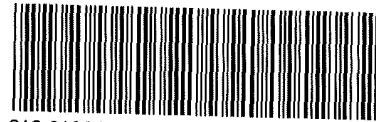
#### Laboratory References:

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

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



Environment Testing  
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310-316241 Chain of Custody

### Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client <u>GHD</u>			
City/State	<small>CITY</small> <u>Des Moines</u>	<small>STATE</small> <u>IA</u>	Project:
<b>Receipt Information</b>			
Date/Time Received	<small>DATE</small> <u>9/22/25</u>	<small>TIME</small> <u>1605</u>	Received By <u>BP</u>
Delivery Type. <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other. _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>4</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes. Which VOA samples are in cooler? ↓	
<b>Temperature Record</b>			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID:	<u>R</u>	Correction Factor (°C)	<u>±0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C).	<u>2.1</u>	Corrected Temp (°C)	<u>2.1</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C).			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			





Environment Testing  
America

Place COC scanning label  
here

### Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client <u>GHP</u>			
City/State:	CITY <u>Des Moines</u>	STATE <u>IA</u>	Project.
<b>Receipt Information</b>			
Date/Time Received:	DATE <u>4/27/25</u>	TIME <u>1605</u>	Received By: <u>BP</u>
Delivery Type <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID.	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes Cooler # <u>2</u> of <u>4</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<b>Temperature Record</b>			
Coolant.	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____	<input type="checkbox"/> NONE	
Thermometer ID:	<u>R</u>	Correction Factor (°C). <u>±0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.8</u>	Corrected Temp (°C): <u>1.8</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C).			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			





Environment Testing  
America

Place COC scanning label  
here

### Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client	GHD		
City/State	CITY Des Moines	STATE IA	Project:
<b>Receipt Information</b>			
Date/Time Received	DATE 9/22/25	TIME 1605	Received By BP
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other.			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes Cooler ID.	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes. Cooler # 3 of 4	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes. Which VOA samples are in cooler? ↓	
<b>Temperature Record</b>			
Coolant.	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other _____	<input type="checkbox"/> NONE	
Thermometer ID	R	Correction Factor (°C):	±0
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	2.8	Corrected Temp (°C)	2.8
• Sample Container Temperature			
Container(s) used	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE If yes, contact PM before proceeding If no, proceed with login			
<b>Additional Comments</b>			





Environment Testing  
America

Place COC scanning label  
here

Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client. <u>BHD</u>			
City/State.	<u>Des Moines</u>	STATE <u>IA</u>	Project
<b>Receipt Information</b>			
Date/Time Received:	DATE <u>9/22/25</u>	TIME <u>1605</u>	Received By: <u>BP</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes Cooler ID	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes Cooler # <u>4</u> of <u>4</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<b>Temperature Record</b>			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>R</u>	Correction Factor (°C):	<u>±0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>3.1</u>	Corrected Temp (°C):	<u>3.1</u>
<b>• Sample Container Temperature</b>			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g , bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE. If yes, contact PM before proceeding If no, proceed with login			
<b>Additional Comments</b>			





# Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 310-316241-1

**Login Number: 316241**

**List Source: Eurofins Cedar Falls**

**List Number: 1**

**Creator: Homolar, Dana J**

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

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.



# Tracer/Carrier Summary

Client: GHD Services Inc.  
Project/Site: Neal North Closed CCR Monofill (IDNR)

Job ID: 310-316241-1

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

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)
310-316241-1	MW01R-GW-0925	91.1
310-316241-2	MW03R-GW-0925	86.0
310-316241-3	MW05R-GW-0925	90.9
310-316241-4	MW19-GW-0925	94.2
310-316241-5	MW21-GW-0925	90.9
310-316241-6	DP05-GW-0925	86.8
LCS 160-737502/2-A	Lab Control Sample	87.8
MB 160-737502/1-A	Method Blank	77.7

#### Tracer/Carrier Legend

Ba = Barium

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

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
310-316241-1	MW01R-GW-0925	91.1	83.0
310-316241-2	MW03R-GW-0925	86.0	78.5
310-316241-3	MW05R-GW-0925	90.9	76.6
310-316241-4	MW19-GW-0925	94.2	80.0
310-316241-5	MW21-GW-0925	90.9	78.9
310-316241-6	DP05-GW-0925	86.8	76.6
LCS 160-737503/2-A	Lab Control Sample	87.8	78.9
MB 160-737503/1-A	Method Blank	77.7	82.6

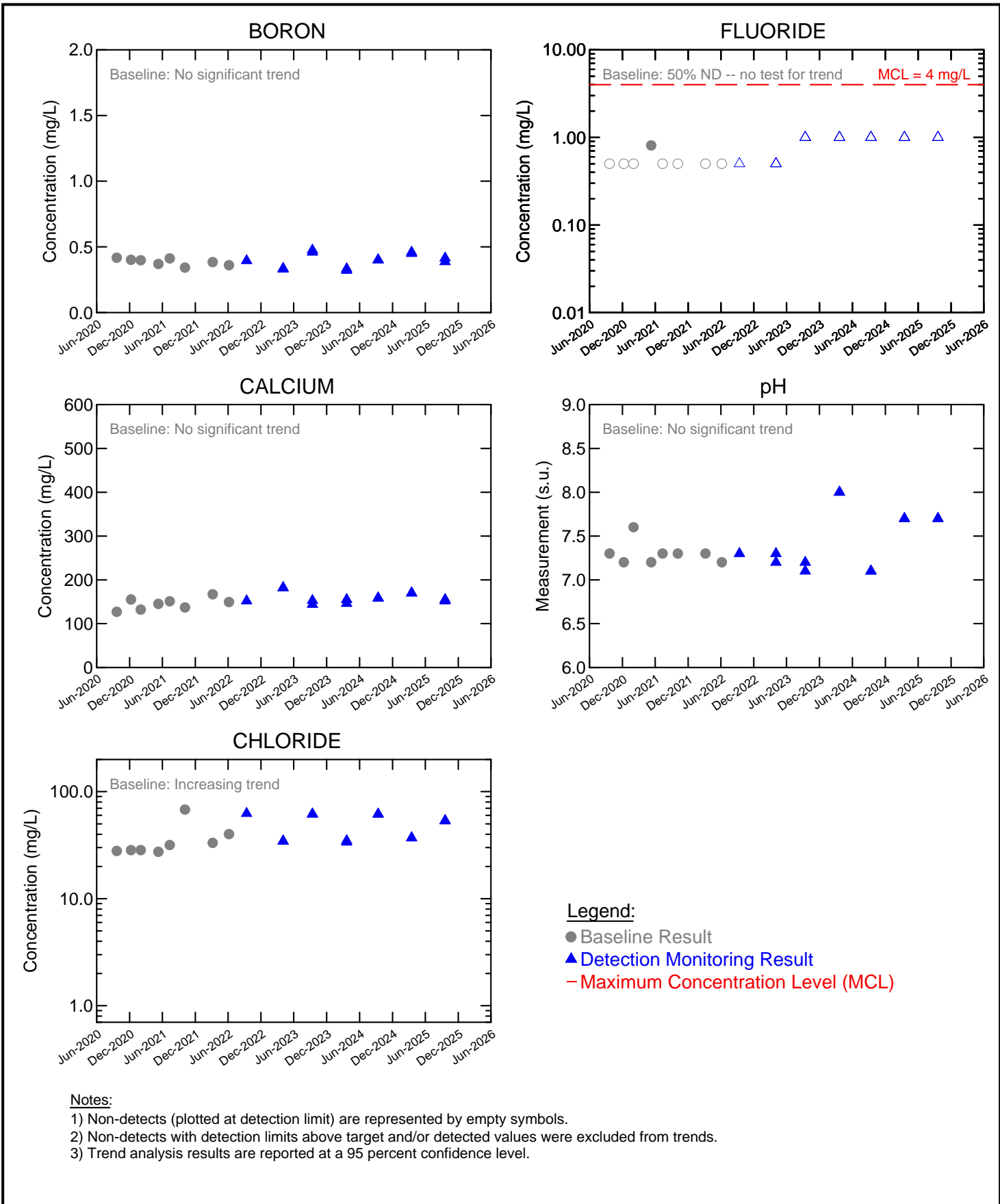
#### Tracer/Carrier Legend

Ba = Barium

Y = Y Carrier

# **Appendix C**

## **Time Series Graphs**

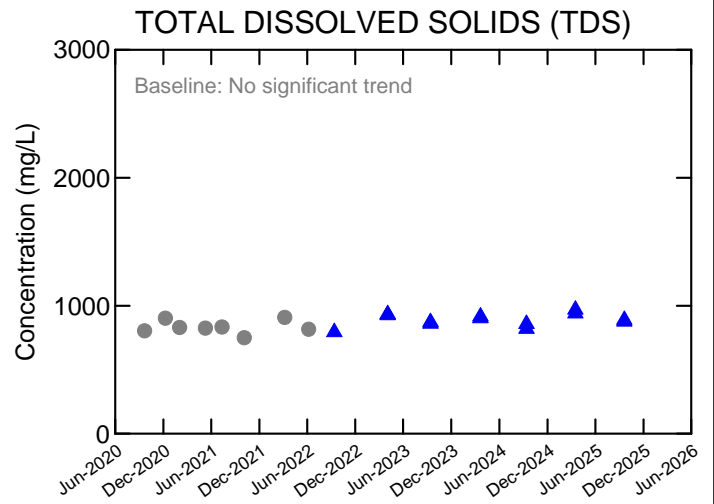
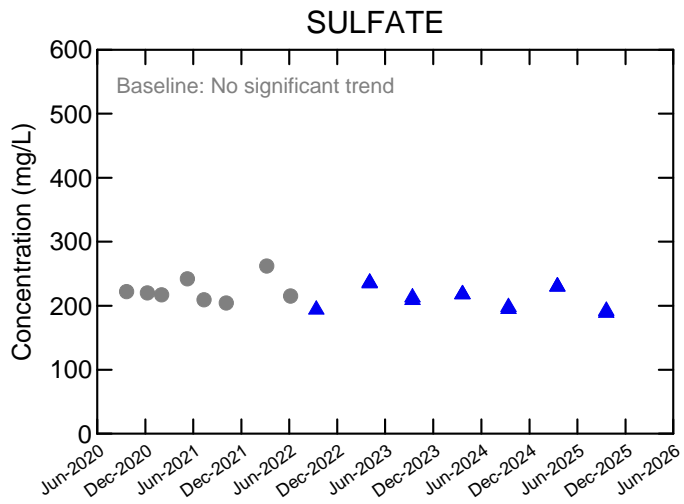


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-1R -- APPENDIX III PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 1.a**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

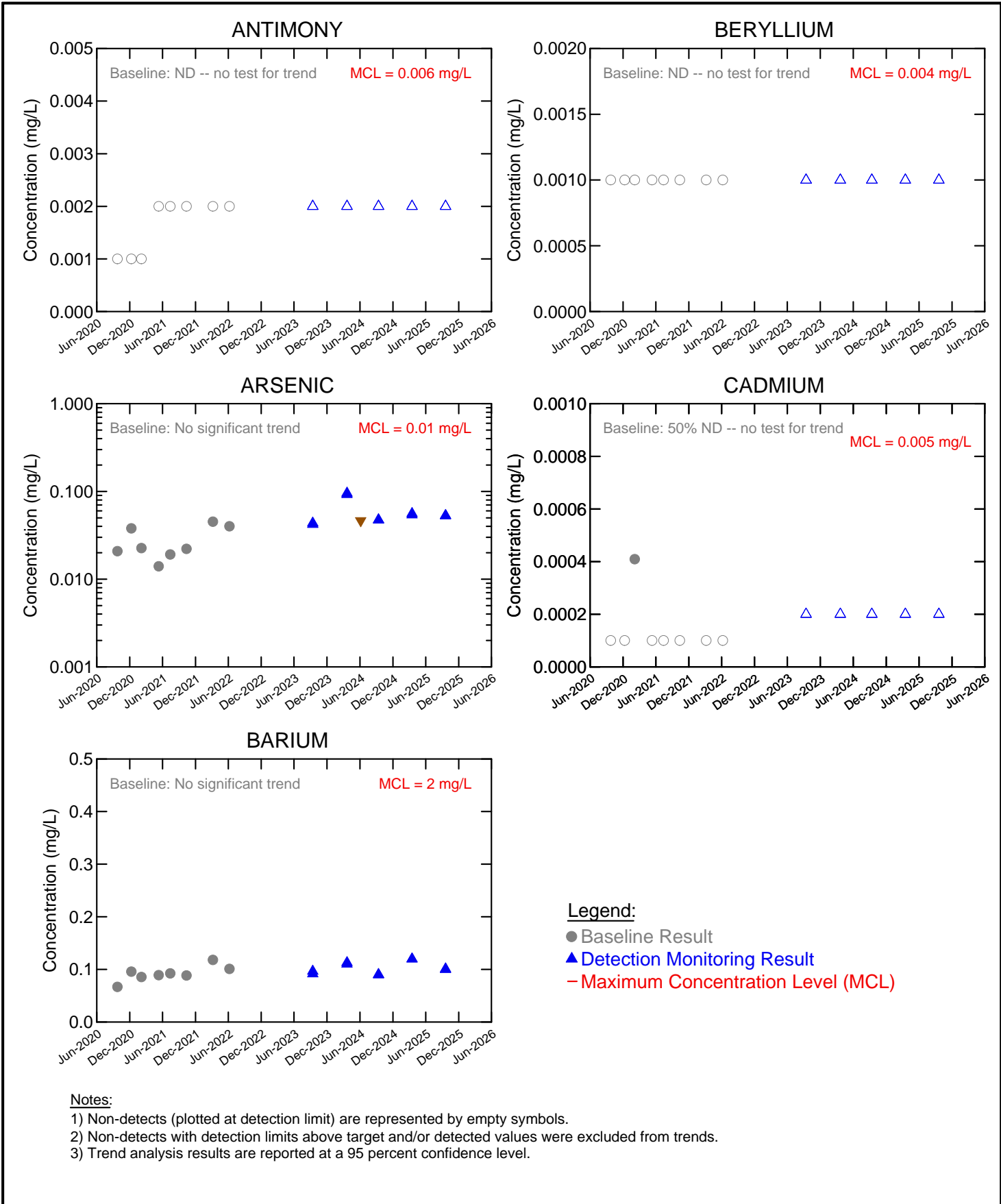


MidAmerican Energy Company  
Neal North CCR Closed Monofill  
Sergeant Bluff, Iowa

**MW-1R -- APPENDIX III PARAMETERS  
ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
Date: Dec 3, 2025

**FIGURE 1.b**

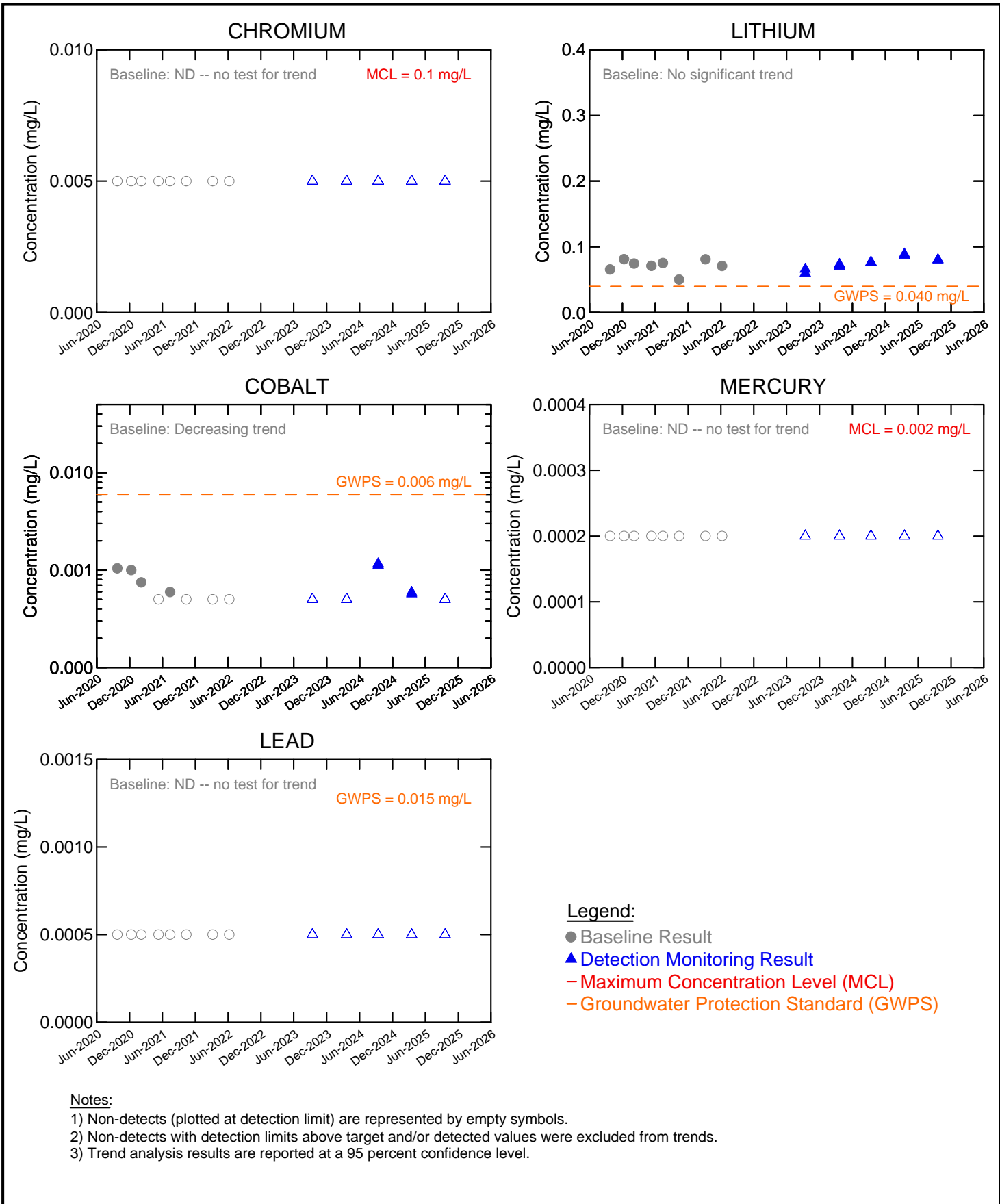


MidAmerican Energy Company  
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 Sergeant Bluff, Iowa

**MW-1R -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 1.c**



- Notes:**
- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
  - 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
  - 3) Trend analysis results are reported at a 95 percent confidence level.

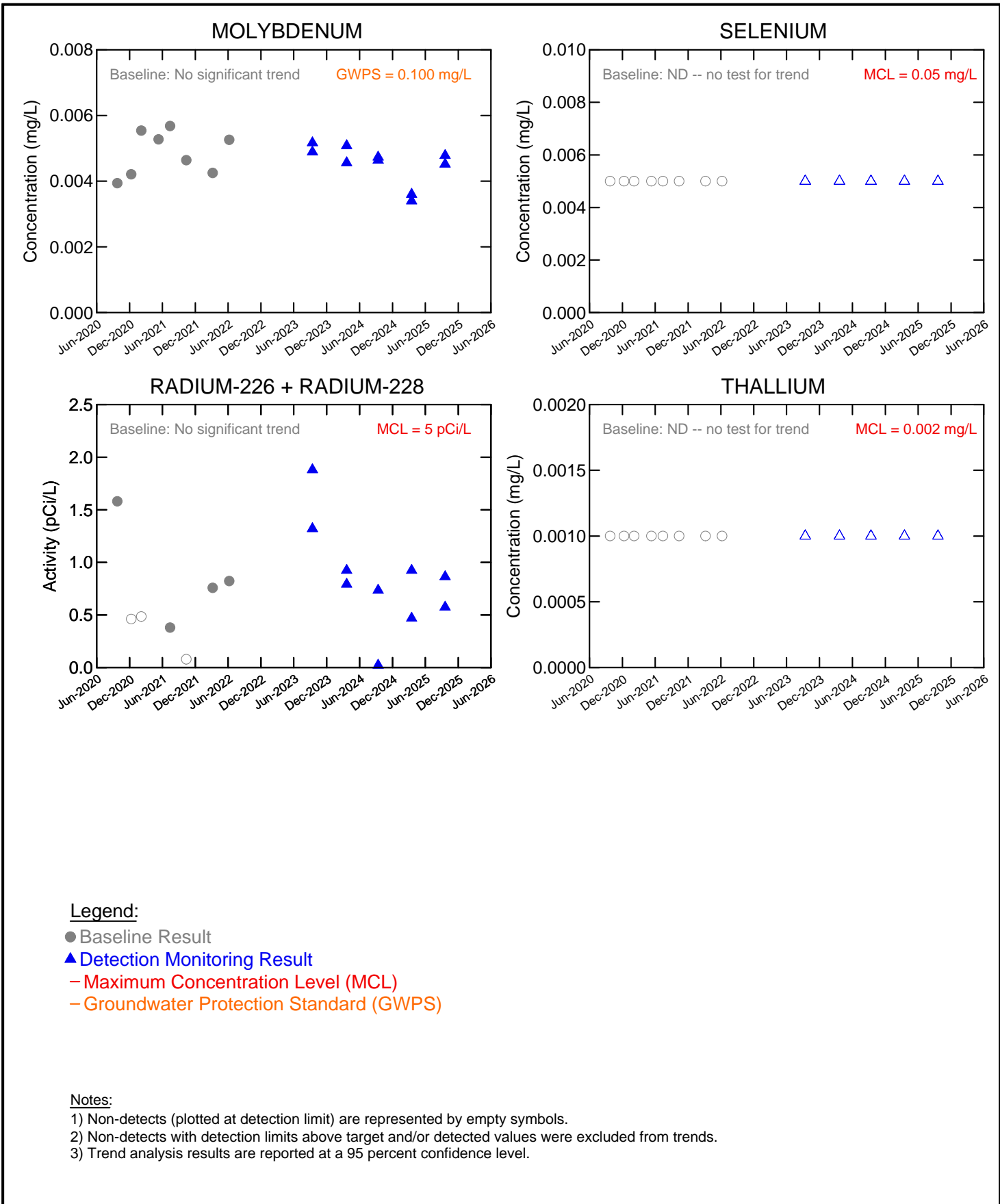


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 Date: Dec 3, 2025

**MW-1R -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 1.d**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result
- Maximum Concentration Level (MCL)
- Groundwater Protection Standard (GWPS)

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

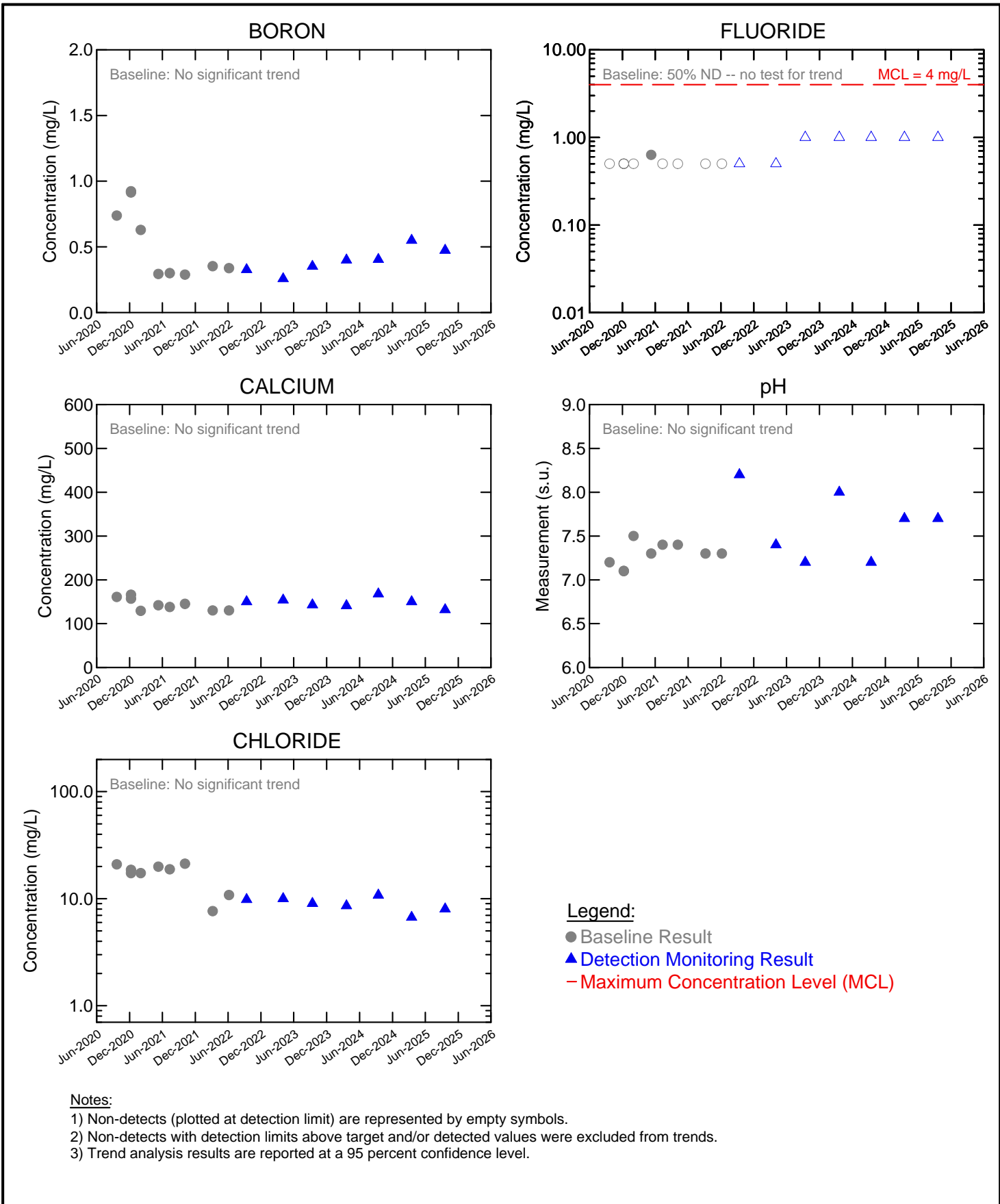


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

**MW-1R -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 1.e**

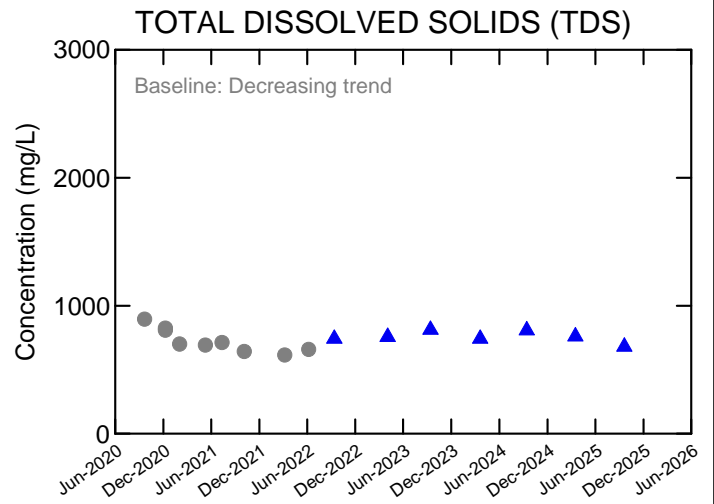
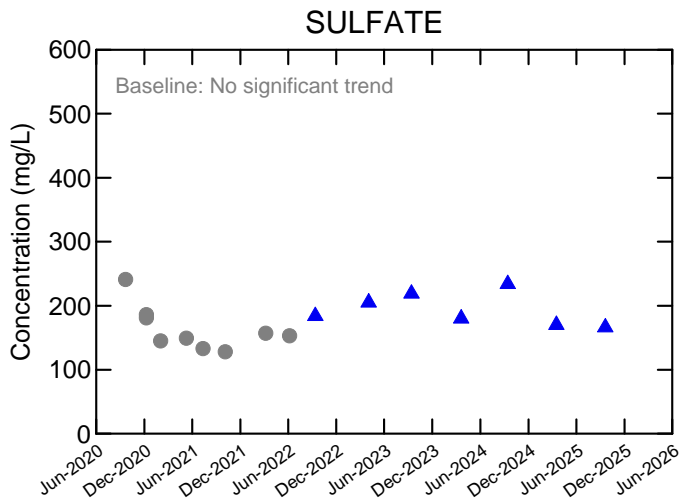


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**MW-3R -- APPENDIX III PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 2.a**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

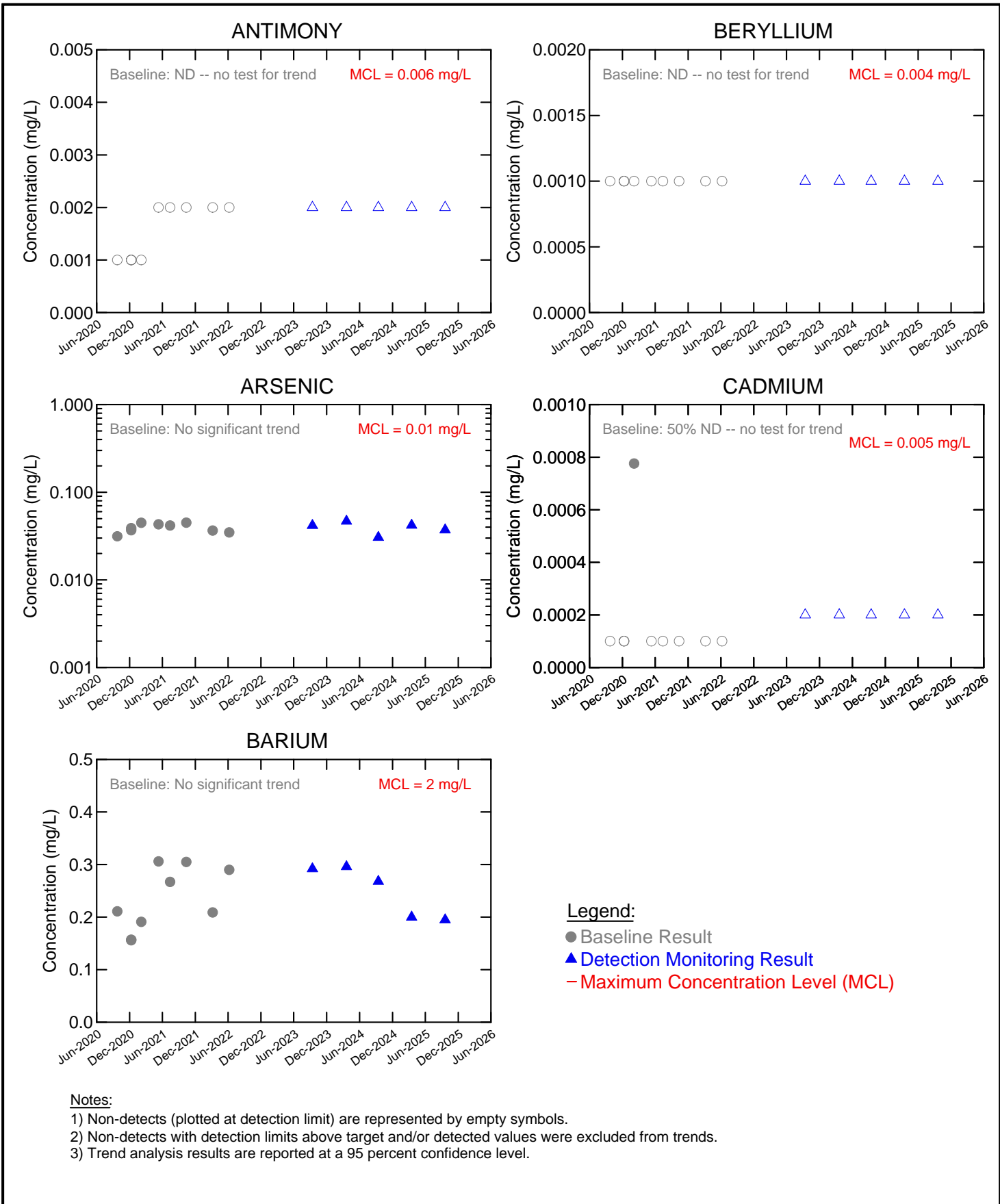


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Sergeant Bluff, Iowa

**MW-3R -- APPENDIX III PARAMETERS  
ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
Date: Dec 3, 2025

**FIGURE 2.b**

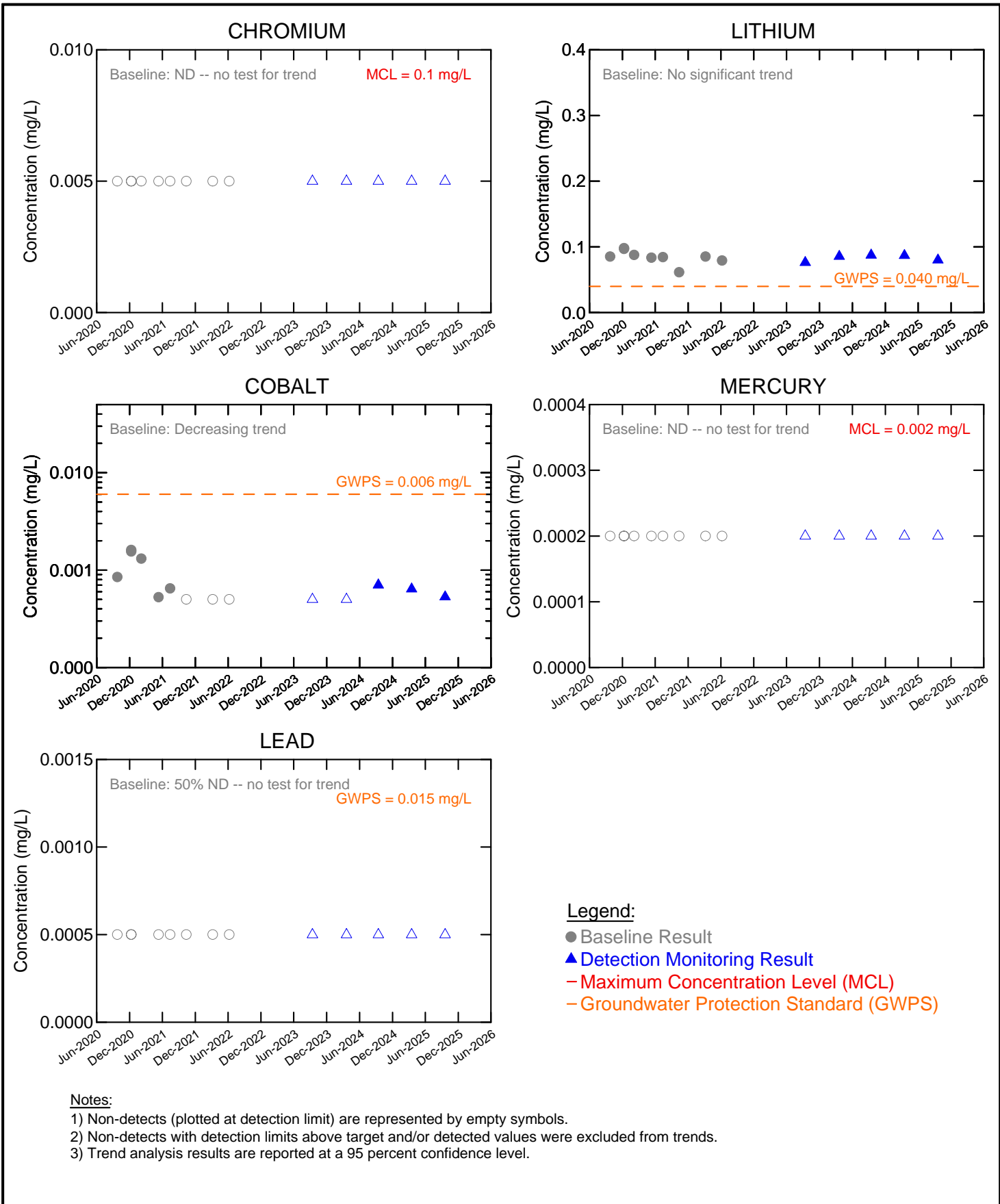


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**MW-3R -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 2.c**



**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

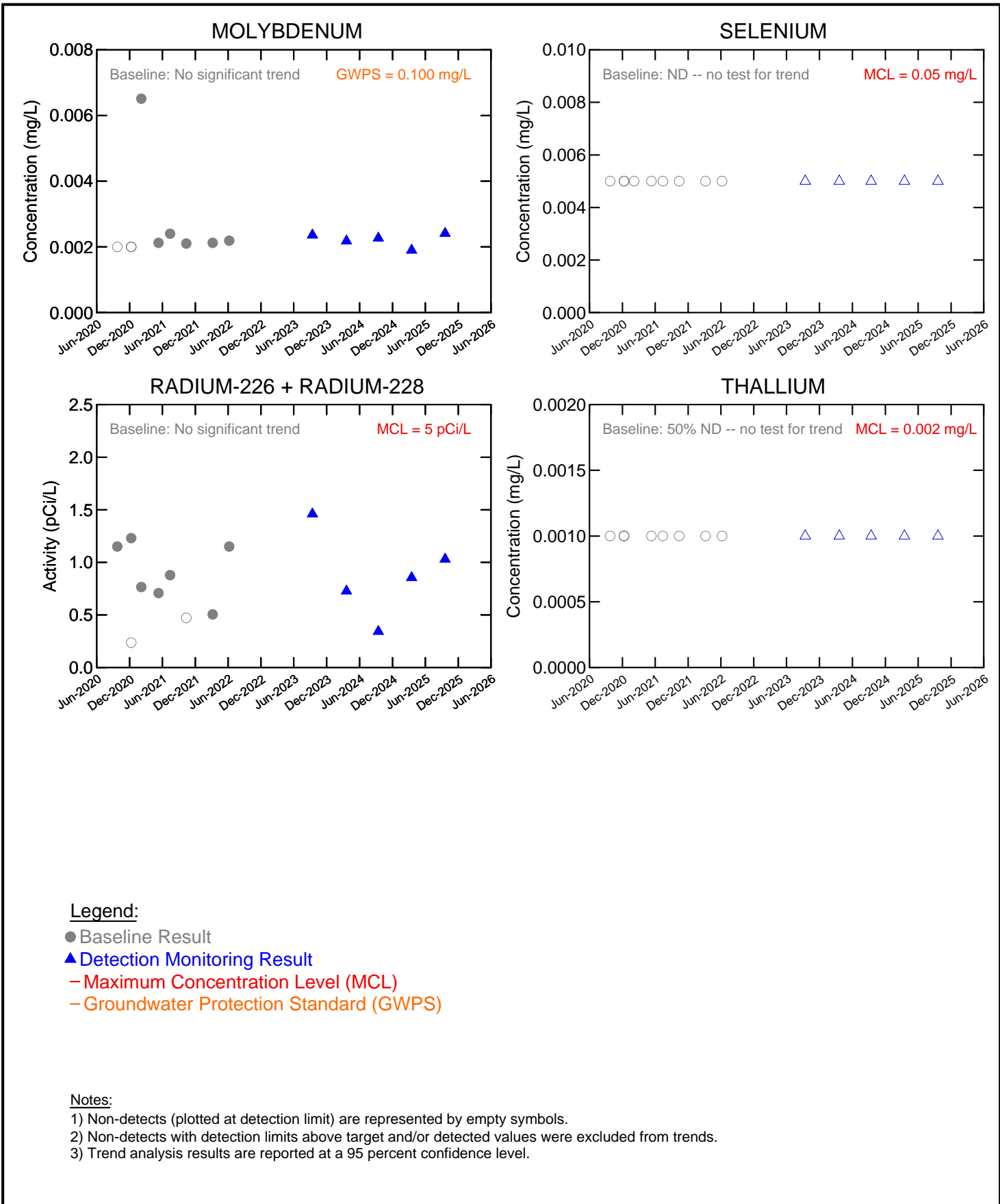


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Project No. 12576482  
 Date: Dec 3, 2025

**MW-3R -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 2.d**

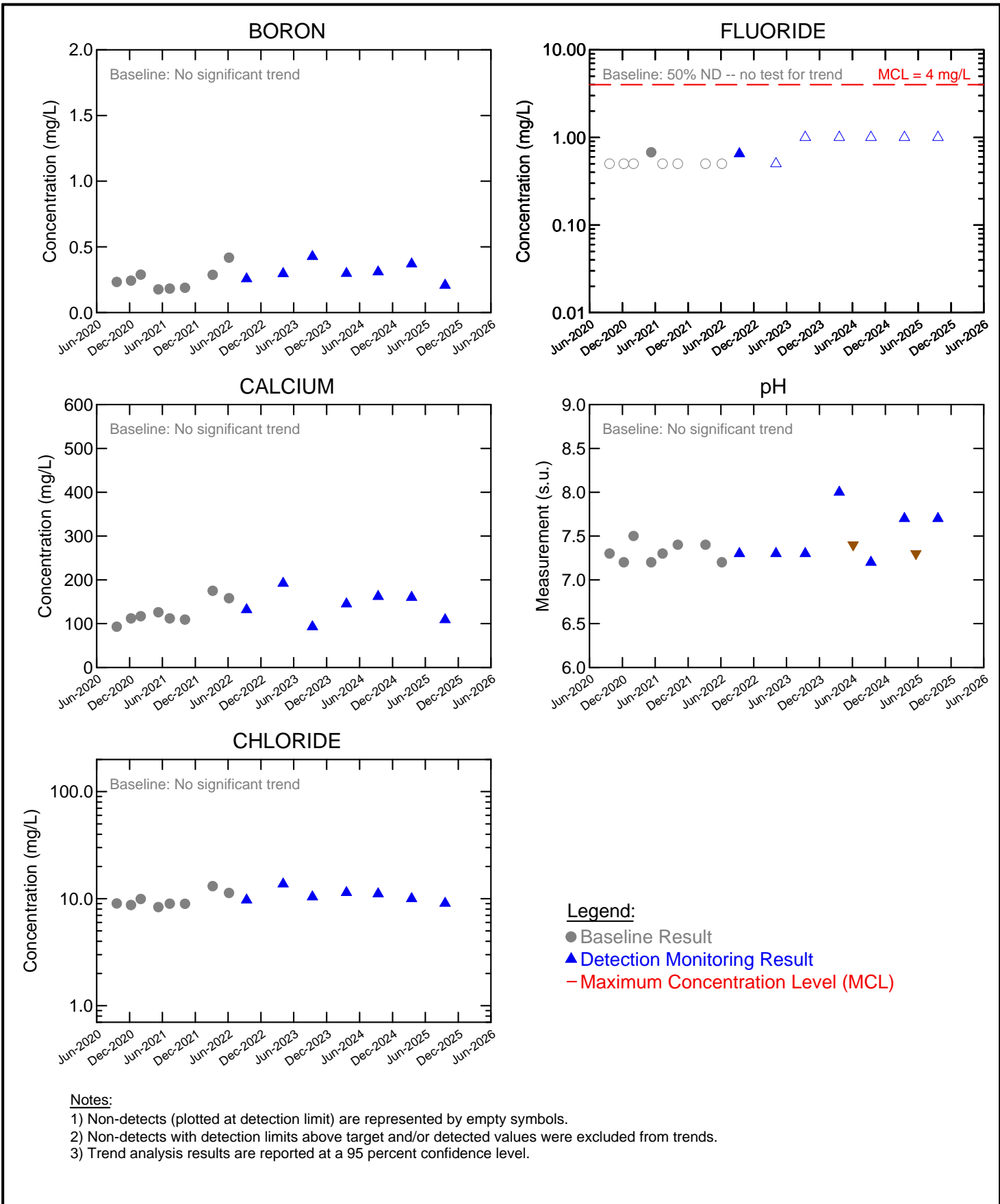


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 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-3R -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 2.e**

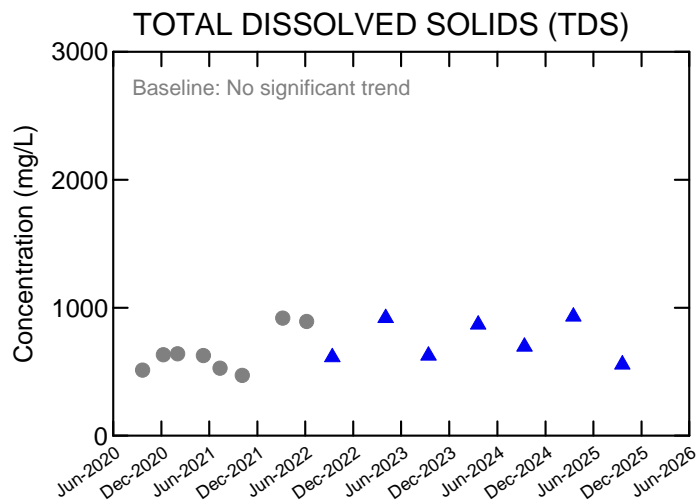
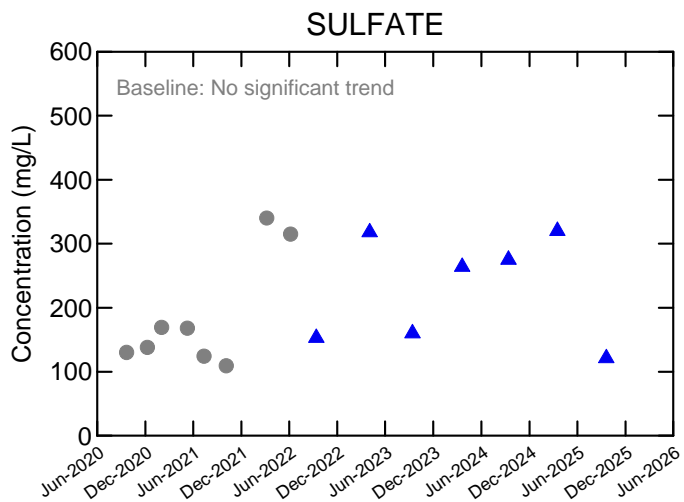


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**MW-5R -- APPENDIX III PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 3.a**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

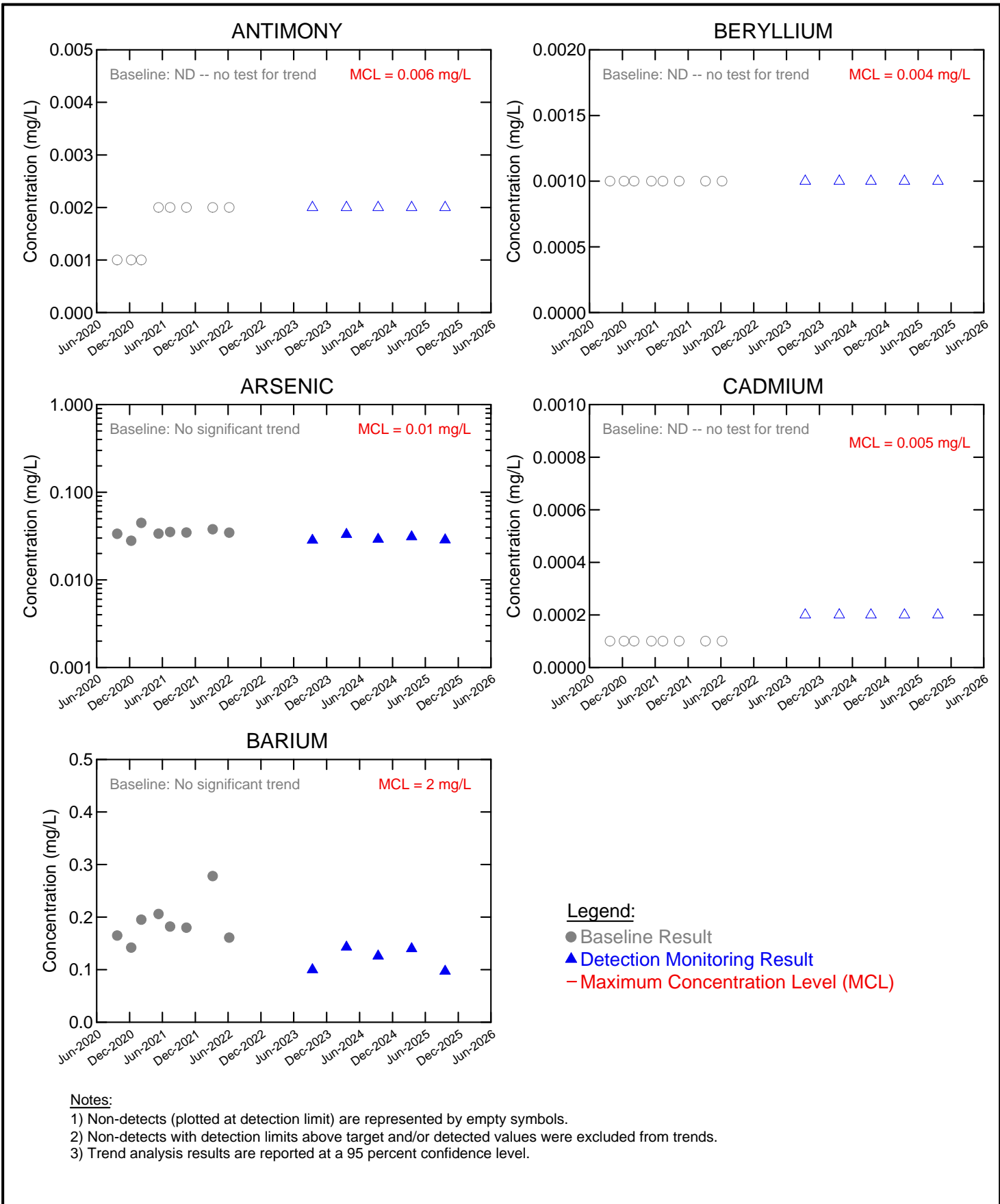


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Sergeant Bluff, Iowa

**MW-5R -- APPENDIX III PARAMETERS  
ANALYTE CONCENTRATION vs. TIME**

Project No. **12576482**  
Date: **Dec 3, 2025**

**FIGURE 3.b**

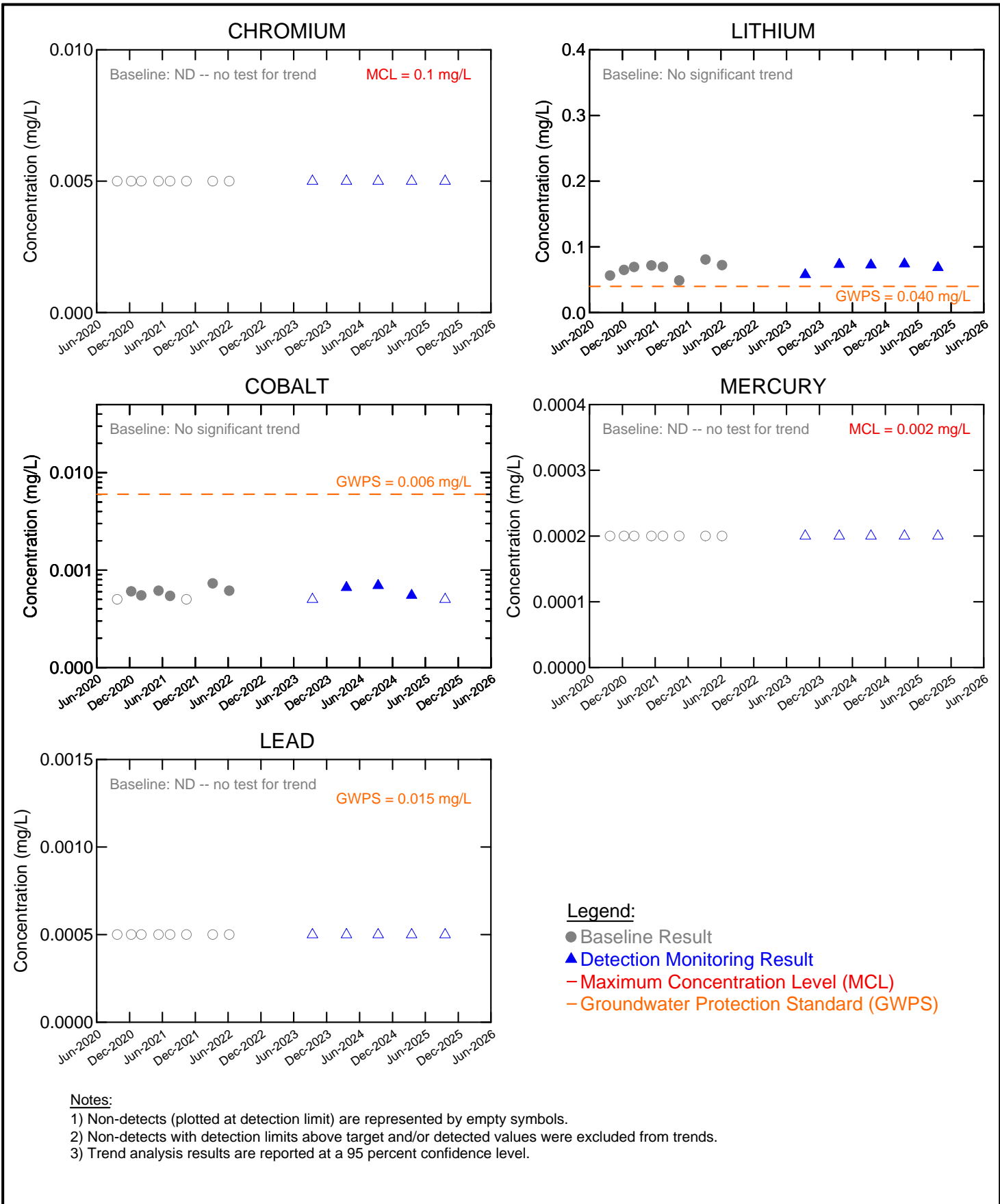


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 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

**MW-5R -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 3.c**



**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

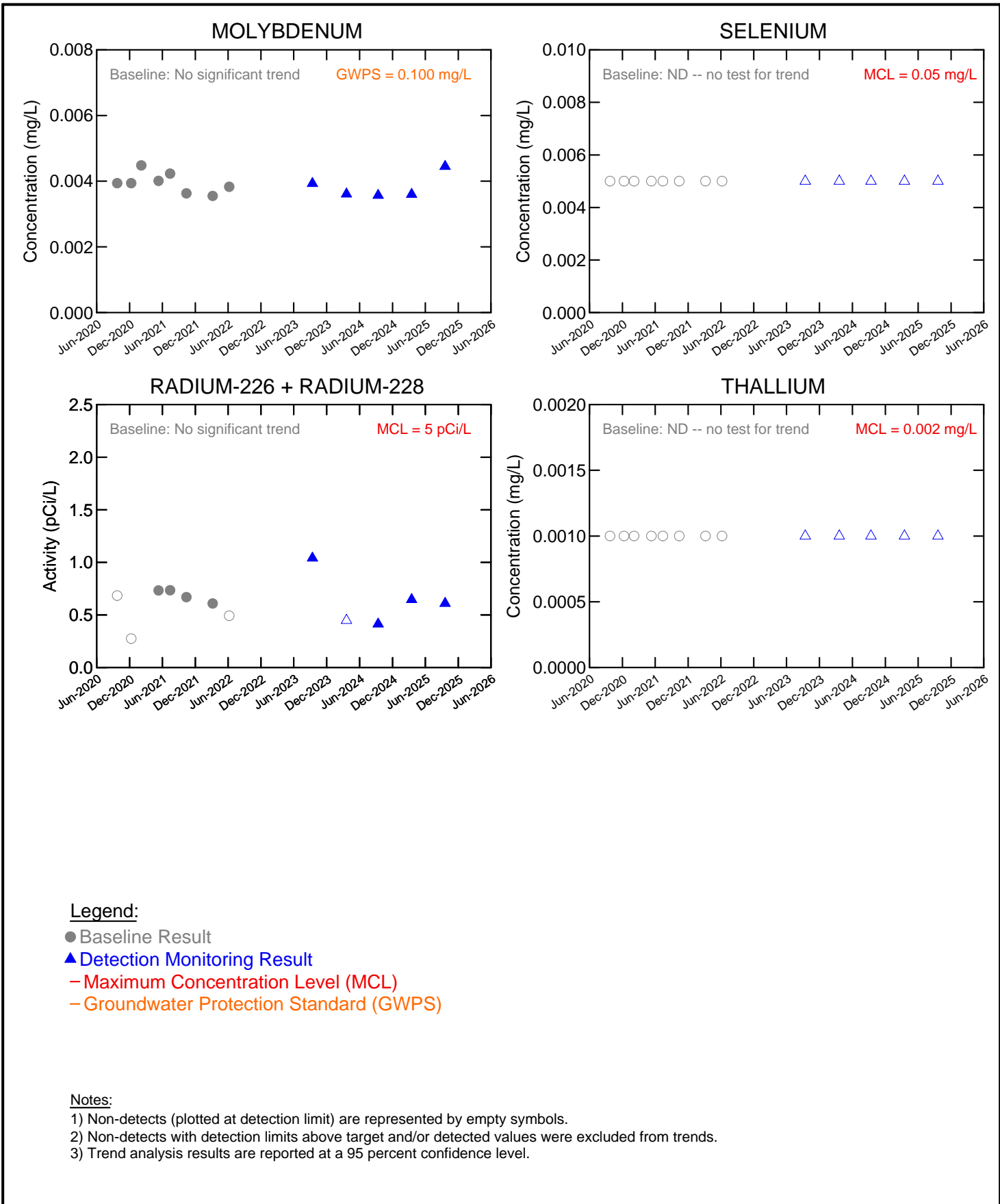


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 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

**MW-5R -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 3.d**

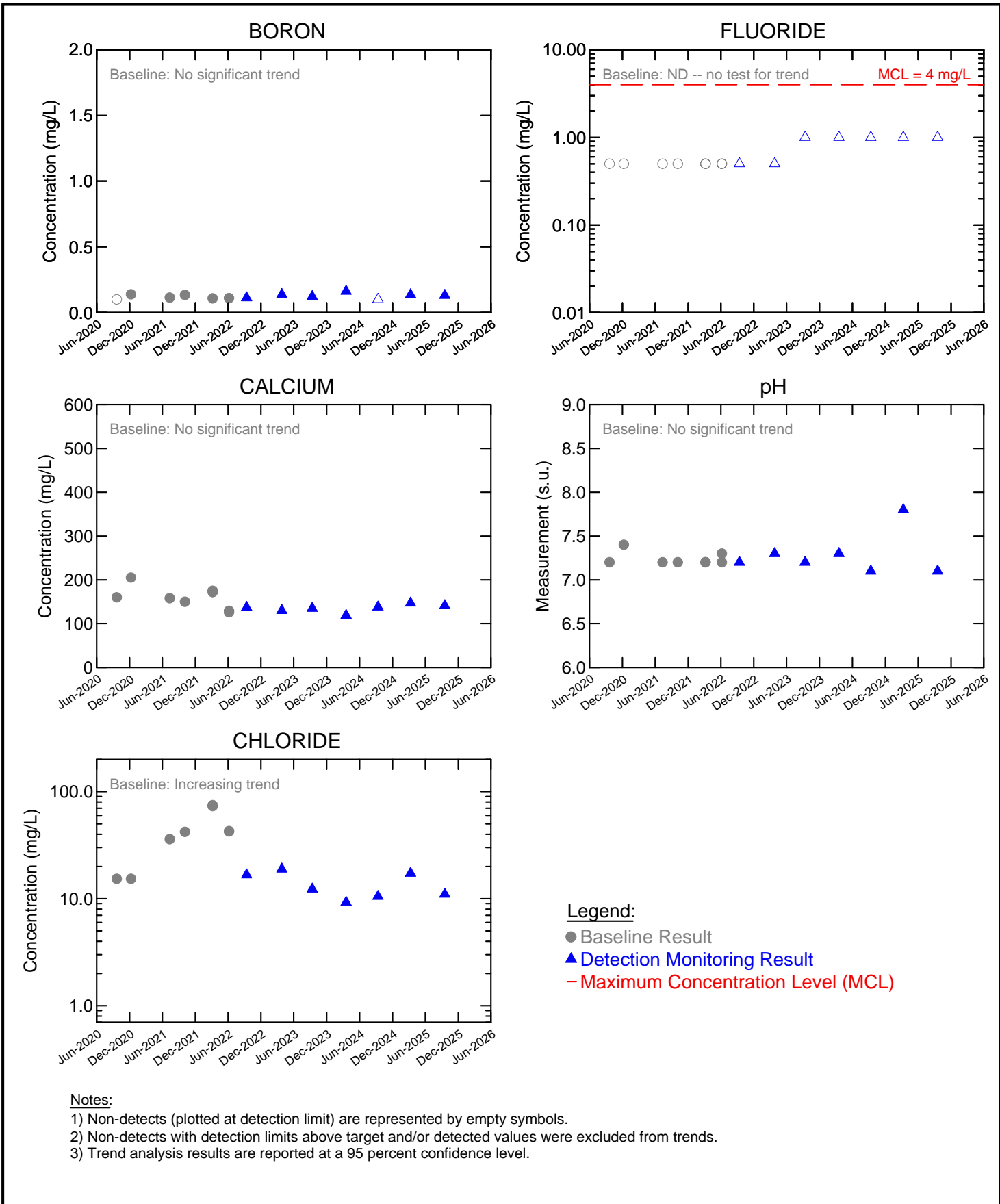


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 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-5R -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 3.e**

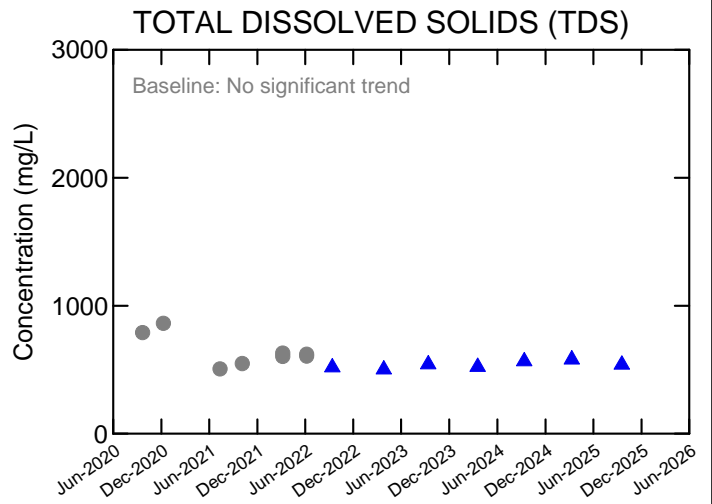
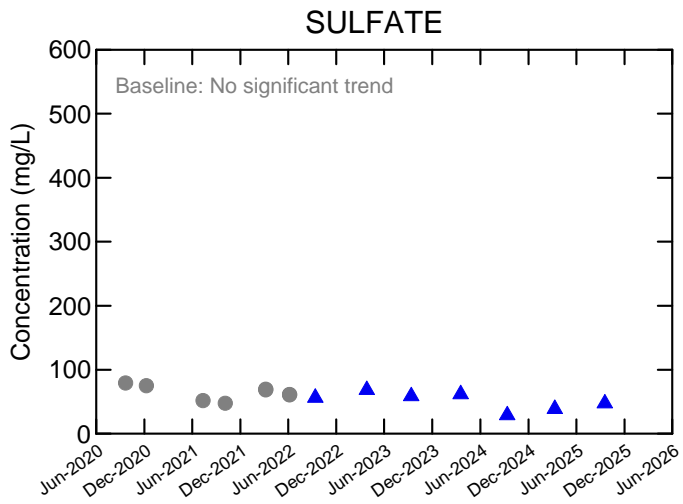


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 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-13 -- APPENDIX III PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 4.a**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

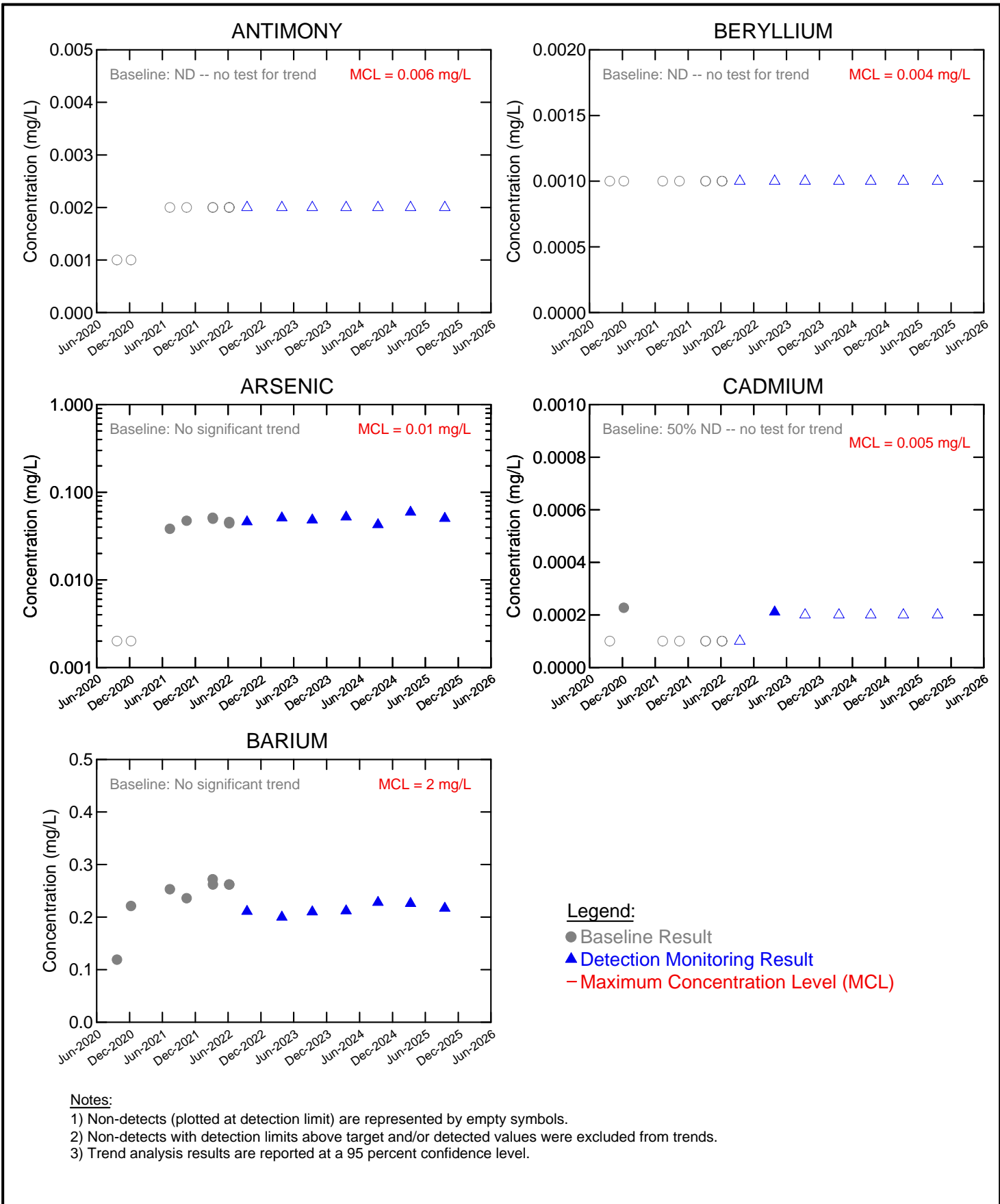


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-13 -- APPENDIX III PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 4.b**

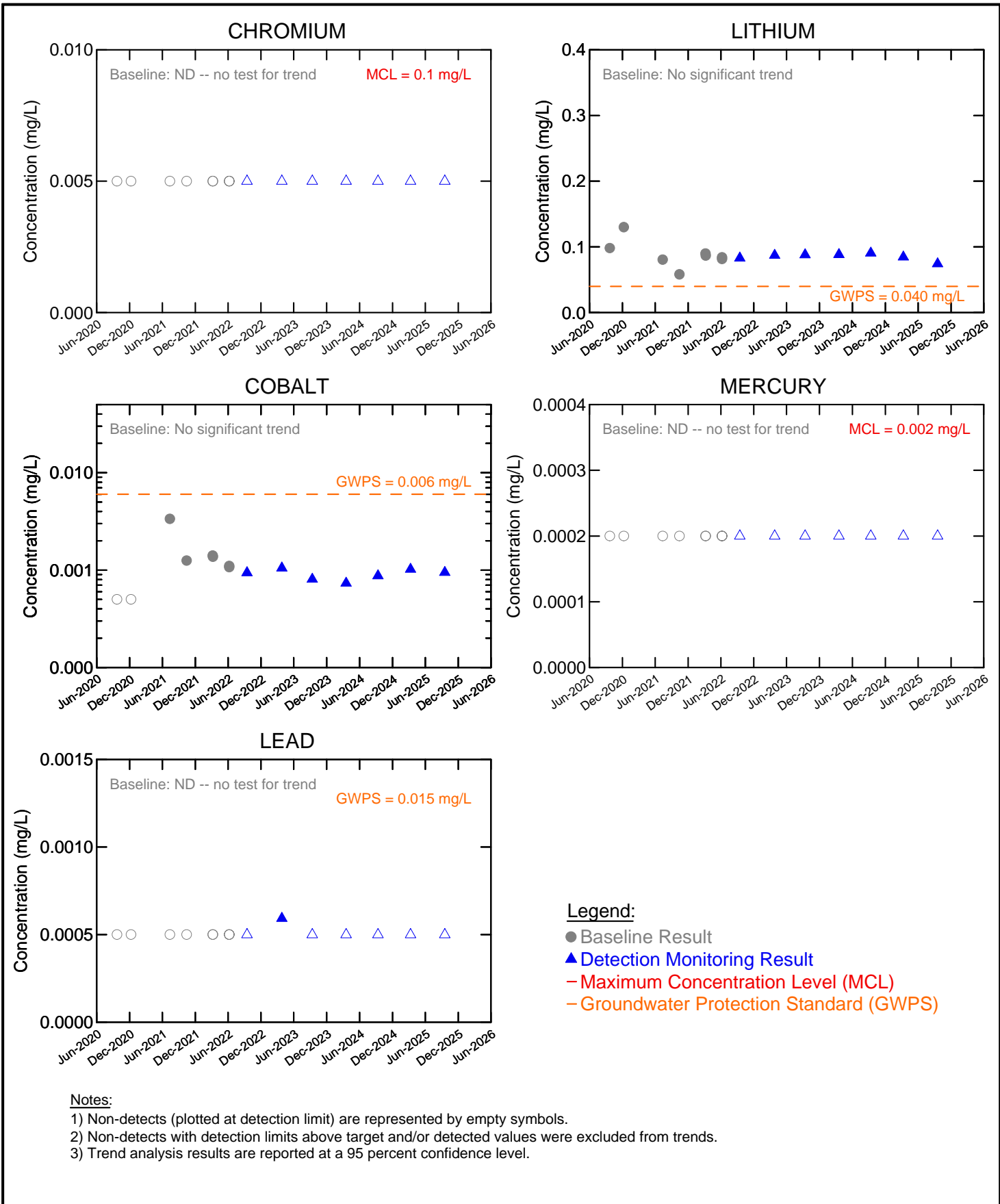


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 Sergeant Bluff, Iowa

**MW-13 -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 4.c**



**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

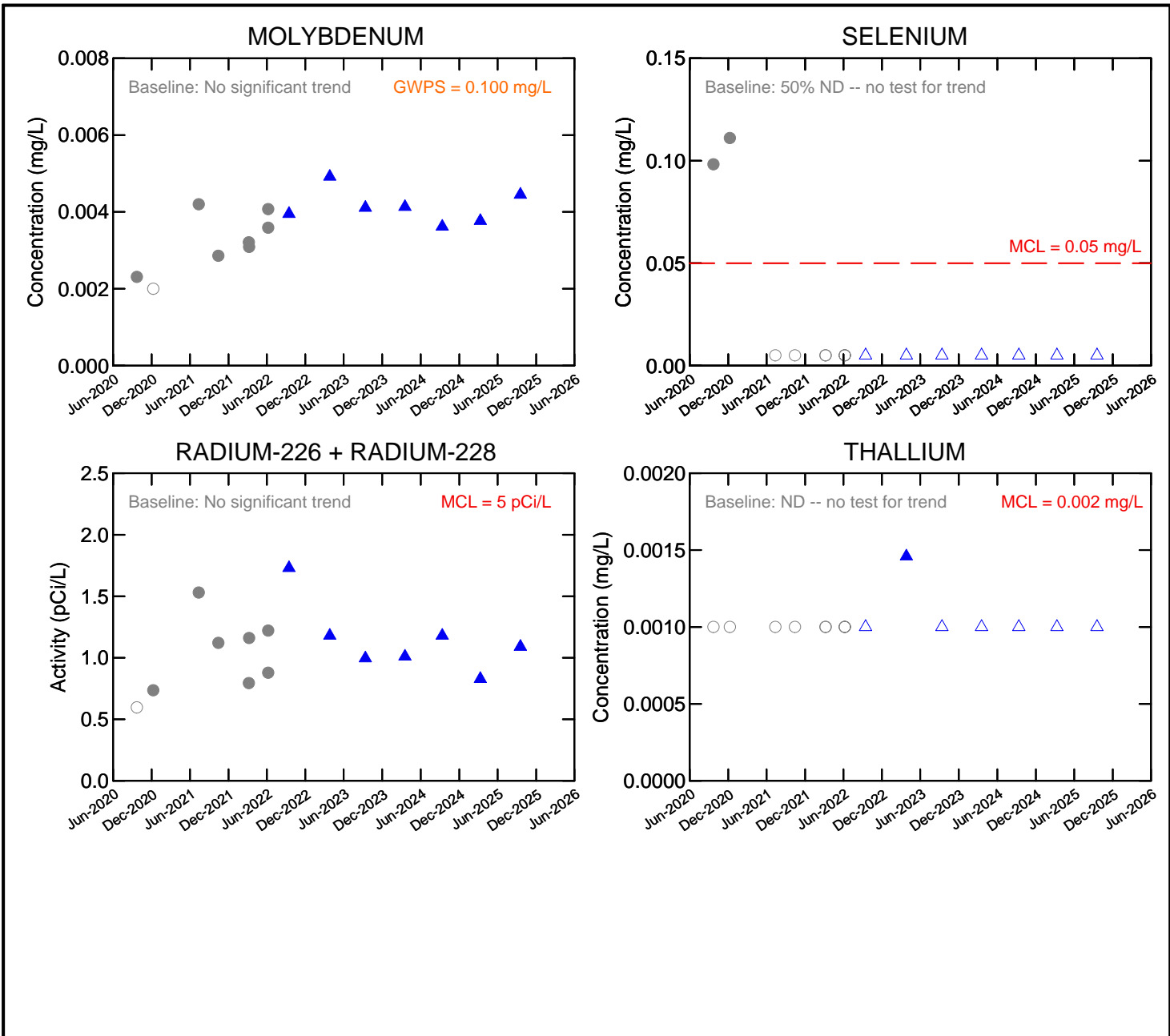


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

**MW-13 -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 4.d**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result
- Maximum Concentration Level (MCL)
- Groundwater Protection Standard (GWPS)

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

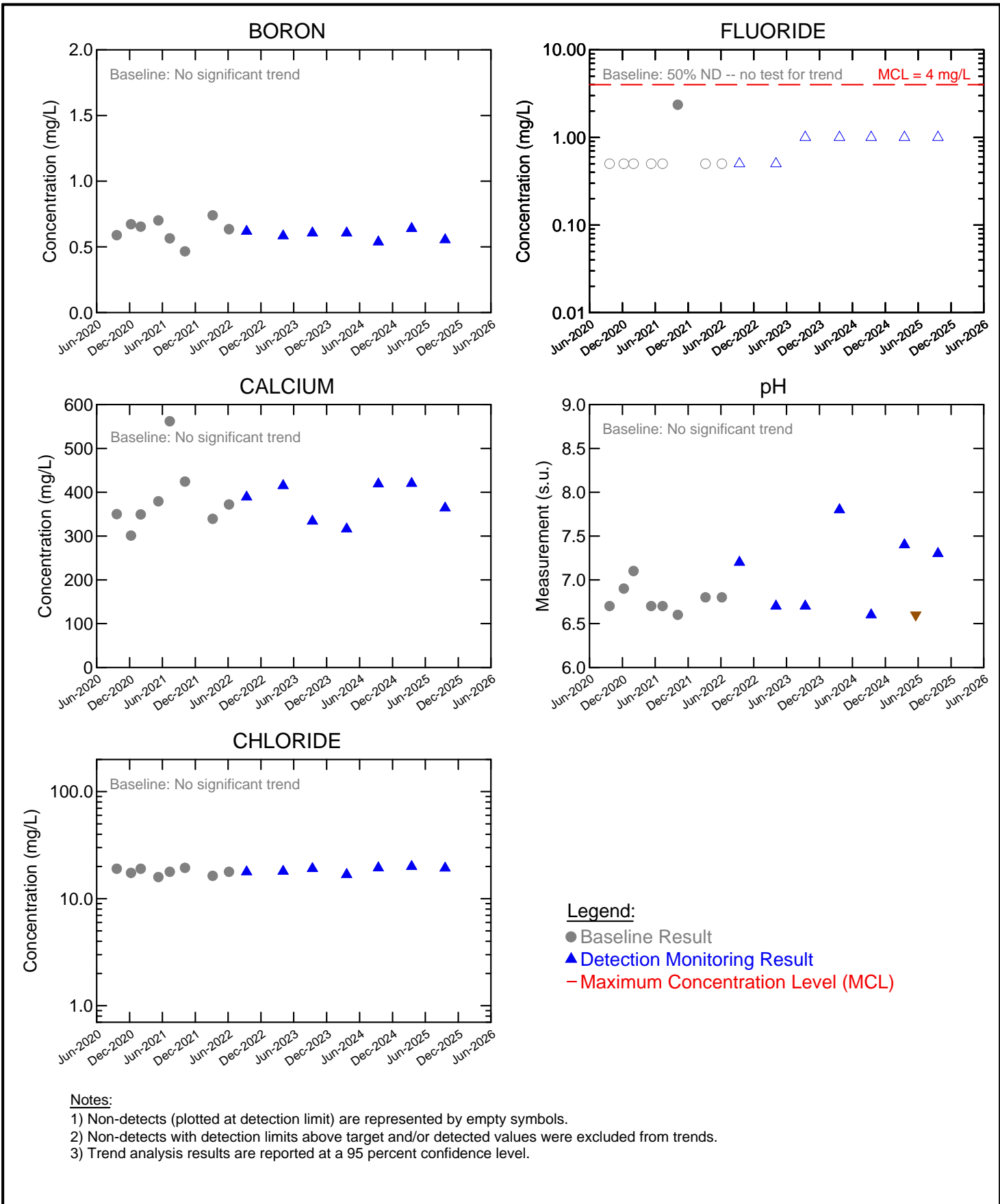


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

**MW-13 -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 4.e**

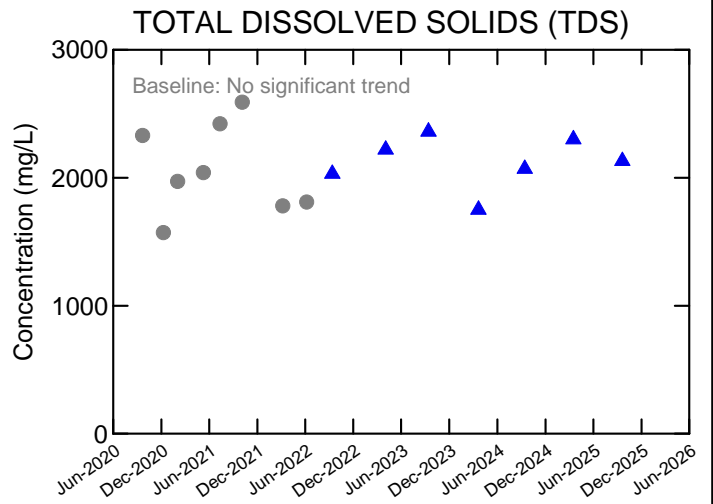
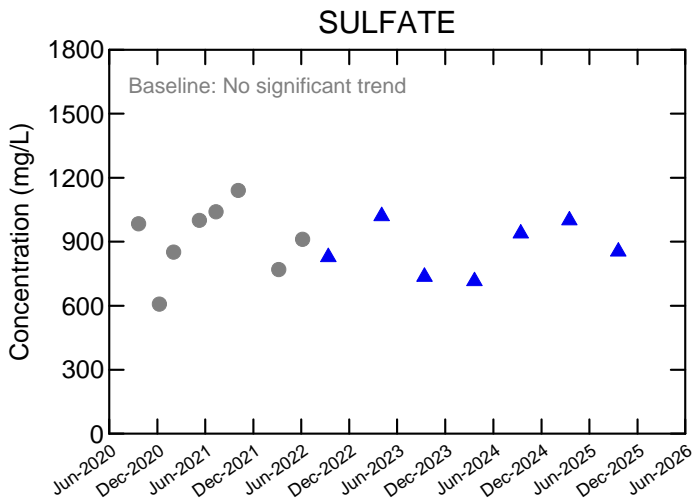


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

**MW-19 -- APPENDIX III PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 5.a**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

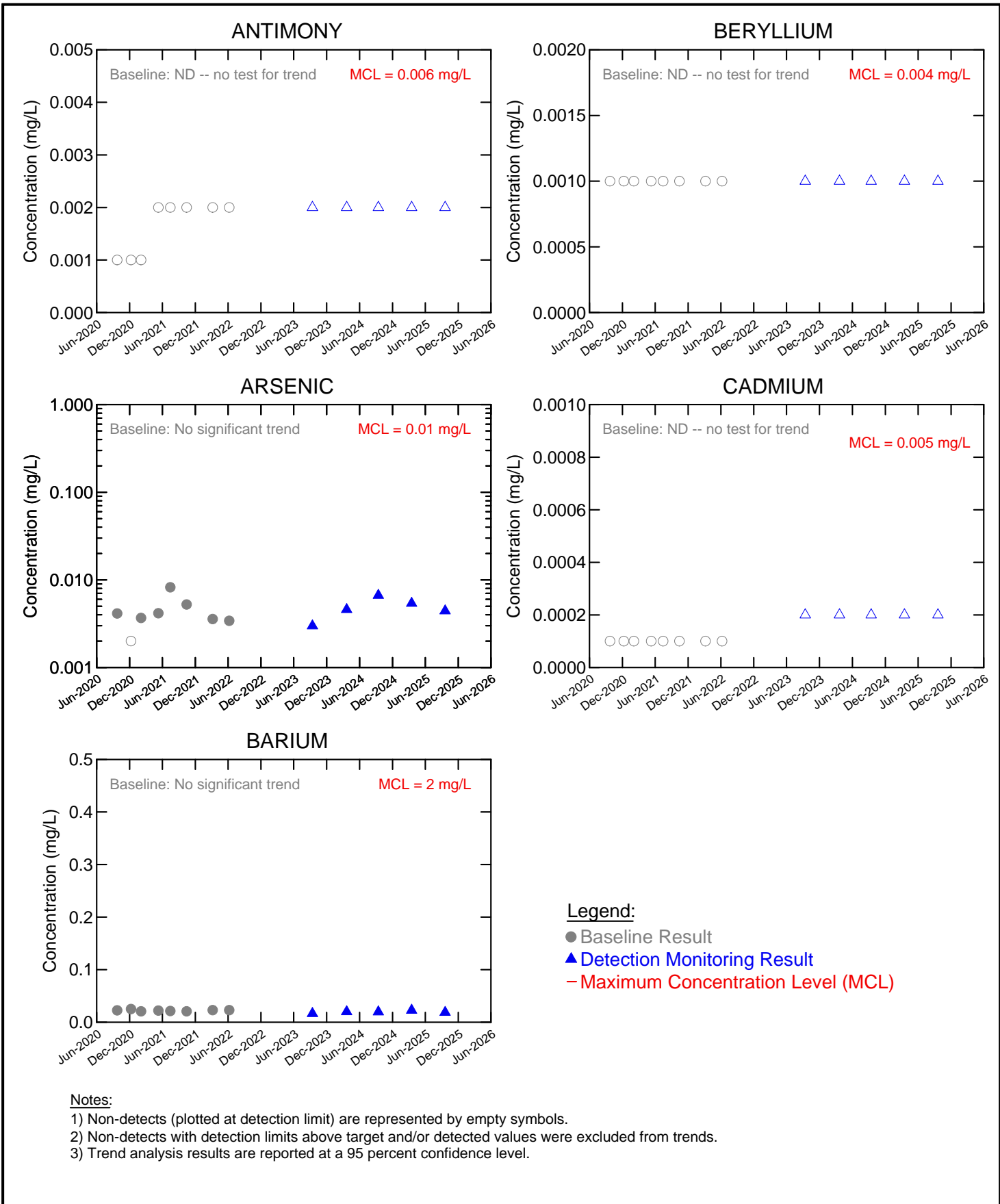


MidAmerican Energy Company  
Neal North CCR Closed Monofill  
Sergeant Bluff, Iowa

**MW-19 -- APPENDIX III PARAMETERS  
ANALYTE CONCENTRATION vs. TIME**

Project No. **12576482**  
Date: **Dec 3, 2025**

**FIGURE 5.b**

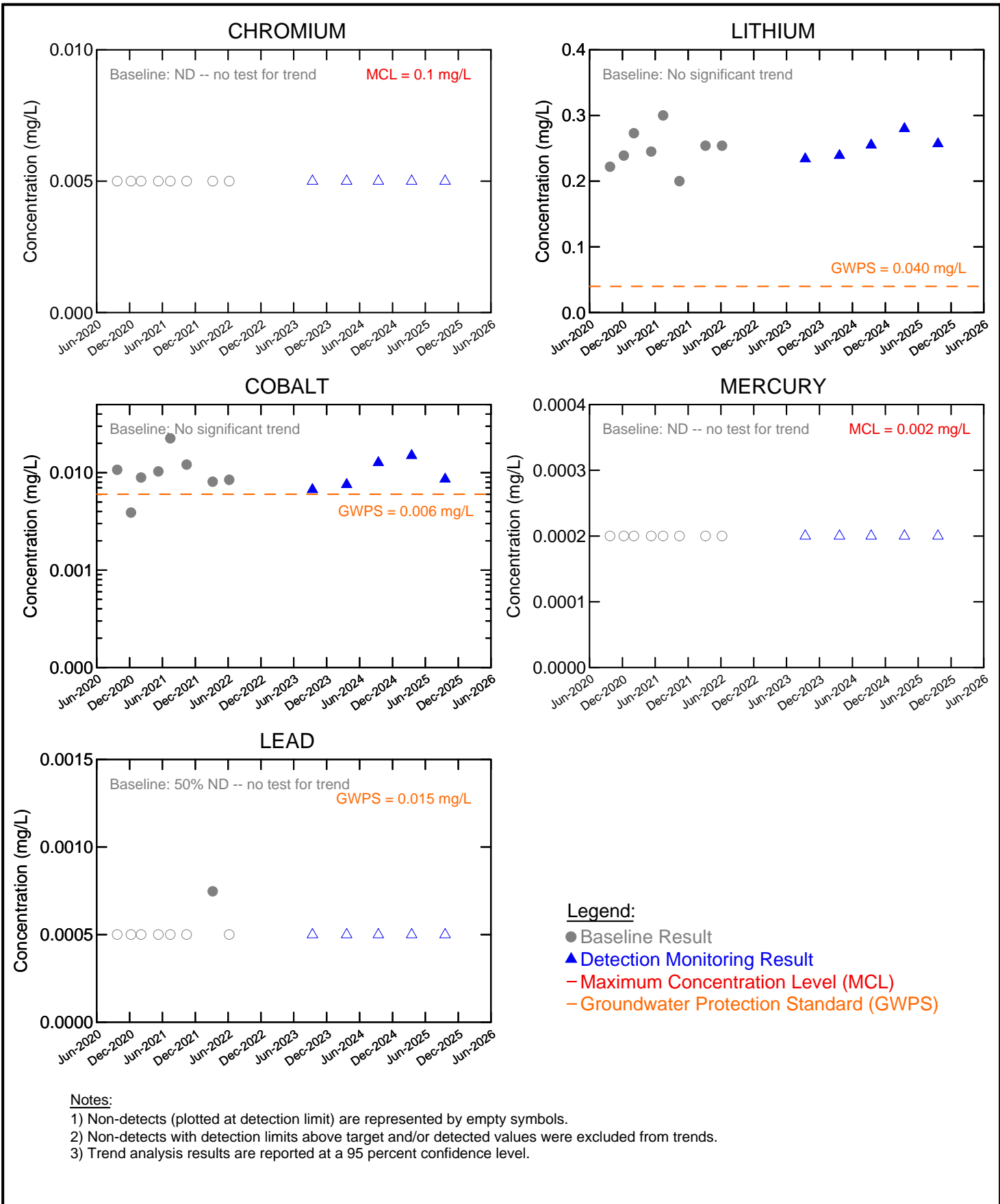


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-19 -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 5.c**



**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

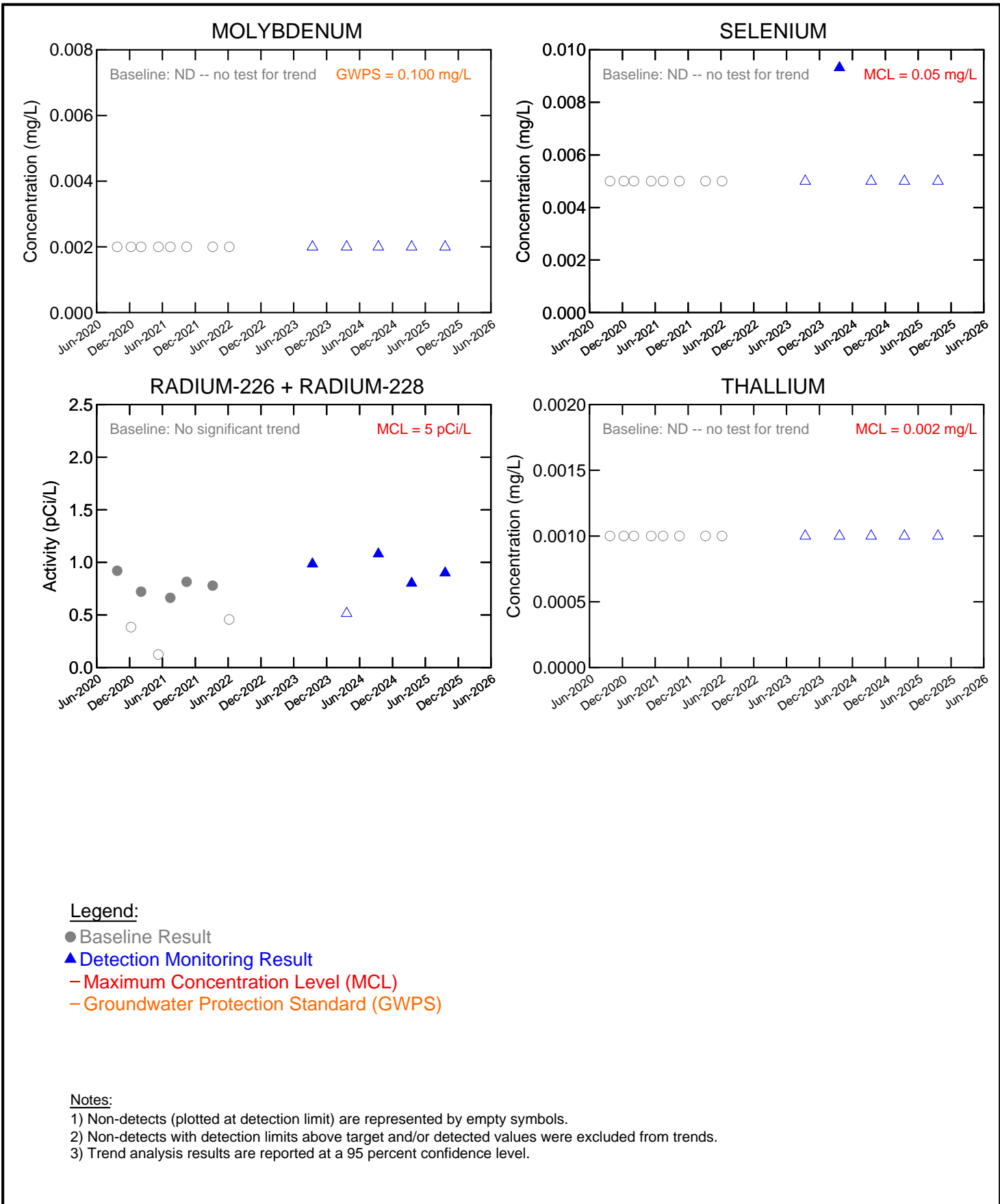


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-19 -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 5.d**

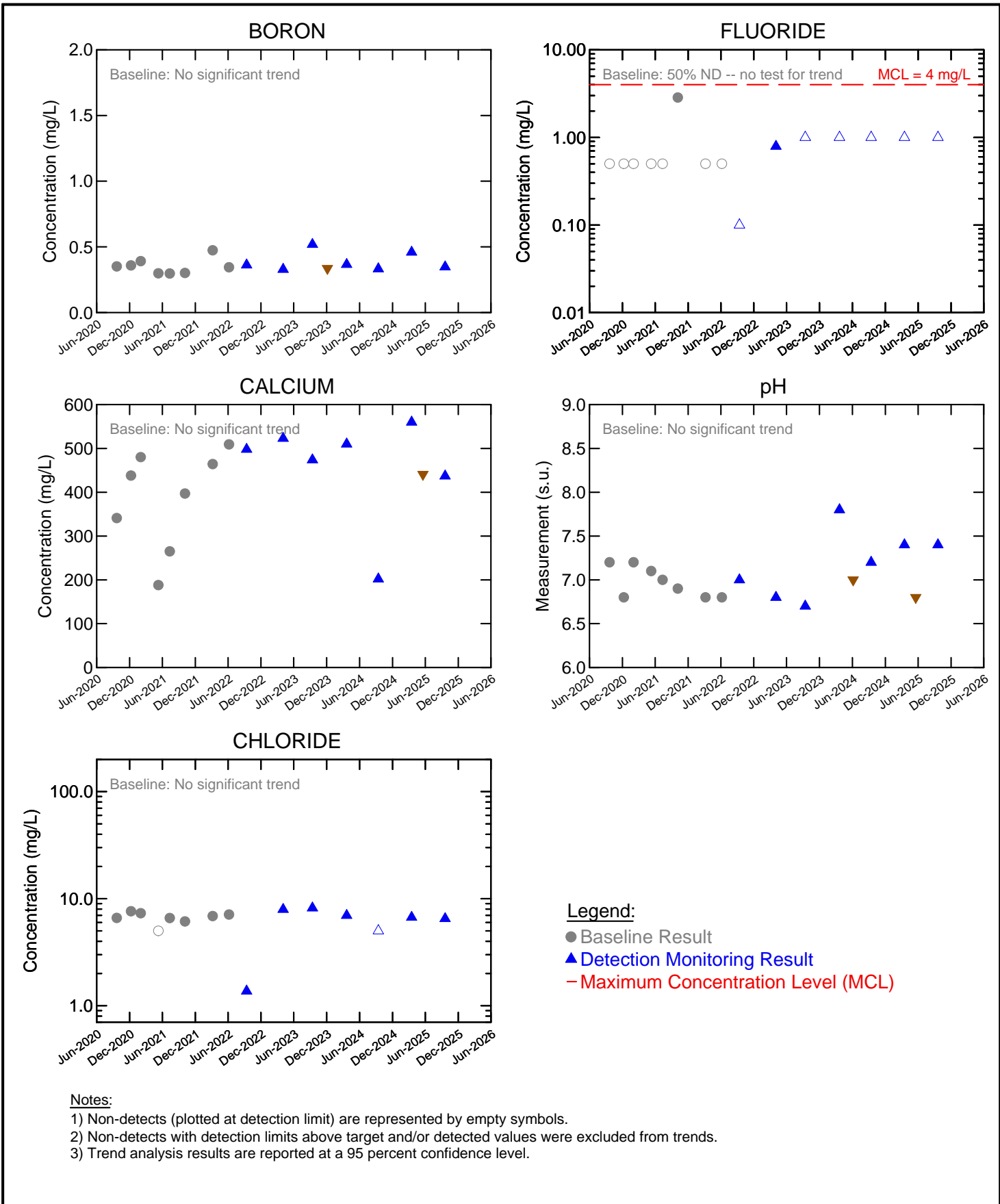


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-19 -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 5.e**

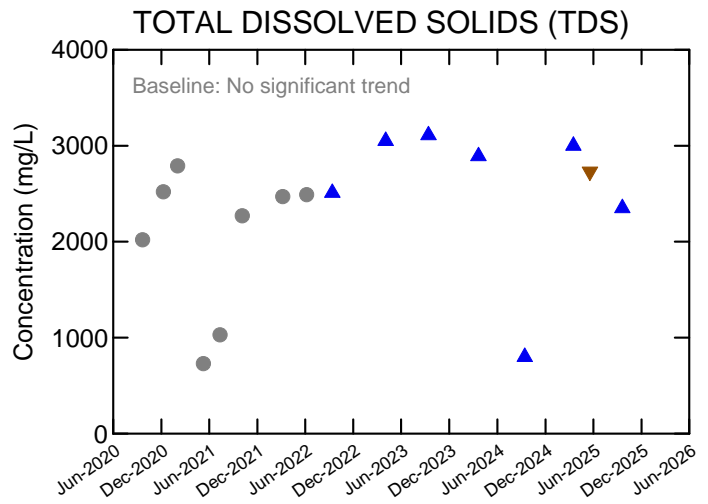
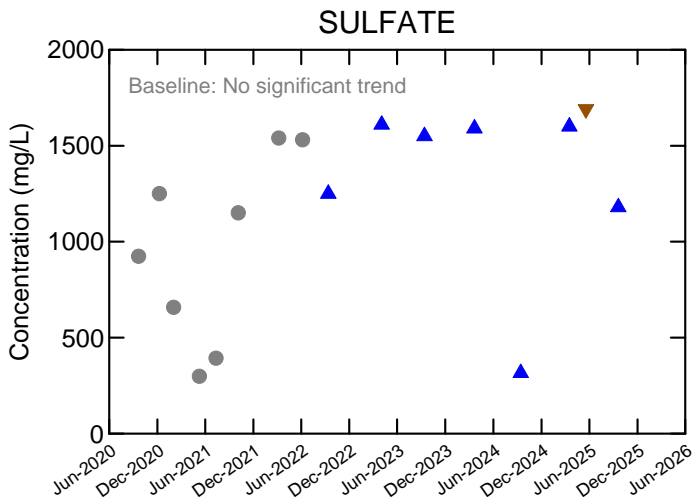


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

**MW-21 -- APPENDIX III PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 6.a**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

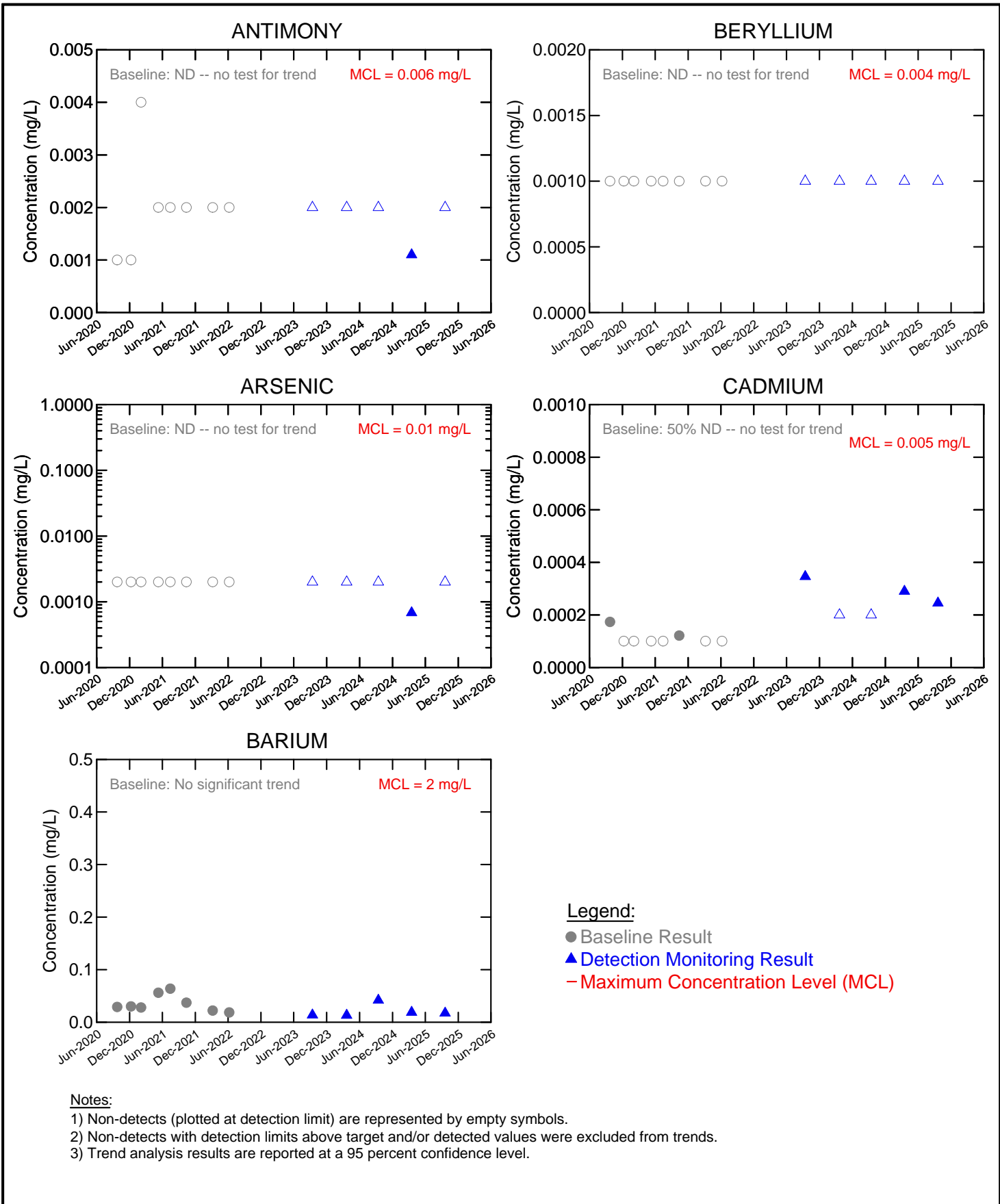


MidAmerican Energy Company  
Neal North CCR Closed Monofill  
Sergeant Bluff, Iowa

**MW-21 -- APPENDIX III PARAMETERS  
ANALYTE CONCENTRATION vs. TIME**

Project No. **12576482**  
Date: **Dec 3, 2025**

**FIGURE 6.b**

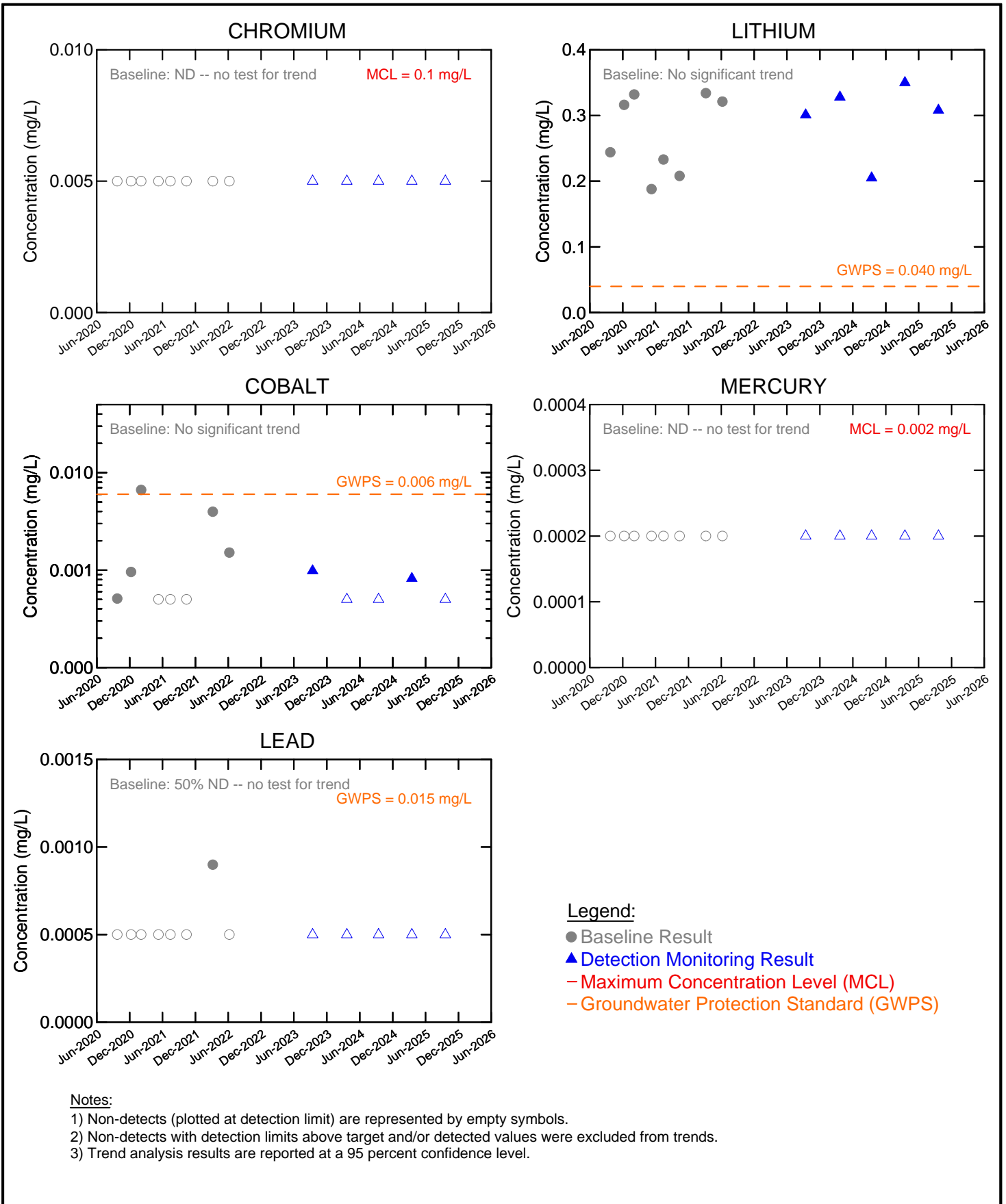


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-21 -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 6.c**



**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

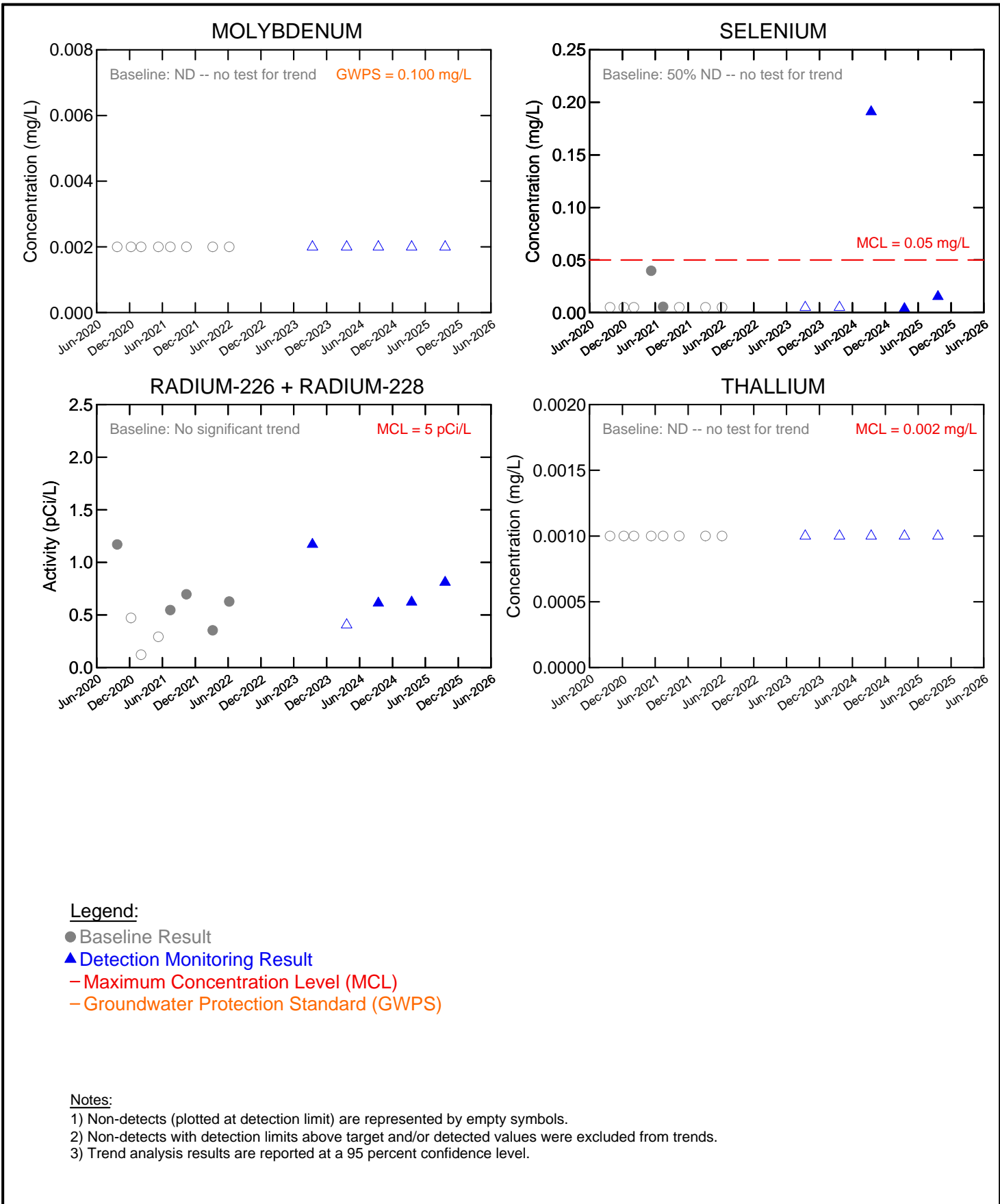


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-21 -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 6.d**

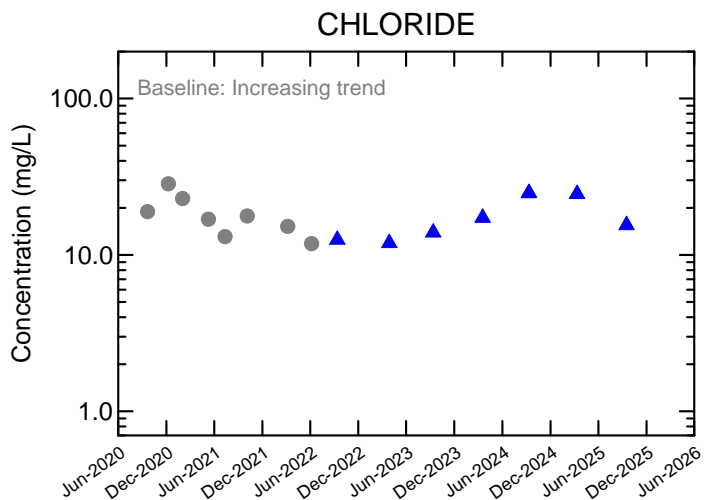
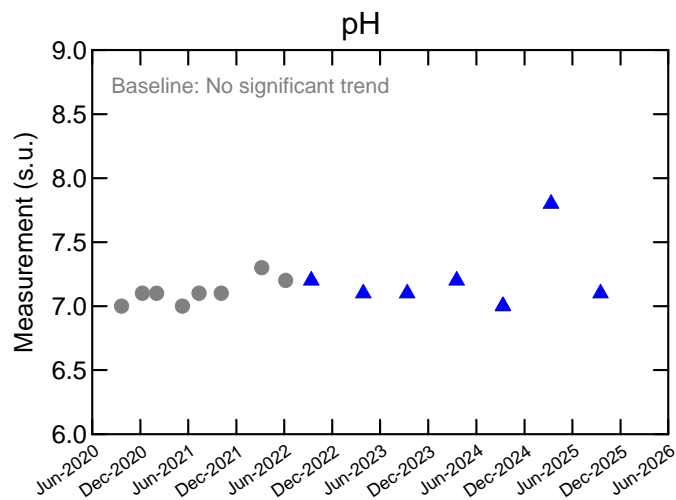
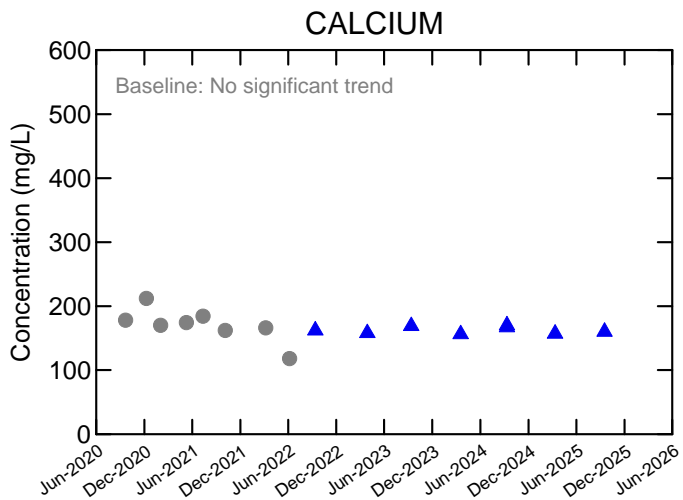
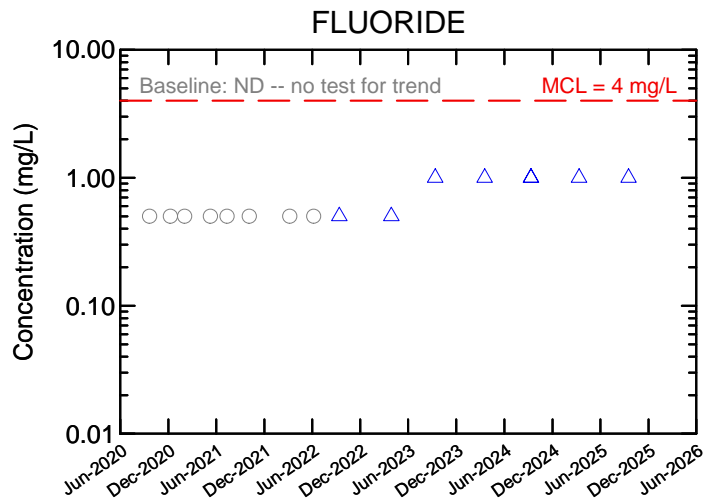
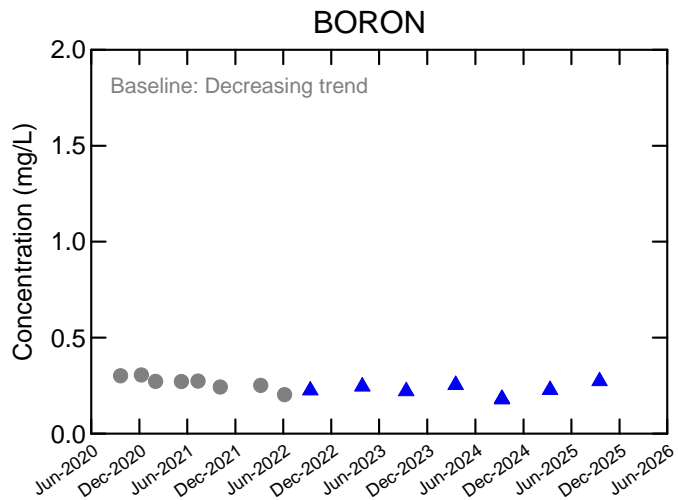


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-21 -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 6.e**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result
- Maximum Concentration Level (MCL)

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

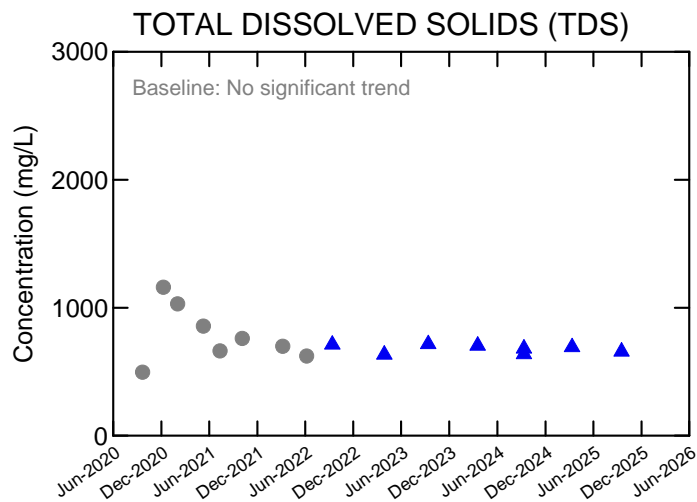
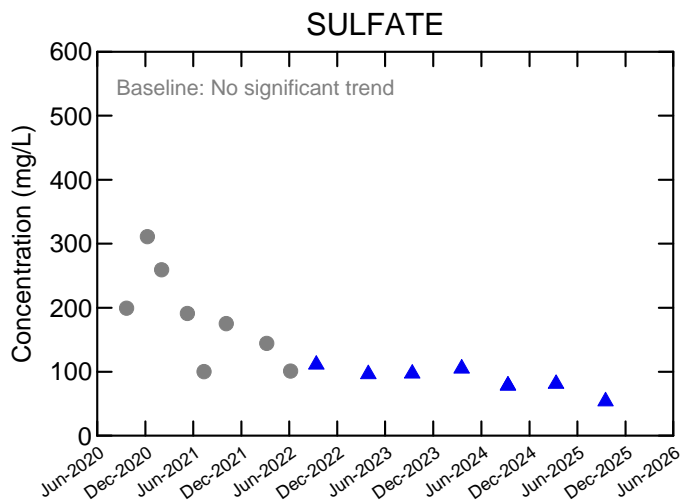


MidAmerican Energy Company  
Neal North CCR Closed Monofill  
Sergeant Bluff, Iowa

**MW-27 -- APPENDIX III PARAMETERS  
ANALYTE CONCENTRATION vs. TIME**

Project No. **12576482**  
Date: **Dec 3, 2025**

**FIGURE 7.a**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

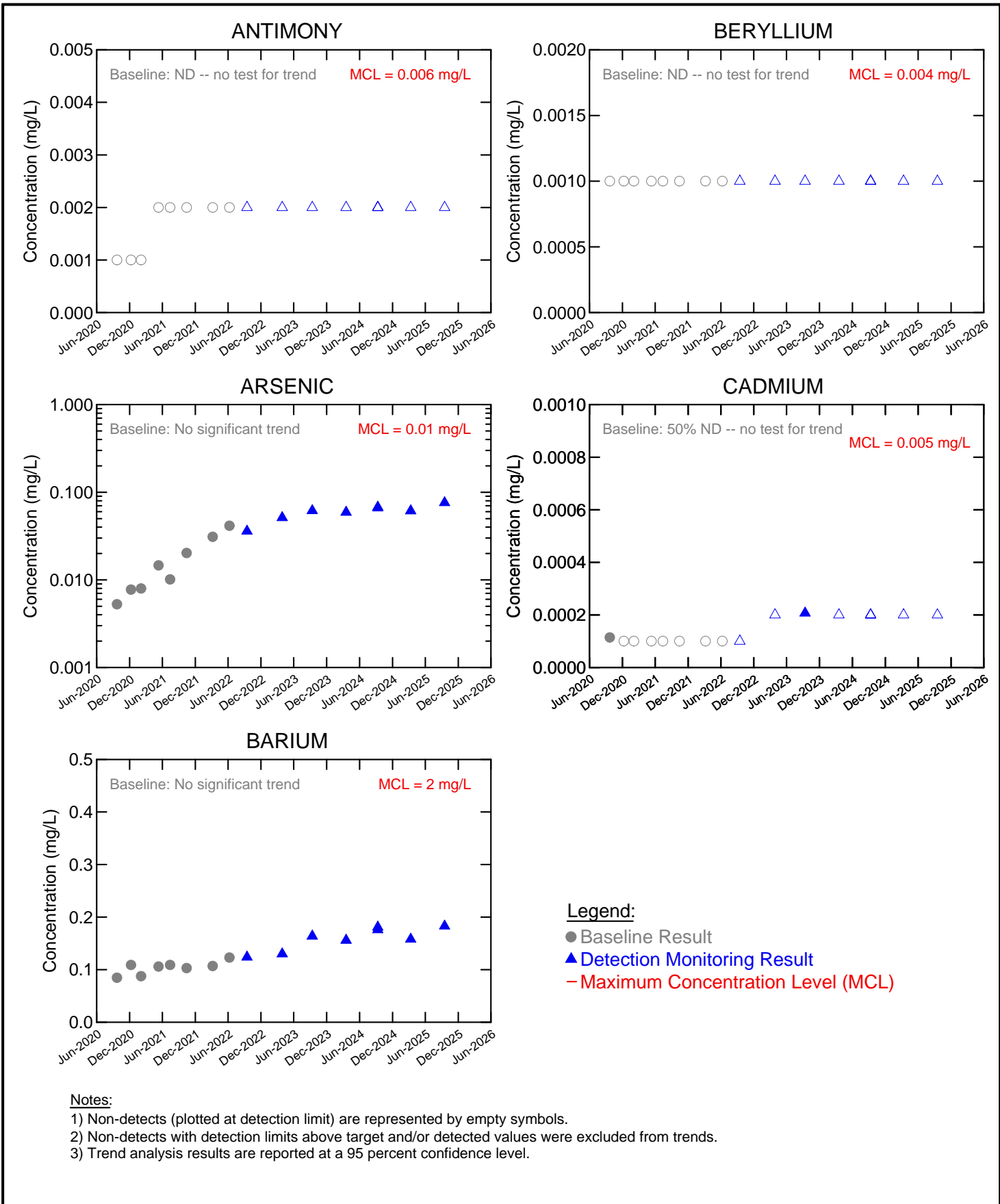


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-27 -- APPENDIX III PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 7.b**

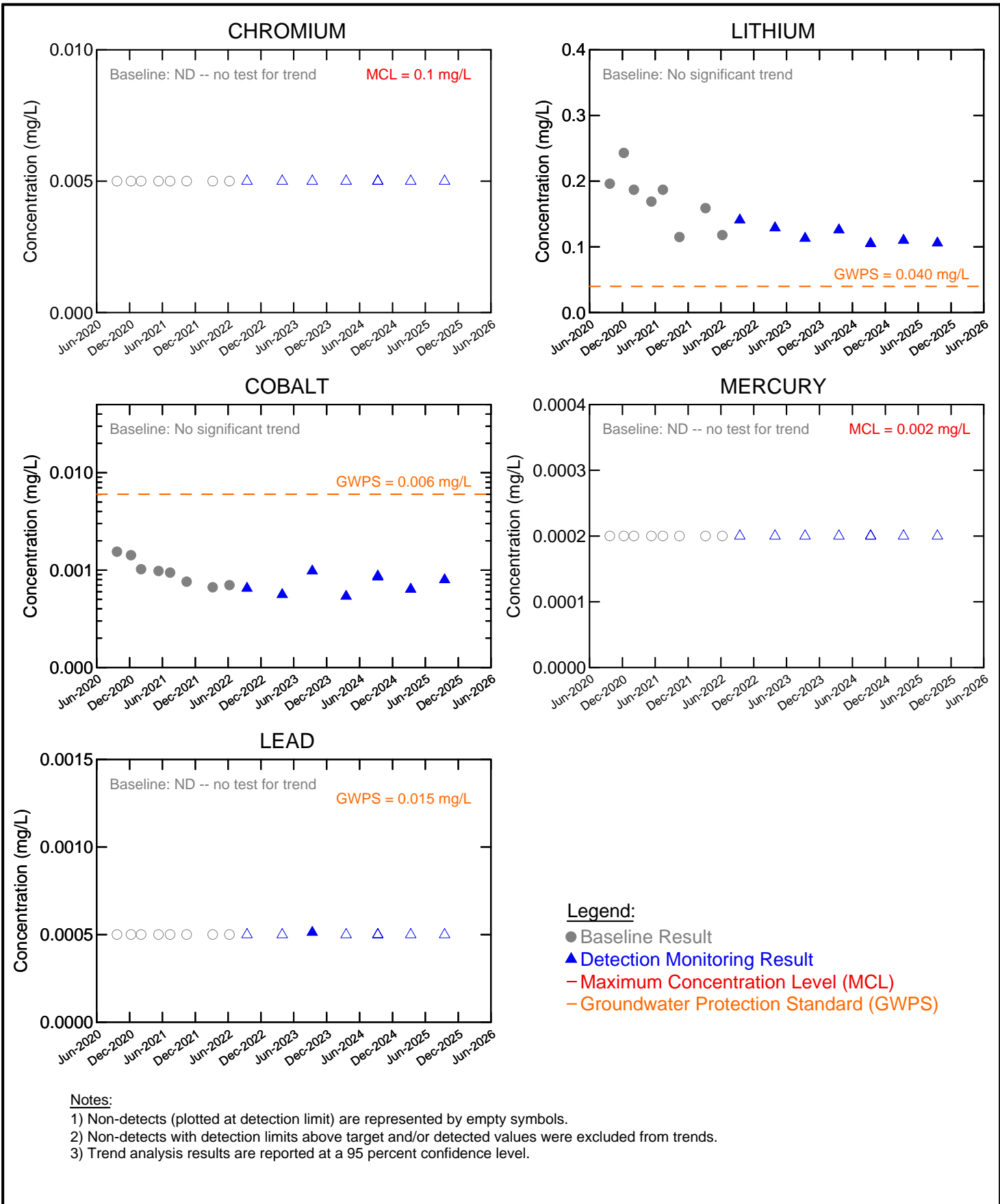


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-27 -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 7.c**

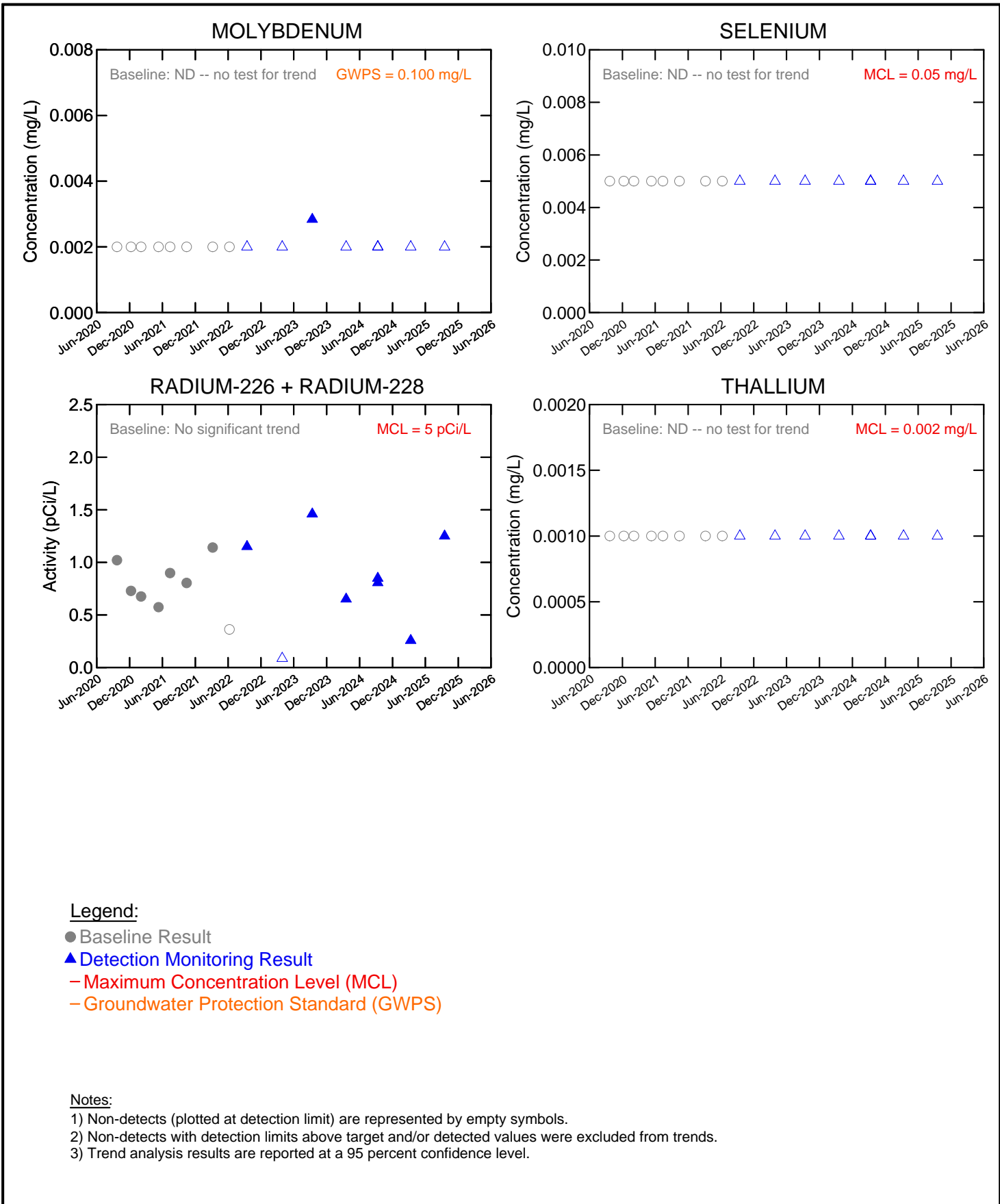


MidAmerican Energy Company  
Neal North CCR Closed Monofill  
Sergeant Bluff, Iowa

Project No. 12576482  
Date: Dec 3, 2025

**MW-27 -- APPENDIX IV PARAMETERS  
ANALYTE CONCENTRATION vs. TIME**

**FIGURE 7.d**

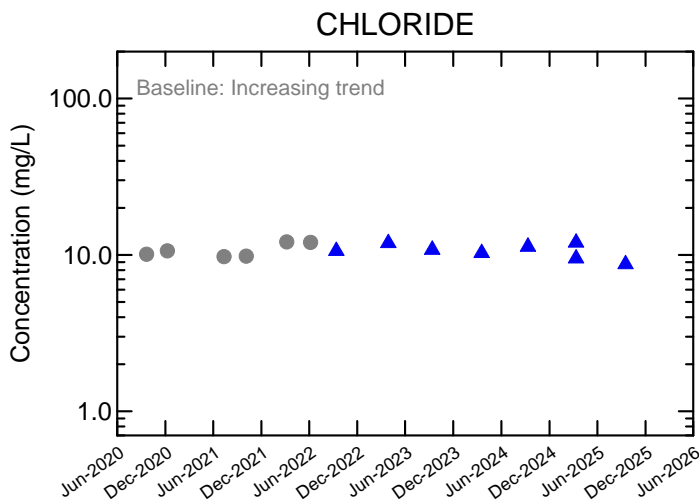
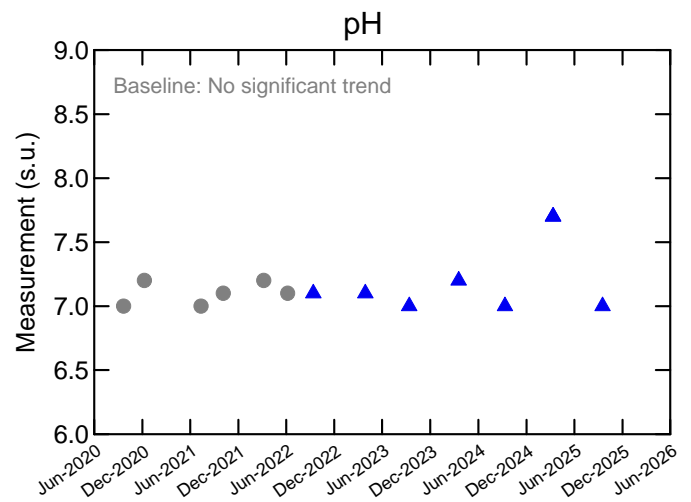
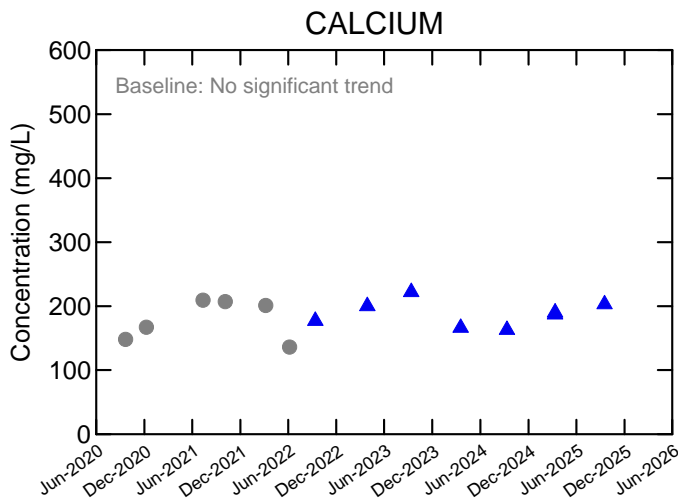
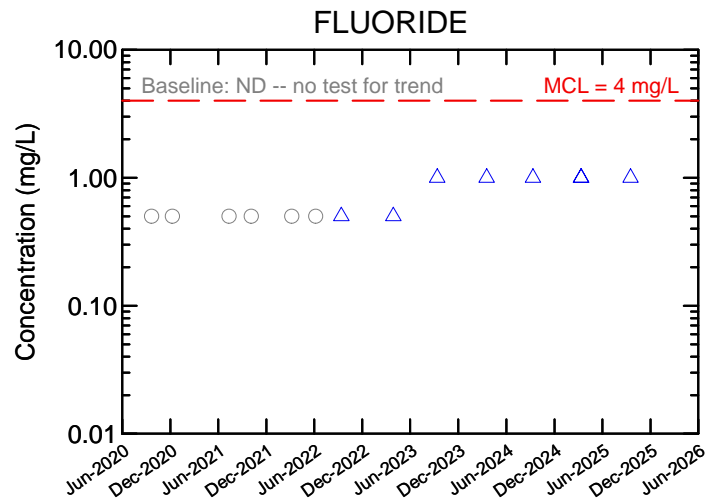
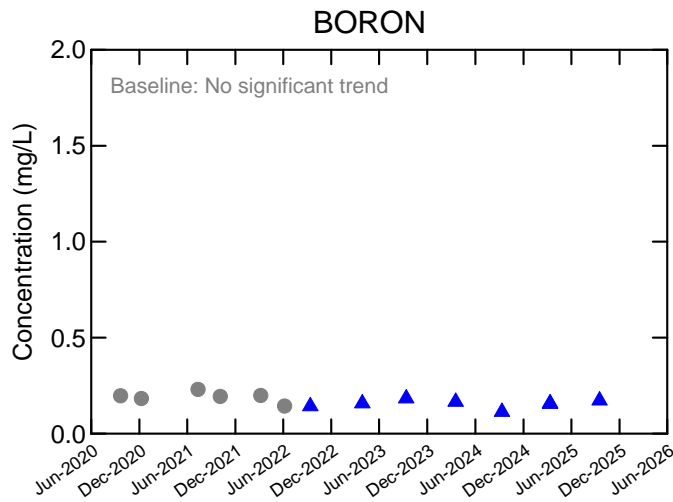


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-27 -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 7.e**



**Legend:**  
 ● Baseline Result  
 ▲ Detection Monitoring Result  
 - Maximum Concentration Level (MCL)

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

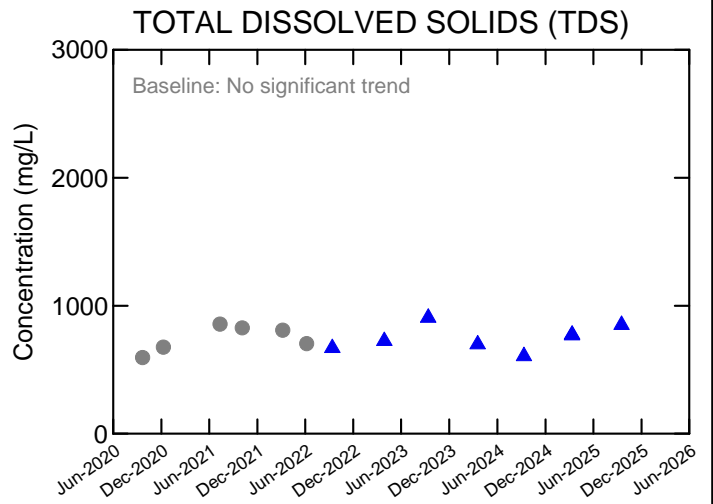
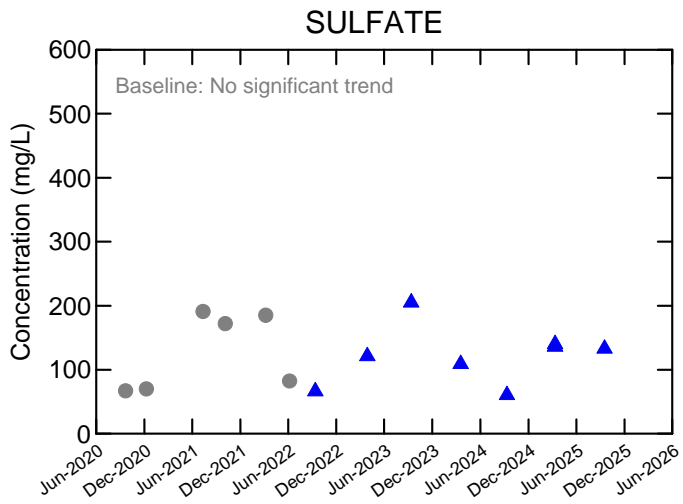


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

**MW-29 -- APPENDIX III PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 8.a**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

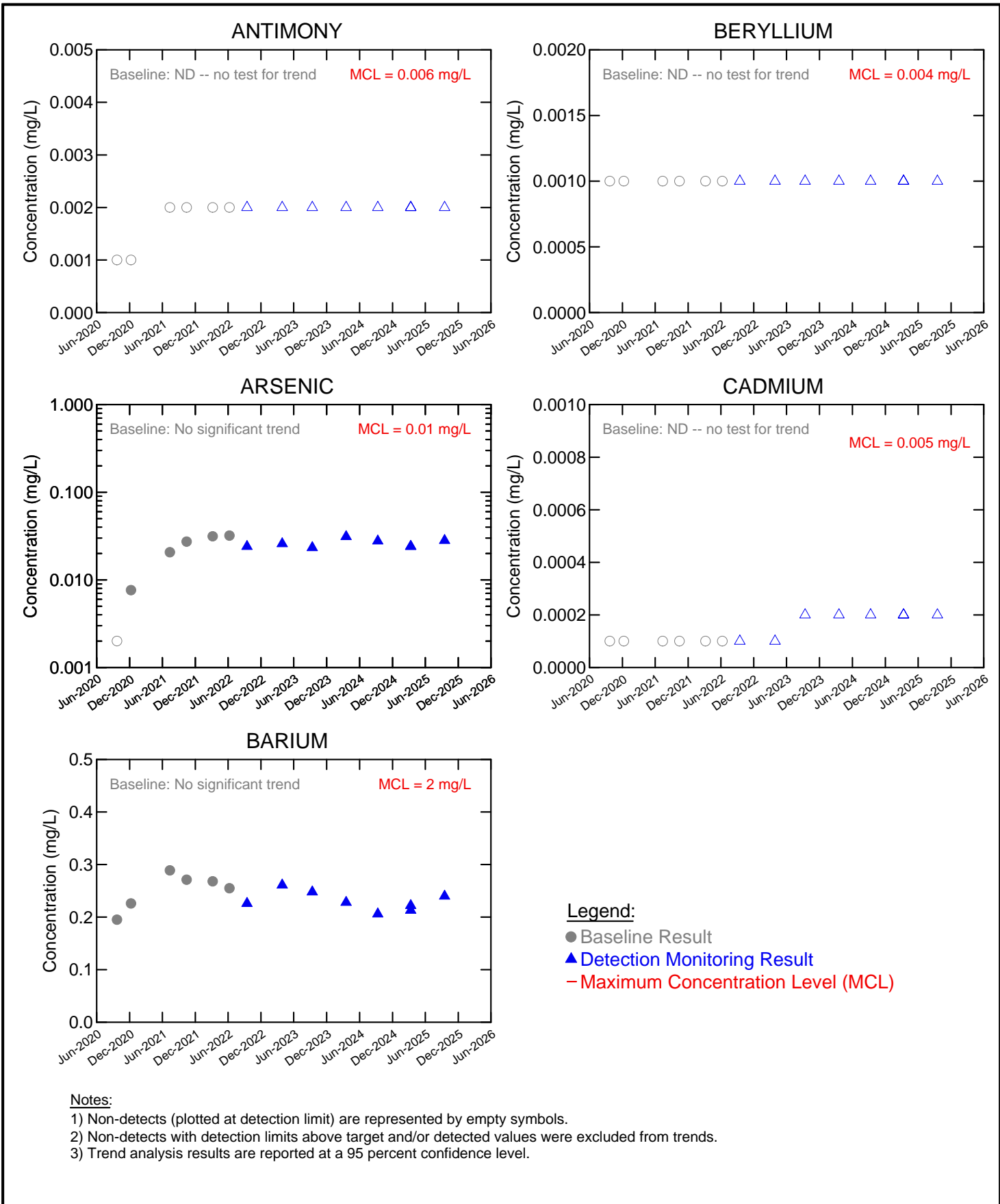


MidAmerican Energy Company  
Neal North CCR Closed Monofill  
Sergeant Bluff, Iowa

**MW-29 -- APPENDIX III PARAMETERS  
ANALYTE CONCENTRATION vs. TIME**

Project No. **12576482**  
Date: **Dec 3, 2025**

**FIGURE 8.b**

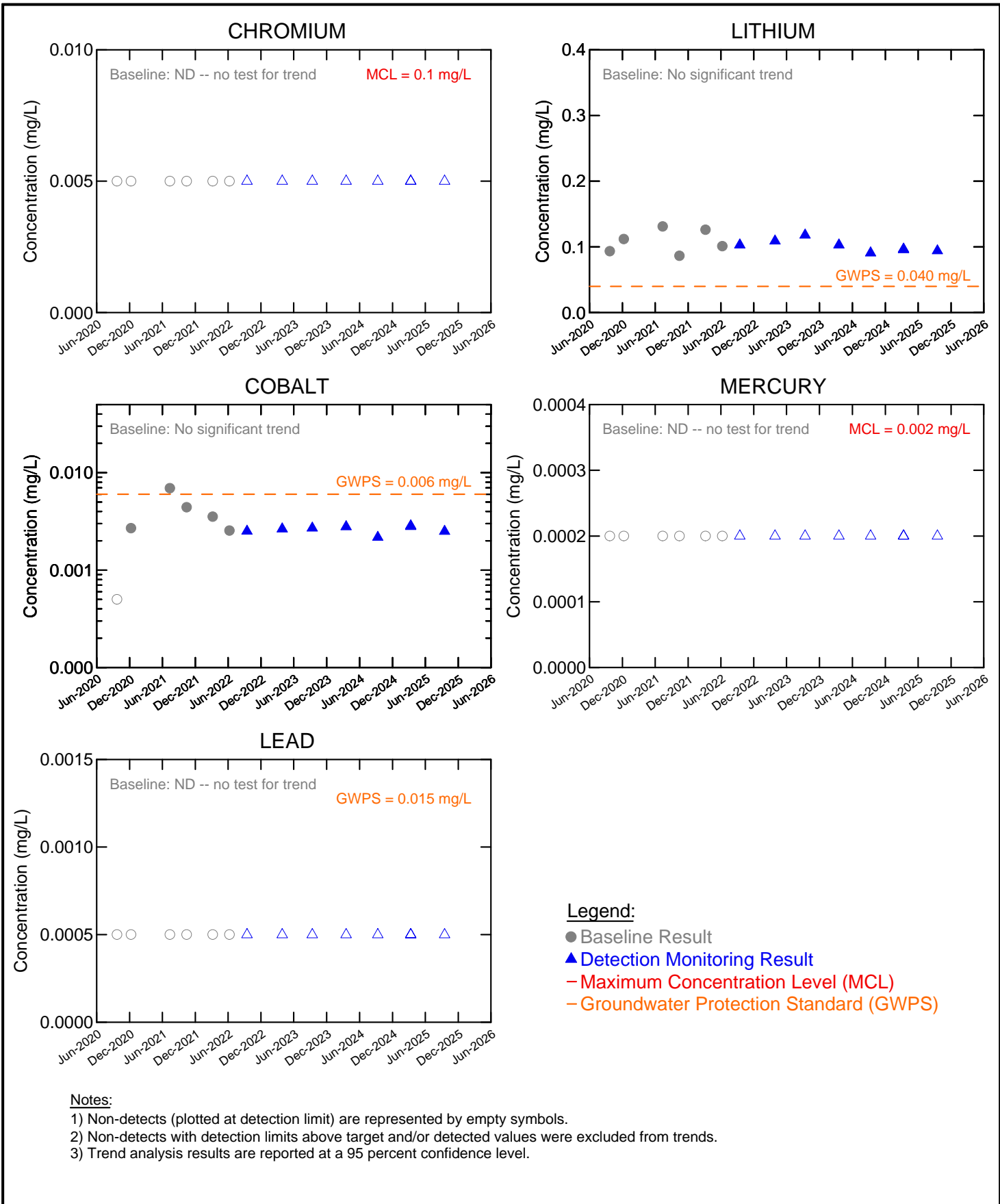


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

**MW-29 -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 8.c**

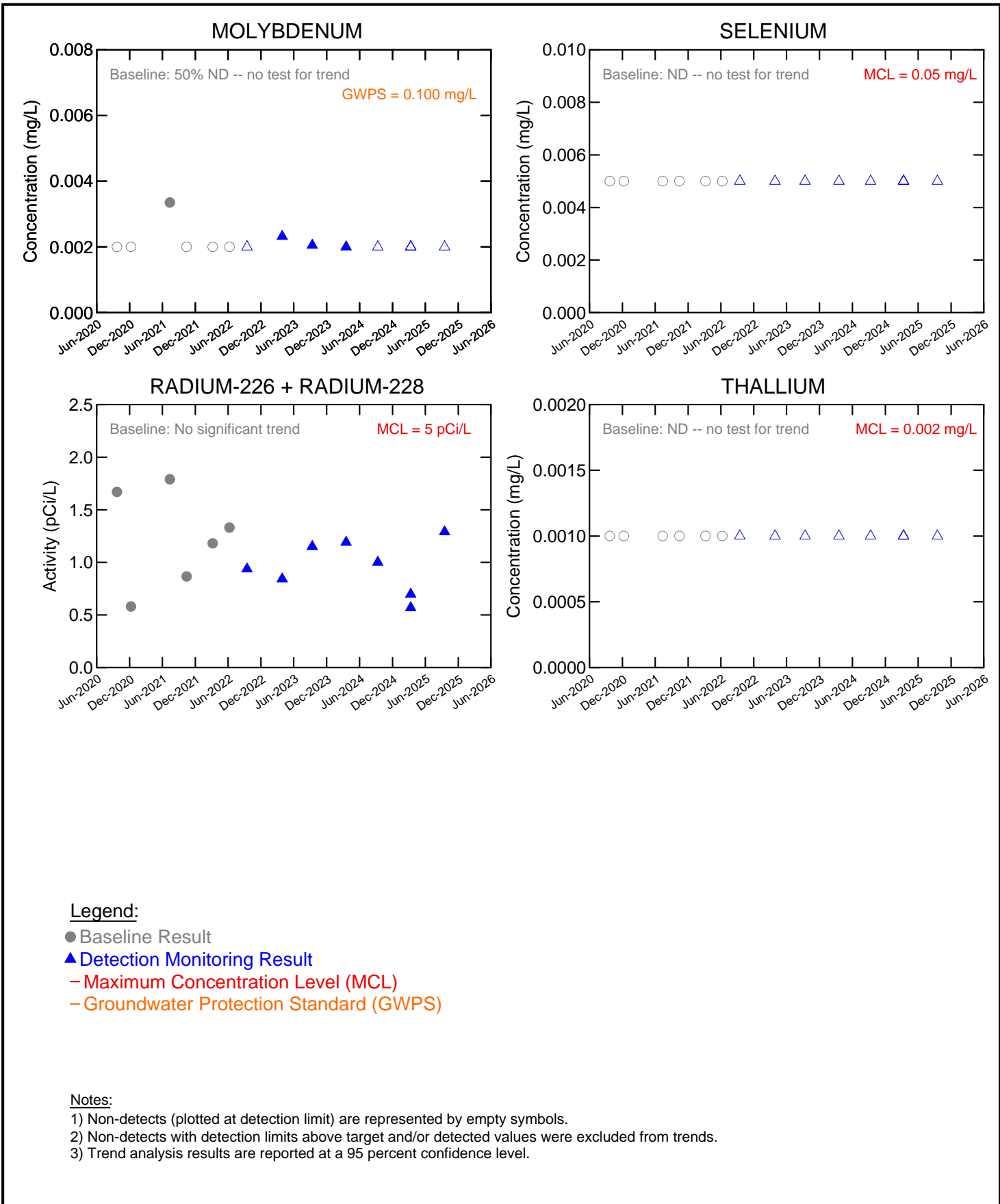


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-29 -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 8.d**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result
- Maximum Concentration Level (MCL)
- Groundwater Protection Standard (GWPS)

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

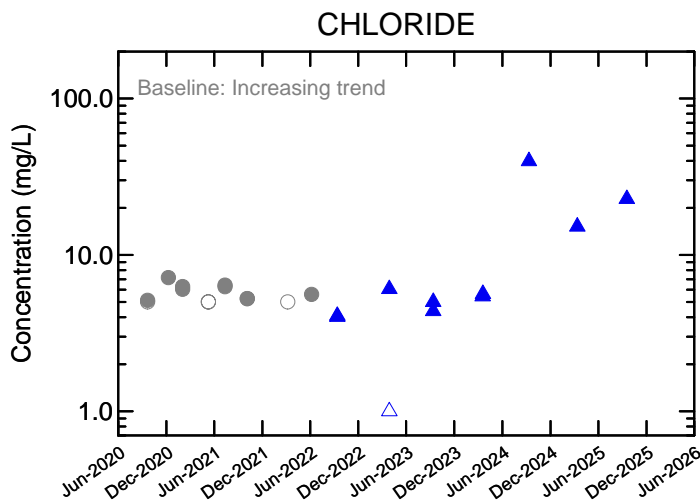
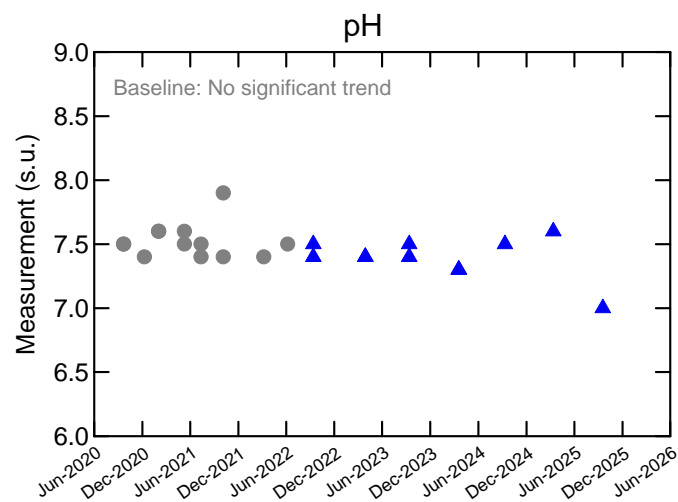
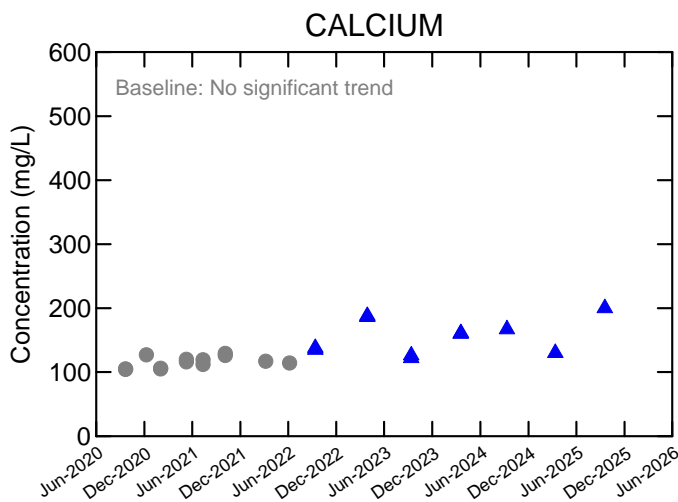
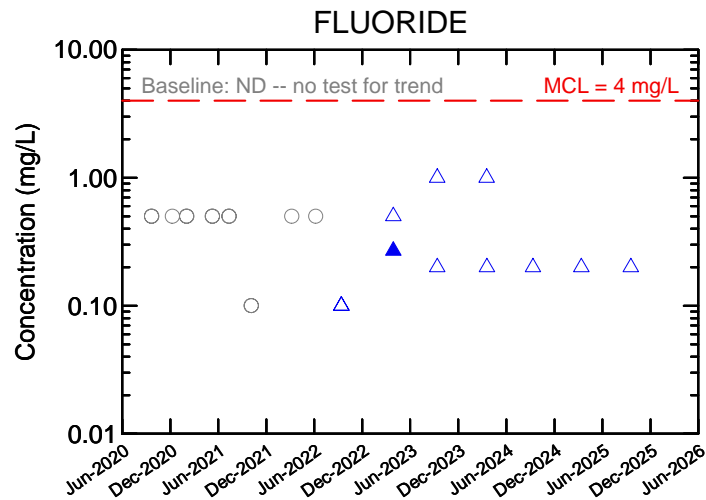
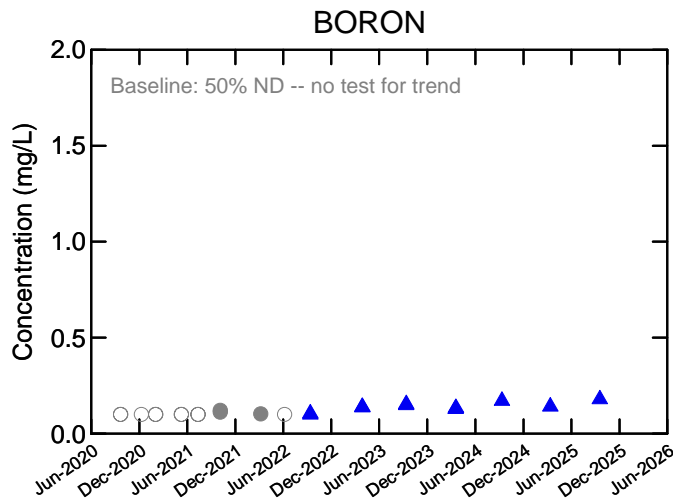


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

**MW-29 -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 8.e**



**Legend:**  
 ● Baseline Result  
 ▲ Detection Monitoring Result  
 - Maximum Concentration Level (MCL)

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

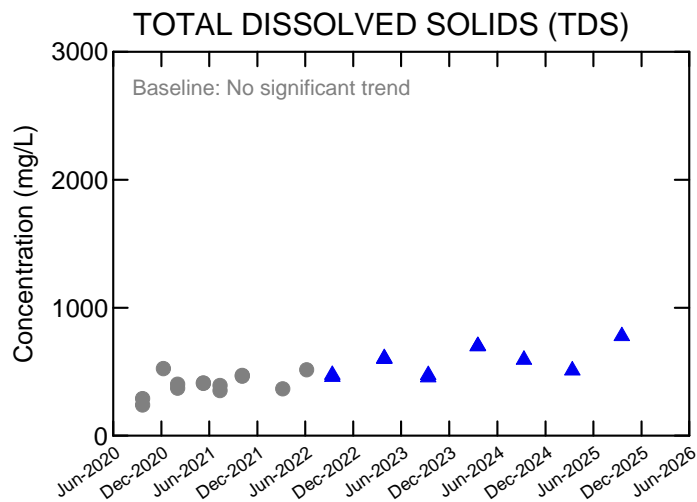
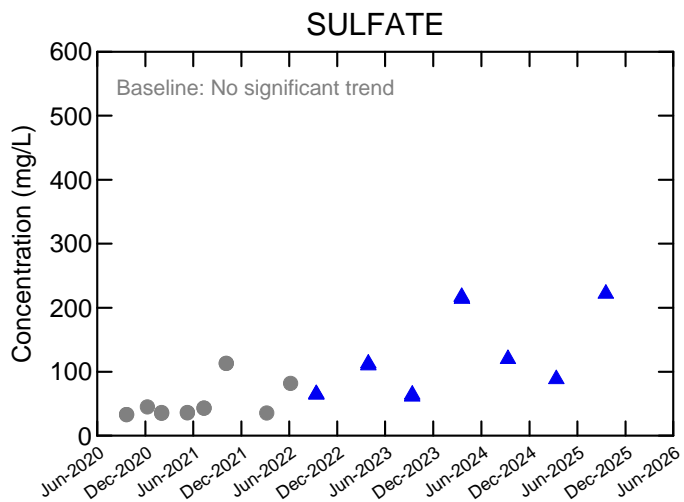


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

**MW-223S -- APPENDIX III PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 9.a**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

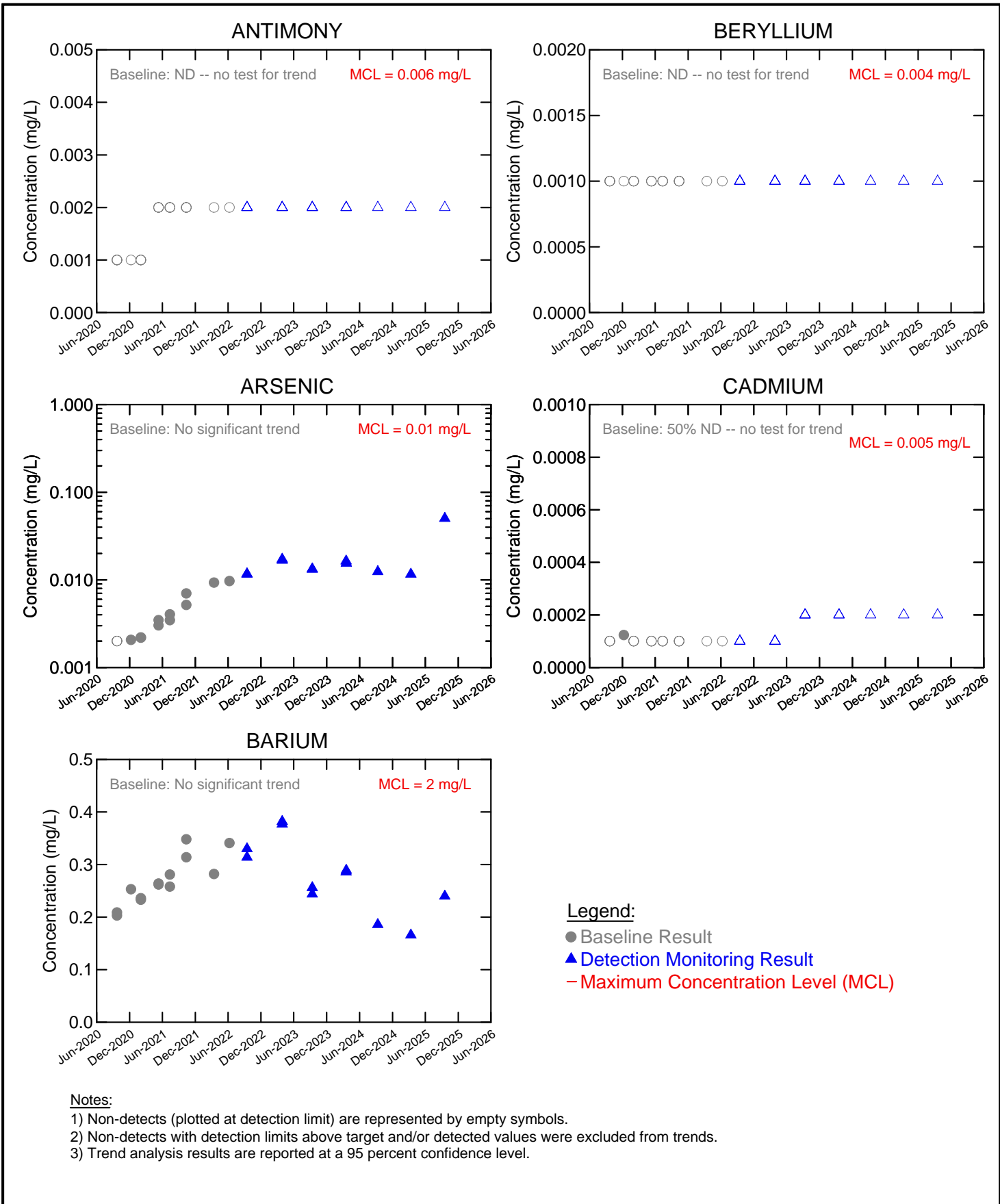


MidAmerican Energy Company  
Neal North CCR Closed Monofill  
Sergeant Bluff, Iowa

Project No. 12576482  
Date: Dec 3, 2025

**MW-223S -- APPENDIX III PARAMETERS  
ANALYTE CONCENTRATION vs. TIME**

**FIGURE 9.b**

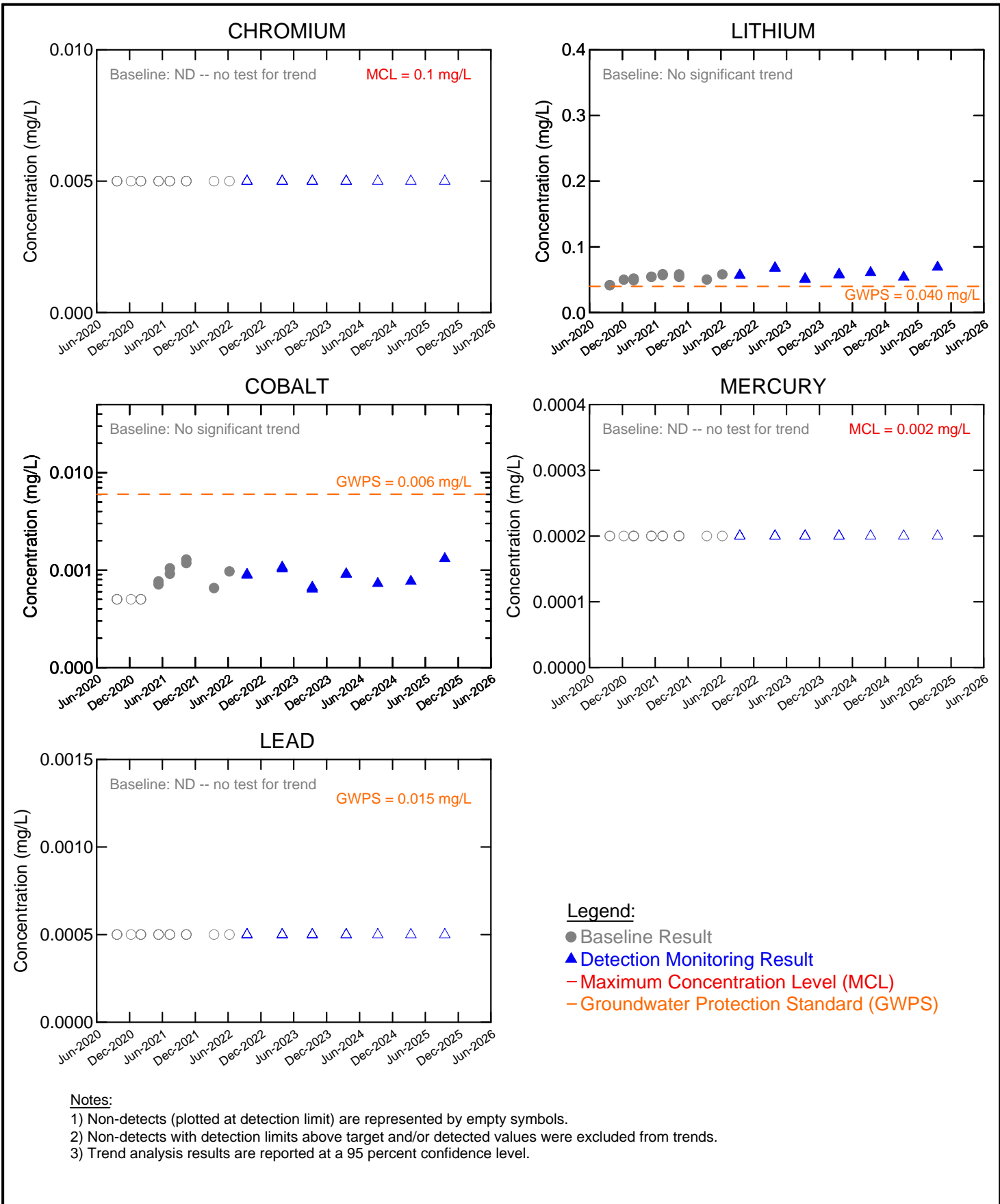


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-223S -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 9.c**



**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

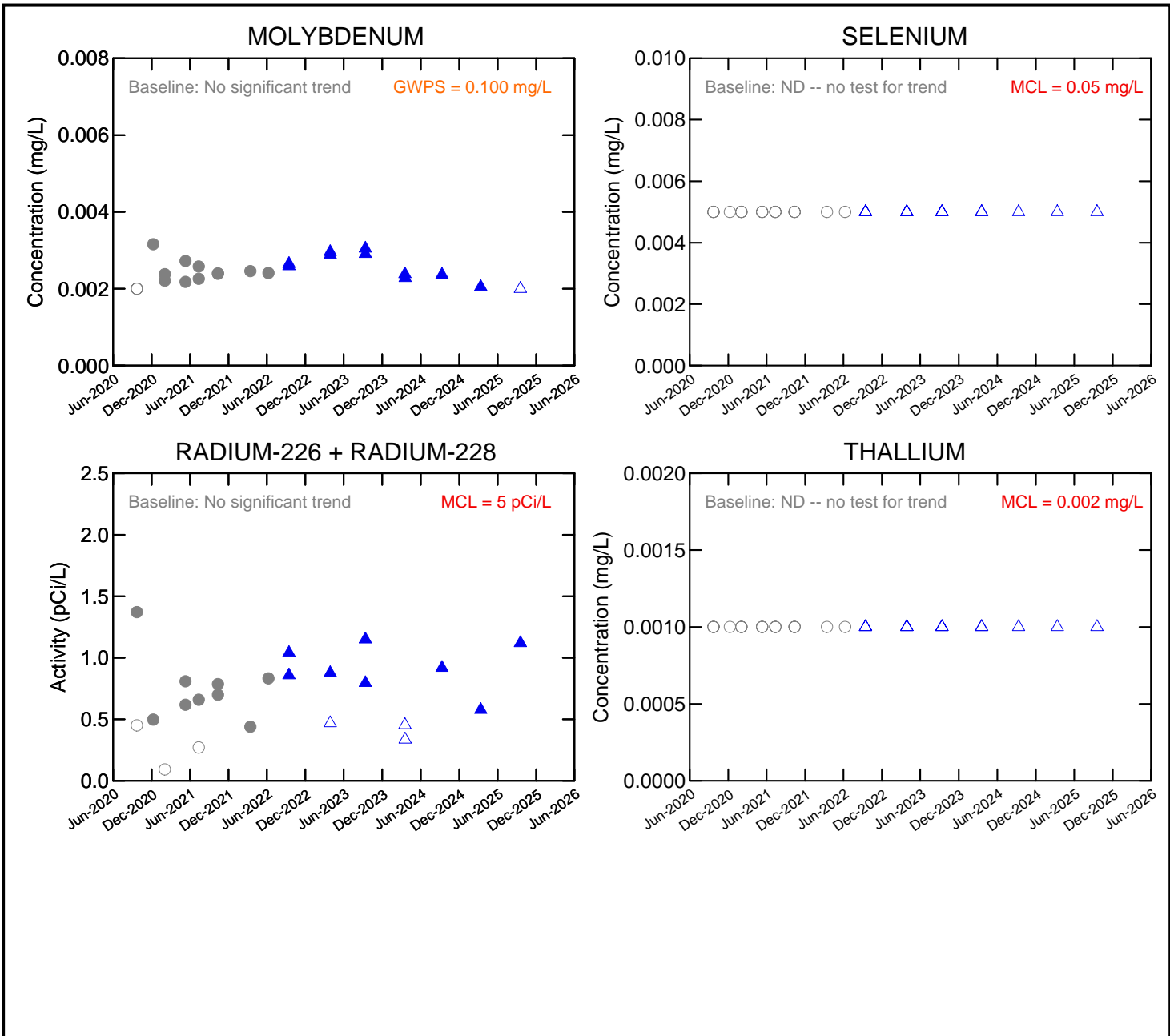


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-223S -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 9.d**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result
- Maximum Concentration Level (MCL)
- Groundwater Protection Standard (GWPS)

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

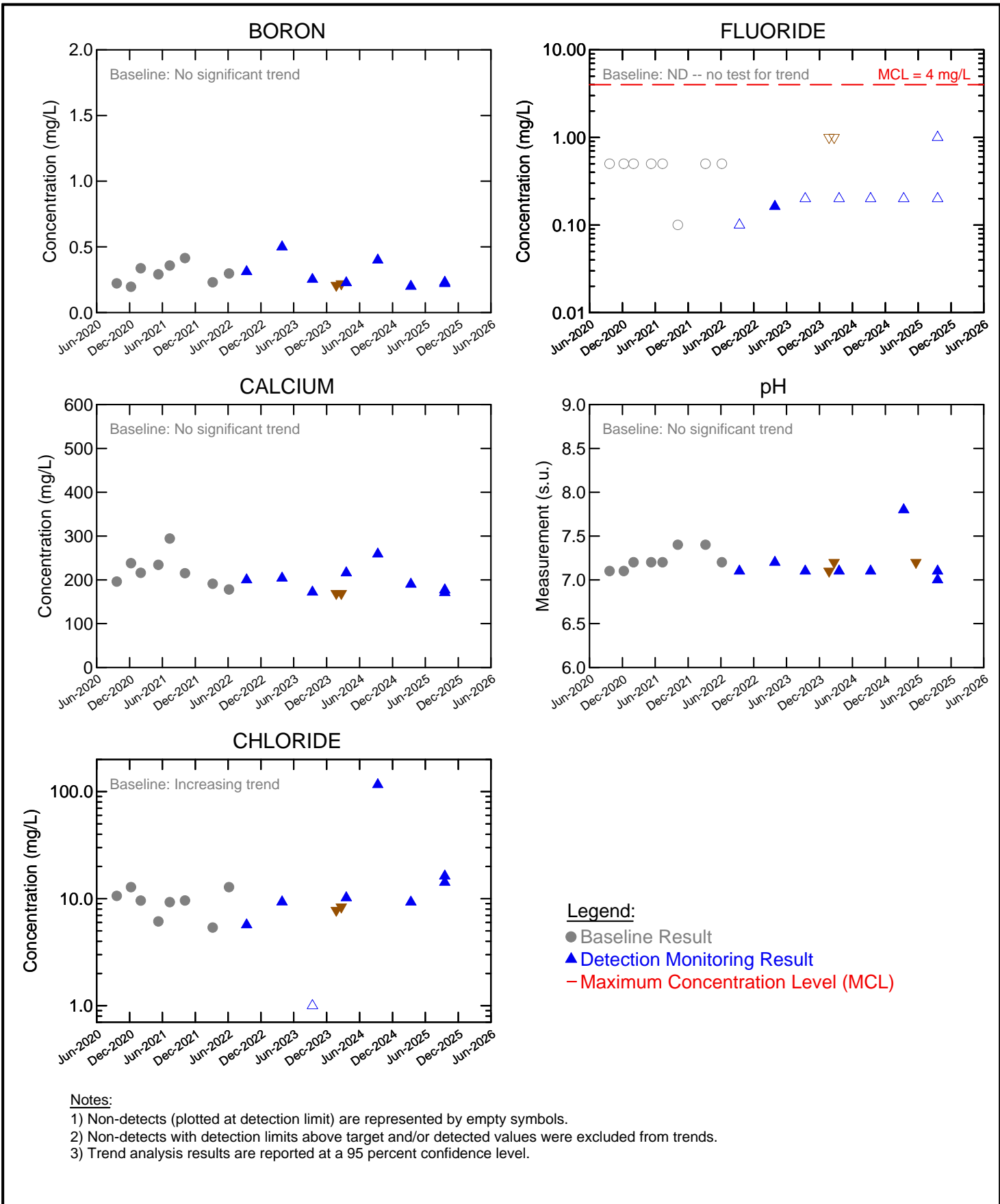


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-223S -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 9.e**

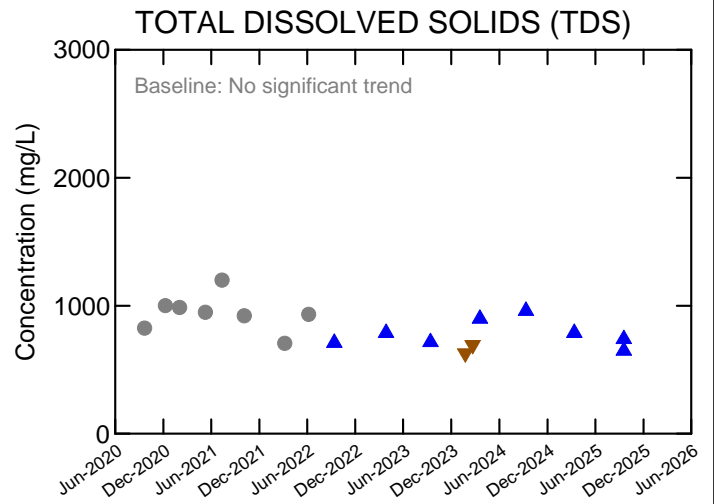
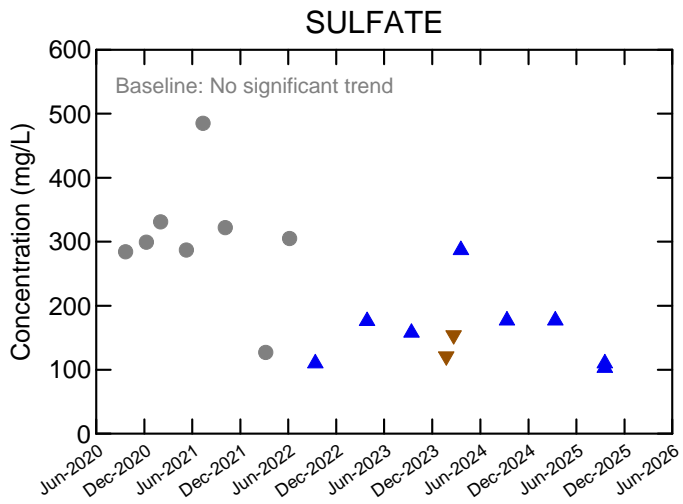


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-231S -- APPENDIX III PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 10.a**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.

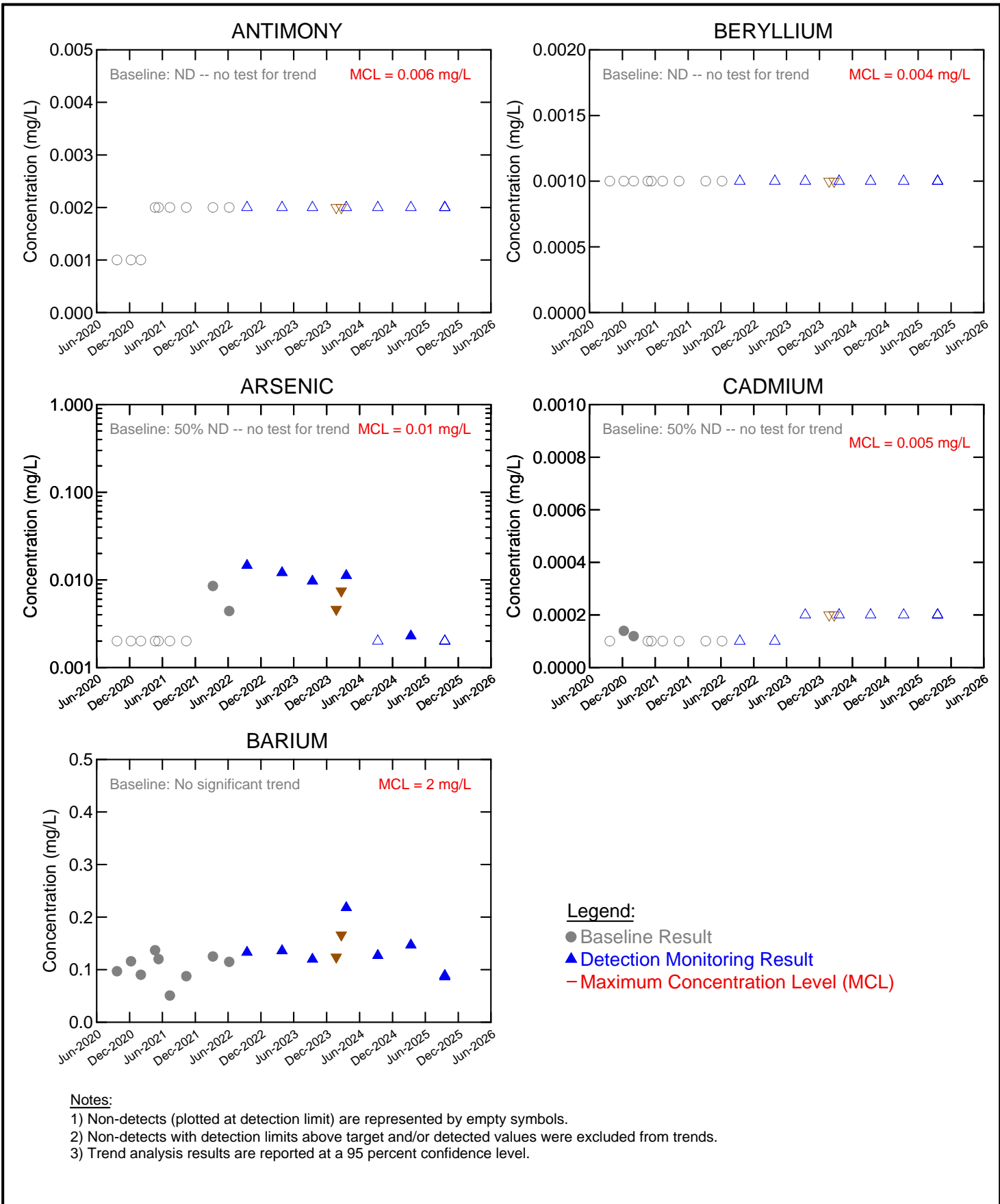


MidAmerican Energy Company  
Neal North CCR Closed Monofill  
Sergeant Bluff, Iowa

**MW-231S -- APPENDIX III PARAMETERS  
ANALYTE CONCENTRATION vs. TIME**

Project No. **12576482**  
Date: **Dec 3, 2025**

**FIGURE 10.b**

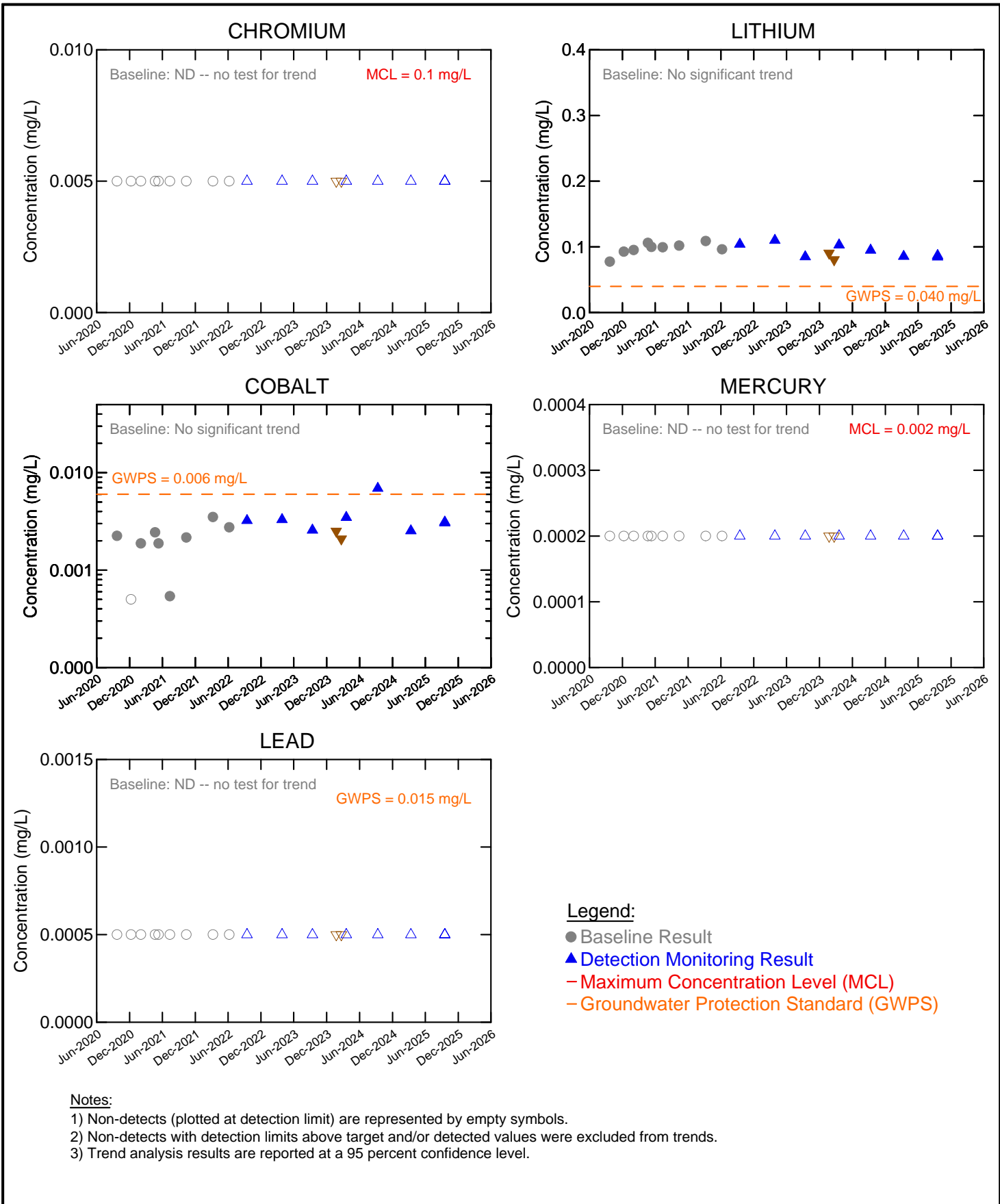


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-231S -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 10.c**

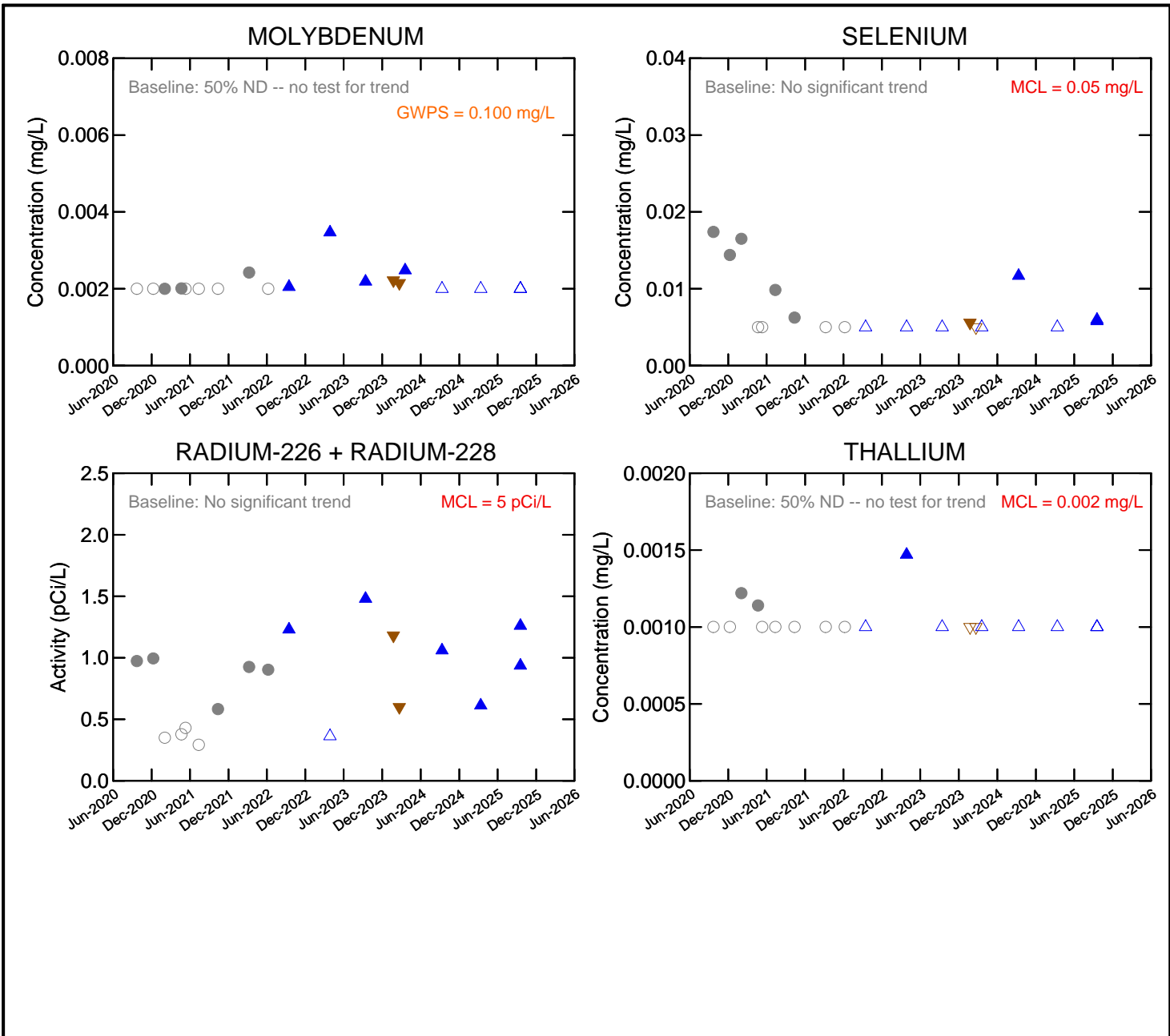


MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

Project No. 12576482  
 Date: Dec 3, 2025

**MW-231S -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

**FIGURE 10.d**



**Legend:**

- Baseline Result
- ▲ Detection Monitoring Result
- Maximum Concentration Level (MCL)
- Groundwater Protection Standard (GWPS)

**Notes:**

- 1) Non-detects (plotted at detection limit) are represented by empty symbols.
- 2) Non-detects with detection limits above target and/or detected values were excluded from trends.
- 3) Trend analysis results are reported at a 95 percent confidence level.



MidAmerican Energy Company  
 Neal North CCR Closed Monofill  
 Sergeant Bluff, Iowa

**MW-231S -- APPENDIX IV PARAMETERS  
 ANALYTE CONCENTRATION vs. TIME**

Project No. 12576482  
 Date: Dec 3, 2025

**FIGURE 10.e**

# **Appendix D**

## **Statistical Summary Tables**

**Baseline Period Groundwater Monitoring Data  
MidAmerican Energy Company  
Neal North Closed CCR Monofill  
Sergeant Bluff, Iowa**

Well	Date	Appendix III Parameters						
		Boron mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	pH, lab s.u.	Sulfate mg/L	TDS mg/L
<i>j) Upgradient Wells</i>								
MW-13/	09/21/2020	< 0.100	160	15.3	< 0.500	7.2 J	79.0	790
MW-13R	12/09/2020	0.139	205	15.3	< 0.500	7.4 J	74.9	862
	02/01/2021	--	--	--	--	--	--	--
	05/10/2021	--	--	--	--	--	--	--
	07/12/2021	0.114	158	35.9 J-	< 0.500 J	7.2 J	51.6	506
	10/05/2021	0.134	150	42.1	< 0.500	7.2 J	47.5	548
	03/08/2022	0.108 / 0.112	175 / 172	74.6 / 73.3	< 0.500 / < 0.500	7.2 J / 7.2 J	69.5 / 68.4	630 / 604
	06/07/2022	0.110 / 0.105	126 / 129	42.8 / 42.5	< 0.500 / < 0.500	7.3 J / 7.2 J	60.8 / 61.1	606 / 620
MW-27	09/21/2020	0.302	178	18.9	< 0.500	7.0 J	199	496
	12/09/2020	0.305	212	28.5	< 0.500	7.1 J	311	1160
	02/01/2021	0.272	170	22.9	< 0.500	7.1 J	259	1030
	05/10/2021	0.271	174	16.9	< 0.500	7.0 J	191	856
	07/12/2021	0.274	184	13.1 J-	< 0.500 J	7.1 J	100	662
	10/05/2021	0.243	162	17.7	< 0.500	7.1 J	175	760
	03/08/2022	0.251	166	15.2	< 0.500	7.3 J	144	698
	06/07/2022	0.203	118	11.8	< 0.500	7.2 J	101	622
MW-29/	09/21/2020	0.197	148	10.1	< 0.500	7.0 J	67.0	594
MW-29R	12/09/2020	0.183	167	10.6	< 0.500	7.2 J	69.8	676
	02/01/2021	--	--	--	--	--	--	--
	05/10/2021	--	--	--	--	--	--	--
	07/12/2021	0.230	209	9.75 J-	< 0.500 J	7.0 J	191	856
	10/05/2021	0.194	207	9.81	< 0.500	7.1 J	172	826
	03/08/2022	0.199	201	12.1	< 0.500	7.2 J	185	808
	06/07/2022	0.144	136	12.0	< 0.500	7.1 J	82.3	704
MW-223S	09/21/2020	< 0.100 / < 0.100	105 / 104	5.12 / < 5.00	< 0.500 / < 0.500	7.5 J / 7.5 J	32.9 / 32.9	240 / 290
	12/09/2020	< 0.100	127	7.15	< 0.500	7.4 J	44.9	524
	02/01/2021	< 0.100 / < 0.100	106 / 105	6.03 / 6.27	< 0.500 / < 0.500	7.6 J / 7.6 J	34.8 / 36.1	402 / 370
	05/10/2021	< 0.100 / < 0.100	120 / 116	< 5.00 / < 5.00	< 0.500 / < 0.500	7.6 J / 7.5 J	36.1 / 35.7	408 / 412
	07/12/2021	< 0.100 / < 0.100	112 / 119	6.40 J- / 6.26 J-	< 0.500 J / < 0.500 J	7.4 J / 7.5 J	43.3 / 43.1	352 / 392
	10/05/2021	0.112 / 0.121	129 / 126	5.25 / 5.24	< 0.100 / < 0.100	7.4 J / 7.9 J	113 / 113	470 / 464
	03/08/2022	0.103	117	< 5.00	< 0.500	7.4 J	35.6	366
	06/07/2022	< 0.100	114	5.58	< 0.500	7.5 J	81.8	514
MW-231S/	09/21/2020	0.222	196	10.6	< 0.500	7.1 J	284	824
MW-231SR	12/09/2020	0.196	238	12.8	< 0.500	7.1 J	299	1000
	02/01/2021	0.337	216	9.58	< 0.500	7.2 J	331	986
	05/10/2021	0.291	234	6.12	< 0.500	7.2 J	287	948
	07/12/2021	0.358	294	9.27 J-	< 0.500 J	7.2 J	485	1200
	10/05/2021	0.415	215	9.62	< 0.100	7.4 J	322	920
	03/08/2022	0.231	191	5.37	< 0.500	7.4 J	127	706
	06/07/2022	0.297	178	12.8	< 0.500	7.2 J	305	932

**Baseline Period Groundwater Monitoring Data  
MidAmerican Energy Company  
Neal North Closed CCR Monofill  
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Well	Date	Appendix III Parameters						
		Boron mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	pH, lab s.u.	Sulfate mg/L	TDS mg/L
<i>ii) Downgradient Wells</i>								
MW-1R	09/21/2020	0.417	127	27.9	< 0.500	7.3 J	222	804
	12/09/2020	0.402	155	28.4	< 0.500	7.2 J	220	902
	02/01/2021	0.398	132	28.4	< 0.500	7.6 J	217	830
	05/10/2021	0.370	145	27.4	0.808	7.2 J	242	824
	07/12/2021	0.412 J	151	31.7	< 0.500	7.3 J	209	834
	10/05/2021	0.342	137	68.0	< 0.500	7.3 J	204	750
	03/08/2022	0.384	167	33.2	< 0.500	7.3 J	262	908
	06/07/2022	0.361	149	40.1	< 0.500	7.2 J	215	816
MW-3R	09/21/2020	0.738	161	20.9	< 0.500	7.2 J	241	894
	12/09/2020	0.923 / 0.914	166 / 157	18.6 / 17.3	< 0.500 / < 0.500	7.1 J / 7.1 J	186 / 181	808 / 824
	02/01/2021	0.629	129	17.3	< 0.500	7.5 J	145	700
	05/10/2021	0.294	142	19.9	0.631	7.3 J	149	692
	07/12/2021	0.300 J	138	18.8	< 0.500	7.4 J	133	712
	10/05/2021	0.289	145	21.2	< 0.500	7.4 J	128	642
	03/08/2022	0.353	130	7.64	< 0.500	7.3 J	157	614
	06/07/2022	0.338	130	10.8	< 0.500	7.3 J	153	658
MW-5R	09/21/2020	0.233	92.8	9.02	< 0.500	7.3 J	130	512
	12/09/2020	0.243	112	8.71	< 0.500	7.2 J	138	632
	02/01/2021	0.289	117	9.92	< 0.500	7.5 J	169	640
	05/10/2021	0.177	126	8.33	0.675	7.2 J	168	626
	07/12/2021	0.182 J	112	8.97	< 0.500	7.3 J	124	528
	10/05/2021	0.189	109	8.94	< 0.500	7.4 J	109	470
	03/08/2022	0.287	175	13.1	< 0.500	7.4 J	340	918
	06/07/2022	0.418	158	11.3	< 0.500	7.2 J	315	892
MW-19	09/21/2020	0.589	350	19.0	< 0.500	6.7 J	984	2330
	12/09/2020	0.672	301	17.4	< 0.500	6.9 J	607	1570
	02/01/2021	0.654	349	19.0	< 0.500	7.1 J	851	1970
	05/10/2021	0.701	379	15.9	< 0.500	6.7 J	1000	2040
	07/12/2021	0.565 J	562	17.8	< 0.500	6.7 J	1040	2420
	10/05/2021	0.466	424	19.4	2.36	6.6 J	1140	2590
	03/08/2022	0.740	339	16.3	< 0.500	6.8 J	769	1780
	06/07/2022	0.634	372	17.8	< 0.500	6.8 J	911	1810
MW-21	09/21/2020	0.352	341	6.61	< 0.500	7.2 J	924	2020
	12/09/2020	0.359	438	7.63	< 0.500	6.8 J	1250	2520
	02/01/2021	0.391	480	7.30	< 0.500	7.2 J	658	2790
	05/10/2021	0.299	188	< 5.00	< 0.500	7.1 J	299	730
	07/12/2021	0.297 J	265	6.58	< 0.500	7.0 J	393	1030
	10/05/2021	0.301	397	6.12	2.85	6.9 J	1150	2270
	03/08/2022	0.474	464	6.88	< 0.500	6.8 J	1540	2470
	06/07/2022	0.345	509	7.11	< 0.500	6.8 J	1530	2490

**Baseline Period Groundwater Monitoring Data  
MidAmerican Energy Company  
Neal North Closed CCR Monofill  
Sergeant Bluff, Iowa**

Well	Date	Appendix IV Parameters				
		Antimony mg/L	Arsenic mg/L	Barium mg/L	Beryllium mg/L	Cadmium mg/L
<i>i) Upgradient Wells</i>						
MW-13/	09/21/2020	< 0.00100	< 0.00200	0.119	< 0.00100	< 0.000100
MW-13R	12/09/2020	< 0.00100	< 0.00200	0.221	< 0.00100	0.000227
	02/01/2021	--	--	--	--	--
	05/10/2021	--	--	--	--	--
	07/12/2021	< 0.00200	0.0382	0.253	< 0.00100	< 0.000100
	10/05/2021	< 0.00200	0.0472	0.236	< 0.00100	< 0.000100
	03/08/2022	< 0.00200 / < 0.00200	0.0512 / 0.0498	0.272 / 0.262	< 0.00100 / < 0.00100	< 0.000100 / < 0.000100
	06/07/2022	< 0.00200 / < 0.00200	0.0441 / 0.0457	0.262 / 0.262	< 0.00100 / < 0.00100	< 0.000100 / < 0.000100
MW-27	09/21/2020	< 0.00100	0.00527	0.0847	< 0.00100	0.000114
	12/09/2020	< 0.00100	0.00773	0.109	< 0.00100	< 0.000100
	02/01/2021	< 0.00100	0.00796	0.0876	< 0.00100	< 0.000100
	05/10/2021	< 0.00200	0.0146	0.106	< 0.00100	< 0.000100
	07/12/2021	< 0.00200	0.0101	0.109	< 0.00100	< 0.000100
	10/05/2021	< 0.00200	0.0202	0.103	< 0.00100	< 0.000100
	03/08/2022	< 0.00200	0.0310	0.107	< 0.00100	< 0.000100
	06/07/2022	< 0.00200	0.0414	0.123	< 0.00100	< 0.000100
MW-29/	09/21/2020	< 0.00100	< 0.00200	0.195	< 0.00100	< 0.000100
MW-29R	12/09/2020	< 0.00100	0.00762	0.226	< 0.00100	< 0.000100
	02/01/2021	--	--	--	--	--
	05/10/2021	--	--	--	--	--
	07/12/2021	< 0.00200	0.0206	0.289	< 0.00100	< 0.000100
	10/05/2021	< 0.00200	0.0273	0.271	< 0.00100	< 0.000100
	03/08/2022	< 0.00200	0.0314	0.268	< 0.00100	< 0.000100
	06/07/2022	< 0.00200	0.0320	0.255	< 0.00100	< 0.000100
MW-223S	09/21/2020	< 0.00100 / < 0.00100	< 0.00200 / < 0.00200	0.203 / 0.209	< 0.00100 / < 0.00100	< 0.000100 / < 0.000100
	12/09/2020	< 0.00100	0.00206	0.253	< 0.00100	0.000123
	02/01/2021	< 0.00100 / < 0.00100	0.00219 / 0.00220	0.233 / 0.236	< 0.00100 / < 0.00100	< 0.000100 / < 0.000100
	05/10/2021	< 0.00200 / < 0.00200	0.00302 / 0.00347	0.264 / 0.262	< 0.00100 / < 0.00100	< 0.000100 / < 0.000100
	07/12/2021	< 0.00200 / < 0.00200	0.00346 / 0.00403	0.258 / 0.281	< 0.00100 / < 0.00100	< 0.000100 / < 0.000100
	10/05/2021	< 0.00200 / < 0.00200	0.00698 / 0.00516	0.348 / 0.314	< 0.00100 / < 0.00100	< 0.000100 / < 0.000100
	03/08/2022	< 0.00200	0.00929	0.282	< 0.00100	< 0.000100
	06/07/2022	< 0.00200	0.00969	0.341	< 0.00100	< 0.000100
MW-231S/	09/21/2020	< 0.00100	< 0.00200	0.0969	< 0.00100	< 0.000100
MW-231SR	12/09/2020	< 0.00100	< 0.00200	0.116	< 0.00100	0.000139
	02/01/2021	< 0.00100	< 0.00200	0.0903	< 0.00100	0.000119
	05/10/2021	< 0.00200	< 0.00200	0.120	< 0.00100	< 0.000100
	07/12/2021	< 0.00200	< 0.00200	0.0508	< 0.00100	< 0.000100
	10/05/2021	< 0.00200	< 0.00200	0.0875	< 0.00100	< 0.000100
	03/08/2022	< 0.00200	0.00850	0.125	< 0.00100	< 0.000100
	06/07/2022	< 0.00200	0.00440	0.115	< 0.00100	< 0.000100

**Baseline Period Groundwater Monitoring Data  
MidAmerican Energy Company  
Neal North Closed CCR Monofill  
Sergeant Bluff, Iowa**

Well	Date	Appendix IV Parameters				
		Antimony mg/L	Arsenic mg/L	Barium mg/L	Beryllium mg/L	Cadmium mg/L
<i>ii) Downgradient Wells</i>						
MW-1R	09/21/2020	< 0.00100	0.0208	0.0668	< 0.00100	< 0.000100
	12/09/2020	< 0.00100	0.0379	0.0958	< 0.00100	< 0.000100
	02/01/2021	< 0.00100	0.0226	0.0855	< 0.00100	0.000409
	05/10/2021	< 0.00200	0.0140	0.0891	< 0.00100	< 0.000100
	07/12/2021	< 0.00200	0.0191	0.0925	< 0.00100	< 0.000100
	10/05/2021	< 0.00200	0.0221	0.0884	< 0.00100	< 0.000100
	03/08/2022	< 0.00200	0.0452	0.118	< 0.00100	< 0.000100
	06/07/2022	< 0.00200	0.0400	0.101	< 0.00100	< 0.000100
MW-3R	09/21/2020	< 0.00100	0.0314	0.211	< 0.00100	< 0.000100
	12/09/2020	< 0.00100 / < 0.00100	0.0368 / 0.0388	0.156 / 0.157	< 0.00100 / < 0.00100	< 0.000100 / < 0.000100
	02/01/2021	< 0.00100	0.0447	0.191	< 0.00100	0.000776
	05/10/2021	< 0.00200	0.0429	0.306	< 0.00100	< 0.000100
	07/12/2021	< 0.00200	0.0416	0.267	< 0.00100	< 0.000100
	10/05/2021	< 0.00200	0.0448	0.305	< 0.00100	< 0.000100
	03/08/2022	< 0.00200	0.0365	0.209	< 0.00100	< 0.000100
	06/07/2022	< 0.00200	0.0348	0.290	< 0.00100	< 0.000100
MW-5R	09/21/2020	< 0.00100	0.0335	0.165	< 0.00100	< 0.000100
	12/09/2020	< 0.00100	0.0279	0.142	< 0.00100	< 0.000100
	02/01/2021	< 0.00100	0.0446	0.195	< 0.00100	< 0.000100
	05/10/2021	< 0.00200	0.0337	0.206	< 0.00100	< 0.000100
	07/12/2021	< 0.00200	0.0351	0.182	< 0.00100	< 0.000100
	10/05/2021	< 0.00200	0.0347	0.180	< 0.00100	< 0.000100
	03/08/2022	< 0.00200	0.0378	0.278	< 0.00100	< 0.000100
	06/07/2022	< 0.00200	0.0345	0.161	< 0.00100	< 0.000100
MW-19	09/21/2020	< 0.00100	0.00413	0.0227	< 0.00100	< 0.000100
	12/09/2020	< 0.00100	< 0.00200	0.0251	< 0.00100	< 0.000100
	02/01/2021	< 0.00100	0.00367	0.0208	< 0.00100	< 0.000100
	05/10/2021	< 0.00200	0.00415	0.0221	< 0.00100	< 0.000100
	07/12/2021	< 0.00200	0.00821	0.0214	< 0.00100	< 0.000100
	10/05/2021	< 0.00200	0.00523	0.0207	< 0.00100	< 0.000100
	03/08/2022	< 0.00200	0.00357	0.0230	< 0.00100	< 0.000100
	06/07/2022	< 0.00200	0.00340	0.0229	< 0.00100	< 0.000100
MW-21	09/21/2020	< 0.00100	< 0.00200	0.0290	< 0.00100	0.000173
	12/09/2020	< 0.00100	< 0.00200	0.0301	< 0.00100	< 0.000100
	02/01/2021	< 0.00400	< 0.00200	0.0280	< 0.00100	< 0.000100
	05/10/2021	< 0.00200	< 0.00200	0.0561	< 0.00100	< 0.000100
	07/12/2021	< 0.00200	< 0.00200	0.0639	< 0.00100	< 0.000100
	10/05/2021	< 0.00200	< 0.00200	0.0372	< 0.00100	0.000121
	03/08/2022	< 0.00200	< 0.00200	0.0222	< 0.00100	< 0.000100
	06/07/2022	< 0.00200	< 0.00200	0.0187	< 0.00100	< 0.000100

**Baseline Period Groundwater Monitoring Data  
MidAmerican Energy Company  
Neal North Closed CCR Monofill  
Sergeant Bluff, Iowa**

Well	Date	Appendix IV Parameters			
		Chromium mg/L	Cobalt mg/L	Lead mg/L	Lithium mg/L
<i>i) Upgradient Wells</i>					
MW-13/	09/21/2020	< 0.00500	< 0.000500	< 0.000500	0.0982
MW-13R	12/09/2020	< 0.00500	< 0.000500	< 0.000500	0.130
	02/01/2021	--	--	--	--
	05/10/2021	--	--	--	--
	07/12/2021	< 0.00500	0.00335	< 0.000500	0.0806
	10/05/2021	< 0.00500	0.00125	< 0.000500	0.0582
	03/08/2022	< 0.00500 / < 0.00500	0.00137 / 0.00141	< 0.000500 / < 0.000500	0.0900 / 0.0868
	06/07/2022	< 0.00500 / < 0.00500	0.00110 / 0.00107	< 0.000500 / < 0.000500	0.0841 / 0.0816
MW-27	09/21/2020	< 0.00500	0.00154	< 0.000500	0.196
	12/09/2020	< 0.00500	0.00142	< 0.000500	0.243
	02/01/2021	< 0.00500	0.00102	< 0.000500	0.187
	05/10/2021	< 0.00500	0.000977	< 0.000500	0.169
	07/12/2021	< 0.00500	0.000940	< 0.000500	0.187
	10/05/2021	< 0.00500	0.000759	< 0.000500	0.115
	03/08/2022	< 0.00500	0.000666	< 0.000500	0.159
	06/07/2022	< 0.00500	0.000699	< 0.000500	0.118
MW-29/	09/21/2020	< 0.00500	< 0.000500	< 0.000500	0.0934
MW-29R	12/09/2020	< 0.00500	0.00269	< 0.000500	0.112
	02/01/2021	--	--	--	--
	05/10/2021	--	--	--	--
	07/12/2021	< 0.00500	0.00694	< 0.000500	0.131
	10/05/2021	< 0.00500	0.00442	< 0.000500	0.0865
	03/08/2022	< 0.00500	0.00354	< 0.000500	0.126
	06/07/2022	< 0.00500	0.00254	< 0.000500	0.101
MW-223S	09/21/2020	< 0.00500 / < 0.00500	< 0.000500 / < 0.000500	< 0.000500 / < 0.000500	0.0416 / 0.0418
	12/09/2020	< 0.00500	< 0.000500	< 0.000500	0.0500
	02/01/2021	< 0.00500 / < 0.00500	< 0.000500 / < 0.000500	< 0.000500 / < 0.000500	0.0492 / 0.0517
	05/10/2021	< 0.00500 / < 0.00500	0.000712 / 0.000764	< 0.000500 / < 0.000500	0.0544 / 0.0545
	07/12/2021	< 0.00500 / < 0.00500	0.00104 / 0.000914	< 0.000500 / < 0.000500	0.0584 / 0.0572
	10/05/2021	< 0.00500 / < 0.00500	0.00128 / 0.00118	< 0.000500 / < 0.000500	0.0544 / 0.0581
	03/08/2022	< 0.00500	0.000653	< 0.000500	0.0504
	06/07/2022	< 0.00500	0.000969	< 0.000500	0.0581
MW-231S/	09/21/2020	< 0.00500	0.00225	< 0.000500	0.0776
MW-231SR	12/09/2020	< 0.00500	< 0.000500	< 0.000500	0.0929
	02/01/2021	< 0.00500	0.00188	< 0.000500	0.0952
	05/10/2021	< 0.00500	0.00188	< 0.000500	0.100
	07/12/2021	< 0.00500	0.000539	< 0.000500	0.0994
	10/05/2021	< 0.00500	0.00216	< 0.000500	0.102
	03/08/2022	< 0.00500	0.00351	< 0.000500	0.109
	06/07/2022	< 0.00500	0.00275	< 0.000500	0.0964

**Baseline Period Groundwater Monitoring Data  
MidAmerican Energy Company  
Neal North Closed CCR Monofill  
Sergeant Bluff, Iowa**

Well	Date	Appendix IV Parameters			
		Chromium mg/L	Cobalt mg/L	Lead mg/L	Lithium mg/L
<i>ii) Downgradient Wells</i>					
MW-1R	09/21/2020	< 0.00500	0.00104	< 0.000500	0.0656
	12/09/2020	< 0.00500	0.000998	< 0.000500	0.0813
	02/01/2021	< 0.00500	0.000747	< 0.000500	0.0747
	05/10/2021	< 0.00500	< 0.000500	< 0.000500	0.0711
	07/12/2021	< 0.00500	0.000595	< 0.000500	0.0755
	10/05/2021	< 0.00500	< 0.000500	< 0.000500	0.0503
	03/08/2022	< 0.00500	< 0.000500	< 0.000500	0.0812
	06/07/2022	< 0.00500	< 0.000500	< 0.000500	0.0709
MW-3R	09/21/2020	< 0.00500	0.000848	< 0.000500	0.0854
	12/09/2020	< 0.00500 / < 0.00500	0.00161 / 0.00155	< 0.000500 / < 0.000500	0.0982 / 0.0969
	02/01/2021	< 0.00500	0.00131	0.00160	0.0877
	05/10/2021	< 0.00500	0.000526	< 0.000500	0.0837
	07/12/2021	< 0.00500	0.000647	< 0.000500	0.0844
	10/05/2021	< 0.00500	< 0.000500	< 0.000500	0.0615
	03/08/2022	< 0.00500	< 0.000500	< 0.000500	0.0854
	06/07/2022	< 0.00500	< 0.000500	< 0.000500	0.0793
MW-5R	09/21/2020	< 0.00500	< 0.000500	< 0.000500	0.0565
	12/09/2020	< 0.00500	0.000604	< 0.000500	0.0649
	02/01/2021	< 0.00500	0.000550	< 0.000500	0.0695
	05/10/2021	< 0.00500	0.000613	< 0.000500	0.0717
	07/12/2021	< 0.00500	0.000543	< 0.000500	0.0697
	10/05/2021	< 0.00500	< 0.000500	< 0.000500	0.0489
	03/08/2022	< 0.00500	0.000730	< 0.000500	0.0808
	06/07/2022	< 0.00500	0.000613	< 0.000500	0.0723
MW-19	09/21/2020	< 0.00500	0.0107	< 0.000500	0.222
	12/09/2020	< 0.00500	0.00389	< 0.000500	0.239
	02/01/2021	< 0.00500	0.00890	< 0.000500	0.273
	05/10/2021	< 0.00500	0.0103	< 0.000500	0.245
	07/12/2021	< 0.00500	0.0225	< 0.000500	0.300
	10/05/2021	< 0.00500	0.0121	< 0.000500	0.200
	03/08/2022	< 0.00500	0.00806	0.000747	0.254
	06/07/2022	< 0.00500	0.00845	< 0.000500	0.254
MW-21	09/21/2020	< 0.00500	0.000510	< 0.000500	0.244
	12/09/2020	< 0.00500	0.000956	< 0.000500	0.316
	02/01/2021	< 0.00500	0.00664	< 0.000500	0.332
	05/10/2021	< 0.00500	< 0.000500	< 0.000500	0.188
	07/12/2021	< 0.00500	< 0.000500	< 0.000500	0.233
	10/05/2021	< 0.00500	< 0.000500	< 0.000500	0.208
	03/08/2022	< 0.00500	0.00397	0.000899	0.334
	06/07/2022	< 0.00500	0.00151	< 0.000500	0.321

**Baseline Period Groundwater Monitoring Data  
MidAmerican Energy Company  
Neal North Closed CCR Monofill  
Sergeant Bluff, Iowa**

Well	Date	Appendix IV Parameters				
		Mercury mg/L	Molybdenum mg/L	Radium-226 & 228 pCi/L	Selenium mg/L	Thallium mg/L
<i>j) Upgradient Wells</i>						
MW-13/	09/21/2020	< 0.000200	0.00231	< 0.595	0.0982	< 0.00100
MW-13R	12/09/2020	< 0.000200	< 0.00200	0.735	0.111	< 0.00100
	02/01/2021	--	--	--	--	--
	05/10/2021	--	--	--	--	--
	07/12/2021	< 0.000200	0.00420	1.53	< 0.00500	< 0.00100
	10/05/2021	< 0.000200	0.00286	1.12	< 0.00500	< 0.00100
	03/08/2022	< 0.000200 / < 0.000200	0.00321 / 0.00309	0.794 / 1.16	< 0.00500 / < 0.00500	< 0.00100 / < 0.00100
	06/07/2022	< 0.000200 / < 0.000200	0.00359 / 0.00407	1.22 / 0.878	< 0.00500 / < 0.00500	< 0.00100 / < 0.00100
MW-27	09/21/2020	< 0.000200	< 0.00200	1.02	< 0.00500	< 0.00100
	12/09/2020	< 0.000200	< 0.00200	0.728	< 0.00500	< 0.00100
	02/01/2021	< 0.000200	< 0.00200	0.675	< 0.00500	< 0.00100
	05/10/2021	< 0.000200	< 0.00200	0.573	< 0.00500	< 0.00100
	07/12/2021	< 0.000200	< 0.00200	0.898	< 0.00500	< 0.00100
	10/05/2021	< 0.000200	< 0.00200	0.803	< 0.00500	< 0.00100
	03/08/2022	< 0.000200	< 0.00200	1.14	< 0.00500	< 0.00100
	06/07/2022	< 0.000200	< 0.00200	< 0.361	< 0.00500	< 0.00100
MW-29/	09/21/2020	< 0.000200	< 0.00200	1.67	< 0.00500	< 0.00100
MW-29R	12/09/2020	< 0.000200	< 0.00200	0.579	< 0.00500	< 0.00100
	02/01/2021	--	--	--	--	--
	05/10/2021	--	--	--	--	--
	07/12/2021	< 0.000200	0.00335	1.79	< 0.00500	< 0.00100
	10/05/2021	< 0.000200	< 0.00200	0.865	< 0.00500	< 0.00100
	03/08/2022	< 0.000200	< 0.00200	1.18	< 0.00500	< 0.00100
	06/07/2022	< 0.000200	< 0.00200	1.33	< 0.00500	< 0.00100
MW-223S	09/21/2020	< 0.000200 / < 0.000200	< 0.00200 / < 0.00200	1.37 / < 0.449	< 0.00500 / < 0.00500	< 0.00100 / < 0.00100
	12/09/2020	< 0.000200	0.00316	0.497	< 0.00500	< 0.00100
	02/01/2021	< 0.000200 / < 0.000200	0.00238 / 0.00221	< 0.0912 / < -0.0527	< 0.00500 / < 0.00500	< 0.00100 / < 0.00100
	05/10/2021	< 0.000200 / < 0.000200	0.00218 / 0.00272	0.618 / 0.808	< 0.00500 / < 0.00500	< 0.00100 / < 0.00100
	07/12/2021	< 0.000200 / < 0.000200	0.00226 / 0.00258	0.658 / < 0.270	< 0.00500 / < 0.00500	< 0.00100 / < 0.00100
	10/05/2021	< 0.000200 / < 0.000200	0.00239 / 0.00240	0.698 / 0.785	< 0.00500 / < 0.00500	< 0.00100 / < 0.00100
	03/08/2022	< 0.000200	0.00246	0.438	< 0.00500	< 0.00100
	06/07/2022	< 0.000200	0.00241	0.832	< 0.00500	< 0.00100
MW-231S/	09/21/2020	< 0.000200	< 0.00200	0.973	0.0174	< 0.00100
MW-231SR	12/09/2020	< 0.000200	< 0.00200	0.994	0.0144	< 0.00100
	02/01/2021	< 0.000200	0.00200	< 0.349	0.0165	0.00122
	05/10/2021	< 0.000200	< 0.00200	< 0.429	< 0.00500	< 0.00100
	07/12/2021	< 0.000200	< 0.00200	< 0.291	0.00984	< 0.00100
	10/05/2021	< 0.000200	< 0.00200	0.582	0.00624	< 0.00100
	03/08/2022	< 0.000200	0.00242	0.925	< 0.00500	< 0.00100
	06/07/2022	< 0.000200	< 0.00200	0.902	< 0.00500	< 0.00100

**Baseline Period Groundwater Monitoring Data  
MidAmerican Energy Company  
Neal North Closed CCR Monofill  
Sergeant Bluff, Iowa**

Well	Date	Appendix IV Parameters				
		Mercury mg/L	Molybdenum mg/L	Radium-226 & 228 pCi/L	Selenium mg/L	Thallium mg/L
<i>ii) Downgradient Wells</i>						
MW-1R	09/21/2020	< 0.000200	0.00394	1.58	< 0.00500	< 0.00100
	12/09/2020	< 0.000200	0.00421	< 0.460	< 0.00500	< 0.00100
	02/01/2021	< 0.000200	0.00554	< 0.484	< 0.00500	< 0.00100
	05/10/2021	< 0.000200	0.00527	< -0.0461	< 0.00500	< 0.00100
	07/12/2021	< 0.000200	0.00568	0.379	< 0.00500	< 0.00100
	10/05/2021	< 0.000200	0.00464	< 0.0779	< 0.00500	< 0.00100
	03/08/2022	< 0.000200	0.00425	0.757	< 0.00500	< 0.00100
	06/07/2022	< 0.000200	0.00526	0.822	< 0.00500	< 0.00100
MW-3R	09/21/2020	< 0.000200	< 0.00200	1.15	< 0.00500	< 0.00100
	12/09/2020	< 0.000200 / < 0.000200	< 0.00200 / < 0.00200	< 0.235 / 1.23	< 0.00500 / < 0.00500	< 0.00100 / < 0.00100
	02/01/2021	< 0.000200	0.00651	0.764	< 0.00500	0.00694
	05/10/2021	< 0.000200	0.00212	0.707	< 0.00500	< 0.00100
	07/12/2021	< 0.000200	0.00240	0.878	< 0.00500	< 0.00100
	10/05/2021	< 0.000200	0.00210	< 0.470	< 0.00500	< 0.00100
	03/08/2022	< 0.000200	0.00212	0.504	< 0.00500	< 0.00100
	06/07/2022	< 0.000200	0.00219	1.15	< 0.00500	< 0.00100
MW-5R	09/21/2020	< 0.000200	0.00394	< 0.683	< 0.00500	< 0.00100
	12/09/2020	< 0.000200	0.00394	< 0.274	< 0.00500	< 0.00100
	02/01/2021	< 0.000200	0.00448	< -0.0292	< 0.00500	< 0.00100
	05/10/2021	< 0.000200	0.00401	0.732	< 0.00500	< 0.00100
	07/12/2021	< 0.000200	0.00423	0.734	< 0.00500	< 0.00100
	10/05/2021	< 0.000200	0.00363	0.669	< 0.00500	< 0.00100
	03/08/2022	< 0.000200	0.00355	0.608	< 0.00500	< 0.00100
	06/07/2022	< 0.000200	0.00383	< 0.491	< 0.00500	< 0.00100
MW-19	09/21/2020	< 0.000200	< 0.00200	0.920	< 0.00500	< 0.00100
	12/09/2020	< 0.000200	< 0.00200	< 0.383	< 0.00500	< 0.00100
	02/01/2021	< 0.000200	< 0.00200	0.720	< 0.00500	< 0.00100
	05/10/2021	< 0.000200	< 0.00200	< 0.123	< 0.00500	< 0.00100
	07/12/2021	< 0.000200	< 0.00200	0.662	< 0.00500	< 0.00100
	10/05/2021	< 0.000200	< 0.00200	0.815	< 0.00500	< 0.00100
	03/08/2022	< 0.000200	< 0.00200	0.777	< 0.00500	< 0.00100
	06/07/2022	< 0.000200	< 0.00200	< 0.456	< 0.00500	< 0.00100
MW-21	09/21/2020	< 0.000200	< 0.00200	1.17	< 0.00500	< 0.00100
	12/09/2020	< 0.000200	< 0.00200	< 0.471	< 0.00500	< 0.00100
	02/01/2021	< 0.000200	< 0.00200	< 0.120	< 0.00500	< 0.00100
	05/10/2021	< 0.000200	< 0.00200	< 0.291	0.0398	< 0.00100
	07/12/2021	< 0.000200	< 0.00200	0.546	0.00549	< 0.00100
	10/05/2021	< 0.000200	< 0.00200	0.696	< 0.00500	< 0.00100
	03/08/2022	< 0.000200	< 0.00200	0.353	< 0.00500	< 0.00100
	06/07/2022	< 0.000200	< 0.00200	0.626	< 0.00500	< 0.00100

Table D.2

**2025 Monitoring Analytical Results Summary  
MidAmerican Energy Company  
Neal North Closed CCR Monofill  
Sergeant Bluff, Iowa**

Sample Location:	MW-1R	MW-1R	MW-1R	MW-1R	MW-3R	MW-3R	MW-5R	MW-5R	MW-5R	
Sample ID:	MW01R-GW-0325	DP05-GW-0325	MW01R-GW-0925	DP05-GW-0925	MW03R-GW-0325	MW03R-GW-0925	MW05R-GW-0325	MW05R-GW-0525	MW05R-GW-0925	
Sample Date:	3/17/2025	3/17/2025	9/19/2025	9/19/2025	3/17/2025	9/19/2025	3/17/2025	5/20/2025	9/19/2025	
Parameters	Units	(Duplicate)	(Duplicate)	(Duplicate)	(Duplicate)	(Duplicate)	(Duplicate)	(Duplicate)	(Duplicate)	
<b>Appendix III</b>										
Boron	mg/L	0.45	0.46	0.415	0.388	0.55	0.474	0.37	--	0.208
Calcium	mg/L	170	170	155	152	150	132	160	--	109
Chloride	mg/L	37	37	53.8	53.3	6.7	8.02	10	--	9.06
Fluoride	mg/L	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	--	1.00 U
pH, lab	s.u.	7.7 J	7.7 J	7.7 J	7.7 J	7.7 J	7.7 J	7.7 J	7.3 J	7.7 J
Sulfate	mg/L	230	230	189	192	170	166	320	--	121
Total dissolved solids (TDS)	mg/L	940	970	890	876	760	680	930	--	556
<b>Appendix IV</b>										
Antimony	mg/L	0.0020 U	0.0020 U	0.00200 U	0.00200 U	0.0020 U	0.00200 U	0.0020 U	--	0.00200 U
Arsenic	mg/L	0.054	0.056	0.0528	0.0532	0.042	0.0372	0.031	--	0.0286
Barium	mg/L	0.12	0.12	0.101	0.100	0.20	0.195	0.14	--	0.0972
Beryllium	mg/L	0.0010 U	0.0010 U	0.00100 U	0.00100 U	0.0010 U	0.00100 U	0.0010 U	--	0.00100 U
Cadmium	mg/L	0.00020 U	0.00020 U	0.000200 U	0.000200 U	0.00020 U	0.000200 U	0.00020 U	--	0.000200 U
Chromium	mg/L	0.0050 U	0.0050 U	0.00500 U	0.00500 U	0.0050 U	0.00500 U	0.0050 U	--	0.00500 U
Cobalt	mg/L	0.00057	0.00059	0.000500 U	0.000500 U	0.00064	0.000530	0.00055	--	0.000500 U
Lead	mg/L	0.00050 U	0.00050 U	0.000500 U	0.000500 U	0.00050 U	0.000500 U	0.00050 U	--	0.000500 U
Lithium	mg/L	0.087	0.089	0.0806	0.0802	0.087	0.0802	0.074	--	0.0686
Mercury	mg/L	0.00020 U	0.00020 U	0.000200 U	0.000200 U	0.00020 U	0.000200 U	0.00020 U	--	0.000200 U
Molybdenum	mg/L	0.0034	0.0036	0.00478	0.00452	0.0019 J	0.00241	0.0036	--	0.00445
Selenium	mg/L	0.0050 U	0.0050 U	0.00500 U	0.00500 U	0.0050 U	0.00500 U	0.0050 U	--	0.00500 U
Thallium	mg/L	0.0010 U	0.0010 U	0.00100 U	0.00100 U	0.0010 U	0.00100 U	0.0010 U	--	0.00100 U
Radium-226 & 228	pCi/L	0.468	0.924	0.863	0.574	0.855	1.03	0.646	--	0.609
<b>Other</b>										
Iron	mg/L	--	--	--	--	--	--	--	--	--
Iron (dissolved)	mg/L	--	--	--	--	--	--	--	--	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--
Manganese (dissolved)	mg/L	--	--	--	--	--	--	--	--	--
Radium-226	pCi/L	0.174	0.242	0.138	0.00452	0.0432	0.0188	0.0855	--	0.160
Radium-228	pCi/L	0.293	0.682	0.725	0.570	0.812	1.01	0.561	--	0.449
Nitrate (as N)	mg/L	--	--	--	--	--	--	--	--	--
Total organic carbon (TOC)	mg/L	--	--	--	--	--	--	--	--	--

Table D.2

**2025 Monitoring Analytical Results Summary**  
**MidAmerican Energy Company**  
**Neal North Closed CCR Monofill**  
**Sergeant Bluff, Iowa**

Sample Location:	MW-13	MW-13	MW-19	MW-19	MW-19	MW-21	MW-21	MW-21	MW-27	MW-27	
Sample ID:	MW13R-GW-0325	MW13R-GW-0925	MW19-GW-0325	MW19-GW-0525	MW19-GW-0925	MW21-GW-0325	MW21-GW-0525	MW21-GW-0925	MW27-GW-0325	MW27-GW-0925	
Sample Date:	3/11/2025	9/17/2025	3/17/2025	5/19/2025	9/19/2025	3/17/2025	5/19/2025	9/19/2025	3/12/2025	9/16/2025	
Parameters	Units										
<b>Appendix III</b>											
Boron	mg/L	0.136	0.131	0.64	--	0.554	0.46	--	0.348	0.228	0.274
Calcium	mg/L	147	141	420	--	364	560	441	437	157	160
Chloride	mg/L	17.3	11.0	20	--	19.3	6.7	--	6.51	24.5	15.5
Fluoride	mg/L	1.00 U	1.00 U	1.0 U	--	1.00 U	1.0 U	--	1.00 U	1.00 U	1.00 U
pH, lab	s.u.	7.8 J	7.1 J	7.4 J	6.6 J	7.3 J	7.4 J	6.8 J	7.4 J	7.8 J	7.1 J
Sulfate	mg/L	38.7	47.4	1000	--	854	1600	1690	1180	81.1	53.7
Total dissolved solids (TDS)	mg/L	580	540	2300	--	2130	3000	2730	2350	692	658
<b>Appendix IV</b>											
Antimony	mg/L	0.00200 U	0.00200 U	0.0020 U	--	0.00200 U	0.0011 J	--	0.00200 U	0.00200 U	0.00200 U
Arsenic	mg/L	0.0592	0.0503	0.0054	--	0.00443	0.00068 J	--	0.00200 U	0.0613	0.0759
Barium	mg/L	0.226	0.217	0.023	--	0.0189	0.019	--	0.0174	0.158	0.183
Beryllium	mg/L	0.00100 U	0.00100 U	0.0010 U	--	0.00100 U	0.0010 U	--	0.00100 U	0.00100 U	0.00100 U
Cadmium	mg/L	0.000200 U	0.000200 U	0.00020 U	--	0.000200 U	0.00029	--	0.000245	0.000200 U	0.000200 U
Chromium	mg/L	0.00500 U	0.00500 U	0.0050 U	--	0.00500 U	0.0050 U	--	0.00500 U	0.00500 U	0.00500 U
Cobalt	mg/L	0.00102	0.000946	0.015	--	0.00858	0.00082	--	0.000500 U	0.000635	0.000796
Lead	mg/L	0.000500 U	0.000500 U	0.00050 U	--	0.000500 U	0.00050 U	--	0.000500 U	0.000500 U	0.000500 U
Lithium	mg/L	0.0846	0.0743	0.28	--	0.257	0.35	--	0.308	0.110	0.106
Mercury	mg/L	0.000200 U	0.000200 U	0.00020 U	--	0.000200 U	0.00020 U	--	0.000200 U	0.000200 U	0.000200 U
Molybdenum	mg/L	0.00377	0.00445	0.0020 U	--	0.00200 U	0.0020 U	--	0.00200 U	0.00200 U	0.00200 U
Selenium	mg/L	0.00500 U	0.00500 U	0.0050 U	--	0.00500 U	0.0038 J	--	0.0153	0.00500 U	0.00500 U
Thallium	mg/L	0.00100 U	0.00100 U	0.0010 U	--	0.00100 U	0.0010 U	--	0.00100 U	0.00100 U	0.00100 U
Radium-226 & 228	pCi/L	0.828	1.09	0.801	--	0.899	0.622	--	0.810	0.257	1.25
<b>Other</b>											
Iron	mg/L	--	--	--	--	--	--	--	--	--	--
Iron (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	--
Manganese (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Radium-226	pCi/L	0.296	0.491	0.0840	--	0.0656	-0.0938	--	-0.0294	0.217	0.217
Radium-228	pCi/L	0.532	0.595	0.717	--	0.833	0.716	--	0.840	0.0400	1.03
Nitrate (as N)	mg/L	--	--	--	--	--	--	--	--	--	--
Total organic carbon (TOC)	mg/L	--	--	--	--	--	--	--	--	--	--

Table D.2

**2025 Monitoring Analytical Results Summary**  
**MidAmerican Energy Company**  
**Neal North Closed CCR Monofill**  
**Sergeant Bluff, Iowa**

Sample Location:	MW-29	MW-29	MW-29	MW-223S	MW-223S	MW-231S	MW-231S	MW-231S	MW-231S	
Sample ID:	MW29R-GW-0325	DP01-GW-0325	MW29R-GW-0925	MW223S-GW-0325	MW223S-GW-0925	MW231SR-GW-0325	MW231SR-GW-0525	MW231SR-GW-0925	DP01-GW-0925	
Sample Date:	3/12/2025	3/12/2025 (Duplicate)	9/16/2025	3/13/2025	9/17/2025	3/13/2025	5/20/2025	9/17/2025	9/17/2025 (Duplicate)	
Parameters	Units									
<b>Appendix III</b>										
Boron	mg/L	0.158	0.156	0.173	0.142	0.180	0.200	--	0.221	0.231
Calcium	mg/L	187	190	203	130	200	190	--	171	177
Chloride	mg/L	12.0	9.49	8.73	15.2	22.8	9.30	--	16.3	14.2
Fluoride	mg/L	1.00 U	1.00 U	1.00 U	0.200 U	0.200 U	0.200 U	--	0.200 U	1.00 U
pH, lab	s.u.	7.7 J	7.7 J	7.0 J	7.6 J	7.0 J	7.8 J	7.2 J	7.0 J	7.1 J
Sulfate	mg/L	140	136	133	88.5	222	177	--	110	103
Total dissolved solids (TDS)	mg/L	774	768	850	510	778	788	--	740	648
<b>Appendix IV</b>										
Antimony	mg/L	0.00200 U	0.00200 U	0.00200 U	0.00200 U	0.00200 U	0.00200 U	--	0.00200 U	0.00200 U
Arsenic	mg/L	0.0240	0.0241	0.0281	0.0116	0.0503	0.00229	--	0.00200 U	0.00200 U
Barium	mg/L	0.213	0.222	0.240	0.166	0.240	0.147	--	0.0865	0.0890
Beryllium	mg/L	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U	--	0.00100 U	0.00100 U
Cadmium	mg/L	0.000200 U	0.000200 U	0.000200 U	0.000200 U	0.000200 U	0.000200 U	--	0.000200 U	0.000200 U
Chromium	mg/L	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	--	0.00500 U	0.00500 U
Cobalt	mg/L	0.00280	0.00285	0.00250	0.000767	0.00131	0.00253	--	0.00305	0.00311
Lead	mg/L	0.000500 U	0.000500 U	0.000500 U	0.000500 U	0.000500 U	0.000500 U	--	0.000500 U	0.000500 U
Lithium	mg/L	0.0957	0.0968	0.0941	0.0540	0.0692	0.0856	--	0.0846	0.0869
Mercury	mg/L	0.000200 U	0.000200 U	0.000200 U	0.000200 U	0.000200 U	0.000200 U	--	0.000200 U	0.000200 U
Molybdenum	mg/L	0.00200 U	0.00200 U	0.00200 U	0.00205	0.00200 U	0.00200 U	--	0.00200 U	0.00200 U
Selenium	mg/L	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	--	0.00580	0.00597
Thallium	mg/L	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U	0.00100 U	--	0.00100 U	0.00100 U
Radium-226 & 228	pCi/L	0.696	0.568	1.29	0.577	1.12	0.612	--	1.26	0.936
<b>Other</b>										
Iron	mg/L	--	--	--	5.79	17.3	6.38	--	2.66	--
Iron (dissolved)	mg/L	--	--	--	4.20	7.78	5.53	--	2.75	--
Manganese	mg/L	--	--	--	2.59	3.24	1.07	--	0.889	--
Manganese (dissolved)	mg/L	--	--	--	2.95	3.09	1.21	--	0.912	--
Radium-226	pCi/L	0.178	0.164	0.260	0.159	0.205	0.258	--	0.318	0.197
Radium-228	pCi/L	0.519	0.403	1.03	0.418	0.914	0.354	--	0.945	0.739
Nitrate (as N)	mg/L	--	--	--	0.200 U	0.200 U	0.200 U	--	0.225	--
Total organic carbon (TOC)	mg/L	--	--	--	2.81	3.48	3.73	--	3.62	--

## Footnotes:

U Not detected at the associated reporting limit.

J Estimated concentration.

UJ Not detected; associated reporting limit is estimated.

Table D.3

**Inter-Well Comparison Values**  
**(Statistical Upper Tolerance Limits based on Data from Upgradient Wells)**  
**MidAmerican Energy Company**  
**Neal North Closed CCR Monofill**  
**Sergeant Bluff, Iowa**

Analyte	Unit	Date Range	N	%ND	Summary Statistics		Statistical Outliers	Data Distribution	Mann-Kendal Trend Test			Method	Upper Tolerance Limits	
					Minimum (mg/L)	Maximum (mg/L)			Stat.	Prob.	Conclusion		95/95 UTL (mg/L)	99/95 UTL (mg/L)
<b>Appendix III</b>														
Boron	mg/L	9/2020 - 6/2022	36	19%	< 0.100	0.415	0	Normal	-0.67	0.748	No trend	KM Normal	0.386	0.457
Calcium	mg/L	9/2020 - 6/2022	36	0%	104	294	0	Normal	-1.95	0.974	No trend	Normal	264	300
Chloride	mg/L	9/2020 - 6/2022	36	6%	< 5.00	74.6	2	Lognormal	-0.76	0.776	No trend	KM Approx. Lognormal	49.4	84.9
Fluoride	mg/L	9/2020 - 6/2022	36	100%	< 0.100	< 0.500	3	--	--	--	100% ND	Detection Limit	< 0.500	< 0.500
pH, lab	s.u.	9/2020 - 6/2022	36	0%	7.0 J	7.9 J	0	--	2.36	0.009	Increasing	--	7.0 J - 7.9 J	7.0 J - 7.9 J
Sulfate	mg/L	9/2020 - 6/2022	36	0%	32.9	485	1	Gamma	-0.44	0.670	No trend	WH Approx. Gamma (KM)	481	708
TDS	mg/L	9/2020 - 6/2022	36	0%	240	1200	0	Normal	-0.82	0.793	No trend	Normal	1206	1397
<b>Appendix IV</b>														
Antimony	mg/L	9/2020 - 6/2022	36	100%	< 0.00100	< 0.00200	0	--	--	--	100% ND	Detection Limit	< 0.00200	< 0.00200
Arsenic	mg/L	9/2020 - 6/2022	36	28%	< 0.00200	0.0512	0	--	5.96	1E-09	Increasing	--	< 0.00200 - 0.0512	< 0.00200 - 0.0512
Barium	mg/L	9/2020 - 6/2022	36	0%	0.0508	0.348	0	--	3.28	0.001	Increasing	--	0.0508 - 0.348	0.0508 - 0.348
Beryllium	mg/L	9/2020 - 6/2022	36	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	Detection Limit	< 0.00100	< 0.00100
Cadmium	mg/L	9/2020 - 6/2022	36	86%	< 0.000100	0.000227	3	Not Normal	--	--	>50% ND	Non-parametric	0.000227	0.000227
Chromium	mg/L	9/2020 - 6/2022	36	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	Detection Limit	< 0.00500	< 0.00500
Cobalt	mg/L	9/2020 - 6/2022	36	19%	< 0.000500	0.00694	0	Normal	0.25	0.400	No trend	KM Approx. Normal	0.00456	0.00568
Lead	mg/L	9/2020 - 6/2022	36	100%	< 0.000500	< 0.000500	0	--	--	--	100% ND	Detection Limit	< 0.000500	< 0.000500
Lithium	mg/L	9/2020 - 6/2022	36	0%	0.0416	0.243	0	Normal	0.76	0.225	No trend	Approx. Normal	0.205	0.244
Mercury	mg/L	9/2020 - 6/2022	36	100%	< 0.000200	< 0.000200	0	--	--	--	100% ND	Detection Limit	< 0.000200	< 0.000200
Molybdenum	mg/L	9/2020 - 6/2022	36	58%	< 0.00200	0.0042	0	Normal	--	--	No trend	KM Approx. Normal	0.00351	0.00396
Radium-226 & 228	pCi/L	9/2020 - 6/2022	36	17%	< -0.0527	1.79	0	Normal	0.06	0.475	No trend	KM Normal	1.76	2.14
Selenium	mg/L	9/2020 - 6/2022	36	81%	< 0.00500	0.111	3	Lognormal	--	--	No trend	KM Approx. Lognormal	0.033	0.061
Thallium	mg/L	9/2020 - 6/2022	36	97%	< 0.00100	0.00122	0	Not Normal	--	--	>50% ND	Non-parametric	0.00122	0.00122

## Notes:

< 100 - Not detected at the associated reporting limit.

7.0 J - Estimated concentration.

Data distribution was determined by ProUCL using detects only.

Statistic: calculated as the sum of the signs of all possible pair-wise data comparisons.

Probability of significance: A value less than 0.05 indicates greater than 95 percent confidence of a statistically significant trend.

UTLs were calculated using pooled data from Upgradient wells MW-13, MW-27, MW-29, MW-223S, and MW-231S.

Non-parametric UTLs with 36 baseline samples have an actual confidence coefficient of 0.84 (i.e., 84 percent confidence) at 95 percent coverage.

Non-parametric UTLs with 36 baseline samples have an actual confidence coefficient of 0.304 (i.e., 30 percent confidence) at 99 percent coverage.

KM - UTLs were calculated using Kaplan-Meyer estimates for non-detects.

WH - UTLs were calculated using gamma distribution and the Wilson-Hilferty method.

TDS - Total dissolved solids.

**Intra-Well Comparison Values**  
**(Upper Tolerance Limits based on Baseline Period Data at each Well)**  
**MidAmerican Energy Company**  
**Neal North Closed CCR Monofill**  
**Sergeant Bluff, Iowa**

Well	Analyte	Date Range	N	%ND	Summary Statistics		Statistical Outliers	Data Distribution	Mann-Kendall Trend Test			Sen's Slope	Upper Tolerance Limits		
					Minimum	Maximum			Stat.	Prob.	Conclusion		Method	95/95 UTL	99/95 UTL
<b>MW-13/MW-13R (Upgradient)</b>															
<b>Appendix III</b>															
	Boron	9/2020 - 6/2022	6	17%	< 0.100	0.139	1	Normal	-3	0.72	No trend	--	KM Normal	0.17	0.189
	Calcium	9/2020 - 6/2022	6	0%	127.5	205	0	Normal	-7	0.272	No trend	--	Normal	258	293
	Chloride	9/2020 - 6/2022	6	0%	15.3	73.95	0	Normal	12	0.036	Increasing	0.07	--	15.3 - 73.9	15.3 - 73.9
	Fluoride	9/2020 - 6/2022	6	100%	< 0.500	< 0.500	0	--	--	--	100% ND	--	Detection Limit	< 0.500	< 0.500
	pH, lab	9/2020 - 6/2022	6	0%	7.2 J	7.4 J	1	Normal	1	1.000	No trend	--	Normal	6.94 - 7.54	6.84 - 7.65
	Sulfate	9/2020 - 6/2022	6	0%	47.5	79	0	Normal	-7	0.272	No trend	--	Normal	111	128
	TDS	9/2020 - 6/2022	6	0%	506	862	0	Normal	-3	0.72	No trend	--	Normal	1175	1364
<b>Appendix IV</b>															
	Antimony	9/2020 - 6/2022	6	100%	< 0.00100	< 0.00200	0	--	--	--	100% ND	--	Detection Limit	< 0.00200	< 0.00200
	Arsenic	9/2020 - 6/2022	6	33%	< 0.00200	0.0505	0	Normal	10	0.096	No trend	--	KM Normal	0.108	0.136
	Barium	9/2020 - 6/2022	6	0%	0.119	0.267	1	Normal	11	0.056	No trend	--	Normal	0.431	0.506
	Beryllium	9/2020 - 6/2022	6	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100
	Cadmium	9/2020 - 6/2022	6	83%	< 0.000100	0.000227	1	Not Normal	--	--	>50% ND	--	Non-parametric	0.000227	0.000227
	Chromium	9/2020 - 6/2022	6	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500
	Cobalt	9/2020 - 6/2022	6	33%	< 0.000500	0.00335	1	Normal	4	0.595	No trend	--	KM Normal	0.0049	0.0062
	Lead	9/2020 - 6/2022	6	100%	< 0.000500	< 0.000500	0	--	--	--	100% ND	--	Detection Limit	< 0.000500	< 0.000500
	Lithium	9/2020 - 6/2022	6	0%	0.0582	0.13	0	Normal	-5	0.470	No trend	--	Normal	0.178	0.210
	Mercury	9/2020 - 6/2022	6	100%	< 0.000200	< 0.000200	0	--	--	--	100% ND	--	Detection Limit	< 0.000200	< 0.000200
	Molybdenum	9/2020 - 6/2022	6	17%	< 0.00200	0.0042	0	Normal	7	0.272	No trend	--	KM Normal	0.00594	0.00699
	Radium-226 & 228	9/2020 - 6/2022	6	17%	< 0.595	1.53	0	Normal	5	0.470	No trend	--	KM Normal	2.11	2.51
	Selenium	9/2020 - 6/2022	6	67%	< 0.00500	0.111	0	Not Normal	--	--	>50% ND	--	Non-parametric	0.111	0.111
	Thallium	9/2020 - 6/2022	6	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100
<b>MW-27 (Upgradient)</b>															
<b>Appendix III</b>															
	Boron	9/2020 - 6/2022	8	0%	0.203	0.305	0	Normal	-20	0.014	Decreasing	-0.0001	--	0.203 - 0.305	0.203 - 0.305
	Calcium	9/2020 - 6/2022	8	0%	118	212	2	Normal	-7	0.272	No trend	--	Normal	254	285
	Chloride	9/2020 - 6/2022	8	0%	11.8	28.5	0	Normal	12	0.036	Increasing	0.07	--	11.8 - 28.5	11.8 - 28.5
	Fluoride	9/2020 - 6/2022	8	100%	< 0.500	< 0.500	0	--	--	--	100% ND	--	Detection Limit	< 0.500	< 0.500
	pH, lab	9/2020 - 6/2022	8	0%	7.0 J	7.3 J	0	Normal	1	1.000	No trend	--	Normal	6.80 - 7.43	6.68 - 7.54
	Sulfate	9/2020 - 6/2022	8	0%	100	311	0	Normal	-7	0.272	No trend	--	Normal	419	504
	TDS	9/2020 - 6/2022	8	0%	496	1160	0	Normal	-3	0.720	No trend	--	Normal	1487	1744

**Intra-Well Comparison Values  
(Upper Tolerance Limits based on Baseline Period Data at each Well)  
MidAmerican Energy Company  
Neal North Closed CCR Monofill  
Sergeant Bluff, Iowa**

Well	Analyte	Date Range	N	%ND	Summary Statistics		Statistical Outliers	Data Distribution	Mann-Kendall Trend Test			Sen's Slope	Upper Tolerance Limits		
					Minimum	Maximum			Stat.	Prob.	Conclusion		Method	95/95 UTL	99/95 UTL
<b>Appendix IV</b>															
	Antimony	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00200	0	--	--	--	100% ND	--	Detection Limit	< 0.00200	< 0.00200
	Arsenic	9/2020 - 6/2022	8	0%	0.00527	0.0414	0	Normal	10	0.096	No trend	--	Normal	0.058	0.073
	Barium	9/2020 - 6/2022	8	0%	0.0847	0.123	0	Normal	11	0.056	No trend	--	Normal	0.143	0.157
	Beryllium	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100
	Cadmium	9/2020 - 6/2022	8	88%	< 0.000100	0.000114	1	Not Normal	--	--	>50% ND	--	Non-parametric	0.000114	0.000114
	Chromium	9/2020 - 6/2022	8	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500
	Cobalt	9/2020 - 6/2022	8	0%	0.000666	0.00154	0	Normal	4	0.595	No trend	--	Normal	0.00203	0.00241
	Lead	9/2020 - 6/2022	8	100%	< 0.000500	< 0.000500	0	--	--	--	100% ND	--	Detection Limit	< 0.000500	< 0.000500
	Lithium	9/2020 - 6/2022	8	0%	0.115	0.243	0	Normal	-5	0.470	No trend	--	Normal	0.306	0.355
	Mercury	9/2020 - 6/2022	8	100%	< 0.000200	< 0.000200	0	--	--	--	100% ND	--	Detection Limit	< 0.000200	< 0.000200
	Molybdenum	9/2020 - 6/2022	8	100%	< 0.00200	< 0.00200	0	--	7	0.272	100% ND	--	Detection Limit	< 0.00200	< 0.00200
	Radium-226 & 228	9/2020 - 6/2022	8	13%	< 0.361	1.14	0	Normal	5	0.470	No trend	--	KM Normal	1.52	1.79
	Selenium	9/2020 - 6/2022	8	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500
	Thallium	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100
<b>MW-29/MW-29R (Upgradient)</b>															
<b>Appendix III</b>															
	Boron	9/2020 - 6/2022	6	0%	0.144	0.23	0	Normal	-3	0.720	No trend	--	Normal	0.295	0.333
	Calcium	9/2020 - 6/2022	6	0%	136	209	0	Normal	-7	0.272	No trend	--	Normal	297	340
	Chloride	9/2020 - 6/2022	6	0%	9.75 J-	12.1	0	Normal	12	0.036	<b>Increasing</b>	0.071	--	9.75 J - 12.1	9.75 J - 12.1
	Fluoride	9/2020 - 6/2022	6	100%	< 0.500	< 0.500	0	--	--	--	100% ND	--	Detection Limit	< 0.500	< 0.500
	pH, lab	9/2020 - 6/2022	6	0%	7.0 J	7.2 J	0	Normal	1	1	No trend	--	Normal	6.77 - 7.43	6.65 - 7.55
	Sulfate	9/2020 - 6/2022	6	0%	67	191	0	Normal	-7	0.272	No trend	--	Normal	353	435
	TDS	9/2020 - 6/2022	6	0%	594	856	0	Normal	-3	0.720	No trend	--	Normal	1122	1261
<b>Appendix IV</b>															
	Antimony	9/2020 - 6/2022	6	100%	< 0.00100	< 0.00200	0	--	--	--	100% ND	--	Detection Limit	< 0.00200	< 0.00200
	Arsenic	9/2020 - 6/2022	6	17%	< 0.00200	0.032	0	Normal	10	0.096	No trend	--	KM Normal	0.0631	0.0788
	Barium	9/2020 - 6/2022	6	0%	0.195	0.289	0	Normal	11	0.056	No trend	--	Normal	0.378	0.425
	Beryllium	9/2020 - 6/2022	6	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100
	Cadmium	9/2020 - 6/2022	6	100%	< 0.000100	< 0.000100	0	--	--	--	100% ND	--	Detection Limit	< 0.000100	< 0.000100
	Chromium	9/2020 - 6/2022	6	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500
	Cobalt	9/2020 - 6/2022	6	17%	< 0.000500	0.00694	0	Normal	4	0.595	No trend	--	KM Normal	0.0107	0.0134
	Lead	9/2020 - 6/2022	6	100%	< 0.000500	< 0.000500	0	--	--	--	100% ND	--	Detection Limit	< 0.000500	< 0.000500
	Lithium	9/2020 - 6/2022	6	0%	0.0865	0.131	0	Normal	-5	0.470	No trend	--	Normal	0.17449258	0.198664857
	Mercury	9/2020 - 6/2022	6	100%	< 0.000200	< 0.000200	0	--	--	--	100% ND	--	Detection Limit	< 0.000200	< 0.000200
	Molybdenum	9/2020 - 6/2022	6	83%	< 0.00200	0.00335	1	Not Normal	7	0.272	>50% ND	--	Non-parametric	0.00335	0.00335
	Radium-226 & 228	9/2020 - 6/2022	6	0%	0.579	1.79	0	Normal	5	0.470	No trend	--	Normal	2.96	3.58
	Selenium	9/2020 - 6/2022	6	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500
	Thallium	9/2020 - 6/2022	6	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100

**Intra-Well Comparison Values**  
**(Upper Tolerance Limits based on Baseline Period Data at each Well)**  
**MidAmerican Energy Company**  
**Neal North Closed CCR Monofill**  
**Sergeant Bluff, Iowa**

Well	Analyte	Date Range	N	%ND	Summary Statistics		Statistical Outliers	Data Distribution	Mann-Kendall Trend Test			Sen's Slope	Upper Tolerance Limits		
					Minimum	Maximum			Stat.	Prob.	Conclusion		Method	95/95 UTL	99/95 UTL
<b>MW-223S</b> <b>(Upgradient)</b>	<b>Appendix III</b>														
	Boron	9/2020 - 6/2022	8	75%	ND(0.1)	0.1165	0	Not Normal	--	--	>50% ND	--	Non-parametric	0.1165	0.1165
	Calcium	9/2020 - 6/2022	8	0%	104.5	127.5	0	Normal	-7	0.272	No trend	--	Normal	143	153
	Chloride	9/2020 - 6/2022	8	25%	< 5.00	7.15	0	Normal	12	0.036	<b>Increasing</b>	0.071	--	< 5.00 - 7.15	< 5.00 - 7.15
	Fluoride	9/2020 - 6/2022	8	100%	< 0.100	< 0.500	1	--	--	--	100% ND	--	Detection Limit	< 0.500	< 0.500
	pH, lab	9/2020 - 6/2022	8	0%	7.4 J	7.65	0	Normal	1	1.00	No trend	--	Normal	7.22 - 7.79	7.11 - 7.90
	Sulfate	9/2020 - 6/2022	8	0%	32.9	113	0	Normal	-7	0.272	No trend	--	Normal	145	179
	TDS	9/2020 - 6/2022	8	0%	265	524	0	Normal	-3	0.720	No trend	--	Normal	688	788
	<b>Appendix IV</b>														
	Antimony	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00200	0	--	--	--	100% ND	--	Detection Limit	< 0.00200	< 0.00200
	Arsenic	9/2020 - 6/2022	8	13%	< 0.00200	0.00969	0	Normal	10	0.096	No trend	--	KM Normal	0.0143	0.0178
	Barium	9/2020 - 6/2022	8	0%	0.206	0.341	0	Normal	11	0.056	No trend	--	Normal	0.418	0.471
	Beryllium	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100
	Cadmium	9/2020 - 6/2022	8	88%	< 0.000100	0.000123	1	Not Normal	--	--	>50% ND	--	Non-parametric	0.000123	0.000123
	Chromium	9/2020 - 6/2022	8	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500
	Cobalt	9/2020 - 6/2022	8	38%	< 0.000500	0.00123	0	Normal	4	0.595	No trend	--	KM Normal	0.00158	0.00188
	Lead	9/2020 - 6/2022	8	100%	< 0.000500	< 0.000500	0	--	--	--	100% ND	--	Detection Limit	< 0.000500	< 0.000500
	Lithium	9/2020 - 6/2022	8	0%	0.0417	0.0581	0	Normal	-5	0.470	No trend	--	Normal	0.070	0.076
	Mercury	9/2020 - 6/2022	8	100%	< 0.000200	< 0.000200	0	--	--	--	100% ND	--	Detection Limit	< 0.000200	< 0.000200
Molybdenum	9/2020 - 6/2022	8	13%	< 0.00200	0.00316	2	Not Normal	7	0.272	No trend	--	Non-parametric	0.00316	0.00316	
Radium-226 & 228	9/2020 - 6/2022	8	13%	< 0.01925	1.37	1	Normal	5	0.470	No trend	--	KM Normal	1.80	2.22	
Selenium	9/2020 - 6/2022	8	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500	
Thallium	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100	
<b>MW-231S/MW-231SR</b> <b>(Upgradient)</b>	<b>Appendix III</b>														
	Boron	9/2020 - 6/2022	8	0%	0.196	0.415	0	Normal	10	0.276	No trend	--	Normal	0.532	0.620
	Calcium	9/2020 - 6/2022	8	0%	178	294	0	Normal	-7	0.272	No trend	--	Normal	336	378
	Chloride	9/2020 - 6/2022	8	0%	5.37	12.8	0	Normal	12	0.036	<b>Increasing</b>	0.071	--	5.37 - 12.8	5.37 - 12.8
	Fluoride	9/2020 - 6/2022	8	100%	< 0.100	< 0.500	1	--	--	--	100% ND	--	Detection Limit	< 0.500	< 0.500
	pH, lab	9/2020 - 6/2022	8	0%	7.1 J	7.4 J	0	Not Normal	1	1.00	No trend	--	Non-parametric	7.1 J - 7.4 J	7.1 J - 7.4 J
	Sulfate	9/2020 - 6/2022	8	0%	127	485	2	Normal	-7	0.272	No trend	--	Normal	614	727
	TDS	9/2020 - 6/2022	8	0%	706	1200	0	Normal	-3	0.720	No trend	--	Normal	1394	1560

**Intra-Well Comparison Values**  
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Well	Analyte	Date Range	N	%ND	Summary Statistics		Statistical Outliers	Data Distribution	Mann-Kendall Trend Test			Sen's Slope	Upper Tolerance Limits				
					Minimum	Maximum			Stat.	Prob.	Conclusion		Method	95/95 UTL	99/95 UTL		
	<b>Appendix IV</b>																
	Antimony	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00200	0	--	--	--	100% ND	--	Detection Limit	< 0.00200	< 0.00200		
	Arsenic	9/2020 - 6/2022	8	75%	< 0.00200	0.0085	0	Not Normal	10	0.096	>50% ND	--	Non-parametric	0.0085	0.0085		
	Barium	9/2020 - 6/2022	8	0%	0.0508	0.125	0	Normal	11	0.056	No trend	--	Normal	0.178	0.207		
	Beryllium	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100		
	Cadmium	9/2020 - 6/2022	8	75%	< 0.000100	0.000139	0	Not Normal	--	--	>50% ND	--	Non-parametric	0.000139	0.000139		
	Chromium	9/2020 - 6/2022	8	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500		
	Cobalt	9/2020 - 6/2022	8	13%	< 0.000500	0.00351	0	Normal	4	0.595	No trend	--	KM Normal	0.00498	0.0061		
	Lead	9/2020 - 6/2022	8	100%	< 0.000500	< 0.000500	0	--	--	--	100% ND	--	Detection Limit	< 0.000500	< 0.000500		
	Lithium	9/2020 - 6/2022	8	0%	0.0776	0.109	1	Normal	-5	0.470	No trend	--	Normal	0.126	0.136		
	Mercury	9/2020 - 6/2022	8	100%	< 0.000200	< 0.000200	0	--	--	--	100% ND	--	Detection Limit	< 0.000200	< 0.000200		
	Molybdenum	9/2020 - 6/2022	8	75%	< 0.00200	0.00242	0	Not Normal	7	0.272	>50% ND	--	Non-parametric	0.00242	0.00242		
	Radium-226 & 228	9/2020 - 6/2022	8	38%	< 0.291	0.994	0	Normal	5	0.470	No trend	--	KM Normal	1.63	1.99		
	Selenium	9/2020 - 6/2022	8	38%	< 0.00500	0.0174	0	Normal	--	--	No trend	--	KM Normal	0.0261	0.032		
	Thallium	9/2020 - 6/2022	8	88%	< 0.00100	0.00122	1	Not Normal	--	--	>50% ND	--	Non-parametric	0.00122	0.00122		
MW-1R	<b>Appendix III</b>																
	Boron	9/2020 - 6/2022	8	0%	0.342	0.417	0	Normal	-16	0.062	No trend	--	Normal	0.470	0.500		
	Calcium	9/2020 - 6/2022	8	0%	127	167	0	Normal	10	0.276	No trend	--	Normal	187	202		
	Chloride	9/2020 - 6/2022	8	0%	27.4	68	1	Not Normal	17	0.047	<b>Increasing</b>	0.017	--	27.4 - 68	27.4 - 68		
	Fluoride	9/2020 - 6/2022	8	88%	< 0.500	0.808	1	Not Normal	--	--	>50% ND	--	Non-parametric	0.808	0.808		
	pH, lab	9/2020 - 6/2022	8	0%	7.2 J	7.6 J	1	Normal	-3	0.812	No trend	--	Normal	6.88 - 7.72	6.73 - 7.87		
	Sulfate	9/2020 - 6/2022	8	0%	204	262	0	Normal	-6	0.548	No trend	--	Normal	285	307		
	TDS	9/2020 - 6/2022	8	0%	750	908	0	Normal	0	1.000	No trend	--	Normal	997	1057		
		<b>Appendix IV</b>															
		Antimony	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00200	0	--	--	--	100% ND	--	Detection Limit	< 0.00200	< 0.00200	
		Arsenic	9/2020 - 6/2022	8	0%	0.014	0.0452	0	Normal	8	0.398	No trend	--	Normal	0.064	0.078	
		Barium	9/2020 - 6/2022	8	0%	0.0668	0.118	0	Normal	14	0.108	No trend	--	Normal	0.138	0.155	
		Beryllium	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100	
		Cadmium	9/2020 - 6/2022	8	88%	< 0.000100	0.000409	1	Not Normal	--	--	>50% ND	--	Non-parametric	0.000409	0.000409	
		Chromium	9/2020 - 6/2022	8	100%	< 0.00500	< 0.00500	0	100% ND	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500	
Cobalt		9/2020 - 6/2022	8	50%	< 0.000500	0.00104	0	Not Normal	-20	0.014	<b>Decreasing</b>	-2E-06	--	< 0.000500 - 0.00104	< 0.000500 - 0.00104		
Lead		9/2020 - 6/2022	8	100%	< 0.000500	< 0.000500	0	--	--	--	100% ND	--	Detection Limit	< 0.000500	< 0.000500		
Lithium		9/2020 - 6/2022	8	0%	0.0503	0.0813	0	Normal	-2	0.904	No trend	--	Normal	0.103	0.115		
Mercury		9/2020 - 6/2022	8	100%	< 0.000200	< 0.000200	0	--	--	--	100% ND	--	Detection Limit	< 0.000200	< 0.000200		
Molybdenum		9/2020 - 6/2022	8	0%	0.00394	0.00568	0	Normal	6	0.548	No trend	--	Normal	0.00699	0.00777		
Radium-226 & 228		9/2020 - 6/2022	8	50%	< -0.0461	1.58	0	Normal	6	0.548	No trend	--	KM Normal	2.18	2.81		
Selenium		9/2020 - 6/2022	8	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500		
Thallium		9/2020 - 6/2022	8	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100		

**Intra-Well Comparison Values  
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Well	Analyte	Date Range	N	%ND	Summary Statistics		Statistical Outliers	Data Distribution	Mann-Kendall Trend Test			Sen's Slope	Upper Tolerance Limits			
					Minimum	Maximum			Stat.	Prob.	Conclusion		Method	95/95 UTL	99/95 UTL	
MW-3R	<b>Appendix III</b>															
	Boron	9/2020 - 6/2022	8	0%	0.289	0.9185	0	Normal	-12	0.178	No trend	--	Normal	1.26	1.55	
	Calcium	9/2020 - 6/2022	8	0%	129	161.5	0	Normal	-11	0.227	No trend	--	Normal	184	200	
	Chloride	9/2020 - 6/2022	8	0%	7.64	21.2	0	Normal	-8	0.398	No trend	--	Normal	32.6	38.3	
	Fluoride	9/2020 - 6/2022	8	88%	< 0.500	0.631	1	Not Normal	--	--	>50% ND	--	Non-parametric	0.631	0.631	
	pH, lab	9/2020 - 6/2022	8	0%	7.1	7.5 J	0	Normal	4	0.72	No trend	--	Normal	6.92 - 7.71	6.77 - 7.86	
	Sulfate	9/2020 - 6/2022	8	0%	128	241	0	Gamma	-10	0.276	No trend	--	Normal	277	320	
	TDS	9/2020 - 6/2022	8	0%	614	894	0	Normal	-20	0.014	Decreasing	-0.36	--	614 - 894	614 - 894	
	<b>Appendix IV</b>															
	Antimony	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00200	0	--	--	--	100% ND	--	Detection Limit	< 0.00200	< 0.00200	
	Arsenic	9/2020 - 6/2022	8	0%	0.0314	0.0448	0	Normal	0	1.000	No trend	--	Normal	0.0550	0.0608	
	Barium	9/2020 - 6/2022	8	0%	0.1565	0.306	0	Normal	8	0.398	No trend	--	Normal	0.4245	0.4913	
	Beryllium	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100	
	Cadmium	9/2020 - 6/2022	8	88%	< 0.000100	0.000776	1	Not Normal	--	--	>50% ND	--	Non-parametric	0.000776	0.000776	
Chromium	9/2020 - 6/2022	8	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500		
Cobalt	9/2020 - 6/2022	8	38%	< 0.000500	0.00158	0	Normal	-19	0.023	Decreasing	-2E-06	--	< 0.000500 - 0.00158	< 0.000500 - 0.00158		
Lead	9/2020 - 6/2022	8	88%	< 0.000500	0.0016	1	Not Normal	--	--	>50% ND	--	Non-parametric	0.0016	0.0016		
Lithium	9/2020 - 6/2022	8	0%	0.0615	0.0976	1	Normal	-13	0.143	No trend	--	Normal	0.116	0.127		
Mercury	9/2020 - 6/2022	8	100%	< 0.000200	< 0.000200	0	--	--	--	100% ND	--	Detection Limit	< 0.000200	< 0.000200		
Molybdenum	9/2020 - 6/2022	8	25%	< 0.00200	0.00651	1	Not Normal	8	0.398	No trend	--	Non-parametric	0.00651	0.00651		
Radium-226 & 228	9/2020 - 6/2022	8	13%	< 0.470	1.23	0	Normal	-9	0.337	No trend	--	KM Normal	1.74	2.07		
Selenium	9/2020 - 6/2022	8	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500		
Thallium	9/2020 - 6/2022	8	88%	< 0.00100	0.00694	1	Not Normal	--	--	>50% ND	--	Non-parametric	0.00694	0.00694		
MW-5R	<b>Appendix III</b>															
	Boron	9/2020 - 6/2022	8	0%	0.177	0.418	0	Normal	8	0.398	No trend	--	Normal	0.508	0.602	
	Calcium	9/2020 - 6/2022	8	0%	92.8	175	0	Normal	13	0.143	No trend	--	Normal	213	245	
	Chloride	9/2020 - 6/2022	8	0%	8.33	13.1	0	Normal	8	0.398	No trend	--	Normal	15.0	16.9	
	Fluoride	9/2020 - 6/2022	8	88%	< 0.500	0.675	1	Not Normal	--	--	>50% ND	--	Non-parametric	0.675	0.675	
	pH, lab	9/2020 - 6/2022	8	0%	7.2 J	7.5 J	0	Normal	1	1.00	No trend	--	Normal	6.95 - 7.67	6.82 - 7.80	
	Sulfate	9/2020 - 6/2022	8	0%	109	340	0	Normal	6	0.548	No trend	--	Normal	472	577	
	TDS	9/2020 - 6/2022	8	0%	470	918	0	Normal	6	0.548	No trend	--	Normal	1188	1384	

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Well	Analyte	Date Range	N	%ND	Summary Statistics		Statistical Outliers	Data Distribution	Mann-Kendall Trend Test			Sen's Slope	Upper Tolerance Limits			
					Minimum	Maximum			Stat.	Prob.	Conclusion		Method	95/95 UTL	99/95 UTL	
	<b>Appendix IV</b>															
	Antimony	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00200	0	--	--	--	100% ND	--	Detection Limit	< 0.00200	< 0.00200	
	Arsenic	9/2020 - 6/2022	8	0%	0.0279	0.0446	2	Normal	8	0.398	No trend	--	Normal	0.0502	0.0557	
	Barium	9/2020 - 6/2022	8	0%	0.142	0.278	1	Normal	4	0.720	No trend	--	Normal	0.320	0.368	
	Beryllium	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100	
	Cadmium	9/2020 - 6/2022	8	100%	< 0.000100	< 0.000100	0	--	--	--	100% ND	--	Detection Limit	< 0.000100	< 0.000100	
	Chromium	9/2020 - 6/2022	8	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500	
	Cobalt	9/2020 - 6/2022	8	25%	< 0.000500	0.00073	0	Normal	8	0.398	No trend	--	KM Normal	0.00081	0.00089	
	Lead	9/2020 - 6/2022	8	100%	< 0.000500	< 0.000500	0	--	--	--	100% ND	--	Detection Limit	< 0.000500	< 0.000500	
	Lithium	9/2020 - 6/2022	8	0%	0.0489	0.0808	0	Normal	14	0.108	No trend	--	Normal	0.0986	0.1102	
	Mercury	9/2020 - 6/2022	8	100%	< 0.000200	< 0.000200	0	--	--	--	100% ND	--	Detection Limit	< 0.000200	< 0.000200	
	Molybdenum	9/2020 - 6/2022	8	0%	0.00355	0.00448	0	Normal	-9	0.337	No trend	--	Normal	0.00491	0.00527	
	Radium-226 & 228	9/2020 - 6/2022	8	50%	< -0.0292	0.734	0	Normal	4	0.720	No trend	--	KM Normal	1.50	1.91	
	Selenium	9/2020 - 6/2022	8	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500	
	Thallium	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100	
<b>MW-19</b>	<b>Appendix III</b>															
	Boron	9/2020 - 6/2022	8	0%	0.466	0.74	0	Normal	0	1.00	No trend	--	Normal	0.903	1.00	
	Calcium	9/2020 - 6/2022	8	0%	301	562	1	Normal	6	0.548	No trend	--	Normal	639	733	
	Chloride	9/2020 - 6/2022	8	0%	15.9	19.4	0	Normal	-2	0.904	No trend	--	Normal	21.9	23.4	
	Fluoride	9/2020 - 6/2022	8	88%	< 0.500	2.36	1	Not Normal	--	--	>50% ND	--	Non-parametric	2.36	2.36	
	pH, lab	9/2020 - 6/2022	8	0%	6.6 J	7.1 J	0	Normal	-2	0.904	No trend	--	Normal	6.29 - 7.28	6.11 - 7.46	
	Sulfate	9/2020 - 6/2022	8	0%	607	1140	0	Normal	6	0.548	No trend	--	Normal	1449	1646	
	TDS	9/2020 - 6/2022	8	0%	1570	2590	0	Normal	2	0.904	No trend	--	Normal	3189	3601	
	<b>Appendix IV</b>															
	Antimony	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00200	0	--	--	--	100% ND	--	Detection Limit	< 0.00200	< 0.00200	
	Arsenic	9/2020 - 6/2022	8	13%	< 0.00200	0.00821	2	Normal	0	1.00	No trend	--	KM Normal	0.00973	0.0117	
	Barium	9/2020 - 6/2022	8	0%	0.0207	0.0251	0	Normal	-2	0.904	No trend	--	Normal	0.0269	0.0286	
	Beryllium	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100	
	Cadmium	9/2020 - 6/2022	8	100%	< 0.000100	< 0.000100	0	--	--	--	100% ND	--	Detection Limit	< 0.000100	< 0.000100	
	Chromium	9/2020 - 6/2022	8	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500	
	Cobalt	9/2020 - 6/2022	8	0%	0.00389	0.0225	1	Normal	0	1.00	No trend	--	Normal	0.0278	0.0341	
	Lead	9/2020 - 6/2022	8	88%	< 0.000500	0.000747	1	Not Normal	--	--	>50% ND	--	Non-parametric	0.000747	0.000747	
	Lithium	9/2020 - 6/2022	8	0%	0.200	0.300	0	Normal	7	0.473	No trend	--	Normal	0.345	0.381	
	Mercury	9/2020 - 6/2022	8	100%	< 0.000200	< 0.000200	0	--	--	--	100% ND	--	Detection Limit	< 0.000200	< 0.000200	
	Molybdenum	9/2020 - 6/2022	8	100%	< 0.00200	< 0.00200	0	--	--	--	100% ND	--	Detection Limit	< 0.00200	< 0.00200	
	Radium-226 & 228	9/2020 - 6/2022	8	38%	< 0.123	0.92	0	Normal	-3	0.812	No trend	--	KM Normal	1.57	1.95	
	Selenium	9/2020 - 6/2022	8	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500	
	Thallium	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100	

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Well	Analyte	Date Range	N	%ND	Summary Statistics		Statistical Outliers	Data Distribution	Mann-Kendall Trend Test			Sen's Slope	Upper Tolerance Limits			
					Minimum	Maximum			Stat.	Prob.	Conclusion		Method	95/95 UTL	99/95 UTL	
MW-21	<b>Appendix III</b>															
	Boron	9/2020 - 6/2022	8	0%	0.297 J	0.474	0	Normal	0	1	No trend	--	Normal	0.542	0.612	
	Calcium	9/2020 - 6/2022	8	0%	188	509	0	Normal	10	0.276	No trend	--	Normal	744	875	
	Chloride	9/2020 - 6/2022	8	13%	< 5.00	7.63	1	Normal	-2	0.904	No trend	--	KM Normal	9.09	9.98	
	Fluoride	9/2020 - 6/2022	8	88%	< 0.500	2.85	1	Not Normal	--	--	>50% ND	--	Non-parametric	2.85	2.85	
	pH, lab	9/2020 - 6/2022	8	0%	6.8 J	7.2 J	0	Normal	-16	0.062	No trend	--	Normal	6.42 - 7.53	6.21 - 7.74	
	Sulfate	9/2020 - 6/2022	8	0%	299	1540	0	Normal	8	0.398	No trend	--	Normal	2507	3070	
	TDS	9/2020 - 6/2022	8	0%	730	2790	0	Normal	4	0.720	No trend	--	Normal	4440	5319	
	<b>Appendix IV</b>															
	Antimony	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00400	1	--	--	--	100% ND	--	Detection Limit	< 0.00400	< 0.00400	
	Arsenic	9/2020 - 6/2022	8	100%	< 0.00200	< 0.00200	0	--	--	--	100% ND	--	Detection Limit	< 0.00200	< 0.00200	
	Barium	9/2020 - 6/2022	8	0%	0.0187	0.0639	0	Normal	-6	0.548	No trend	--	Normal	0.0870	0.106	
	Beryllium	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100	
	Cadmium	9/2020 - 6/2022	8	75%	< 0.000100	0.000173	0	Not Normal	--	--	>50% ND	--	Non-parametric	0.000173	0.000173	
	Chromium	9/2020 - 6/2022	8	100%	< 0.00500	< 0.00500	0	--	--	--	100% ND	--	Detection Limit	< 0.00500	< 0.00500	
	Cobalt	9/2020 - 6/2022	8	38%	< 0.000500	0.00664	0	Normal	1	1.000	No trend	--	KM Normal	0.00861	0.0111	
Lead	9/2020 - 6/2022	8	88%	< 0.000500	0.000899	1	Not Normal	--	--	>50% ND	--	Non-parametric	0.000899	0.000899		
Lithium	9/2020 - 6/2022	8	0%	0.188	0.334	0	Normal	4	0.720	No trend	--	Normal	0.463	0.533		
Mercury	9/2020 - 6/2022	8	100%	< 0.000200	< 0.000200	0	--	--	--	100% ND	--	Detection Limit	< 0.000200	< 0.000200		
Molybdenum	9/2020 - 6/2022	8	100%	< 0.00200	< 0.00200	0	--	--	--	100% ND	--	Detection Limit	< 0.00200	< 0.00200		
Radium-226 & 228	9/2020 - 6/2022	8	38%	< 0.120	1.17	0	Normal	5	0.634	No trend	--	KM Normal	1.56	1.95		
Selenium	9/2020 - 6/2022	8	75%	< 0.00500	0.0398	1	Not Normal	--	--	>50% ND	--	Non-parametric	0.0398	0.0398		
Thallium	9/2020 - 6/2022	8	100%	< 0.00100	< 0.00100	0	--	--	--	100% ND	--	Detection Limit	< 0.00100	< 0.00100		

Notes:  
 N - number of samples  
 %ND - percent non-detects  
 Data distribution was determined by ProUCL using detects only.  
 Statistic: calculated as the sum of the signs of all possible pair-wise data comparisons.  
 Probability of significance: A value less than 0.05 indicates greater than 95 percent confidence of a statistically significant trend.  
 < 100 - Not detected at the associated reporting limit.  
 7.0 J - Estimated concentration.  
 When a trend is present during the baseline period, no UTL was calculated. Instead, the baseline range is listed for comparison.  
 Non-parametric UTLs with 6 baseline samples have an actual confidence coefficient of 0.27 (i.e., 27 percent confidence) and 8 baseline samples have an actual confidence coefficient of 0.34 (i.e., 34 percent confidence), at 95 percent coverage.  
 Non-parametric UTLs with 6 baseline samples have an actual confidence coefficient of 0.059 (i.e., 5.9 percent confidence) and 8 baseline samples have an actual confidence coefficient of 0.077 (i.e., 7.7 percent confidence), at 99 percent coverage.  
 KM - UTLs were calculated using Kaplan-Meier estimates for non-detects.  
 WH - UTLs were calculated using gamma distribution and the Wilson-Hilferty method.  
 TDS - Total dissolved solids

Table D.5

**Inter-Well Comparisons for 2025 Monitoring Data vs. Upgradient Background UTLs**  
**MidAmerican Energy Company**  
**Neal North Closed CCR Monofill**  
**Sergeant Bluff, Iowa**

Well	Observation	Monitoring Event	Appendix III Analytes						
			Boron mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	pH, lab s.u.	Sulfate mg/L	TDS mg/L
Combined Upgradient	Baseline 95/95 UTL		0.386	264	49.4	0.500 U	7.0 J - 7.9 J †	481	1206
	Baseline 99/95 UTL		0.457	300	84.9	0.500 U	7.0 J - 7.9 J †	708	1397
	<b>MCL/GWPS</b>		<b>None</b>	<b>None</b>	<b>None</b>	<b>4.0<sup>a</sup></b>	<b>None</b>	<b>None</b>	<b>None</b>
MW-1R	3/17/2025	Assessment	0.45 / 0.46	170 / 170	37 / 37	1.0 U / 1.0 U	7.7 J / 7.7 J	230 / 230	940 / 970
	9/19/2025	Assessment	0.415 / 0.388	155 / 152	53.8 / 53.3	U	7.7 J / 7.7 J	189 / 192	890 / 876
MW-3R	3/17/2025	Assessment	0.55	150	6.7	1.0 U	7.7 J	170	760
	9/19/2025	Assessment	0.474	132	8.02	1.00 U	7.7 J	166	680
MW-5R	3/17/2025	Assessment	0.37	160	10	1.0 U	7.7 J	320	930
	5/20/2025	Verification	--	--	--	--	7.3 J	--	--
	9/19/2025	Assessment	0.208	109	9.06	1.00 U	7.7 J	121	556
MW-19	3/17/2025	Assessment	0.64	420	20	1.0 U	7.4 J	1000	2300
	5/19/2025	Verification	--	--	--	--	6.6 J	--	--
	9/19/2025	Assessment	0.554	364	19.3	1.00 U	7.3 J	854	2130
MW-21	3/17/2025	Assessment	0.46	560	6.7	1.0 U	7.4 J	1600	3000
	5/19/2025	Verification	--	441	--	--	6.8 J	1690	2730
	9/19/2025	Assessment	0.348	437	6.51	1.00 U	7.4 J	1180	2350

**Inter-Well Comparisons for 2025 Monitoring Data vs. Upgradient Background UTLs**  
**MidAmerican Energy Company**  
**Neal North Closed CCR Monofill**  
**Sergeant Bluff, Iowa**

Well	Observation	Monitoring Event	Appendix IV Analytes				
			Antimony mg/L	Arsenic mg/L	Barium mg/L	Beryllium mg/L	Cadmium mg/L
Combined Upgradient	Baseline 95/95 UTL		0.00200 U	0.00200 U - 0.0512 †	0.0508 - 0.348 †	0.00100 U	0.000227
	Baseline 99/95 UTL		0.00200 U	0.00200 U - 0.0512 †	0.0508 - 0.348 †	0.00100 U	0.000227
	<b>MCL/GWPS</b>		<b>0.006<sup>a</sup></b>	<b>0.01<sup>a</sup> / 0.0512<sup>c</sup></b>	<b>2.0<sup>a</sup></b>	<b>0.004<sup>a</sup></b>	<b>0.005<sup>a</sup></b>
MW-1R	3/17/2025	Assessment	0.0020 U / 0.0020 U	<b>0.054 / 0.056</b>	0.12 / 0.12	0.0010 U / 0.0010 U	0.00020 U / 0.00020 U
	9/19/2025	Assessment	0.00200 U / 0.00200 U	<b>0.0528 / 0.0532</b>	0.101 / 0.100	0.00100 U / 0.00100 U	0.000200 U / 0.000200 U
MW-3R	3/17/2025	Assessment	0.0020 U	0.042	0.20	0.0010 U	0.00020 U
	9/19/2025	Assessment	0.00200 U	0.0372	0.195	0.00100 U	0.000200 U
MW-5R	3/17/2025	Assessment	0.0020 U	0.031	0.14	0.0010 U	0.00020 U
	5/20/2025	Verification	--	--	--	--	--
	9/19/2025	Assessment	0.00200 U	0.0286	0.0972	0.00100 U	0.000200 U
MW-19	3/17/2025	Assessment	0.0020 U	0.0054	0.023	0.0010 U	0.00020 U
	5/19/2025	Verification	--	--	--	--	--
	9/19/2025	Assessment	0.00200 U	0.00443	0.0189	0.00100 U	0.000200 U
MW-21	3/17/2025	Assessment	0.0011 J	0.00068 J	0.019	0.0010 U	<b>0.00029</b>
	5/19/2025	Verification	--	--	--	--	--
	9/19/2025	Assessment	0.00200 U	0.00200 U	0.0174	0.00100 U	<b>0.000245</b>

**Inter-Well Comparisons for 2025 Monitoring Data vs. Upgradient Background UTLs  
MidAmerican Energy Company  
Neal North Closed CCR Monofill  
Sergeant Bluff, Iowa**

Well	Observation	Monitoring Event	Appendix IV Analytes				
			Chromium mg/L	Cobalt mg/L	Lead mg/L	Lithium mg/L	Mercury mg/L
Combined Upgradient	Baseline 95/95 UTL		0.00500 U	0.00456	0.000500 U	0.205	0.000200 U
	Baseline 99/95 UTL		0.00500 U	0.00568	0.000500 U	0.244	0.000200 U
	<b>MCL/GWPS</b>		<b>0.1<sup>a</sup></b>	<b>0.006<sup>b</sup></b>	<b>0.015<sup>b</sup></b>	<b>0.040<sup>b</sup> / 0.205<sup>c</sup></b>	<b>0.002<sup>a</sup></b>
MW-1R	3/17/2025	Assessment	0.0050 U / 0.0050 U	0.00057 / 0.00059	0.00050 U / 0.00050 U	0.087 / 0.089	0.00020 U / 0.00020 U
	9/19/2025	Assessment	0.00500 U / 0.00500 U	0.000500 U / 0.000500 U	U	0.0806 / 0.0802	U
MW-3R	3/17/2025	Assessment	0.0050 U	0.00064	0.00050 U	0.087	0.00020 U
	9/19/2025	Assessment	0.00500 U	0.000530	0.000500 U	0.0802	0.000200 U
MW-5R	3/17/2025	Assessment	0.0050 U	0.00055	0.00050 U	0.074	0.00020 U
	5/20/2025	Verification	--	--	--	--	--
	9/19/2025	Assessment	0.00500 U	0.000500 U	0.000500 U	0.0686	0.000200 U
MW-19	3/17/2025	Assessment	0.0050 U	<b>0.015</b>	0.00050 U	<b>0.28</b>	0.00020 U
	5/19/2025	Verification	--	--	--	--	--
	9/19/2025	Assessment	0.00500 U	<b>0.00858</b>	0.000500 U	<b>0.257</b>	0.000200 U
MW-21	3/17/2025	Assessment	0.0050 U	0.00082	0.00050 U	<b>0.35</b>	0.00020 U
	5/19/2025	Verification	--	--	--	--	--
	9/19/2025	Assessment	0.00500 U	0.000500 U	0.000500 U	<b>0.308</b>	0.000200 U

**Inter-Well Comparisons for 2025 Monitoring Data vs. Upgradient Background UTLs  
MidAmerican Energy Company  
Neal North Closed CCR Monofill  
Sergeant Bluff, Iowa**

Well	Observation	Monitoring Event	Appendix IV Analytes			
			Molybdenum mg/L	Selenium mg/L	Thallium mg/L	Radium-226 & 228 pCi/L
Combined	Baseline 95/95 UTL		0.00351	0.033	0.00122	1.76
Upgradient	Baseline 99/95 UTL		0.00396	0.061	0.00122	2.14
	<b>MCL/GWPS</b>		<b>0.100<sup>b</sup></b>	<b>0.05<sup>a</sup></b>	<b>0.002<sup>a</sup></b>	<b>5<sup>a</sup></b>
MW-1R	3/17/2025	Assessment	0.0034 /0.0036	0.0050 U /0.0050 U	0.0010 U /0.0010 U	0.468 /0.924
	9/19/2025	Assessment	<b>0.00478 /0.00452</b>	U	U	0.863 /0.574
MW-3R	3/17/2025	Assessment	0.0019 J	0.0050 U	0.0010 U	0.855
	9/19/2025	Assessment	0.00241	0.00500 U	0.00100 U	1.03
MW-5R	3/17/2025	Assessment	<b>0.0036</b>	0.0050 U	0.0010 U	0.646
	5/20/2025	Verification	--	--	--	--
	9/19/2025	Assessment	<b>0.00445</b>	0.00500 U	0.00100 U	0.609
MW-19	3/17/2025	Assessment	0.0020 U	0.0050 U	0.0010 U	0.801
	5/19/2025	Verification	--	--	--	--
	9/19/2025	Assessment	0.00200 U	0.00500 U	0.00100 U	0.899
MW-21	3/17/2025	Assessment	0.0020 U	0.0038 J	0.0010 U	0.622
	5/19/2025	Verification	--	--	--	--
	9/19/2025	Assessment	0.00200 U	0.0153	0.00100 U	0.810

Notes:

0.395 / 0.375 - Field duplicate results.

U - Not detected at the associated reporting limit.

**62.5 / 64.5** Value exceeds inter-well baseline 95/95 UTL or is outside of baseline range.

**0.619** Value exceeds inter-well baseline 99/95 UTL.

† - Trend present during baseline period, no UTL values calculated (baseline range listed for comparison).

Pooled Background consists of MW-13, MW-27, MW-29, MW-223S, and MW-231S.

None - No MCL established.

<sup>a</sup> Maximum contaminant level (MCL).      <sup>b</sup> Groundwater protection standard (GWPS) established under 40 CFR 257.95(h)(2).

<sup>c</sup> Site-specific GWPS, background level exceeds the MCL/GWPS.

Table D.6

**Intra-Well Comparisons for 2025 Monitoring Data**  
**MidAmerican Energy Company**  
**Neal North Closed CCR Monofill - Sergeant Bluff, Iowa**

Well	Observation	Monitoring Event	Appendix III Analytes						
			Boron mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	pH, lab s.u.	Sulfate mg/L	TDS mg/L
MCL/GWPS			None	None	None	4.0 <sup>a</sup>	None	None	None
MW-13/MW-13R (Upgradient)	Baseline 95/95 UTL		0.170	258	15.3 - 73.9 †	0.500 U	6.94 - 7.54	111	1175
	Baseline 99/95 UTL		0.189	293	15.3 - 73.9 †	0.500 U	6.84 - 7.65	128	1364
	3/11/2025	Assessment	0.136	147	17.3	1.00 U	7.8 J	38.7	580
	9/17/2025	Assessment	0.131	141	11.0	1.00 U	7.1 J	47.4	540
MW-27 (Upgradient)	Baseline 95/95 UTL		0.203 - 0.305 †	254	11.8 - 28.5 †	0.500 U	6.80 - 7.43	419	1487
	Baseline 99/95 UTL		0.203 - 0.305 †	285	11.8 - 28.5 †	0.500 U	6.68 - 7.54	504	1744
	3/12/2025	Assessment	0.228	157	24.5	1.00 U	7.8 J	81.1	692
	9/16/2025	Assessment	0.274	160	15.5	1.00 U	7.1 J	53.7	658
MW-29/MW-29R (Upgradient)	Baseline 95/95 UTL		0.295	297	9.75 J - 12.1 †	0.500 U	6.77 - 7.43	353	1122
	Baseline 99/95 UTL		0.333	340	9.75 J - 12.1 †	0.500 U	6.65 - 7.55	435	1261
	3/12/2025	Assessment	0.158 /0.156	187 /190	12.0 /9.49	1.00 U /1.00 U	7.7 J /7.7 J	140 /136	774 /768
	9/16/2025	Assessment	0.173	203	8.73	1.00 U	7.0 J	133	850
MW-223S (Upgradient)	Baseline 95/95 UTL		0.117	143	< 5.00 - 7.15 †	0.500 U	7.22 - 7.79	145	688
	Baseline 99/95 UTL		0.117	153	< 5.00 - 7.15 †	0.500 U	7.11 - 7.90	179	788
	3/13/2025	Assessment	0.142	130	15.2	0.200 U	7.6 J	88.5	510
	9/17/2025	Assessment	0.180	200	22.8	0.200 U	7.0 J	222	778
MW-231S/MW-231SR (Upgradient)	Baseline 95/95 UTL		0.532	336	5.37 - 12.8 †	0.500 U	7.1 J - 7.4 J	614	1394
	Baseline 99/95 UTL		0.620	378	5.37 - 12.8 †	0.500 U	7.1 J - 7.4 J	727	1560
	3/13/2025	Assessment	0.200	190	9.30	0.200 U	7.8 J	177	788
	5/20/2025	Verification	--	--	--	--	7.2 J	--	--
	9/17/2025	Assessment	0.221 /0.231	171 /177	16.3 /14.2	0.200 U /1.00 U	7.0 J /7.1 J	110 /103	740 /648

Table D.6

**Intra-Well Comparisons for 2025 Monitoring Data**  
**MidAmerican Energy Company**  
**Neal North Closed CCR Monofill - Sergeant Bluff, Iowa**

Well	Observation	Monitoring Event	Appendix III Analytes						
			Boron mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	pH, lab s.u.	Sulfate mg/L	TDS mg/L
MCL/GWPS			None	None	None	4.0 <sup>a</sup>	None	None	None
MW-1R	Baseline 95/95 UTL		0.470	187	27.4 - 68 †	0.808	6.88 - 7.72	285	997
	Baseline 99/95 UTL		0.500	202	27.4 - 68 †	0.808	6.73 - 7.87	307	1057
	3/17/2025	Assessment	0.45 /0.46	170 /170	37 /37	1.0 U /1.0 U	7.7 J /7.7 J	230 /230	940 /970
	9/19/2025	Assessment	0.415 /0.388	155 /152	53.8 /53.3	1.00 U /1.00 U	7.7 J /7.7 J	189 /192	890 /876
MW-3R	Baseline 95/95 UTL		1.26	184	32.6	0.631	6.92 - 7.71	277	614 - 894 †
	Baseline 99/95 UTL		1.55	200	38.3	0.631	6.77 - 7.86	320	614 - 894 †
	3/17/2025	Assessment	0.55	150	6.7	1.0 U	7.7 J	170	760
	9/19/2025	Assessment	0.474	132	8.02	1.00 U	7.7 J	166	680
MW-5R	Baseline 95/95 UTL		0.508	213	15.0	0.675	6.95 - 7.67	472	1188
	Baseline 99/95 UTL		0.602	245	16.9	0.675	6.82 - 7.80	577	1384
	3/17/2025	Assessment	0.37	160	10	1.0 U	7.7 J	320	930
	5/20/2025	Verification	--	--	--	--	7.3 J	--	--
	9/19/2025	Assessment	0.208	109	9.06	1.00 U	7.7 J	121	556
MW-19	Baseline 95/95 UTL		0.903	639	21.9	2.36	6.29 - 7.28	1449	3189
	Baseline 99/95 UTL		1.00	733	23.4	2.36	6.11 - 7.46	1646	3601
	3/17/2025	Assessment	0.64	420	20	1.0 U	7.4 J	1000	2300
	5/19/2025	Verification	--	--	--	--	6.6 J	--	--
	9/19/2025	Assessment	0.554	364	19.3	1.00 U	7.3 J	854	2130
MW-21	Baseline 95/95 UTL		0.542	744	9.09	2.85	6.42 - 7.53	2507	4440
	Baseline 99/95 UTL		0.612	875	10.0	2.85	6.21 - 7.74	3070	5319
	3/17/2025	Assessment	0.46	560	6.7	1.0 U	7.4 J	1600	3000
	5/19/2025	Verification	--	441	--	--	6.8 J	1690	2730
	9/19/2025	Assessment	0.348	437	6.51	1.00 U	7.4 J	1180	2350

Intra-Well Comparisons for 2025 Monitoring Data  
 MidAmerican Energy Company  
 Neal North Closed CCR Monofill - Sergeant Bluff, Iowa

Well	Observation	Monitoring Event	Appendix IV Analytes						
			Antimony mg/L	Arsenic mg/L	Barium mg/L	Beryllium mg/L	Cadmium mg/L	Chromium mg/L	Cobalt mg/L
	<b>MCL/GWPS</b>		<b>0.006<sup>a</sup></b>	<b>0.01<sup>a</sup> / 0.0512<sup>c</sup></b>	<b>2.0<sup>a</sup></b>	<b>0.004<sup>a</sup></b>	<b>0.005<sup>a</sup></b>	<b>0.1<sup>a</sup></b>	<b>0.006<sup>b</sup></b>
MW-13/MW-13R (Upgradient)	Baseline 95/95 UTL		0.00200 U	0.108	0.431	0.00100 U	0.000227	0.00500 U	0.0049
	Baseline 99/95 UTL		0.00200 U	0.136	0.506	0.00100 U	0.000227	0.00500 U	0.0062
	3/11/2025	Assessment	0.00200 U	0.0592	0.226	0.00100 U	0.000200 U	0.00500 U	0.00102
	9/17/2025	Assessment	0.00200 U	0.0503	0.217	0.00100 U	0.000200 U	0.00500 U	0.000946
MW-27 (Upgradient)	Baseline 95/95 UTL		0.00200 U	0.058	0.143	0.00100 U	0.000114	0.00500 U	0.00203
	Baseline 99/95 UTL		0.00200 U	0.073	0.157	0.00100 U	0.000114	0.00500 U	0.00241
	3/12/2025	Assessment	0.00200 U	0.0613	0.158	0.00100 U	0.000200 U	0.00500 U	0.000635
	9/16/2025	Assessment	0.00200 U	0.0759	0.183	0.00100 U	0.000200 U	0.00500 U	0.000796
MW-29/MW-29R (Upgradient)	Baseline 95/95 UTL		0.00200 U	0.0631	0.378	0.00100 U	0.000100 U	0.00500 U	0.0107
	Baseline 99/95 UTL		0.00200 U	0.0788	0.425	0.00100 U	0.000100 U	0.00500 U	0.0134
	3/12/2025	Assessment	0.00200 U / 0.00200 U	0.0240 / 0.0241	0.213 / 0.222	0.00100 U / 0.00100 U	0.000200 U / 0.000200 U	0.00500 U / 0.00500 U	0.00280 / 0.00285
	9/16/2025	Assessment	0.00200 U	0.0281	0.240	0.00100 U	0.000200 U	0.00500 U	0.00250
MW-223S (Upgradient)	Baseline 95/95 UTL		0.00200 U	0.0143	0.418	0.00100 U	0.000123	0.00500 U	0.00158
	Baseline 99/95 UTL		0.00200 U	0.0178	0.471	0.00100 U	0.000123	0.00500 U	0.00188
	3/13/2025	Assessment	0.00200 U	0.0116	0.166	0.00100 U	0.000200 U	0.00500 U	0.000767
	9/17/2025	Assessment	0.00200 U	0.0503	0.240	0.00100 U	0.000200 U	0.00500 U	0.00131
MW-231S/MW-231SR (Upgradient)	Baseline 95/95 UTL		0.00200 U	0.0085	0.178	0.00100 U	0.000139	0.00500 U	0.00498
	Baseline 99/95 UTL		0.00200 U	0.0085	0.207	0.00100 U	0.000139	0.00500 U	0.0061
	3/13/2025	Assessment	0.00200 U	0.00229	0.147	0.00100 U	0.000200 U	0.00500 U	0.00253
	5/20/2025	Verification	--	--	--	--	--	--	--
	9/17/2025	Assessment	0.00200 U / 0.00200 U	0.00200 U / 0.00200 U	0.0865 / 0.0890	0.00100 U / 0.00100 U	0.000200 U / 0.000200 U	0.00500 U / 0.00500 U	0.00305 / 0.00311

Intra-Well Comparisons for 2025 Monitoring Data  
 MidAmerican Energy Company  
 Neal North Closed CCR Monofill - Sergeant Bluff, Iowa

Well	Observation	Monitoring Event	Appendix IV Analytes						
			Antimony mg/L	Arsenic mg/L	Barium mg/L	Beryllium mg/L	Cadmium mg/L	Chromium mg/L	Cobalt mg/L
	<b>MCL/GWPS</b>		<b>0.006<sup>a</sup></b>	<b>0.01<sup>a</sup> / 0.0512<sup>c</sup></b>	<b>2.0<sup>a</sup></b>	<b>0.004<sup>a</sup></b>	<b>0.005<sup>a</sup></b>	<b>0.1<sup>a</sup></b>	<b>0.006<sup>b</sup></b>
MW-1R	Baseline 95/95 UTL		0.00200 U	0.064	0.138	0.00100 U	0.000409	0.00500 U	0.000500 U - 0.00104 †
	Baseline 99/95 UTL		0.00200 U	0.078	0.155	0.00100 U	0.000409	0.00500 U	0.000500 U - 0.00104 †
	3/17/2025	Assessment	0.0020 U /0.0020 U	0.054 /0.056	0.12 /0.12	0.0010 U /0.0010 U	0.00020 U /0.00020 U	0.0050 U /0.0050 U	0.00057 /0.00059
	9/19/2025	Assessment	0.00200 U /0.00200 U	0.0528 /0.0532	0.101 /0.100	0.00100 U /0.00100 U	0.000200 U /0.000200 U	0.00500 U /0.00500 U	0.000500 U /0.000500 U
MW-3R	Baseline 95/95 UTL		0.00200 U	0.055	0.4245	0.00100 U	0.000776	0.00500 U	0.000500 U - 0.00158 †
	Baseline 99/95 UTL		0.00200 U	0.0608	0.4913	0.00100 U	0.000776	0.00500 U	0.000500 U - 0.00158 †
	3/17/2025	Assessment	0.0020 U	0.042	0.20	0.0010 U	0.00020 U	0.0050 U	0.00064
	9/19/2025	Assessment	0.00200 U	0.0372	0.195	0.00100 U	0.000200 U	0.00500 U	0.000530
MW-5R	Baseline 95/95 UTL		0.00200 U	0.0502	0.32	0.00100 U	0.000100 U	0.00500 U	0.00081
	Baseline 99/95 UTL		0.00200 U	0.0557	0.368	0.00100 U	0.000100 U	0.00500 U	0.00089
	3/17/2025	Assessment	0.0020 U	0.031	0.14	0.0010 U	0.00020 U	0.0050 U	0.00055
	5/20/2025	Verification	--	--	--	--	--	--	--
	9/19/2025	Assessment	0.00200 U	0.0286	0.0972	0.00100 U	0.000200 U	0.00500 U	0.000500 U
MW-19	Baseline 95/95 UTL		0.00200 U	0.00973	0.0269	0.00100 U	0.000100 U	0.00500 U	0.0278
	Baseline 99/95 UTL		0.00200 U	0.0117	0.0286	0.00100 U	0.000100 U	0.00500 U	0.0341
	3/17/2025	Assessment	0.0020 U	0.0054	0.023	0.0010 U	0.00020 U	0.0050 U	0.015
	5/19/2025	Verification	--	--	--	--	--	--	--
	9/19/2025	Assessment	0.00200 U	0.00443	0.0189	0.00100 U	0.000200 U	0.00500 U	0.00858
MW-21	Baseline 95/95 UTL		0.00400 U	0.00200 U	0.087	0.00100 U	0.000173	0.00500 U	0.00861
	Baseline 99/95 UTL		0.00400 U	0.00200 U	0.106	0.00100 U	0.000173	0.00500 U	0.0111
	3/17/2025	Assessment	0.0011 J	0.00068 J	0.019	0.0010 U	0.00029	0.0050 U	0.00082
	5/19/2025	Verification	--	--	--	--	--	--	--
	9/19/2025	Assessment	0.00200 U	0.00200 U	0.0174	0.00100 U	0.000245	0.00500 U	0.000500 U

Intra-Well Comparisons for 2025 Monitoring Data  
 MidAmerican Energy Company  
 Neal North Closed CCR Monofill - Sergeant Bluff, Iowa

Well	Observation	Monitoring Event	Appendix IV Analytes						
			Lead mg/L	Lithium mg/L	Mercury mg/L	Molybdenum mg/L	Selenium mg/L	Thallium mg/L	Radium-226 & 228 pCi/L
	<b>MCL/GWPS</b>		<b>0.015<sup>b</sup></b>	<b>0.040<sup>b</sup> / 0.205<sup>c</sup></b>	<b>0.002<sup>a</sup></b>	<b>0.100<sup>b</sup></b>	<b>0.05<sup>a</sup></b>	<b>0.002<sup>a</sup></b>	<b>5<sup>a</sup></b>
MW-13/MW-13R (Upgradient)	Baseline 95/95 UTL		0.000500 U	0.178	0.000200 U	0.00594	0.111	0.00100 U	2.11
	Baseline 99/95 UTL		0.000500 U	0.210	0.000200 U	0.00699	0.111	0.00100 U	2.51
	3/11/2025	Assessment	0.000500 U	0.0846	0.000200 U	0.00377	0.00500 U	0.00100 U	0.828
	9/17/2025	Assessment	0.000500 U	0.0743	0.000200 U	0.00445	0.00500 U	0.00100 U	1.09
MW-27 (Upgradient)	Baseline 95/95 UTL		0.000500 U	0.306	0.000200 U	0.00200 U	0.00500 U	0.00100 U	1.52
	Baseline 99/95 UTL		0.000500 U	0.355	0.000200 U	0.00200 U	0.00500 U	0.00100 U	1.79
	3/12/2025	Assessment	0.000500 U	0.110	0.000200 U	0.00200 U	0.00500 U	0.00100 U	0.718 U
	9/16/2025	Assessment	0.000500 U	0.106	0.000200 U	0.00200 U	0.00500 U	0.00100 U	1.25
MW-29/MW-29R (Upgradient)	Baseline 95/95 UTL		0.000500 U	0.174	0.000200 U	0.00335	0.00500 U	0.00100 U	2.96
	Baseline 99/95 UTL		0.000500 U	0.199	0.000200 U	0.00335	0.00500 U	0.00100 U	3.58
	3/12/2025	Assessment	0.000500 U / 0.000500 U	0.0957 / 0.0968	0.000200 U / 0.000200 U	0.00200 U / 0.00200 U	0.00500 U / 0.00500 U	0.00100 U / 0.00100 U	0.696 / 0.580 U
	9/16/2025	Assessment	0.000500 U	0.0941	0.000200 U	0.00200 U	0.00500 U	0.00100 U	1.29
MW-223S (Upgradient)	Baseline 95/95 UTL		0.000500 U	0.07	0.000200 U	0.00316	0.00500 U	0.00100 U	1.8
	Baseline 99/95 UTL		0.000500 U	0.076	0.000200 U	0.00316	0.00500 U	0.00100 U	2.22
	3/13/2025	Assessment	0.000500 U	0.0540	0.000200 U	0.00205	0.00500 U	0.00100 U	0.577
	9/17/2025	Assessment	0.000500 U	0.0692	0.000200 U	0.00200 U	0.00500 U	0.00100 U	1.12
MW-231S/MW-231SR (Upgradient)	Baseline 95/95 UTL		0.000500 U	0.126	0.000200 U	0.00242	0.0261	0.00122	1.63
	Baseline 99/95 UTL		0.000500 U	0.136	0.000200 U	0.00242	0.032	0.00122	1.99
	3/13/2025	Assessment	0.000500 U	0.0856	0.000200 U	0.00200 U	0.00500 U	0.00100 U	0.612
	5/20/2025	Verification	--	--	--	--	--	--	--
	9/17/2025	Assessment	0.000500 U / 0.000500 U	0.0846 / 0.0869	0.000200 U / 0.000200 U	0.00200 U / 0.00200 U	0.00580 / 0.00597	0.00100 U / 0.00100 U	1.26 / 0.936

**Intra-Well Comparisons for 2025 Monitoring Data  
MidAmerican Energy Company  
Neal North Closed CCR Monofill - Sergeant Bluff, Iowa**

Well	Observation	Monitoring Event	Appendix IV Analytes						
			Lead mg/L	Lithium mg/L	Mercury mg/L	Molybdenum mg/L	Selenium mg/L	Thallium mg/L	Radium-226 & 228 pCi/L
	<b>MCL/GWPS</b>		<b>0.015<sup>b</sup></b>	<b>0.040<sup>b</sup> / 0.205<sup>c</sup></b>	<b>0.002<sup>a</sup></b>	<b>0.100<sup>b</sup></b>	<b>0.05<sup>a</sup></b>	<b>0.002<sup>a</sup></b>	<b>5<sup>a</sup></b>
MW-1R	Baseline 95/95 UTL		0.000500 U	0.103	0.000200 U	0.00699	0.00500 U	0.00100 U	2.18
	Baseline 99/95 UTL		0.000500 U	0.115	0.000200 U	0.00777	0.00500 U	0.00100 U	2.81
	3/17/2025	Assessment	0.000500 U / 0.000500 U	0.087 / 0.089	0.000200 U / 0.000200 U	0.0034 / 0.0036	0.00500 U / 0.00500 U	0.00100 U / 0.00100 U	0.468 / 0.924
	9/19/2025	Assessment	0.000500 U / 0.000500 U	0.0806 / 0.0802	0.000200 U / 0.000200 U	0.00478 / 0.00452	0.00500 U / 0.00500 U	0.00100 U / 0.00100 U	0.863 / 0.667 U
MW-3R	Baseline 95/95 UTL		0.0016	0.116	0.000200 U	0.00651	0.00500 U	0.00694	1.74
	Baseline 99/95 UTL		0.0016	0.127	0.000200 U	0.00651	0.00500 U	0.00694	2.07
	3/17/2025	Assessment	0.000500 U	0.087	0.000200 U	0.0019 J	0.00500 U	0.00100 U	0.855
	9/19/2025	Assessment	0.000500 U	0.0802	0.000200 U	0.00241	0.00500 U	0.00100 U	1.03
MW-5R	Baseline 95/95 UTL		0.000500 U	0.0986	0.000200 U	0.00491	0.00500 U	0.00100 U	1.5
	Baseline 99/95 UTL		0.000500 U	0.1102	0.000200 U	0.00527	0.00500 U	0.00100 U	1.91
	3/17/2025	Assessment	0.000500 U	0.074	0.000200 U	0.0036	0.00500 U	0.00100 U	0.646
	5/20/2025	Verification	--	--	--	--	--	--	--
	9/19/2025	Assessment	0.000500 U	0.0686	0.000200 U	0.00445	0.00500 U	0.00100 U	0.609
MW-19	Baseline 95/95 UTL		0.000747	0.345	0.000200 U	0.00200 U	0.00500 U	0.00100 U	1.57
	Baseline 99/95 UTL		0.000747	0.381	0.000200 U	0.00200 U	0.00500 U	0.00100 U	1.95
	3/17/2025	Assessment	0.000500 U	0.28	0.000200 U	0.0020 U	0.00500 U	0.00100 U	0.801
	5/19/2025	Verification	--	--	--	--	--	--	--
	9/19/2025	Assessment	0.000500 U	0.257	0.000200 U	0.00200 U	0.00500 U	0.00100 U	0.899
MW-21	Baseline 95/95 UTL		0.000899	0.463	0.000200 U	0.00200 U	0.0398	0.00100 U	1.56
	Baseline 99/95 UTL		0.000899	0.533	0.000200 U	0.00200 U	0.0398	0.00100 U	1.95
	3/17/2025	Assessment	0.000500 U	0.35	0.000200 U	0.0020 U	0.0038 J	0.00100 U	0.622
	5/19/2025	Verification	--	--	--	--	--	--	--
	9/19/2025	Assessment	0.000500 U	0.308	0.000200 U	0.00200 U	0.0153	0.00100 U	0.810

Notes:

0.100 / 0.106 - Field duplicate results.

< 0.500 - Not detected at the associated reporting limit.

J - Estimated concentration.

0.888 Value exceeds intra-well baseline 95/95 UTL or is outside of baseline range (for baseline data sets with temporal trends).

8.2 J Value exceeds intra-well baseline 99/95 UTL.

None - No MCL established.

<sup>a</sup> Maximum contaminant level (MCL).

<sup>b</sup> Groundwater protection standard (GWPS) established under 40 CFR 257.95(h)(2).

<sup>c</sup> Site-specific GWPS, background level exceeds the MCL/GWPS.

† - Trend present during baseline period, no UTL values calculated (baseline range listed for comparison).



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