January 30, 2026 ***TRANSMITTAL VIA EMAIL***

Ms. Lori Babcock
Michigan Department of Environment, Great Lakes, and Energy
Materials Management Division
Bay City District Office
401 Ketchum St, Suite B
Bay City, Michigan 48708

SUBJECT: 2025 Annual Groundwater Monitoring and Corrective Action Report §257.90(e) inclusive of the Semiannual Progress Report §257.97(a)
JC Weadock Landfill Coal Combustion Residuals (CCR) Unit

Dear Ms. Babcock:

On April 17, 2015, the United States Environmental Protection Agency (USEPA) published the final rule for the regulation and management of Coal Combustion Residuals (CCR) under the Resource Conservation and Recovery Act (RCRA) (the CCR Rule) (USEPA, April 2015 as amended). Standards for groundwater monitoring and corrective action codified in the CCR Rule (40 CFR 257.90 – 257.98), apply to the Consumers Energy Company (Consumers Energy) Landfill CCR Unit at the JC Weadock Power Plant Site. Pursuant to the CCR Rule, no later than January 31, 2018, and annually thereafter, the owner or operator of a CCR unit must prepare an annual groundwater monitoring and corrective action report for the CCR unit documenting the status of groundwater monitoring and corrective action for the preceding year in accordance with §257.90(e). This *2025 Annual Groundwater Monitoring and Corrective Action* report documents activities from January 2025 through December 2025.

This letter along with the 4 four quarterly groundwater sampling reports for the Weadock Landfill (Enclosures 2 through 5) collectively comprise the *2025 Annual Groundwater Monitoring and Corrective Action Report* and meet the requirements of §257.90(e) as documented in the enclosed checklist (Enclosure 1).

The Weadock Landfill was in assessment monitoring at the beginning and at the end of the period covered by this report. Consumers Energy is continuing to evaluate corrective measures per §257.96 and §257.97 and is continuing assessment monitoring in accordance with §257.95.

This annual groundwater monitoring and corrective action report includes a Semiannual Progress Report, prepared as a requirement of §257.97(a) of the CCR Rule, which describes progress towards selecting and implementing a remedy for the Weadock Landfill after the completion of the Assessment of Corrective Measures, JC Weadock Bottom Ash Pond and Landfill Coal Combustion Residual Unit[1], dated September 11, 2019. Groundwater management alternatives considered to be technically feasible at the Weadock Landfill upon completing source

[1] TRC. 2019. Assessment of Corrective Measures – JC Weadock Bottom Ash Pond and Landfill Coal Combustion Residual Units. Prepared for Consumers Energy Company. September.

containment through the construction of the soil-bentonite slurry wall and construction of an impermeable final cover system that could potentially address the residual arsenic under *known* groundwater conditions were identified in the report as: 1) Post-remedy monitoring, 2) Groundwater capture/control, 3) Impermeable barrier, 4) Active geochemical sequestration, and 5) Passive geochemical sequestration.

Weadock Landfill Closure Activities

In 2008, Consumers Energy completed construction of a soil-bentonite slurry wall (Weadock Slurry Wall) that enclosed the landfill except for a 1,600 ft venting feature[2]. Later in 2018, construction of the Weadock Slurry Wall was extended to close the vent as an interim measure to address groundwater quality[3]. EGLE approved the construction certification reports on June 24, 2009, and December 19, 2018, respectively. This engineered barrier is monitored in accordance with the *Landfill Hydrogeological Monitoring Plan* (Landfill HMP)[4], prepared by TRC, dated February 2021 approved and incorporated by reference into the renewed Solid Waste Operating License No. 9640 dated March 11, 2021.

Additionally, Consumers Energy submitted draft revisions of the closure plan (2016 Closure Plan) for the Weadock Landfill to EGLE for review and concurrence pursuant to the requirements of the solid waste operating license. Changes in the closure plan were required due to the forecasted early retirement of coal-fired units at the generating complex in May 2023. Final grades were proposed to be reduced, but other improvements to the final cover system and stormwater drainage were incorporated into the plan with state-specific variances requested. EGLE approved the variances and provisional design elements in the renewed solid waste operating license on March 11, 2021. The final closure plan was approved by EGLE on April 17, 2022. Consumers Energy will update the final closure plan pursuant to 257.102(d) once the detail engineering is completed. The first phase of partial closure focused on construction of approximately 22.5 acres of final cover commenced in May 2023. Consumers Energy will continue monitoring conditions during the execution of the final closure construction including performance of the soil-bentonite slurry wall.

Weadock Landfill Groundwater Sampling Results: March, May, July, and October 2025 Events

Groundwater compliance monitoring at the Weadock Landfill is implemented quarterly in accordance with the Landfill HMP. Semiannual assessment monitoring in accordance with §257.95 occurs during the second and fourth calendar quarters.[5] Assessment monitoring data is

[2] NTH Consultants, Ltd. 2009. Construction Certification, Soil-Bentonite Cutoff Wall April 24.

[3] Golder Associates, Inc. 2018. J.C. Weadock Generating Facility, Slurry Wall Vent Closure Construction Documentation Report. October 30.

[4] TRC. 2021. Landfill Hydrogeological Monitoring Plan – JC Weadock Power Plant, Essexville, Michigan. Prepared for Consumers Energy Company. February.

[5] Although quarterly monitoring is not required under the CCR Rule (i.e. federal rule), data collected in the first and third calendar quarters are included in this annual groundwater monitoring and corrective action report to maintain alignment of the state and federal groundwater monitoring programs.

compared to the established Groundwater Protection Standard (GWPS) within Weadock Landfill groundwater monitoring system to identify statistically significant exceedances of Appendix IV constituents. Results are presented in the quarterly groundwater monitoring reports that are submitted to the EGLE. Additionally, monitoring performed under the Weadock Groundwater Surface-Water Interface (GSI) Compliance Plan (included in the *Landfill Hydrogeological Monitoring Plan)* demonstrates protection of human health and the environment with criteria determined to be protective at the point of exposure.

Significant observations from the event summary are as follows:

- No Appendix IV constituents have been observed at statistically significant levels above GWPS for the Weadock Landfill groundwater monitoring system as a result of operation of the CCR unit;
- Arsenic was determined to be present at statistically significant levels above the GWPS at one of the three downgradient monitoring wells at the time of the initial semiannual monitoring event (April and May 2018); however, based on the revised groundwater monitoring system (12 perimeter wells, post soil-bentonite slurry wall construction), arsenic is not present at statistically significant levels above the GWPS, except where an alternate source is present as discussed below. The lack of GWPS exceedances observed in the former vent area once the soil-bentonite slurry wall was completed demonstrates that the interim measure of closing the vent was successful in improving groundwater quality;
- Arsenic concentrations at monitoring well MW-55 have been reviewed through an Alternate Source Demonstration provided in Appendix G of the *2025 Semiannual Groundwater Monitoring Report and Fourth Quarter 2025 Hydrogeological Monitoring Report; JC Weadock Solid Waste Disposal Area* indicating elevated levels of constituents at that location are not related to materials management within the Weadock Landfill.
- The nature and extent of contamination (e.g. arsenic) in groundwater relative to GWPSs has been defined per the RCRA CCR Rule requirements based on the site-specific hydrogeology and there are currently no adverse effects on human health or the environment from either surface water or groundwater due to the CCR management at the Weadock Landfill.

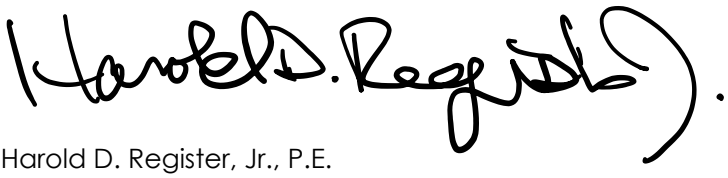
Conclusions

The first phase of partial closure focused on construction approximately 22.5 acres of final cover commenced in May 2023. The certification for the partial closure was accepted by EGLE on July 17, 2024. Consumers Energy will continue monitoring conditions during the execution of the final closure construction including performance of the soil-bentonite slurry wall. The drinking water and GSI pathways are protected by quarterly monitoring performed under the Michigan-approved hydrogeological monitoring plan that includes a GSI Compliance Monitoring Program.

The final remedy for the Weadock Landfill will be formally selected per §257.97 and Michigan Solid Waste requirements once the selected option is reviewed and commented on by EGLE and a public meeting is conducted at least 30-days prior to the final selection as required under §257.96(e).

The next semiannual progress report will be submitted in six months, by July 31, 2026. Please feel free to contact me with any questions or clarifications.

Sincerely,



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Enclosures:

1) CCR Annual Groundwater Report Requirements: § 257.90(e). Checklist for the Weadock Landfill CCR Unit.
2) First Quarter 2025 Hydrogeological Monitoring Report, JC Weadock Solid Waste Disposal Area, Essexville, Michigan. (TRC, April 30, 2025)
3) 2025 Semiannual Groundwater Monitoring Report and Second Quarter 2025 Hydrogeological Monitoring Report, JC Weadock Solid Waste Disposal Area, Essexville, Michigan. (TRC, July 30, 2025)
4) Third Quarter 2025 Hydrogeological Monitoring Report, JC Weadock Solid Waste Disposal Area, Essexville, Michigan. (TRC, October 30, 2025)
5) 2025 Semiannual Groundwater Monitoring Report and Fourth Quarter 2025 Hydrogeological Monitoring Report, JC Weadock Solid Waste Disposal Area, Essexville, Michigan. (TRC, January 30, 2026)

Enclosure 1

CCR Annual Groundwater Report Requirements: § 257.90(e). Checklist for the Weadock Landfill CCR Unit

CCR Annual Groundwater Report Requirements: § 257.90(e)
Checklist for the Weadock Landfill CCR Unit
2025 Annual Report

Requirement	Reference
At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:	
(1) A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;	Figure 2 [(2),(3),(4),(5)]
(2) Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;	Not Applicable - no installation or decommissioning
(3) In addition to all the monitoring data obtained under §§ 257.90 through 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;	Section 3.2 [(2),(3),(4),(5)]
(4) A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and	Section 1.2 Program Summary [(2),(3),(4),(5)]
(5) Other information required to be included in the annual report as specified in §§ 257.90 through 257.98.	Certified ASD[(3)(5)]
(6) A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:	
(i) At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95;	Annual Report Cover Letter [(1)]; Section 1.2 Program Summary [(2),(3),(4),(5)]
(ii) At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95;	Annual Report Cover Letter [(1)]; Section 1.2 Program Summary [(2),(3),(4),(5)]
(iii) If it was determined that there was a statistically significant increase over background for one or more constituents listed in appendix III to this part pursuant to § 257.94(e):	Section 1.2 Program Summary [(2),(3),(4),(5)]; Section 3.4 Groundwater Analytical Data and Relevant Screening Criteria [(2),(3),(4),(5)]; Certified ASD [(3)(5)]
(A) Identify those constituents listed in appendix III to this part and the names of the monitoring wells associated with such an increase; and	
(B) Provide the date when the assessment monitoring program was initiated for the CCR unit.	Section 1.2 Program Summary [(2),(3),(4),(5)]
(iv) If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in appendix IV to this part pursuant to § 257.95(g) include all of the following:	Section 1.2 Program Summary [(2),(3),(4),(5)]; Section 3.4 Groundwater Analytical Data and Relevant Screening Criteria [(2),(3),(4),(5)]; Certified ASD [(3)(5)]
(A) Identify those constituents listed in appendix IV to this part and the names of the monitoring wells associated with such an increase;	
(B) Provide the date when the assessment of corrective measures was initiated for the CCR unit;	Section 1.2 Program Summary [(2),(3),(4),(5)]
(C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and	Not Applicable - final remedy still under evaluation
(D) Provide the date when the assessment of corrective measures was completed for the CCR unit.	Annual Report Cover Letter [(1)]
(v) Whether a remedy was selected pursuant to § 257.97 during the current annual reporting period, and if so, the date of remedy selection; and	Annual Report Cover Letter [(1)]; final remedy still under evaluation
(vi) Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.	Annual Report Cover Letter [(1)]; final remedy still under evaluation

Notes:

(1) *2025 Annual Groundwater Monitoring and Corrective Action Report JC Weadock Landfill Coal Combustion Residuals CCR Unit.* Consumers Energy. January 30, 2026.

(2) *First Quarter 2025 Hydrogeological Monitoring Report, JC Weadock Solid Waste Disposal Area, Essexville, Michigan.* TRC. April 30, 2025.

(3) *2025 Semiannual Groundwater Monitoring Report and Second Quarter 2025 Hydrogeological Monitoring Report, JC Weadock Solid Waste Disposal Area, Essexville, Michigan.* TRC. July 30, 2025.

(4) *Third Quarter 2025 Hydrogeological Monitoring Report, JC Weadock Solid Waste Disposal Area, Essexville, Michigan.* TRC. October 30, 2025.

(5) *2025 Semiannual Groundwater Monitoring Report and Fourth Quarter 2025 Hydrogeological Monitoring Report, JC Weadock Solid Waste Disposal Area, Essexville, Michigan.* TRC. January 30, 2026.

Enclosure 2

First Quarter 2025 Hydrogeological Monitoring Report, JC Weadock Solid Waste Disposal Area, Essexville, Michigan. (TRC, April 30, 2025)

First Quarter 2025 Hydrogeological Monitoring Report

JC Weadock Solid Waste Disposal Area
Essexville, Michigan

April 2025

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1.0 Introduction

Consumers Energy implemented a comprehensive compliance monitoring plan documented in the *Revised Hydrogeological Monitoring Plan* (Natural Resource Technology, 2010) for the JC Weadock Solid Waste Disposal Area (Weadock Landfill) as required by Special License Condition 20.b in Solid Waste Disposal Area Operating License No. 9233 issued on October 15, 2009. Since that time, the United States Environmental Protection Agency (USEPA) published the final rule for the regulation and management of Coal Combustion Residuals (CCR) under the Resource Conservation and Recovery Act (RCRA) (the CCR Rule) (USEPA, April 2015 as amended) imposing groundwater monitoring and corrective action requirements that apply to the Weadock Landfill. Subsequently, Michigan amended Part 115 of the Natural Resources and Environmental Protection Act (NREPA) PA 451 of 1994, as amended (a.k.a., Michigan Part 115 Solid Waste Management) to provide a basis for establishing a groundwater monitoring system and initiating detection and assessment monitoring to conform requirements for any licensed coal ash impoundment or landfill after December 28, 2018, with Part 115 amendments and the CCR Rule.

On January 15, 2021, Consumers Energy submitted the *Landfill Hydrogeological Monitoring Plan, JC Weadock Power Plant, Essexville, Michigan* (Weadock Landfill HMP), which includes components for Detection Monitoring and Assessment Monitoring, as well as Groundwater Surface Water Interface (GSI) Compliance Monitoring, to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to comply with the requirements of Part 115 and the CCR Rule. The Weadock Landfill HMP (TRC, February 2021) was revised per EGLE comments, submitted, and approved by EGLE on February 19, 2021, and incorporated, by reference, in Solid Waste Disposal Area Operating License No. 9640 issued on March 11, 2021.

1.1 Statement of Adherence to Approved Hydrogeological Monitoring Plan

This First Quarter 2025 JC Weadock Hydrogeological Monitoring Report (Report) has been prepared by TRC on behalf of Consumers Energy to satisfy quarterly groundwater monitoring and reporting requirements during the active life of the coal ash landfill. This Report was prepared in accordance with the items listed in Appendix A (Solid Waste Monitoring Submittal Components) of the May 15, 2015 Michigan Department of Environmental Quality (MDEQ) – Office of Waste Management and Radiological Protection, now the EGLE Materials Management Division (MMD), communication prescribing the format for solid waste disposal facility monitoring submittals as published in OWMRP-115-29, dated July 5, 2013 *Format for Solid Waste Disposal Facility Monitoring Submittals*. All references herein to the EGLE are inclusive of the MDEQ. Information contained in this report was prepared in adherence to the Weadock Landfill HMP that was approved by the EGLE on February 19, 2021. The Weadock Landfill HMP is compliant with Public Act No. 640 of 2018 (PA 640) to amend the NREPA, also known as Part 115 of PA 451 of 1994, as amended (Part 115) (a.k.a., Michigan Part 115 Solid Waste Management).

1.2 Program Summary

This Report provides results and summarizes the monitoring activities completed in the first quarter 2025 at the JC Weadock Solid Waste Disposal Area (*i.e.* the Weadock Landfill) located at 2742 Weadock Highway in Essexville, Michigan (Figure 1). This JC Weadock Disposal Area is currently authorized under a permit (Groundwater Discharge Authorization GWE-0005) issued pursuant to Part 31 to discharge to the unusable aquifer directly underlying the solid waste that vents almost immediately to the Saginaw River and Saginaw Bay.

The Weadock Landfill is currently in assessment monitoring pursuant to the CCR Rule. Consumers Energy first reported the potential for statistically significant increases (SSIs) for Appendix III constituents in the *Annual Groundwater Monitoring Report JC Weadock Power Plant Bottom Ash Pond CCR Unit* (TRC, January 2018). The statistical evaluation of the Appendix III indicator parameters confirming SSIs over background were as follows:

- Boron at JCW-MW-15011, JCW-MW-15012, JCW-MW-15023; and
- Field pH at JCW-MW-15023 (high).

On April 25, 2018, Consumers Energy entered assessment monitoring upon determining that an Alternate Source Demonstration for the Appendix III constituents was not successful. After subsequent sampling for Appendix IV constituents, Consumers Energy provided notice to the Department on January 14, 2019 that arsenic was detected at statistically significant levels above the federal groundwater protection standards (GWPS) established pursuant to §257.95(h) in one monitoring well at the Weadock Landfill (JCW-MW-15023), which was located downgradient of a 1,600 linear foot vent within the slurry wall enclosing the historical fly ash disposal area. The vent was designed to direct groundwater flow beneath the landfill to the discharge channel immediately upgradient from the National Pollutant Discharge Elimination System (NPDES) external outfall to prevent water from building up within the facility. In July 2018, this vent was closed (Golder, 2018) and the engineering improvement was approved by the Department (MDEQ, 2018). As a part of the vent closure, monitoring wells JCW-MW-15011, JCW-MW-15012, and JCW-MW-15023 were decommissioned by over drilling, removing the well material, and sealing the borehole to allow for the slurry wall construction as discussed in the *2018 Annual Groundwater Monitoring Report for the JC Weadock Landfill CCR Unit* (TRC, 2019a). Consumers Energy installed an additional nine monitoring wells in August 2018 to supplement the preexisting Michigan Part 115 compliance groundwater well network and provide appropriate coverage for the collection of groundwater levels and water quality data along the perimeter of the Weadock Landfill, as discussed in the Weadock Landfill HMP. Closing the vent and completely encircling the Weadock Landfill with a soil-bentonite slurry wall has demonstrated reduced groundwater flux around the entire perimeter of the landfill.

In March 2019, Consumers Energy submitted a Response Action Plan (Consumers, 2019), which identified interim response activities taken or to be taken to control possible sources of contamination. Consumers Energy further evaluated arsenic in groundwater at the Weadock Landfill as part of the nature and extent analysis and outlined potential remedies in the *Assessment of Corrective Measures* (TRC, 2019b), which was initiated on April 14, 2019, and completed on September 11, 2019, and focused on materials management with an emphasis

on improving source control through the closure plan.

Compliance monitoring is being implemented under the Weadock Landfill HMP dated February 2021 and approved by the EGLE on February 19, 2021. Groundwater data collected in accordance with the Weadock Landfill HMP are used to:

- Assess background groundwater quality for the purposes of establishing and updating GWPS (HMP Section 7.1 Background Determination)
- Perform detection monitoring to assess whether a new release has occurred during operation of the landfill (*i.e.* statistically significant increase (SSI) over background) (HMP Section 7.2 Detection Monitoring)
- Perform assessment monitoring to assess whether constituent concentrations in groundwater from prior operations are above a risk-based standard (*i.e.* statistically significant level over the GWPS) (HMP Section 7.3 Assessment Monitoring)
- Assess compliance with the GSI pathway (HMP Section 7.4)

Consumers Energy also continues to execute the self-implementing groundwater compliance schedule in conformance with §257.90 - §257.98 of the CCR Rule, which includes semiannual assessment monitoring in accordance with §257.95 during the second and fourth calendar quarters. Assessment monitoring data collected in accordance with the CCR Rule is used to assess whether constituent concentrations in groundwater from prior operations are above a risk-based standard (*i.e.* statistically significant level over the Appendix IV GWPS).

1.3 Site Overview

The JC Weadock Solid Waste Disposal Area is located within the former JC Weadock Power Plant (Site), located south of the DE Karn Power Plant, east of the Saginaw River, west of Underwood Drain and Saginaw Bay, and north of Tacey Drain and agricultural land (Figure 1). In addition to the disposal area, the Site consists of the generating facility which retired eight coal-fired generating units and infrastructure and utilities that support electrical transmission. Units 1 to 6 commenced operation in 1940 and retired in 1980 and Units 7 and 8 were added in 1955 and 1958 continued to operate through April 15, 2016.

1.4 Geology/Hydrogeology

The majority of Weadock Landfill area is comprised of surficial CCR and sand fill, as described in the Weadock Landfill HMP. USGS topographic maps and aerial photographs dating back to 1950, in addition to field descriptions of subsurface soil at the Site, indicate that the Site was largely developed by reclaiming low-lands through construction of perimeter dikes and subsequent ash filling (AECOM, 2009).

The surficial fill consists of a mixture of varying percentages of ash, sand, and clay-rich fill ranging from 5 to 15 feet thick. Below the surficial fill, native alluvium and lacustrine soils are present at varying depths. Generally, there is a well graded sand unit present to depths of 10-30 feet below ground surface (ft bgs) overlying a clay till which is observed at depths ranging from 25-75 ft bgs. In general, the alluvium soils (sands) are deeper along the Saginaw River and there are shallower lacustrine deposits (clays, silts, and sands deposited in or on the shores

of glacial lakes) at other areas. Along the perimeter of the landfill, there is a well-graded sand unit present at depths ranging from 10 to 20 ft bgs. The sand is variable in thickness, ranging from <1 to ~6.5 feet, and is discontinuous along the landfill perimeter, as evidenced by the soil boring logs and slurry wall construction documentation.

The alluvium soils pinch out and are not observed in soil borings located south and east of the Weadock Landfill, along the location of the historic shoreline. The non-water-bearing region south of these units extends for at least a mile south and southeast of the Site.

Beneath the surficial fill and sand unit (where present) is 70 to 80 feet of clay till. Along the southern perimeter of the landfill, some of the upper portion of the clay till is sand-rich (generally greater than 20 ft bgs). The clay till acts as a hydraulic barrier that separates the shallow groundwater from the underlying sandstone. The sandstone unit, which is part of the Saginaw Formation, is generally encountered at 80-90 ft bgs.

The Weadock Landfill is bounded by several surface water features (Figures 1 and 2): the Saginaw River to the west, a discharge channel and Saginaw Bay (Lake Huron) to the north, Underwood Drain to the east, and Tacey Drain to the south. Groundwater flow in this water bearing zone is largely controlled by the surface water elevations of Saginaw River and Saginaw Bay.

2.0 Leachate Monitoring

The leachate monitoring program consists of an annual laboratory leachate sampling program (Q1) and an annual field leachate sampling program (Q4) per the Weadock Landfill HMP. This program was instituted to maintain the facility under the applicable portions of Part 115, Rule 311 – Leaching tests to evaluate potential for groundwater contamination at unlined industrial waste landfills. Specifically, Subrule (3) states that waste that is disposed of in an industrial waste landfill shall be retested to evaluate potential for groundwater contamination annually or on a more frequent schedule as specified by the solid waste control agency. In addition to field leachate testing conducted annually to evaluate appropriateness of monitored constituents and changes to fate and transport properties, an annual laboratory leachate analysis program was included to better understand what, if any, changes to waste placement may be occurring at the Weadock Landfill based on the addition of air emissions controls and the commingling of air emissions controls residuals (Spray Dry Absorber – SDA) over time. The Weadock Landfill HMP includes the laboratory leachate testing program, consisting of four dry-handled Coal Combustion Residual (CCR) samples commingled with SDA materials collected from each of the disposal silos dedicated to DE Karn Electrical Generating Units 1 and 2. Karn Units 1 & 2 permanently ceased operation on May 31, 2023, so additional CCR and air emissions residuals are not being generated; therefore, there are no results to report for this waste stream and the laboratory leachate monitoring is discontinued. In order for the Weadock Landfill to achieve the final grades as approved in the Revised Final Closure Plan (Golder, March 2022), it is noteworthy that the landfill continues to receive materials in the form of uncontaminated soil from documented sources, and limited contaminated soil that has been authorized for placement in the Weadock Landfill under the Beneficial Use 4 designation as other materials designated for construction at a licensed solid waste disposal facility. These results are maintained with the closure certification documentation.

Additional support for evaluating the potential for groundwater contamination at the unlined industrial waste landfill includes the field leachate monitoring program conducted during the fourth quarter of each year. This program consists of an annual sampling collection from two (2) leachate headwells; LH-103R and LH-104. This program was implemented to determine constituents in the leachate as measured under actual conditions in the field and to assess which constituents have the potential to exceed applicable criteria at the compliance well locations. There are no field leachate data to report this quarter.

3.0 Groundwater Monitoring

3.1 Monitoring Well Network

The groundwater monitoring system presented in the Weadock Landfill HMP has been established in accordance with R 299.4906 and the CCR Rule §257.91 and consists of 27 monitoring wells (four background monitoring wells, 12 downgradient monitoring wells, and 11 additional wells used for static water level measurements only) that are screened in the uppermost aquifer. The monitoring well network has been designed to provide appropriate coverage for water level and water quality data collection along the perimeter of the landfill. The monitoring well locations are shown on Figure 2. Monitoring well specifications and purpose (i.e. static water level monitoring, groundwater quality monitoring, or GSI monitoring) are included in Table 1.

The Weadock Landfill HMP groundwater monitoring system consists of the following:

- ***Background Groundwater Quality:*** Four monitoring wells located southwest of the Weadock Landfill provide data on background groundwater quality that has not been affected by the CCR unit (MW-15002, MW-15008, MW-15016, and MW-15019) and are used to establish groundwater protection standards (GWPSs) for the landfill:
  - MW-15002 – MW-15008 – MW-15016 – MW-15019
- ***Downgradient Groundwater Quality:*** The twelve downgradient monitoring wells, located on the outside of the perimeter slurry wall include:
  - JCW-MW-18001 – JCW-MW-18004 – JCW-MW-18005 – JCW-MW-18006
  - MW-50 – MW-51 – MW-52 – MW-53
  - MW-53R – MW-54R – MW-55 – OW-57R Out
- ***Groundwater-Surface Water Interface (GSI) Monitoring***: Monitoring wells located along the surface water features adjacent to the Weadock Landfill are included in the monitoring program to meet the requirements of Part 31. Locations and alignments were established in the Phase II Groundwater Discharge Evaluation, Figure: Appendix K (Natural Resource Technology, 2005) as a baseline for monitoring future results. These monitoring wells are screened across the water table of the uppermost aquifer and serve as GSI monitoring wells to determine compliance with generic GSI criteria or site-specific mixing zone-based criteria as appropriate. The eight GSI compliance monitoring wells include:
  - MW-50 – MW-51 – MW-52 – MW-53
  - MW-53R – MW-54R – MW-55 – JCW-MW-18004
- ***Static Water Level Measurement Only:*** Eleven additional monitoring wells, located on the inside of the perimeter slurry wall at paired locations with several of the downgradient monitoring wells, are used to evaluate the groundwater flux across the slurry wall:
  - JCW-OW-18001 – JCW-OW-18002 – JCW-MW-18003 – JCW-MW-18004
  - JCW-MW-18005 – JCW-MW-18006 – MW-20 – OW-51
  - OW-53 – OW-54 – OW-55 – OW-56R
  - OW-57R IN – OW-61 – OW-63

3.2 March 2025 Monitoring Event

In accordance with the Weadock Landfill HMP, TRC conducted the first quarter 2025 monitoring event for the Weadock Landfill by collecting water levels and groundwater samples on March 3 through 5, 2025. Samples that were collected during this event were submitted to Consumers Energy Laboratory Services in Jackson, Michigan for analysis of total metals and inorganic parameters. Quarterly monitoring constituents include:

Section 11511a(3)(c) – Detection Monitoring Constituents	Section 11519b(2) – Assessment Monitoring Constituents	
Boron	Antimony	Lithium
Calcium	Arsenic	Mercury
Chloride	Barium	Molybdenum
Fluoride	Beryllium	Nickel
Iron	Cadmium	Selenium
pH	Chromium, total	Silver
Sulfate	Cobalt	Thallium
Total Dissolved Solids (TDS)	Copper	Vanadium
	Fluoride	Zinc
	Lead	

Select samples were also analyzed for additional constituents including magnesium, sodium, potassium, and bicarbonate, carbonate, and total alkalinity to further assess geochemistry. Analytical results from the monitoring event are included in the attached laboratory reports (Appendix E).

Static water level measurements were collected at all locations after equilibration to atmospheric pressure. The depth to water was recorded to the nearest 0.01-ft in accordance with the procedures in the Weadock Landfill HMP. Static water elevation data are included in the attached field records (Appendix F).

Groundwater purging and sampling were conducted in accordance with low-flow sampling protocol. Groundwater samples were collected using a peristaltic pump. The samples were collected in vendor-provided, nitric acid pre-preserved (metals only) and unpreserved sample containers and submitted to the laboratory for analysis. Groundwater sample preparation and analyses were performed in accordance with SW-846 “Test Methods for Evaluation Solid Waste – Chemical / Physical Methods,” USEPA (latest revision). TRC followed chain of custody procedures to document the sample handling sequence.

TRC also collected quality assurance/quality control (QA/QC) samples during the groundwater sampling event. The QA/QC samples consisted of two field blanks, one equipment blank, three field duplicates (MW-15019, JCW-MW-18006, and MW-50), and one field matrix spike/matrix

spike duplicate sample pair (JCW-MW-18001).

3.2.1 Data Quality Review

Data were evaluated for completeness, overall quality and usability, method-specified sample holding times, precision and accuracy, and potential sample contamination. The laboratory data were found to be complete and usable for the purposes of the Weadock Landfill HMP. The data quality reviews for the Weadock Landfill monitoring network wells are summarized in Appendix B.

3.3 Groundwater Flow Rate and Direction

Potentiometric monitoring in the unusable aquifer beneath the facility includes static water level data collected for development of water table contours and evaluation of the potential for discharge from the facility. The monitoring under this section will be conducted quarterly until closure, as approved by the Director, and semiannually during the 30-year post-closure period. Monitoring will continue until the end of post closure (30 years) or as otherwise approved by the Director.

The measurements for top of casing (TOC) and recorded depth to water (DTW) with corresponding calculated static water level (SWL) is tabulated and presented in Table 1. A potentiometric surface map is provided as Figure 3.

Groundwater elevations measured at the Site in March 2025 are generally within the range of 578 to 590 feet above mean sea level (ft NAVD88). Groundwater elevations in monitoring wells located adjacent to Saginaw Bay and adjoining surface water bodies are typically encountered at a similar or slightly higher elevation relative to surrounding surface water features measured by the NOAA gauging station. A time-series plot included in Appendix A compares the groundwater elevation at the GSI monitoring wells (MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, JCW-MW-18004, and MW-55) to the nearby NOAA staff gauge. Water levels in wells adjacent to surface water bodies (e.g. Saginaw Bay, Tacey Drain) closely mirror the surface water elevation. Such conditions would result in a minimal gradient between the well and the drain which would result in minimal mass flux to the drain (Appendix A: Table A1).

The groundwater monitoring system is structured such that there are eleven monitoring well pairs used to evaluate the hydraulic gradient and potential for water flux across the slurry wall. Static water level observations from the paired wells are shown on time series charts in Appendix A. The static water level elevations inside of the Weadock Landfill perimeter slurry wall are generally significantly different (>3 ft) than static water levels outside of the slurry wall, which demonstrates the presence of a low permeability feature between the well pairings inside and outside of the constructed slurry wall. As such, the water level elevations indicate that the slurry wall is performing as designed. The general flow direction observed within the confinement of the slurry wall is similar to that identified in previous monitoring rounds. Due to the potential for radial flow, the downgradient wells are appropriately positioned to detect the presence of detection or assessment parameters that could potentially migrate from the Weadock Landfill. As shown on Figure 3 and in Appendix A, the static water level outside of the slurry wall is lower than the static water level inside of the wall; therefore, the potential

groundwater flux across the slurry wall was calculated and included in Table A2 of Appendix A.

3.4 Groundwater Analytical Data and Relevant Screening Criteria

Groundwater analytical data are evaluated in accordance with the Weadock Landfill HMP to determine the effectiveness of landfill structural and operational enhancement measures on the quality and quantity of groundwater flow beneath the footprint of the facility (Section 3.4.1 Detection Monitoring and Section 3.4.2 Assessment Monitoring). Additionally, analytical results are evaluated in support of GSI compliance. GSI criteria only apply to the designated compliance points as specified in Section 3.4.3 below; however, analytical results and data trends in groundwater collected from all perimeter dike wells are evaluated to identify potential GSI compliance issues. Data are evaluated by using a combination of screening against relevant criteria, as well as utilizing statistical analyses.

Analytical results from the first quarter 2025 monitoring event are included in the attached laboratory report (Appendix E). Groundwater analytical data from the first quarter 2025 monitoring event are summarized in Table 3 (background monitoring wells) and Table 4 (Weadock Landfill Monitoring Wells), as well as the associated Part 201 generic GSI and site-specific mixing-zone GSI criteria. Field data are summarized in Table 2.

Mixing-zone criteria for arsenic, boron, molybdenum, and selenium are provided for the Karn-Weadock complex in the mixing zone determination, dated October 4, 2024 (EGLE, 2024). As such, arsenic, boron, molybdenum, and selenium are compared to site-specific mixing zone-based GSI criteria, and all other constituents are screened against generic GSI criteria. All data are screened against GSI criteria; however, compliance with GSI criteria is determined at select monitoring locations as noted in Section 3.4.3 below.

The mixing zone determination included both final acute values (FAV) and final chronic values (FCV). If a concentration of a constituent at a groundwater well exceeds the acute criteria, and the exceedances are upgradient of the GSI compliance monitoring wells, Consumers Energy must demonstrate that data from all of the compliance monitoring wells are, and will be, in compliance with acute mixing zone-based GSI criteria for those parameters. Averaging of groundwater data is not allowed for comparison to generic GSI or acute mixing zone-based GSI criteria. Acute mixing zoned-based or generic GSI criteria may not be exceeded in any individual GSI compliance monitoring well. If a concentration of a constituent at a GSI compliance monitoring well exceeds the chronic criterion, compliance can be demonstrated on a mass-flux basis. The facility can choose to demonstrate compliance by evaluating the total chronic loading based upon the contribution from each compliance well with respect to the total flux observed in the mixing zone.

Table 6 provides a summary of the exceedances over the most recent four quarters in accordance with the EGLE-prescribed format; only well/constituent pairs that exceed the relevant Part 115 compliance standard – the GSI pathway standard (Section 3.4.3) within the last four quarters are included.

3.4.1 Detection Monitoring

Detection monitoring is continuing through the active life of the Weadock Landfill to monitor for new releases from landfill operations. The detection monitoring program consists of potentiometric analysis and groundwater quality analysis. The potentiometric analysis, as discussed in Section 3.3, demonstrates that the slurry wall is performing as designed.

In addition to the comparison of analytical data to relevant screening criteria (Table 4), statistical trend analyses are used to evaluate groundwater quality each quarter. Consumers Energy manages and evaluates its groundwater data using Sanitas™ Statistical Software. Consumers Energy conducts intrawell trend analyses to examine data for a given well over time to determine if changes in water quality are occurring that may be associated with the landfill and to identify potential GSI compliance issues. Specifically, the Mann-Kendall test for trend was performed at a significance level (α) of 0.025 per tail for each constituent/sampling point dataset to assess trends. Sen's Slope estimator was used to assess the magnitude of the slope and the Mann-Kendall test was used to determine if the trend was statistically significant.

Appendix C includes a table summarizing the results of the trend tests as well as the Sanitas™ output summary statistics and graphs. Data are stable or declining for the majority of the well/constituent pairs, with the following exceptions:

- The new increasing trend for boron observed at JCW-MW-18006 in Q4 2024 was confirmed in Q1 2025. New, unconfirmed increasing trends for boron were observed at MW-50 and MW-54R in Q1 2025.
- The new increasing trend for chloride observed at MW-53R in Q4 2024 was confirmed in Q1 2025. New, unconfirmed increasing trends for chloride were observed at MW-54R and OW-57R OUT in Q1 2025.
- The new increasing trends in pH observed at monitoring wells JCW-MW-18001, JCW-MW-18004, and MW-51 in Q4 2024 were confirmed in Q1 2025. New increasing trends in pH were observed at monitoring wells JCW-MW-18006, MW-52, MW-53, and OW-57R OUT in Q1 2025. Increasing trends for pH continued at MW-50, MW-53R, and MW-54R in Q3 2024.

Although increasing trends for detection monitoring constituents were observed, individual constituent trends provide a *potential indication* that there may be a release coming from the monitored unit. When these indicator trends are evaluated with other co-monitored conditions and parameters at the Weadock Landfill, the increasing trends for detection monitoring constituents do not appear to be a result of a new release from operation of the landfill. The potentiometric analysis demonstrates that the slurry wall is effective in reducing the flux of groundwater from the landfill. All concentrations remain below the applicable GSI criteria, as discussed in Section 3.4.3 below.

Consumers is further evaluating possible causes of the increasing boron concentrations at several porewater compliance monitoring wells. Previous studies (NRT, 2005) documented boron at significantly elevated concentrations at the Karn-Weadock Power Generating Complex. Boron was also identified as an SSI over background levels in the 2017 *Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit* (TRC, 2018) and was one of

the detection monitoring constituents that triggered the initiation of the assessment monitoring program. Statistical significance above the GWPS established for boron has been noted for these monitoring wells per the Part 115 groundwater monitoring program requirements, as discussed in Section 3.4.2.2. Continued monitoring and assessment for potential future actions is warranted at this time; however, observed concentrations of boron in each of the monitoring wells are less than the relevant Part 115 compliance standard – the GSI pathway standard (Section 3.4.3).

3.4.2 Assessment Monitoring Data Evaluation

Assessment monitoring is continuing at the Weadock Landfill in accordance with the Weadock Landfill HMP and §257.95. The assessment monitoring data were statistically evaluated in accordance with the procedures in the Weadock Landfill HMP. The statistical evaluation details are provided in Appendix D. A summary of the confidence interval evaluation is provided in Table 5.

3.4.2.1 Establishing Groundwater Protection Standards

The GWPSs are used to assess constituent concentrations present in groundwater as a result of CCR unit operations by statistically comparing concentrations in the downgradient wells to each of the respective GWPSs for each detection and assessment monitoring constituent. The calculation of the GWPSs in accordance with the Weadock Landfill HMP is documented in the *Groundwater Protection Standards* technical memorandum included as Appendix H of the *First Quarter 2021 Hydrogeological Monitoring Report* (TRC, 2021b). The Federal CCR Rule requires establishment of GWPSs for assessment monitoring (Appendix IV) constituents only. Part 115 requires establishment of GWPSs for both detection and assessment monitoring constituents.

3.4.2.2 Data Comparison to Groundwater Protection Standards

Consistent with the *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (Unified Guidance) (USEPA, 2009) and the Weadock Landfill HMP, the preferred method for comparisons to a fixed standard are confidence limits. An exceedance of the standard occurs when the 99 percent lower confidence level of the downgradient data exceeds the GWPS.

Detection Monitoring Constituents (Part 115): The first quarter 2025 statistical evaluation indicates that boron at JCW-MW-18001, JCW-MW-18005, JCW-MW-18006, MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, and OW-57R OUT, calcium at JCW-MW-18001, and sulfate at JCW-MW-18001 were present at statistically significant levels above the GWPS. The GWPSs for boron, calcium, and sulfate were established based on background concentrations observed in wells unaffected by the Weadock Landfill or Weadock Bottom Ash Pond. Detection monitoring (i.e., Appendix III) constituents do not have associated health-based criteria and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. Overall, data continue to demonstrate compliance with the applicable criteria as described in Section 3.4.3 below.

Assessment Monitoring Constituents (Part 115 and Federal CCR): Based on the first quarter 2025 statistical evaluation, there are no assessment monitoring constituents present at statistically significant levels above the GWPSs within the Weadock Landfill groundwater monitoring system. Although concentrations of arsenic at MW-55 observed during individual sampling events are above the GWPS, the elevated concentrations are not a result of a release from the Weadock Landfill, as detailed in Section 3.5.

3.4.3 GSI Compliance Monitoring

The GSI monitoring program consists of the eight monitoring points located along the surface water features:

- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- JCW-MW-18004

First quarter 2025 data from the GSI monitoring points are tabulated in Table 4. As described in the Weadock Landfill HMP, GSI monitoring program constituents were identified as detected constituents that have the potential to exceed the generic GSI criteria at the Weadock Landfill downgradient monitoring wells. At a minimum, these constituents include the following, identified based on prior groundwater monitoring as noted in the Weadock Landfill HMP:

- Boron
- Iron
- pH
- Sulfate
- Arsenic
- Chromium
- Lithium
- Molybdenum
- Selenium
- Vanadium

Additional constituents will be added to the GSI monitoring program as appropriate if detected above the relevant GSI criteria at the landfill monitoring wells in two consecutive events. Calcium, chloride, and total dissolved solids have been detected above the generic GSI criteria in one or more wells over two consecutive events; however, it is not appropriate to add these constituents to the GSI monitoring program for the following reasons:

- **Calcium:** Calcium has been detected above the generic GSI criterion at JCW-MW-18001. As discussed further in Section 3.5, the concentrations of calcium at JCW-MW-18001 are attributed to localized changes in geochemistry and are not indicative of a new release from the landfill. Concentrations in all other wells remain below the generic GSI criterion, supporting that the detected concentrations are localized to JCW-MW-18001. Given that JCW-MW-18001 is not a GSI compliance monitoring location and the increase in calcium is not attributed to the landfill operation, it is not appropriate to add calcium to the GSI compliance monitoring program.
- **Chloride:** Chloride has been detected above the generic GSI criterion of 50 mg/L in several wells. Chloride is regionally elevated, as evidenced by the calculated background concentration of 2,300 mg/L, documented in the *Groundwater Protection Standards* technical memorandum included as Appendix H of the *First Quarter 2021 Hydrogeological Monitoring Report* (TRC, 2021b). Consistent with the *Groundwater-Surface Water Interface Pathway Compliance Options* (MDEQ, 2018a) resource materials, where the background concentration is greater than the risk-based GSI criterion, the

background concentration may be substituted for the GSI criterion. All chloride concentrations are below the background concentration. Therefore, chloride is determined to be below the applicable level and is not included in the GSI compliance monitoring program.

- **Total Dissolved Solids:** Total dissolved solids (TDS) has been detected above the generic GSI criterion of 500 mg/L in several wells. TDS is regionally elevated, as evidenced by the calculated background concentration of 4,700 mg/L, documented in the *Groundwater Protection Standards* technical memorandum included as Appendix H of the *First Quarter 2021 Hydrogeological Monitoring Report* (TRC, 2021b). Consistent with the *Groundwater-Surface Water Interface Pathway Compliance Options* (MDEQ, 2018a) resource materials, where the background concentration is greater than the risk-based GSI criterion, the background concentration may be substituted for the GSI criterion. All TDS concentrations are below the background concentration. Therefore, TDS is determined to be below the applicable level and is not included in the GSI compliance monitoring program.

The confidence interval evaluation is provided in Appendix D. The confidence interval test compares the lower confidence limit to the GSI. Overall, data continue to demonstrate compliance with the applicable GSI criteria.

- **Boron:** The detection monitoring statistical evaluation found that boron concentrations are increasing at JCW-MW-18006. The assessment monitoring statistical evaluation found that boron was present at statistically significant levels above the GWPS at JCW-MW-18001, JCW-MW-18005, JCW-MW-18006, MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, and OW-57R OUT. Boron is a detection monitoring (i.e. Appendix III) constituent and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. All observations of boron are less than the recommended mixing-zone based GSI value specified in Table 1 of the *Implementation of a Mixing Zone Request, DE Karn/JC Weadock Complex* (EGLE, 2024) (Appendix D: Table 2).
- **Calcium:** The detection monitoring statistical evaluation did not find that calcium concentrations are increasing at any of the downgradient monitoring wells. The assessment monitoring statistical evaluation found that calcium was present at statistically significant levels above the GWPS at JCW-MW-18001. Consumers is asserting an ASD for the increases in calcium at JCW-MW-18001, as detailed in Section 3.5. Calcium is not identified to have the potential to exceed the generic GSI criteria at the Weadock Landfill downgradient monitoring wells; therefore, data are not evaluated against the GSI criteria.
- **pH:** The detection monitoring statistical evaluation found that pH readings were increasing at JCW-MW-18001, JCW-MW-18004, MW-50, MW-51, MW-53R, and MW-54R. The assessment monitoring statistical evaluation did not find that pH was present at statistically significant levels above the GWPS at any of the downgradient monitoring wells. pH is a detection monitoring (i.e. Appendix III) constituent and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. All observations of pH are within the applicable GSI criteria (Appendix D: Table 2).
- **Sulfate:** The detection monitoring statistical evaluation did not find that sulfate concentrations were increasing at any of the downgradient monitoring wells. The assessment monitoring statistical evaluation found that sulfate was present at statistically significant levels above the GWPS at JCW-MW-18001. Sulfate is a detection monitoring

(i.e. Appendix III) constituent and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. JCW-MW-18001 is not a GSI compliance well; the concentrations of sulfate in the GSI compliance monitoring wells remain below the applicable GSI criterion (Final Acute Value [FAV]) (Appendix D: Table 2).

3.5 Alternate Source Demonstration

At this time, Consumers Energy is continuing to assert an Alternate Source Demonstration (ASD), for the following, as detailed below:

- Calcium and sulfate in monitoring well JCW-MW-18001; and
- Arsenic in monitoring well MW-55.

The groundwater conditions do not conclusively indicate a release from the unit for several reasons as detailed below.

3.5.1 Monitoring Well JCW-MW-18001: Calcium and Sulfate

Although confirmed increasing trends were observed at JCW-MW-18001 for calcium (through Q3 2024) and sulfate (through Q2 2024) and concentrations of calcium and sulfate are present at statistically significant levels above the GWPSs at JCW-MW-18001, these trends are not indicative of a new release from the landfill. Calcium and sulfate are two of several constituents that contribute to the overall TDS concentration and increasing calcium and sulfate concentrations likely contribute to an overall increase in TDS as well. TDS concentrations are not currently exhibiting a statistically significant upward trend; however, TDS concentrations have been increasing in past events and the data are discussed as part of this ASD. Increases of calcium, sulfate, and TDS concentrations at JCW-MW-18001 are attributed to changes occurring outside of the slurry wall as a result of changing water levels, rather than a change in flux from the landfill; therefore, Consumers Energy is continuing to assert an ASD for these constituents. The following lines of evidence as well as additional time series charts included in Appendix G support this ASD:

- The potentiometric analysis demonstrates that the slurry wall is effective in reducing the flux of groundwater from the landfill (Appendix A).
- Concentration data also support that the slurry wall is effective in reducing the flux of groundwater from the landfill, based on the following observations (Appendix G1):
  - JCW-MW-18001 was installed after the 1,600 linear foot gap in the landfill perimeter slurry wall was closed, as discussed in Section 1.2. Prior to the slurry wall expansion in July 2018, monitoring well JCW-MW-15023 was located within the gap of the slurry wall and was sampled between December 2015 and May 2018 as a part of the original Federal CCR program monitoring well network. The groundwater quality data collected from JCW-MW-15023 shows that groundwater in contact with CCR managed within the landfill was high in arsenic, and low in sulfate, calcium, and TDS (Appendix G1).
  - To accommodate the July 2018 slurry wall expansion, JCW-MW-15023 was decommissioned. Once slurry wall construction was completed, JCW-MW-18001 was installed within 10-ft of the location of the former JCW-MW-15023 well, on the discharge channel side of the slurry wall. Additionally, an observation well, JCW-OW-

18001, was installed on the landfill side of the slurry wall to monitor water levels to assess the effectiveness of the hydraulic control. Both JCW-MW-18001 (outside) and JCW-OW-18001 (inside) have been sampled recently to assess concentration trends.

  - Concentrations of arsenic are much higher inside of the slurry wall, within the landfill, while arsenic concentration remain low on the outside of the landfill.
  - Concentrations of calcium, sulfate, and TDS are much lower on the inside of the slurry wall and are higher outside of the slurry wall.

- These combined lines of evidence support that increasing concentrations of calcium, sulfate, and TDS are not a result of a change in flux from the landfill and instead are a result of changing groundwater conditions on the outside of the slurry wall.

3.5.2 Monitoring Well MW-55: Arsenic

Additionally, Consumers Energy is continuing to assert an ASD for arsenic at MW-55 indicating elevated levels of constituents at that location are not related to materials management of the Weadock Landfill (*2021 Annual Groundwater Monitoring and Corrective Action Report*; TRC, January 2022). The basis for this ASD is summarized below and updated time series plots in support of this ASD are included in Appendix G (Figure G2).

A targeted groundwater investigation was completed in August 2018 to further evaluate whether arsenic observed in MW-55 is potentially coming from the landfill or from another source. Data collected from the 2018 investigation as well as data collected during routine sampling events for Part 115 and Federal CCR groundwater compliance show the following:

- **Distinct Chemistry from Leachate –** The leachate chemistry from a monitoring well screened at the base of the ash fill (LH-104) is distinctly different from the groundwater chemistry near MW-55 and the temporary monitoring wells installed by TRC in the investigation area, as illustrated Appendix G of the 2019 Annual Groundwater Monitoring and Corrective Action Report (TRC, January 2020). Additionally, concentrations of arsenic and iron are generally much lower, and concentrations of boron are much higher within the landfill (LH-104) than outside of the landfill at MW-55 (Figure G2).
- **Conservative Tracer –** Boron is a metalloid known to be present in coal ash and can be used as a conservative tracer in groundwater. The average concentration of boron in Leachate Headwell LH-104 (11,000 ug/L: November 2017 - October 2024) is significantly higher than concentrations observed at any of the other locations sampled as a part of this monitoring program and approximately an order of magnitude higher than concentration observed at MW-55 (1,270 ug/L in March 2025). Additionally, recently observed boron concentrations at MW-55 are similar to or lower than historical concentrations, which further supports that the water quality at MW-55 is not directly affected by groundwater migrating from the landfill.
- **Changes in Geochemistry Related to Water Level Changes –** Water levels observed at MW-55, as shown in Appendices A and G, increased over 4-ft between 2010 and 2020. The oxidation-reduction potential (ORP) at MW-55 has generally decreased (i.e., is more reducing) since 2010, while pH has generally increased. These changes in field indicator parameters over time as a result of changes in water levels have affected the geochemical conditions in the vicinity of MW-55, resulting in changes in the solubility of both arsenic and iron. Since 2021, water levels have been generally decreasing, resulting in a slight increase in ORP (i.e., is less reducing) and decreases in pH and concentrations of both

arsenic and iron, which further illustrates the relationship between groundwater elevations, redox state, and concentration of arsenic and molybdenum in groundwater.

4.0 Conclusions and Recommendations

Detection monitoring is continuing through the active life of the Weadock Landfill to monitor for new releases from landfill operations. The detection monitoring program consists of potentiometric analysis and groundwater quality analysis. Evaluation of the first quarter 2025 data demonstrate that the slurry wall is functioning as designed.

The Weadock Landfill is currently in assessment monitoring pursuant to the CCR Rule, as discussed in the *2024 Annual Groundwater Monitoring and Corrective Action Report*, due to observed groundwater concentrations that are indicative of impact from past landfill operations. Evaluation of the first quarter 2025 data in accordance with the Weadock Landfill HMP demonstrate that boron, calcium, and sulfate are present at concentrations above the GWPSs. Boron, calcium, and sulfate are detection monitoring (i.e., Appendix III) constituents that do not have associated health-based criteria and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. The statistical evaluation in fourth quarter 2024 found that no constituents were present at statistically significant levels above applicable GSI criteria.

Therefore, Consumers Energy will continue with the detection and assessment monitoring as required by the CCR rule as well as the monitoring program relative to the implementation of the site-specific mixing zone authorization at the Weadock Landfill unit in conformance with the JC Weadock Landfill HMP. The second quarter monitoring event for is scheduled for May 2025.

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Tables

Table 1
Summary of Groundwater Elevation Data
JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program
Essexville, Michigan

Well Location	Static Water Level Monitoring	Groundwater Quality Monitoring	GSI Monitoring	Leachage Analysis Program	TOC Elevation (ft)	Geologic Unit of Screen Interval	Screen Interval Elevation (ft)			March 3, 2025	
										Depth to Water (ft BTOC)	Groundwater Elevation (ft)
Background Monitoring Wells											
MW-15002	✓	✓	--	--	587.71	Sand	580.9	to	570.9	7.20	580.51
MW-15008	✓	✓	--	--	585.36	Sand with clay	578.7	to	568.7	4.60	580.76
MW-15016	✓	✓	--	--	586.49	Sand	581.2	to	578.2	3.90	582.59
MW-15019	✓	✓	--	--	586.17	Sand and Sand/Clay	579.5	to	569.5	5.87	580.30
Former Bottom Ash Pond: Downgradient Monitoring Wells											
JCW-MW-15007	✓	--	--	--	587.40	Sand	582.7	to	579.2	4.20	583.20
JCW-MW-15009	✓	--	--	--	589.64	Sand	581.9	to	576.9	10.40	579.24
JCW-MW-15010	✓	--	--	--	597.76	Sand	579.7	to	578.2	16.95	580.81
JCW-MW-15028	✓	--	--	--	589.64	Sand	567.7	to	564.7	8.92	580.72
Landfill: Downgradient Monitoring Wells (outside slurry wall)											
JCW-MW-18001	✓	✓	--	--	596.73	Sand and Sandy Clay	578.3	to	573.3	18.60	578.13
JCW-MW-18004	✓	✓	✓	--	593.04	Sandy Clay	583.9	to	578.9	13.10	579.94
JCW-MW-18005	✓	✓	--	--	590.89	Sand and Sandy Clay	580.0	to	575.0	9.52	581.37
JCW-MW-18006	✓	✓	--	--	600.72	Fly Ash and Sandy Clay	582.8	to	577.8	15.15	585.57
MW-50	✓	✓	✓	--	593.36	Sand	577.8	to	574.8	15.00	578.36
MW-51	✓	✓	✓	--	594.29	Sand and Clay	577.8	to	574.8	15.73	578.56
MW-52	✓	✓	✓	--	594.90	Sand	579.3	to	576.3	16.30	578.60
MW-53	✓	✓	✓	--	593.68	Sand and Clay	579.1	to	576.1	14.40	579.28
MW-53R	✓	✓	✓	--	594.25	Sand and Clay	580.4	to	575.4	15.14	579.11
MW-54R	✓	✓	✓	--	593.89	Clay and Sand	581.3	to	576.3	14.46	579.43
MW-55	✓	✓	✓	--	593.82	Sand	581.5	to	578.5	14.60	579.22
OW-57R OUT	✓	✓	--	--	591.00	Sandy Clay	577.0	to	572.0	8.90	582.10

Notes:

Survey data from: Rowe Professional Services Company (Nov. 2015) and Consumers Energy Company drawings: SG-21733, Sheet 1, Rev. G (Karn, 11/27/18); and SG-21733, Sheet 2, Rev. C (Weadock, 11/27/18).

Elevation in feet relative to North American Vertical Datum 1988 (NAVD 88).

TOC: Top of well casing.

ft BTOC: Feet below top of well casing.

NM: Not Measured

Table 1
Summary of Groundwater Elevation Data
JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program
Essexville, Michigan

Well Location	Static Water Level Monitoring	Groundwater Quality Monitoring	GSI Monitoring	Leachage Analysis Program	TOC Elevation (ft)	Geologic Unit of Screen Interval	Screen Interval Elevation (ft)			March 3, 2025	
										Depth to Water (ft BTOC)	Groundwater Elevation (ft)
Landfill: Static Water Level Only (inside slurry wall)											
JCW-OW-18001	✓	--	--	--	595.84	Fly Ash and Sand	581.1	to	576.1	7.33	588.51
JCW-OW-18002	✓	--	--	--	593.63	Sand	578.9	to	573.9	7.32	586.31
JCW-OW-18003	✓	--	--	--	593.99	Sand and Clay	580.5	to	575.5	8.70	585.29
JCW-OW-18004	✓	--	--	--	594.19	Sandy Clay	584.6	to	579.6	6.71	587.48
JCW-OW-18006	✓	--	--	--	600.61	Fly Ash and Clay with Sand	582.9	to	577.9	10.05	590.56
MW-20	✓	--	--	--	592.73	NR	~581.1	to	~578.1	6.40	586.33
MW-58	✓	--	--	--	586.25	Sand	579.7		569.7	5.75	580.50
OW-51	✓	--	--	--	593.62	Clay and Sand	578.9	to	575.9	9.04	584.58
OW-53	✓	--	--	--	593.64	Clay and Sand	579.0	to	576.0	7.46	586.18
OW-54	✓	--	--	--	594.10	Clay and Sand	580.0	to	577.0	6.85	587.25
OW-55	✓	--	--	--	594.67	Clay (or Sand and Clay)	580.9	to	577.9	6.00	588.67
OW-56R	✓	--	--	--	592.01	Ash and Sand	577.5	to	572.5	5.45	586.56
OW-57R IN	✓	--	--	--	590.86	Sandy Clay	575.7	to	570.7	5.44	585.42
OW-61	✓	--	--	--	602.15	Ash and Sand	588.0	to	585.0	NM	
Landfill: Leachate Headwells											
LH-103R	✓	--	--	✓	612.70	Fly Ash	30.2	to	33.2	22.50	590.20
LH-104	✓	--	--	✓	596.56	Fly Ash	8.0	to	11.0	7.85	588.71

Notes:

Survey data from: Rowe Professional Services Company (Nov. 2015) and Consumers Energy Company drawings: SG-21733, Sheet 1, Rev. G (Karn, 11/27/18); and SG-21733, Sheet 2, Rev. C (Weadock, 11/27/18).

Elevation in feet relative to North American Vertical Datum 1988 (NAVD 88).

TOC: Top of well casing.

ft BTOC: Feet below top of well casing.

NM: Not Measured

Table 2

Summary of Field Parameters

JC Weadock Solid Waste Disposal Area - Hydrogeological Monitoring Program

Essexville, Michigan

Sample Location	Sample Date	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Specific Conductivity (umhos/cm)	Temperature (°C)	Turbidity (NTU)
DE Karn & JC Weadock Background							
MW-15002	3/5/2025	7.89	-89	7.8	329	7.2	9
MW-15008	3/5/2025	1.47	-145	7.5	769	7.5	5
MW-15016	3/5/2025	2.95	-95	7.3	868	4.7	8
MW-15019	3/5/2025	1.80	-122	7.0	1,856	7.1	3
JC Weadock Solid Waste Disposal Area							
JCW-MW-18001	3/4/2025	1.19	-170	7.3	2,987	9.5	6
JCW-MW-18004	3/4/2025	8.00	-64	7.5	1,283	5.8	6
JCW-MW-18005	3/5/2025	1.19	-140	7.1	1,153	8.0	9
JCW-MW-18006	3/5/2025	1.20	-167	7.3	995	10.3	3
MW-50	3/4/2025	1.28	-173	7.8	1,341	8.1	4
MW-51	3/4/2025	1.49	-156	7.7	1,015	7.4	8
MW-52	3/4/2025	1.29	-145	7.2	1,483	8.0	8
MW-53	3/4/2025	1.19	-185	7.8	1,073	7.6	5
MW-53R	3/4/2025	1.19	-157	7.3	1,114	7.6	5
MW-54R	3/4/2025	2.00	-133	7.4	1,443	6.6	10
MW-55	3/4/2025	1.19	-145	7.4	2,001	7.5	10
OW-57ROUT	3/5/2025	3.80	-95	7.4	1,137	7.9	4

Notes:

mg/L - Milligrams per Liter.

mV - Millivolts.

SU - Standard Units.

umhos/cm - Micromhos per centimeter.

°C - Degrees Celsius.

NTU - Nephelometric Turbidity Unit.

Table 3
Summary of Groundwater Sampling Results (Analytical)
DE Karn and JC Weadock Background - Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	**MW-15002**	**MW-15008**	**MW-15016**	**MW-15019**
					Sample Date:	3/5/2025	3/5/2025	3/5/2025	3/5/2025
Constituent	Unit	EPA MCL	MI Residential*	MI Non-Residential*	MI GSI^				
Appendix III[(1)]									
Boron	ug/L	NC	500	500	4,000	< 20	98	242	275
Calcium	mg/L	NC	NC	NC	500[EE]	54.2	107	139	171
Chloride	mg/L	**250****	**250[E]**	**250[E]**	**50**	12.5	**95.3**	**82.0**	**383**
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	250**	250[E]	250[E]	500[EE]	8.97	66.1	147	99.3
Total Dissolved Solids	mg/L	**500****	**500[E]**	**500[E]**	**500**	220	**582**	**670**	**1,300**
pH, Field	SU	6.5 - 8.5**	6.5 - 8.5[E]	6.5 - 8.5[E]	6.5 - 9.0	7.8	7.5	7.3	7.0
Appendix IV[(1)]									
Antimony	ug/L	6	6.0	6.0	2.0	< 1	< 1	< 1	1
Arsenic	ug/L	10	10	10	10	< 1	2	3	2
Barium	ug/L	2,000	2,000	2,000	1,200	37	64	94	357
Beryllium	ug/L	4	4.0	4.0	33	< 1	< 1	< 1	< 1
Cadmium	ug/L	5	5.0	5.0	2.5	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	100	100	11	< 1	< 1	< 1	< 1
Cobalt	ug/L	NC	40	100	100	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	NC	4.0	4.0	14	< 1	< 1	< 1	< 1
Lithium	ug/L	NC	170	350	440	< 10	31	36	13
Mercury	ug/L	2	2.0	2.0	0.20#	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	NC	73	210	120	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NC	NC	NC	NC	--	--	--	--
Radium-228	pCi/L	NC	NC	NC	NC	--	--	--	--
Radium-226/228	pCi/L	5	NC	NC	NC	--	--	--	--
Selenium	ug/L	50	50	50	5.0	< 1	< 1	< 1	< 1
Thallium	ug/L	2	2.0	2.0	2.0	< 2	< 2	< 2	< 2
Additional MI Part 115[(2)]									
Iron	ug/L	**300****	**300[E]**	**300[E]**	500,000[EE]	241	**13,700**	**3,920**	**21,900**
Copper	ug/L	1,000**	1,000[E]	1,000[E]	20	2	2	3	2
Nickel	ug/L	NC	100	100	120	< 2	3	6	6
Silver	ug/L	100**	34	98	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	NC	4.5	62	27	< 2	3	< 2	3
Zinc	ug/L	5,000**	2,400	5,000[E]	260	< 10	< 10	11	< 10

Notes:

ug/L - micrograms per liter; mg/L - milligrams per liter.

pCi/L - picocuries per liter; SU - standard units; pH is a field parameter.

MCL - Maximum Contaminant Level, EPA Drinking Water Standards and Health Advisories, April 2012.

NC - no criteria.

* - Michigan Part 201 Generic Drinking Water Cleanup Criteria, December 30, 2013, updated October 12, 2023.

** - Secondary Maximum Contaminant Level (SMCL), EPA Secondary Drinking Water Regulations (SDWR) April, 2012.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. Chromium GSI criterion based on hexavalent chromium per footnote {H}. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}. GSI criterion for chloride is 50 mg/L when the discharge is to the Great Lakes or connecting waters per footnote {FF}

- If detected above 0.20 ug/L, further evaluation of low-level mercury may be necessary to evaluate the GSI pathway per Michigan Part 201 and MDEQ policy and procedure 09-014 dated June 20, 2012.

[E] - Criterion is the aesthetic drinking water value per footnote {E}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendment - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituent (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

BOLD value indicates an exceedance of one or more of the listed criteria.

RED value indicates an exceedance of the MCL.

All metals were analyzed as total unless otherwise specified.

Table 4
Summary of Groundwater Sampling Results (Analytical)
JC Weadock Solid Waste Disposal Area - Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	**JCW-MW-18001**	**JCW-MW-18004**	**JCW-MW-18005**	**JCW-MW-18006**	**MW-50**	**MW-51**
					Sample Date:	3/4/2025	3/4/2025	3/5/2025	3/5/2025	3/4/2025	3/4/2025
Constituent	Unit	EPA MCL	MI Residential*	MI Non-Residential*	MI GSI^						
Appendix III[(1)]											
Boron	ug/L	NC	**500**	**500**	**4,000**	**1,610**	269	**1,740**	**2,800**	**2,920**	**1,020**
Calcium	mg/L	NC	NC	NC	500[EE]	405	211	159	122	191	165
Chloride	mg/L	250**	250[E]	250[E]	**50**	**61.4**	17.0	46.4	**70.2**	46.7	**63.3**
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**250****	**250[E]**	**250[E]**	**500[EE]**	**1,460**	**460**	141	42.4	**337**	**432**
Total Dissolved Solids	mg/L	**500****	**500[E]**	**500[E]**	**500**	**2,960**	**1,150**	**854**	**706**	**1,140**	**1,190**
pH, Field	SU	6.5 - 8.5**	6.5 - 8.5[E]	6.5 - 8.5[E]	6.5 - 9.0	7.3	7.5	7.1	7.3	7.8	7.7
Appendix IV[(1)]											
Antimony	ug/L	6	6.0	6.0	2.0	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**10**	**10**	**10**	**10**	**30**	< 1	2	**22**	4	**12**
Barium	ug/L	2,000	2,000	2,000	1,200	60	27	77	417	200	143
Beryllium	ug/L	4	4.0	4.0	33	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5	5.0	5.0	2.5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	100	100	11	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	NC	40	100	100	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	NC	4.0	4.0	14	< 1	< 1	3	< 1	< 1	< 1
Lithium	ug/L	NC	170	350	440	90	26	29	43	66	27
Mercury	ug/L	2	2.0	2.0	0.20#	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	NC	73	210	120	< 5	< 5	5	< 5	5	< 5
Radium-226	pCi/L	NC	NC	NC	NC	--	--	--	--	--	--
Radium-228	pCi/L	NC	NC	NC	NC	--	--	--	--	--	--
Radium-226/228	pCi/L	5	NC	NC	NC	--	--	--	--	--	--
Selenium	ug/L	50	50	50	**5.0**	2	2	2	2	2	2
Thallium	ug/L	2	2.0	2.0	2.0	< 2	< 2	< 2	< 2	< 2	< 2
Additional MI Part 115[(2)]											
Iron	ug/L	**300****	**300[E]**	**300[E]**	500,000[EE]	**686**	**398**	**750**	**7,350**	**707**	**1,330**
Copper	ug/L	1,000**	1,000[E]	1,000[E]	20	2	2	2	< 1	2	1
Nickel	ug/L	NC	100	100	120	12	4	9	5	3	3
Silver	ug/L	100**	34	98	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	NC	4.5	62	27	3	< 2	< 2	3	< 2	< 2
Zinc	ug/L	5,000**	2,400	5,000[E]	260	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter; mg/L - milligrams per liter.

pCi/L - picocuries per liter; SU - standard units; pH is a field parameter.

MCL - Maximum Contaminant Level, EPA Drinking Water Standards and Health Advisories, April, 2012.

NC - no criteria.

* - Michigan Part 201 Generic Drinking Water Cleanup Criteria, December 30, 2013, updated October 12, 2023.

** - Secondary Maximum Contaminant Level (SMCL), EPA Secondary Drinking Water Regulations (SDWR) April, 2012.

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- If detected above 0.20 ug/L, further evaluation of low-level mercury may be necessary to evaluate the GSI pathway per Michigan Part 201 and MDEQ policy and procedure 09-014 dated June 20, 2012.

[E] - Criterion is the aesthetic drinking water value per footnote {E}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendment - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituent (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

BOLD value indicates an exceedance of one or more of the listed criteria.

RED value indicates an exceedance of the MCL.

All metals were analyzed as total unless otherwise specified.

Table 4
Summary of Groundwater Sampling Results (Analytical)
JC Weadock Solid Waste Disposal Area - Hydrogeological Monitoring Program
Essexville, Michigan

Constituent	Unit	EPA MCL	MI Residential*	MI Non-Residential*	MI GSI^	Sample Location: MW-52	MW-53	MW-53R	MW-54R	MW-55	OW-57ROUT
						Sample Date: 3/4/2025	3/4/2025	3/4/2025	3/4/2025	3/4/2025	3/5/2025
Appendix III[(1)]											
Boron	ug/L	NC	**500**	**500**	**4,000**	**894**	**5,010**	**3,100**	**7,610**	**1,270**	**2,070**
Calcium	mg/L	NC	NC	NC	500[EE]	253	135	159	214	162	130
Chloride	mg/L	250**	250[E]	250[E]	**50**	43.0	**77.3**	**67.2**	**136**	20.2	**84.7**
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**250****	**250[E]**	**250[E]**	**500[EE]**	**449**	107	71.5	229	98.1	68.1
Total Dissolved Solids	mg/L	**500****	**500[E]**	**500[E]**	**500**	**1,350**	**790**	**814**	**1,170**	**818**	**798**
pH, Field	SU	6.5 - 8.5**	6.5 - 8.5[E]	6.5 - 8.5[E]	6.5 - 9.0	7.2	7.8	7.3	7.4	7.4	7.4
Appendix IV[(1)]											
Antimony	ug/L	6	6.0	6.0	2.0	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**10**	**10**	**10**	**10**	< 1	1	**15**	2	**13**	1
Barium	ug/L	2,000	2,000	2,000	1,200	77	578	136	96	202	73
Beryllium	ug/L	4	4.0	4.0	33	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5	5.0	5.0	2.5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	100	100	11	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	NC	40	100	100	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	NC	4.0	4.0	14	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	NC	170	350	440	30	40	54	93	24	26
Mercury	ug/L	2	2.0	2.0	0.20#	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	NC	73	210	120	< 5	< 5	< 5	20	22	6
Radium-226	pCi/L	NC	NC	NC	NC	--	--	--	--	--	--
Radium-228	pCi/L	NC	NC	NC	NC	--	--	--	--	--	--
Radium-226/228	pCi/L	5	NC	NC	NC	--	--	--	--	--	--
Selenium	ug/L	50	50	50	**5.0**	2	3	3	**6**	5	1
Thallium	ug/L	2	2.0	2.0	2.0	< 2	< 2	< 2	< 2	< 2	< 2
Additional MI Part 115[(2)]											
Iron	ug/L	**300****	**300[E]**	**300[E]**	500,000[EE]	**3,350**	**521**	**1,290**	**579**	**8,950**	< 20
Copper	ug/L	1,000**	1,000[E]	1,000[E]	20	1	< 1	< 1	1	1	2
Nickel	ug/L	NC	100	100	120	< 2	3	4	8	5	15
Silver	ug/L	100**	34	98	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	NC	4.5	62	27	< 2	< 2	< 2	2	< 2	< 2
Zinc	ug/L	5,000**	2,400	5,000[E]	260	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter; mg/L - milligrams per liter.

pCi/L - picocuries per liter; SU - standard units; pH is a field parameter.

MCL - Maximum Contaminant Level, EPA Drinking Water Standards and Health Advisories, April, 2012.

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- If detected above 0.20 ug/L, further evaluation of low-level mercury may be necessary to evaluate the GSI pathway per Michigan Part 201 and MDEQ policy and procedure 09-014 dated June 20, 2012.

[E] - Criterion is the aesthetic drinking water value per footnote {E}.

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(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendment - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituent (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

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RED value indicates an exceedance of the MCL.

All metals were analyzed as total unless otherwise specified.

Table 5
Summary of Confidence Interval Evaluation: First Quarter 2025
JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program
Essexville, Michigan

Assessment Monitoring Statistical Evaluation																						
Constituent	Units	GWPS	JCW-MW-18001		JCW-MW-18005		JCW-MW-18006		MW-50		MW-51		MW-52		MW-53		MW-53R		MW-54R		MW-55		OW-57R OUT	
			LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL
Boron[(1)]	ug/L	560	**1,300**	1,600	**950**	1,700	**2,300**	3,000	**1,700**	2,600	**870**	1,200	**880**	1,100	**3,900**	6,800	**2,000**	2,800	**5,300**	7,500	**910**	1,300	**1,700**	2,100
Calcium	mg/L	280	**460**	570	160	340	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/L	780	**1,600**	1,900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	ug/L	21	0.5	30	--	--	19	27	--	--	7.9	21	--	--	--	--	--	--	--	--	--[(2)]	--[(2)]	--	--

Notes:

ug/L - micrograms per Liter

mg/L - milligrams per Liter

-- - Not Applicable; well/parameter pair did not directly exceed the applicable criterion and was not included in further analysis.

GWPS - Groundwater Protection Standard as established in TRC's Technical Memorandum dated April 23, 2021

UCL - Upper Confidence Limit (α = 0.01) of the downgradient data set.

LCL - Lower Confidence Limit (α = 0.01) of the downgradient data set.

1,300	Indicates a statistically significant exceedance of the GWPS (detection monitoring constituent). An exceedance occurs when the LCL is greater than the criterion.
1,300	Indicates a statistically significant exceedance of the GWPS (assessment monitoring constituent). An exceedance occurs when the LCL is greater than the criterion.

(1) Boron concentrations were confirmed as a statistically significant increase (SSI) over background levels and triggered assessment monitoring (2017 Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit, TRC, 2018).

(2) The concentrations of arsenic and molybdenum at MW-55 are not a result of a release from the unit, as detailed in the Alternate Source Demonstration (2021 Annual Groundwater Monitoring and Corrective Action Report, TRC, January 2022); therefore, confidence intervals were not calculated for comparison to GWPSs.

Table 6
EGLE Exceedance Summary Table
JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program
Essexville, Michigan

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
SUMMARY OF STATISTICAL EXCEEDANCES

Data is in (X) ug/L or ( ) mg/L unless otherwise stated

Facility: JC Weadock – WDS# 395457

Well #	Location	Parameter	Part 201 GRCC	Statistical Limit (or 'CC' for Control Charts)	1 Qtr. 2025 (**bold** >201)	4 Qtr. 2024 (**bold** >201)	3 Qtr. 2024 (**bold** >201)	2 Qtr. 2024 (**bold** >201)

No Exceedances at Compliance Locations

Figures

0 1,500 3,000

FEET

1:36,000 1" = 3,000'

BASE MAP: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.

PROJECT:

CONSUMERS ENERGY COMPANY
DE KARN AND JC WEADOCK POWER PLANTS
ESSEXVILLE, MICHIGAN

TITLE:

SITE LOCATION MAP

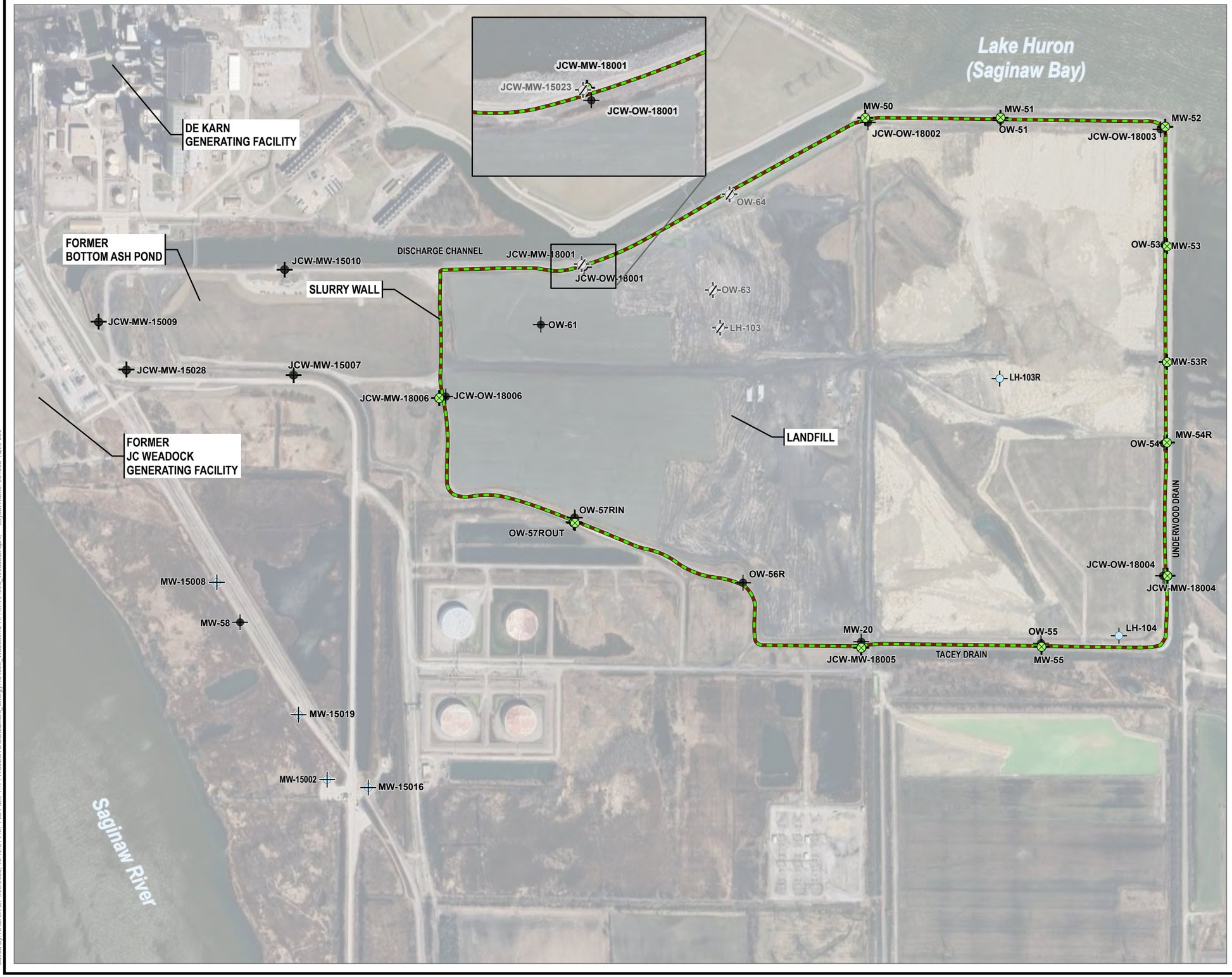
DRAWN BY:	A. ADAIR	PROJ. NO.:	634698.0000
CHECKED BY:	J. KRENZ		
APPROVED BY:	D. LITZ		**FIGURE 1**
DATE:	APRIL 2025		

TRC

1540 EISENHOWER PLACE
ANN ARBOR, MI 48108-3284
PHONE: 734.971.7080

FILE: 464096_WEADOCK

COORDINATE SYSTEM: NAD 1983 STATEPLANE MICHIGAN SOUTH FIPS 2113 FEET; MAP ROTATION: 0
-- SAVED BY: AADAIR ON 4/9/2025, 10:36:21 AM; FILE PATH: T:\1-PROJECTS\CONSUMERS_ENERGY\464096_WEADOCK\2-APRX\464096_WEADOCK.APRX; -- LAYOUT NAME: 634698-1Q25-001



LEGEND

- BACKGROUND MONITORING WELL
- JCW BOTTOM ASH POND MONITORING WELL
- JCW LANDFILL HMP WELL
- MONITORING WELL (STATIC WATER LEVEL ONLY)
- LEACHATE HEADWELL
- DECOMMISSIONED WELL
- SLURRY WALL (APPROXIMATE)

NOTES

1. BASE MAP GOOGLE EARTH PRO AND PARTNERS, (4/5/2024).
2. MONITORING WELL AND SLURRY WALL LOCATIONS PROVIDED BY CEC; SG21733SHT2 REVB.DWG DATED 11/21/2018.

N

1:7,200
1" = 600'
0 600 1,200 FEET

PROJECT: CONSUMERS ENERGY COMPANY
JC WEADOCK POWER PLANT
ESSEXVILLE, MICHIGAN

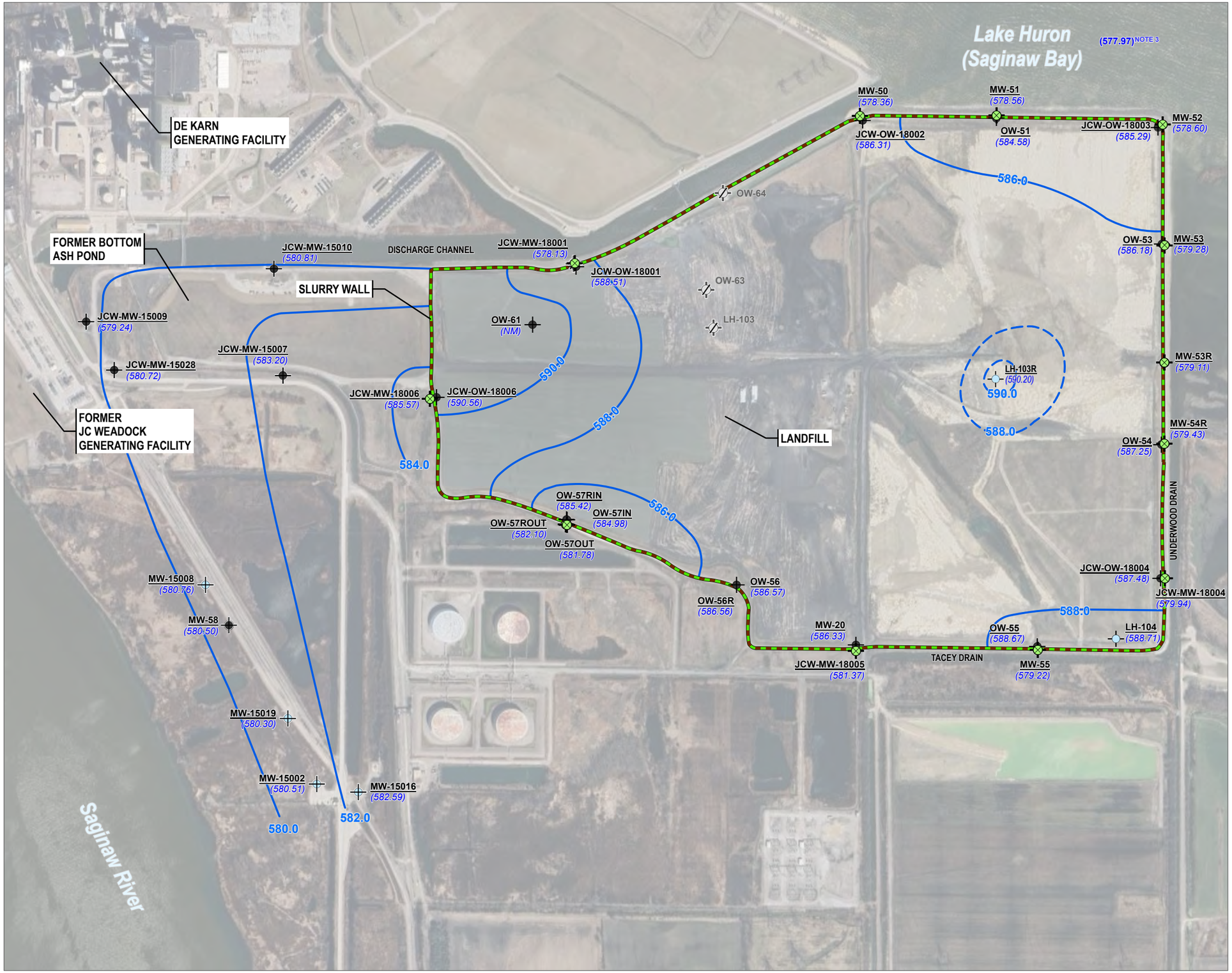
TITLE: SITE MAP

DRAWN BY:	A. ADAIR	PROJ. NO.:	634698.0000
CHECKED BY:	J. KRENZ		FIGURE 2
APPROVED BY:	D. LITZ		
DATE:	APRIL 2025		

TRC
1540 EISENHOWER PLACE
ANN ARBOR, MI 48108-3284
PHONE: 734.971.7080

FILE: 464096_Weadock.aprx

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl. Map Rotation: 0
Saved By AADAIR on 4/29/2025 - 13:12:01 PM - File Path: T:\PROJECTS\Consumers_Energy\464096_Weadock\23-APR\MXD\464096_Weadock.aprx - Layout Name: 634698-1025-002



LEGEND

- BACKGROUND MONITORING WELL
- JCW BOTTOM ASH POND MONITORING WELL
- JCW LANDFILL HMP WELL
- MONITORING WELL (STATIC WATER LEVEL ONLY)
- LEACHATE HEADWELL
- DECOMMISSIONED WELL
- SLURRY WALL (APPROXIMATE)
- GROUNDWATER ELEVATION CONTOUR (2' INTERVAL, DASHED WHERE INFERRED)
- (579.18) GROUNDWATER ELEVATION (FEET)
- (NM) NOT MEASURED

NOTES

1. BASE MAP GOOGLE EARTH PRO AND PARTNERS, (4/5/2024).
2. MONITORING WELL AND SLURRY WALL LOCATIONS PROVIDED BY CEC; SG21733SHT2 REVB.DWG DATED 11/21/2018.
3. NOAA/NATIONAL OCEANIC SERVICE GREAT LAKES GAUGING STATION, ESSEXVILLE, MI (ID: 9075035).
4. GROUNDWATER ELEVATIONS DISPLAYED IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.

1:7,200
1" = 600'
0 600 1,200 FEET

PROJECT: CONSUMERS ENERGY COMPANY
JC WEADOCK POWER PLANT
ESSEXVILLE, MICHIGAN

TITLE: POTENTIOMETRIC SURFACE MAP
MARCH 2025

DRAWN BY:	A. ADAIR	PROJ. NO.:	634698.0000
CHECKED BY:	J. KRENZ		FIGURE 3
APPROVED BY:	D. LITZ		
DATE:	APRIL 2025		

TRC
1540 EISENHOWER PLACE
ANN ARBOR, MI 48108-3284
PHONE: 734.971.7080

FILE: 464096_Weadock.aprx

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl - Map Rotation: 0
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Appendix A
Static Water Level Evaluation

Table A1
Static Water Levels for Select Perimeter Dike Monitoring Wells and NOAA Staff Gauge
JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program
Essexville, Michigan

Well Location	Date Measured	Groundwater Water Elevation (GWE) (ft)	Saginaw Bay Surface Water Elevation (SWE) (ft)	Elevation Difference (GWE-SWE)[(1)]
MW-50	3/3/2025	578.36	577.97	0.39
MW-51	3/3/2025	578.56		0.59
MW-52	3/3/2025	578.60		0.63
MW-53	3/3/2025	579.28		1.31
MW-53R	3/3/2025	579.11		1.14
MW-54R	3/3/2025	579.43		1.46
MW-55	3/3/2025	579.22		1.25
JCW-MW-18004	3/3/2025	579.94		1.97
Average:		**579.06**		

Notes:

Elevation in feet above North American Vertical Datum 1988 (NAVD 88)

TOC: top of well casing

ft BTOC: feet below top of well casing

(1) Positive elevation difference indicates flow toward the surface water body.

Table A2
Slurry Wall Gradient and Flux
JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program
Essexville, Michigan

Monitoring Well Pair **Discharge Channel**	SWL Obs Well (ft NAVD 88)	SWL MW (ft NAVD 88)	x_{wells} (ft)	i (ft/ft)	Saturated Thickness (ft)	Mean Thickness (ft)	Section Length (ft)	K (cm/sec)	i (ft/ft)	Area (ft^2)	Flow ft^3/day	Flow Gal/day	Flow Gal/yr
JCW-OW-18001	588.51		22.4	4.64E-01	2.00	2.67	1,010	2.30E-08	0.46	2,692	8.14E-02	0.61	222
JCW-MW-18001		578.13			3.33								
JCW-OW-18002	586.31		28.9	2.75E-01	4.00	4.03	970		0.28	3,904	7.01E-02	0.52	191
MW-50		578.36			4.05								

Monitoring Well Pair **Adjacent Zone**	SWL Obs Well (ft NAVD 88)	SWL MW (ft NAVD 88)	x_{wells} (ft)	i (ft/ft)	Saturated Thickness (ft)	Mean Thickness (ft)	Section Length (ft)	K (cm/sec)	i (ft/ft)	Area (ft^2)	Flow ft^3/day	Flow Gal/day	Flow Gal/yr
OW-51	584.58		14.4	4.19E-01	4.00	3.63	1,850	2.30E-08	0.42	6,715	1.83E-01	1.37	500
MW-51		578.56			3.26								
JCW-OW-18003	585.29		33.9	1.98E-01	3.50	3.16	740		0.20	2,335	3.01E-02	0.23	82
MW-52		578.60			2.81								
OW-53	586.18		20.1	3.43E-01	1.25	1.34	730		0.34	982	2.19E-02	0.16	60
MW-53		579.28			1.44								

Monitoring Well Pair **Non-Adjacent Zone**	SWL Obs Well (ft NAVD 88)	SWL MW (ft NAVD 88)	x_{wells} (ft)	i (ft/ft)	Saturated Thickness (ft)	Mean Thickness (ft)	Section Length (ft)	K (cm/sec)	i (ft/ft)	Area (ft^2)	Flow ft^3/day	Flow Gal/day	Flow Gal/yr
OW-54	587.25		21.2	3.68E-01	2.00	2.25	510	2.30E-08	0.37	1,148	2.76E-02	0.21	75
MW-54R		579.43			2.50								
JCW-OW-18004	587.48		26.6	2.84E-01	8.00	4.02	820		0.28	3,296	6.09E-02	0.46	166
JCW-MW-18004		579.94			0.04								
OW-55	588.67		24	3.95E-01	2.00	1.61	1,220		0.39	1,964	5.05E-02	0.38	138
MW-55		579.22			1.22								
MW-20	586.33		40.9	1.21E-01	1.50	1.38	1,120		0.12	1,540	1.22E-02	0.09	33
JCW-MW-18005		581.37			1.25								

Calculated Groundwater Discharge from JC Weadock (gal per day)	**=**	**4.02**
(cubic ft per day)	**=**	**0.54**
(cubic ft per min)		**3.7E-04**
Calculated Groundwater Discharge from JC Weadock (gal per yr)	**=**	**1,469**
(cubic ft per yr)	**=**	**196**
Calculated Groundwater Discharge from JC Weadock (gal per year per linear foot of dike)	**=**	**0.15**
(cubic feet per year per linear foot of dike)	**=**	**2.02E-02**

Notes:

Water level data collected on March 3, 2025 are shown by yellow cells: 578.13

1. Monitoring Well Zones based on Phase II Evaluation, Appendix K Groundwater Discharge Calculations, September 30, 2005. Representative wells based on the Landfill Hydrogeological Monitoring Plan, February 2021.
2. Saturated thickness will be the thickness of the sand unit when the observed SWL is above the top of the sand unit, or the measured saturated thickness of the sand unit if the SWL is below the top of the sand unit.
3. Hydraulic conductivity taken as harmonic mean of laboratory tests done on in-place slurry wall from NTH Certified Quality Assurance Report, Appendix E, April 24, 2009
4. Arithmetic average used to develop geometric properties of each section/zone (e.g. discharge channel, adjacent, and non-adjacent)
5. If Obs well SWL < MW SWL calculated flow will be zero.

SWL = Static Water Level; Obs Well = Observation Well; MW= Monitoring Well; ft NAVD 88 = feet above North American Vertical Datum 1988

ft/ft = feet per foot; cm/sec = centimeters per second; ft^2 = square feet; ft^3/day = cubic feet per day; Gal/day = gallons per day; Gal/yr = gallons per year

i = hydraulic gradient; K = hydraulic conductivity; x_{wells} = distance between well pairs

Appendix B
Data Quality Review

Laboratory Data Quality Review
Groundwater Monitoring Event March 2025
JC Weadock/DE Karn Background

Groundwater samples were collected by TRC for the March 2025 sampling event. Samples were analyzed for total metals, anions, and total dissolved solids by Consumers Energy (CE) Laboratory Services in Jackson, Michigan. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 25-0106.

During the March 2025 sampling event, a groundwater sample was collected from each of the following wells:

- MW-15002
- MW-15008
- MW-15016
- MW-15019

Each sample was analyzed for the following constituents:

Analyte Group	Method
Anions (Fluoride, Chloride, Sulfate)	EPA 300.0
Total Dissolved Solids (TDS)	SM 2540C
Total Metals	SW-846 6020B/7470A

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;

- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

It should be noted that results for method blanks and LCSs were not provided for review by CE Laboratory Services. Therefore, potential contamination arising from laboratory sample preparation and/or analytical procedures and the accuracy of the analytical method using a clean matrix could not be evaluated for the metals, anions, and TDS analyses.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed Appendix III and IV constituents and additional Part 115 metals will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, findings below may be used to support the removal of outliers.

QA/QC Sample Summary:

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. No issues were noted.
- The preservation was assumed to be acceptable based on case narrative and COC preservation information; the cooler temperatures were between 0-6°C and acid was used for sample preservation, as applicable.
    - The samples were relinquished and received by the laboratory one day after collection. The field staff has stated during previous rounds of data review that when this occurs, samples are stored in coolers, on ice until shipment to the lab. There is no impact on data usability.
- The preparation times and dates for all analyses were provided in the electronic data deliverable (EDD) for this data set. All preparation and analysis holding time requirements were met.

- One field blank (FB-Background) was collected; an equipment blank was not collected with this data set. Target analytes were not detected above the RL in the field blank sample.
- Laboratory duplicate and MS/MSD analyses were not performed on a sample from this data set.
- Samples DUP-Background/MW-15019 were submitted as the field duplicate pair with this data set; all criteria were met.
    - The RLs met the project requirements and were deemed suitable for data use.
- Dilution factors for all analyses were provided in the EDD in this data set; all dilution factors were listed as 1-fold.

Laboratory Data Quality Review
Groundwater Monitoring Event March 2025
JC Weadock Landfill

Porewater samples were collected by TRC for the March 2025 sampling event. Samples were analyzed for total metals, anions, total dissolved solids, and/or alkalinity by Consumers Energy (CE) Laboratory Services in Jackson, Michigan. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 25-0104.

During the March 2025 sampling event, a porewater sample was collected from each of the following wells:

- JCW-MW-18001
- JCW-MW-18004
- JCW-MW-18005
- JCW-MW-18006
- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- OW-57ROUT

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
Anions (Fluoride, Chloride, Sulfate)	EPA 300.0
Total Dissolved Solids (TDS)	SM 2540C
Total Metals	SW-846 6020B/7470A
Alkalinity (Bicarbonate, Carbonate, and Total)	SM 2320B

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;

- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

It should be noted that results for method blanks and LCSs were not provided for review by CE Laboratory Services. Therefore, potential contamination arising from laboratory sample preparation and/or analytical procedures and the accuracy of the analytical method using a clean matrix could not be evaluated for the metals, anions, TDS, and alkalinity analyses.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed Appendix III and IV constituents, optional Piper Diagram analyses, and additional Part 115 constituents will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, findings below may be used to support the removal of outliers.

QA/QC Sample Summary:

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. The following was noted.
    - It should be noted that the field blank sample (FB-01) and MS/MSD for sample JCW-MW-18001 were checked off for TDS analysis in Table 3 of the 1Q25 Karn Weadock Bottle Request (Q1 2025 Summary of Analyses by Sampling Location Weadock Landfill). However, TDS analysis was not requested on the COC and therefore, was not reported by the laboratory. TDS is not typically analyzed in field blank or MS/MSD samples. There is no impact on data usability.

- The preservation was assumed to be acceptable based on case narrative and COC preservation information; the cooler temperatures were between 0-6°C and acid was used for sample preservation, as applicable.
    - The samples were relinquished and received by the laboratory one-two days after collection. The field staff has stated during previous rounds of data review that when this occurs, samples are stored in coolers, on ice until shipment to the lab. There is no impact on data usability.
- The preparation times and dates for all analyses were provided in the electronic data deliverable (EDD) for this data set. All preparation and analysis holding time requirements were met.
- One field blank (FB-01) and one equipment blank (EB-01) were collected. Target analytes were not detected in these blank samples.
- MS and MSD analyses were performed on sample JCW-MW-18001 for select total metals and anions. The recoveries were within the acceptance limits. Relative percent differences were not provided by the laboratory and therefore were not evaluated; further, MS/MSD concentrations were not provided by the laboratory. However, since all recoveries were within the acceptance limits, there is no impact on data usability due to this issue.
    - Additionally, the laboratory did not report MS/MSD percent recoveries for magnesium, sodium, and potassium (although reported in the parent sample) since they were not requested in the 1Q25 Karn Weadock Bottle Request for the MS/MSD on sample JCW-MW-18001. The laboratory was not contacted about this issue.
- Laboratory duplicate analyses were not performed on a sample from this data set.
- Samples DUP-JCW-LF-02/JCW-MW-18006 and DUP-JCW-LF-01/MW-50 were submitted as the field duplicate pairs with this data set; all criteria were met.
- The RLs met the project requirements and were deemed suitable for data use.
- Dilution factors for all analyses were provided in the EDD in this data set; all dilution factors were listed as 1-fold.

Laboratory Data Quality Review
Groundwater Monitoring Event March 2025
JC Weadock Alternate Source Demonstration

A porewater sample was collected by TRC for the March 2025 sampling event. The sample was analyzed for total metals, anions, total dissolved solids, and alkalinity by Consumers Energy (CE) Laboratory Services in Jackson, Michigan. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 25-0105.

During the March 2025 sampling event, a porewater sample was collected from the following well:

- JCW-OW-18001

The sample was analyzed for the following constituents:

Analyte Group	Method
Anions (Fluoride, Chloride, Sulfate)	EPA 300.0
Total Dissolved Solids (TDS)	SM 2540C
Total Metals	SW-846 6020B/7470A
Alkalinity (Bicarbonate, Carbonate, and Total)	SM 2320B

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;

- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

It should be noted that results for method blanks and LCSs were not provided for review by CE Laboratory Services. Therefore, potential contamination arising from laboratory sample preparation and/or analytical procedures and the accuracy of the analytical method using a clean matrix could not be evaluated for the metals, anions, TDS, and alkalinity analyses.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed Appendix III and IV constituents, optional Piper Diagram analyses, additional Part 115 constituents, as well as manganese will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, findings below may be used to support the removal of outliers.

QA/QC Sample Summary:

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. The following discrepancy was noted.
  - Manganese was reported as an additional analyte in sample JCW-OW-18001 and was not requested for this sample per Table 3 of the 1Q25 Karn Weadock Bottle Request (Q1 2025 Summary of Analyses by Sampling Location Weadock Landfill). No action was taken on this basis.
- The preservation was assumed to be acceptable based on case narrative and COC preservation information; the cooler temperature was between 0-6°C and acid was used for sample preservation, as applicable.
  - The sample was relinquished and received by the laboratory two days after collection. The field staff has stated during previous rounds of data review that when this occurs, samples are stored in coolers, on ice until shipment to the lab. There is no impact on data usability.

- The preparation times and dates for all analyses were provided in the electronic data deliverable (EDD) for this data set. All preparation and analysis holding time requirements were met.
- MS and MSD analyses were not performed on a sample from this data set.
- Laboratory duplicate analyses were not performed on a sample from this data set.
- Field duplicate pairs were not submitted with this data set
  - The RLs met the project requirements and were deemed suitable for data use.
- Dilution factors for all analyses were provided in the EDD in this data set; all dilution factors were listed as 1-fold.

Appendix C
Detection Monitoring Statistical Trend Tests

Appendix C
Detection Monitoring Statistical Summary for JC Weadock Facility
First Quarter 2025
Data from May 2023 to March 2025

Porewater Monitoring Points						
Constituent	**JCW-MW-18001**	**JCW-MW-18004**	**JCW-MW-18005**	**JCW-MW-18006**	**MW-50**	**MW-51**
Boron[(1)]	O	O	O	↑	↑*	O
Calcium	O	↓*	O	O	O	O
Chloride	O	O	O	O	O	↓
Fluoride	O*	O*	O*	O*	O*	O*
Iron	O	O	O	O	O	O
pH/Corrosivity[(1)]	↑	↑	O	↑*	↑	↑
Sulfate	O	O	O	O	O	O
Total Dissolved Solids	O	O	O	O	O	O

Notes:

O* = Non-detect (70%)

O = No trend

↑ = Upward trend, continuous

↑* = Upward trend, new

↑ = Upward trend, confirmed

↓ = Downward trend, continuous

↓* = Downward trend, new

(1) Boron concentrations and pH levels were confirmed as statistically significant increases (SSIs) over background levels and triggered assessment monitoring (2017 Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit, TRC, 2018).

Appendix C
Detection Monitoring Statistical Summary for JC Weadock Facility
First Quarter 2025
Data from May 2023 to March 2025

Porewater Monitoring Points						
Constituent	**MW-52**	**MW-53**	**MW-53R**	**MW-54R**	**MW-55**	**OW-57R OUT**
Boron(1)	O	O	O	↑*	O	O
Calcium	O	O	O	O	O	O
Chloride	O	O	↑	↑*	O	↑*
Fluoride	O*	O*	O*	O*	O*	O
Iron	O	O	O	O	↓	O
pH/Corrosivity(1)	↑*	↑*	↑	↑	O	↑*
Sulfate	↓	O	O	O	O	O
Total Dissolved Solids	O	O	O	O	O	O

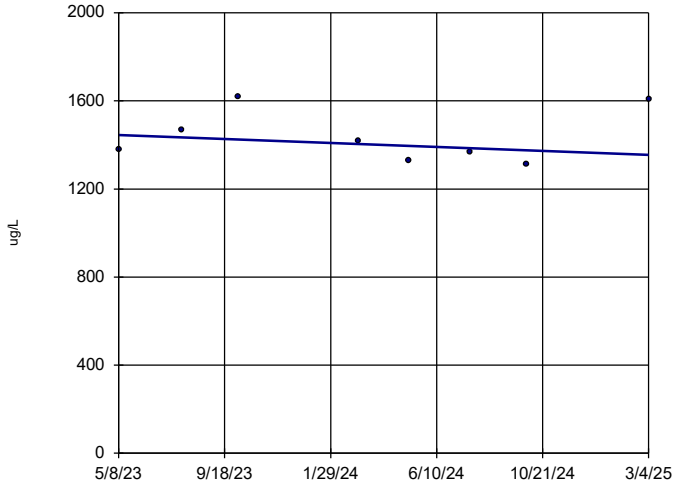
Notes:

O* = Non-detect (70%)
O = No trend
↑ = Upward trend, continuous
↑* = Upward trend, new
↑ = Upward trend, confirmed
↓ = Downward trend, continuous
↓* = Downward trend, new

(1) Boron concentrations and pH levels were confirmed as statistically significant increases (SSIs) over background levels and triggered assessment monitoring (2017 Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit, TRC, 2018).

Boron, Total

JCW-MW-18001



n = 8

Slope = -49.78 units per year.

Mann-Kendall statistic = -6
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

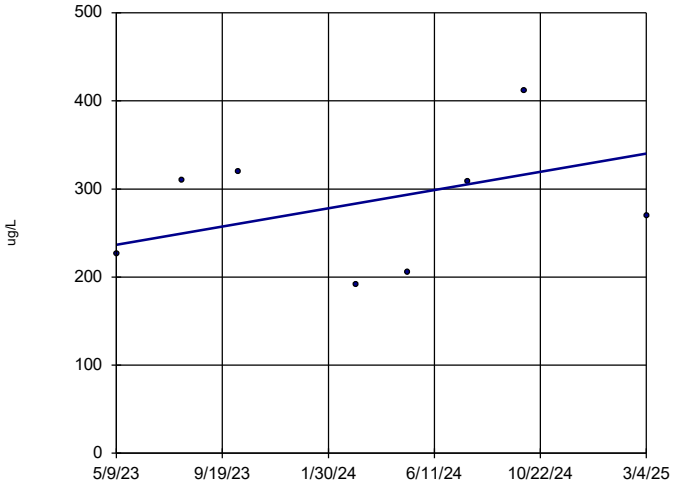
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Boron, Total

JCW-MW-18004



n = 8

Slope = 56.98 units per year.

Mann-Kendall statistic = 4
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

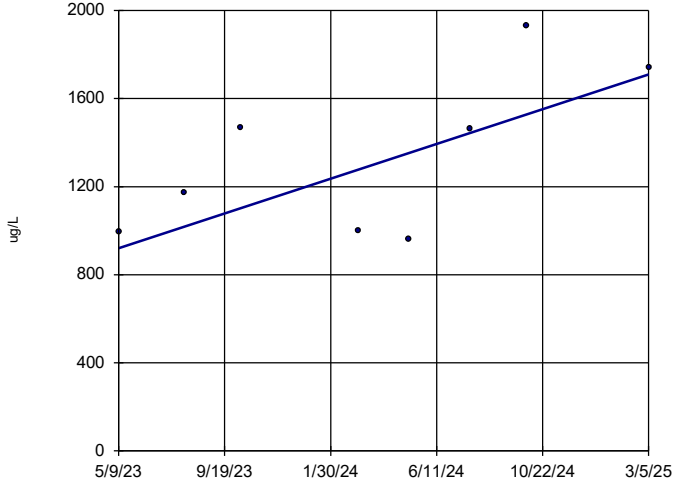
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Boron, Total

JCW-MW-18005



n = 8

Slope = 432.1 units per year.

Mann-Kendall statistic = 12
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

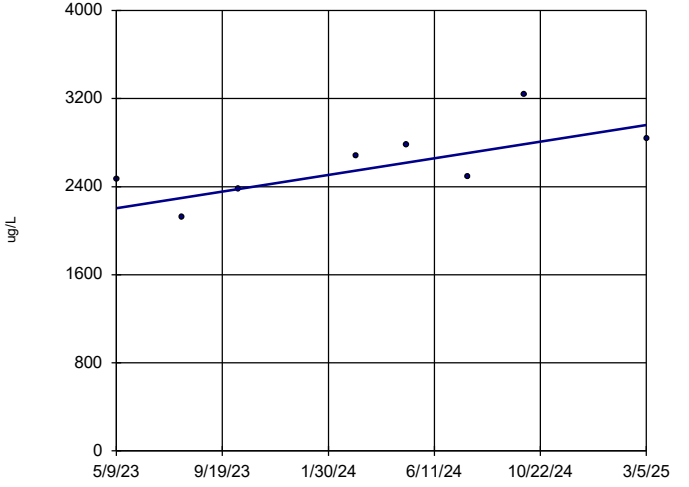
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Boron, Total

JCW-MW-18006



n = 8

Slope = 413.5 units per year.

Mann-Kendall statistic = 18
critical = 17

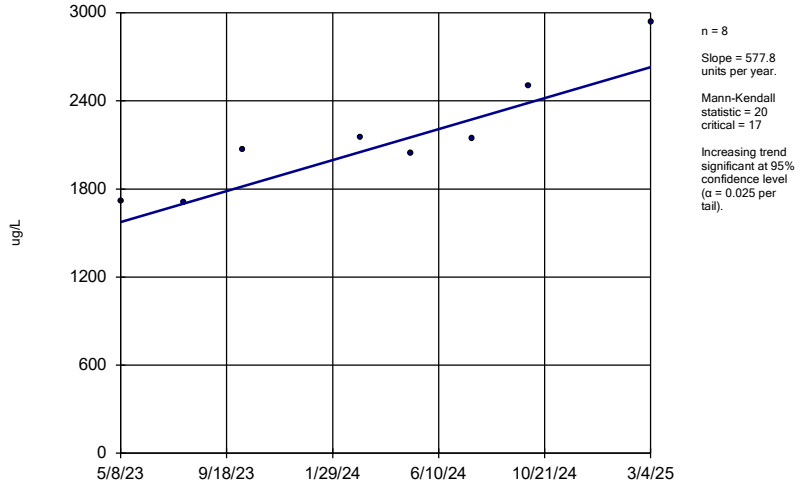
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Boron, Total

MW-50



n = 8

Slope = 577.8 units per year.

Mann-Kendall statistic = 20 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

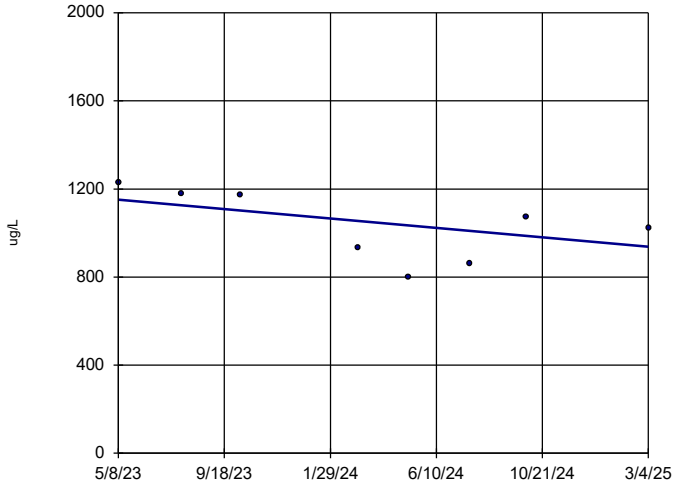
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-51



n = 8

Slope = -116.8 units per year.

Mann-Kendall statistic = -14 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

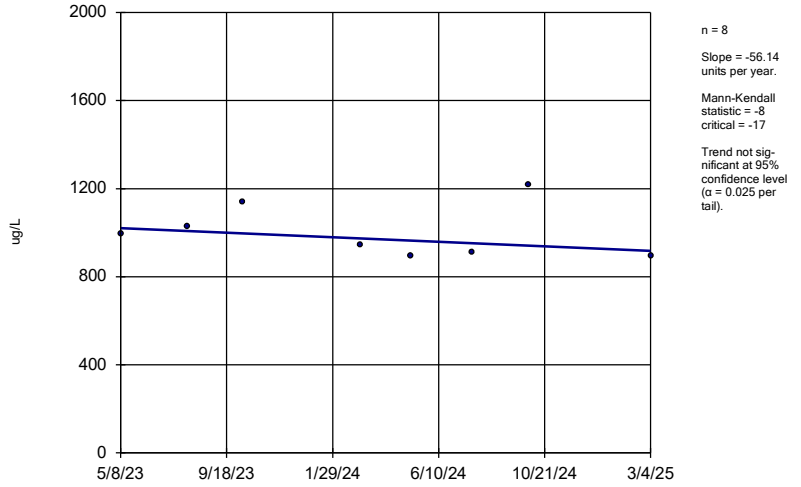
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-52



n = 8

Slope = -56.14 units per year.

Mann-Kendall statistic = -8 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

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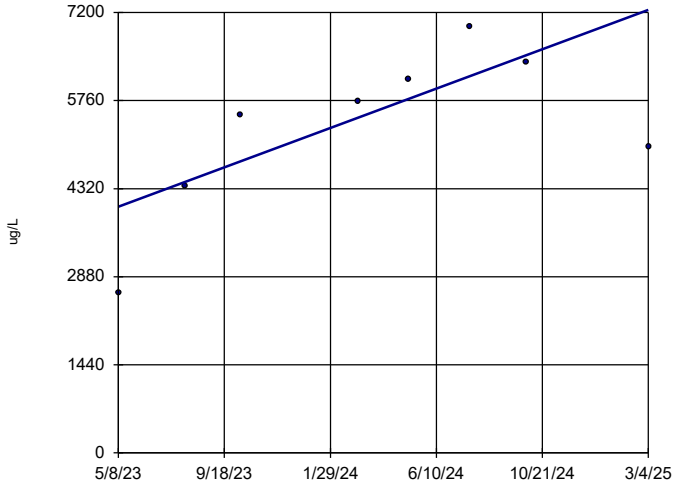
Boron, Total

MW-53



n = 8

Slope = 1763 units per year.

Mann-Kendall statistic = 16 critical = 17

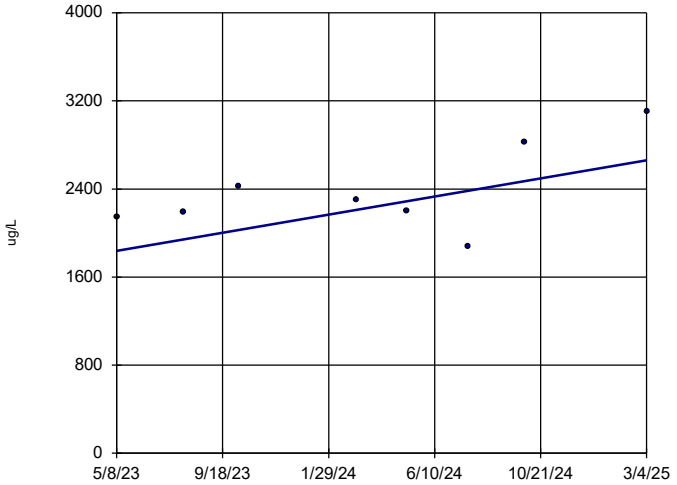
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Boron, Total

MW-53R



n = 8

Slope = 451.4 units per year.

Mann-Kendall statistic = 12 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

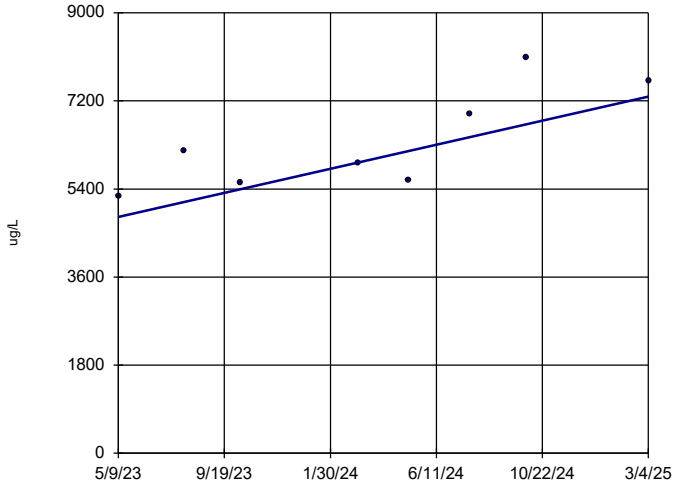
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-54R



n = 8

Slope = 1350 units per year.

Mann-Kendall statistic = 18 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

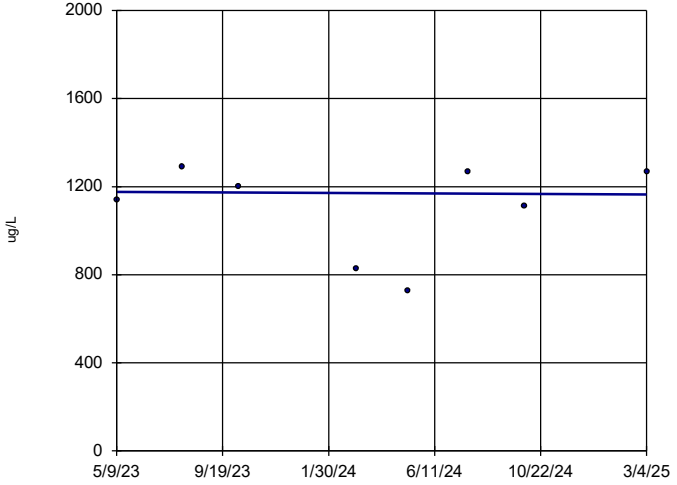
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-55



n = 8

Slope = -6.271 units per year.

Mann-Kendall statistic = -1 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

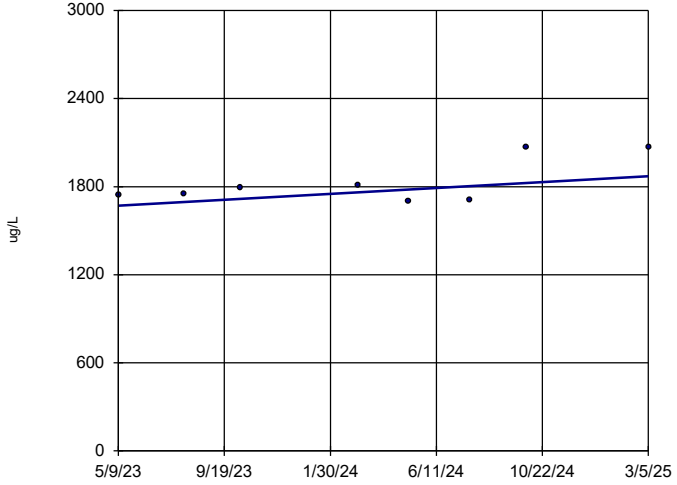
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Boron, Total

OW-57ROUT



n = 8

Slope = 109.6 units per year.

Mann-Kendall statistic = 11 critical = 17

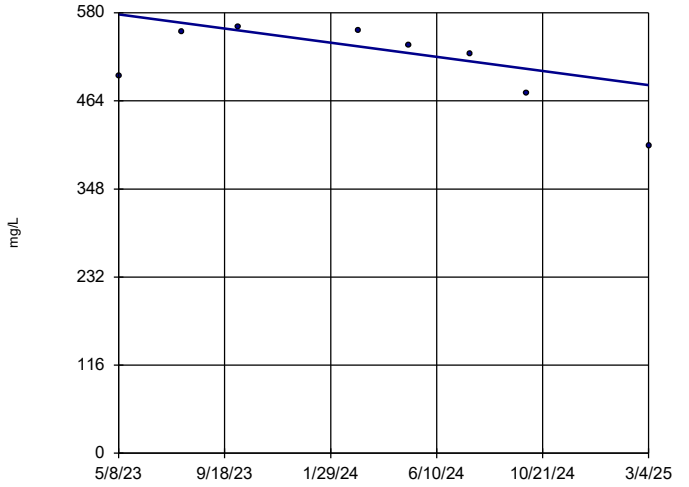
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Calcium, Total

JCW-MW-18001



n = 8

Slope = -51.01 units per year.

Mann-Kendall statistic = -14
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

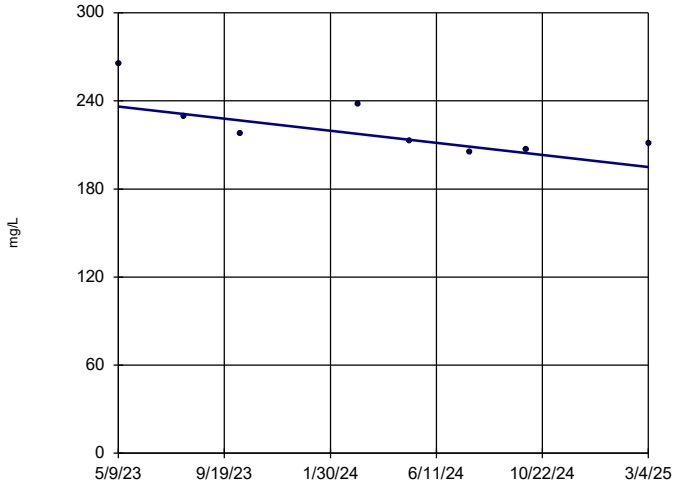
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

JCW-MW-18004



n = 8

Slope = -22.59 units per year.

Mann-Kendall statistic = -18
critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

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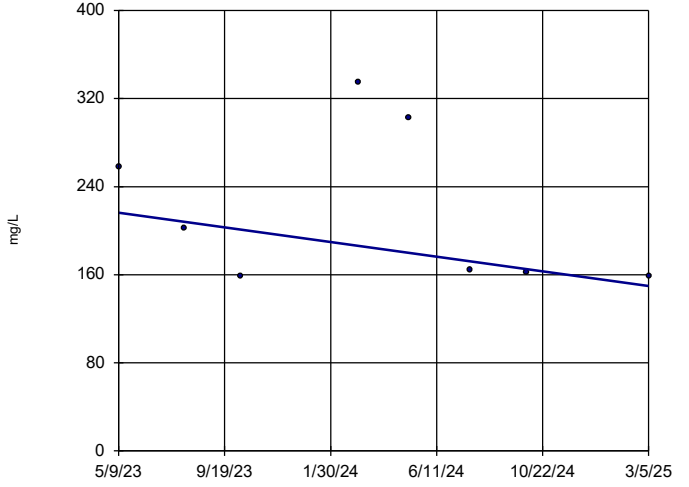
Calcium, Total

JCW-MW-18005



n = 8

Slope = -36.39 units per year.

Mann-Kendall statistic = -11
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

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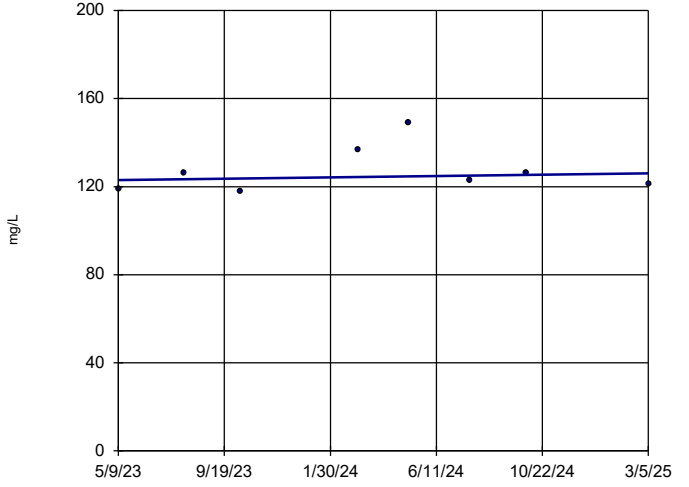
Calcium, Total

JCW-MW-18006



n = 8

Slope = 1.615 units per year.

Mann-Kendall statistic = 3
critical = 17

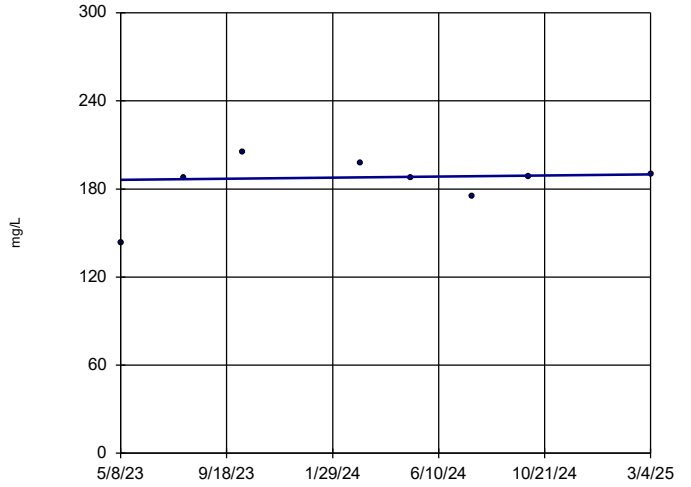
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Calcium, Total

MW-50



n = 8

Slope = 2.019 units per year.

Mann-Kendall statistic = 5
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

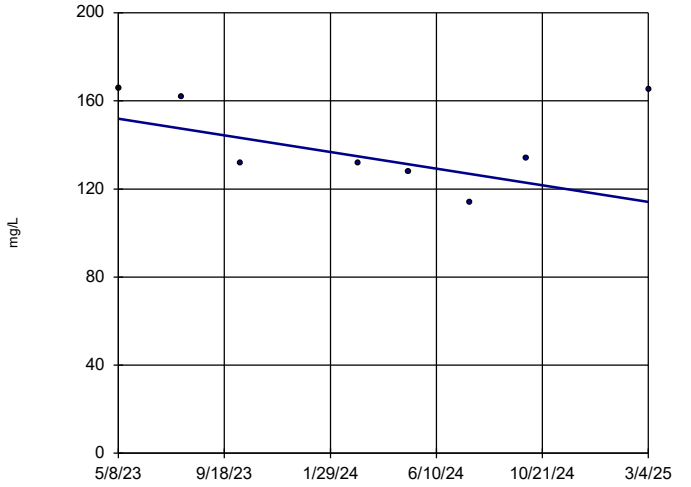
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-51



n = 8

Slope = -20.65 units per year.

Mann-Kendall statistic = -7
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

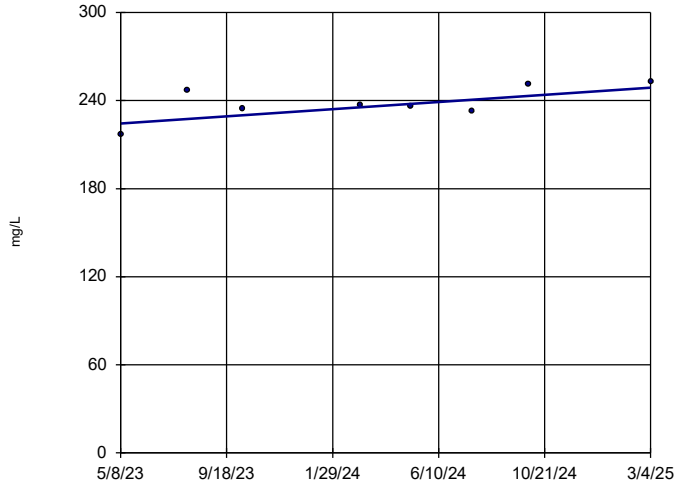
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-52



n = 8

Slope = 13.38 units per year.

Mann-Kendall statistic = 12
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

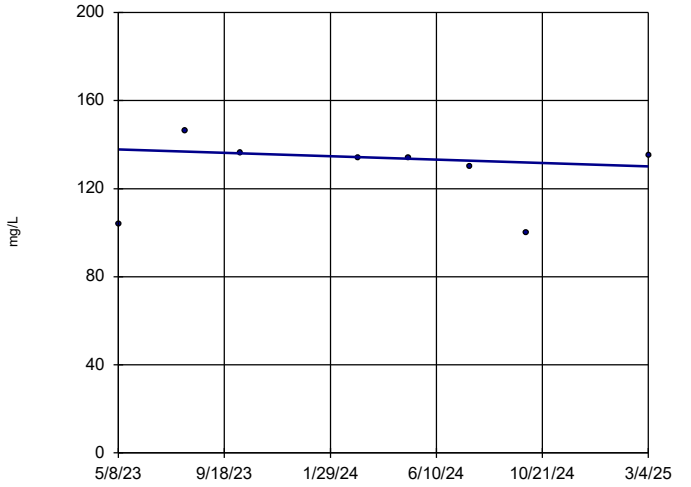
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-53



n = 8

Slope = -4.196 units per year.

Mann-Kendall statistic = -7
critical = -17

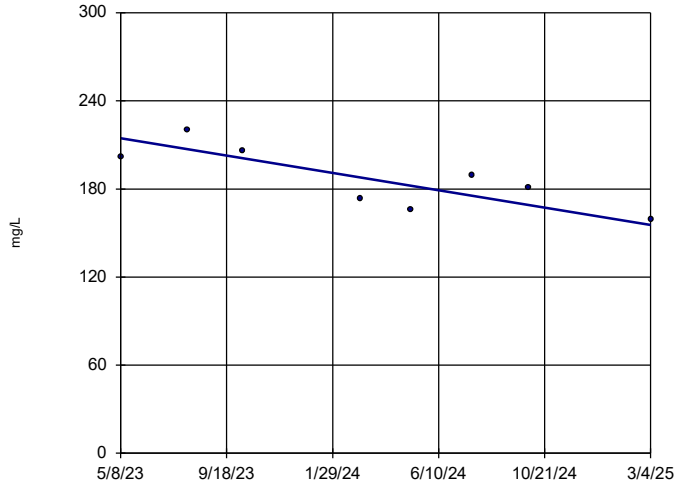
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Calcium, Total

MW-53R



n = 8

Slope = -32.43 units per year.

Mann-Kendall statistic = -16
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

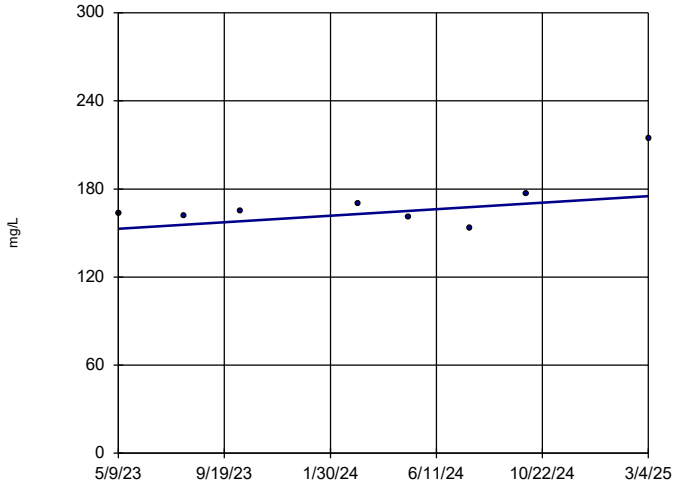
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-54R



n = 8

Slope = 12.15 units per year.

Mann-Kendall statistic = 8
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

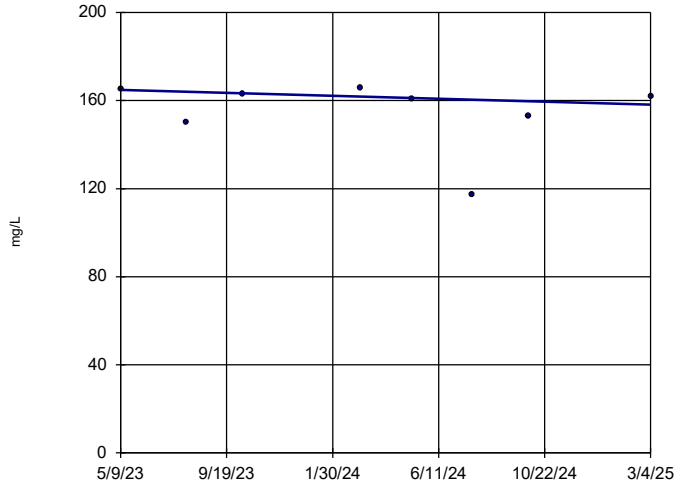
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-55



n = 8

Slope = -3.722 units per year.

Mann-Kendall statistic = -6
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

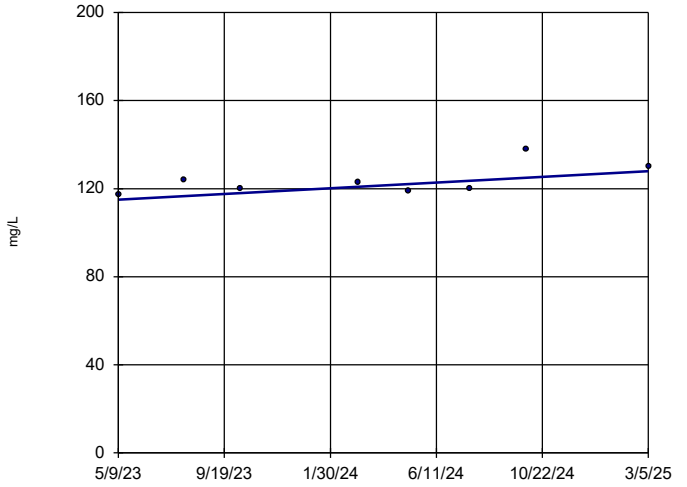
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

OW-57ROUT



n = 8

Slope = 7.067 units per year.

Mann-Kendall statistic = 11
critical = 17

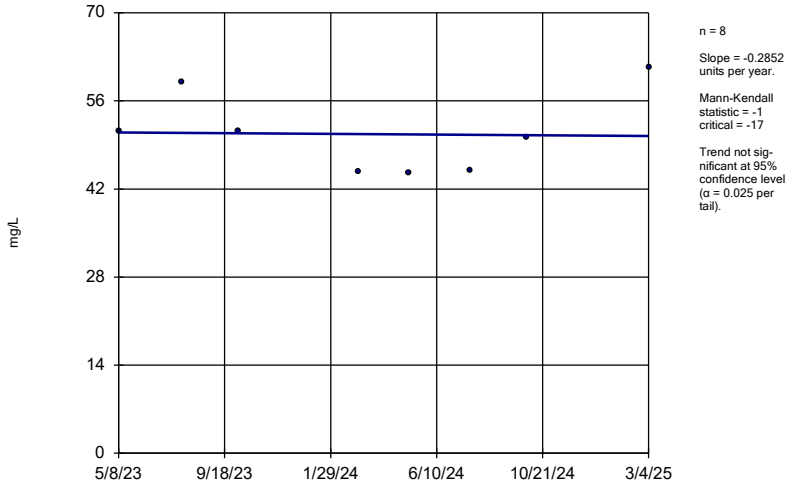
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Chloride

JCW-MW-18001



n = 8

Slope = -0.2852 units per year.

Mann-Kendall statistic = -1 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

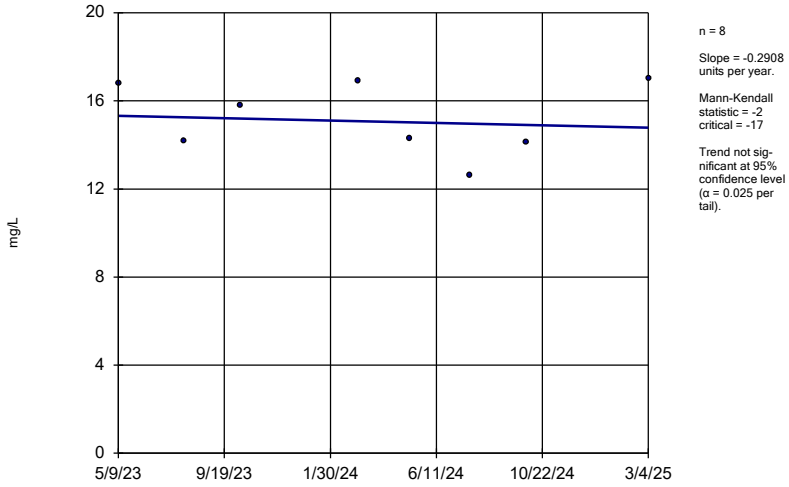
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Chloride

JCW-MW-18004



n = 8

Slope = -0.2908 units per year.

Mann-Kendall statistic = -2 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

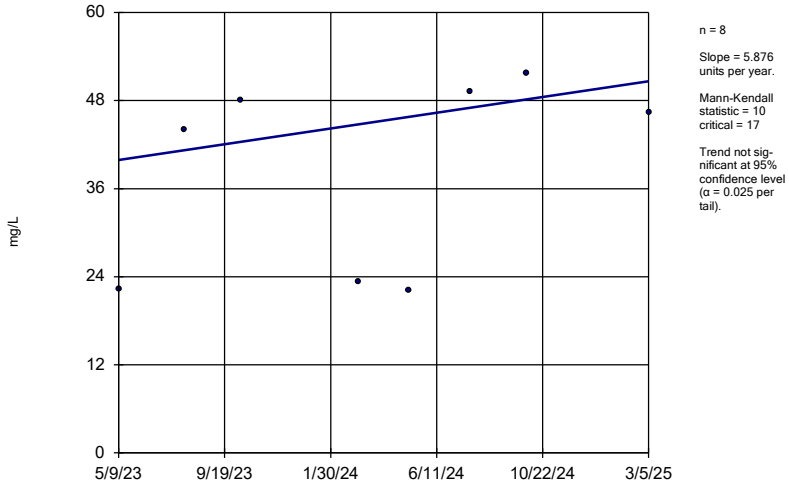
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Chloride

JCW-MW-18005



n = 8

Slope = 5.876 units per year.

Mann-Kendall statistic = 10 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

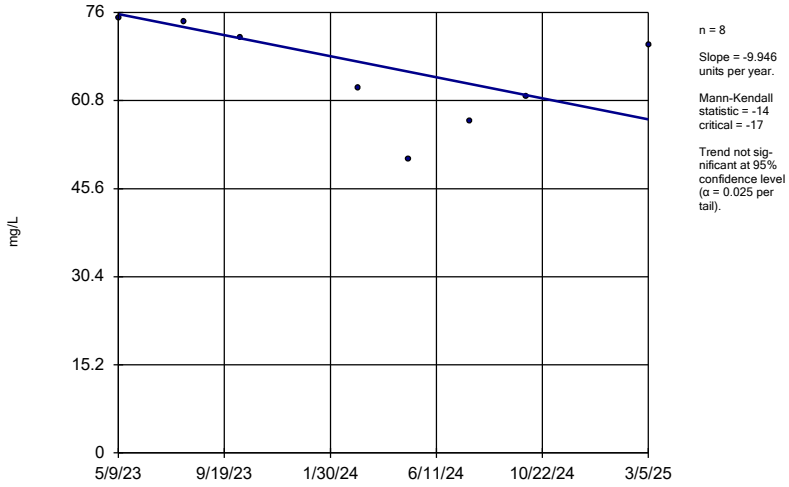
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Chloride

JCW-MW-18006



n = 8

Slope = -9.946 units per year.

Mann-Kendall statistic = -14 critical = -17

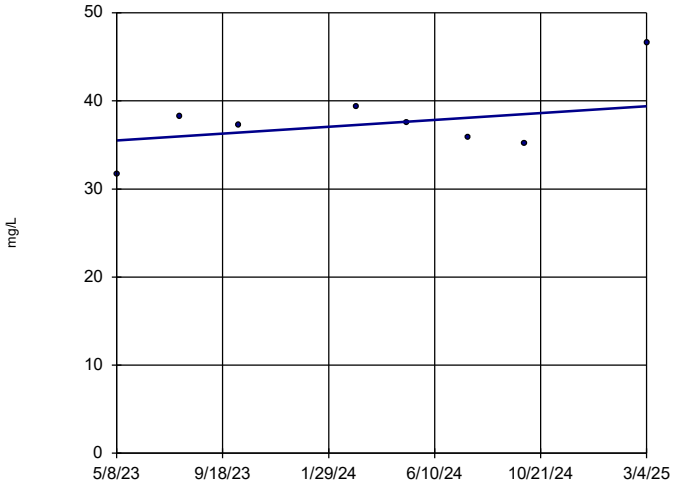
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Chloride

MW-50



n = 8

Slope = 2.13 units per year.

Mann-Kendall statistic = 4 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

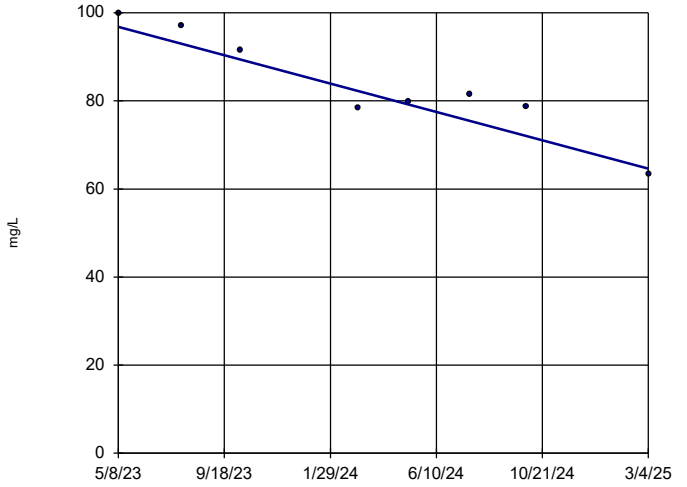
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Chloride

MW-51



n = 8

Slope = -17.63 units per year.

Mann-Kendall statistic = -20 critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

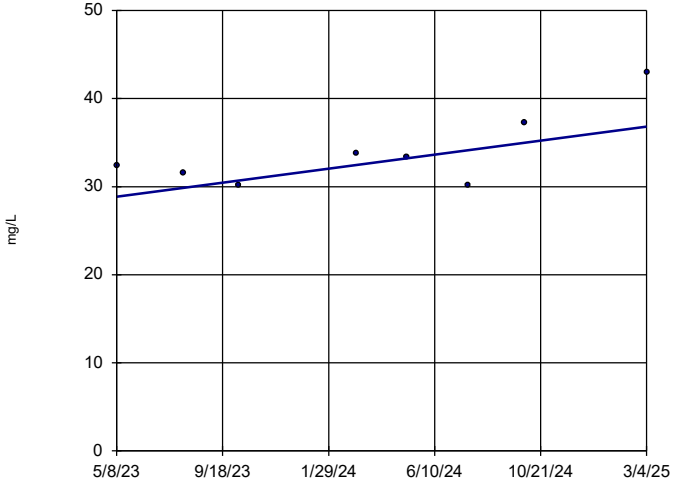
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Chloride

MW-52



n = 8

Slope = 4.356 units per year.

Mann-Kendall statistic = 10 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

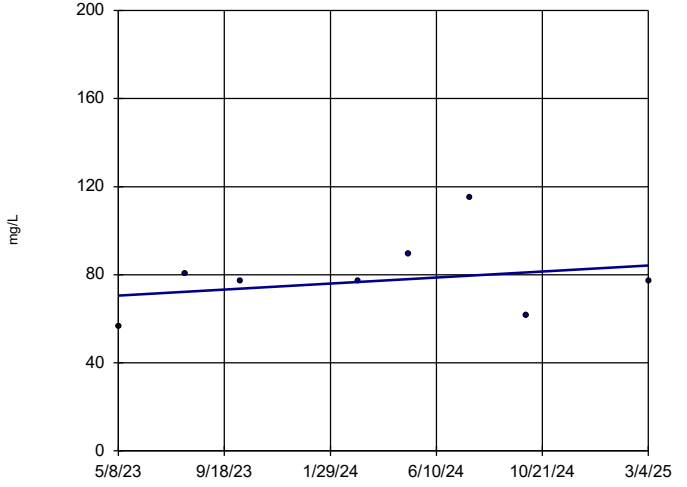
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Chloride

MW-53



n = 8

Slope = 7.518 units per year.

Mann-Kendall statistic = 3 critical = 17

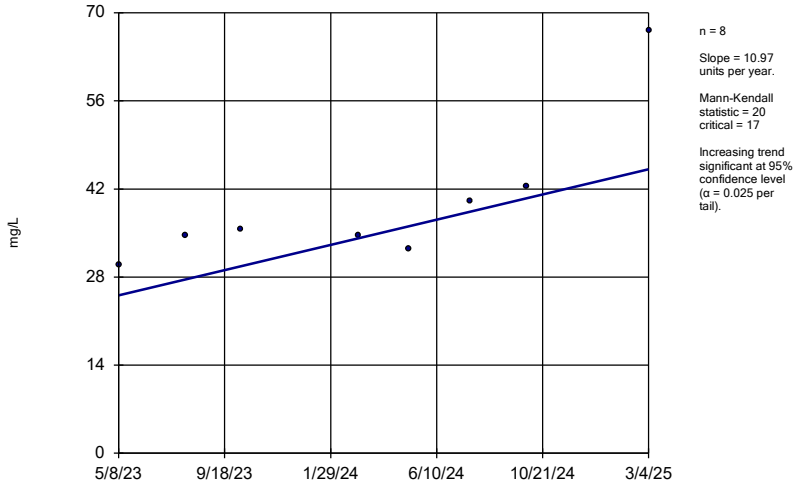
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Chloride

MW-53R



n = 8

Slope = 10.97 units per year.

Mann-Kendall statistic = 20 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

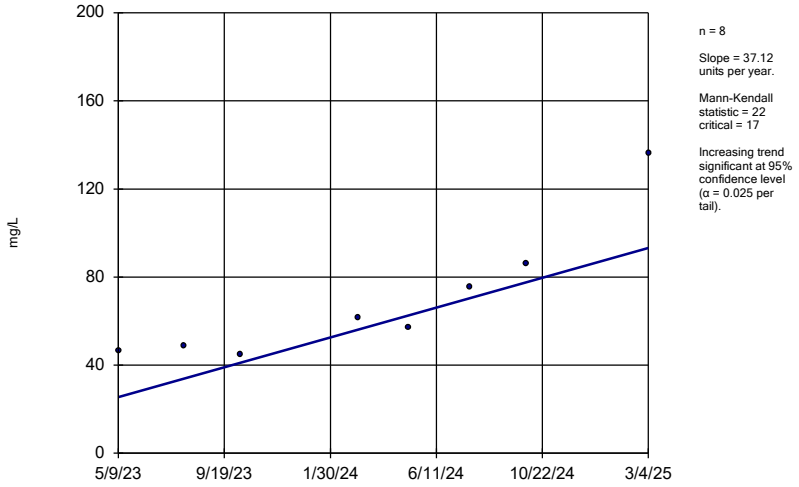
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Chloride

MW-54R



n = 8

Slope = 37.12 units per year.

Mann-Kendall statistic = 22 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

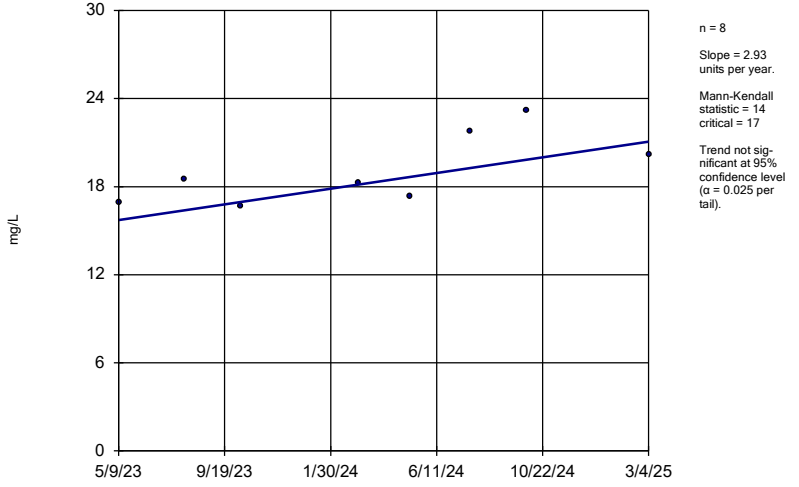
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Chloride

MW-55



n = 8

Slope = 2.93 units per year.

Mann-Kendall statistic = 14 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

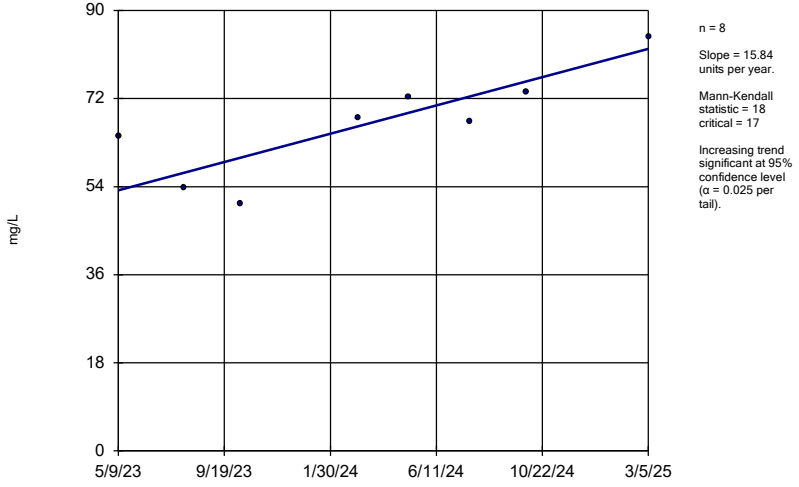
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Chloride

OW-57ROUT



n = 8

Slope = 15.84 units per year.

Mann-Kendall statistic = 18 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

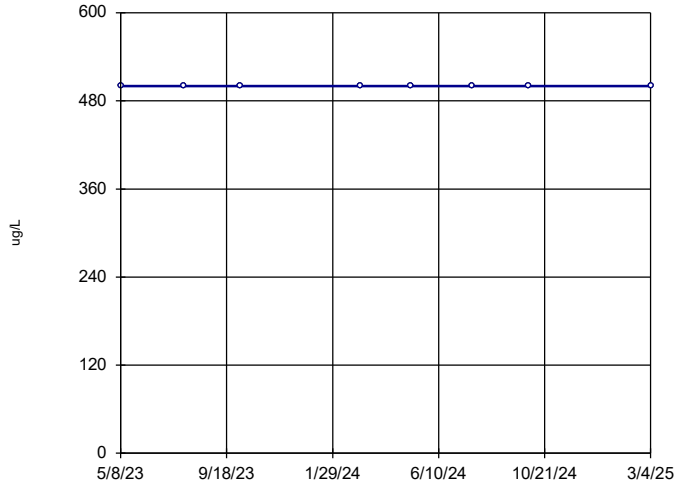
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18001



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

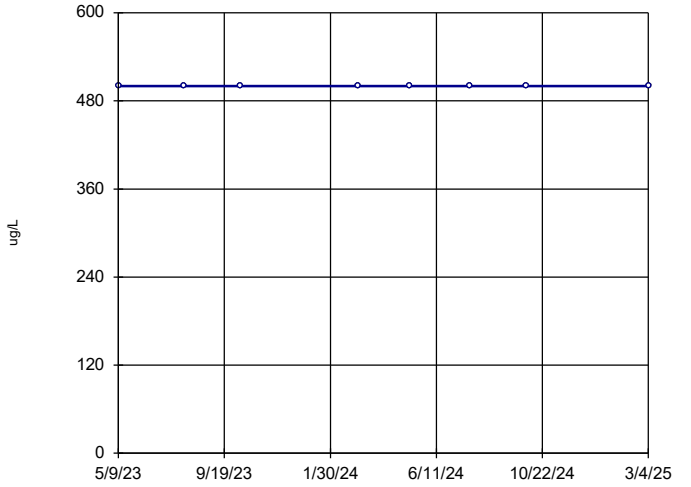
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18004



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

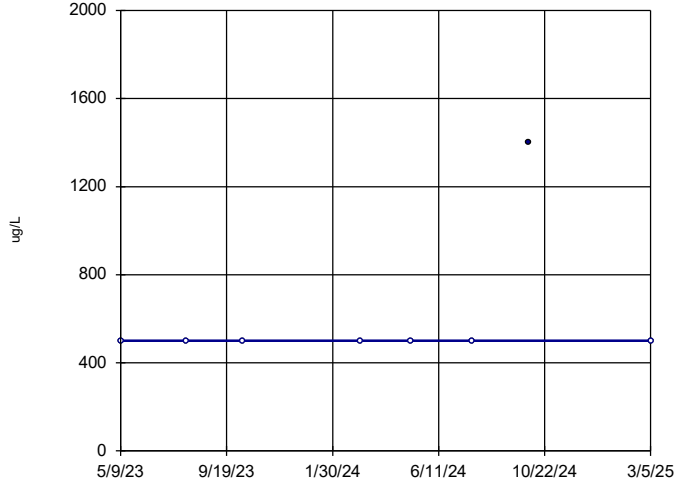
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18005



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 5 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

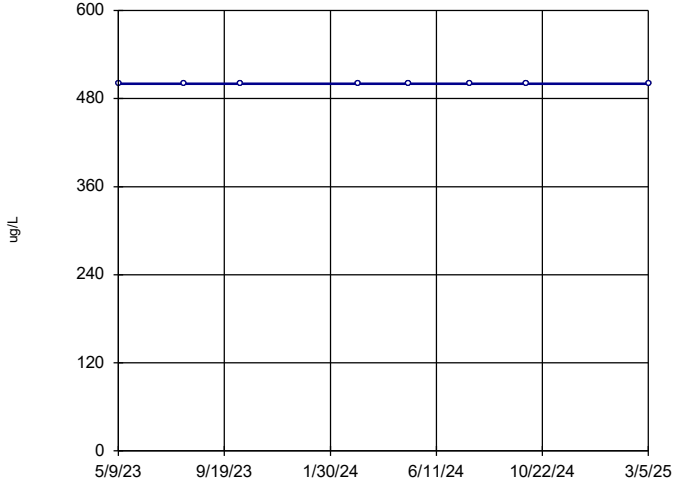
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18006



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

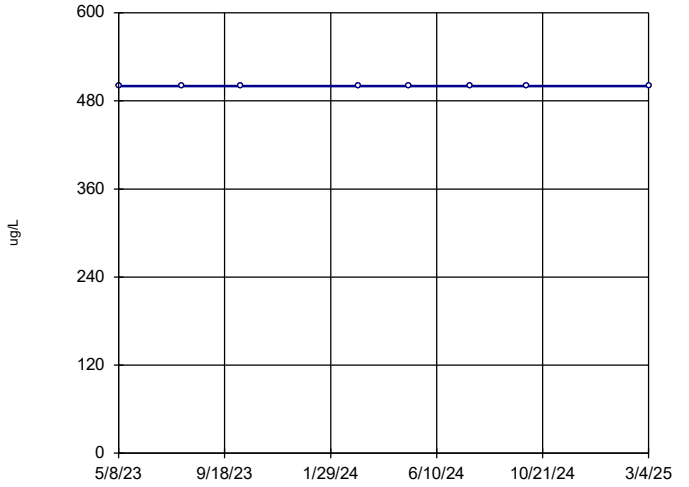
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-50



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

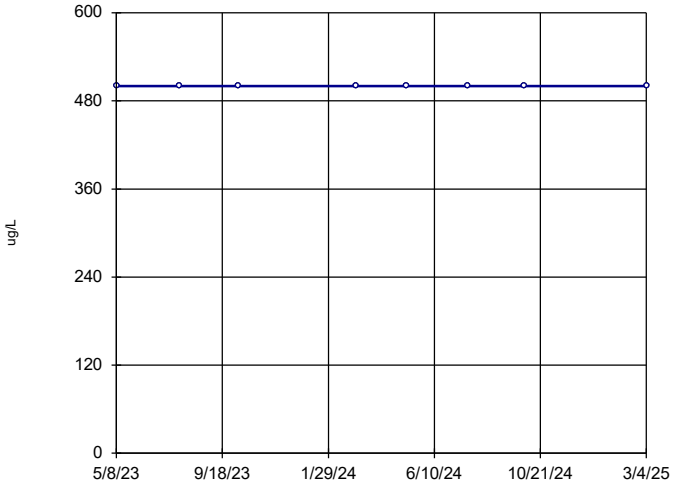
Sen's Slope Estimator Analysis Run 4/10/2025 12:15 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-51



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

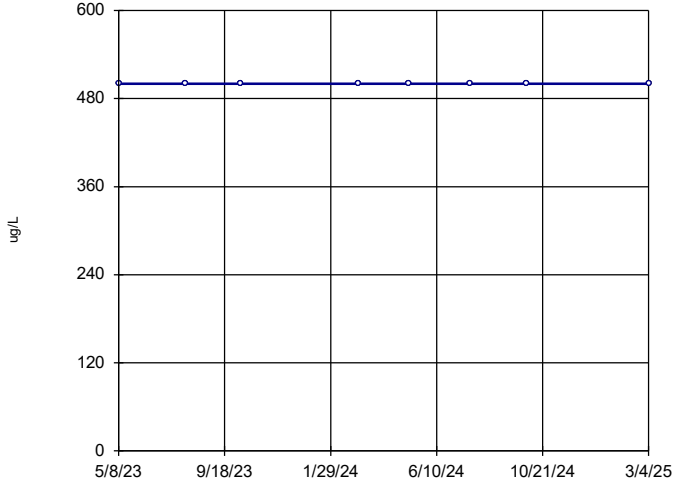
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-52



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

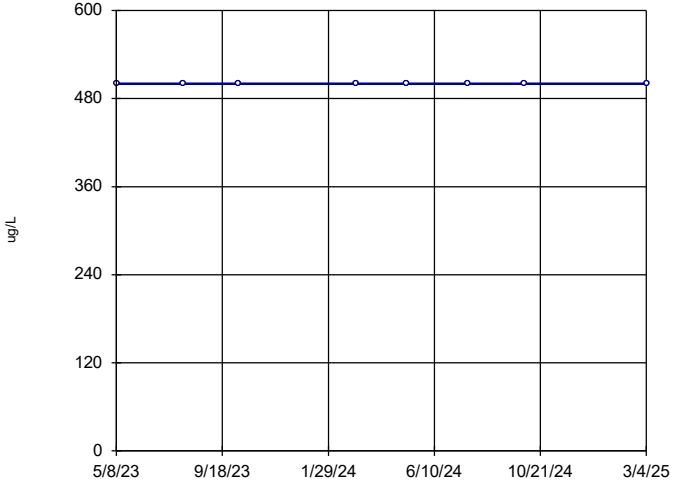
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-53



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

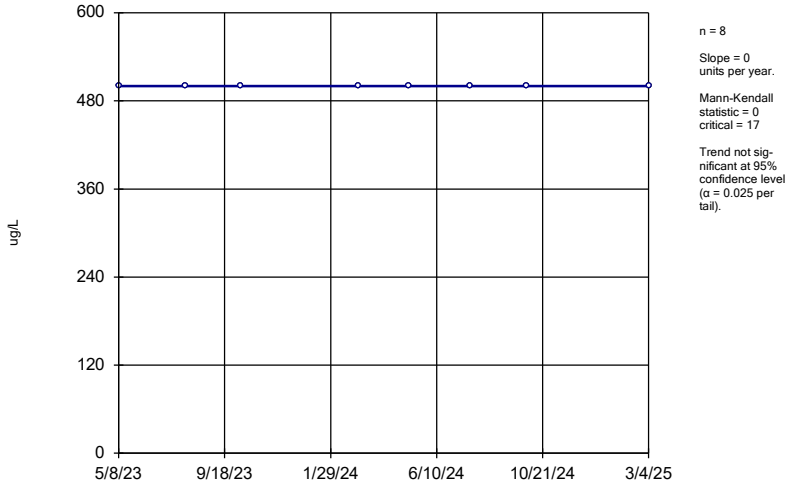
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-53R



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

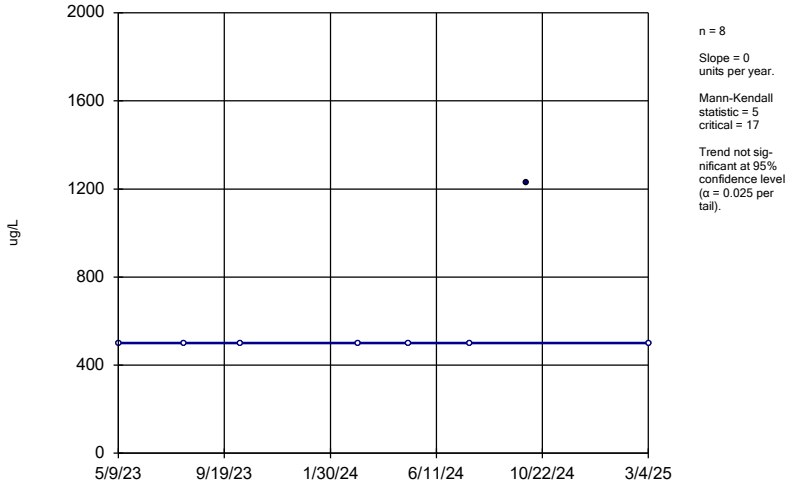
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-54R



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 5 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

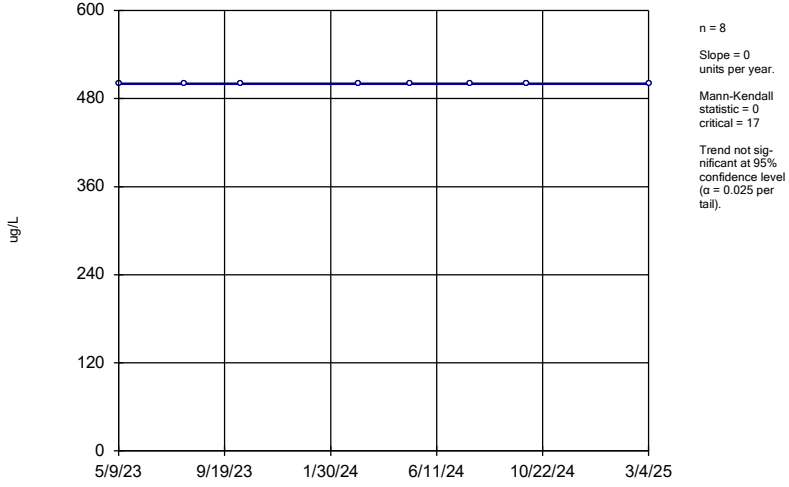
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-55



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

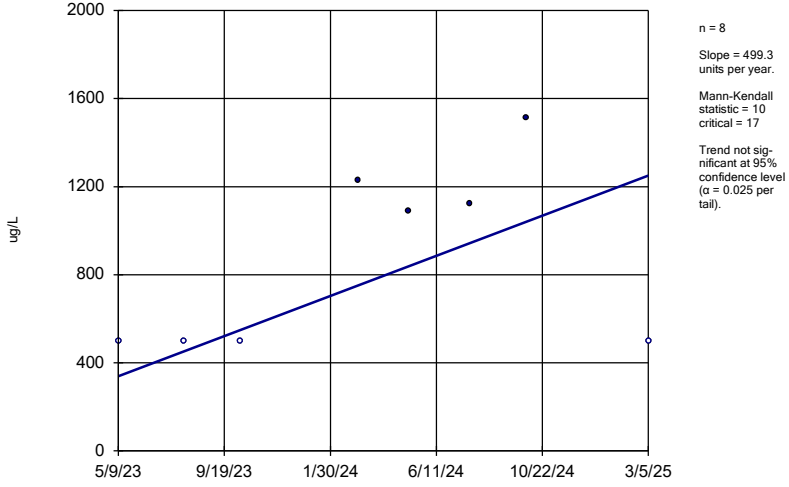
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

OW-57ROUT



n = 8

Slope = 499.3 units per year.

Mann-Kendall statistic = 10 critical = 17

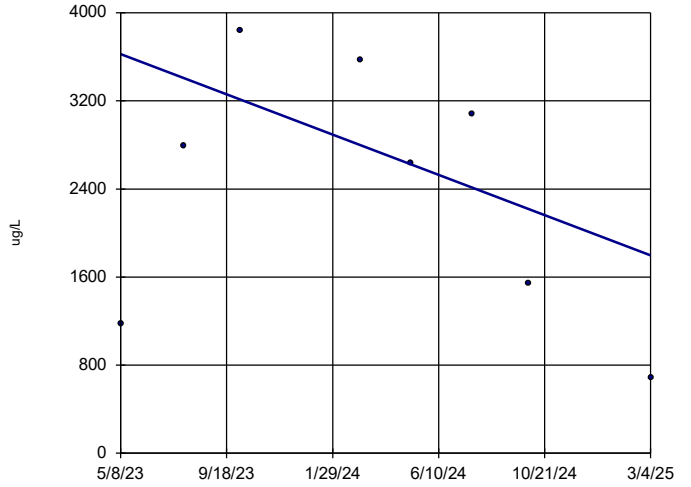
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Iron, Total

JCW-MW-18001



n = 8

Slope = -1002 units per year.

Mann-Kendall statistic = -8
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

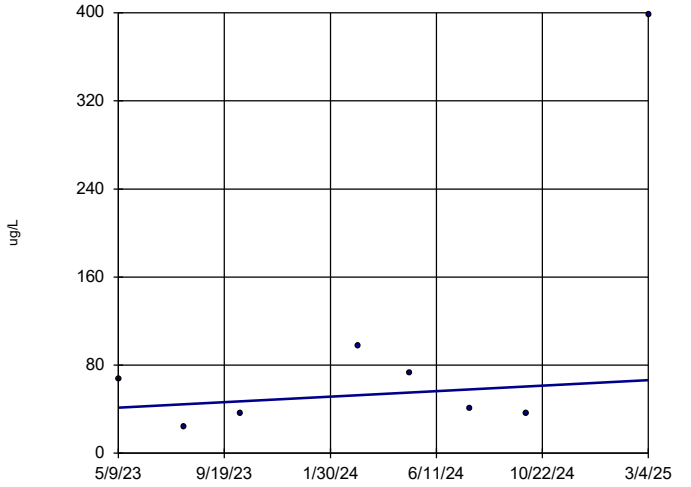
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Iron, Total

JCW-MW-18004



n = 8

Slope = 13.77 units per year.

Mann-Kendall statistic = 7
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

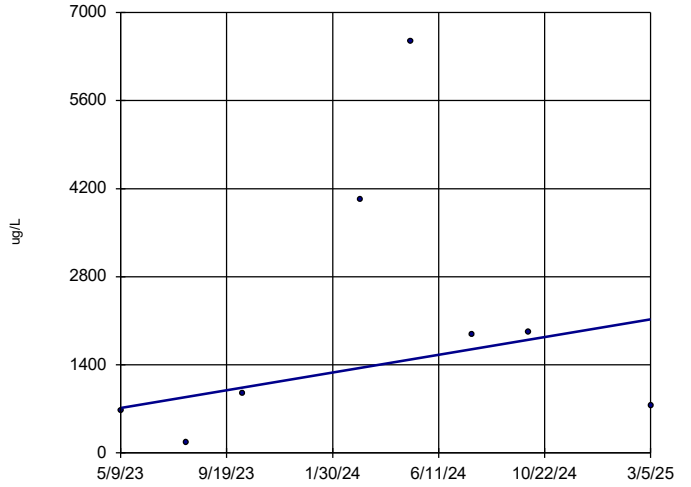
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Iron, Total

JCW-MW-18005



n = 8

Slope = 771.4 units per year.

Mann-Kendall statistic = 8
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

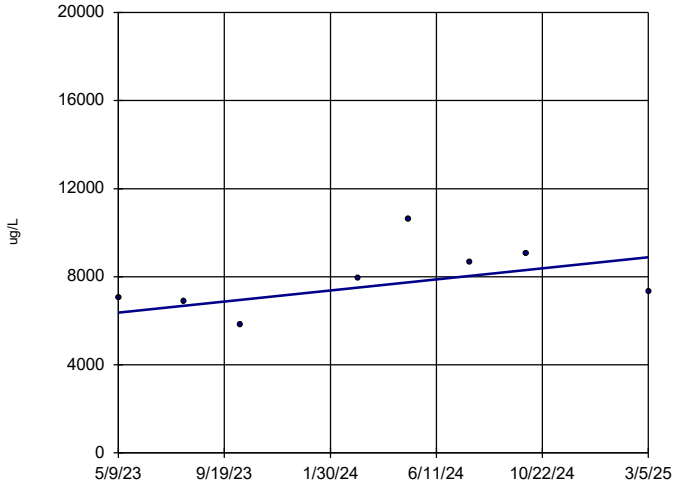
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Iron, Total

JCW-MW-18006



n = 8

Slope = 1374 units per year.

Mann-Kendall statistic = 10
critical = 17

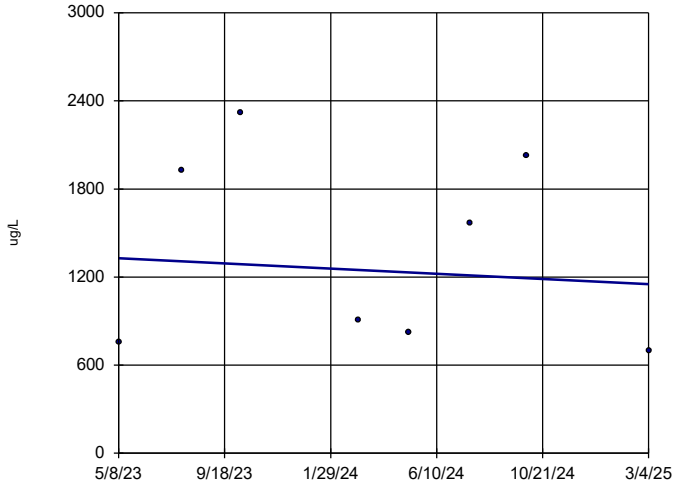
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Iron, Total

MW-50



n = 8

Slope = -96.14 units per year.

Mann-Kendall statistic = -2 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

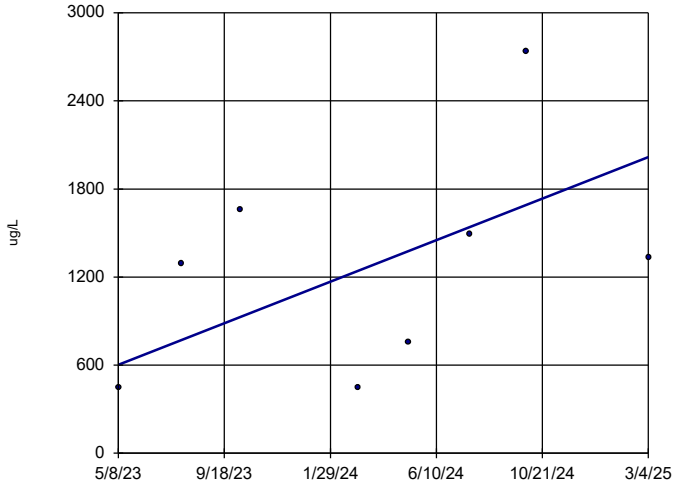
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-51



n = 8

Slope = 775 units per year.

Mann-Kendall statistic = 10 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

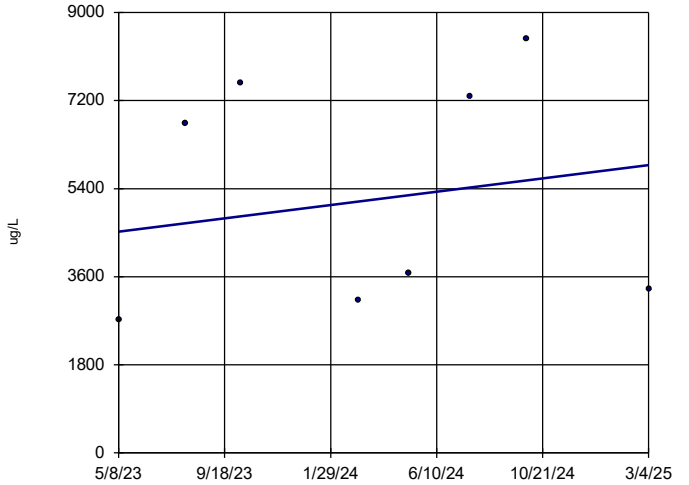
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-52



n = 8

Slope = 744.3 units per year.

Mann-Kendall statistic = 8 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

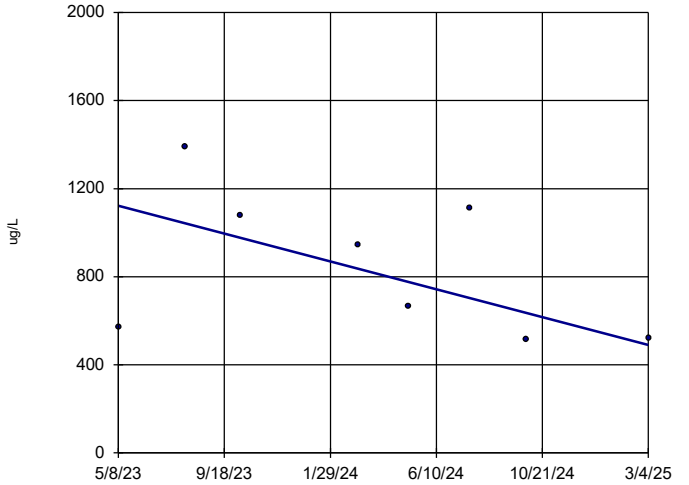
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-53



n = 8

Slope = -346.5 units per year.

Mann-Kendall statistic = -10 critical = -17

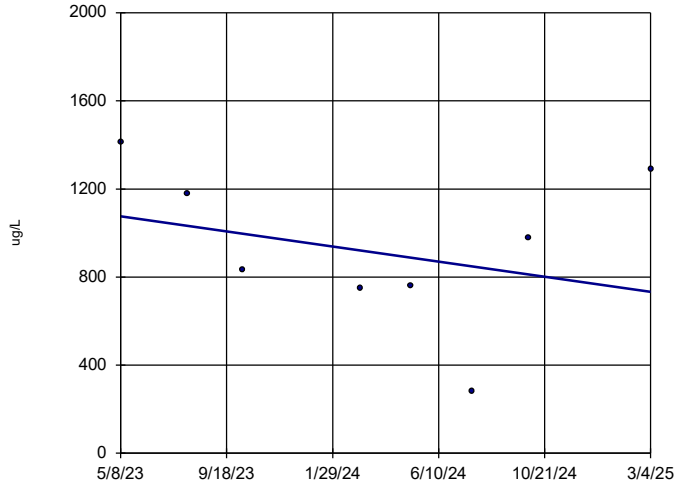
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Iron, Total

MW-53R



n = 8

Slope = -188.5 units per year.

Mann-Kendall statistic = -6
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

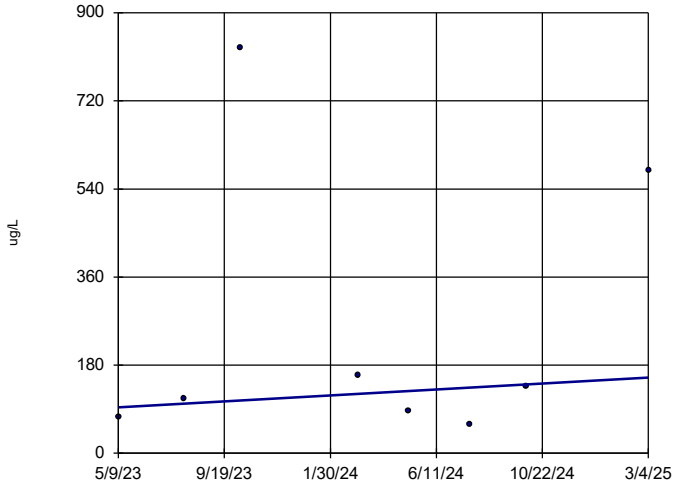
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-54R



n = 8

Slope = 33.52 units per year.

Mann-Kendall statistic = 4
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

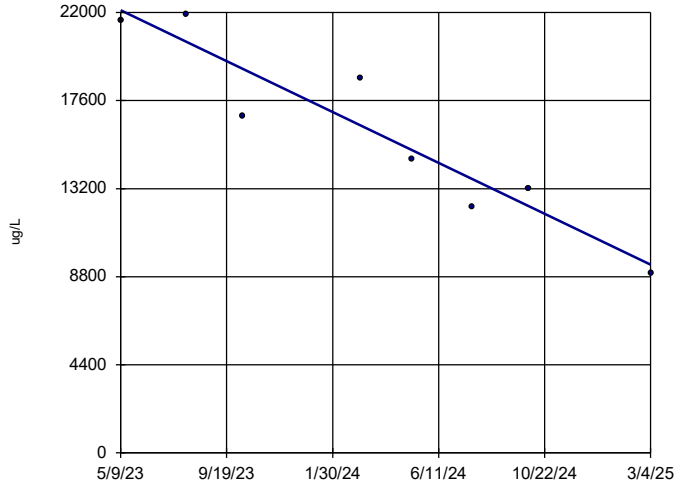
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-55



n = 8

Slope = -6970 units per year.

Mann-Kendall statistic = -22
critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

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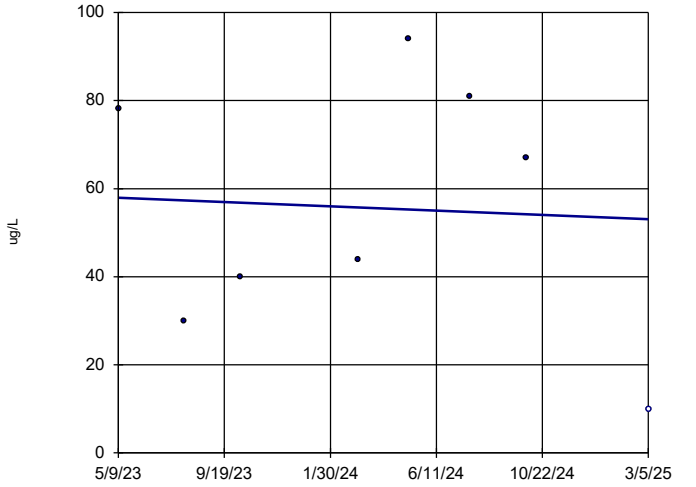
Hollow symbols indicate censored values.

Iron, Total

OW-57ROUT



n = 8

Slope = -2.682 units per year.

Mann-Kendall statistic = 0
critical = 17

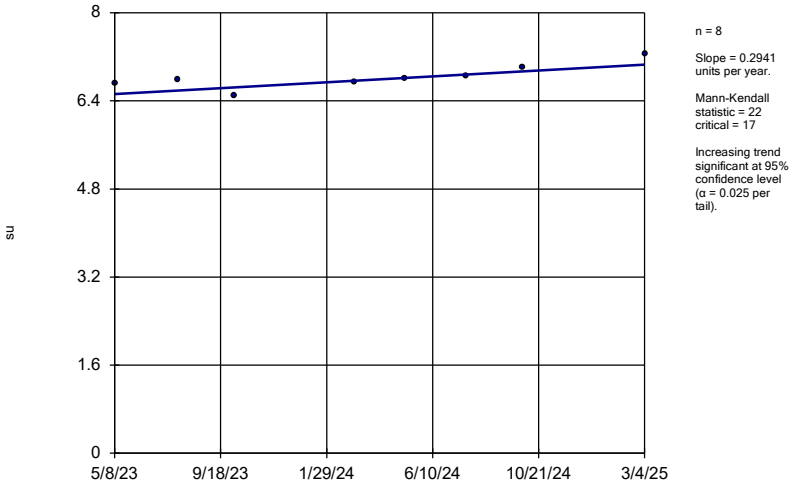
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

pH, Field

JCW-MW-18001



n = 8

Slope = 0.2941 units per year.

Mann-Kendall statistic = 22 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

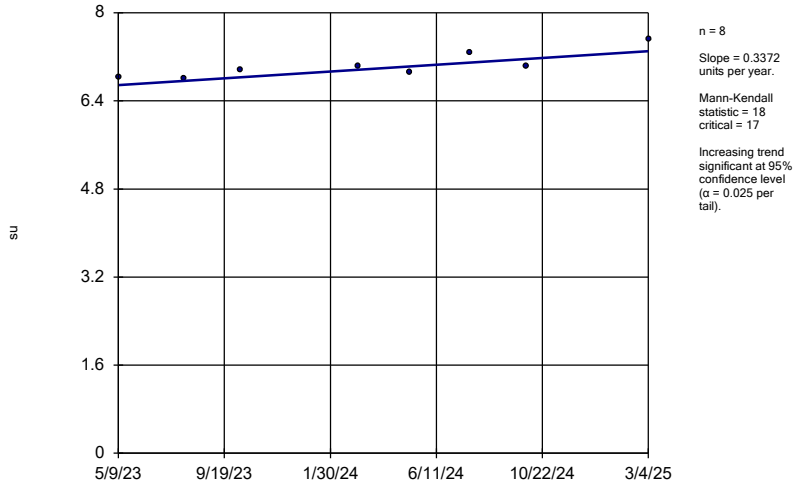
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

pH, Field

JCW-MW-18004



n = 8

Slope = 0.3372 units per year.

Mann-Kendall statistic = 18 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

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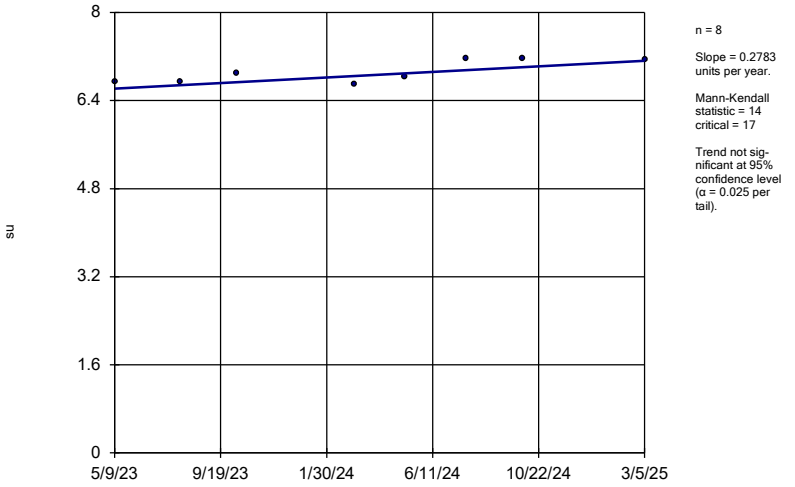
pH, Field

JCW-MW-18005



n = 8

Slope = 0.2783 units per year.

Mann-Kendall statistic = 14 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

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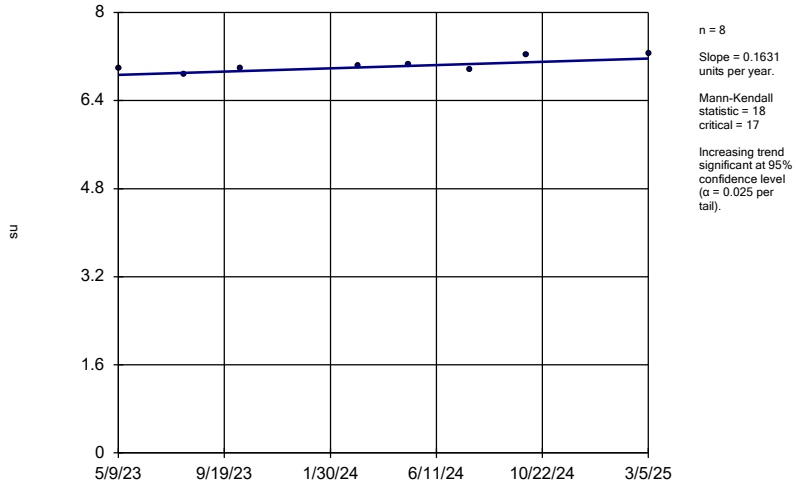
pH, Field

JCW-MW-18006



n = 8

Slope = 0.1631 units per year.

Mann-Kendall statistic = 18 critical = 17

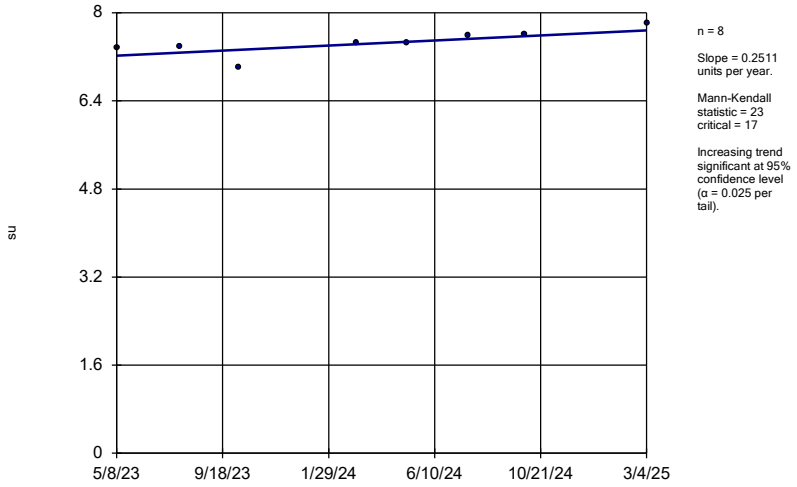
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

pH, Field

MW-50



n = 8

Slope = 0.2511 units per year.

Mann-Kendall statistic = 23 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

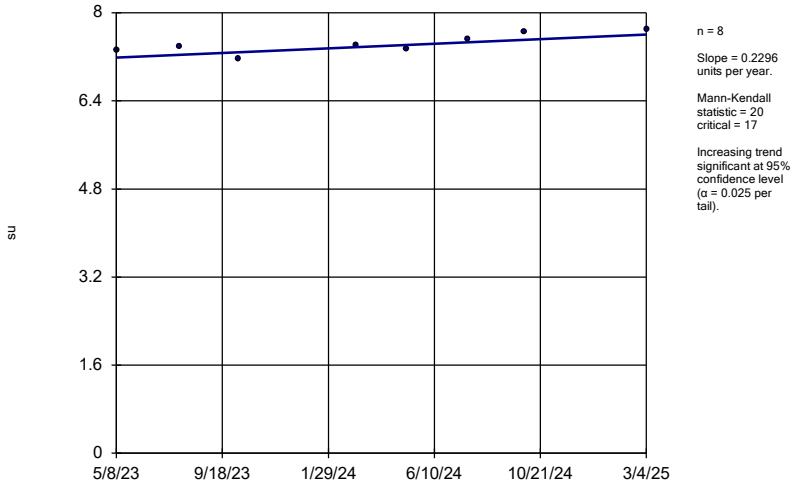
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-51



n = 8

Slope = 0.2296 units per year.

Mann-Kendall statistic = 20 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

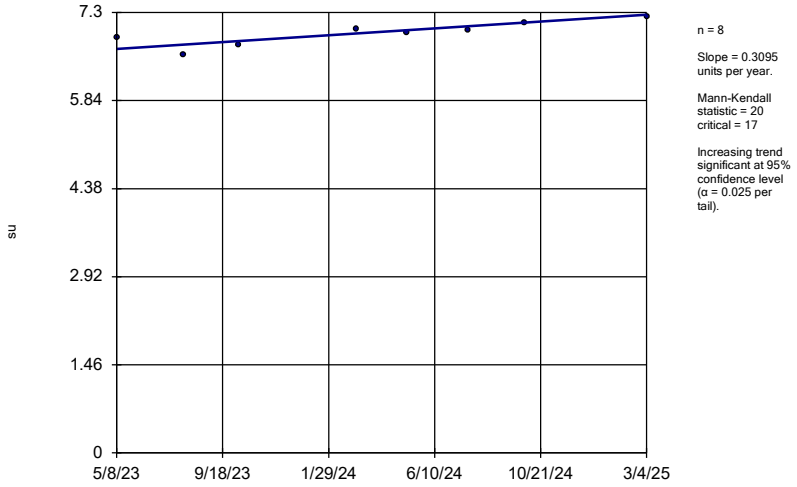
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-52



n = 8

Slope = 0.3095 units per year.

Mann-Kendall statistic = 20 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

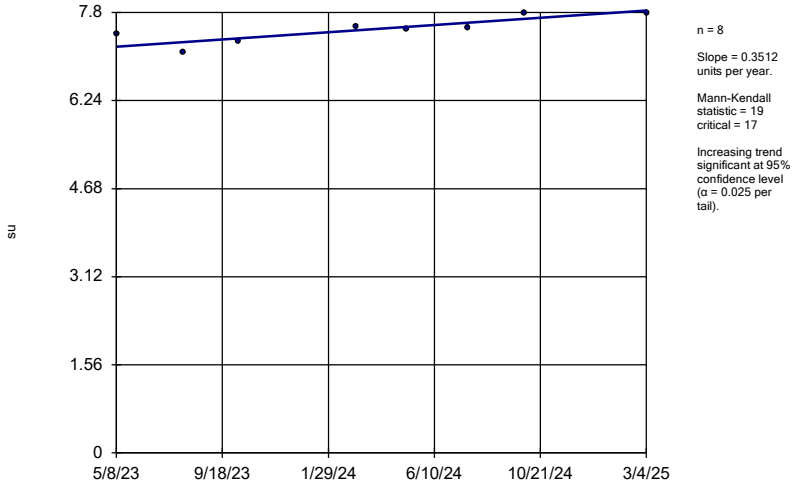
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-53



n = 8

Slope = 0.3512 units per year.

Mann-Kendall statistic = 19 critical = 17

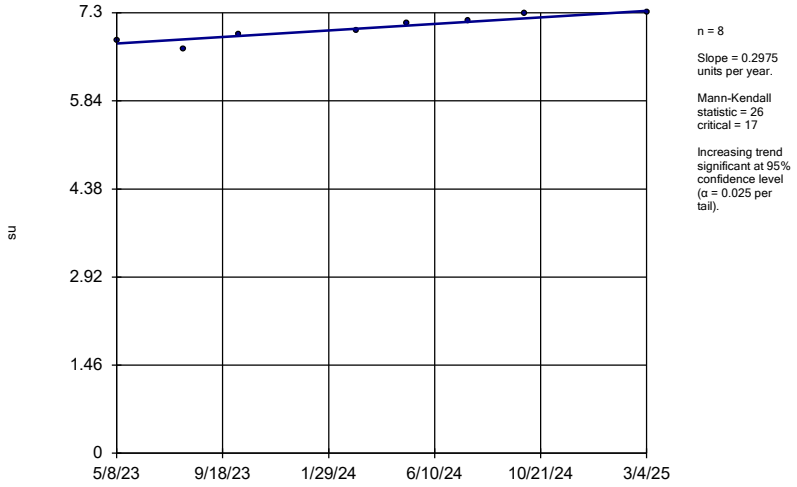
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

pH, Field

MW-53R



n = 8

Slope = 0.2975 units per year.

Mann-Kendall statistic = 26 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

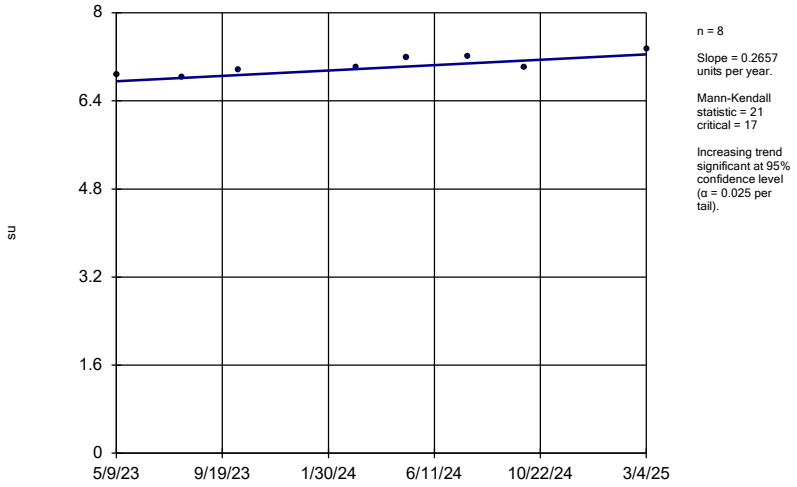
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-54R



n = 8

Slope = 0.2657 units per year.

Mann-Kendall statistic = 21 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

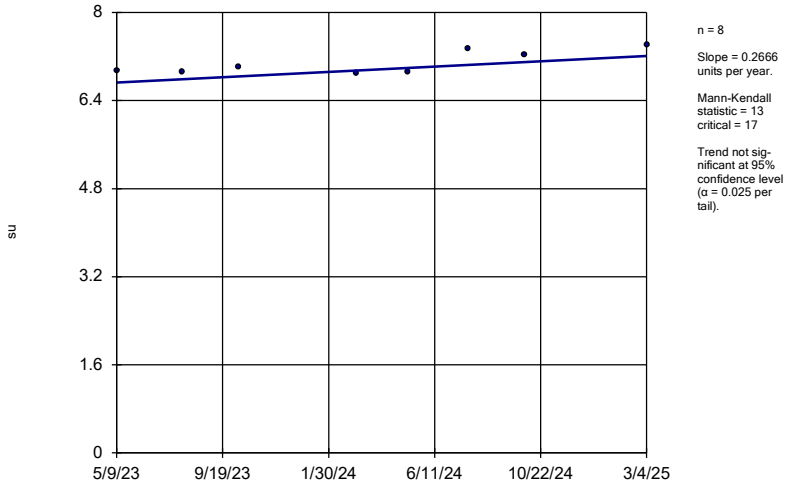
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-55



n = 8

Slope = 0.2666 units per year.

Mann-Kendall statistic = 13 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

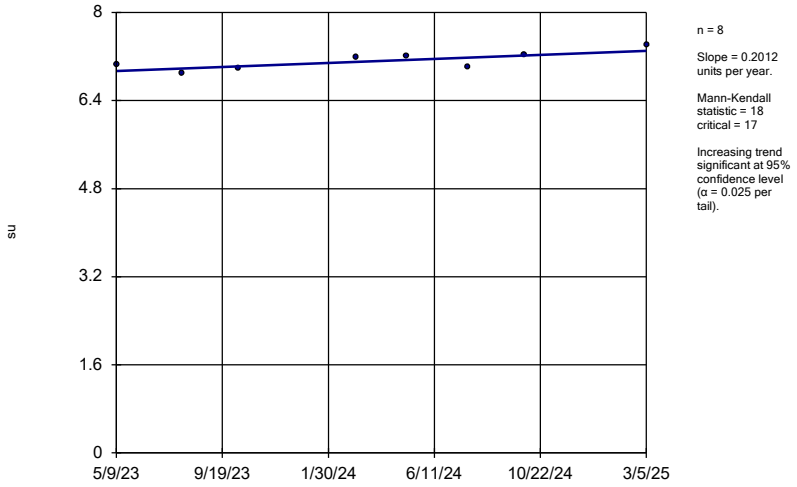
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

pH, Field

OW-57ROUT



n = 8

Slope = 0.2012 units per year.

Mann-Kendall statistic = 18 critical = 17

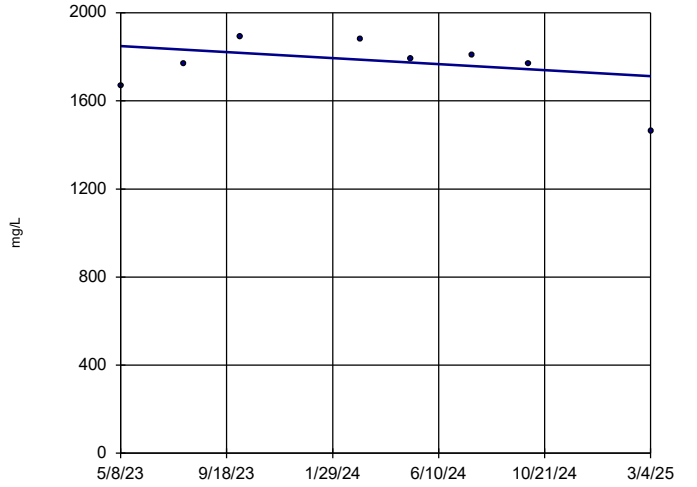
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sulfate

JCW-MW-18001



n = 8

Slope = -74.83 units per year.

Mann-Kendall statistic = -5
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

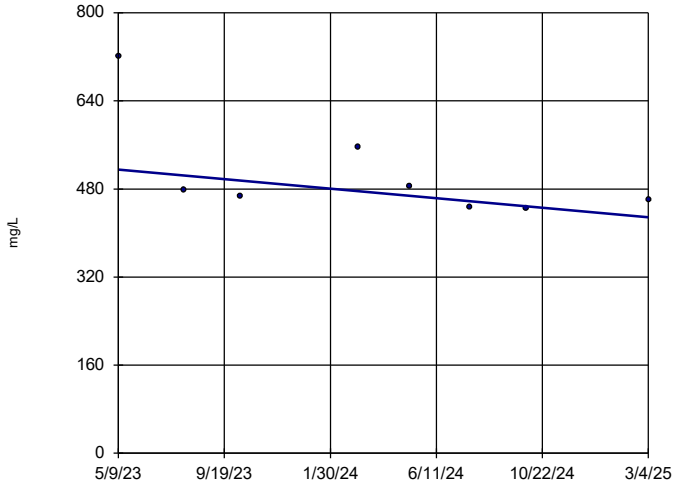
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Sulfate

JCW-MW-18004



n = 8

Slope = -47.6 units per year.

Mann-Kendall statistic = -16
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

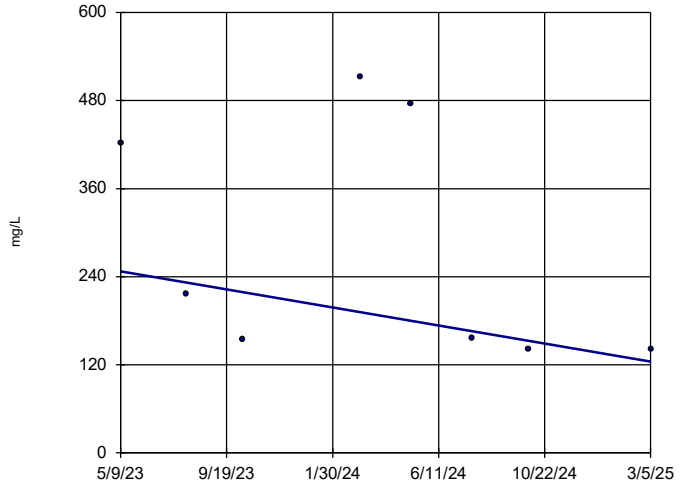
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Sulfate

JCW-MW-18005



n = 8

Slope = -67.47 units per year.

Mann-Kendall statistic = -14
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

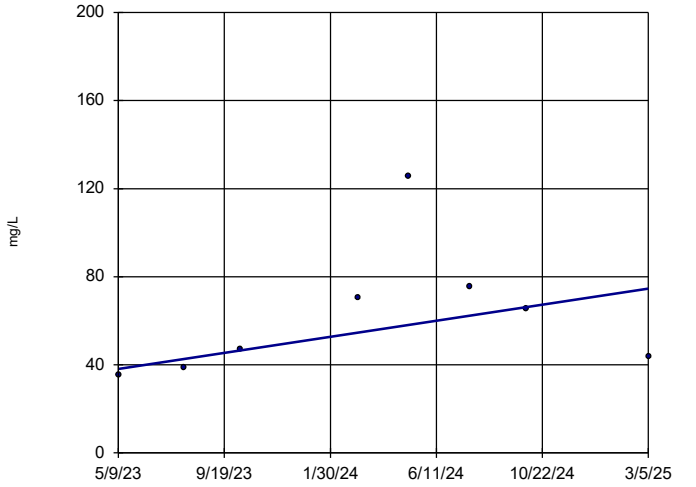
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Sulfate

JCW-MW-18006



n = 8

Slope = 20.01 units per year.

Mann-Kendall statistic = 10
critical = 17

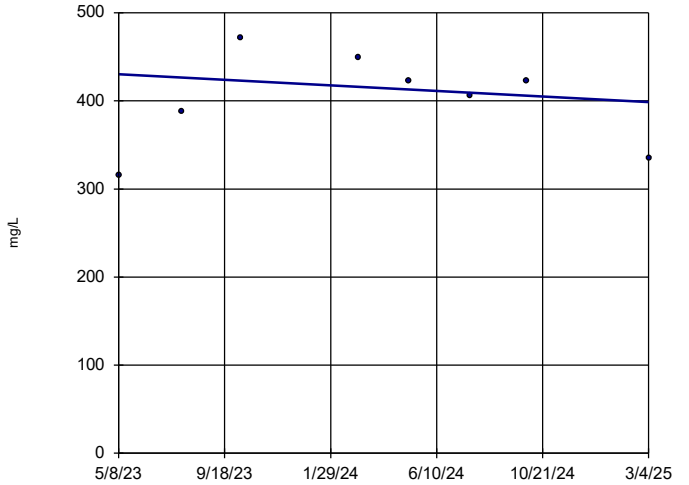
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sulfate

MW-50



n = 8

Slope = -17.41 units per year.

Mann-Kendall statistic = -2 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

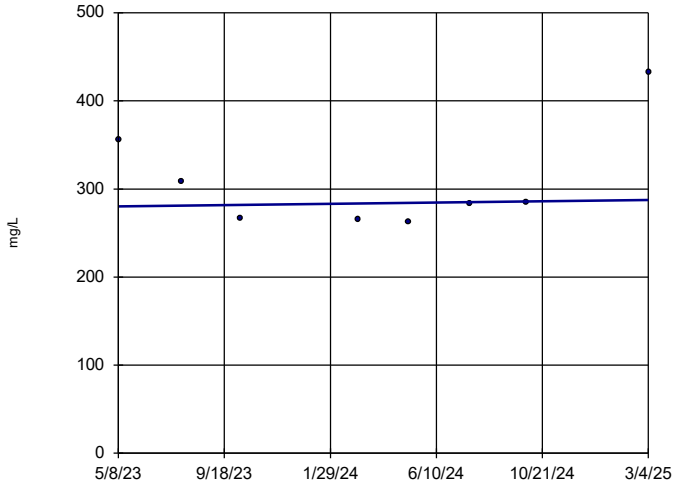
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Sulfate

MW-51



n = 8

Slope = 3.981 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

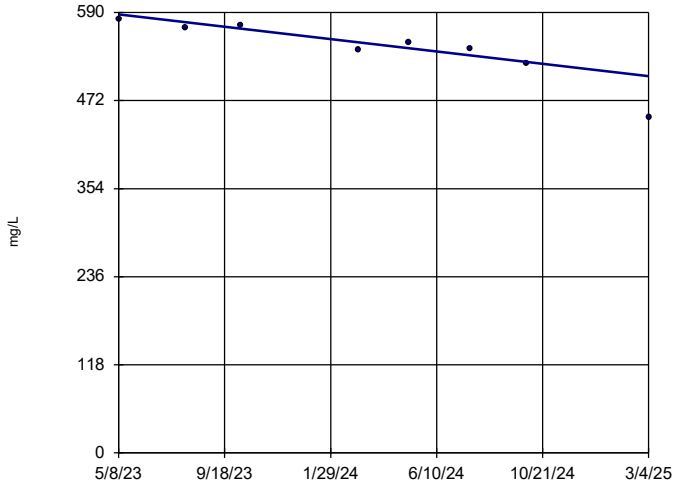
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Sulfate

MW-52



n = 8

Slope = -45.31 units per year.

Mann-Kendall statistic = -22 critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

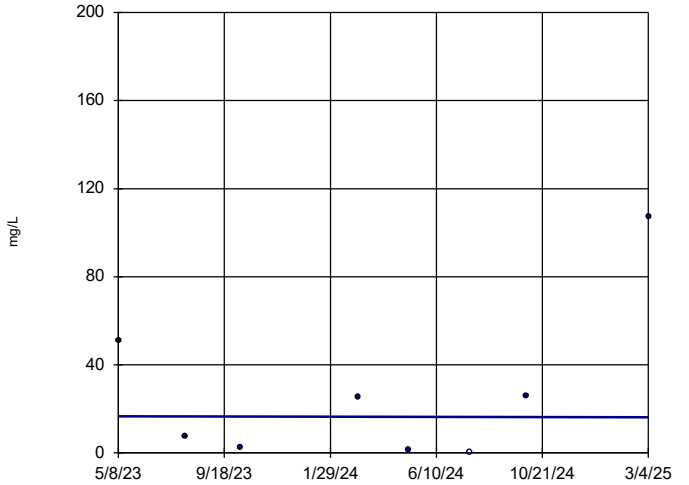
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Hollow symbols indicate censored values.

Sulfate

MW-53



n = 8

Slope = -0.2142 units per year.

Mann-Kendall statistic = 0 critical = 17

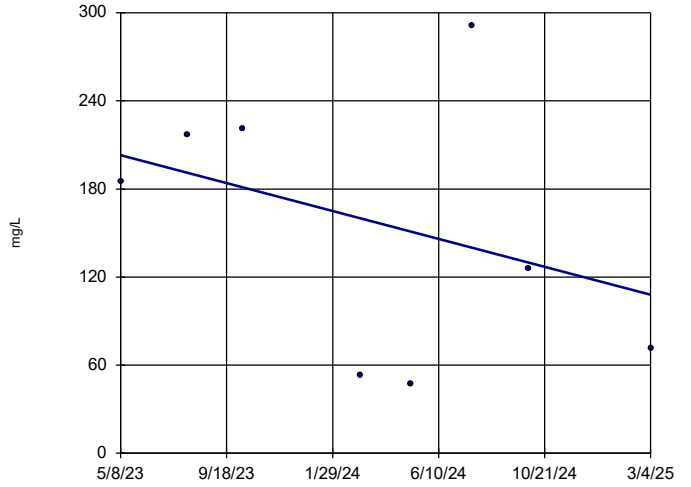
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sulfate

MW-53R



n = 8

Slope = -52.13 units per year.

Mann-Kendall statistic = -4 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

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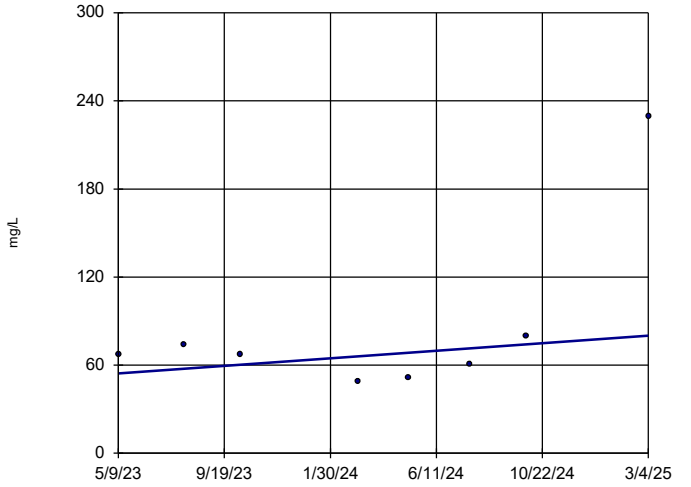
Sulfate

MW-54R



n = 8

Slope = 14.13 units per year.

Mann-Kendall statistic = 8 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

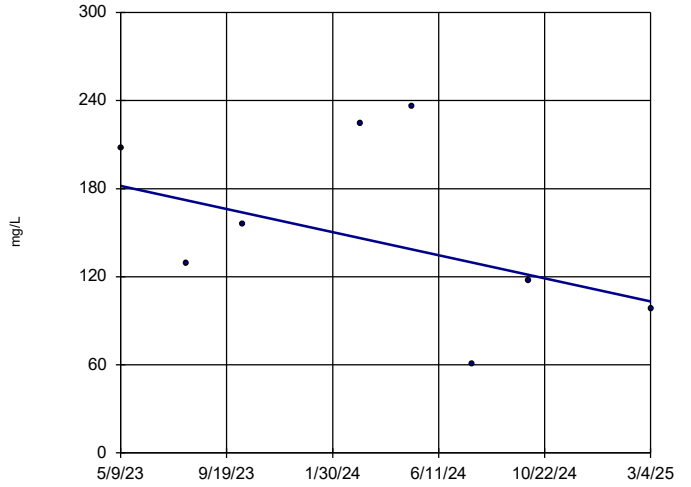
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Sulfate

MW-55



n = 8

Slope = -43.18 units per year.

Mann-Kendall statistic = -8 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

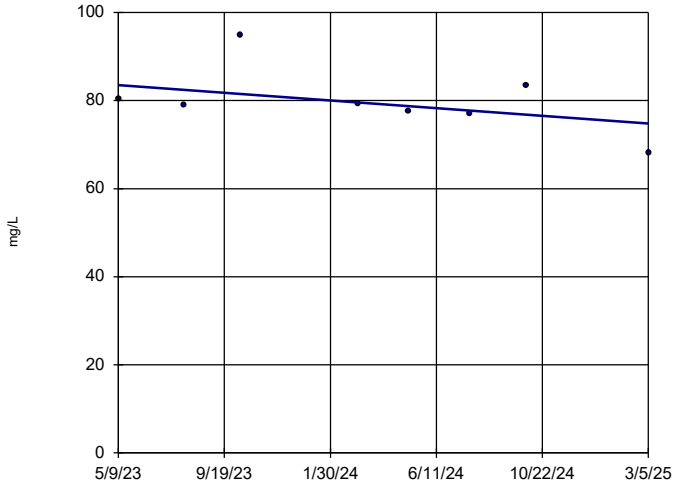
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Sulfate

OW-57ROUT



n = 8

Slope = -4.788 units per year.

Mann-Kendall statistic = -12 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

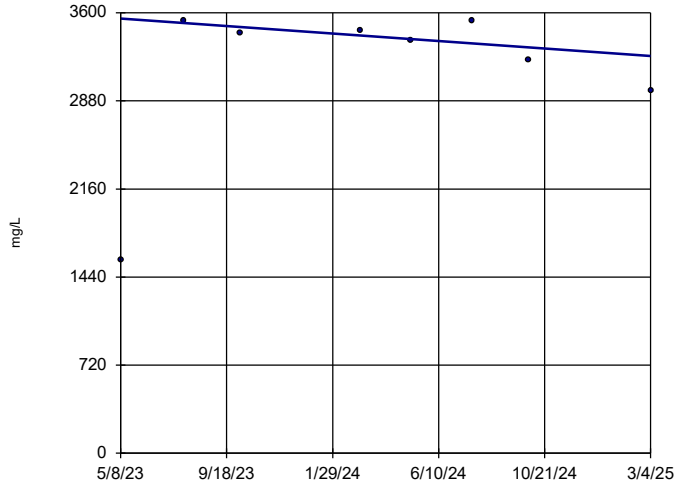
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

JCW-MW-18001



n = 8

Slope = -167.6 units per year.

Mann-Kendall statistic = -5 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

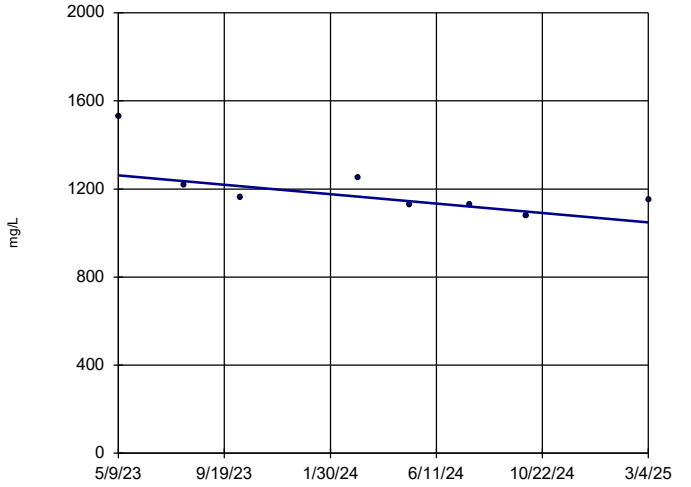
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

JCW-MW-18004



n = 8

Slope = -117.8 units per year.

Mann-Kendall statistic = -17 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

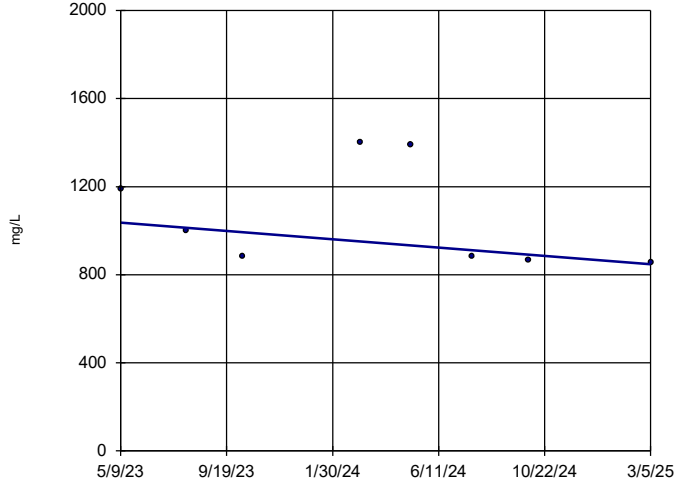
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

JCW-MW-18005



n = 8

Slope = -103.3 units per year.

Mann-Kendall statistic = -15 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

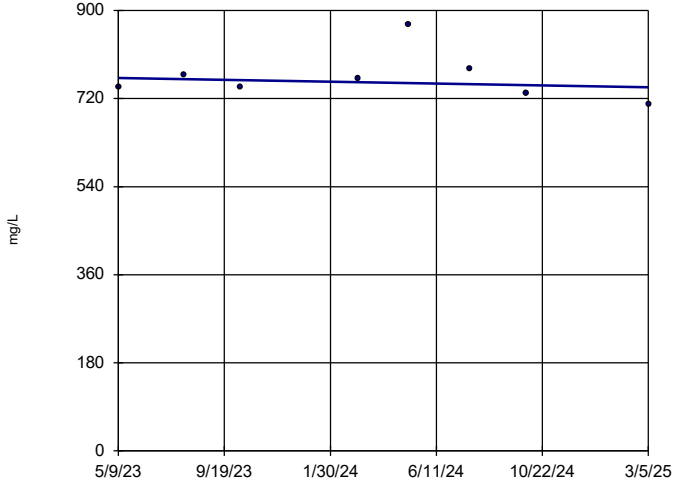
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

JCW-MW-18006



n = 8

Slope = -10.18 units per year.

Mann-Kendall statistic = -4 critical = -17

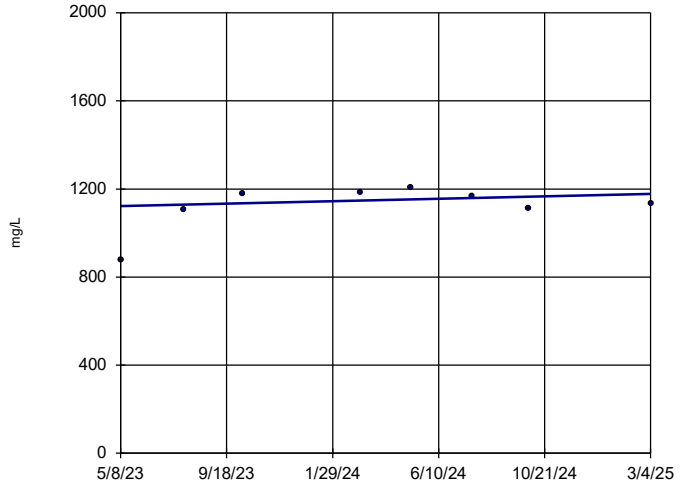
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Total Dissolved Solids

MW-50



n = 8

Slope = 30.95 units per year.

Mann-Kendall statistic = 6 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

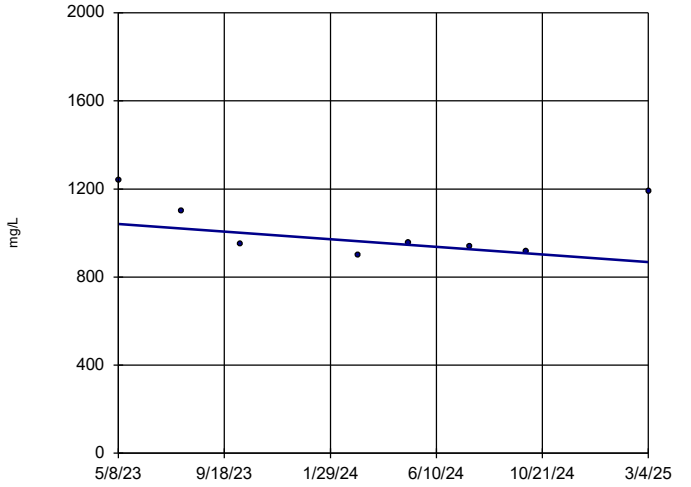
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-51



n = 8

Slope = -94.81 units per year.

Mann-Kendall statistic = -8 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

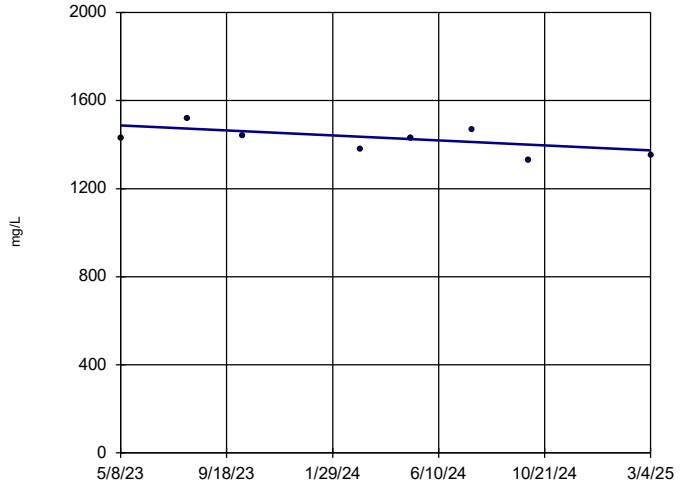
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-52



n = 8

Slope = -62.3 units per year.

Mann-Kendall statistic = -11 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

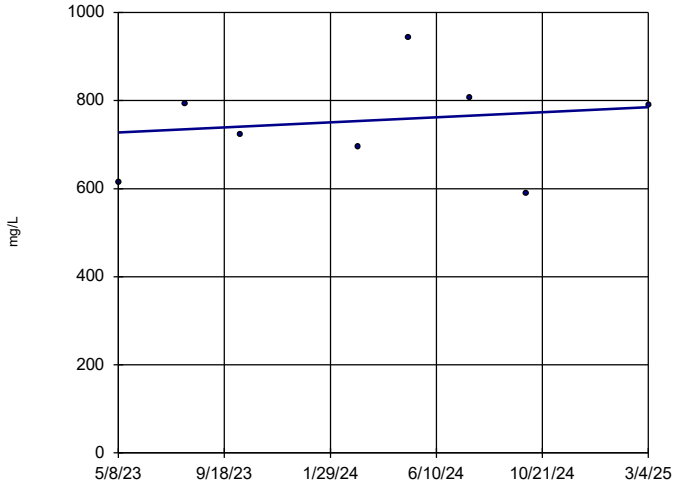
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-53



n = 8

Slope = 31.38 units per year.

Mann-Kendall statistic = 2 critical = 17

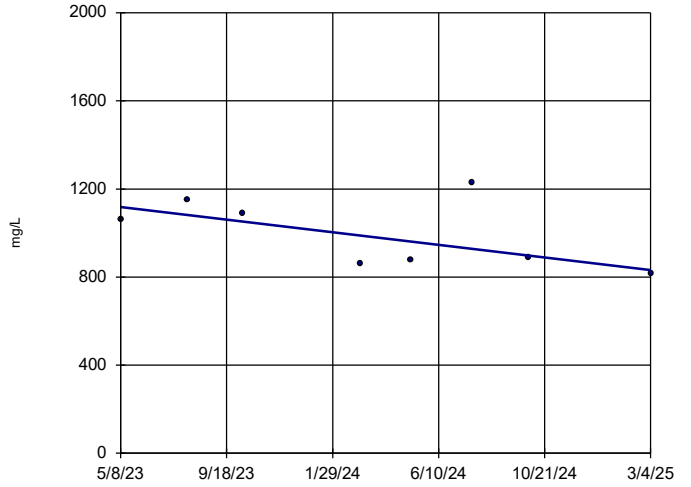
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Total Dissolved Solids

MW-53R



n = 8

Slope = -157.4 units per year.

Mann-Kendall statistic = -8
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

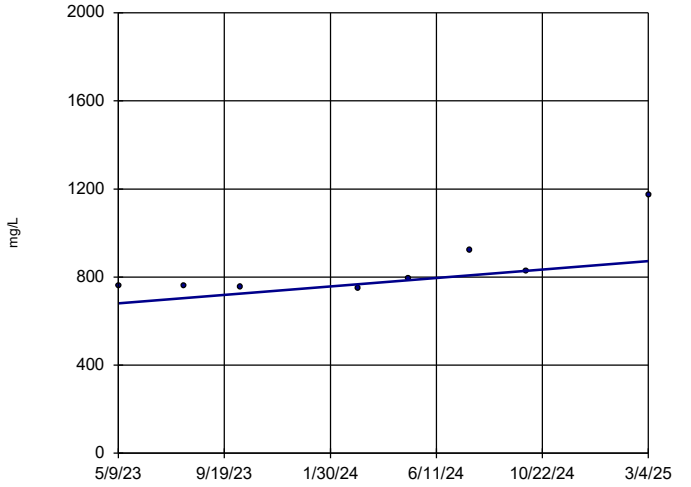
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-54R



n = 8

Slope = 105.9 units per year.

Mann-Kendall statistic = 16
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

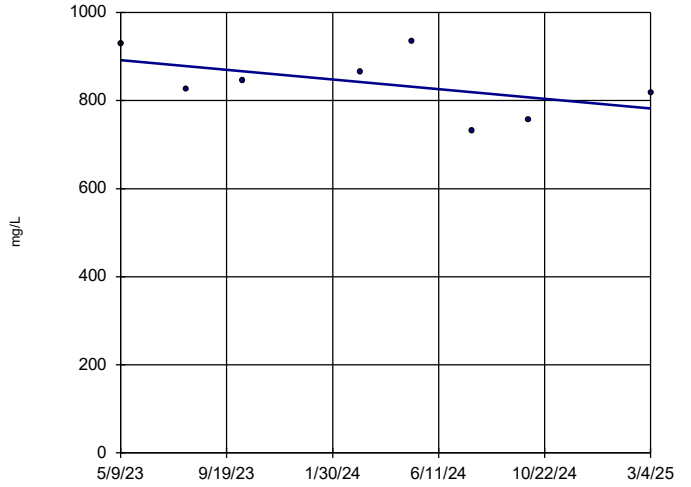
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-55



n = 8

Slope = -60.24 units per year.

Mann-Kendall statistic = -8
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

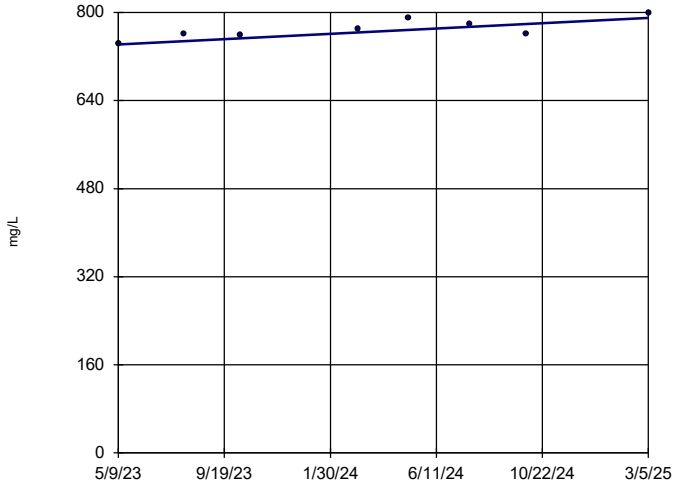
Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

OW-57ROUT



n = 8

Slope = 26.67 units per year.

Mann-Kendall statistic = 17
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 4/10/2025 12:16 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Appendix D
Assessment Monitoring and GSI Statistical Evaluation

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Technical Memorandum

Date:	April 30, 2025
To:	J.R. Register, Consumers Energy
From:	Darby Litz, TRC Kristin Lowery, TRC
Project No.:	634698.0000 Phase 002, Task 002
Subject:	Assessment Monitoring and GSI Statistical Evaluation of the First Quarter 2025 Sampling Event JC Weadock Landfill, Consumers Energy Company, Essexville, Michigan

During the statistical evaluation of the initial assessment monitoring event (May 2018) for the JC Weadock Power Plant Landfill, arsenic was present in one or more downgradient monitoring wells at statistically significant levels exceeding the Groundwater Protection Standard (GWPS). Therefore, Consumers Energy Company (Consumers Energy) initiated an Assessment of Corrective Measures (ACM) within 90 days from when the Appendix IV exceedance was determined. The ACM was completed on September 11, 2019.

Currently, Consumers Energy is continuing semiannual assessment monitoring in accordance with §257.95 of the CCR Rule[1] at the JC Weadock Power Plant Landfill and quarterly groundwater monitoring in accordance with the February 2021 Weadock Landfill Hydrogeological Monitoring Plan (HMP). In accordance with §257.95 and the HMP, the assessment monitoring data must be compared to GWPSs to determine whether or not Appendix III and Appendix IV constituents, and additional Michigan Part 115 (as amended by PA 640) Section 11511a(3) and Section 11519b(2) constituents, are detected at statistically significant levels above the GWPSs. GWPSs were established in accordance with §257.95(h) and Part 115, as detailed in the April 23, 2021 Groundwater Protection Standards technical memorandum, which was also included in the First Quarter 2021 Hydrogeological Monitoring Report[2]. In accordance with the HMP, groundwater monitoring data from the designated groundwater-surface water interface (GSI) monitoring wells must be also compared to the GSI criteria to determine whether or not the GSI monitoring constituents are detected at statistically significant levels above the GSI criteria.

The statistical evaluation of the first quarter 2025 assessment monitoring event data indicates that the following constituents are present at statistically significant levels above the GWPSs in downgradient monitoring wells at the Weadock Landfill:

[1] USEPA final rule for the regulation and management of Coal Combustion Residuals (CCR) under the Resource Conservation and Recovery Act (RCRA) published April 17, 2015, as amended per Phase One, Part One of the CCR Rule (83 FR 36435).

[2] TRC. 2021. *First Quarter 2021 Hydrogeological Monitoring Report – JC Weadock Solid Waste Disposal Area, Essexville, Michigan.* Prepared for Consumers Energy Company. April.

Constituent	GWPS	#Downgradient Wells Exceeded
Boron	560 µg/L	11 of 12
Calcium	280 mg/L	1 of 12
Sulfate	780 mg/L	1 of 12

Corrective action has been triggered as a result of data collected during the initial assessment monitoring event. Consumers Energy will continue to evaluate corrective measures per §257.96 and §257.97 and execute the self-implementing groundwater compliance schedule in conformance with §257.90 - §257.98.

The statistical evaluation found that **no constituents were present at statistically significant levels exceeding the site-specific GSI criteria**.

Statistical Evaluation Procedures

Following each quarterly sampling event, compliance well data for the Weadock Landfill are evaluated in accordance with the Assessment Monitoring Statistical Data Evaluation and GSI Data Evaluation procedures in the HMP. The assessment monitoring and GSI monitoring programs were developed to evaluate concentrations of constituents present in the uppermost aquifer relative to acceptable levels (i.e., GWPSs or GSI criteria). To evaluate whether or not a criterion exceedance is statistically significant, the difference in concentration observed at the downgradient wells during a given monitoring event compared to the applicable criterion must be large enough, after accounting for variability in the sample data, that the result is unlikely to have occurred merely by chance. Consistent with the Unified Guidance [3], the preferred method for comparisons to a fixed standard is confidence limits. Based on the number of historical observations in the representative sample population, the sample mean, the sample standard deviation, and a selected confidence level (i.e., 99 percent), upper and lower confidence limits are calculated. The population mean concentration, with 99 percent confidence, will fall between the lower and upper confidence limits.

The concentrations observed in the downgradient wells are deemed to be a statistically significant exceedance when the 99 percent lower confidence limit of the downgradient data exceeds the criterion. If the confidence interval straddles the criterion (i.e., the lower confidence level is below the criterion, but the upper confidence level is above), the statistical test result indicates that there is insufficient confidence that the measured concentrations are greater than the criterion and thus no compelling evidence that the measured concentration is a result of a release from the CCR unit versus the inherent variability of the sample data. This statistical approach is consistent with the statistical methods for assessment monitoring presented in §257.93(f) and (g). Statistical evaluation methodologies built into the CCR Rule and Part 115 and numerous other federal rules are key in determining whether or not individually measured data points represent a concentration increase over the baseline or a fixed standard (such as a GWPS in an assessment monitoring program).

For each detected constituent, the concentrations for each well were first compared directly to the GWPS, as shown on Table 1, or the GSI criteria, as shown on Table 2. Parameter-well combinations that included a direct exceedance of the criteria within the most recent two years of sampling events

[3] USEPA. 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance*. Office of Conservation and Recovery. EPA 530/R-09-007.

(eight quarterly sampling events, May 2023 through March 2025) were retained for further analysis.

Groundwater data were evaluated utilizing Sanitas™ statistical software. Sanitas™ is a software tool that is commercially available for performing statistical evaluation consistent with procedures outlined in the Unified Guidance. Within the Sanitas™ statistical program, confidence limits were used to perform the statistical comparison of compliance data to a fixed standard. Parametric and non-parametric confidence intervals were calculated for each parameter with a direct exceedance using a per test[4] 99 percent confidence level, i.e., a significance level (α) of 0.01. The following narrative describes the methods employed, the results obtained and the Sanitas™ output files are included as an attachment.

The statistical data evaluation included the following steps:

- Review of data quality checklists for the data sets;
- Graphical representation of the monitoring data as time versus concentration by well/constituent pair;
- Outlier testing of individual data points that appear from the graphical representations as potential outliers;
- Evaluation of visual trends apparent in the graphical representations for statistical significance;
- Evaluation of percentage of non-detects for each well-constituent pair;
- Distribution of the data; and
- Calculation of the confidence intervals for each cumulative dataset.

The results of these evaluations are presented and discussed below.

Data from each round were evaluated for completeness, overall quality, and usability and were deemed appropriate for the purposes of the assessment and GSI monitoring programs. Initially, the results were observed visually for potential outliers. No outliers were identified in the data set.

The Sanitas™ software was then used to test compliance at the downgradient monitoring wells using the confidence interval method for the most recent eight sampling events. Non-detect data was handled in accordance with the HMP for the purposes of calculating the confidence intervals.

The Sanitas™ software generates an output that includes graphs of the parametric or non-parametric confidence intervals for each well along with notes on data transformations, as appropriate.

Assessment Monitoring Statistical Evaluation

The assessment monitoring statistical evaluation is performed on the downgradient monitoring wells in accordance with the HMP. The downgradient monitoring wells include:

- JCW-MW-18001
- JCW-MW-18004
- JCW-MW-18005
- JCW-MW-18006
- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- OW-57R Out

[4] Confidence level is assessed for each individual comparison (i.e., per well and per constituent).

The concentrations from each well were first compared directly to the GWPS, as shown on Table 1. Constituent-well combinations that included a direct exceedance of the GWPS within the past eight monitoring events were retained for further analysis (Attachment 1). Direct comparison GWPS exceedances include the following constituent well combinations:

- Boron in MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, OW-57R OUT, JCW-MW-18001, JCW-MW-18005, and JCW-MW-18006;
- Calcium in JCW-MW-18001 and JCW-MW-18005;
- Sulfate in JCW-MW-18001; and
- Arsenic in MW-55, MW-51, JCW-MW-18001, and JCW-MW-18006.

The purpose of assessment monitoring is to assess whether constituent concentrations in groundwater from prior operations are above a risk-based standard (i.e. GWPS). As detailed in the Alternate Source Demonstration (Fourth Quarter 2024 Hydrogeological Monitoring Report for the Weadock Landfill, TRC, January 2025), the arsenic concentrations at MW-55 are not the result of a release from the unit; therefore, comparison of these concentrations to the GWPS is not appropriate and assessment monitoring confidence intervals were not calculated.

The software outputs for the assessment monitoring data evaluation are included in Attachment 1 along with data reports showing the values used for the evaluation. The percentage of non-detect observations are also included in Attachment 1. Visual trends were apparent in multiple wells for arsenic, boron, calcium, and sulfate. These data sets were tested further in Sanitas™ utilizing Sen's Slope to estimate the average rate of change in concentration over time and utilizing the Mann-Kendall trend test to test for significance of the trend at the 98% confidence level. The trend tests show that there are no statistically significant trends (Attachment 1).

The Sanitas™ software generates an output that includes graphs of the confidence bands and parametric or non-parametric confidence intervals for each well along with notes on data transformations, as appropriate. The data distributions are as follows:

Distribution	Constituent-Well Combinations
Normal	Boron at JCW-MW-18001, JCW-MW-18005, JCW-MW-18006, MW-50, MW-51, MW-52, MW-53, MW-53R, and MW-54R Calcium at JCW-MW-18001 Arsenic at JCW-MW-18006 and MW-51
Normalized by power transformation	Boron at MW-55 (3^{rd} power) Sulfate at JCW-MW-18001 (2^{nd} power)
Not normal (non-parametric test used)	Boron at OW-57ROUT Calcium at JCW-MW-18005 Arsenic at JCW-MW-18001

The confidence bands and interval tests compare the lower confidence limit to the GWPS. Arsenic concentrations at JCW-MW-18006 were previously considered statistically significant; however, the lower confidence limit has been at or below the GWPS since the second quarter 2021. Calcium

concentrations at MW-51 were previously considered statistically significant; however, calcium concentrations are generally decreasing, the lower confidence limit has been below the GWPS since the first quarter 2022, and concentrations have been below the GWPS by direct comparison since first quarter 2022. Concentration trends will continue to be monitored.

Statistically significant exceedances of the GWPS were noted for boron at JCW-MW-18001, JCW-MW-18005, JCW-MW-18006, MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, and OW-57R OUT, calcium at JCW-MW-18001, and sulfate at JCW-MW-18001. Boron concentrations have been consistently above the GWPS since monitoring under the Weadock Landfill HMP began in first quarter 2021. Calcium at JCW-MW-18001 was a confirmed GWPS exceedance in first quarter 2023 resulting from increases in calcium concentration beginning in first quarter 2021. No trend in calcium concentrations was observed at JCW-MW-18001 as of second quarter 2024. Sulfate at JCW-MW-18001 was a confirmed GWPS exceedance in second quarter 2023 resulting from increases in sulfate concentrations. As noted in the Alternate Source Demonstration (Fourth Quarter 2024 Hydrogeological Monitoring Report for the Weadock Landfill, TRC, January 2025), multiple lines of evidence indicate that the increases in calcium and sulfate concentrations are not a result of a change in flux from the landfill and is instead the result of changing groundwater conditions outside the slurry wall.

Corrective action has been triggered for the site as a result of data collected during the initial May 2018 assessment monitoring event. Consumers Energy will continue to evaluate corrective measures per §257.96 and §257.97 and will continue executing the self-implementing groundwater compliance schedule in conformance with §257.90 - §257.98.

GSI Statistical Evaluation

Eight monitoring wells located along the surface water features adjacent to the Weadock Landfill are included in the GSI monitoring program to meet the requirements of Part 31:

- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- JCW-MW-18004

The concentrations from each well were first compared directly to the GSI criteria, as shown on Table 2. Constituent-well combinations that included a direct exceedance of the GSI criteria within the past eight monitoring events were retained for further analysis (Attachment 2). There are no direct comparison GSI criteria exceedances as of first quarter 2025. Therefore, confidence intervals were not calculated.

Attachments

Table 1 Comparison of Groundwater Sampling Results to Groundwater Protection Standards
Table 2 Comparison of Groundwater Sampling Results to GSI

Attachment 1 Assessment Monitoring Sanitas™ Output Files

Tables

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

			Sample Location:	MW-50														
			Sample Date:	5/8/2023	5/8/2023	7/26/2023	7/26/2023	10/9/2023	10/9/2023	3/5/2024	3/5/2024	5/7/2024	5/7/2024	7/23/2024	7/23/2024	10/1/2024	10/1/2024	3/4/2025	3/4/2025
Constituent	Unit	GWPS																
Appendix III[1]				Field Dup		Field Dup		Field Dup		Field Dup		Field Dup		Field Dup		Field Dup		Field Dup
Boron	ug/L	**560**	**1,720**	**1,720**	**1,720**	**1,690**	**2,070**	**2,060**	**2,170**	**2,140**	**2,070**	**2,020**	**2,100**	**2,180**	**2,550**	**2,450**	**2,920**	**2,950**
Calcium	mg/L	**280**	142	144	188	187	205	206	199	196	184	191	175	175	184	193	191	189
Chloride	mg/L	2,300	31.5	31.9	37.4	39.1	37.6	37.0	40.1	38.6	37.1	38.1	34.9	36.7	33.9	36.4	46.7	46.6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	314	316	392	385	470	472	449	448	425	421	403	410	423	422	337	332
Total Dissolved Solids	mg/L	4,700	878	880	1,100	1,110	1,170	1,190	1,180	1,190	1,250	1,160	1,190	1,140	1,100	1,120	1,140	1,130
pH, Field	SU	6.5 - 8.5	7.4	--	7.4	--	7.0	--	7.5	--	7.5	--	7.6	--	7.6	--	7.8	--
Appendix IV[1]																		
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	2	2	3	3	3	3	3	3	3	3	4	4	5	5	4	4
Barium	ug/L	2,000	114	87	114	113	135	136	187	179	176	180	188	192	211	215	200	198
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	< 1	< 1	< 1	1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	55	54	58	59	59	59	69	68	61	62	62	61	56	58	66	65
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	6	6	5	5	6	6	6	6	5	5
Radium-226	pCi/L	NA	0.155	0.144	--	--	0.291	0.320	--	--	0.270	0.349	--	--	0.355	0.353	--	--
Radium-228	pCi/L	NA	0.686	< 0.606	--	--	1.15	1.46	--	--	1.47	1.38	--	--	< 0.773	1.41	--	--
Radium-226/228	pCi/L	5.0	0.841	0.633	--	--	1.44	1.78	--	--	1.20	1.03	--	--	1.10	1.77	--	--
Selenium	ug/L	50	1	2	1	1	< 1	2	3	3	1	2	1	2	2	2	2	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]																		
Iron	ug/L	28,000	755	756	1,960	1,900	2,300	2,340	889	930	834	817	1,530	1,610	1,930	2,120	707	682
Copper	ug/L	1,000	< 1	< 1	2	2	1	1	1	1	2	2	2	3	1	< 1	2	2
Nickel	ug/L	100	3	< 2	2	< 2	< 2	2	8	8	< 2	< 2	7	8	3	3	3	5
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	6.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-51							
		Sample Date:	5/8/2023	7/26/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025
Constituent	Unit	GWPS								
Appendix III[(1)]										
Boron	ug/L	**560**	**1,230**	**1,180**	**1,170**	**935**	**798**	**862**	**1,070**	**1,020**
Calcium	mg/L	**280**	166	162	132	132	128	114	134	165
Chloride	mg/L	2,300	99.9	97.0	91.6	78.3	79.9	81.5	78.8	63.3
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	356	308	267	266	262	283	285	432
Total Dissolved Solids	mg/L	4,700	1,240	1,100	952	902	958	940	916	1190
pH, Field	SU	6.5 - 8.5	7.3	7.4	7.2	7.4	7.4	7.5	7.7	7.7
Appendix IV[(1)]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	8	10	18	10	13	19	**27**	12
Barium	ug/L	2,000	180	141	141	127	117	123	130	143
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	2	< 1	1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	40	40	34	31	28	28	25	27
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	0.143	--	0.285	--	0.181	--	0.223	--
Radium-228	pCi/L	NA	1.01	--	1.23	--	0.863	--	1.40	--
Radium-226/228	pCi/L	5.0	1.15	--	1.52	--	0.681	--	1.62	--
Selenium	ug/L	50	1	< 1	< 1	1	< 1	1	< 1	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[(2)]										
Iron	ug/L	28,000	450	1,290	1,660	446	760	1,490	2,740	1,330
Copper	ug/L	1,000	1	3	2	1	1	1	1	1
Nickel	ug/L	100	3	4	< 2	< 2	3	6	4	3
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	6.0	< 2	< 2	< 2	2	2	2	2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-52							
		Sample Date:	5/8/2023	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025
Constituent	Unit	GWPS								
Appendix III[(1)]										
Boron	ug/L	**560**	**993**	**1,030**	**1,140**	**945**	**895**	**909**	**1,220**	**894**
Calcium	mg/L	**280**	217	247	234	237	236	233	251	253
Chloride	mg/L	2,300	32.4	31.5	30.2	33.8	33.3	30.1	37.2	43.0
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	581	569	572	540	550	542	522	449
Total Dissolved Solids	mg/L	4,700	1,430	1,520	1,440	1,380	1,430	1,470	1,330	1,350
pH, Field	SU	6.5 - 8.5	6.9	6.6	6.8	7.0	7.0	7.0	7.1	7.2
Appendix IV[(1)]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Barium	ug/L	2,000	95	99	108	94	91	88	93	77
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	23	27	27	27	29	29	27	30
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	< 0.128	--	0.444	--	0.162	--	0.149	--
Radium-228	pCi/L	NA	< 0.594	--	1.64	--	1.19	--	0.706	--
Radium-226/228	pCi/L	5.0	< 0.594	--	2.08	--	1.03	--	0.855	--
Selenium	ug/L	50	< 1	< 1	< 1	2	1	1	3	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[(2)]										
Iron	ug/L	28,000	2,720	6,720	7,560	3,120	3,680	7,290	8,450	3,350
Copper	ug/L	1,000	1	2	1	2	2	2	3	1
Nickel	ug/L	100	< 2	< 2	< 2	< 2	< 2	6	< 2	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	6.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-53							
		Sample Date:	5/8/2023	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025
Constituent	Unit	GWPS								
Appendix III[(1)]										
Boron	ug/L	**560**	**2,620**	**4,370**	**5,530**	**5,740**	**6,110**	**6,960**	**6,380**	**5,010**
Calcium	mg/L	**280**	104	146	136	134	134	130	100	135
Chloride	mg/L	2,300	56.5	80.3	77.4	77.4	89.3	115	61.6	77.3
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	50.8	7.39	2.28	25.4	1.53	< 1.00	25.9	107
Total Dissolved Solids	mg/L	4,700	613	792	722	694	942	806	588	790
pH, Field	SU	6.5 - 8.5	7.4	7.1	7.3	7.5	7.5	7.5	7.8	7.8
Appendix IV[(1)]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	1	1	1	1	2	1	1
Barium	ug/L	2,000	272	692	719	654	582	581	386	578
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	34	44	42	50	50	57	40	40
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	0.198	--	0.679	--	0.561	--	0.572	--
Radium-228	pCi/L	NA	< 0.518	--	1.72	--	1.81	--	0.913	--
Radium-226/228	pCi/L	5.0	0.700	--	2.40	--	1.25	--	1.48	--
Selenium	ug/L	50	2	2	2	3	2	4	3	3
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[(2)]										
Iron	ug/L	28,000	569	1,390	1,080	947	665	1,110	518	521
Copper	ug/L	1,000	< 1	< 1	< 1	1	2	1	< 1	< 1
Nickel	ug/L	100	< 2	< 2	< 2	< 2	< 2	6	< 2	3
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	6.0	< 2	< 2	< 2	2	< 2	2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

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All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-53R							
		Sample Date:	5/8/2023	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025
Constituent	Unit	GWPS								
Appendix III[1]										
Boron	ug/L	**560**	**2,140**	**2,190**	**2,420**	**2,300**	**2,200**	**1,880**	**2,830**	**3,100**
Calcium	mg/L	**280**	202	220	206	173	166	189	181	159
Chloride	mg/L	2,300	30.0	34.6	35.5	34.7	32.5	40.0	42.5	67.2
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	185	217	221	53.2	47.6	291	126	71.5
Total Dissolved Solids	mg/L	4,700	1,060	1,150	1,090	862	880	1,230	890	814
pH, Field	SU	6.5 - 8.5	6.8	6.7	7.0	7.0	7.1	7.2	7.3	7.3
Appendix IV[1]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	14	17	16	9	10	8	16	15
Barium	ug/L	2,000	174	144	110	165	164	132	128	136
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	4.0	< 1	< 1	< 1	< 1	1	< 1	< 1	< 1
Lithium	ug/L	180	56	62	61	56	53	62	56	54
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	0.275	--	0.174	--	0.155	--	0.184	--
Radium-228	pCi/L	NA	0.490	--	0.968	--	0.674	--	< 0.632	--
Radium-226/228	pCi/L	5.0	0.765	--	1.14	--	0.567	--	0.702	--
Selenium	ug/L	50	1	2	1	2	1	2	2	3
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]										
Iron	ug/L	28,000	1,410	1,180	834	752	761	280	975	1290
Copper	ug/L	1,000	1	1	1	2	1	2	1	< 1
Nickel	ug/L	100	< 2	< 2	< 2	< 2	< 2	8	< 2	4
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	6.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

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(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-54R							
		Sample Date:	5/9/2023	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/2/2024	3/4/2025
Constituent	Unit	GWPS								
Appendix III[1]										
Boron	ug/L	**560**	**5,240**	**6,170**	**5,520**	**5,940**	**5,580**	**6,930**	**8,080**	**7,610**
Calcium	mg/L	**280**	163	162	165	170	161	153	177	214
Chloride	mg/L	2,300	46.5	48.5	45.0	61.7	56.9	75.4	86.2	136
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	1,230	< 1,000
Sulfate	mg/L	**780**	67.2	73.8	67.4	48.6	51.3	60.4	79.8	229
Total Dissolved Solids	mg/L	4,700	759	761	756	752	792	924	826	1,170
pH, Field	SU	6.5 - 8.5	6.9	6.8	7.0	7.0	7.2	7.2	7.0	7.4
Appendix IV[1]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	< 1	1	1	1	1	2	2
Barium	ug/L	2,000	98	106	113	97	83	90	100	96
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	1	< 1	1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	1230	< 1,000
Lead	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	65	75	70	76	73	83	83	93
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	13	15	17	15	18	17	17	20
Radium-226	pCi/L	NA	< 0.141	--	0.160	--	0.180	--	0.213	--
Radium-228	pCi/L	NA	< 0.836	--	1.38	--	0.829	--	< 0.588	--
Radium-226/228	pCi/L	5.0	< 0.836	--	1.54	--	0.829	--	0.639	--
Selenium	ug/L	50	1	1	1	3	2	4	5	6
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]										
Iron	ug/L	28,000	74	111	829	159	87	59	137	579
Copper	ug/L	1,000	1	6	2	2	3	2	2	1
Nickel	ug/L	100	< 2	< 2	2	< 2	< 2	7	3	8
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	6.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

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(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-55								
		Sample Date:	5/9/2023	7/31/2023	10/9/2023	3/5/2024	5/8/2024	7/23/2024	10/2/2024	10/2/2024	3/4/2025
Constituent	Unit	GWPS									
Appendix III[1]										Field Dup	
Boron	ug/L	**560**	**1,140**	**1,290**	**1,200**	**825**	**729**	**1,270**	**1,130**	**1,090**	**1,270**
Calcium	mg/L	**280**	165	150	163	166	161	117	150	156	162
Chloride	mg/L	2,300	16.9	18.5	16.7	18.3	17.3	21.8	23.0	23.3	20.2
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	208	129	156	224	236	60.2	117	117	98.1
Total Dissolved Solids	mg/L	4,700	929	827	846	866	934	730	756	758	818
pH, Field	SU	6.5 - 8.5	6.9	6.9	7.0	6.9	6.9	7.4	7.2	--	7.4
Appendix IV[1]											
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	**44**	**75**	**75**	**46**	**39**	**45**	**54**	**56**	13
Barium	ug/L	2,000	267	240	248	260	235	186	222	218	202
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	24	27	26	26	26	29	25	26	24
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	30	33	56	27	25	25	44	44	22
Radium-226	pCi/L	NA	0.276	--	0.406	--	0.137	--	0.274	--	--
Radium-228	pCi/L	NA	< 0.916	--	1.26	--	1.11	--	< 0.899	--	--
Radium-226/228	pCi/L	5.0	< 0.916	--	1.67	--	0.971	--	< 0.899	--	--
Selenium	ug/L	50	< 1	1	1	1	4	1	1	< 1	5
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]											
Iron	ug/L	28,000	21,600	21,900	16,800	18,700	14,700	12,300	12,600	13,800	8,950
Copper	ug/L	1,000	< 1	< 1	< 1	1	1	1	< 1	< 1	1
Nickel	ug/L	100	5	22	3	< 2	6	4	4	4	5
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	6.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
pCi/L - picocuries per liter.
-- - not analyzed.
GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.
Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.
All metals were analyzed as total unless otherwise specified.
(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.
(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	OW-57R OUT								
		Sample Date:	5/9/2023	7/31/2023	10/9/2023	3/6/2024	5/8/2024	7/24/2024	7/24/2024	10/2/2024	3/5/2025
Constituent	Unit	GWPS									
Appendix III[1]									Field Dup		
Boron	ug/L	**560**	**1,740**	**1,750**	**1,790**	**1,810**	**1,700**	**1,690**	**1,730**	**2,070**	**2,070**
Calcium	mg/L	**280**	117	124	120	123	119	120	120	138	130
Chloride	mg/L	2,300	64.2	53.7	50.6	68.1	72.3	65.9	68.6	73.3	84.7
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	1,230	1,090	1,100	1,140	1,510	< 1,000
Sulfate	mg/L	**780**	80.5	79.0	94.8	79.3	77.6	75.5	78.3	83.4	68.1
Total Dissolved Solids	mg/L	4,700	743	762	758	770	790	760	796	762	798
pH, Field	SU	6.5 - 8.5	7.1	6.9	7.0	7.2	7.2	7.0	--	7.2	7.4
Appendix IV[1]											
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	< 1	< 1	1	1	2	2	2	1
Barium	ug/L	2,000	72	72	77	81	75	78	77	83	73
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	2	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	1,230	1,090	1,100	1,140	1,510	< 1,000
Lead	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	23	24	23	28	26	25	25	24	26
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	6	6	7	6	6	7	7	7	6
Radium-226	pCi/L	NA	0.149	--	< 0.155	--	0.115	--	--	0.163	--
Radium-228	pCi/L	NA	< 0.663	--	0.586	--	0.845	--	--	< 0.543	--
Radium-226/228	pCi/L	5.0	< 0.663	--	0.680	--	0.731	--	--	0.570	--
Selenium	ug/L	50	2	1	< 1	< 1	1	1	2	1	1
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]											
Iron	ug/L	28,000	78	30	40	44	94	77	85	67	< 20
Copper	ug/L	1,000	1	1	2	2	2	2	2	2	2
Nickel	ug/L	100	15	13	15	12	15	18	17	15	15
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	6.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
pCi/L - picocuries per liter.
-- - not analyzed.
GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.
Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.
All metals were analyzed as total unless otherwise specified.
(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.
(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18001							
		Sample Date:	5/8/2023	7/26/2023	10/5/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025
Constituent	Unit	GWPS								
Appendix III[(1)]										
Boron	ug/L	**560**	**1,380**	**1,470**	**1,620**	**1,420**	**1,330**	**1,370**	**1,310**	**1,610**
Calcium	mg/L	**280**	**496**	**555**	**562**	**557**	**537**	**526**	**474**	**405**
Chloride	mg/L	2,300	51.1	58.9	51.1	44.7	44.5	45.0	50.3	61.4
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	**1,670**	**1,770**	**1,890**	**1,880**	**1,790**	**1,810**	**1,770**	**1,460**
Total Dissolved Solids	mg/L	4,700	1,580	3,530	3,430	3,450	3,370	3,530	3,210	2,960
pH, Field	SU	6.5 - 8.5	6.7	6.8	6.5	6.8	6.8	6.9	7.0	7.3
Appendix IV[(1)]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	< 1	1	< 1	2	2	2	**30**
Barium	ug/L	2,000	50	49	48	49	46	50	66	60
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	83	102	110	106	102	107	90	90
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	< 0.122	--	< 0.139	--	0.124	--	0.158	--
Radium-228	pCi/L	NA	< 0.547	--	0.783	--	0.525	--	< 0.430	--
Radium-226/228	pCi/L	5.0	< 0.547	--	0.886	--	0.506	--	< 0.430	--
Selenium	ug/L	50	2	2	1	2	2	2	2	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[(2)]										
Iron	ug/L	28,000	1,180	2,790	3,840	3,570	2,630	3,080	1,540	686
Copper	ug/L	1,000	3	2	2	3	4	5	2	2
Nickel	ug/L	100	< 2	41	3	14	4	13	5	12
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	6.0	< 2	2	< 2	3	2	2	< 2	3
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18004							
		Sample Date:	5/9/2023	7/31/2023	10/9/2023	3/5/2024	5/8/2024	7/23/2024	10/2/2024	3/4/2025
Constituent	Unit	GWPS								
Appendix III[(1)]										
Boron	ug/L	**560**	227	310	319	192	206	308	412	269
Calcium	mg/L	**280**	265	229	218	238	213	205	207	211
Chloride	mg/L	2,300	16.8	14.2	15.8	16.9	14.3	12.6	14.1	17.0
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	722	478	466	557	484	446	444	460
Total Dissolved Solids	mg/L	4,700	1,530	1,220	1,160	1,250	1,130	1,130	1,080	1,150
pH, Field	SU	6.5 - 8.5	6.8	6.8	7.0	7.0	6.9	7.3	7.0	7.5
Appendix IV[(1)]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Barium	ug/L	2,000	28	30	34	26	26	29	34	27
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	1	< 1	< 1	2	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	42	50	49	43	43	50	46	26
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	< 0.131	--	< 0.155	--	0.102	--	0.120	--
Radium-228	pCi/L	NA	< 0.600	--	1.24	--	0.672	--	< 0.656	--
Radium-226/228	pCi/L	5.0	< 0.600	--	1.30	--	0.672	--	< 0.656	--
Selenium	ug/L	50	2	2	< 1	4	4	< 1	1	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[(2)]										
Iron	ug/L	28,000	67	24	36	98	73	41	36	398
Copper	ug/L	1,000	2	2	2	2	2	2	2	2
Nickel	ug/L	100	< 2	< 2	< 2	< 2	< 2	4	< 2	4
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	6.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18005							
		Sample Date:	5/9/2023	7/31/2023	10/9/2023	3/6/2024	5/8/2024	7/23/2024	10/2/2024	3/5/2025
Constituent	Unit	GWPS								
Appendix III[(1)]										
Boron	ug/L	**560**	**992**	**1,170**	**1,470**	**1,000**	**960**	**1,460**	**1,930**	**1,740**
Calcium	mg/L	**280**	258	202	159	**335**	**302**	164	162	159
Chloride	mg/L	2,300	22.3	44.1	48.1	23.3	22.1	49.2	51.8	46.4
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	1,400	< 1,000
Sulfate	mg/L	**780**	422	216	154	512	475	156	142	141
Total Dissolved Solids	mg/L	4,700	1,190	1,000	884	1,400	1,390	884	866	854
pH, Field	SU	6.5 - 8.5	6.8	6.8	6.9	6.7	6.8	7.2	7.2	7.1
Appendix IV[(1)]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	2	< 1	1	3	4	2	2	2
Barium	ug/L	2,000	105	76	74	136	127	67	71	77
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	1,400	< 1,000
Lead	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	3
Lithium	ug/L	180	33	33	32	43	41	34	31	29
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	5	< 5	< 5	< 5	< 5	< 5	< 5	5
Radium-226	pCi/L	NA	0.134	--	0.221	--	0.165	--	0.169	--
Radium-228	pCi/L	NA	< 0.573	--	1.17	--	1.23	--	< 0.640	--
Radium-226/228	pCi/L	5.0	< 0.573	--	1.39	--	1.07	--	< 0.640	--
Selenium	ug/L	50	2	2	1	2	< 1	2	2	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[(2)]										
Iron	ug/L	28,000	676	171	948	4,020	6,550	1,890	1,930	750
Copper	ug/L	1,000	< 1	2	1	7	2	2	< 1	2
Nickel	ug/L	100	9	8	9	< 2	< 2	11	7	9
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	6.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18006													
		Sample Date:	5/9/2023	5/9/2023	7/31/2023	7/31/2023	10/9/2023	10/9/2023	3/6/2024	3/6/2024	5/8/2024	5/8/2024	7/24/2024	10/2/2024	3/5/2025	3/5/2025
Constituent	Unit	GWPS														
Appendix III[1]				Field Dup		Field Dup		Field Dup		Field Dup		Field Dup				Field Dup
Boron	ug/L	**560**	**2,450**	**2,480**	**2,100**	**2,140**	**2,280**	**2,470**	**2,650**	**2,700**	**2,740**	**2,830**	**2,490**	**3,240**	**2,800**	**2,880**
Calcium	mg/L	**280**	118	120	126	126	117	119	137	136	148	150	123	126	122	120
Chloride	mg/L	2,300	73.6	76.6	73.0	75.9	72.3	71.1	61.3	64.7	49.2	52.0	57.3	61.6	70.2	70.4
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	34.2	36.1	39.4	37.9	46.9	47.6	69.7	71.6	122	129	75.5	65.4	42.4	45.3
Total Dissolved Solids	mg/L	4,700	734	751	765	770	738	748	748	776	864	878	782	732	706	712
pH, Field	SU	6.5 - 8.5	7.0	--	6.9	--	7.0	--	7.0	--	7.1	--	7.0	7.2	7.3	--
Appendix IV[1]																
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	**23**	**23**	18	19	17	18	**22**	**23**	**29**	**29**	**23**	**27**	**22**	**23**
Barium	ug/L	2,000	464	465	354	346	342	381	445	464	390	387	412	468	417	408
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	45	47	36	36	37	39	52	54	59	61	49	48	43	43
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	0.337	< 0.192	--	--	0.506	0.431	--	--	0.218	0.280	--	0.520	--	--
Radium-228	pCi/L	NA	0.746	< 0.816	--	--	0.783	1.39	--	--	0.919	0.528	--	0.768	--	--
Radium-226/228	pCi/L	5.0	1.08	< 0.816	--	--	1.29	1.82	--	--	0.919	0.528	--	1.29	--	--
Selenium	ug/L	50	1	2	2	2	< 1	1	3	3	< 1	1	2	2	2	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]																
Iron	ug/L	28,000	6,890	7,210	6,910	6,860	5,660	5,930	7,970	7,890	10,400	10,800	8,650	9,050	7,350	7,290
Copper	ug/L	1,000	< 1	< 1	< 1	< 1	< 1	1	2	2	1	1	1	2	< 1	< 1
Nickel	ug/L	100	4	< 2	< 2	< 2	< 2	3	5	9	6	6	5	4	5	5
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	6.0	2	3	3	3	2	2	4	4	3	3	3	4	3	3
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-50														
						Sample Date:	5/8/2023	5/8/2023	7/26/2023	7/26/2023	10/9/2023	10/9/2023	3/5/2024	3/5/2024	5/7/2024	5/7/2024	7/23/2024	7/23/2024	10/1/2024	10/1/2024	3/4/2025	3/4/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**																
Appendix III(1)								Field Dup		Field Dup		Field Dup		Field Dup		Field Dup		Field Dup		Field Dup	
Boron	ug/L	4,000	44,000	69,000	44,000		1,720	1,720	1,720	1,690	2,070	2,060	2,170	2,140	2,070	2,020	2,100	2,180	2,550	2,450	2,920	2,950
Sulfate	mg/L	1,200[F]	NC	NC	1,200		314	316	392	385	470	472	449	448	425	421	403	410	423	422	337	332
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		7.4	--	7.4	--	7.0	--	7.5	--	7.5	--	7.6	--	7.6	--	7.8	--
Appendix IV(1)																					
Arsenic	ug/L	10	100	680	100		2	2	3	3	3	3	3	3	3	3	4	4	5	5	4	4
Chromium	ug/L	11[H]	NC	NC	11		< 1	< 1	< 1	< 1	< 1	< 1	1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440		55	54	58	59	59	59	69	68	61	62	62	61	56	58	66	65
Molybdenum	ug/L	120	1,320	NC	1,320		< 5	< 5	< 5	< 5	< 5	< 5	6	6	5	5	6	6	6	6	5	5
Selenium	ug/L	5.0	55	120	55		1	2	1	1	< 1	2	3	3	1	2	1	2	2	2	2	2
MI Part 115 Parameters(2)																					
Iron	ug/L	500,000[EE]	NC	NC	500,000		755	756	1,960	1,900	2,300	2,340	889	930	834	817	1,530	1,610	1,930	2,120	707	682
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-51						
						Sample Date:	5/8/2023	7/26/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III[(1)]														
Boron	ug/L	4,000	44,000	69,000	44,000		1,230	1,180	1,170	935	798	862	1,070	1,020
Sulfate	mg/L	1,200[F]	NC	NC	1,200		356	308	267	266	262	283	285	432
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		7.3	7.4	7.2	7.4	7.4	7.5	7.7	7.7
Appendix IV[(1)]														
Arsenic	ug/L	10	100	680	100		8	10	18	10	13	19	27	12
Chromium	ug/L	11[H]	NC	NC	11		< 1	2	< 1	1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440		40	40	34	31	28	28	25	27
Molybdenum	ug/L	120	1,320	NC	1,320		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55		1	< 1	< 1	1	< 1	1	< 1	2
MI Part 115 Parameters[(2)]														
Iron	ug/L	500,000[EE]	NC	NC	500,000		450	1,290	1,660	446	760	1,490	2,740	1,330
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	2	2	2	2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-52						
						Sample Date:	5/8/2023	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III[(1)]														
Boron	ug/L	4,000	44,000	69,000	44,000		993	1,030	1,140	945	895	909	1,220	894
Sulfate	mg/L	1,200[F]	NC	NC	1,200		581	569	572	540	550	542	522	449
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		6.9	6.6	6.8	7.0	7.0	7.0	7.1	7.2
Appendix IV[(1)]														
Arsenic	ug/L	10	100	680	100		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chromium	ug/L	11[H]	NC	NC	11		< 1	< 1	< 1	1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440		23	27	27	27	29	29	27	30
Molybdenum	ug/L	120	1,320	NC	1,320		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55		< 1	< 1	< 1	2	1	1	3	2
MI Part 115 Parameters[(2)]														
Iron	ug/L	500,000[EE]	NC	NC	500,000		2,720	6,720	7,560	3,120	3,680	7,290	8,450	3,350
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-53						
						Sample Date:	5/8/2023	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III[(1)]														
Boron	ug/L	4,000	44,000	69,000	44,000		2,620	4,370	5,530	5,740	6,110	6,960	6,380	5,010
Sulfate	mg/L	1,200[F]	NC	NC	1,200		50.8	7.39	2.28	25.4	1.53	< 1.00	25.9	107
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		7.4	7.1	7.3	7.5	7.5	7.5	7.8	7.8
Appendix IV[(1)]														
Arsenic	ug/L	10	100	680	100		< 1	1	1	1	1	2	1	1
Chromium	ug/L	11[H]	NC	NC	11		< 1	< 1	< 1	1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440		34	44	42	50	50	57	40	40
Molybdenum	ug/L	120	1,320	NC	1,320		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55		2	2	2	3	2	4	3	3
MI Part 115 Parameters[(2)]														
Iron	ug/L	500,000[EE]	NC	NC	500,000		569	1,390	1,080	947	665	1,110	518	521
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	2	< 2	2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-53R						
						Sample Date:	5/8/2023	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III[(1)]														
Boron	ug/L	4,000	44,000	69,000	44,000		2,140	2,190	2,420	2,300	2,200	1,880	2,830	3,100
Sulfate	mg/L	1,200[F]	NC	NC	1,200		185	217	221	53.2	47.6	291	126	71.5
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		6.8	6.7	7.0	7.0	7.1	7.2	7.3	7.3
Appendix IV[(1)]														
Arsenic	ug/L	10	100	680	100		14	17	16	9	10	8	16	15
Chromium	ug/L	11[H]	NC	NC	11		< 1	< 1	< 1	1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440		56	62	61	56	53	62	56	54
Molybdenum	ug/L	120	1,320	NC	1,320		< 5	< 5	<5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55		1	2	1	2	1	2	2	3
MI Part 115 Parameters[(2)]														
Iron	ug/L	500,000[EE]	NC	NC	500,000		1,410	1,180	834	752	761	280	975	1,290
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-54R						
						Sample Date:	5/9/2023	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/2/2024	3/4/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III[(1)]														
Boron	ug/L	4,000	44,000	69,000	44,000		5,240	6,170	5,520	5,940	5,580	6,930	8,080	7,610
Sulfate	mg/L	1,200[F]	NC	NC	1,200		67.2	73.8	67.4	48.6	51.3	60.4	79.8	229
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		6.9	6.8	7.0	7.0	7.2	7.2	7.0	7.4
Appendix IV[(1)]														
Arsenic	ug/L	10	100	680	100		< 1	< 1	1	1	1	1	2	2
Chromium	ug/L	11[H]	NC	NC	11		< 1	< 1	< 1	1	< 1	1	< 1	< 1
Lithium	ug/L	440	NC	NC	440		65	75	70	76	73	83	83	93
Molybdenum	ug/L	120	1,320	NC	1,320		13	15	17	15	18	17	17	20
Selenium	ug/L	5.0	55	120	55		1	1	1	3	2	4	5	6
MI Part 115 Parameters[(2)]														
Iron	ug/L	500,000[EE]	NC	NC	500,000		74	111	829	159	87	59	137	579
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	< 2	< 2	< 2	2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-55							
						Sample Date:	5/9/2023	7/31/2023	10/9/2023	3/5/2024	5/8/2024	7/23/2024	10/2/2024	10/2/2024	3/4/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									Field Dup	
Appendix III[(1)]															
Boron	ug/L	4,000	44,000	69,000	44,000		1,140	1,290	1,200	825	729	1,270	1,130	1,090	1,270
Sulfate	mg/L	1,200[F]	NC	NC	1,200		208	129	156	224	236	60.2	117	117	98.1
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		6.9	6.9	7.0	6.9	6.9	7.4	7.2	--	7.4
Appendix IV[(1)]															
Arsenic	ug/L	10	100	680	100		44	75	75	46	39	45	54	56	13
Chromium	ug/L	11[H]	NC	NC	11		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440		24	27	26	26	26	29	25	26	24
Molybdenum	ug/L	120	1,320	NC	1,320		30	33	56	27	25	25	44	44	22
Selenium	ug/L	5.0	55	120	55		< 1	1	1	1	4	1	1	< 1	5
MI Part 115 Parameters[(2)]															
Iron	ug/L	500,000[EE]	NC	NC	500,000		21,600	21,900	16,800	18,700	14,700	12,300	12,600	13,800	8,950
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	JCW-MW-18004						
						Sample Date:	5/9/2023	7/31/2023	10/9/2023	3/5/2024	5/8/2024	7/23/2024	10/2/2024	3/4/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III[(1)]														
Boron	ug/L	4,000	44,000	69,000	44,000		227	310	319	192	206	308	412	269
Sulfate	mg/L	1,200[F]	NC	NC	1,200		722	478	466	557	484	446	444	460
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		6.8	6.8	7.0	7.0	6.9	7.3	7.0	7.5
Appendix IV[(1)]														
Arsenic	ug/L	10	100	680	100		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chromium	ug/L	11[H]	NC	NC	11		< 1	< 1	< 1	1	< 1	< 1	2	< 1
Lithium	ug/L	440	NC	NC	440		42	50	49	43	43	50	46	26
Molybdenum	ug/L	120	1,320	NC	1,320		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55		2	2	< 1	4	4	< 1	1	2
MI Part 115 Parameters[(2)]														
Iron	ug/L	500,000[EE]	NC	NC	500,000		67	24	36	98	73	41	36	398
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

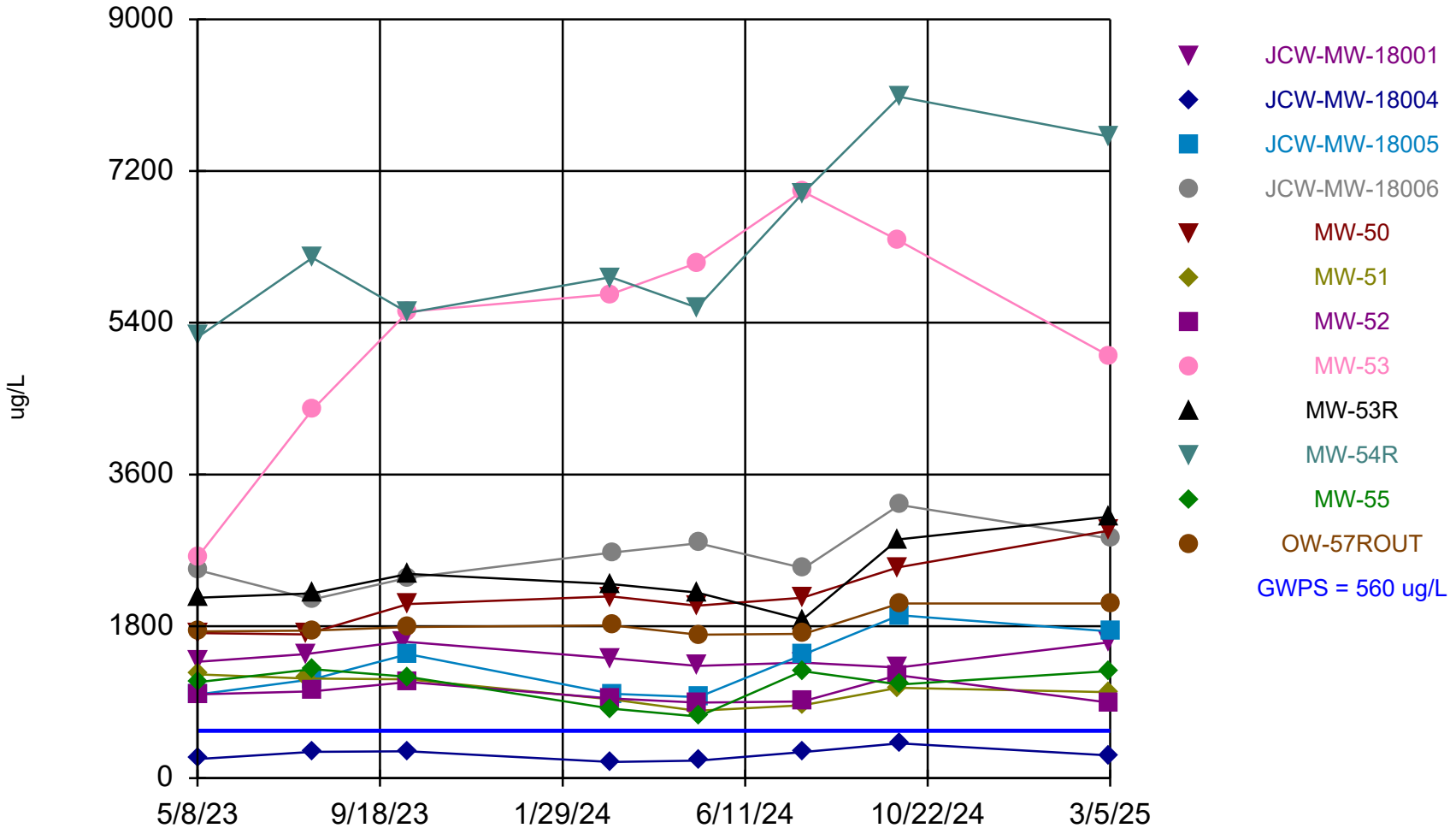
All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

Attachment 1
Assessment Monitoring Sanitas™ Output Files

Boron Comparison to GWPS

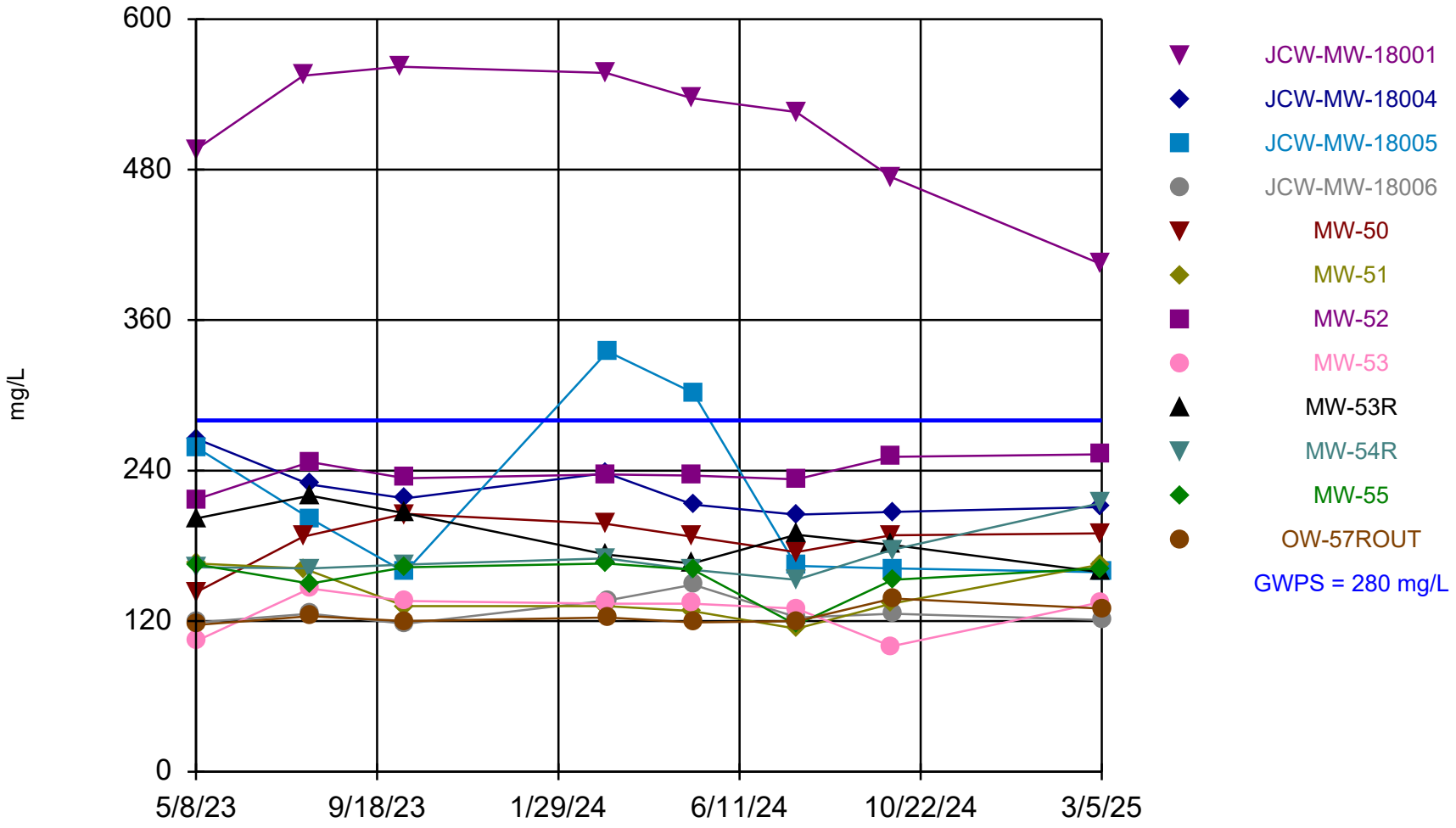


Time Series Analysis Run 4/10/2025 11:11 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Calcium Comparison to GWPS

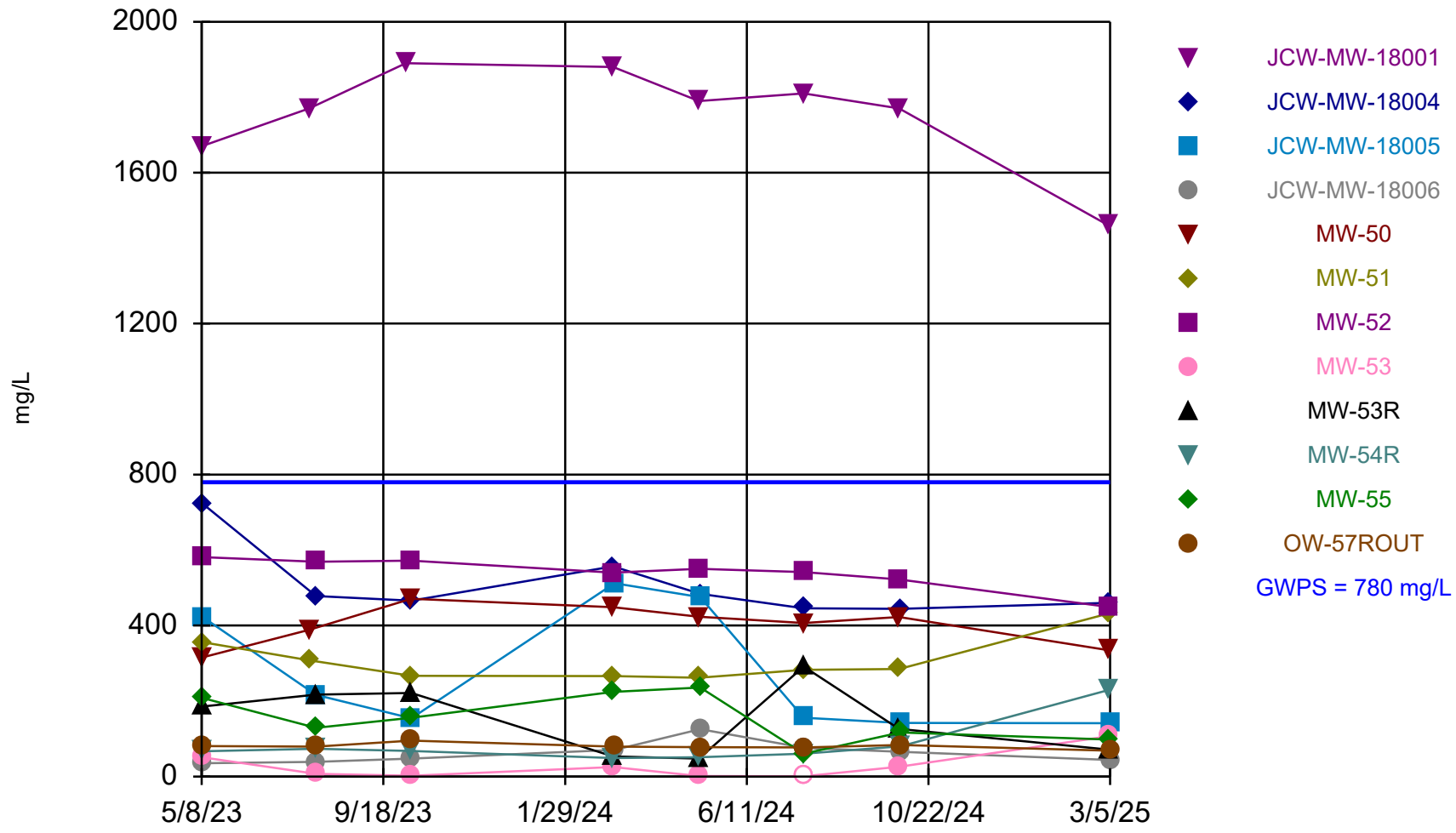


Time Series Analysis Run 4/10/2025 11:10 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Sulfate Comparison to GWPS

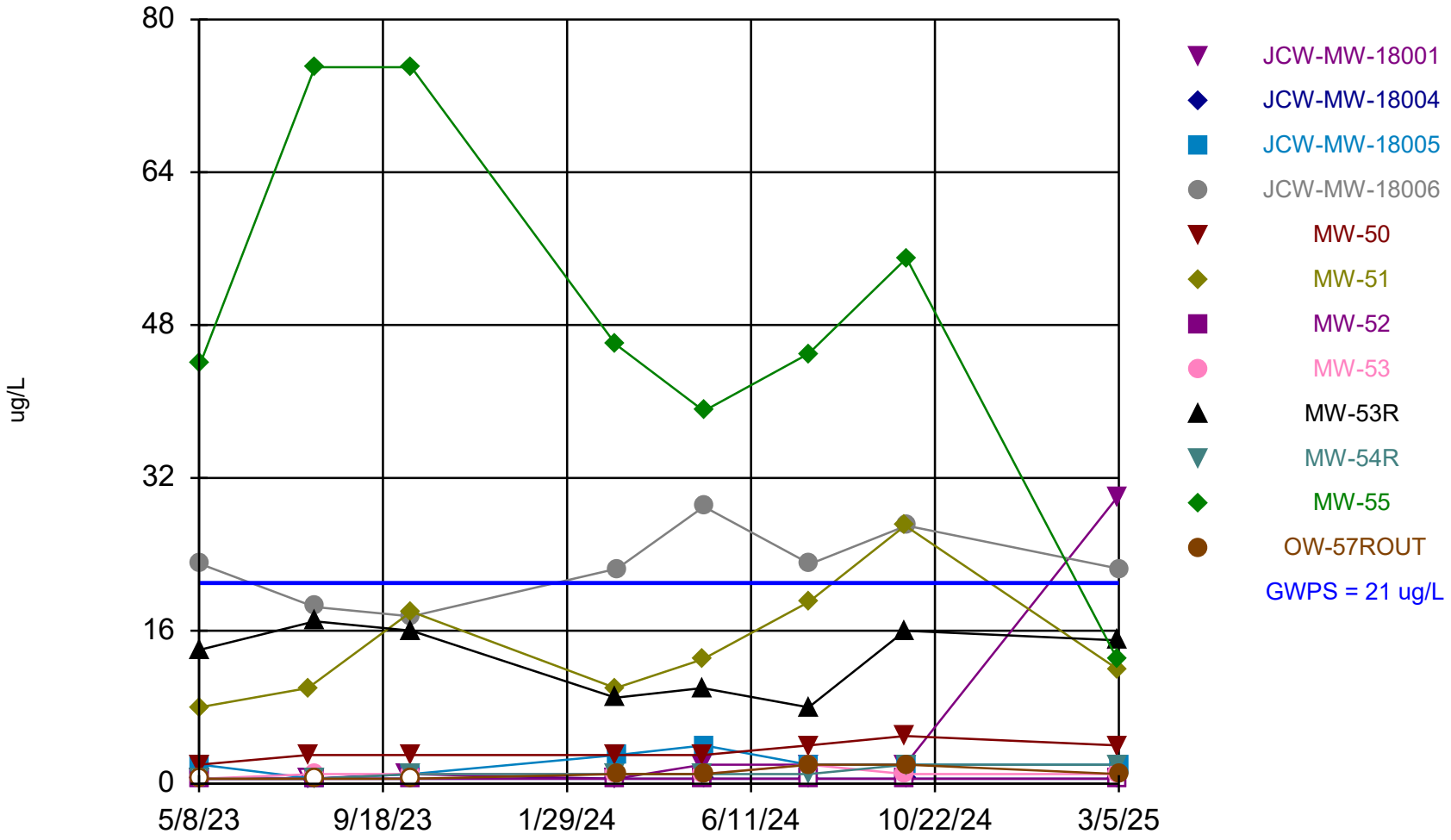


Time Series Analysis Run 4/10/2025 11:12 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Arsenic Comparison to GWPS



Time Series Analysis Run 4/10/2025 11:12 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

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Summary Report

Constituent: Boron, Total Analysis Run 4/10/2025 11:13 AM
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

For observations made between 5/8/2023 and 3/5/2025, a summary of the selected data set:

Observations = 96
NDs = 0%
Wells = 12
Minimum Value = 192
Maximum Value = 8080
Mean Value = 2243
Median Value = 1708
Standard Deviation = 1832
Coefficient of Variation = 0.8169
Skewness = 1.538

Well	#Obs.	NDs	Min	Max	Mean	Median	Std.Dev.	CV	Skewness
JCW-MW-18001	8	0%	1310	1620	1439	1400	119.6	0.08311	0.63
JCW-MW-18004	8	0%	192	412	280.4	288.5	72.48	0.2585	0.4531
JCW-MW-18005	8	0%	960	1930	1340	1315	368.3	0.2748	0.4016
JCW-MW-18006	8	0%	2120	3240	2624	2583	341	0.13	0.3808
MW-50	8	0%	1705	2935	2158	2103	403.5	0.187	0.766
MW-51	8	0%	798	1230	1033	1045	158	0.153	-0.2145
MW-52	8	0%	894	1220	1003	969	121	0.1206	0.7895
MW-53	8	0%	2620	6960	5340	5635	1360	0.2546	-0.9213
MW-53R	8	0%	1880	3100	2383	2250	397.3	0.1668	0.7406
MW-54R	8	0%	5240	8080	6384	6055	1043	0.1635	0.5552
MW-55	8	0%	729	1290	1104	1170	213.4	0.1932	-0.9145
OW-57ROUT	8	0%	1700	2070	1830	1770	152.6	0.08339	0.9632

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Summary Report

Constituent: Calcium, Total Analysis Run 4/10/2025 11:13 AM
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

For observations made between 5/8/2023 and 3/5/2025, a summary of the selected data set:

Observations = 96
NDs = 0%
Wells = 12
Minimum Value = 100
Maximum Value = 562
Mean Value = 200.8
Median Value = 165
Standard Deviation = 106
Coefficient of Variation = 0.5278
Skewness = 2.25

Well	#Obs.	NDs	Min	Max	Mean	Median	Std.Dev.	CV	Skewness
JCW-MW-18001	8	0%	405	562	514	531.5	53.87	0.1048	-1.067
JCW-MW-18004	8	0%	205	265	223.3	215.5	20.26	0.09075	1.152
JCW-MW-18005	8	0%	159	335	217.6	183	71.33	0.3278	0.6525
JCW-MW-18006	8	0%	118	149	127.3	124.5	10.5	0.08251	1.22
MW-50	8	0%	143	205.5	184.3	188	18.85	0.1023	-1.35
MW-51	8	0%	114	166	141.6	133	19.81	0.1399	0.1939
MW-52	8	0%	217	253	238.5	236.5	11.71	0.0491	-0.4373
MW-53	8	0%	100	146	127.4	134	16.34	0.1283	-0.8794
MW-53R	8	0%	159	220	187	185	21.17	0.1132	0.1934
MW-54R	8	0%	153	214	170.6	164	18.86	0.1105	1.69
MW-55	8	0%	117	166	154.6	161.5	16.22	0.1049	-1.772
OW-57ROUT	8	0%	117	138	123.9	121.5	6.958	0.05617	1.129

Summary Report

Constituent: Sulfate Analysis Run 4/10/2025 11:13 AM
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

For observations made between 5/8/2023 and 3/5/2025, a summary of the selected data set:

Observations = 96
NDs = 1%
Wells = 12
Minimum Value = 0.5
Maximum Value = 1890
Mean Value = 362.4
Median Value = 219
Standard Deviation = 460.8
Coefficient of Variation = 1.271
Skewness = 2.284

Well	#Obs.	NDs	Min	Max	Mean	Median	Std.Dev.	CV	Skewness
JCW-MW-18001	8	0%	1460	1890	1755	1780	137.7	0.07848	-1.266
JCW-MW-18004	8	0%	444	722	507.1	472	93.87	0.1851	1.727
JCW-MW-18005	8	0%	141	512	277.3	186	162.9	0.5874	0.5238
JCW-MW-18006	8	0%	35.15	125.5	62.74	56.33	29.54	0.4709	1.21
MW-50	8	0%	315	471	401.2	414.5	53.6	0.1336	-0.4687
MW-51	8	0%	262	432	307.4	284	59.03	0.192	1.333
MW-52	8	0%	449	581	540.6	546	41.84	0.07738	-1.367
MW-53	8	12%	0.5	107	27.6	16.4	36.48	1.322	1.419
MW-53R	8	0%	47.6	291	151.5	155.5	90.4	0.5966	0.1576
MW-54R	8	0%	48.6	229	84.69	67.3	59.26	0.6997	2.125
MW-55	8	0%	60.2	236	153.5	142.5	63.76	0.4153	0.01478
OW-57ROUT	8	0%	68.1	94.8	79.95	79.15	7.457	0.09328	0.5927

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Summary Report

Constituent: Arsenic, Total Analysis Run 4/10/2025 11:13 AM
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

For observations made between 5/8/2023 and 3/5/2025, a summary of the selected data set:

Observations = 96
NDs = 27%
Wells = 12
Minimum Value = 0.5
Maximum Value = 75
Mean Value = 9.51
Median Value = 2
Standard Deviation = 15.29
Coefficient of Variation = 1.607
Skewness = 2.43

Well	#Obs.	NDs	Min	Max	Mean	Median	Std.Dev.	CV	Skewness
JCW-MW-18001	8	37%	0.5	30	4.813	1.5	10.2	2.12	2.247
JCW-MW-18004	8	100%	0.5	0.5	0.5	0.5	0	0	NaN
JCW-MW-18005	8	12%	0.5	4	2.063	2	1.084	0.5254	0.37
JCW-MW-18006	8	0%	17.5	29	22.88	22.75	3.834	0.1676	0.1649
MW-50	8	0%	2	5	3.375	3	0.9161	0.2714	0.391
MW-51	8	0%	8	27	14.63	12.5	6.323	0.4324	0.9099
MW-52	8	100%	0.5	0.5	0.5	0.5	0	0	NaN
MW-53	8	12%	0.5	2	1.063	1	0.4173	0.3927	1.355
MW-53R	8	0%	8	17	13.13	14.5	3.563	0.2715	-0.413
MW-54R	8	25%	0.5	2	1.125	1	0.5825	0.5178	0.652
MW-55	8	0%	13	75	49	45.5	20.12	0.4106	-0.2344
OW-57ROUT	8	37%	0.5	2	1.063	1	0.6232	0.5866	0.7024

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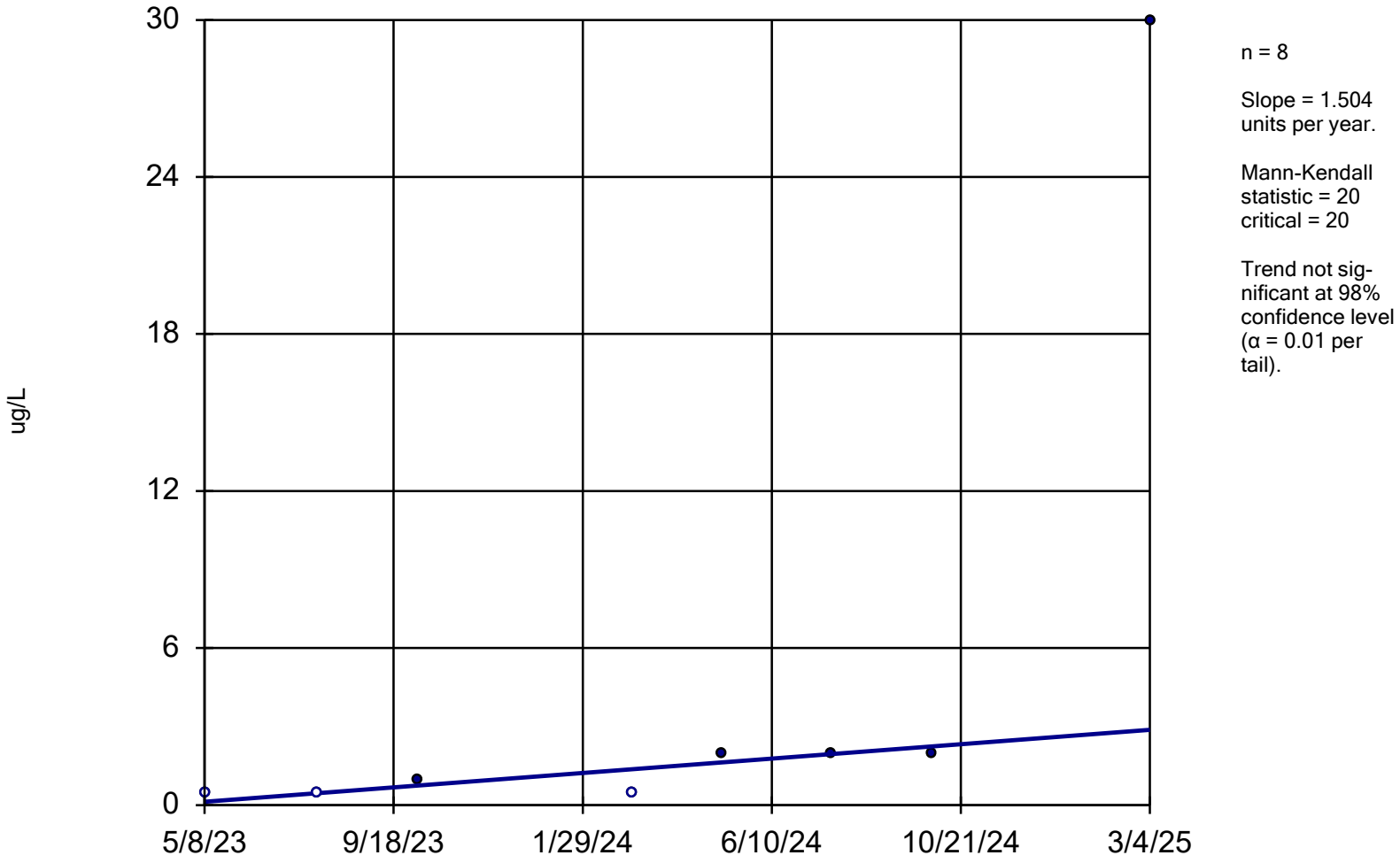
Hollow symbols indicate censored values.

Arsenic, Total

JCW-MW-18001



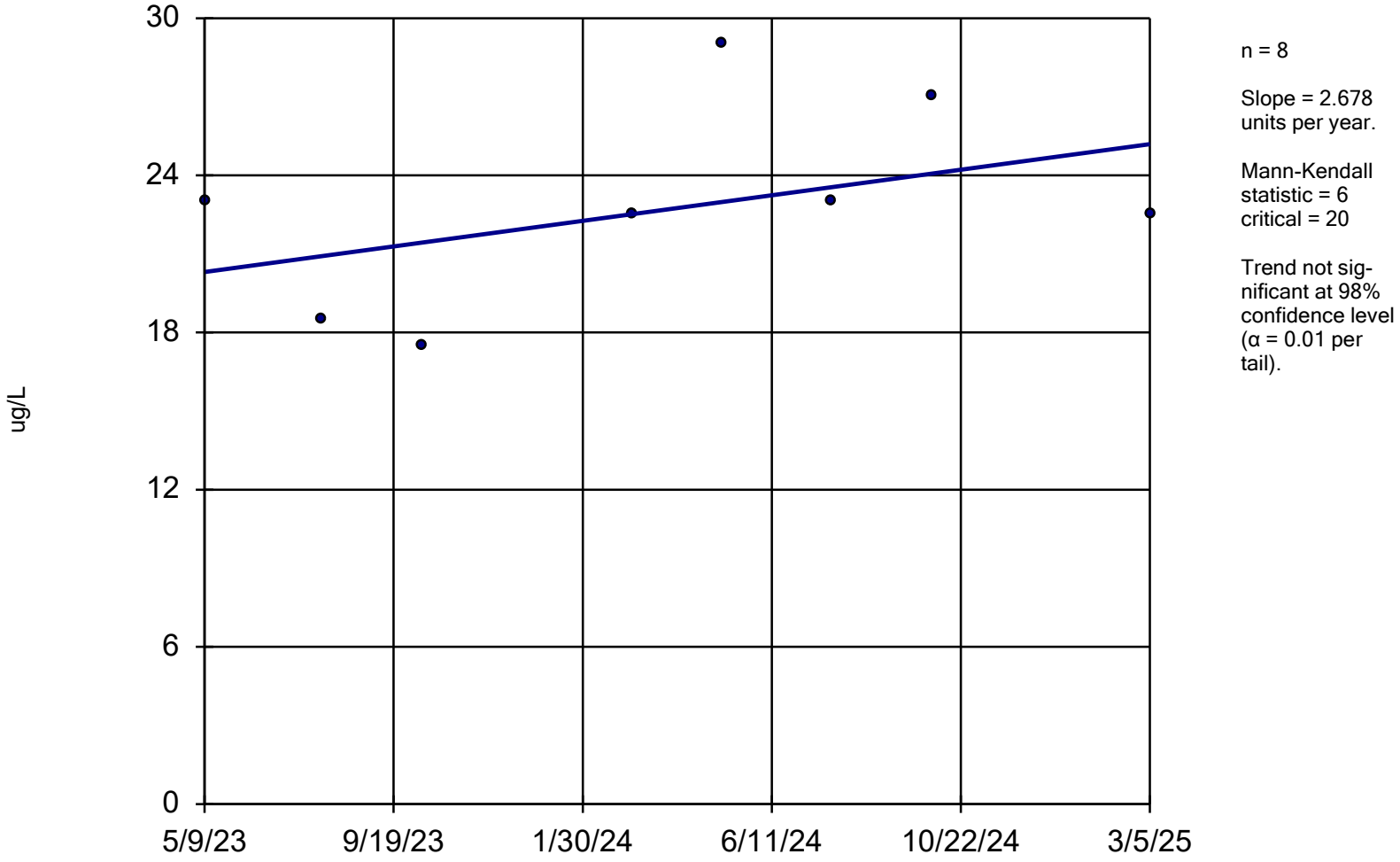
Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:39 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Arsenic, Total

JCW-MW-18006



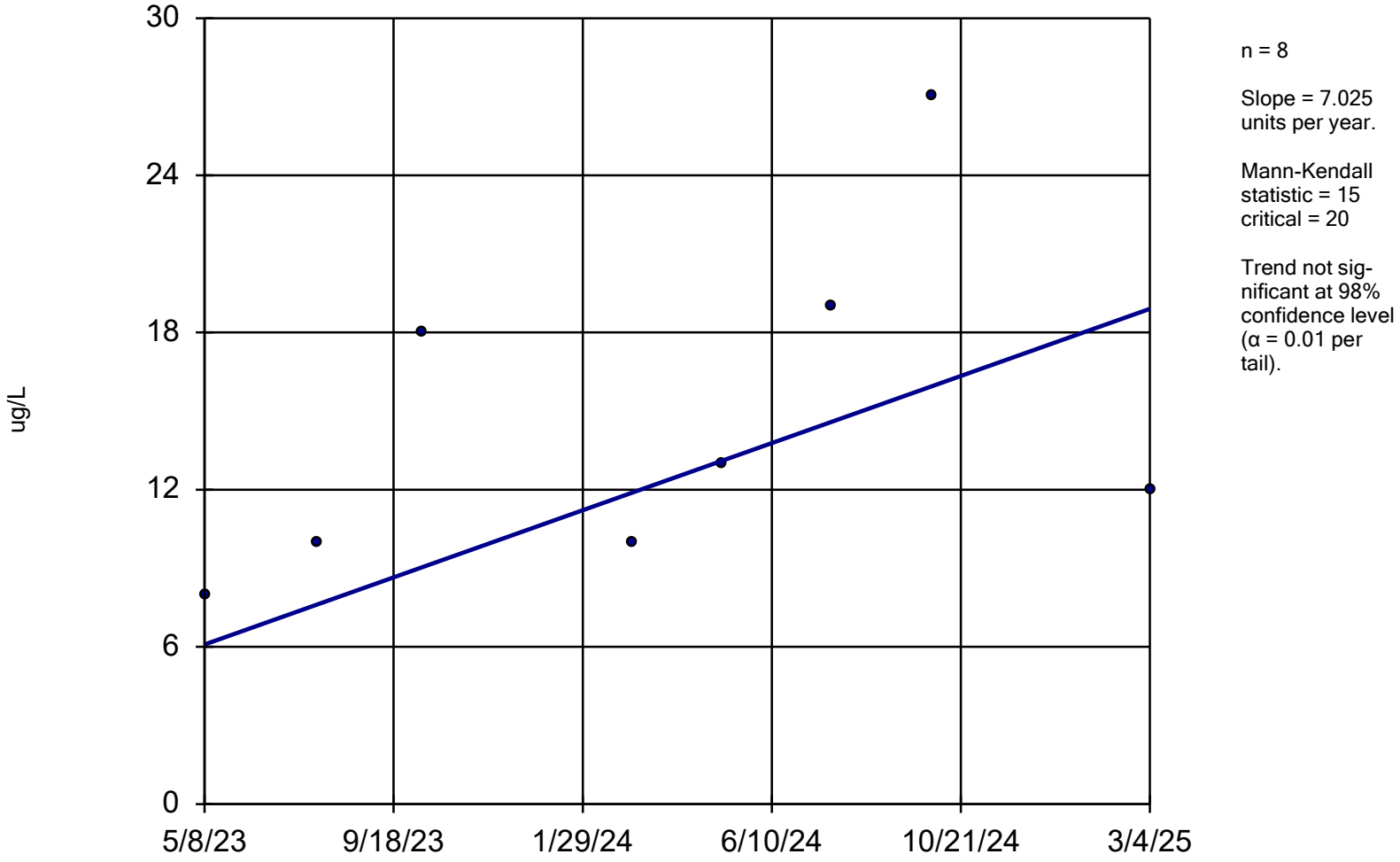
Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:39 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Arsenic, Total

MW-51



n = 8

Slope = 7.025 units per year.

Mann-Kendall statistic = 15 critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

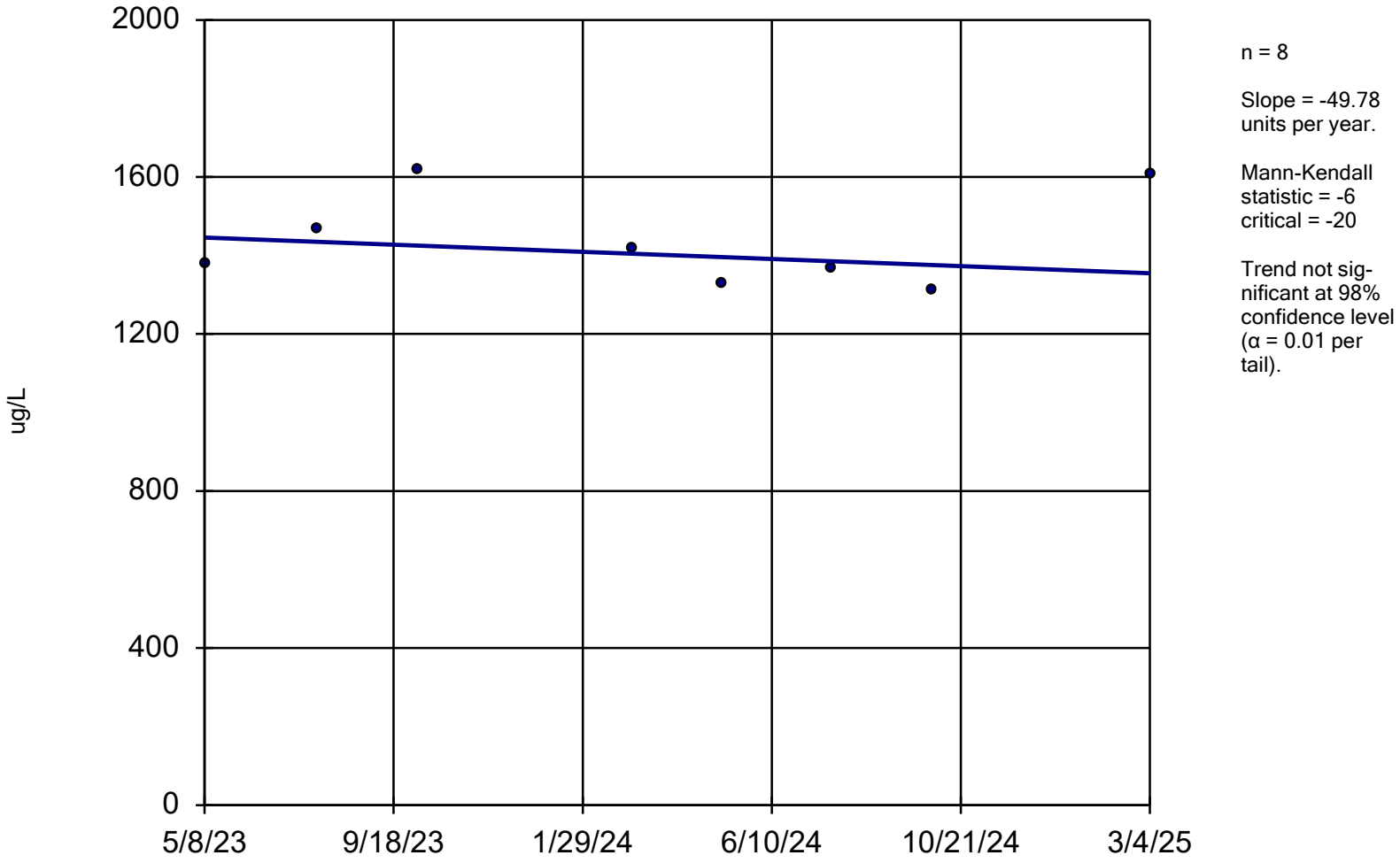
Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:39 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Boron, Total

JCW-MW-18001



n = 8

Slope = -49.78 units per year.

Mann-Kendall statistic = -6
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

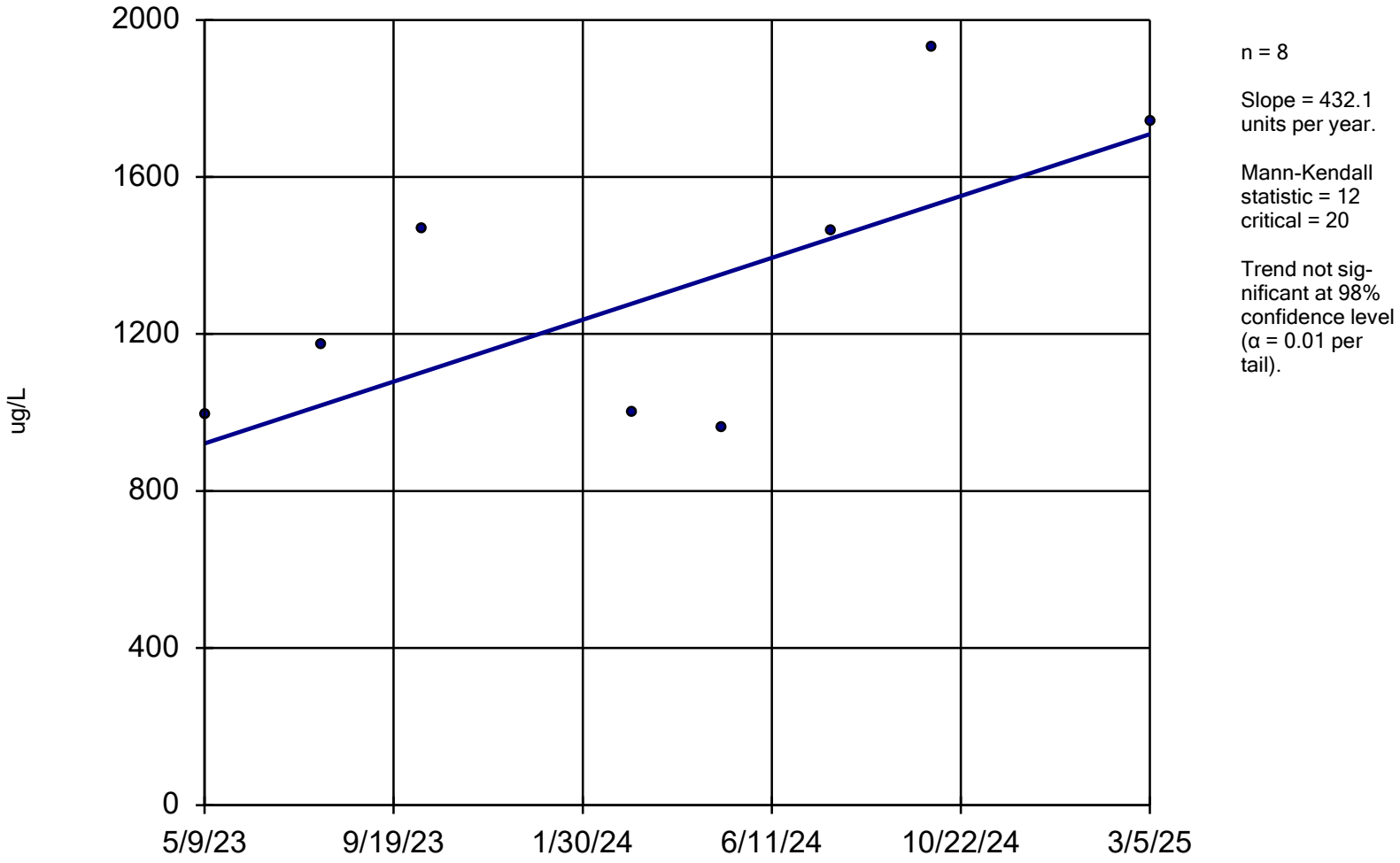
Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:39 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Boron, Total

JCW-MW-18005



n = 8

Slope = 432.1 units per year.

Mann-Kendall statistic = 12 critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

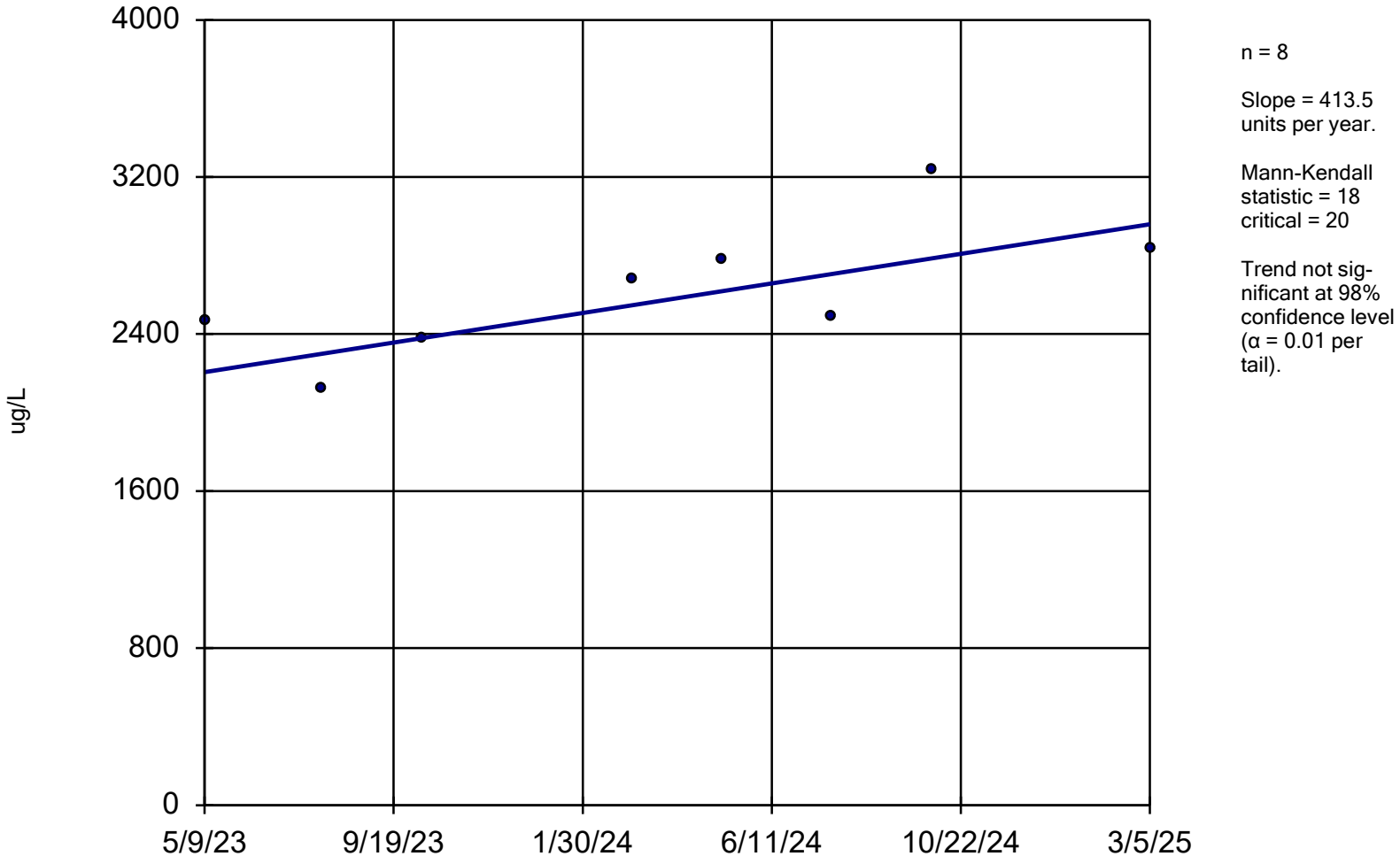
Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:39 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Boron, Total

JCW-MW-18006



n = 8

Slope = 413.5 units per year.

Mann-Kendall statistic = 18 critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

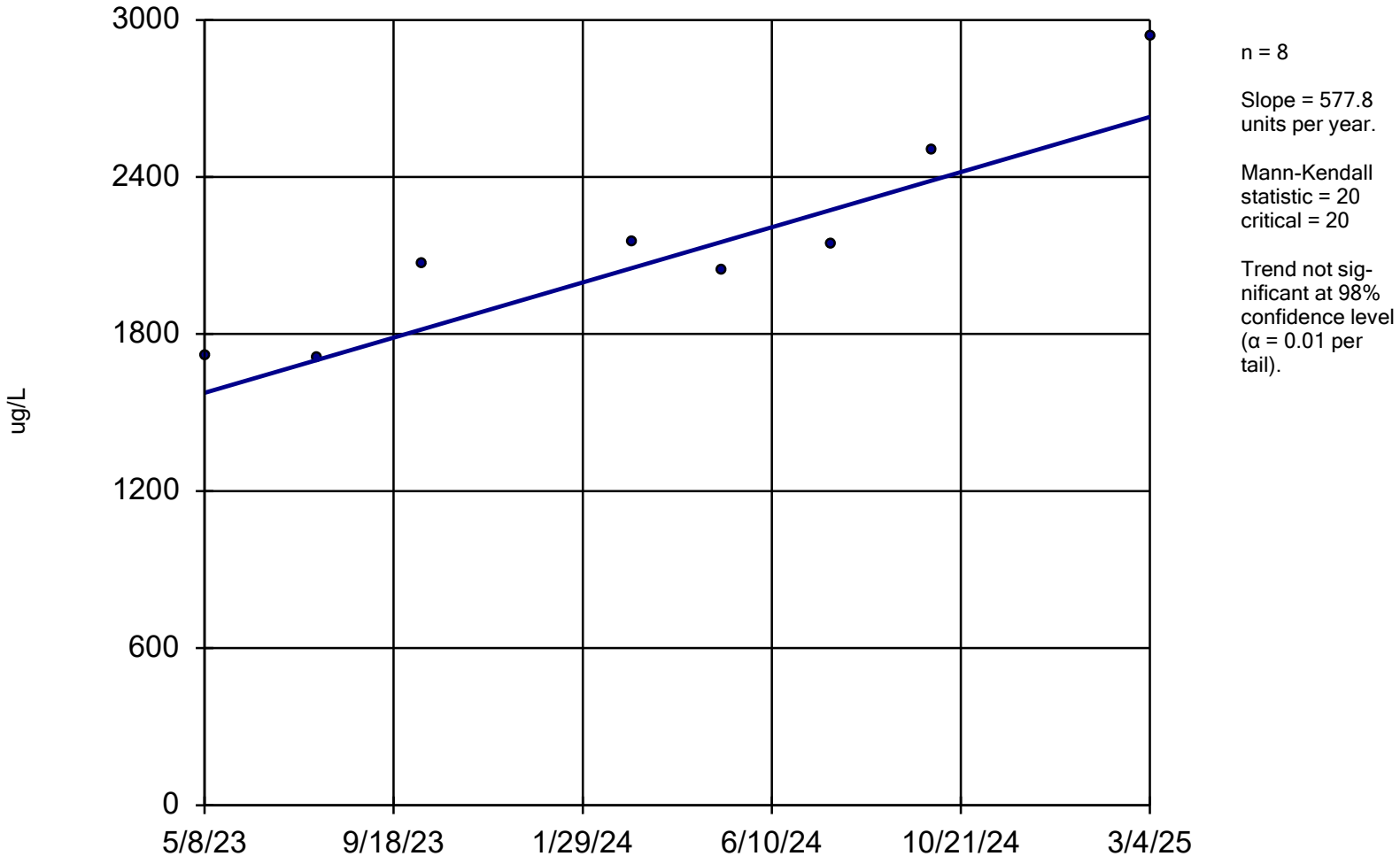
Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:39 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-50



n = 8

Slope = 577.8 units per year.

Mann-Kendall statistic = 20 critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

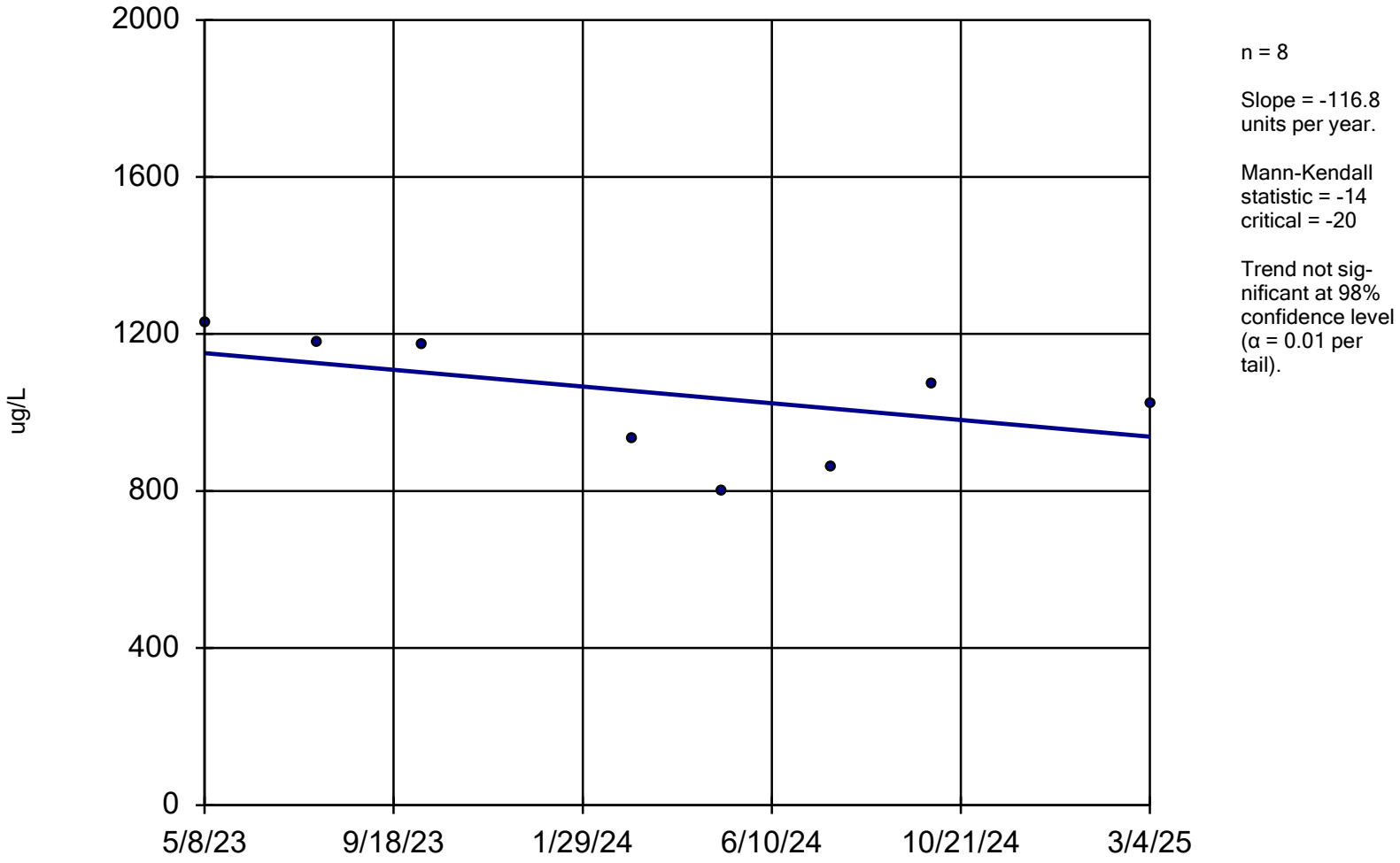
Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:39 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-51



n = 8

Slope = -116.8 units per year.

Mann-Kendall statistic = -14
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

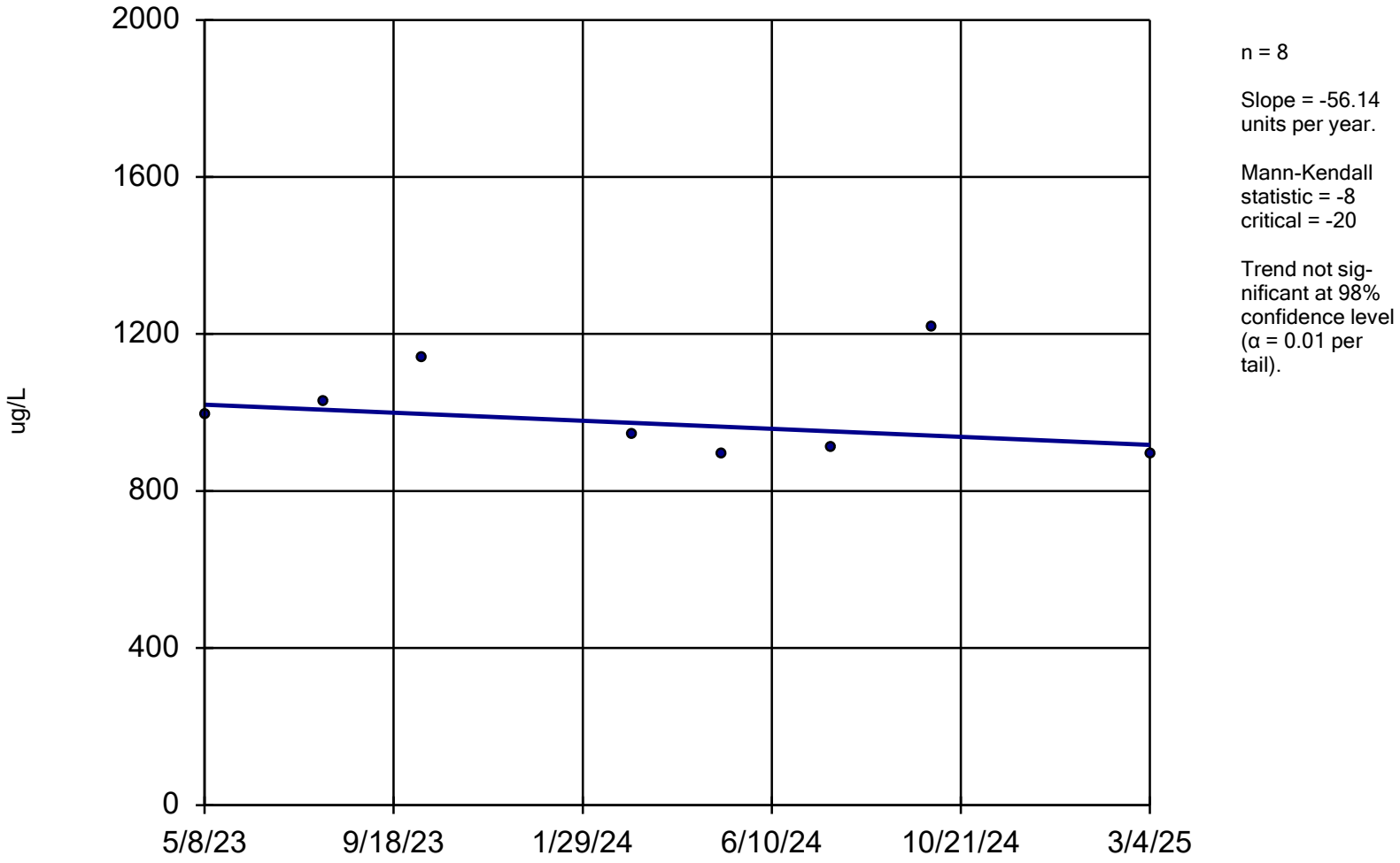
Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:39 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-52



n = 8

Slope = -56.14 units per year.

Mann-Kendall statistic = -8
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

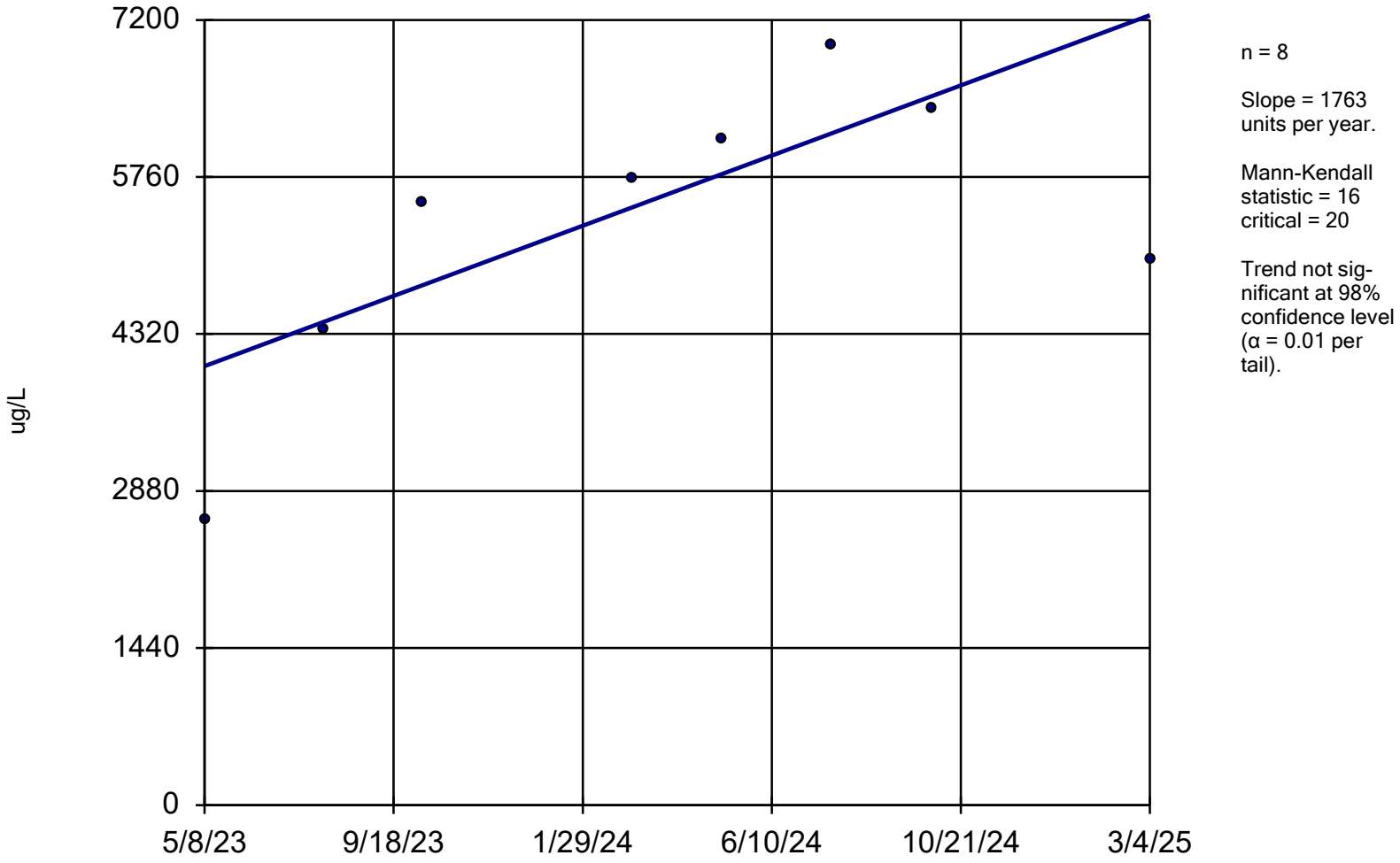
Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:40 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-53



n = 8

Slope = 1763 units per year.

Mann-Kendall statistic = 16
critical = 20

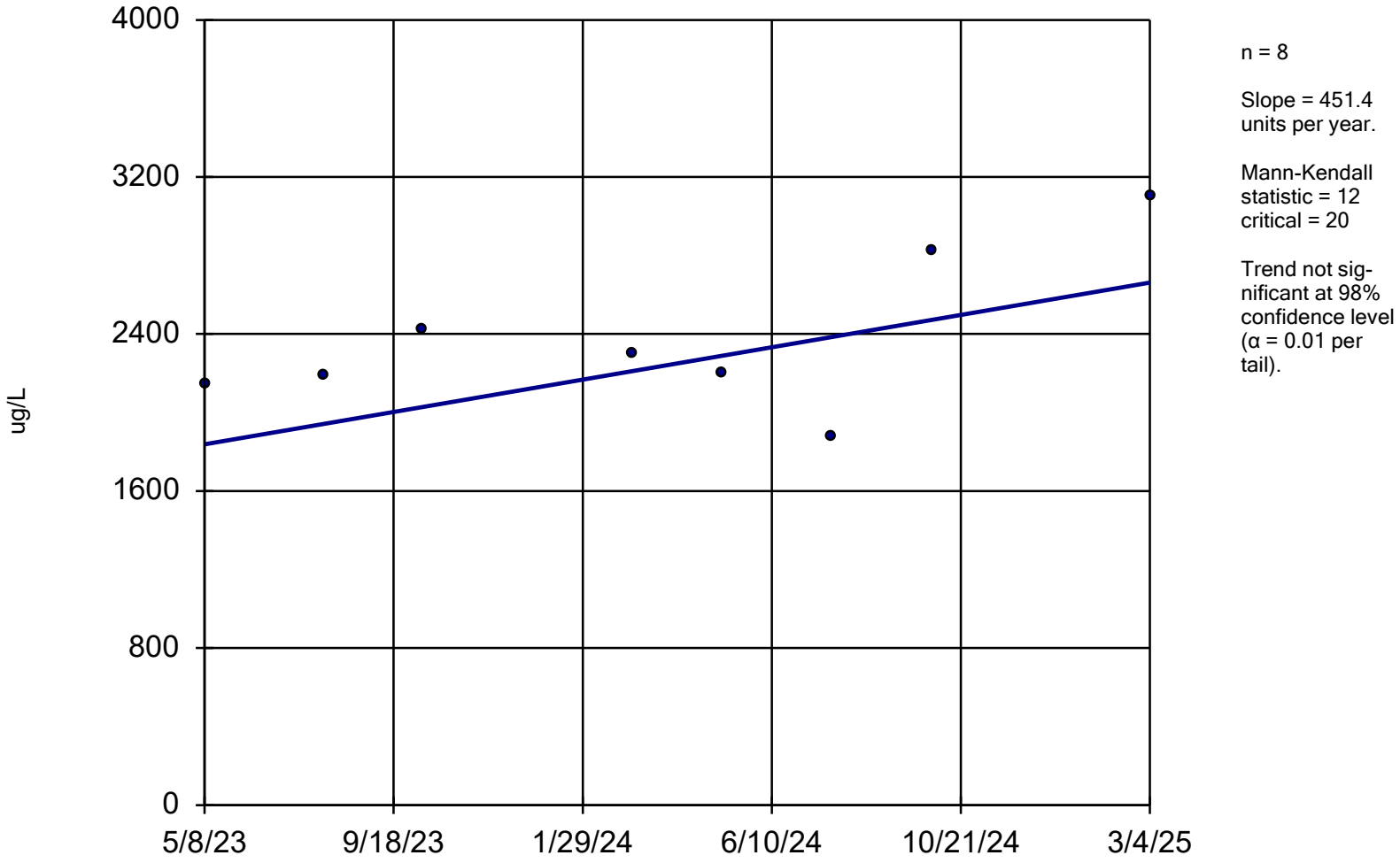
Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:40 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Boron, Total

MW-53R



n = 8

Slope = 451.4 units per year.

Mann-Kendall statistic = 12
critical = 20

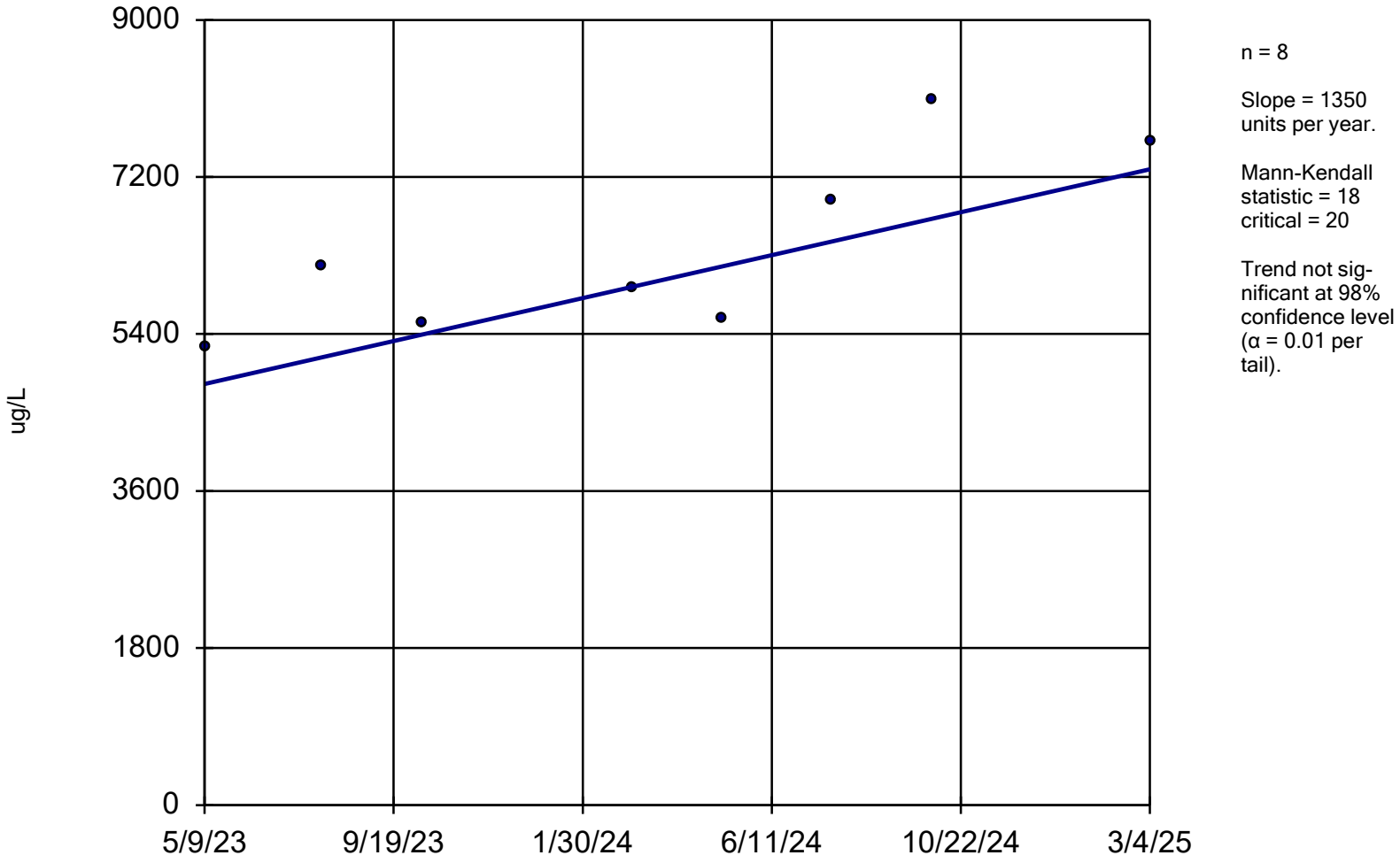
Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:40 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Boron, Total

MW-54R



n = 8

Slope = 1350 units per year.

Mann-Kendall statistic = 18 critical = 20

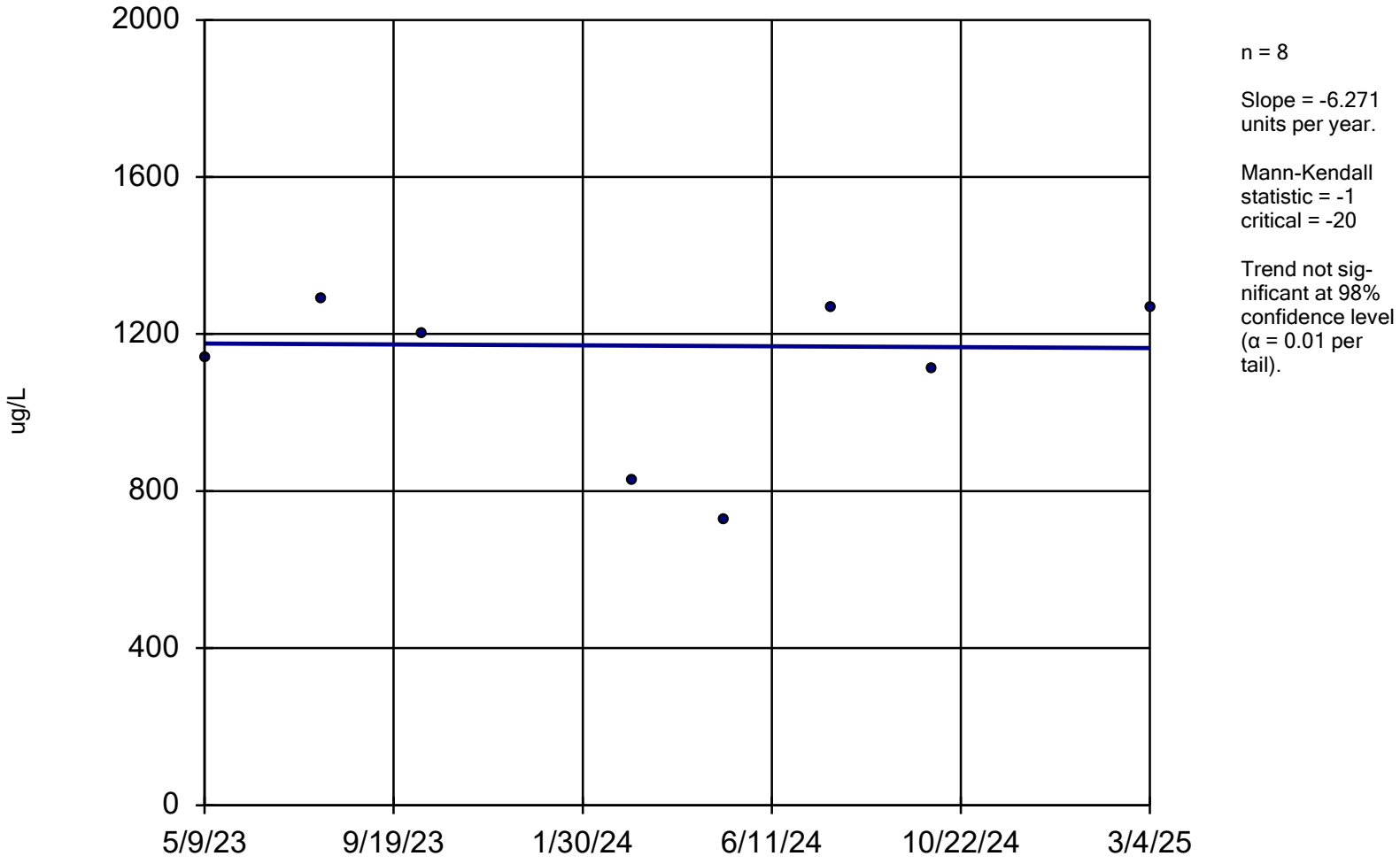
Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:40 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Boron, Total

MW-55



n = 8

Slope = -6.271 units per year.

Mann-Kendall statistic = -1
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:40 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

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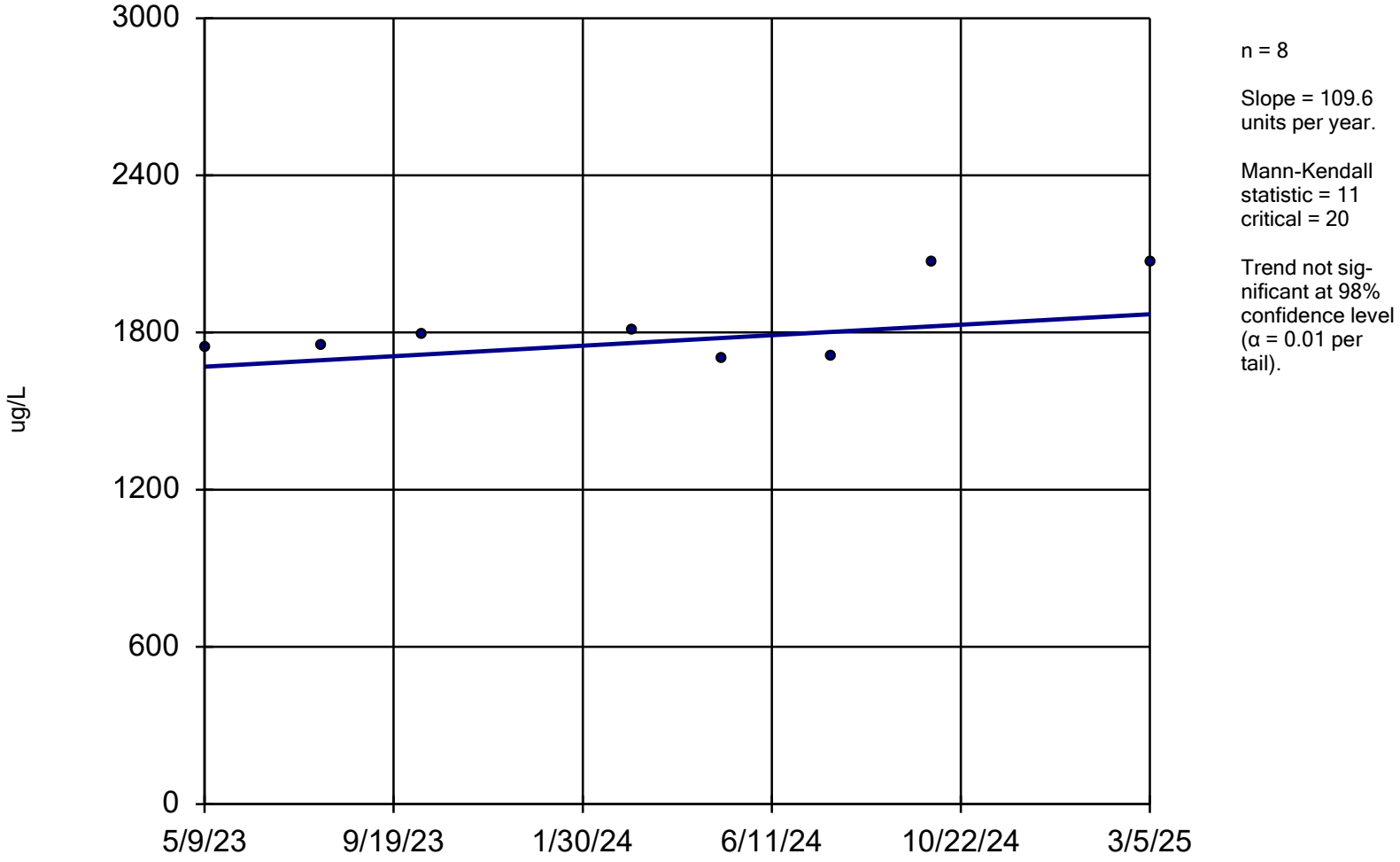
Boron, Total

OW-57ROUT



n = 8

Slope = 109.6 units per year.

Mann-Kendall statistic = 11 critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

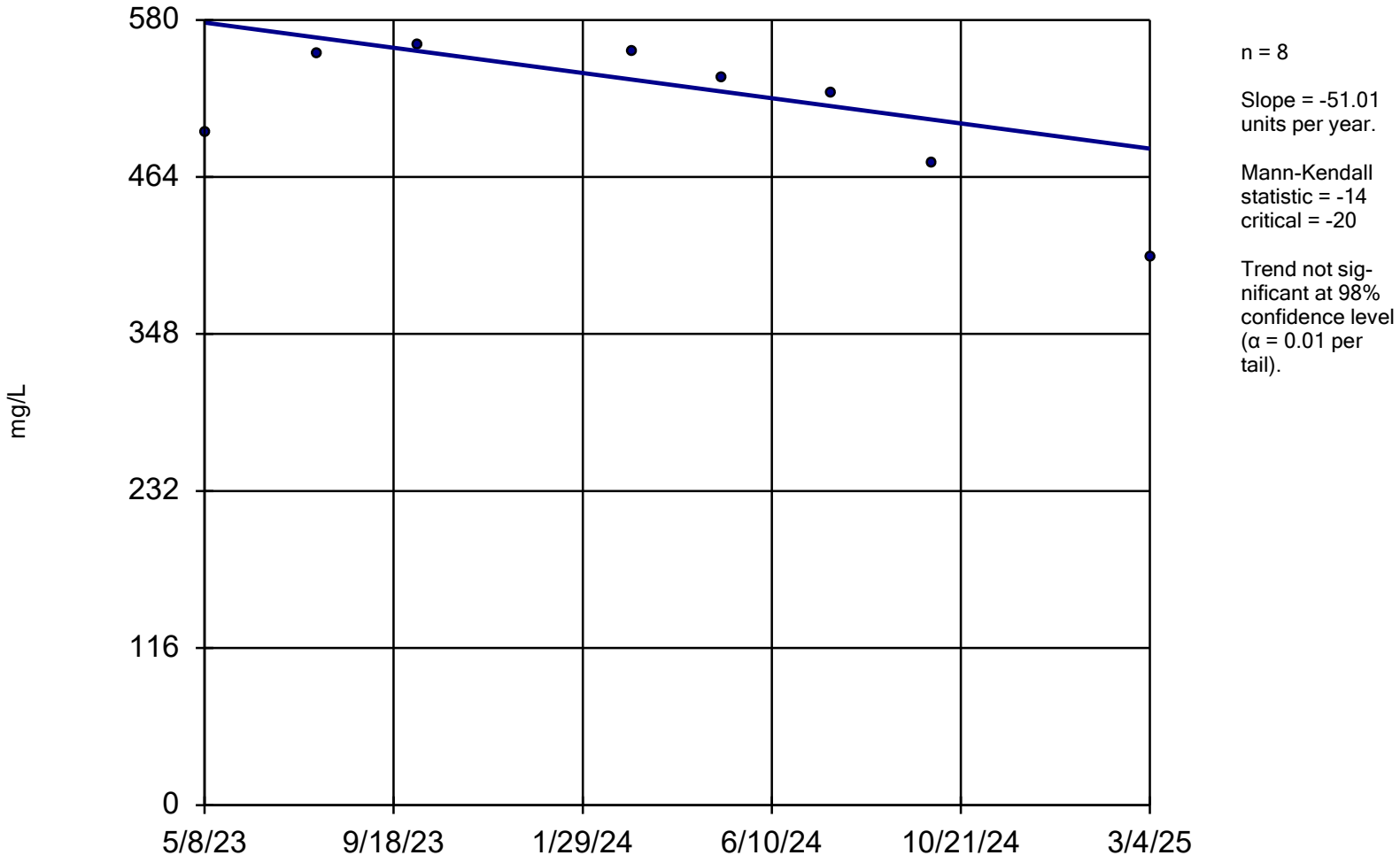
Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:40 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

JCW-MW-18001



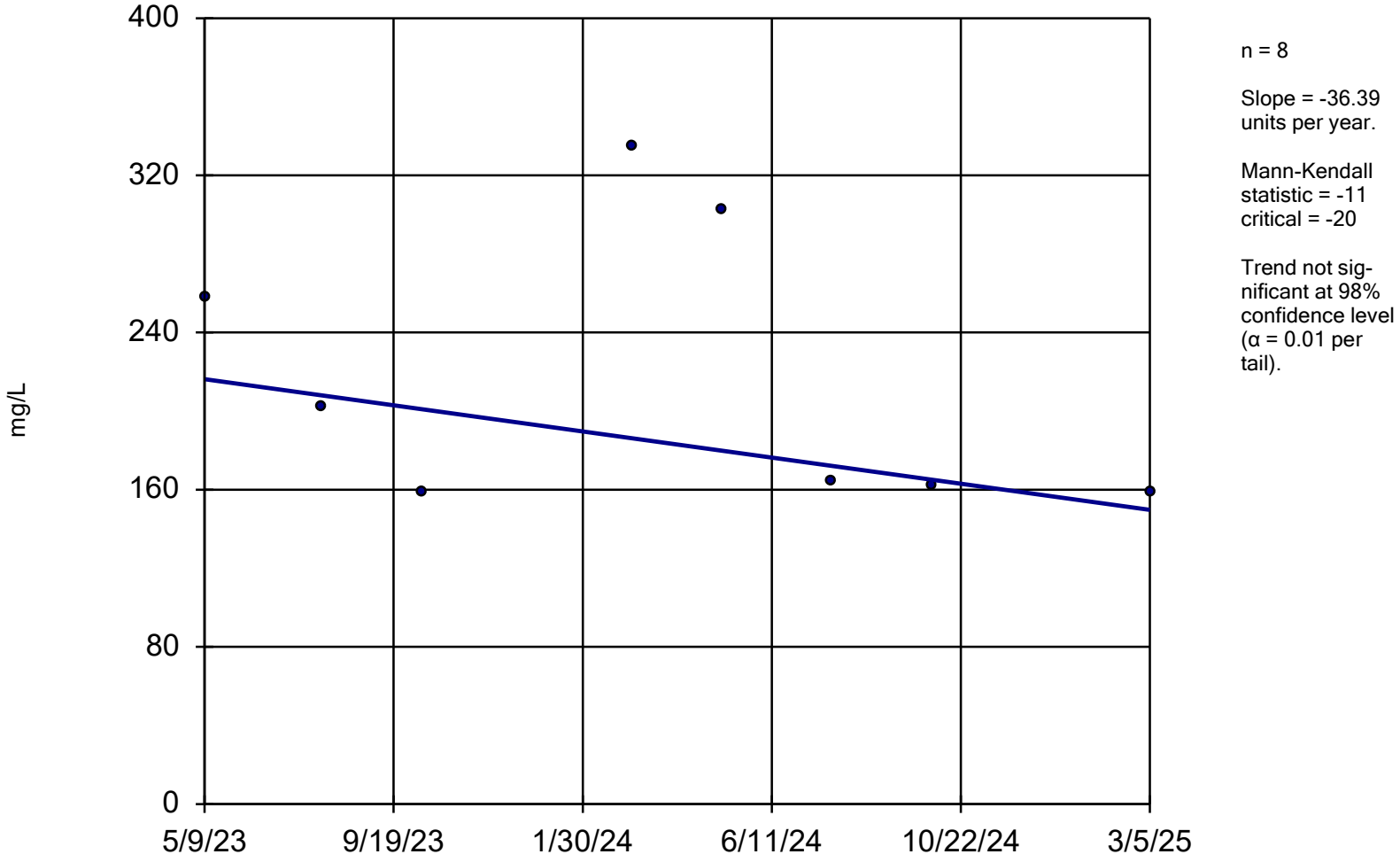
Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:40 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

JCW-MW-18005



n = 8

Slope = -36.39 units per year.

Mann-Kendall statistic = -11
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

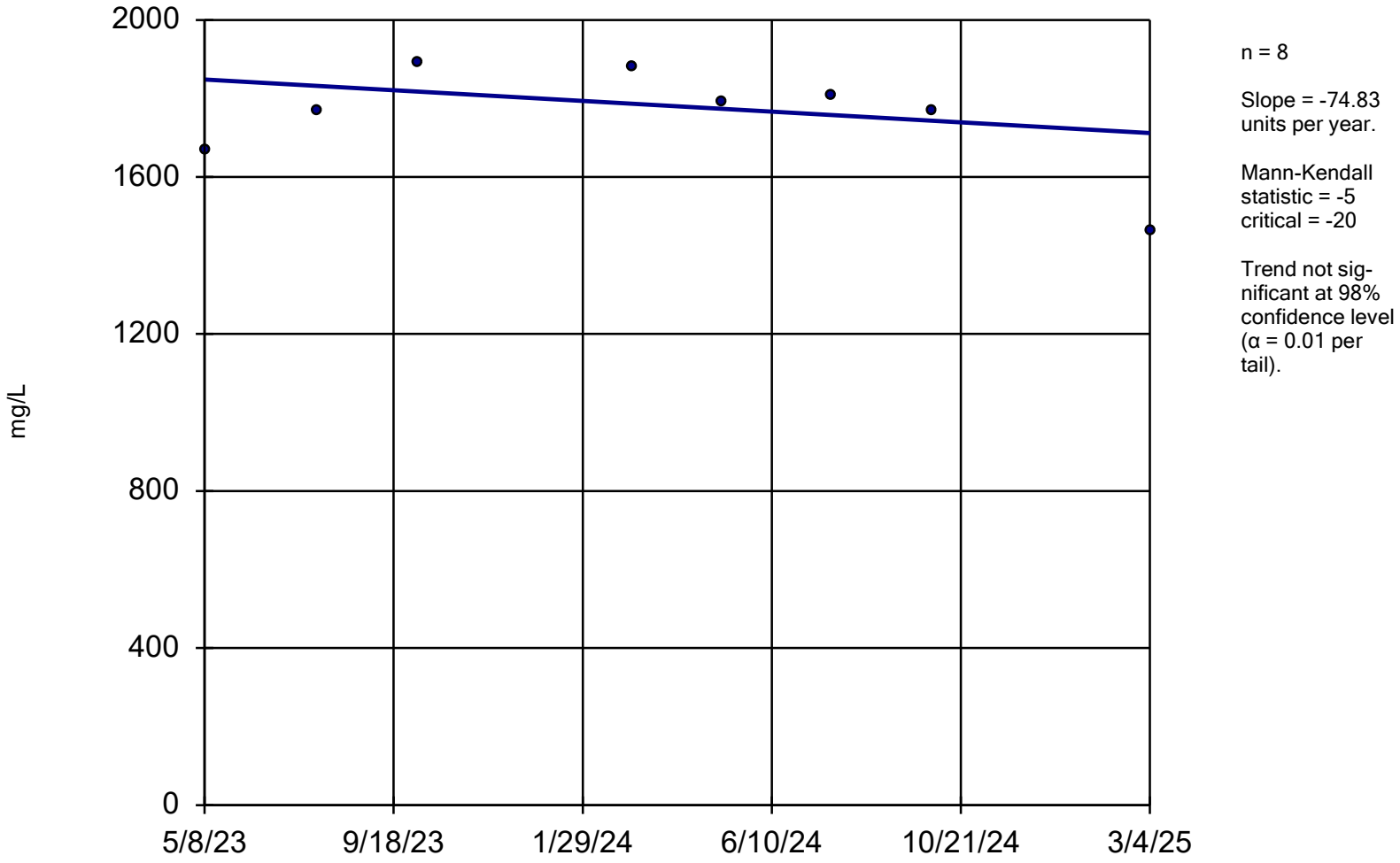
Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:40 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Sanitas™ v.10.0.24 Sanitas software licensed to Consumers Energy. UG

Sulfate

JCW-MW-18001



n = 8

Slope = -74.83 units per year.

Mann-Kendall statistic = -5
critical = -20

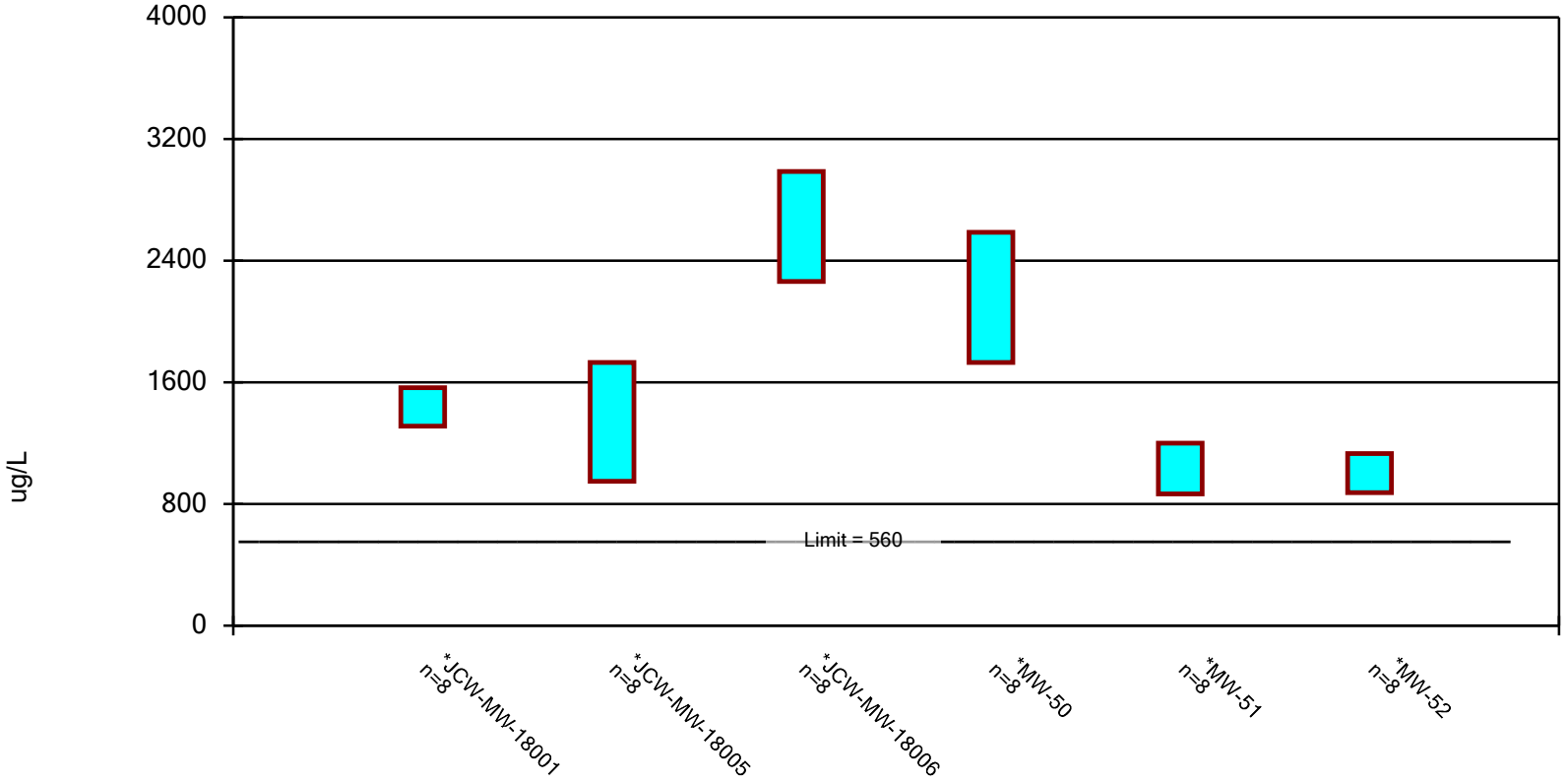
Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope and 98% Confidence Band Analysis Run 4/10/2025 11:40 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Parametric Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Boron, Total Analysis Run 4/10/2025 11:41 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Confidence Interval

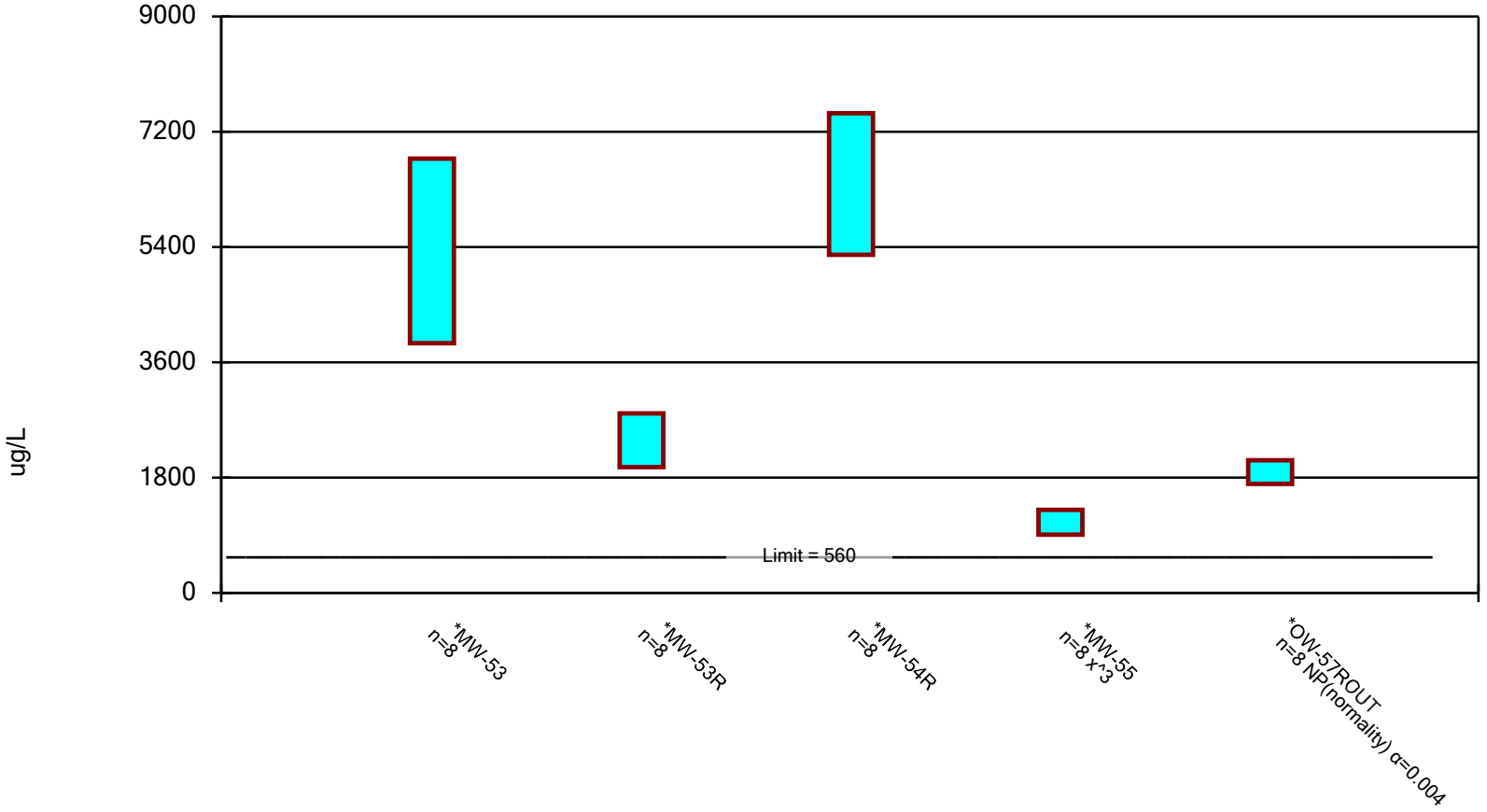
Constituent: Boron, Total (ug/L) Analysis Run 4/10/2025 11:41 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

	JCW-MW-18001	JCW-MW-18005	JCW-MW-18006	MW-50	MW-51	MW-52
5/8/2023	1380			1720 (D)	1230	993
5/9/2023		992	2465 (D)			
7/26/2023	1470			1705 (D)	1180	
7/31/2023		1170	2120 (D)			1030
10/5/2023	1620					
10/9/2023		1470	2375 (D)	2065 (D)	1170	1140
3/5/2024	1420			2155 (D)	935	945
3/6/2024		1000	2675 (D)			
5/7/2024	1330			2045 (D)	798	895
5/8/2024		960	2785 (D)			
7/23/2024	1370	1460		2140 (D)	862	909
7/24/2024			2490			
10/1/2024	1310			2500 (D)	1070	1220
10/2/2024		1930	3240			
3/4/2025	1610			2935 (D)	1020	894
3/5/2025		1740	2840 (D)			
Mean	1439	1340	2624	2158	1033	1003
Std. Dev.	119.6	368.3	341	403.5	158	121
Upper Lim.	1565	1731	2985	2586	1201	1131
Lower Lim.	1312	949.9	2262	1730	865.6	875

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Boron, Total Analysis Run 4/10/2025 11:41 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Confidence Interval

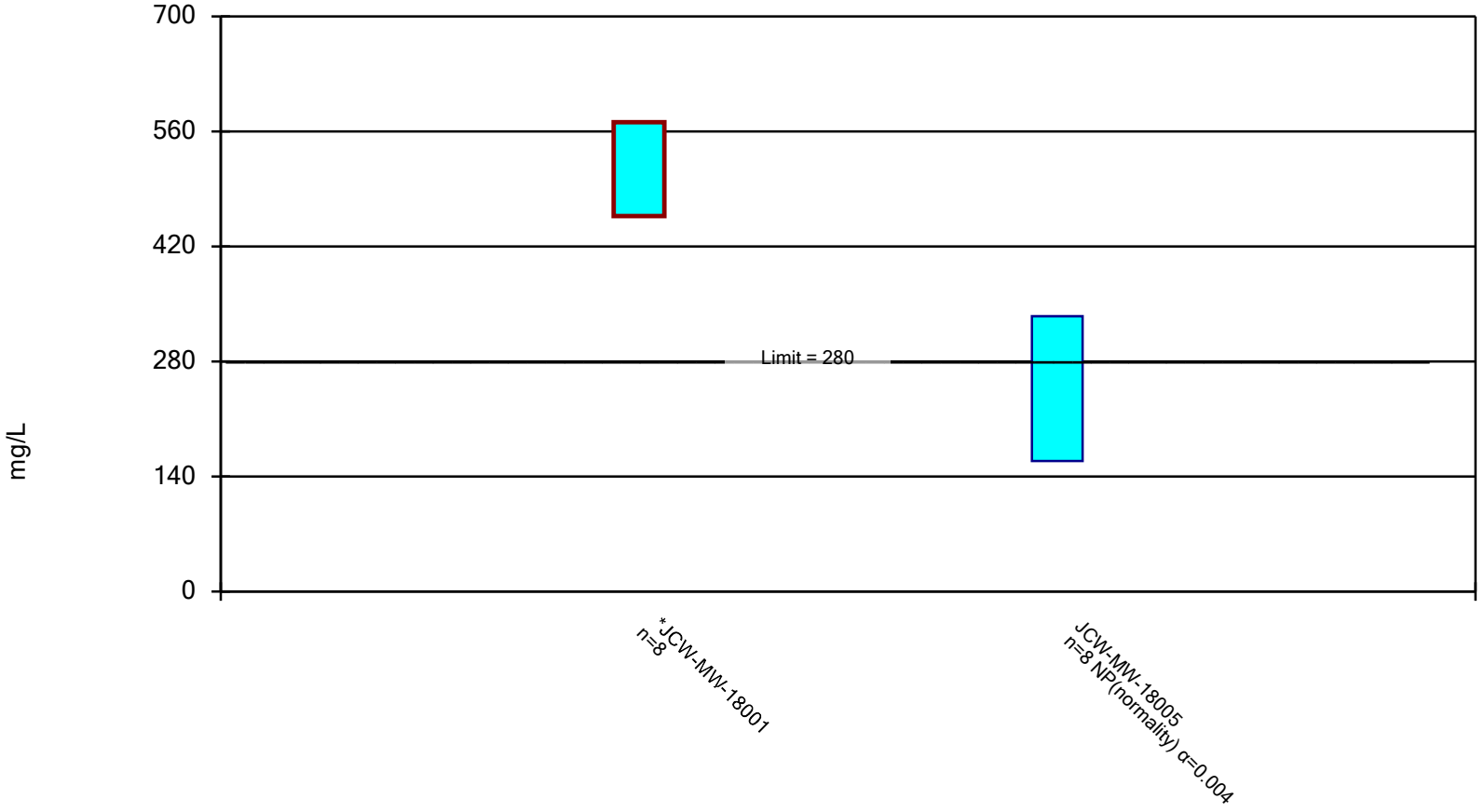
Constituent: Boron, Total (ug/L) Analysis Run 4/10/2025 11:41 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

	MW-53	MW-53R	MW-54R	MW-55	OW-57ROUT
5/8/2023	2620	2140			
5/9/2023			5240	1140	1740
7/31/2023	4370	2190	6170	1290	1750
10/9/2023	5530	2420	5520	1200	1790
3/5/2024	5740	2300	5940	825	
3/6/2024					1810
5/7/2024	6110	2200	5580		
5/8/2024				729	1700
7/23/2024	6960	1880	6930	1270	
7/24/2024					1710 (D)
10/1/2024	6380	2830			
10/2/2024			8080	1110 (D)	2070
3/4/2025	5010	3100	7610	1270	
3/5/2025					2070
Mean	5340	2383	6384	1104	1830
Std. Dev.	1360	397.3	1043	213.4	152.6
Upper Lim.	6781	2804	7490	1298	2070
Lower Lim.	3899	1961	5278	910.3	1700

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Calcium, Total Analysis Run 4/10/2025 11:41 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Confidence Interval

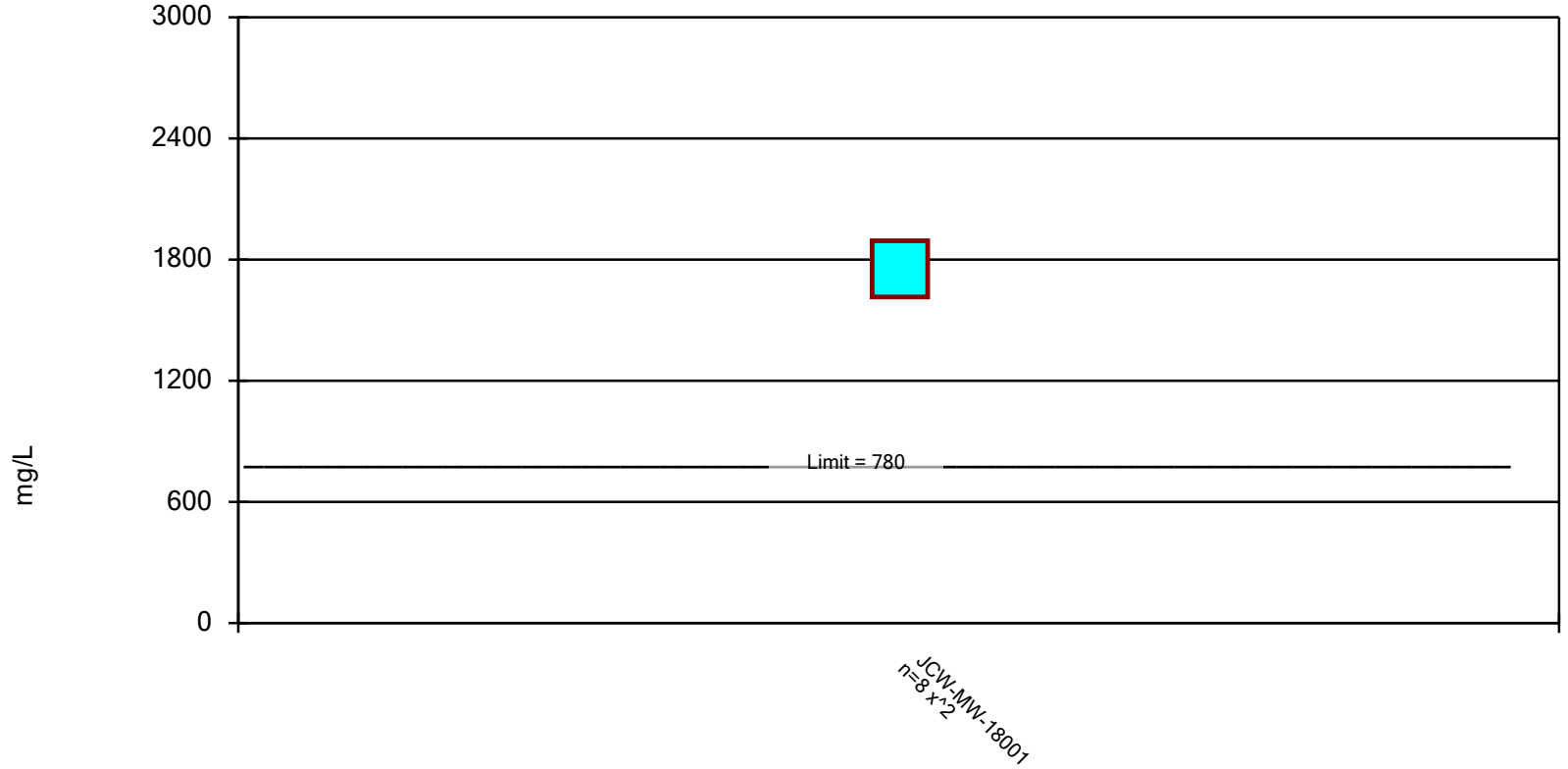
Constituent: Calcium, Total (mg/L) Analysis Run 4/10/2025 11:41 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

	JCW-MW-18001	JCW-MW-18005
5/8/2023	496	
5/9/2023		258
7/26/2023	555	
7/31/2023		202
10/5/2023	562	
10/9/2023		159
3/5/2024	557	
3/6/2024		335
5/7/2024	537	
5/8/2024		302
7/23/2024	526	164
10/1/2024	474	
10/2/2024		162
3/4/2025	405	
3/5/2025		159
Mean	514	217.6
Std. Dev.	53.87	71.33
Upper Lim.	571.1	335
Lower Lim.	456.9	159

Parametric Confidence Interval

Compliance limit is exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Sulfate Analysis Run 4/10/2025 11:41 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

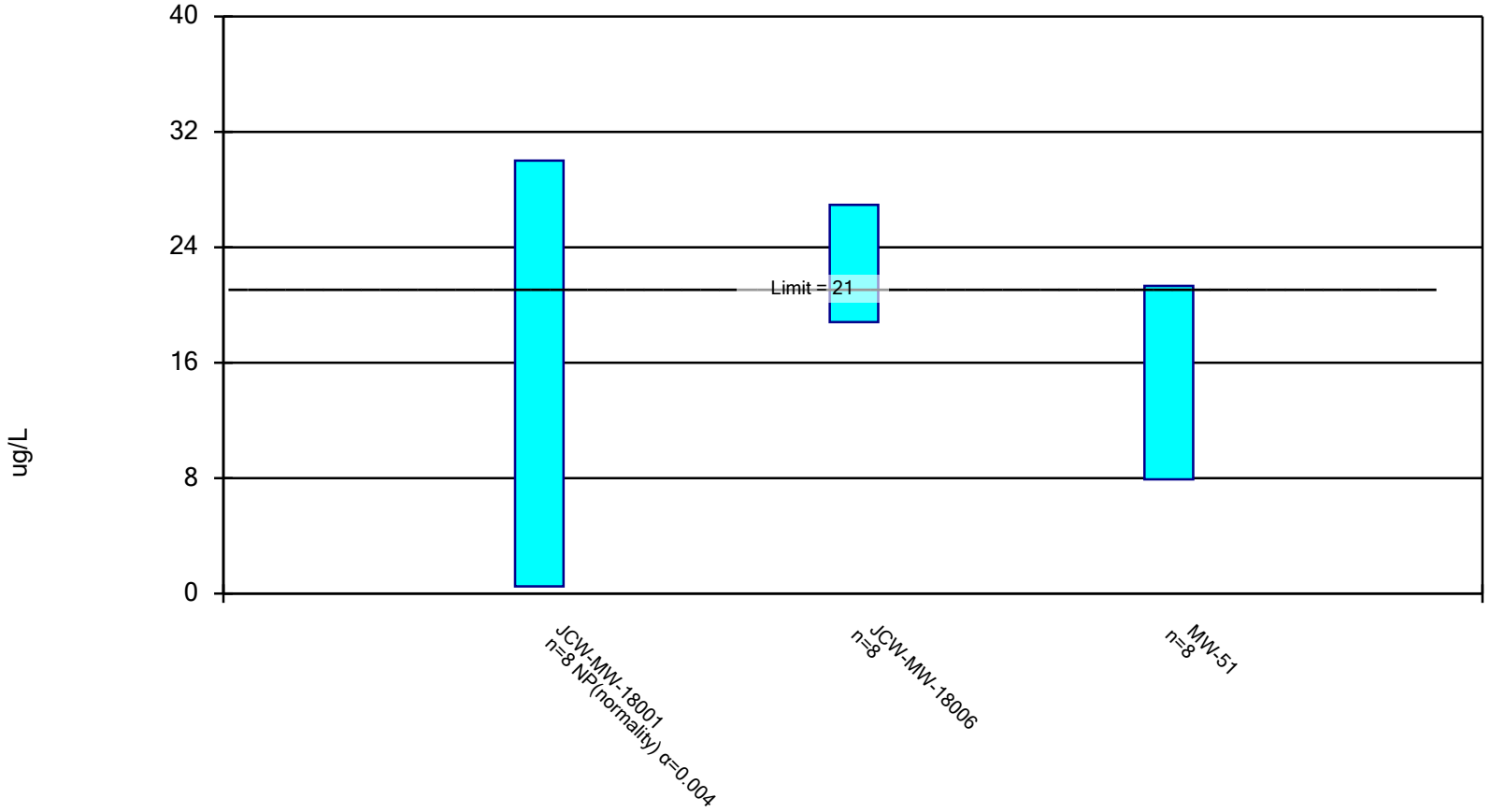
Confidence Interval

Constituent: Sulfate (mg/L) Analysis Run 4/10/2025 11:41 AM
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

	JCW-MW-18001
5/8/2023	1670
7/26/2023	1770
10/5/2023	1890
3/5/2024	1880
5/7/2024	1790
7/23/2024	1810
10/1/2024	1770
3/4/2025	1460
Mean	1755
Std. Dev.	137.7
Upper Lim.	1894
Lower Lim.	1615

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic, Total Analysis Run 4/10/2025 11:41 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

Confidence Interval

Constituent: Arsenic, Total (ug/L) Analysis Run 4/10/2025 11:41 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q1

	JCW-MW-18001	JCW-MW-18006	MW-51
5/8/2023	<1		8
5/9/2023		23 (D)	
7/26/2023	<1		10
7/31/2023		18.5 (D)	
10/5/2023	1		
10/9/2023		17.5 (D)	18
3/5/2024	<1		10
3/6/2024		22.5 (D)	
5/7/2024	2		13
5/8/2024		29 (D)	
7/23/2024	2		19
7/24/2024		23	
10/1/2024	2		27
10/2/2024		27	
3/4/2025	30		12
3/5/2025		22.5 (D)	
Mean	4.813	22.88	14.63
Std. Dev.	10.2	3.834	6.323
Upper Lim.	30	26.94	21.33
Lower Lim.	0.5	18.81	7.923

ND substitution: RL/2.

Appendix E
Laboratory Analytical Report

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135 W. Trail St.
Jackson, MI 49201
phone 517-788-1251
fax 517-788-2533

To: JJFirlit, Karn/Weadock

From: EBlaj, T-258

Date: March 18, 2025

Subject: RCRA GROUNDWATER MONITORING – DEK-JCW BACKGROUND WELLS – 2025 Q1

CC: HDRegister, P22-521

Darby Litz, Project Manager
TRC Companies, Inc.
1540 Eisenhower Place
Ann Arbor, MI 48108

Chemistry Project: 25-0106

TRC Environmental, Inc. conducted groundwater monitoring at the Karn/Weadock Background Wells area during the week of 03/03/2025 for the 1st Quarter requirement, as specified in the Sampling and Analysis Plan for the site. The samples were received for analysis by the Chemistry department of Laboratory Services on 03/06/2025.

The report that follows presents the results of the requested analytical testing; the results apply only to the samples as received. All samples have been analyzed in accordance with the 2016 TNI Standard and the applicable A2LA accreditation scope for Laboratory Services. Any exceptions to applicable test method criteria and standard compliance are noted in the Case Narrative or flagged with applicable qualifiers in the analytical results section.

Reviewed and approved by:

Emil Blaj
Sr. Technical Analyst
Project Lead

ilac-MRA A2LA ACCREDITED Certificate #1097.04

Testing performed in accordance with the A2LA scope of accredidation specified in the listed certificate.
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CASE NARRATIVE

I. Sample Receipt

All samples were received within hold time and in good conditions; no anomalies were noted on the attached Sample Log-In Shipment Inspection Form during sample check-in. Identification of all samples included in the work order/project is provided in the sample summary section. All sample preservation and temperature upon receipt was verified by the sample custodian and confirmed to meet method requirements.

II. Methodology

Unless otherwise indicated, sample preparation and analysis was performed in accordance with the corresponding test methods from "Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100); SW-846, "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods", USEPA (latest revisions), and Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WPCF, 22nd Edition, 2012.

III. Results/Quality Control

Analytical results for this report are presented by laboratory sample ID, container, & aliquot number. Results for the field blanks, field duplicates, and recoveries of the field matrix spike & matrix spike duplicate samples are included in the results section, when applicable; all other quality control data is listed in the Quality Control Summary associated with the particular test method, as appropriate. Unless specifically noted in the case narrative, all method quality control requirements have been met. If any results are qualified, the corresponding data flags/qualifiers are listed on the last page of the results section. Any additional information on method performance, when applicable, is presented in this section of the case narrative. When data flags are not needed, the qualifiers text box on the last page is left blank, and a statement confirms that no exceptions occurred.

DEFINITIONS / QUALIFIERS

The following qualifiers and/or acronyms are used in the report, where applicable:

Acronym	Description
RL	Reporting Limit
ND	Result not detected or below Reporting Limit
NT	Non TNI analyte
LCS	Laboratory Control Sample
LRB	Laboratory Reagent Blank (also referred to as Method Blank)
DUP	Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
TDL	Target Detection Limit
SM	Standard Methods Compendium

Qualifier	Description
*	Generic data flag, applicable description added in the corresponding notes section
B	The analyte was detected in the LRB at a level which is significant relative to sample result
D	Reporting limit elevated due to dilution
E	Estimated due to result exceeding the linear range of the analyzer
H	The maximum recommended hold time was exceeded
I	Dilution required due to matrix interference; reporting limit elevated
J	Estimated due to result found above MDL but below PQL (or RL)
K	Reporting limit raised due to matrix interference
M	The precision for duplicate analysis was not met; RPD outside acceptance criteria
N	Non-homogeneous sample made analysis questionable
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Matrix Spike or Matrix Spike Duplicate recovery outside acceptance criteria
R	Result confirmed by new sample preparation and reanalysis
X	Other notation required; comment listed in sample notes and/or case narrative

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Work Order Sample Summary

Customer Name: Karn/Weadock Complex
Work Order ID: Q1-2025 DEK-JCW Background Wells
Date Received: 3/6/2025
Chemistry Project: 25-0106

Sample #	Field Sample ID	Matrix	Sample Date	Site
25-0106-01	MW-15002	Groundwater	03/05/2025 10:15	DEK JCW Background
25-0106-02	MW-15008	Groundwater	03/05/2025 09:48	DEK JCW Background
25-0106-03	MW-15016	Groundwater	03/05/2025 10:50	DEK JCW Background
25-0106-04	MW-15019	Groundwater	03/05/2025 08:57	DEK JCW Background
25-0106-05	DUP-Background	Groundwater	03/05/2025 00:00	DEK JCW Background
25-0106-06	FB- Background	Water	03/05/2025 11:00	DEK JCW Background

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Analytical Report

Report Date: 03/18/25

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15002**
Lab Sample ID: 25-0106-01
Matrix: Groundwater

Laboratory Project: **25-0106**
Collect Date: 03/05/2025
Collect Time: 10:15 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0106-01-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0106-01-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Arsenic	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Barium	37		ug/L	5.0	03/13/2025	AB25-0313-11
Beryllium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Boron	ND		ug/L	20.0	03/13/2025	AB25-0313-11
Cadmium	ND		ug/L	0.2	03/13/2025	AB25-0313-11
Calcium	54200		ug/L	1000.0	03/13/2025	AB25-0313-11
Chromium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Cobalt	ND		ug/L	6.0	03/13/2025	AB25-0313-11
Copper	2		ug/L	1.0	03/13/2025	AB25-0313-11
Iron	241		ug/L	20.0	03/13/2025	AB25-0313-11
Lead	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Lithium	ND		ug/L	10.0	03/13/2025	AB25-0313-11
Molybdenum	ND		ug/L	5.0	03/13/2025	AB25-0313-11
Nickel	ND		ug/L	2.0	03/13/2025	AB25-0313-11
Selenium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Silver	ND		ug/L	0.2	03/13/2025	AB25-0313-11
Thallium	ND		ug/L	2.0	03/13/2025	AB25-0313-11
Vanadium	ND		ug/L	2.0	03/13/2025	AB25-0313-11
Zinc	ND		ug/L	10.0	03/13/2025	AB25-0313-11

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0106-01-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	12500		ug/L	1000.0	03/13/2025	AB25-0313-02
Fluoride	ND		ug/L	1000.0	03/13/2025	AB25-0313-02
Sulfate	8970		ug/L	1000.0	03/13/2025	AB25-0313-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0106-01-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	220		mg/L	10.0	03/07/2025	AB25-0307-03

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Analytical Report

Report Date: 03/18/25

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15008**
Lab Sample ID: 25-0106-02
Matrix: Groundwater

Laboratory Project: **25-0106**
Collect Date: 03/05/2025
Collect Time: 09:48 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0106-02-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0106-02-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Arsenic	2		ug/L	1.0	03/13/2025	AB25-0313-11
Barium	64		ug/L	5.0	03/13/2025	AB25-0313-11
Beryllium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Boron	98		ug/L	20.0	03/13/2025	AB25-0313-11
Cadmium	ND		ug/L	0.2	03/13/2025	AB25-0313-11
Calcium	107000		ug/L	1000.0	03/13/2025	AB25-0313-11
Chromium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Cobalt	ND		ug/L	6.0	03/13/2025	AB25-0313-11
Copper	2		ug/L	1.0	03/13/2025	AB25-0313-11
Iron	13700		ug/L	20.0	03/13/2025	AB25-0313-11
Lead	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Lithium	31		ug/L	10.0	03/13/2025	AB25-0313-11
Molybdenum	ND		ug/L	5.0	03/13/2025	AB25-0313-11
Nickel	3		ug/L	2.0	03/13/2025	AB25-0313-11
Selenium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Silver	ND		ug/L	0.2	03/13/2025	AB25-0313-11
Thallium	ND		ug/L	2.0	03/13/2025	AB25-0313-11
Vanadium	3		ug/L	2.0	03/13/2025	AB25-0313-11
Zinc	ND		ug/L	10.0	03/13/2025	AB25-0313-11

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0106-02-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	95300		ug/L	1000.0	03/13/2025	AB25-0313-02
Fluoride	ND		ug/L	1000.0	03/13/2025	AB25-0313-02
Sulfate	66100		ug/L	1000.0	03/13/2025	AB25-0313-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0106-02-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	582		mg/L	10.0	03/07/2025	AB25-0307-03

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Analytical Report

Report Date: 03/18/25

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15016**
Lab Sample ID: 25-0106-03
Matrix: Groundwater

Laboratory Project: **25-0106**
Collect Date: 03/05/2025
Collect Time: 10:50 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0106-03-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0106-03-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Arsenic	3		ug/L	1.0	03/13/2025	AB25-0313-11
Barium	94		ug/L	5.0	03/13/2025	AB25-0313-11
Beryllium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Boron	242		ug/L	20.0	03/13/2025	AB25-0313-11
Cadmium	ND		ug/L	0.2	03/13/2025	AB25-0313-11
Calcium	139000		ug/L	1000.0	03/13/2025	AB25-0313-11
Chromium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Cobalt	ND		ug/L	6.0	03/13/2025	AB25-0313-11
Copper	3		ug/L	1.0	03/13/2025	AB25-0313-11
Iron	3920		ug/L	20.0	03/13/2025	AB25-0313-11
Lead	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Lithium	36		ug/L	10.0	03/13/2025	AB25-0313-11
Molybdenum	ND		ug/L	5.0	03/13/2025	AB25-0313-11
Nickel	6		ug/L	2.0	03/13/2025	AB25-0313-11
Selenium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Silver	ND		ug/L	0.2	03/13/2025	AB25-0313-11
Thallium	ND		ug/L	2.0	03/13/2025	AB25-0313-11
Vanadium	ND		ug/L	2.0	03/13/2025	AB25-0313-11
Zinc	11		ug/L	10.0	03/13/2025	AB25-0313-11

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0106-03-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	82000		ug/L	1000.0	03/13/2025	AB25-0313-02
Fluoride	ND		ug/L	1000.0	03/13/2025	AB25-0313-02
Sulfate	147000		ug/L	1000.0	03/13/2025	AB25-0313-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0106-03-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	670		mg/L	10.0	03/07/2025	AB25-0307-03

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Analytical Report

Report Date: 03/18/25

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15019**
Lab Sample ID: 25-0106-04
Matrix: Groundwater

Laboratory Project: **25-0106**
Collect Date: 03/05/2025
Collect Time: 08:57 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0106-04-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0106-04-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	1		ug/L	1.0	03/13/2025	AB25-0313-11
Arsenic	2		ug/L	1.0	03/13/2025	AB25-0313-11
Barium	357		ug/L	5.0	03/13/2025	AB25-0313-11
Beryllium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Boron	275		ug/L	20.0	03/13/2025	AB25-0313-11
Cadmium	ND		ug/L	0.2	03/13/2025	AB25-0313-11
Calcium	171000		ug/L	1000.0	03/13/2025	AB25-0313-11
Chromium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Cobalt	ND		ug/L	6.0	03/13/2025	AB25-0313-11
Copper	2		ug/L	1.0	03/13/2025	AB25-0313-11
Iron	21900		ug/L	20.0	03/13/2025	AB25-0313-11
Lead	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Lithium	13		ug/L	10.0	03/13/2025	AB25-0313-11
Molybdenum	ND		ug/L	5.0	03/13/2025	AB25-0313-11
Nickel	6		ug/L	2.0	03/13/2025	AB25-0313-11
Selenium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Silver	ND		ug/L	0.2	03/13/2025	AB25-0313-11
Thallium	ND		ug/L	2.0	03/13/2025	AB25-0313-11
Vanadium	3		ug/L	2.0	03/13/2025	AB25-0313-11
Zinc	ND		ug/L	10.0	03/13/2025	AB25-0313-11

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0106-04-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	383000		ug/L	1000.0	03/13/2025	AB25-0313-02
Fluoride	ND		ug/L	1000.0	03/13/2025	AB25-0313-02
Sulfate	99300		ug/L	1000.0	03/13/2025	AB25-0313-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0106-04-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1300		mg/L	10.0	03/07/2025	AB25-0307-03

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Analytical Report

Report Date: 03/18/25

Sample Site: **DEK JCW Background**
Field Sample ID: **DUP-Background**
Lab Sample ID: 25-0106-05
Matrix: Groundwater

Laboratory Project: **25-0106**
Collect Date: 03/05/2025
Collect Time: 12:00 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0106-05-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0106-05-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Arsenic	2		ug/L	1.0	03/13/2025	AB25-0313-11
Barium	360		ug/L	5.0	03/13/2025	AB25-0313-11
Beryllium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Boron	259		ug/L	20.0	03/13/2025	AB25-0313-11
Cadmium	ND		ug/L	0.2	03/13/2025	AB25-0313-11
Calcium	171000		ug/L	1000.0	03/13/2025	AB25-0313-11
Chromium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Cobalt	ND		ug/L	6.0	03/13/2025	AB25-0313-11
Copper	1		ug/L	1.0	03/13/2025	AB25-0313-11
Iron	21700		ug/L	20.0	03/13/2025	AB25-0313-11
Lead	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Lithium	13		ug/L	10.0	03/13/2025	AB25-0313-11
Molybdenum	ND		ug/L	5.0	03/13/2025	AB25-0313-11
Nickel	5		ug/L	2.0	03/13/2025	AB25-0313-11
Selenium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Silver	ND		ug/L	0.2	03/13/2025	AB25-0313-11
Thallium	ND		ug/L	2.0	03/13/2025	AB25-0313-11
Vanadium	2		ug/L	2.0	03/13/2025	AB25-0313-11
Zinc	ND		ug/L	10.0	03/13/2025	AB25-0313-11

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0106-05-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	378000		ug/L	1000.0	03/13/2025	AB25-0313-02
Fluoride	ND		ug/L	1000.0	03/13/2025	AB25-0313-02
Sulfate	98600		ug/L	1000.0	03/13/2025	AB25-0313-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0106-05-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1260		mg/L	10.0	03/07/2025	AB25-0307-03

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Analytical Report

Report Date: 03/18/25

Sample Site: **DEK JCW Background**
Field Sample ID: **FB- Background**
Lab Sample ID: 25-0106-06
Matrix: Water

Laboratory Project: **25-0106**
Collect Date: 03/05/2025
Collect Time: 11:00 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0106-06-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0106-06-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Arsenic	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Barium	ND		ug/L	5.0	03/13/2025	AB25-0313-11
Beryllium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Boron	ND		ug/L	20.0	03/13/2025	AB25-0313-11
Cadmium	ND		ug/L	0.2	03/13/2025	AB25-0313-11
Calcium	ND		ug/L	1000.0	03/13/2025	AB25-0313-11
Chromium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Cobalt	ND		ug/L	6.0	03/13/2025	AB25-0313-11
Copper	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Iron	ND		ug/L	20.0	03/13/2025	AB25-0313-11
Lead	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Lithium	ND		ug/L	10.0	03/13/2025	AB25-0313-11
Molybdenum	ND		ug/L	5.0	03/13/2025	AB25-0313-11
Nickel	ND		ug/L	2.0	03/13/2025	AB25-0313-11
Selenium	ND		ug/L	1.0	03/13/2025	AB25-0313-11
Silver	ND		ug/L	0.2	03/13/2025	AB25-0313-11
Thallium	ND		ug/L	2.0	03/13/2025	AB25-0313-11
Vanadium	ND		ug/L	2.0	03/13/2025	AB25-0313-11
Zinc	ND		ug/L	10.0	03/13/2025	AB25-0313-11

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Analytical Report

Report Date: 03/18/25

Data Qualifiers	Exception Summary
	No exceptions occurred.

General Standard Operating Procedure

TITLE: SAMPLE LOG-IN – SHIPMENT INSPECTION FORM

Project Number: 25-0106 **Inspection Date:** 3.06.25 **Inspection By:** LMO

Sample Origin/Project Name: Q1-2025 JCW-DEK Background Wells

Shipment Delivered By: Enter the type of shipment carrier.

Inter-Company Mail_____ FedEx _____ UPS _____ USPS _____

Tracking Number: _____ Other/Carry In (whom) TRC

Shipping Containers: Enter the type and number of shipping containers received.

Cooler ✓ Cardboard Box _____ Custom Case _____ Envelope/Mailer _____

Loose/Unpackaged Containers _____ Other _____

Condition of Shipment: Enter the as-received condition of the shipment container.

Damaged Shipment Observed: None ✓ Dented _____ Leaking _____

Other _____

Shipment Security: Enter if any of the shipping containers were opened before receipt.

Shipping Containers Received: Opened _____ Sealed ✓ N/A _____

Enclosed Documents: Enter the type of documents enclosed with the shipment.

CoC ✓ Work Request _____ Air Data Sheet_____ Other_____

Temperature of Containers: Measure the temperature of several sample containers.

As-Received Temperature Range 3.8 - 4.6 °C Samples Received on Ice: Yes ✓ No____

M&TE # and Expiration LS028757 / 01.16.26

Number and Type of Containers: Enter the type and total number of sample containers received.

Container Type	Water	Soil	Other	Broken	Leaking
VOA (40mL or 60mL)					
Quart/Liter (g / p)					
9-oz (amber glass jar)					
2-oz (amber glass)					
125 mL (plastic)	11				
24 mL vial (glass)					
250 mL (plastic)	5				
Other _____					

All sample pH meeting criteria? Yes ✓ No___ N/A___ **pH paper lot #** 210224 **Exp. Date** 12.01.26

Indicate if an Exception Report (Page 2 of 2) is needed: Yes ____ No ✓

CHAIN OF CUSTODY

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Page 1 of 1

SAMPLING SITE / CUSTOMER: Q1-2025 JCW-DEK Background Wells

PROJECT NUMBER: **25-0106**

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM:

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	REMARKS
25-0106-01	3/5/25	1015	GW	MW-15002	3	2	1						x	x	x	
-02	3/5/25	0940	GW	MW-15008	3	2	1						x	x	x	
-03	3/5/25	1050	GW	MW-15016	3	2	1						x	x	x	
-04	3/5/25	0957	GW	MW-15019	3	2	1						x	x	x	
-05	3/5/25	—	GW	DUP-Background	3	2	1						x	x	x	
-06	3/5/25	1100	W	FB- Background	1								x			

RELINQUISHED BY: Allison Watt — DATE/TIME: 0911 3/6/25 — RECEIVED BY:

RELINQUISHED BY: — DATE/TIME: — RECEIVED BY:

COMMENTS:

Received on Ice? ☑ Yes ☐ No — M&TE #: LS-028757

Temperature: 3.8-4.6 °C — Cal. Due Date: 01-16-26

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135 W. Trail St.
Jackson, MI 49201
phone 517-788-1251
fax 517-788-2533

To: JJFirlit, Karn/Weadock

From: EBlaj, T-258

Date: March 18, 2025

Subject: HMP GROUNDWATER MONITORING – JCW POREWATER – 2025 Q1

CC: HDRegister, P22-521

Darby Litz, Project Manager
TRC Environmental Corporation
1540 Eisenhower Place
Ann Arbor, MI 48108

Chemistry Project: 25-0104

TRC Environmental, Inc. conducted groundwater monitoring at the JCWeadock site during the week of 03/03/2025 for the 1st Quarter requirements, as specified in the Hydrogeological Monitoring Plan for the site. The samples were received for analysis by the Chemistry department of Laboratory Services on 03/06/2025.

The report that follows presents the results of the requested analytical testing; the results apply only to the samples as received. All samples have been analyzed in accordance with the 2016 TNI Standard and the applicable A2LA accreditation scope for Laboratory Services. Any exceptions to applicable test method criteria and standard compliance are noted in the Case Narrative or flagged with applicable qualifiers in the analytical results section.

Reviewed and approved by:

Emil Blaj
Sr. Technical Analyst
Project Lead

ilac-MRA A2LA ACCREDITED Certificate #1097.04

Testing performed in accordance with the A2LA scope of accredidation specified in the listed certificate.
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CASE NARRATIVE

I. Sample Receipt

All samples were received within hold time and in good conditions; no anomalies were noted on the attached Sample Log-In Shipment Inspection Form during sample check-in. Identification of all samples included in the work order/project is provided in the sample summary section. All sample preservation and temperature upon receipt was verified by the sample custodian and confirmed to meet method requirements.

II. Methodology

Unless otherwise indicated, sample preparation and analysis was performed in accordance with the corresponding test methods from "Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100); SW-846, "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods", USEPA (latest revisions), and Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WPCF, latest edition.

III. Results/Quality Control

Analytical results for this report are presented by laboratory sample ID, container, & aliquot number. Results for the field blanks, field duplicates, and recoveries of the field matrix spike & matrix spike duplicate samples are included in the results section; all other quality control data is listed in the Quality Control Summary associated with the particular test method, as appropriate. Unless specifically noted in the case narrative, all method quality control requirements have been met. If any results are qualified, the corresponding data flags/qualifiers are listed on the last page of the results section. Any additional information on method performance, when applicable, is presented in this section of the case narrative. When data flags are not needed, the qualifiers text box on the last page is left blank, and a statement confirms that no exceptions occurred.

DEFINITIONS / QUALIFIERS

The following qualifiers and/or acronyms are used in the report, where applicable:

Acronym	Description
RL	Reporting Limit
ND	Result not detected or below Reporting Limit
NT	Non TNI Analyte
LCS	Laboratory Control Sample
LRB	Laboratory Reagent Blank (also referred to as Method Blank)
DUP	Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
TDL	Target Detection Limit
SM	Standard Methods Compendium

Qualifier	Description
*	Generic data flag, applicable description added in the corresponding notes section
B	The analyte was detected in the LRB at a level which is significant relative to sample result
D	Reporting limit elevated due to dilution
E	Estimated due to result exceeding the linear range of the analyzer
H	The maximum recommended hold time was exceeded
I	Dilution required due to matrix interference; reporting limit elevated
J	Estimated due to result found above MDL but below PQL (or RL)
K	Reporting limit raised due to matrix interference
M	The precision for duplicate analysis was not met; RPD outside acceptance criteria
N	Non-homogeneous sample made analysis questionable
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Matrix Spike or Matrix Spike Duplicate recovery outside acceptance criteria
R	Result confirmed by new sample preparation and reanalysis
X	Other notation required; comment listed in sample notes and/or case narrative

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Work Order Sample Summary

Customer Name: Karn/Weadock Complex
Work Order ID: Q1-2025 Weadock Porewater Wells
Date Received: 3/6/2025
Chemistry Project: 25-0104

Sample #	Field Sample ID	Matrix	Sample Date	Site
25-0104-01	JCW-MW-18001	Groundwater	03/04/2025 06:22	JCW Solid Waste Disposal Area, Porewater
25-0104-02	JCW-MW-18004	Groundwater	03/04/2025 13:20	JCW Solid Waste Disposal Area, Porewater
25-0104-03	JCW-MW-18005	Groundwater	03/05/2025 06:36	JCW Solid Waste Disposal Area, Porewater
25-0104-04	JCW-MW-18006	Groundwater	03/05/2025 07:57	JCW Solid Waste Disposal Area, Porewater
25-0104-05	MW-50	Groundwater	03/04/2025 07:50	JCW Solid Waste Disposal Area, Porewater
25-0104-06	MW-51	Groundwater	03/04/2025 08:33	JCW Solid Waste Disposal Area, Porewater
25-0104-07	MW-52	Groundwater	03/04/2025 10:57	JCW Solid Waste Disposal Area, Porewater
25-0104-08	MW-53	Groundwater	03/04/2025 11:33	JCW Solid Waste Disposal Area, Porewater
25-0104-09	MW-53R	Groundwater	03/04/2025 12:07	JCW Solid Waste Disposal Area, Porewater
25-0104-10	MW-54R	Groundwater	03/04/2025 12:45	JCW Solid Waste Disposal Area, Porewater
25-0104-11	MW-55	Groundwater	03/04/2025 14:00	JCW Solid Waste Disposal Area, Porewater
25-0104-12	OW-57ROUT	Groundwater	03/05/2025 07:19	JCW Solid Waste Disposal Area, Porewater
25-0104-13	DUP-JCW-LF-01	Groundwater	03/04/2025 00:00	JCW Solid Waste Disposal Area, Porewater
25-0104-14	DUP-JCW-LF-02	Groundwater	03/05/2025 00:00	JCW Solid Waste Disposal Area, Porewater
25-0104-15	JCW-MW-18001 MS	Groundwater	03/04/2025 06:22	JCW Solid Waste Disposal Area, Porewater
25-0104-16	JCW-MW-18001 MSD	Groundwater	03/04/2025 06:22	JCW Solid Waste Disposal Area, Porewater
25-0104-17	FB-01	Water	03/05/2025 08:05	JCW Solid Waste Disposal Area, Porewater
25-0104-18	EB-01	Water	03/05/2025 08:09	JCW Solid Waste Disposal Area, Porewater

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18001**
Lab Sample ID: 25-0104-01
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/04/2025
Collect Time: 06:22 AM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-01-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	30		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	60		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	1610		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	405000		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	2		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	686		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	90		ug/L	10.0	03/10/2025	AB25-0312-10
Magnesium	98500		ug/L	1000.0	03/10/2025	AB25-0312-10
Molybdenum	ND		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	12		ug/L	2.0	03/10/2025	AB25-0312-10
Potassium	17700		ug/L	100.0	03/10/2025	AB25-0312-10
Selenium	2		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Sodium	396000		ug/L	1000.0	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	3		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-01-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-01-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	61400		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	1460000		ug/L	1000.0	03/12/2025	AB25-0312-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0104-01-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	2960		mg/L	10.0	03/07/2025	AB25-0307-02

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Analytical Report

Report Date: 03/18/25

Sample Site:	**JCW Solid Waste Disposal Area, Porewater (395457)**	Laboratory Project:	**25-0104**
Field Sample ID:	**JCW-MW-18001**	Collect Date:	03/04/2025
Lab Sample ID:	25-0104-01	Collect Time:	06:22 AM
Matrix:	Groundwater		

Alkalinity by SM 2320B

Aliquot #: 25-0104-01-C04-A01 **Analyst: DLS**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Alkalinity Total	716000		ug/L	10000.0	03/10/2025	AB25-0310-04
Alkalinity Bicarbonate	716000		ug/L	10000.0	03/10/2025	AB25-0310-04
Alkalinity Carbonate	ND		ug/L	10000.0	03/10/2025	AB25-0310-04

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18004**
Lab Sample ID: 25-0104-02
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/04/2025
Collect Time: 01:20 PM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-02-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	27		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	269		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	211000		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	2		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	398		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	26		ug/L	10.0	03/10/2025	AB25-0312-10
Molybdenum	ND		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	4		ug/L	2.0	03/10/2025	AB25-0312-10
Selenium	2		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-02-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-02-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	17000		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	460000		ug/L	1000.0	03/12/2025	AB25-0312-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0104-02-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1150		mg/L	10.0	03/07/2025	AB25-0307-02

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18005**
Lab Sample ID: 25-0104-03
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/05/2025
Collect Time: 06:36 AM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-03-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	2		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	77		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	1740		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	159000		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	2		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	750		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	3		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	29		ug/L	10.0	03/10/2025	AB25-0312-10
Molybdenum	5		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	9		ug/L	2.0	03/10/2025	AB25-0312-10
Selenium	2		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-03-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-03-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	46400		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	141000		ug/L	1000.0	03/12/2025	AB25-0312-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0104-03-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	854		mg/L	10.0	03/07/2025	AB25-0307-02

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18006**
Lab Sample ID: 25-0104-04
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/05/2025
Collect Time: 07:57 AM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-04-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	22		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	417		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	2800		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	122000		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	7350		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	43		ug/L	10.0	03/10/2025	AB25-0312-10
Molybdenum	ND		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	5		ug/L	2.0	03/10/2025	AB25-0312-10
Selenium	2		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	3		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-04-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-04-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	70200		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	42400		ug/L	1000.0	03/12/2025	AB25-0312-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0104-04-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	706		mg/L	10.0	03/07/2025	AB25-0307-02

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-50**
Lab Sample ID: 25-0104-05
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/04/2025
Collect Time: 07:50 AM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-05-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	4		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	200		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	2920		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	191000		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	2		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	707		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	66		ug/L	10.0	03/10/2025	AB25-0312-10
Molybdenum	5		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	3		ug/L	2.0	03/10/2025	AB25-0312-10
Selenium	2		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-05-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-05-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	46700		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	337000		ug/L	1000.0	03/12/2025	AB25-0312-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0104-05-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1140		mg/L	10.0	03/07/2025	AB25-0307-02

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Analytical Report

Report Date: 03/18/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-51**
Lab Sample ID: 25-0104-06
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/04/2025
Collect Time: 08:33 AM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-06-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	12		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	143		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	1020		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	165000		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	1		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	1330		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	27		ug/L	10.0	03/10/2025	AB25-0312-10
Molybdenum	ND		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	3		ug/L	2.0	03/10/2025	AB25-0312-10
Selenium	2		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-06-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-06-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	63300		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	432000		ug/L	1000.0	03/12/2025	AB25-0312-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0104-06-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1190		mg/L	10.0	03/07/2025	AB25-0307-02

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Analytical Report

Report Date: 03/18/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-52**
Lab Sample ID: 25-0104-07
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/04/2025
Collect Time: 10:57 AM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-07-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	77		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	894		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	253000		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	1		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	3350		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	30		ug/L	10.0	03/10/2025	AB25-0312-10
Molybdenum	ND		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Selenium	2		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-07-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-07-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	43000		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	449000		ug/L	1000.0	03/12/2025	AB25-0312-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0104-07-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1350		mg/L	10.0	03/07/2025	AB25-0307-02

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Analytical Report

Report Date: 03/18/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-53**
Lab Sample ID: 25-0104-08
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/04/2025
Collect Time: 11:33 AM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-08-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	1		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	578		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	5010		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	135000		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	521		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	40		ug/L	10.0	03/10/2025	AB25-0312-10
Molybdenum	ND		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	3		ug/L	2.0	03/10/2025	AB25-0312-10
Selenium	3		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-08-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-08-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	77300		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	107000		ug/L	1000.0	03/12/2025	AB25-0312-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0104-08-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	790		mg/L	10.0	03/07/2025	AB25-0307-02

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Analytical Report

Report Date: 03/18/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-53R**
Lab Sample ID: 25-0104-09
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/04/2025
Collect Time: 12:07 PM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-09-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	15		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	136		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	3100		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	159000		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	1290		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	54		ug/L	10.0	03/10/2025	AB25-0312-10
Molybdenum	ND		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	4		ug/L	2.0	03/10/2025	AB25-0312-10
Selenium	3		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-09-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-09-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	67200		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	71500		ug/L	1000.0	03/12/2025	AB25-0312-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0104-09-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	814		mg/L	10.0	03/07/2025	AB25-0307-02

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Analytical Report

Report Date: 03/18/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-54R**
Lab Sample ID: 25-0104-10
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/04/2025
Collect Time: 12:45 PM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-10-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	2		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	96		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	7610		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	214000		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	1		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	579		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	93		ug/L	10.0	03/10/2025	AB25-0312-10
Molybdenum	20		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	8		ug/L	2.0	03/10/2025	AB25-0312-10
Selenium	6		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	2		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-10-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/11/2025	AB25-0310-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-10-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	136000		ug/L	1000.0	03/13/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	229000		ug/L	1000.0	03/13/2025	AB25-0312-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0104-10-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1170		mg/L	10.0	03/07/2025	AB25-0307-02

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Analytical Report

Report Date: 03/18/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-55**
Lab Sample ID: 25-0104-11
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/04/2025
Collect Time: 02:00 PM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-11-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	13		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	202		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	1270		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	162000		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	1		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	8950		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	24		ug/L	10.0	03/10/2025	AB25-0312-10
Molybdenum	22		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	5		ug/L	2.0	03/10/2025	AB25-0312-10
Selenium	5		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-11-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/12/2025	AB25-0312-07

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-11-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	20200		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	98100		ug/L	1000.0	03/12/2025	AB25-0312-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0104-11-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	818		mg/L	10.0	03/07/2025	AB25-0307-02

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Analytical Report

Report Date: 03/18/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **OW-57ROUT**
Lab Sample ID: 25-0104-12
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/05/2025
Collect Time: 07:19 AM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-12-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	1		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	73		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	2070		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	130000		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	2		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	ND		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	26		ug/L	10.0	03/10/2025	AB25-0312-10
Molybdenum	6		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	15		ug/L	2.0	03/10/2025	AB25-0312-10
Selenium	1		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-12-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/12/2025	AB25-0312-07

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-12-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	84700		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	68100		ug/L	1000.0	03/12/2025	AB25-0312-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0104-12-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	798		mg/L	10.0	03/07/2025	AB25-0307-02

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Analytical Report

Report Date: 03/18/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **DUP-JCW-LF-01**
Lab Sample ID: 25-0104-13
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/04/2025
Collect Time: 12:00 AM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-13-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	4		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	198		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	2950		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	189000		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	2		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	682		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	65		ug/L	10.0	03/10/2025	AB25-0312-10
Molybdenum	5		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	5		ug/L	2.0	03/10/2025	AB25-0312-10
Selenium	2		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-13-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/12/2025	AB25-0312-07

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-13-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	46600		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	332000		ug/L	1000.0	03/12/2025	AB25-0312-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0104-13-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1130		mg/L	10.0	03/07/2025	AB25-0307-02

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Analytical Report

Report Date: 03/18/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **DUP-JCW-LF-02**
Lab Sample ID: 25-0104-14
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/05/2025
Collect Time: 12:00 AM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-14-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	23		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	408		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	2880		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	120000		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	7290		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	43		ug/L	10.0	03/10/2025	AB25-0312-10
Molybdenum	ND		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	5		ug/L	2.0	03/10/2025	AB25-0312-10
Selenium	2		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	3		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-14-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/12/2025	AB25-0312-07

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-14-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	70400		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	45300		ug/L	1000.0	03/12/2025	AB25-0312-02

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0104-14-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	712		mg/L	10.0	03/07/2025	AB25-0307-02

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18001 MS**
Lab Sample ID: 25-0104-15
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/04/2025
Collect Time: 06:22 AM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-15-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	108		%	1.0	03/10/2025	AB25-0312-10
Arsenic	100		%	1.0	03/10/2025	AB25-0312-10
Barium	107		%	5.0	03/10/2025	AB25-0312-10
Beryllium	92		%	1.0	03/10/2025	AB25-0312-10
Boron	110		%	20.0	03/10/2025	AB25-0312-10
Cadmium	108		%	0.2	03/10/2025	AB25-0312-10
Calcium	96.2		%	1000.0	03/10/2025	AB25-0312-10
Chromium	95		%	1.0	03/10/2025	AB25-0312-10
Cobalt	92		%	6.0	03/10/2025	AB25-0312-10
Copper	83		%	1.0	03/10/2025	AB25-0312-10
Iron	109		%	20.0	03/10/2025	AB25-0312-10
Lead	94		%	1.0	03/10/2025	AB25-0312-10
Lithium	98		%	10.0	03/10/2025	AB25-0312-10
Molybdenum	115		%	5.0	03/10/2025	AB25-0312-10
Nickel	88		%	2.0	03/10/2025	AB25-0312-10
Selenium	96		%	1.0	03/10/2025	AB25-0312-10
Silver	92.6		%	0.2	03/10/2025	AB25-0312-10
Thallium	96		%	2.0	03/10/2025	AB25-0312-10
Vanadium	100		%	2.0	03/10/2025	AB25-0312-10
Zinc	90		%	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-15-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	95.0		%	0.2	03/12/2025	AB25-0312-07

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-15-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	111		%	1000.0	03/12/2025	AB25-0312-02
Fluoride	93		%	1000.0	03/12/2025	AB25-0312-02
Sulfate	113		%	1000.0	03/12/2025	AB25-0312-02

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Analytical Report

Report Date: 03/18/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18001 MSD**
Lab Sample ID: 25-0104-16
Matrix: Groundwater

Laboratory Project: **25-0104**
Collect Date: 03/04/2025
Collect Time: 06:22 AM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-16-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	105		%	1.0	03/10/2025	AB25-0312-10
Arsenic	98		%	1.0	03/10/2025	AB25-0312-10
Barium	104		%	5.0	03/10/2025	AB25-0312-10
Beryllium	92		%	1.0	03/10/2025	AB25-0312-10
Boron	113		%	20.0	03/10/2025	AB25-0312-10
Cadmium	106		%	0.2	03/10/2025	AB25-0312-10
Calcium	99.0		%	1000.0	03/10/2025	AB25-0312-10
Chromium	94		%	1.0	03/10/2025	AB25-0312-10
Cobalt	93		%	6.0	03/10/2025	AB25-0312-10
Copper	81		%	1.0	03/10/2025	AB25-0312-10
Iron	111		%	20.0	03/10/2025	AB25-0312-10
Lead	95		%	1.0	03/10/2025	AB25-0312-10
Lithium	96		%	10.0	03/10/2025	AB25-0312-10
Molybdenum	115		%	5.0	03/10/2025	AB25-0312-10
Nickel	89		%	2.0	03/10/2025	AB25-0312-10
Selenium	92		%	1.0	03/10/2025	AB25-0312-10
Silver	94.9		%	0.2	03/10/2025	AB25-0312-10
Thallium	98		%	2.0	03/10/2025	AB25-0312-10
Vanadium	99		%	2.0	03/10/2025	AB25-0312-10
Zinc	88		%	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-16-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	96.0		%	0.2	03/12/2025	AB25-0312-07

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-16-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	112		%	1000.0	03/12/2025	AB25-0312-02
Fluoride	93		%	1000.0	03/12/2025	AB25-0312-02
Sulfate	113		%	1000.0	03/12/2025	AB25-0312-02

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Analytical Report

Report Date: 03/18/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **FB-01**
Lab Sample ID: 25-0104-17
Matrix: Water

Laboratory Project: **25-0104**
Collect Date: 03/05/2025
Collect Time: 08:05 AM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-17-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	ND		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	ND		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	ND		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	ND		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	ND		ug/L	10.0	03/10/2025	AB25-0312-10
Molybdenum	ND		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Selenium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-17-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/12/2025	AB25-0312-07

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-17-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	ND		ug/L	1000.0	03/12/2025	AB25-0312-02

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Analytical Report

Report Date: 03/18/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **EB-01**
Lab Sample ID: 25-0104-18
Matrix: Water

Laboratory Project: **25-0104**
Collect Date: 03/05/2025
Collect Time: 08:09 AM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0104-18-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	ND		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	ND		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	ND		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	ND		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	ND		ug/L	10.0	03/10/2025	AB25-0312-10
Molybdenum	ND		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Selenium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0104-18-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/12/2025	AB25-0312-07

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0104-18-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	ND		ug/L	1000.0	03/12/2025	AB25-0312-02

Data Qualifiers	Exception Summary
	No exceptions occurred.

General Standard Operating Procedure

TITLE: SAMPLE LOG-IN – SHIPMENT INSPECTION FORM

Project Number: 25-0104 **Inspection Date:** 3.06.25 **Inspection By:** LMO

Sample Origin/Project Name: Q1-2025 JC Weadock Porewater Wells

Shipment Delivered By: Enter the type of shipment carrier.

Inter-Company Mail_____ FedEx _____ UPS _____ USPS _____

Tracking Number: _____ Other/Carry In (whom) TRC

Shipping Containers: Enter the type and number of shipping containers received.

Cooler ✓ Cardboard Box _____ Custom Case _____ Envelope/Mailer _____

Loose/Unpackaged Containers _____ Other _____

Condition of Shipment: Enter the as-received condition of the shipment container.

Damaged Shipment Observed: None ✓ Dented _____ Leaking _____

Other _____

Shipment Security: Enter if any of the shipping containers were opened before receipt.

Shipping Containers Received: Opened _____ Sealed ✓ N/A _____

Enclosed Documents: Enter the type of documents enclosed with the shipment.

CoC ✓ Work Request _____ Air Data Sheet_____ Other_____

Temperature of Containers: Measure the temperature of several sample containers.

As-Received Temperature Range 0.9 - 5.6 °C Samples Received on Ice: Yes ✓ No____

M&TE # and Expiration LS028757 / 01.16.26

Number and Type of Containers: Enter the type and total number of sample containers received.

Container Type	Water	Soil	Other	Broken	Leaking
VOA (40mL or 60mL)	2				
Quart/Liter (g / p)					
9-oz (amber glass jar)					
2-oz (amber glass)					
125 mL (plastic)	36				
24 mL vial (glass)					
250 mL (plastic)	14				
Other					

All sample pH meeting criteria? Yes ✓ No___ N/A___ **pH paper lot #** 210224 **Exp. Date** 12.01.24

Indicate if an Exception Report (Page 2 of 2) is needed: Yes ____ No ✓

CHAIN OF CUSTODY

EB030625

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SAMPLING SITE / CUSTOMER: Q1-2025 JC Weadock Porewater Wells	PROJECT NUMBER: 25-0104	SAP CC or WO#:	ANALYSIS REQUESTED (Attach List if More Space is Needed)
		REQUESTER: Harold Register	
SAMPLING TEAM:	TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____		
SEND REPORT TO: Joseph Firlit	email:	phone:	
COPY TO: Harold Register; TRC	MATRIX CODES: GW = Groundwater, WW = Wastewater, W = Water / Aqueous Liquid, S = Soil / General Solid, O = Oil, OX = Other _____, SL = Sludge, A = Air, WP = Wipe, WT = General Waste		

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	HNO_3	H_2SO_4	NaOH	HCl	MeOH	Other	Total Metals	Anions	TDS	Alkalinity	QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____ REMARKS
25-0104-01	3/4/25	0633	GW	JCW-MW-18001	5	4	1						x	x	x	x	
-02	3/4/25	1320	GW	JCW-MW-18004	3	2	1						x	x	x		
-03	3/5/25	0636	GW	JCW-MW-18005	3	2	1						x	x	x		
-04	3/5/25	0757	GW	JCW-MW-18006	3	2	1						x	x	x		
-05	3/4/25	0750	GW	MW-50	3	2	1						x	x	x		
-06	3/4/25	0833	GW	MW-51	3	2	1						x	x	x		
-07	3/4/25	1057	GW	MW-52	3	2	1						x	x	x		
-08	3/4/25	1133	GW	MW-53	3	2	1						x	x	x		
-09	3/4/25	1207	GW	MW-53R	3	2	1						x	x	x		
-10	3/4/25	1241	GW	MW-54R	3	2	1						x	x	x		
-11	3/4/25	1400	GW	MW-55	3	2	1						x	x	x		
-12	3/5/25	0749	GW	OW-57ROUT	3	2	1						x	x	x		

RELINQUISHED BY: [signature]	DATE/TIME: 0837 3/6/25	RECEIVED BY: [signature]
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:

COMMENTS:

Received on Ice? ☑ Yes ☐ No M&TE #: LS028757

Temperature: 0.9-5.6 °C Cal. Due Date: 01-16-26

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135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

EB 030625

SAMPLING SITE / CUSTOMER: Q1-2025 JC Weadock Porewater Wells	PROJECT NUMBER: 25-0104	SAP CC or WO#:	
SAMPLING TEAM:	TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____	REQUESTER: Harold Register	
SEND REPORT TO: Joseph Firlit	email:	phone:	
COPY TO: Harold Register / TRC	MATRIX CODES: GW = Groundwater, WW = Wastewater, W = Water / Aqueous Liquid, S = Soil / General Solid, O = Oil, OX = Other _____, SL = Sludge, A = Air, WP = Wipe, WT = General Waste		

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	HNO_3	H_2SO_4	NaOH	HCl	MeOH	Other	Total Metals	Anions	TDS	Alkalinity						REMARKS
25-0104-13	3/4/25	—	GW	DUP-JCW-LF-01	3	2	1						x	x	x							
-14	3/5/25	—	GW	DUP-JCW-LF-02	3	2	1						x	x	x							
-15	3/4/25	0623	GW	JCW-MW-18001 MS	2	1	1						x	x								
-16	3/4/25	0632	GW	JCW-MW-18001 MSD	2	1	1						x	x								
-17	3/5/25	0805	GW	FB-01	2	1	1						x	x								
-18	3/5/25	0809	W	EB-01	2	1	1						x	x								

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT:
- ☐ NPDES
- ☒ TNI
- ☐ ISO 17025
- ☐ 10 CFR 50 APP. B
- ☐ INTERNAL INFO
- ☐ OTHER _____

RELINQUISHED BY: Ashley Klett	DATE/TIME: 0837 3/6/25	RECEIVED BY:
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:

COMMENTS:

Received on Ice? ☑ Yes ☐ No M&TE #: LS028757

Temperature: 0.9 - 5.6 °C Cal. Due Date: 01-16-26

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135 W. Trail St.
Jackson, MI 49201

phone 517-788-1251
fax 517-788-2533

To: JJFirlit, Karn/Weadock

From: EBlaj, T-258

Date: March 18, 2025

Subject: HMP GROUNDWATER MONITORING – JCWEADOCK ASD – 2025 Q1

CC: HDRegister, P22-521

Darby Litz, Project Manager
TRC Environmental Corporation
1540 Eisenhower Place
Ann Arbor, MI 48108

Chemistry Project: 25-0105

TRC Environmental, Inc. conducted groundwater monitoring at the JCWeadock site during the week of 03/03/2025 for the 1st Quarter requirements, as specified in the Hydrogeological Monitoring Plan for the site. The sample was received for analysis by the Chemistry department of Laboratory Services on 03/06/2025.

The report that follows presents the results of the requested analytical testing; the results apply only to the samples as received. All samples have been analyzed in accordance with the 2016 TNI Standard and the applicable A2LA accreditation scope for Laboratory Services. Any exceptions to applicable test method criteria and standard compliance are noted in the Case Narrative, or flagged with applicable qualifiers in the analytical results section.

Reviewed and approved by:

Emil Blaj
Sr. Technical Analyst
Project Lead

ilac-MRA A2LA ACCREDITED Certificate #1097.04

Testing performed in accordance with the A2LA scope of accredidation specified in the listed certificate.
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CASE NARRATIVE

I. Sample Receipt

All samples were received within hold time and in good conditions; no anomalies were noted on the attached Sample Log-In Shipment Inspection Form during sample check-in. Identification of all samples included in the work order/project is provided in the sample summary section. All sample preservation and temperature upon receipt was verified by the sample custodian and confirmed to meet method requirements.

II. Methodology

Unless otherwise indicated, sample preparation and analysis was performed in accordance with the corresponding test methods from "Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100); SW-846, "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods", USEPA (latest revisions), and Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WPCF, latest edition.

III. Results/Quality Control

Analytical results for this report are presented by laboratory sample ID, container, & aliquot number. Results for the field blanks, field duplicates, and recoveries of the field matrix spike & matrix spike duplicate samples are included in the results section; all other quality control data is listed in the Quality Control Summary associated with the particular test method, as appropriate. Unless specifically noted in the case narrative, all method quality control requirements have been met. If any results are qualified, the corresponding data flags/qualifiers are listed on the last page of the results section. Any additional information on method performance, when applicable, is presented in this section of the case narrative. When data flags are not needed, the qualifiers text box on the last page is left blank, and a statement confirms that no exceptions occurred.

DEFINITIONS / QUALIFIERS

The following qualifiers and/or acronyms are used in the report, where applicable:

Acronym	Description
RL	Reporting Limit
ND	Result not detected or below Reporting Limit
NT	Non TNI Analyte
LCS	Laboratory Control Sample
LRB	Laboratory Reagent Blank (also referred to as Method Blank)
DUP	Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
TDL	Target Detection Limit
SM	Standard Methods Compendium

Qualifier	Description
*	Generic data flag, applicable description added in the corresponding notes section
B	The analyte was detected in the LRB at a level which is significant relative to sample result
D	Reporting limit elevated due to dilution
E	Estimated due to result exceeding the linear range of the analyzer
H	The maximum recommended hold time was exceeded
I	Dilution required due to matrix interference; reporting limit elevated
J	Estimated due to result found above MDL but below PQL (or RL)
K	Reporting limit raised due to matrix interference
M	The precision for duplicate analysis was not met; RPD outside acceptance criteria
N	Non-homogeneous sample made analysis questionable
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Matrix Spike or Matrix Spike Duplicate recovery outside acceptance criteria
R	Result confirmed by new sample preparation and reanalysis
X	Other notation required; comment listed in sample notes and/or case narrative

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Work Order Sample Summary

Customer Name: Karn/Weadock Complex
Work Order ID: Q1-2025 Weadock ASD
Date Received: 3/6/2025
Chemistry Project: 25-0105

Sample #	Field Sample ID	Matrix	Sample Date	Site
25-0105-01	JCW-OW-18001	Groundwater	03/04/2025 07:07	JC Weadock ASD

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Analytical Report

Report Date: 03/18/25

Sample Site: **JC Weadock ASD**
Field Sample ID: **JCW-OW-18001**
Lab Sample ID: 25-0105-01
Matrix: Groundwater

Laboratory Project: **25-0105**
Collect Date: 03/04/2025
Collect Time: 07:07 AM

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0105-01-C01-A01 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Arsenic	173		ug/L	1.0	03/10/2025	AB25-0312-10
Barium	86		ug/L	5.0	03/10/2025	AB25-0312-10
Beryllium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Boron	2150		ug/L	20.0	03/10/2025	AB25-0312-10
Cadmium	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Calcium	216000		ug/L	1000.0	03/10/2025	AB25-0312-10
Chromium	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Cobalt	ND		ug/L	6.0	03/10/2025	AB25-0312-10
Copper	1		ug/L	1.0	03/10/2025	AB25-0312-10
Iron	11400		ug/L	20.0	03/10/2025	AB25-0312-10
Lead	ND		ug/L	1.0	03/10/2025	AB25-0312-10
Lithium	54		ug/L	10.0	03/10/2025	AB25-0312-10
Magnesium	47500		ug/L	1000.0	03/10/2025	AB25-0312-10
Manganese	378		ug/L	5.0	03/10/2025	AB25-0312-10
Molybdenum	5		ug/L	5.0	03/10/2025	AB25-0312-10
Nickel	7		ug/L	2.0	03/10/2025	AB25-0312-10
Potassium	12300		ug/L	100.0	03/10/2025	AB25-0312-10
Selenium	3		ug/L	1.0	03/10/2025	AB25-0312-10
Silver	ND		ug/L	0.2	03/10/2025	AB25-0312-10
Sodium	90100		ug/L	1000.0	03/10/2025	AB25-0312-10
Thallium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Vanadium	ND		ug/L	2.0	03/10/2025	AB25-0312-10
Zinc	ND		ug/L	10.0	03/10/2025	AB25-0312-10

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0105-01-C01-A02 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	03/12/2025	AB25-0312-07

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0105-01-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	94800		ug/L	1000.0	03/12/2025	AB25-0312-02
Fluoride	ND		ug/L	1000.0	03/12/2025	AB25-0312-02
Sulfate	368000		ug/L	1000.0	03/12/2025	AB25-0312-02

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Analytical Report

Report Date: 03/18/25

Sample Site: **JC Weadock ASD**
Field Sample ID: **JCW-OW-18001**
Lab Sample ID: 25-0105-01
Matrix: Groundwater

Laboratory Project: **25-0105**
Collect Date: 03/04/2025
Collect Time: 07:07 AM

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0105-01-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1180		mg/L	10.0	03/07/2025	AB25-0307-03

Alkalinity by SM 2320B

Aliquot #: 25-0105-01-C04-A01 **Analyst: DLS**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Alkalinity Total	420000		ug/L	10000.0	03/10/2025	AB25-0310-04
Alkalinity Bicarbonate	420000		ug/L	10000.0	03/10/2025	AB25-0310-04
Alkalinity Carbonate	ND		ug/L	10000.0	03/10/2025	AB25-0310-04

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Analytical Report

Report Date: 03/18/25

Data Qualifiers	Exception Summary
	No exceptions occurred.

TITLE: SAMPLE LOG-IN – SHIPMENT INSPECTION FORM

Project Number: 25-0105 **Inspection Date:** 3.06.25 **Inspection By:** LMO

Sample Origin/Project Name: Q1-2025 JC Weadock ASD

Shipment Delivered By: Enter the type of shipment carrier.

Inter-Company Mail_____ FedEx _____ UPS _____ USPS _____

Tracking Number: _____ Other/Carry In (whom) TRC

Shipping Containers: Enter the type and number of shipping containers received.

Cooler ✓ Cardboard Box _____ Custom Case _____ Envelope/Mailer _____

Loose/Unpackaged Containers _____ Other _____

Condition of Shipment: Enter the as-received condition of the shipment container.

Damaged Shipment Observed: None ✓ Dented _____ Leaking _____

Other _____

Shipment Security: Enter if any of the shipping containers were opened before receipt.

Shipping Containers Received: Opened _____ Sealed ✓ N/A _____

Enclosed Documents: Enter the type of documents enclosed with the shipment.

CoC ✓ Work Request _____ Air Data Sheet_____ Other_____

Temperature of Containers: Measure the temperature of several sample containers.

As-Received Temperature Range 2.4 °C Samples Received on Ice: Yes ✓ No____

M&TE # and Expiration L5028757 / 1.15.26

Number and Type of Containers: Enter the type and total number of sample containers received.

Container Type	Water	Soil	Other	Broken	Leaking
VOA (40mL or 60mL)	2				
Quart/Liter (g / p)					
9-oz (amber glass jar)					
2-oz (amber glass)					
125 mL (plastic)	2				
24 mL vial (glass)					
250 mL (plastic)	1				
Other					

All sample pH meeting criteria? Yes ✓ No___ N/A___ **pH paper lot #** 210224 **Exp. Date** 12.01.26

Indicate if an Exception Report (Page 2 of 2) is needed: Yes ____ No ✓

CHAIN OF CUSTODY

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135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

Page 1 of 1

EB 030625

SAMPLING SITE / CUSTOMER: Q1-2025 JC Weadock ASD	PROJECT NUMBER: 25-0105	SAP CC or WO#:	ANALYSIS REQUESTED (Attach List if More Space is Needed)
SAMPLING TEAM:	TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____	REQUESTER: Harold Register	QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____
SEND REPORT TO: Joseph Firlit	email:	phone:	
COPY TO: Harold Register; TRC	MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste		

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	HNO_3	H_2SO_4	NaOH	HCl	MeOH	Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0105-01	3/4/25	0707	GW	JCW-OW-18001	5	4	1						x	x	x	x	

RELINQUISHED BY: [signature] DATE/TIME: 0837 3/6/25 RECEIVED BY: [signature]

RELINQUISHED BY: DATE/TIME: RECEIVED BY:

COMMENTS:

Received on Ice? ☑ Yes ☐ No M&TE #: CS028757

Temperature: 2.4 °C Cal. Due Date: 01-16-26

Appendix F
Field Records

TRC

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance CEC Karn LF: 2025 GW Compliance CEC Karn BAP/LI: 2025 GW Compliance
PROJECT NUMBER:	634698.0000.0000 634694.0000.0000 634695.0000.0000
PROJECT MANAGER:	Darby Litz
SITE LOCATION:	2742 Weadock Hwy Essexville, MI 48732
DATES OF FIELDWORK:	3/3/25 TO 3/3/25
PURPOSE OF FIELDWORK:	First Quarter Sampling Event 2025 Water levels
WORK PERFORMED BY:	~~Jake Krenz~~, Javier Jasso, ~~Ashlyn Kast~~

3/6/25
SIGNED DATE

3-6-25
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME:	CEC Karn LF: 2025 GW Complian	DATE: 3/3/25	TIME ARRIVED: 0930
PROJECT NUMBER:	634694.0000.0000	AUTHOR: JK, JJ, AK	TIME LEFT: 1430

WEATHER

TEMPERATURE: 20 °F WIND: 10 MPH VISIBILITY: Overcast

WORK / SAMPLING PERFORMED

Water levels

sitewide for Karn and Weadock JK 3-6-25

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

SIGNED 3/4/25 DATE

CHECKED BY 3-6-25 DATE

TRC

WATER LEVEL DATA

PROJECT NAME: CEC Karn/Weadock: ~~2024~~ 2025 GW Compliance	DATE: 3/3/25
PROJECT NUMBER: 634694 / 634695 / 634698	AUTHOR: ~~AW~~ (JJ) ~~JK~~

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
MW-01	1101	TOC	18.90	24.26	NA	NM
MW-02	1100	TOC	19.22	30.30	NA	NM
MW-03	1106	TOC	19.28	30.75	NA	NM
MW-04	1607	TOC	19.94	33.80	NA	NM
MW-06	1120	TOC	10.71	24.74	NA	NM
MW-08	1143	TOC	18.20	27.50	NA	NM
MW-10	1208	TOC	17.39	24.85	NA	NM
MW-12	1236	TOC	19.69	23.85	NA	NM
MW-14	1300	TOC	15.40	19.23	NA	NM
MW-16	1312	TOC	17.72	21.23	NA	NM
MW-17	1348	TOC	19.63	24.34	NA	NM
MW-18	0954	TOC	27.90	39.65	NA	NM
MW-19	1016	TOC	18.70	30.00	NA	NM
MW-20	1031	TOC	54.33	72.00	NA	NM
MW-21	1022	TOC	52.50	60.58	NA	NM
MW-22	1146	TOC	18.00	29.59	NA	NM
MW-23	1035	TOC	~~DRY 32.90~~	~~64.05~~ 1305	NA	NM
OW-01	1230	TOC	52.93	64.00	NA	NM
OW-02	1148	TOC	16.93	21.95	NA	NM
OW-03	1201	TOC	18.04	28.78	NA	NM
OW-04	1257	TOC	11.25	16.26	NA	NM
OW-05	1310	TOC	15.00	19.00	NA	NM
OW-06	1336	TOC	23.21	24.86	NA	NM
OW-07	1332	TOC	16.23	23.91	NA	NM
OW-08	1332	TOC	11.28	17.96	NA	NM

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

SIGNED 3/6/25 DATE

CHECKED 3-6-25 DATE

REVISED 04/2019

TRC

WATER LEVEL DATA

PROJECT NAME:	CEC Karn/Weadock: ~~2024~~ 2025 GW Compliance	DATE:	3/7/25
PROJECT NUMBER:	634694 / 634695 / 634698	AUTHOR:	Jake Krenz, Javier Jasso, Anc

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
OW-09	1330	TOC	10.45	12.77	NA	NM
OW-10	1355	TOC	8.11	17.95	NA	NM
OW-11	0948	TOC	25.05	25.56	NA	NM
OW-12		TOC	Decommissioned		NA	NM
~~OW-13~~		~~TOC~~			~~NA~~	~~NM~~
OW-15	0937	TOC	3.50	19.75	NA	NM
EW-01	1205	TOC	14.35	DRY	NA	NM
EW-02	1215	TOC	16.15		NA	NM
EW-03	1227	TOC	15.78		NA	NM
EW-04	1244	TOC	15.80		NA	NM
EW-05	1252	TOC	15.05		NA	NM
EW-06	1302	TOC	11.38		NA	NM
PZ-01	1154	TOC	13.76	14.10	NA	NM
PZ-02	1158	TOC	15.68	23.10	NA	NM
PZ-03	1210	TOC	15.68	19.60	NA	NM
PZ-04	1217	TOC	15.74	20.95	NA	NM
PZ-05	1223	TOC	14.75	21.18	NA	NM
PZ-06	1246	TOC	16.38	23.35	NA	NM
PZ-07	1246	TOC	16.00	21.00	NA	NM
PZ-08	1248	TOC	15.71	20.54	NA	NM
PZ-09	1255	TOC	16.35	21.61	NA	NM
PZ-10	1305	TOC	11.88	17.74	NA	NM
PZ-11	1307	TOC	14.80	18.10	NA	NM

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

3/6/25 — SIGNED — DATE

3-6-25 — CHECKED — DATE

TRC

WATER LEVEL DATA

PROJECT NAME: CEC Karn/Weadock: ~~2024~~ 2025 GW Compliance	DATE: 3/3/25
PROJECT NUMBER: 634695/634698/634694	AUTHOR: J. Jasso

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
DEK-MW-18001	0943		9.80	19.76		
~~DEK-MW-15002~~						
DEK-MW-15003	0956		20.05	27.09		
DEK-MW-15004	0957		30.05	41.70		
DEK-MW-15005	1000		11.38	22.30		
~~DEK-MW-15006~~						
DEK-MW-22001	1003		11.58	24.15		
DEK-MW-22002	1012		13.05	26.85		
DEK-MW-22003	1011		13.00	24.40		
DEK-MW-22004	1005		11.57	22.40		
DEK-MW-22005	1007		10.00	2030		
DEK-MW-22006	1009		10.65	17.10		
~~MW-15002~~						
~~MW-15008~~						
~~MW-15016~~						
~~MW-15019~~						
TW-21-003	1040		19.70	26.20		
TW-21-002	1050		14.48	20.51		
TW-21-001	1054		14.35	17.59		
TW-21-013	1109		24.54	36.50		
TW-21-012S	1114		21.20	27.85		
TW-21-012I	1115		21.50	36.62		
TW-21-012D	1117		21.85	54.82		
TW-21-011S	1122		22.90	27.60		
TW-21-011I	1123		22.68	35.30		

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

3/6/25
SIGNED DATE

3-6-25
CHECKED DATE

REVISED 04/2019

TRC

WATER LEVEL DATA

PROJECT NAME:	CEC KARN LF ~~2023~~ 2025 GW COMLPIANCE	DATE: 3/3/25
PROJECT NUMBER:	~~514404.0000.0000~~ 634694	AUTHOR: J JASSO

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
TW-21-011D	1124		23.29	52.35		
TW-21-010	1128		20.93	28.60		
TW-21-009	1131		21.06	27.91		
TW-21-008	1316		15.45	19.80		
TW-21-007	1318		14.30	18.80		
TW-21-006	1321		11.48	13.50		
TW-21-005	1325		12.17	14.80		
TW-21-004	1327		14.65	16.60		
~~DEK-MW~~						
DEK-MW-15002		TOC	8.20	15.72		
DEK-MW-15006		TOC	11.08	~~14.5~~ 21.50		
OW-13		TOC	5.40	~~21.50~~ 14.57		

Water levels collected 3-4-25
unable to access gated demolition area on 3-3-24 (JK)

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

SIGNED 3/9/25 DATE

CHECKED 3-6-25 DATE

REVISED 04/2019

TRC

WATER LEVEL DATA

PROJECT NAME: CEC Weadock LF: ~~2024~~ 2025 GW Compliance	DATE: 3/3/25
PROJECT NUMBER: ~~553828.0000.0000~~ 634698	AUTHOR: Javier Jasso

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
JCW-MW-18001	0641	TOC	18.60	23.75	NA	NM
JCW-MW-18004	0723	TOC	13.10	14.72	NA	NM
JCW-MW-18005	0624	TOC	9.52	16.26	NA	NM
JCW-MW-18006	0643	TOC	15.15	23.68	NA	NM
JCW-OW-18001	0643	TOC	7.33	20.35	NA	NM
JCW-OW-18002	0648	TOC	7.32	19.76	NA	NM
JCW-OW-18003	0701	TOC	8.70	DNM	NA	NM
JCW-OW-18004	0725	TOC	6.71	14.87	NA	NM
JCW-OW-18006	0644	TOC	10.05	23.45	NA	NM
LH-103R	0731	TOC	22.50	33.46	NA	NM
LH-104	0816	TOC	7.85	14.00	NA	NM
~~JCW~~-MW-20	0826	TOC	6.40	14.00	NA	NM
MW-50	0646	TOC	15.00	19.40	NA	NM
MW-51	0691	TOC	15.73	20.00	NA	NM
MW-52	0700	TOC	16.30	19.74	NA	NM
MW-53	0702	TOC	14.40	18.18	NA	NM
MW-53R	0711	TOC	15.14	18.80	NA	NM
MW-54R	0716	TOC	14.46	17.22	NA	NM
MW-55	0659	TOC	14.60	16.38	NA	NM
MW-58	0709	TOC	5.75	18.23	NA	NM
OW-51	0653	TOC	9.04	17.26	NA	NM
OW-53	0708	TOC	7.46	18.00	NA	NM
OW-54	0717	TOC	6.85	16.48	NA	NM
OW-55	0821	TOC	6.00	18.42	NA	NM
OW-56	0824	TOC	5.45	19.27	NA	NM

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

SIGNED 3/4/25 DATE

CHECKED 3-6-25 DATE

REVISED 04/2019

TRC

WATER LEVEL DATA

PROJECT NAME:	CEC Weadock LF: ~~2024~~ 2025 GW Compliance	DATE: 3/3/25
PROJECT NUMBER:	~~553828.0000.0000~~ 634698	AUTHOR: Javier Jasso

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
OW-56R	0830	TOC	5.45	20.23	NA	NM
OW-57 IN	0837	TOC	5.65	19.60	NA	NM
OW-57R IN	0838	TOC	5.44	20.18	NA	NM
OW-57 OUT	0834	TOC	9.50	20.20	NA	NM
OW-57R OUT	0836	TOC	10.90	19.46	NA	NM
JCW-MW-15007	0611	TOC	4.20	8.95	NA	NM
JCW-MW-15009	0621	TOC	10.40	13.00	NA	NM
JCW-MW-15010	0627	TOC	14.95	19.57	NA	NM
JCW-MW-15028	0615	TOC	6.98	25.10	NA	NM
MW-106B	0617		9.58	41.15		
JCW-MW15002	0622		8.75	DNM		
MW-107	0634		10.38	DNM		
JCW MW15027	0703		15.84	DNM		
JCW MW-15026	0713		14.03	DNM		
MW-16	0716		14.70	DNM		
JCW MW15021	0728		9.85	DNM		
MW-19	0850		10.18	20.83		
MW-15008	0901		4.60	17.40		
MW-15020	0902		5.38	17.80		
MW-116B	0906		5.60	38.80		
MW-15024	0911		6.44	17.17		
MW-15019	0914		5.87	16.86		
MW-15018	0916		5.96	9.94		
MW-15002	0921		7.20	16.80		
JCW MW15001	0922		8.00	DNM		

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

SIGNED 3/6/25 DATE

CHECKED 3-6-25 DATE

REVISED 04/2019

TRC

WATER LEVEL DATA

PROJECT NAME: CEC WEADOCK LF ~~2023~~ 2025 GW COMLPIANCE	DATE: 3/3/25
PROJECT NUMBER: ~~514404.0000.0000~~ 634698	AUTHOR: J JASSO

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
MW 150bb	0925	TOC	3.90	8.10	———	———

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

SIGNED 3/6/25 DATE

CHECKED 3-6-25 DATE

REVISED 04/2019

TRC

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance
PROJECT NUMBER:	634698.0000.0000
PROJECT MANAGER:	Darby Litz
SITE LOCATION:	2742 Weadock Hwy Essexville, MI 48732
DATES OF FIELDWORK:	3/3/25 TO 3/5/25
PURPOSE OF FIELDWORK:	First Quarter 2025 Groundwater Sampling
WORK PERFORMED BY:	Javier Jasso

3/6/25
SIGNED DATE

3-6-25
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME:	CEC Weadock LF: 2025 GW Com	DATE: 3/3/25	TIME ARRIVED: 0800
PROJECT NUMBER:	634698.0000.0000	AUTHOR: AW JK (JJ)	TIME LEFT: 0930

WEATHER		
TEMPERATURE: 19 °F	WIND: 10 MPH	VISIBILITY: Overcast

WORK / SAMPLING PERFORMED

Water levels

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

SIGNED 3/6/25 DATE

CHECKED BY 3-6-25 DATE

TRC

GENERAL NOTES

PROJECT NAME:	CEC Weadock LF: 2025 GW Com	DATE: 3/4/25	TIME ARRIVED: 0530
PROJECT NUMBER:	634698.0000.0000	AUTHOR: AW JK JJ	TIME LEFT: 1420

WEATHER

TEMPERATURE: 34 °F WIND: 15 MPH VISIBILITY: Overcast Rain

WORK / SAMPLING PERFORMED

Wells Sampled MW 18001, DUP#01, MW 18001, MS+MSD MW 50, DUP#01, MW 51, MW 52, MW 53, MW 53R, MW 54R MW 55,

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

SIGNED 3/6/25 DATE CHECKED BY 3-6-25 DATE

TRC

GENERAL NOTES

PROJECT NAME:	CEC Weadock LF: 2025 GW Com	DATE: 3/5/25	TIME ARRIVED: 0540
PROJECT NUMBER:	634698.0000.0000	AUTHOR: AW JK JJ	TIME LEFT: 1200

WEATHER		
TEMPERATURE: 40/C °F	WIND: 30 MPH	VISIBILITY: Overcast

WORK / SAMPLING PERFORMED

Well Sampling JCW-MW-18001, QA-57 Rout JCW MW18000, Dup #02, FB, EB, MW-15019 MW-15008, MW-15002, MW-15016, EB.

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

SIGNED 3/6/25 DATE

CHECKED BY 3-6-25 DATE

TRC

EQUIPMENT SUMMARY

PROJECT NAME:	CEC Weadock LF: 2025 GW Co	SAMPLER NAME:	J. Jasso,
PROJECT NO.:	634698.0000.0000		

WATER LEVEL MEASUREMENTS COLLECTED WITH:

HERON DIPPER-T	TRC A2
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

PRODUCT LEVEL MEASUREMENTS COLLECTED WITH:

NA	NA
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

DEPTH TO BOTTOM OF WELL MEASUREMENTS COLLECTED WITH:

HERON DIPPER-T	TRC A2
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

PURGING METHOD

PERISTALTIC PUMP	TRC A2
NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)

SAMPLING METHOD

PERISTALTIC PUMP	TRC A2
NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)
NA	NA
NAME AND MODEL OF FILTERATION DEVICE	FILTER TYPE AND SIZE
DEDICATED POLY TUBING	☑ LOW-FLOW SAMPLING EVENT
TUBING TYPE	

PURGE WATER DISPOSAL METHOD

☑ GROUND ☐ DRUM ☐ POTW ☐ POLYTANK ☐ OTHER _____

DECONTAMINATION AND FIELD BLANK WATER SOURCE

STORE BOUGHT	LABORATORY PROVIDED
POTABLE WATER SOURCE	DI WATER SOURCE
3/6/25	3-6-25
SIGNED / DATE	CHECKED BY / DATE

REVISED 04/2019

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance	MODEL: YSI Pro DSS	SAMPLER: JJ
PROJECT NO.:	634698.0000.0000	SERIAL #: TRC A2	DATE: 3/4/25

PH CALIBRATION CHECK

pH 7 (LOT #): 460405T3 (EXP. DATE): 8/26	pH 4 / 10 (LOT #): 463 0447 (EXP. DATE): 9/26	CAL. RANGE	TIME
POST-CAL. READING / STANDARD	POST-CAL. READING / STANDARD		
7.00 / 7.00	4.00 / 4.00	☑ WITHIN RANGE	0520
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 463 1254 (EXP. DATE): 9/25	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
POST-CAL. READING / STANDARD			
1309 / 1309	24	☑ WITHIN RANGE	0520
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 4 D10035-1 (EXP. DATE): 4/29	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
POST-CAL. READING / STANDARD			
223 / 223	23	☑ WITHIN RANGE	0536
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
POST-CAL. READING /SATURATED AIR			
8.35 / 8.35	23	☑ WITHIN RANGE	0536
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): A4189 (EXP. DATE): 6/26	(LOT #): (EXP. DATE):	CAL. RANGE	TIME
POST-CAL. READING / STANDARD	POST-CAL. READING / STANDARD		
0 / 0	/	☑ WITHIN RANGE	0536
100 / 100	/	☑ WITHIN RANGE	0536
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION (LOT #): (EXP. DATE):	☑ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	CALIBRATION RANGES [1]
☐ pH	pH: +/- 0.2 S.U.
☐ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	[1] CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS

SIGNED _____ 3/4/25 DATE

CHECKED BY _____ 3-6-25 DATE

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance	MODEL: YSI Pro DSS	SAMPLER: JJ
PROJECT NO.:	634698.0000.0000	SERIAL #: TRC A2	DATE: 2/5/25

PH CALIBRATION CHECK

pH 7 (LOT #): L6H0553 (EXP. DATE): 8/26 POST-CAL. READING / STANDARD	pH 4 / 10 (LOT #): L6J0445 (EXP. DATE): 9/26 POST-CAL. READING / STANDARD	CAL. RANGE	TIME
700 / 700	400 / 400	☑ WITHIN RANGE	0850
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): L6I0154 (EXP. DATE): 9/25 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
1309 / 1309	21	☑ WITHIN RANGE	0850
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 240100751 (EXP. DATE): 4/26 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
223 / 223	23	☑ WITHIN RANGE	0850
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING POST-CAL. READING /SATURATED AIR	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
831 / 831	23	☑ WITHIN RANGE	0850
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): AU1854 (EXP. DATE): 12/26 POST-CAL. READING / STANDARD	(LOT #): (EXP. DATE): POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0 / 0	/	☑ WITHIN RANGE	0850
100 / 100	/	☑ WITHIN RANGE	0850
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION (LOT #): (EXP. DATE):	☑ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	CALIBRATION RANGES (1)
☐ pH	pH: +/- 0.2 S.U.
☐ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS

SIGNED _____ 2/6/25 DATE

CHECKED BY _____ 3-6-25 DATE

TRC

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: JK	DATE: 3-6-25

SAMPLE ID: JCW-MW18001 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0547	DATE: 3/6/25	SAMPLE	TIME: 0652	DATE: 3/6/25
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 7.25 SU	CONDUCTIVITY: 2987 umhos/cm	
			ORP: -170 mV	DO: 1.19 mg/L	
DEPTH TO WATER:	18.70 T/ PVC		TURBIDITY: 6 NTU		
DEPTH TO BOTTOM:	NM T/ PVC		☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME:	NA ☐ LITERS ☐ GALLONS		TEMPERATURE: 9.1 °C	~~FERROUS Fe~~ ~~mg/L~~	
VOLUME REMOVED:	7 ☒ LITERS ☐ GALLONS		COLOR: CLEAR	ODOR: NONE	
COLOR:	BROWNISH ODOR: NOR		FILTRATE (0.45 um) ☐ YES ☑ NO		
TURBIDITY			FILTRATE COLOR: —	FILTRATE ODOR: —	
☐ NONE ☐ SLIGHT ☐ MODERATE ☑ VERY			QC SAMPLE: ☒ MS/MSD ☐ DUP-		
DISPOSAL METHOD:	☑ GROUND ☐ DRUM ☐ OTHER		COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0547	200	4.00	3309	223	8.35	250	8.9	18.70	INITIAL
0552		7.18	3109	-131	1.82	48	9.7	18.75	1
0557		7.23	3016	-156	1.44	19	9.3	18.75	2
0602		7.25	3000	-153	1.46	13	9.5	18.71	3
0607		7.25	2986	-165	1.35	6	9.5	18.71	4
0612		7.25	2981	-170	1.20	6	9.4	18.71	5
0617		7.25	2992	-170	1.19	6	9.4	18.71	6
0621		7.25	2987	-170	1.19	6	9.1	18.71	7

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
~~1~~	250 mL	PLASTIC	A	☐ Y ☑ N	~~—~~	~~125 ml~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
3	125 mL	PLASTIC	A	☐ Y ☑ N	~~—~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
2	60 mL	VOA	A	☐ Y ☑ N	~~—~~	~~1 L~~	~~PLASTIC~~	~~B~~	~~☐ Y ☐ N~~
3	125 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
~~—~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	Lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:		DATE SIGNED:	3/6/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/4/25	BY: JK	DATE: 3-6-25

SAMPLE ID: JCW-OW-18001 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0642	DATE: 3/4/25	SAMPLE	TIME: 0707	DATE: 3/4/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 7.05 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 2.5 ☒ LITERS ☐ GALLONS

COLOR: Cloudy ODOR: none

TURBIDITY ☐ NONE ☐ SLIGHT ☒ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.07 SU | CONDUCTIVITY: 1437 umhos/cm

ORP: -137 mV | DO: 1.83 mg/L

TURBIDITY: 10 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 8.4 °C | ~~FERROUS Fe~~ mg/L

COLOR: clear | ODOR: none

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — | FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0642	100	7.56	754	-137	8.70	44	6.3	7.05	INITIAL
0647		7.23	1505	-121	2.74	24	8.2	735	.1
0652		7.24	1478	-126	2.17	17	8.4	735	1
0657		7.27	1452	-135	1.84	10	8.4	735	1.5
0703		7.27	1439	-135	1.83	10	8.4	735	2
0707		7.07	1437	-135	1.83	10	8.4	7.35	2.5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~—~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~—~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
2	60 mL	VOA	A	☐ Y ☒ N	~~—~~	~~1 L~~	~~PLASTIC~~	~~B~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~—~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	Lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:		DATE SIGNED:	3/6/25

TRC

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: JK	DATE: 3-6-25

SAMPLE ID: MW 50 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0720	DATE: 3/4/25	SAMPLE	TIME: 0750	DATE: 3/4/25
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 7.80 SU	CONDUCTIVITY: 1341 umhos/cm	
			ORP: -173 mV	DO: 1.28 mg/L	
DEPTH TO WATER:	15.10 T/ PVC		TURBIDITY: 4 NTU		
DEPTH TO BOTTOM:	NM T/ PVC		☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME:	NA ☐ LITERS ☐ GALLONS		TEMPERATURE: 8.1 °C	~~FERROUS Fe~~ ~~mg/L~~	
VOLUME REMOVED:	5 ☑ LITERS ☐ GALLONS		COLOR: Clear	ODOR: none	
COLOR:	Cloudy ODOR: none		FILTRATE (0.45 um) ☐ YES ☒ NO		
TURBIDITY			FILTRATE COLOR: —	FILTRATE ODOR: —	
☐ NONE ☐ SLIGHT ☑ MODERATE ☐ VERY			QC SAMPLE: ☐ MS/MSD ☒ DUP- #01		
DISPOSAL METHOD:	☑ GROUND ☐ DRUM ☐ OTHER		COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0715	200	8.00	1261	-116	9.40	31	5.9	15.16	INITIAL
0730		7.80	1292	-114	2.43	7.0	7.9	15.17	1
0735		7.79	1327	-135	1.67	4	8.1	15.17	2
0740		7.80	1343	-173	1.30	4	8.1	15.17	3
0745		7.80	1343	-173	1.29	4	8.1	15.17	4
0750		7.80	1341	-173	1.28	4	8.1	15.17	5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED		PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____								
NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED		NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	A	☐ Y ☒ N		~~—~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
2	125 mL	PLASTIC	A	☐ Y ☒ N		~~—~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~JK 1~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~		~~—~~	~~1 L~~	~~PLASTIC~~	~~B~~	~~☐ Y ☐ N~~
2	125 mL	PLASTIC	B	☐ Y ☒ N						☐ Y ☐ N
~~—~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~						☐ Y ☐ N

SHIPPING METHOD:	lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:		DATE SIGNED:	3/6/25

TRC WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: JK	DATE: 3-6-25

SAMPLE ID: MW 51 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0800	DATE: 3/4/25	SAMPLE	TIME: 0833	DATE: 3/4/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 15.75 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 5 ☒ LITERS ☐ GALLONS

COLOR: Brown ODOR: non

TURBIDITY ☐ NONE ☐ SLIGHT ☐ MODERATE ☒ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.69 SU | CONDUCTIVITY: 1015 umhos/cm

ORP: -154 mV | DO: 1.49 mg/L

TURBIDITY: 8 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 7.4 °C | ~~FERROUS Fe~~ mg/L

COLOR: Clear | ODOR: none

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — | FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0800	290	8.24	1318	-114	10.95	180	5.2	1571	INITIAL
0813		7.76	1356	-137	2.40	34	7.1	1580	1
0818		7.70	1388	-147	1.80	16	7.4	1580	2
0823		7.69	1396	-156	1.50	8	7.4	1580	3
0828		7.69	1410	-156	1.50	8	7.4	1580	4
0833		7.69	1015	-156	1.49	8	7.4	1580	5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~—~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~—~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~2~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~	~~—~~	~~1 L~~	PLASTIC	B	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~—~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:		DATE SIGNED:	3/6/25

TRC WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: JK	DATE: 3-6-25

SAMPLE ID: MW-53 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1027	DATE: 3/4/25	SAMPLE	TIME: 1057	DATE: 3/4/25
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 7.23 SU	CONDUCTIVITY: 1483	umhos/cm
			ORP: -145 mV	DO: 1.29	mg/L
DEPTH TO WATER:	16.30 T/ PVC		TURBIDITY: 8 NTU		
DEPTH TO BOTTOM:	NM T/ PVC		☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME:	NA ☐ LITERS ☐ GALLONS		TEMPERATURE: 8.0 °C	~~FERROUS Fe~~	~~mg/L~~
VOLUME REMOVED:	6 ☒ LITERS ☐ GALLONS		COLOR: Clear	ODOR: none	
COLOR:	Cloudy ODOR none		FILTRATE (0.45 um) ☐ YES ☒ NO		
TURBIDITY			FILTRATE COLOR: —	FILTRATE ODOR: —	
☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY			QC SAMPLE: ☐ MS/MSD ☐ DUP-		
DISPOSAL METHOD:	☑ GROUND ☐ DRUM ☐ OTHER		COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1027	200	8.07	705	-130	16.5	37.0	7.4	16.30	INITIAL
1032		7.50	1449	-127	3.37	37.0	7.6	16.31	1
1037		7.34	1464	-127.5	2.0	17	8.0	16.31	2
1042		7.26	1473	-137	1.73	13	7.9	16.31	3
1047		7.23	1482	-145	1.30	6	8.0	16.31	4
1052		7.23	1483	-145	1.30	8	8.0	16.31	5
1057		7.23	1483	-145	1.29	8	8.0	16.31	6

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~—~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~—~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~2~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☒ N~~	~~—~~	~~1 L~~	~~PLASTIC~~	~~B~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~—~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:		DATE SIGNED:	3/6/25

TRC

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: JK	DATE: 3-6-25

SAMPLE ID: MW-33 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1108	DATE: 3/4/25	SAMPLE	TIME: 1133	DATE: 3/4/25
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 7.80 SU	CONDUCTIVITY: 1073 umhos/cm	
			ORP: -185 mV	DO: 1.19 mg/L	
DEPTH TO WATER: 14.42 T/ PVC			TURBIDITY: 5 NTU		
DEPTH TO BOTTOM: NM T/ PVC			☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME: NA	☐ LITERS ☐ GALLONS		TEMPERATURE: 7.6 °C	~~FERROUS Fe~~ mg/L	
VOLUME REMOVED: 5	☑ LITERS ☐ GALLONS		COLOR: clear	ODOR: non	
COLOR: clear	ODOR: non		FILTRATE (0.45 um) ☐ YES	☑ NO	
TURBIDITY			FILTRATE COLOR:	FILTRATE ODOR:	
☐ NONE ☑ SLIGHT ☐ MODERATE ☐ VERY			QC SAMPLE: ☐ MS/MSD	☐ DUP-	
DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER			COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1108	200	8.04	1042	-120	10.6	23	6.6	14.42	INITIAL
1113		7.96	1044	-155	2.60	15	7.3	14.50	.11
1116		7.90	1049	-157	2.0	10	7.4	14.52	2
1123		7.80	1071	-185	1.20	5	7.5	14.52	3
1128		7.80	1074	-185	1.20	5	7.6	14.52	4
1133		7.80	1073	-185	1.19	5	7.6	14.52	1

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~—~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~—~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~2~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☒ N~~	~~—~~	~~1 L~~	~~PLASTIC~~	~~B~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~—~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	lab drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:		DATE SIGNED:	3/6/25

TRC WATER SAMPLE LOG

PROJECT NAME: CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER: 634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: JK	DATE: 3-6-25

SAMPLE ID: MW 53R | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1142	DATE: 3/4/25	SAMPLE	TIME: 1207	DATE: 3/4/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 15.24 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 5 ☒ LITERS ☐ GALLONS

COLOR: Tanish ODOR: non

TURBIDITY ☐ NONE ☐ SLIGHT ☐ MODERATE ☑ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: ~~7.37~~ SU | CONDUCTIVITY: 1114 umhos/cm

ORP: -157 mV | DO: 1.19 mg/L

TURBIDITY: 5 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 7.6 °C | ~~FERROUS Fe mg/L~~

COLOR: Clear | ODOR: none

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — | FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1142	200	7.74	1109	-136	9.45	1000	7.4	15.24	INITIAL
1147		7.29	1126	-154	1.80	60	7.6	1540	1
1152		7.29	1123	-160	1.50	13	7.7	1540	2
1157		7.30	1116	-157	1.20	5	7.6	1540	3
1202		7.30	1115	-157	1.20	5	7.6	1540	4
1207		7.30	1114	-157	1.19	5	7.6	1540	5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~—~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~—~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~1~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☒ N~~	~~—~~	~~1 L~~	~~PLASTIC~~	~~B~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~—~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD: lab drop off	DATE SHIPPED: 3-6-25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE:	DATE SIGNED: 3/6/25

TRC

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/4/25	BY:	DATE:

SAMPLE ID: MW 54R | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1215	DATE: 3/4/25	SAMPLE	TIME: 1245	DATE: 3/4/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 14.56 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 6 ☒ LITERS ☐ GALLONS

COLOR: TANISH ODOR: —

TURBIDITY ☐ NONE ☐ SLIGHT ☐ MODERATE ☑ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.35 SU | CONDUCTIVITY: 1443 umhos/cm

ORP: -133 mV | DO: 2.00 mg/L

TURBIDITY: 9.9 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 6.6 °C | ~~FERROUS Fe~~ mg/L

COLOR: Clear | ODOR: none

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: — | FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1215	200	7.79	1689	-126	10.7	1000	6.2	1456	INITIAL
1220		7.33	1439	-133	3.0	143	6.5	1461	1
1225		7.36	1401	-121	3.0	35	6.5	1465	2
1230		7.35	1421	-123	2.70	10	6.4	1465	3
1235		7.35	1437	-133	2.00	10	6.4	1461	4
1240		7.35	1444	-133	2.00	9.5	6.4	1461	5
1245		7.35	1443	-133	2.00	9.9	6.4	1465	6

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~125 mL~~	~~PLASTIC~~	~~D~~	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~40 mL~~	~~VOA~~	~~E~~	☐ Y ☐ N
~~SB2~~	~~60 mL~~	~~VOA~~	~~A~~	☐ Y ☒ N	~~1~~	~~1 L~~	~~PLASTIC~~	~~B~~	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~1~~	~~125 mL~~	~~PLASTIC~~	~~C~~	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	Lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:		DATE SIGNED:	3/6/25

TRC WATER SAMPLE LOG

PROJECT NAME: CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER: 634698.0000.0000	BY: JJ	DATE: 3/6/25	BY:	DATE:

SAMPLE ID: SLW-MW-18004 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1255	DATE: 3/4/25	SAMPLE	TIME: 1320	DATE: 3/4/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 13.16 T/ PVC

DEPTH TO BOTTOM: 14.72 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 2.5 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: none

TURBIDITY ☐ NONE ☑ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.53 SU CONDUCTIVITY: 1263 umhos/cm

ORP: -64 mV DO: 6.0 mg/L

TURBIDITY: 6 NTU

☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 5.8 °C FERROUS Fe ~~mg/L~~

COLOR: Clear ODOR: none

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1255	100	7.95	53	-97.2	11.0	22	6.6	1310	INITIAL
1300		7.48	1246	-67	7.0	6	6.0	1330	.5
1305		7.53	1252	-74	6.0	6	5.8	1355	1
1310		7.53	1267	-64	6.0	6	5.7	1365	1.5
1315		7.53	1279	-64	6.	6	5.8	1375	2
1320		7.53	1263	-64	6.0	6	5.8	1385	2.5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☐ N	~~—~~	~~125 mL~~	~~PLASTIC~~	~~D~~	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☐ N	~~—~~	~~40 mL~~	~~VOA~~	~~E~~	☐ Y ☐ N
~~2~~	~~60 mL~~	~~VOA~~	~~A~~	☐ Y ☐ N	~~—~~	~~1 L~~	~~PLASTIC~~	~~B~~	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☐ N					☐ Y ☐ N
~~—~~	~~125 mL~~	~~PLASTIC~~	~~C~~	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	DATE SHIPPED:	AIRBILL NUMBER:
COC NUMBER:	SIGNATURE:	DATE SIGNED: 3/6/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: JK	DATE: 3-6-25

SAMPLE ID: MW 55 — WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1330	DATE: 3/4/25	SAMPLE	TIME: 1400	DATE: 3/4/25

PURGE METHOD: ☑ PUMP ☐ PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 14.64 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 6 ☒ LITERS ☐ GALLONS

COLOR: Brown ODOR: none

TURBIDITY ☐ NONE ☐ SLIGHT ☐ MODERATE ☑ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.10 SU CONDUCTIVITY: 2001 umhos/cm

ORP: -145 mV DO: 1.19 mg/L

TURBIDITY: 9.5 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 7.5 °C ~~FERROUS Fe~~ ~~mg/L~~

COLOR: clear ODOR: none

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1330	200	7.63	688	-80	10.0	216	6.7	1464	INITIAL
1335		7.43	1055	-122	2.43	88	7.3	1465	1
1340		7.41	1078	-136	1.66	41	7.4	1465	2
1345		7.40	1093	-145	1.39	18	7.4	1465	3
1350		7.40	1097	-145	1.20	9.5	7.5	1465	4
1355		7.40	1096	-145	1.20	9.5	7.5	1465	5
1400		7.40	2001	-145	1.19	9.5	7.5	1465	6

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☐ N	~~—~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☐ N	~~—~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~—~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~	~~—~~	~~1 L~~	~~PLASTIC~~	~~B~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	B	☐ Y ☐ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:		DATE SIGNED:	3/6/25

TRC WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: JK	DATE: 3-6-25

SAMPLE ID: DUP-MW-16005 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0556	DATE: 3/5/25	SAMPLE	TIME: 0636	DATE: 3/5/25
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 7.14 SU	CONDUCTIVITY: 1153	umhos/cm
			ORP: -140 mV	DO: 1.19	mg/L
DEPTH TO WATER:	9.28 T/ PVC		TURBIDITY: 9 NTU		
DEPTH TO BOTTOM:	NM T/ PVC		☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME:	NA ☐ LITERS ☐ GALLONS		TEMPERATURE: 8.0 °C	~~FERROUS Fe~~	~~mg/L~~
VOLUME REMOVED:	4 ☒ LITERS ☐ GALLONS		COLOR: Clear	ODOR: non	
COLOR:	Brown ODOR: non		FILTRATE (0.45 um) ☐ YES ☒ NO		
TURBIDITY			FILTRATE COLOR: —	FILTRATE ODOR: —	
☐ NONE ☐ SLIGHT ☐ MODERATE ☑ VERY			QC SAMPLE: ☐ MS/MSD ☐ DUP-		
DISPOSAL METHOD:	☑ GROUND ☐ DRUM ☐ OTHER		COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0556	100	7.10	1018	223	8.35	200	8.6	9.28	INITIAL
0601		7.08	1143	-121	3.40	345	8.2	9.95	.5
0606		7.12	1132	-116	1.65	140	8.0	10.21	1
0611		7.13	1130	-123	1.48	47	8.0	10.46	1.5
0616		7.13	1130	-129	1.30	16	8.1	10.61	2
0621		7.14	1134	-137	1.20	12	8.1	10.78	2.5
0626		7.14	1153	-140	1.20	9	8.0	10.80	3
0631		7.14	1153	-140	1.19	9	8.1	10.80	3.5
0636		7.14	1153	-140	1.19	9	8.0	10.80	4

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED		PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____								
NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED		NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y	☐ N	~~—~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y~~ ~~☐ N~~
1	125 mL	PLASTIC	A	☐ Y	☐ N	~~—~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y~~ ~~☐ N~~
~~—~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y~~	~~☐ N~~	~~—~~	~~1 L~~	~~PLASTIC~~	~~B~~	~~☐ Y~~ ~~☐ N~~
1	125 mL	PLASTIC	B	☐ Y	☐ N					☐ Y ☐ N
~~—~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y~~	~~☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:		DATE SIGNED:	3/6/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: JK	DATE: 3-6-25

SAMPLE ID: MW 57 Rout | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0654	DATE: 3/5/25	SAMPLE	TIME: 0719	DATE: 3/5/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 8.88 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 2.5 ☒ LITERS ☐ GALLONS

COLOR: clear ODOR: non

TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.46 SU | CONDUCTIVITY: 1137 umhos/cm

ORP: -95 mV | DO: 3.80 mg/L

TURBIDITY: 4 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 7.9 °C | ~~FERROUS Fe~~ mg/L

COLOR: clear | ODOR: non

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — | FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0654	100	7.73	595	-76	9.97	13	7.6	8.88	INITIAL
0659		7.39	1133	-80	4.70	6	7.7	9.70	.1
0704		7.39	1136	-90	4.0	4	7.9	10.52	1
0709		7.40	1137	-97	3.80	4	7.9	11.14	1.5
0714		7.40	1137	-95	3.77	4	7.9	11.60	2
0719		7.46	1137	-95	3.80	4	7.9	11.95	2.1
~~0724~~									~~3~~
									~~3~~

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☐ N	~~—~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☐ N	~~—~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~—~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~	~~—~~	~~1 L~~	~~PLASTIC~~	~~B~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	B	☐ Y ☐ N					☐ Y ☐ N
~~—~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:		DATE SIGNED:	3/6/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: JK	DATE: 3-6-25

SAMPLE ID: SCW-MW-18006 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0737	DATE: 3/5/25	SAMPLE	TIME: 0757	DATE: 3/5/25
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 7.25 SU	CONDUCTIVITY: 995	umhos/cm
			ORP: 167 mV	DO: 1.20	mg/L
DEPTH TO WATER:	15.05 T/ PVC		TURBIDITY: 2.95	NTU	
DEPTH TO BOTTOM:	NM T/ PVC		☐ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME:	NA ☐ LITERS ☐ GALLONS		TEMPERATURE: 10.3 °C	~~FERROUS Fe~~	~~mg/L~~
VOLUME REMOVED:	4 ☒ LITERS ☐ GALLONS		COLOR: clear	ODOR: non	
COLOR:	clear ODOR: non		FILTRATE (0.45 um) ☐ YES	☒ NO	
TURBIDITY			FILTRATE COLOR:	FILTRATE ODOR:	
☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY			QC SAMPLE: ☐ MS/MSD	☒ DUP- H07	
DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER			COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0737	200	7.37	1132	-76	9.6	10	8.9	150'	INITIAL
0742		7.32	1050	-140	2.50	3	9.6	152'	1
0747		7.26	999	-167	1.20	3	10.3	152'	2
0752		7.26	995	-167	1.20	2.95	10.3	152'	3
0757		7.25	995	-167	1.20	2.95	10.3	152'	4
									~~4~~

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	A	☐ Y ☐ N	~~—~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
2	125 mL	PLASTIC	A	☐ Y ☐ N	~~—~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~—~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~	~~—~~	~~1 L~~	~~PLASTIC~~	~~B~~	~~☐ Y ☐ N~~
2	125 mL	PLASTIC	B	☐ Y ☐ N					☐ Y ☐ N
~~—~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	lab drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	
COC NUMBER:		SIGNATURE:		DATE SIGNED:	3/6/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: JK	DATE: 3-6-25

SAMPLE ID: F.B #01 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME:	DATE:

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: T/ PVC

DEPTH TO BOTTOM: T/ PVC

WELL VOLUME: NA ☐ LITERS ☑ GALLONS

VOLUME REMOVED: ☐ LITERS ☐ GALLONS

COLOR: ODOR:

TURBIDITY ☐ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 0800	DATE: 3/5/25

PH: NM SU | CONDUCTIVITY: NM umhos/cm

ORP: NM mV | DO: NM mg/L

TURBIDITY: NM NTU

☐ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: NM °C | ~~FERROUS Fe~~ ~~mg/L~~

COLOR: Clear | ODOR: NOR

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: | FILTRATE ODOR:

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
									INITIAL

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
~~1~~	~~250 mL~~	~~PLASTIC~~	~~A~~	☐ Y ☐ N	~~1~~	~~125 mL~~	~~PLASTIC~~	~~D~~	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☐ N	~~1~~	~~40 mL~~	~~VOA~~	~~E~~	☐ Y ☐ N
~~1~~	~~60 mL~~	~~VOA~~	~~A~~	☐ Y ☐ N	~~1~~	~~1 L~~	~~PLASTIC~~	~~B~~	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☐ N					☐ Y ☐ N
~~1~~	~~125 mL~~	~~PLASTIC~~	~~C~~	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	
COC NUMBER:		SIGNATURE:		DATE SIGNED:	3/6/25

TRC

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/4/11	BY: SK	DATE: 3-6-25

SAMPLE ID: EIB #01 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME:	DATE:	SAMPLE	TIME: 0809	DATE: 3/5/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: _____ T/ PVC

DEPTH TO BOTTOM: _____ T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: _____ ☐ LITERS ☐ GALLONS

COLOR: _____ ODOR: _____

TURBIDITY ☐ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: NM SU | CONDUCTIVITY: NM umhos/cm

ORP: NM mV | DO: NM mg/L

TURBIDITY: NM NTU

☐ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: NM °C | ~~FERROUS Fe _____ mg/l~~

COLOR: Clear | ODOR: NOR

FILTRATE (0.45 um) ☐ YES ☐ NO

FILTRATE COLOR: — | FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP- _____

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
									INITIAL

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
~~1~~	~~250 mL~~	~~PLASTIC~~	~~A~~	☐ Y ☐ N		~~125 mL~~	~~PLASTIC~~	~~D~~	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☐ N	~~1~~	~~40 mL~~	~~VOA~~	~~E~~	☐ Y ☐ N
~~1~~	~~60 mL~~	~~VOA~~	~~A~~	☐ Y ☐ N	~~1~~	~~1 L~~	~~PLASTIC~~	~~B~~	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☐ N					☐ Y ☐ N
~~1~~	~~125 mL~~	~~PLASTIC~~	~~C~~	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:		DATE SIGNED:	3/6/25

TRC

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: JK	DATE: 3-6-25

SAMPLE ID: MW-15003 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0915	DATE: 3/5/25	SAMPLE	TIME: 1015	DATE: 3/5/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 6.05 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 2 ☒ LITERS ☐ GALLONS

COLOR: clear ODOR: non

TURBIDITY: ☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.76 SU CONDUCTIVITY: 329 umhos/cm

ORP: ~~-84~~ -89 mV DO: 7.69 mg/L

TURBIDITY: 9 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 7.2 °C ~~FERROUS Fe~~ mg/L

COLOR: clear ODOR: none

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: FILTRATE ODOR:

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0915	100	7.74	1154	-87	10	19	26	6.05	INITIAL
1000		7.84	372	-91	8.0	9	7.7	6.61	0.5
1005		7.79	337	-89	7.90	9	7.2	6.71	1.0
1010		7.78	332	~~-89~~ -84	7.86	9	7.2	6.80	1.5
1015		7.76	329	~~-84~~ -89	7.89	9	7.2	6.90	2
~~1020~~									~~2.5~~

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☐ N	~~-~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☐ N	~~-~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~-~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~		~~1 L~~	~~PLASTIC~~	~~B~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	B	☐ Y ☐ N					☐ Y ☐ N
~~-~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	Lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	
COC NUMBER:		SIGNATURE:		DATE SIGNED:	3/6/25

TRC

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: JK	DATE: 3-6-25

SAMPLE ID: MW-15008 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0926	DATE: 3/5/25	SAMPLE	TIME: 0946	DATE: 3/5/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 4.32 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 4 ☒ LITERS ☐ GALLONS

COLOR: clear ODOR: non

TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.49 SU | CONDUCTIVITY: 769 umhos/cm

ORP: -145 mV | DO: 1.47 mg/L

TURBIDITY: 5 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 7.5 °C | ~~FERROUS Fe~~ ~~mg/L~~

COLOR: clear | ODOR: non

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — | FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0926	200	7.57	934	-97	9.3	15	7.5	4.30	INITIAL
0933		7.51	772	-127	2.0	5	7.2	4.30	1
0936		7.49	769	-145	1.48	5	7.5	4.30	2
0943		7.49	769	-145	1.45	5	7.5	4.30	3
0946		7.49	769	-145	1.47	5	7.5	4.30	4
									←

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☐ N	~~—~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☐ N	~~—~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~—~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☐ N					☐ Y ☐ N
~~—~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	
COC NUMBER:		SIGNATURE:		DATE SIGNED:	3/6/25

TRC

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: JK	DATE: 3-6-25

SAMPLE ID: MW-1S016	WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6"	☐ OTHER		
WELL MATERIAL:	☑ PVC ☐ SS ☐ IRON	☐ GALVANIZED STEEL	☐ OTHER	
SAMPLE TYPE:	☑ GW ☐ WW ☐ SW ☐ DI	☐ LEACHATE	☐ OTHER	

PURGING	TIME: 1025	DATE: 3/5/25	SAMPLE	TIME: 1050	DATE: 3/5/25
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 7.27 SU	CONDUCTIVITY: 868	umhos/cm
			ORP: -95 mV	DO: 2.95	mg/L
DEPTH TO WATER:	3.25 T/ PVC		TURBIDITY: 8 NTU		
DEPTH TO BOTTOM:	NM T/ PVC		☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME:	NA ☐ LITERS ☐ GALLONS		TEMPERATURE: 4.7 °C	FERROUS Fe	mg/L
VOLUME REMOVED:	2.5 ☒ LITERS ☐ GALLONS		COLOR: Clear	ODOR: non	
COLOR:	Brownish	ODOR: non	FILTRATE (0.45 um) ☐ YES ☒ NO		
TURBIDITY			FILTRATE COLOR:	FILTRATE ODOR:	
☐ NONE ☐ SLIGHT ☐ MODERATE ☒ VERY			QC SAMPLE: ☐ MS/MSD ☐ DUP-		
DISPOSAL METHOD:	☑ GROUND ☐ DRUM ☐ OTHER		COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1025	100	7.30	1112	-85	9.70	140	6.9	3.25	INITIAL
1030		7.41	941	-.83	3.75	69	5.6	3.50	.5
1035		7.25	853	-87	3.30	19	5.90	3.52	1
1040		7.27	862	-.95	2.97	8	4.7	3.60	1.5
1045		7.27	870	-95	2.96	8	4.7	3.60	2
1050		7.27	868	-95	2.95	8	4.7	3.60	2.5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED		PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____							
NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☐ N	~~—~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☐ N	~~—~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~—~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~	~~—~~	~~1 L~~	~~PLASTIC~~	~~B~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	B	☐ Y ☐ N					☐ Y ☐ N
~~—~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	
COC NUMBER:		SIGNATURE:		DATE SIGNED:	3/6/25

REVISED 04/2019

TRC

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: JK	DATE: 3-6-25

SAMPLE ID: FB | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME:	DATE:

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: ____ T/ PVC

DEPTH TO BOTTOM: ____ T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: ____ ☐ LITERS ☐ GALLONS

COLOR: ____ ODOR: ____

TURBIDITY
☐ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1100	DATE: 3/5/25

PH: NR SU | CONDUCTIVITY: NR umhos/cm

ORP: NR mV | DO: NR mg/L

TURBIDITY: NR NTU

☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: NR °C | ~~FERROUS Fe~~ ____ mg/L

COLOR: Clear | ODOR: None

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: ____ | FILTRATE ODOR: ____

QC SAMPLE: ☐ MS/MSD ☐ DUP- ____

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
									INITIAL

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
~~-~~	~~250 mL~~	~~PLASTIC~~	~~A~~	☐ Y ☐ N	~~-~~	~~125 mL~~	~~PLASTIC~~	~~D~~	☐ Y ☐ N
~~-~~	~~125 mL~~	~~PLASTIC~~	~~A~~	☐ Y ☐ N	~~-~~	~~40 mL~~	~~VOA~~	~~E~~	☐ Y ☐ N
~~-~~	~~60 mL~~	~~VOA~~	~~A~~	☐ Y ☐ N	~~-~~	~~1 L~~	~~PLASTIC~~	~~B~~	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☐ N					☐ Y ☐ N
~~-~~	~~125 mL~~	~~PLASTIC~~	~~C~~	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	
COC NUMBER:		SIGNATURE:		DATE SIGNED:	3/6/25

TRC WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: JJ	DATE: 3/6/25	BY: SL	DATE: 3-6-25

SAMPLE ID: MW-15019 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0832	DATE: 3/5/25	SAMPLE	TIME: 0857	DATE: 3/5/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 5.35 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 5 ☒ LITERS ☐ GALLONS

COLOR: clear ODOR: non

TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.04 SU | CONDUCTIVITY: 1696 umhos/cm

ORP: -122 mV | DO: 1.80 mg/L

TURBIDITY: 3 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 7.1 °C | ~~FERROUS Fe~~ ~~mg/L~~

COLOR: clear | ODOR: non

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — | FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☒ DUP- 101

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0833	200	7.37	1786	-108	9.5	5	7.7	5.35	INITIAL
0837		7.10	1850	-108	3.5	3	7.4	5.45	1
0842		7.04	1838	-120	2.20	3	7.1	5.45	2
0847		7.04	1817	-122	1.80	3	7.1	5.45	3
0852		7.04	1856	-122	1.80	3	7.1	5.45	4
0857		7.04	1896	-121	1.80	3	7.1	5.45	5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	A	☐ Y ☐ N	~~—~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
2	125 mL	PLASTIC	A	☐ Y ☐ N	~~—~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~—~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~	~~—~~	~~1 L~~	~~PLASTIC~~	~~B~~	~~☐ Y ☐ N~~
2	125 mL	PLASTIC	B	☐ Y ☐ N					☐ Y ☐ N
~~—~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	Lab Drop off	DATE SHIPPED:	3-6-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:		DATE SIGNED:	3/6/25

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CHAIN OF CUSTODY

EB030665

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SAMPLING SITE / CUSTOMER: 1-2025 JC Weadock Porewater Wells

PROJECT NUMBER: 25-0104

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM:

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0104-01	3/4/25	0633	GW	JCW-MW-18001	5	4	1						x	x	x	x	
-02	3/4/25	1330	GW	JCW-MW-18004	3	2	1						x	x	x		
-03	3/5/25	0636	GW	JCW-MW-18005	3	2	1						x	x	x		
-04	3/5/25	0757	GW	JCW-MW-18006	3	2	1						x	x	x		
-05	3/4/25	0750	GW	MW-50	3	2	1						x	x	x		
-06	3/4/25	0833	GW	MW-51	3	2	1						x	x	x		
-07	3/4/25	1057	GW	MW-52	3	2	1						x	x	x		
-08	3/4/25	1133	GW	MW-53	3	2	1						x	x	x		
-09	3/4/25	1207	GW	MW-53R	3	2	1						x	x	x		
-10	3/4/25	1241	GW	MW-54R	3	2	1						x	x	x		
-11	3/4/25	1400	GW	MW-55	3	2	1						x	x	x		
-12	3/5/25	0719	GW	OW-57ROUT	3	2	1						x	x	x		

RELINQUISHED BY: [signature] DATE/TIME: 0837 3/6/25 RECEIVED BY: [signature]

RELINQUISHED BY: DATE/TIME: RECEIVED BY:

COMMENTS:

Received on Ice? ☐ Yes ☐ No M&TE #: _____

Temperature: _____ °C Cal. Due Date: _____

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CHAIN OF CUSTODY

EB 030625

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SAMPLING SITE / CUSTOMER: Q1-2025 JC Weadock Porewater Wells

PROJECT NUMBER: 25-0104

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM:

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0104-13	3/4/25	—	GW	DUP-JCW-LF-01	3	2	1						x	x	x		
-14	3/5/25	—	GW	DUP-JCW-LF-02	3	2	1						x	x	x		
-15	3/4/25	0603	GW	JCW-MW-18001 MS	2	1	1						x	x			
-16	3/4/25	0603	GW	JCW-MW-18001 MSD	2	1	1						x	x			
-17	3/5/25	0805	GW	FB-01	2	1	1						x	x			
-18	3/5/25	0809	W	EB-01	2	1	1						x	x			

RELINQUISHED BY: Ashwin Kelly — DATE/TIME: 0837 3/6/25 — RECEIVED BY:

RELINQUISHED BY: — DATE/TIME: — RECEIVED BY:

COMMENTS:

Received on Ice? ☐ Yes ☐ No — M&TE #: _____

Temperature: _____ °C — Cal. Due Date: _____

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EB 030625

SAMPLING SITE / CUSTOMER: Q1-2025 JC Weadock ASD

PROJECT NUMBER: 25-0105

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM:

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit

email:

phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT:

☐ NPDES
☒ TNI
☐ ISO 17025
☐ 10 CFR 50 APP. B
☐ INTERNAL INFO
☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0105-01	3/4/25	0707	GW	JCW-OW-18001	5	4	1						x	x	x	x	

RELINQUISHED BY: [signature] DATE/TIME: 0837 3/6/25 RECEIVED BY: [signature]

RELINQUISHED BY: DATE/TIME: RECEIVED BY:

COMMENTS:

Received on Ice? ☐ Yes ☐ No M&TE #: _____

Temperature: _____ °C Cal. Due Date: _____

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Page 1 of 1

SAMPLING SITE / CUSTOMER: Q1-2025 JCW-DEK Background Wells

PROJECT NUMBER: 25-0106

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM:

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	HNO_3	H_2SO_4	NaOH	HCl	MeOH	Other	Total Metals	Anions	TDS	REMARKS
25-0106-01	3/5/25	1015	GW	MW-15002	3	2	1						x	x	x	
-02	3/5/25	0940	GW	MW-15008	3	2	1						x	x	x	
-03	3/5/25	1050	GW	MW-15016	3	2	1						x	x	x	
-04	3/5/25	0957	GW	MW-15019	3	2	1						x	x	x	
-05	3/5/25	—	GW	DUP-Background	3	2	1						x	x	x	
-06	3/5/25	1100	W	FB- Background	1								x			

RELINQUISHED BY: Allan Hatt — DATE/TIME: 0911 3/6/25 — RECEIVED BY:

RELINQUISHED BY: — DATE/TIME: — RECEIVED BY:

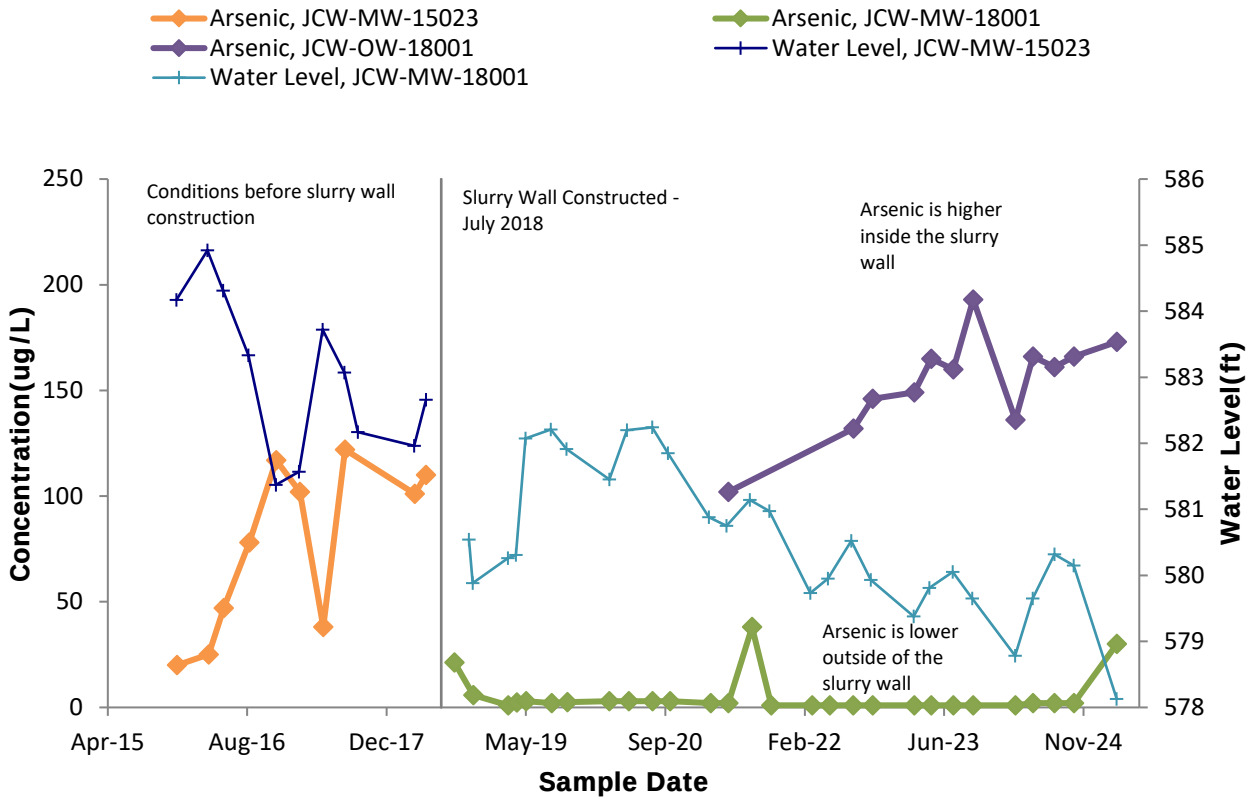
COMMENTS:

Received on Ice? ☐ Yes ☐ No — M&TE #: _____

Temperature: _____ °C — Cal. Due Date: _____

Appendix G
Alternate Source Demonstration Supporting Information

Figure G1: Time Series Plots for JCW-MW-18001 ASD



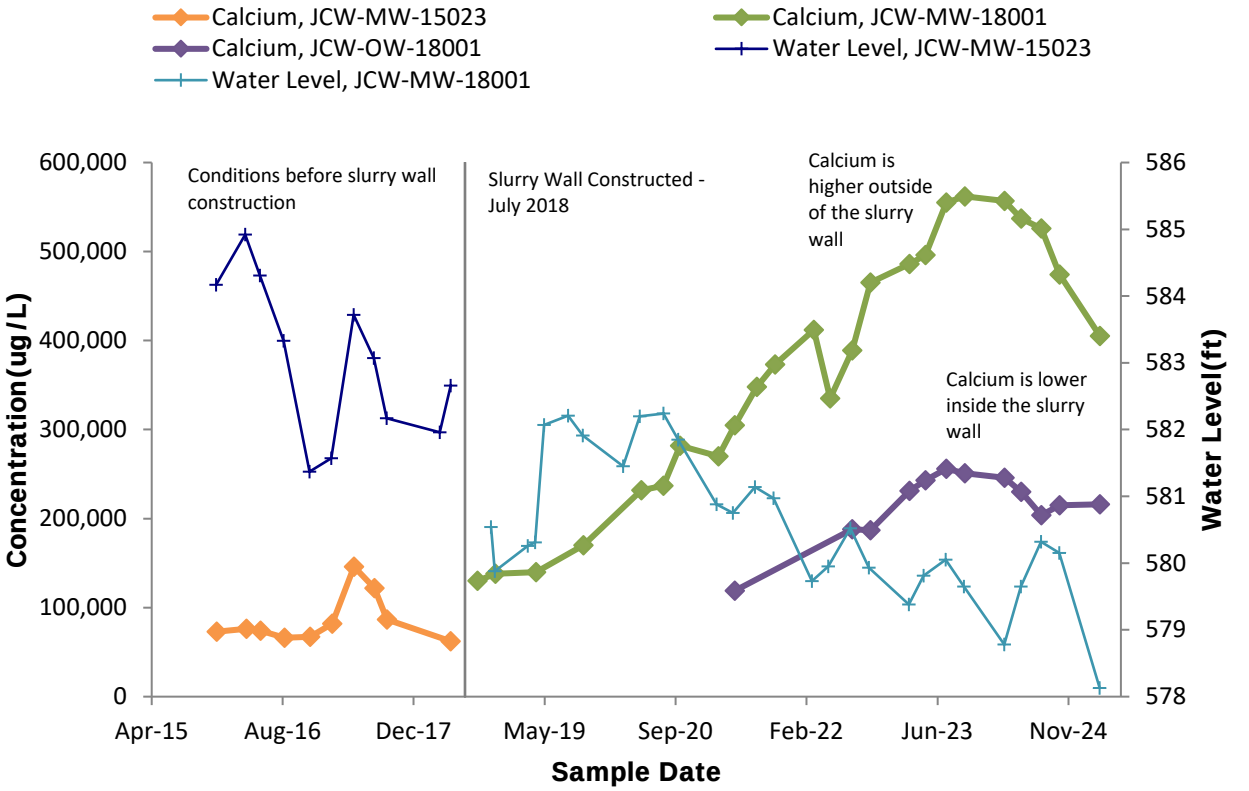
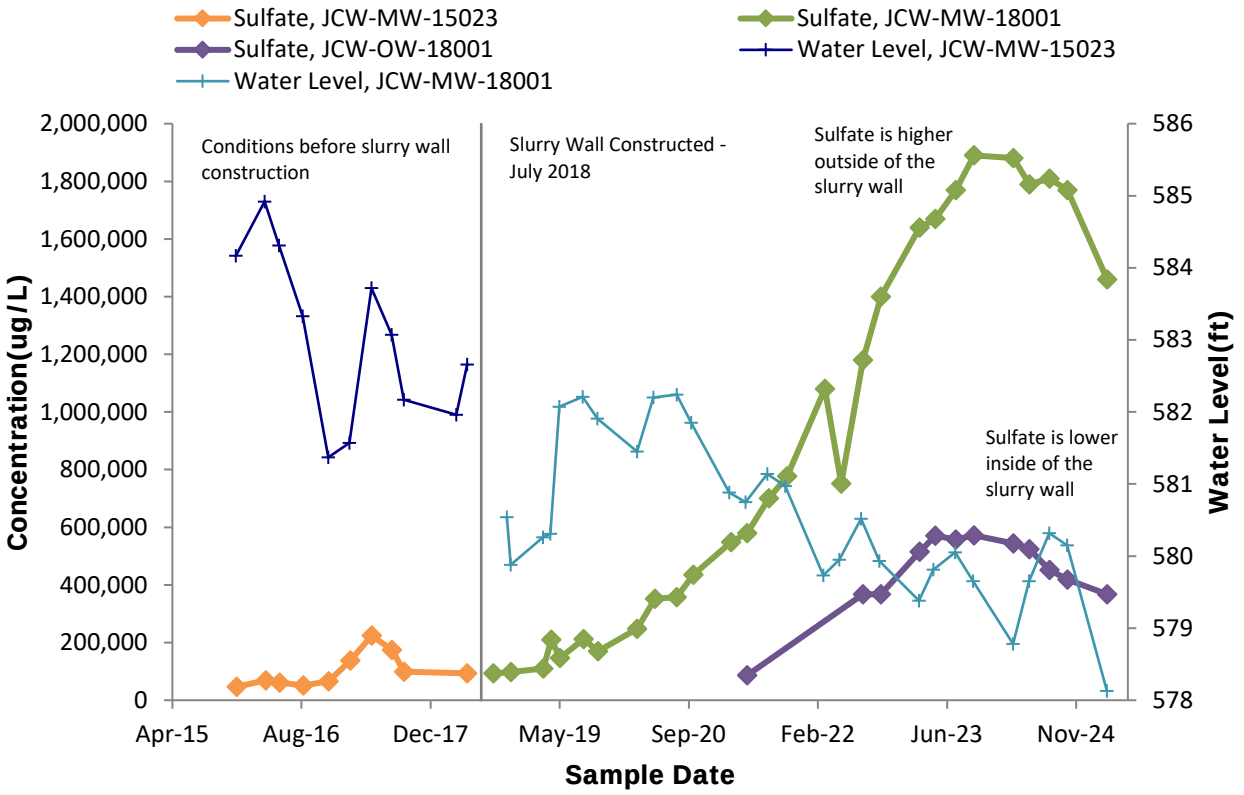


Figure G1: Time Series Plots for JCW-MW-18001 ASD



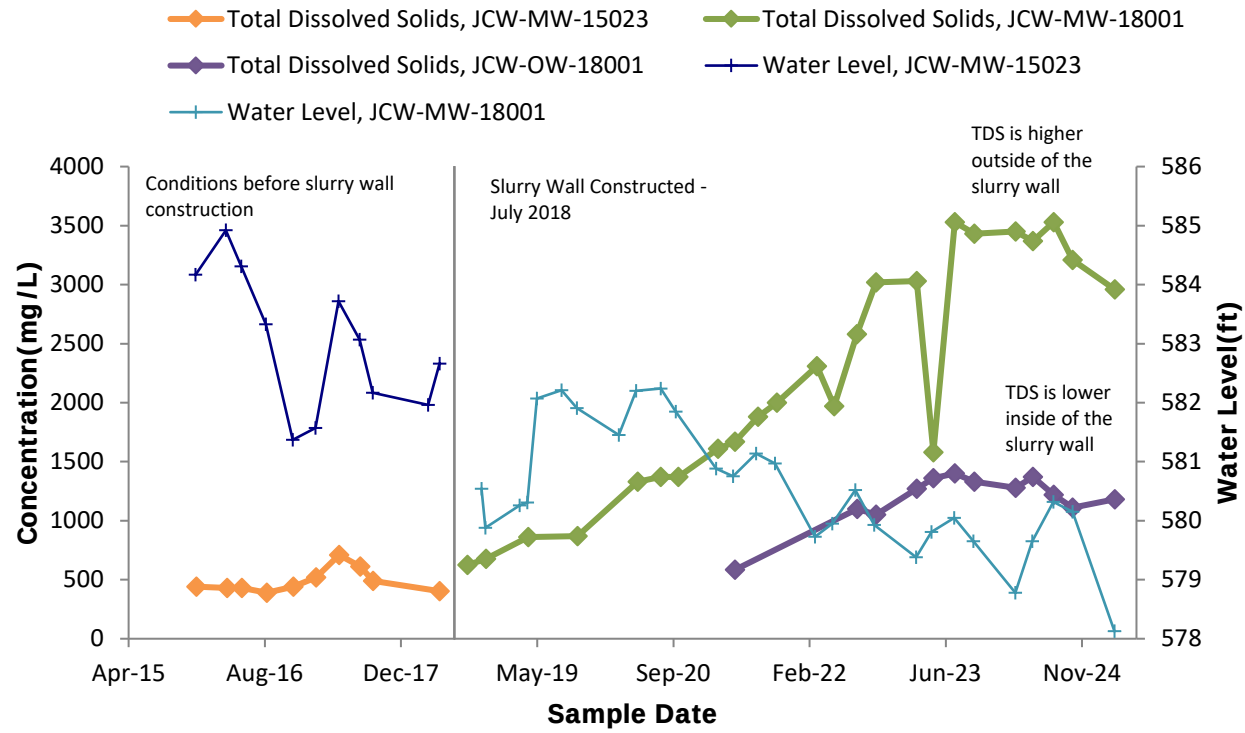
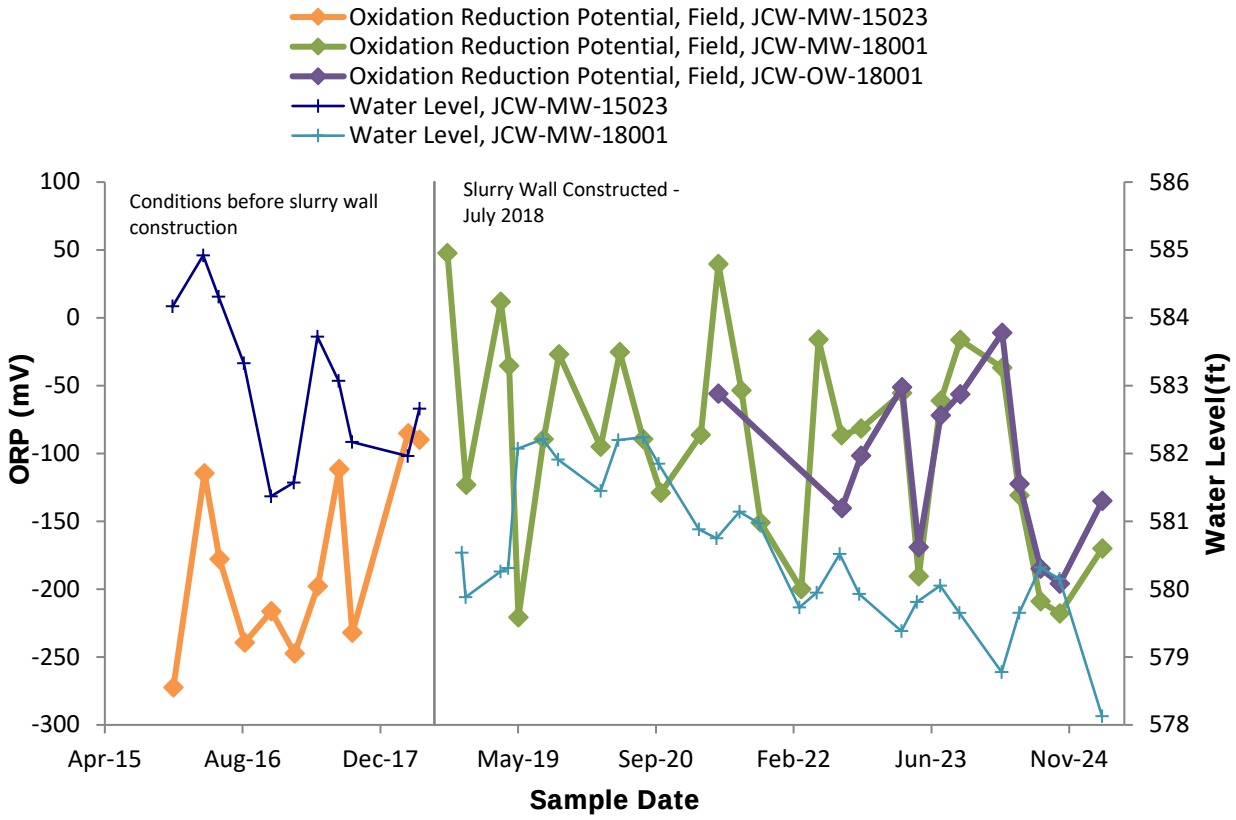


Figure G1: Time Series Plots for JCW-MW-18001 ASD



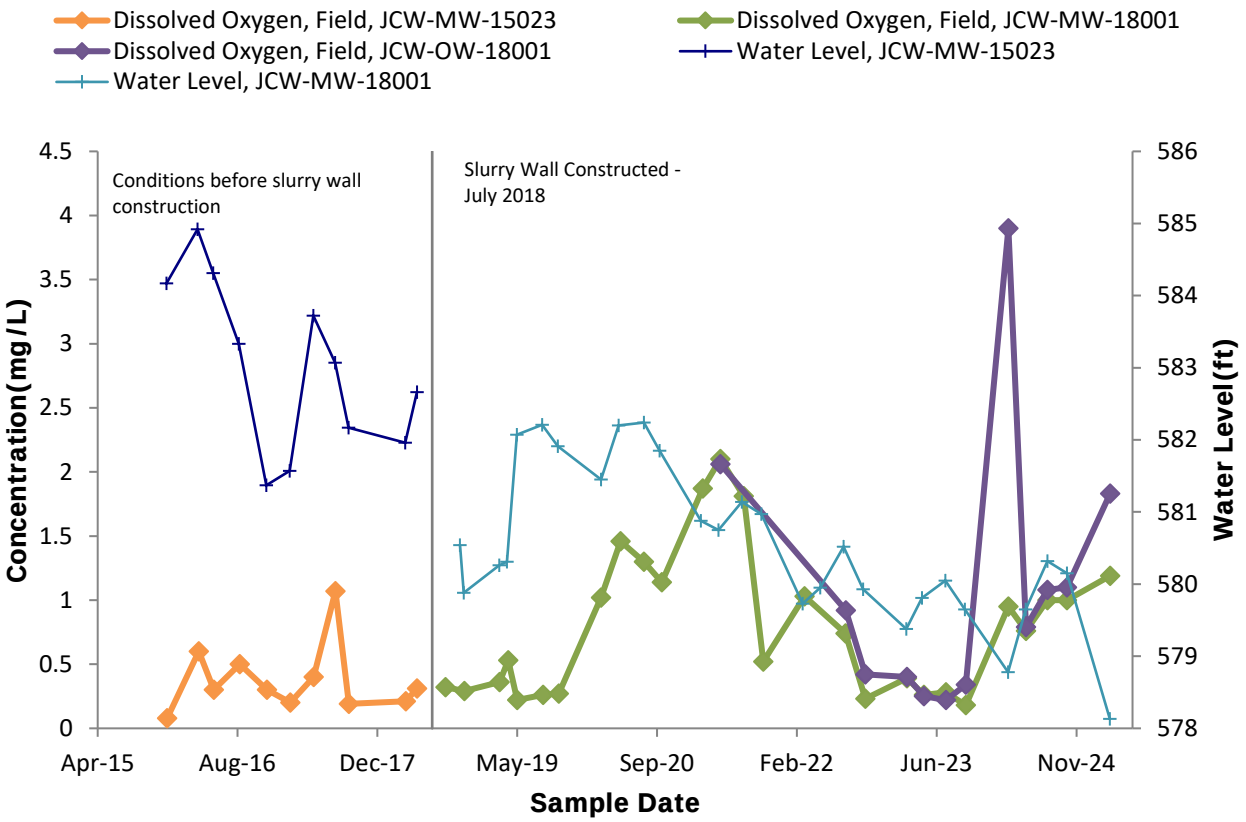
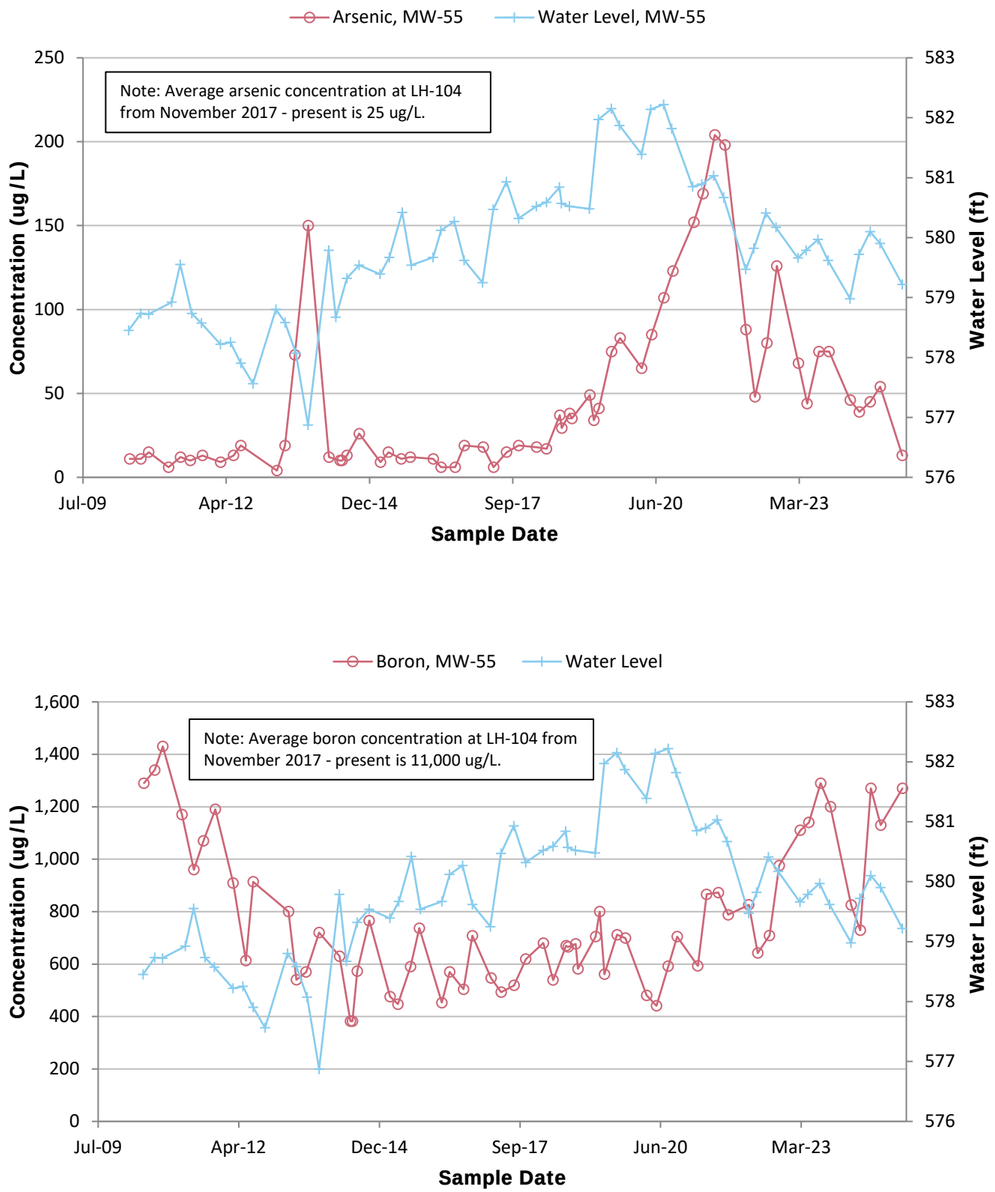
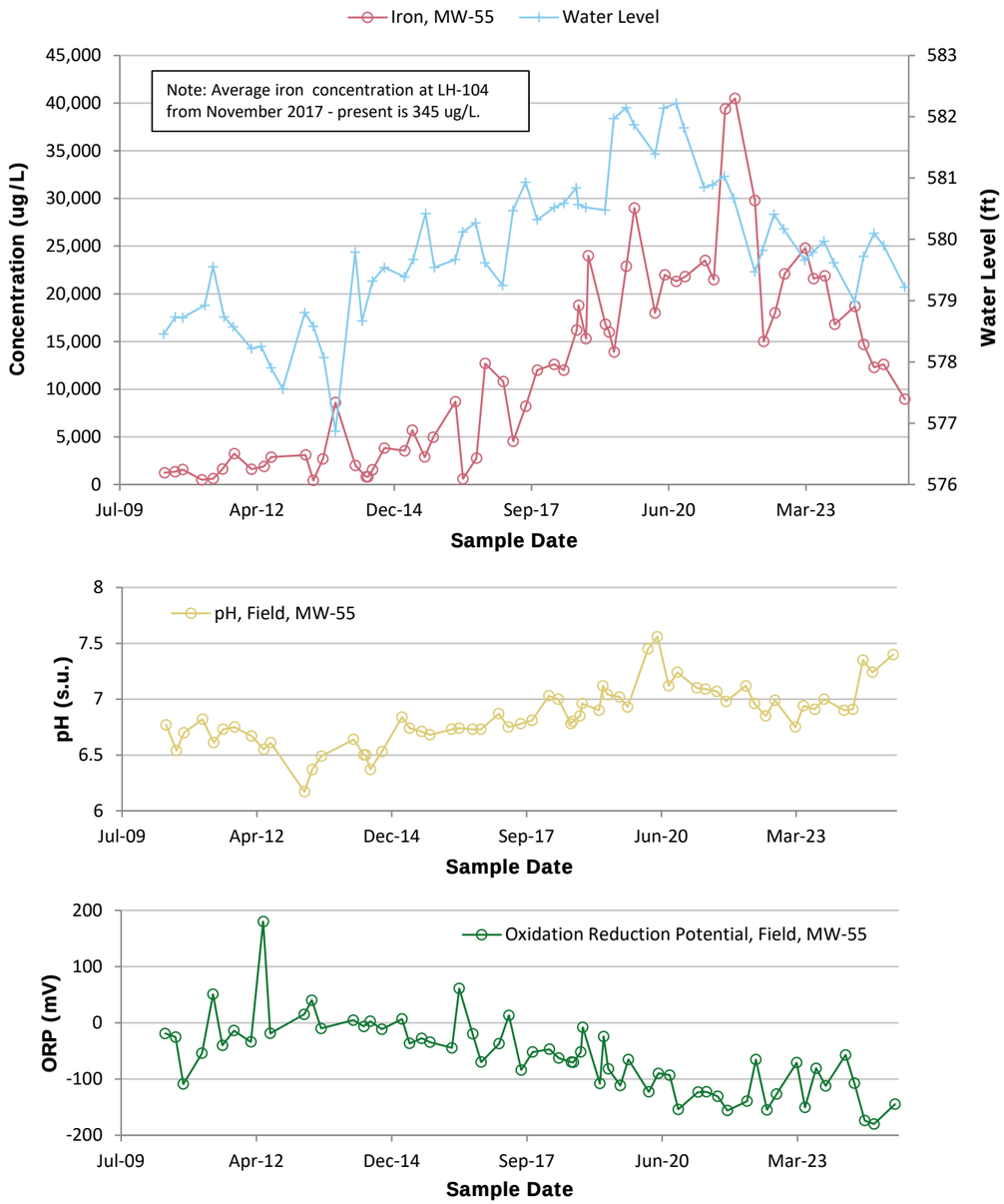


Figure G2: Time Series Plots for MW-55 ASD





Enclosure 3

2025 Semiannual Groundwater Monitoring Report and Second Quarter 2025 Hydrogeological Monitoring Report, JC Weadock Solid Waste Disposal Area, Essexville, Michigan. (TRC, July 30, 2025)

2025 Semiannual Groundwater Monitoring Report and Second Quarter 2025 Hydrogeological Monitoring Report

JC Weadock Solid Waste Disposal Area
Essexville, Michigan

July 2025

Prepared For:

Consumers Energy
1945 W. Parnall Road
Jackson, MI 49201

Prepared By:

TRC
1540 Eisenhower Pl.
Ann Arbor, MI 48108

Darby Litz
Project Manager/Hydrogeologist

Kristin Lowery, P.E.
Project Engineer

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Appendix C Detection Monitoring Statistical Trend Tests
Appendix D Assessment Monitoring and GSI Statistical Evaluation
Appendix E Laboratory Analytical Report
Appendix F Field Records
Appendix G Alternate Source Demonstration Supporting Information

1.0 Introduction

Consumers Energy implemented a comprehensive compliance monitoring plan documented in the *Revised Hydrogeological Monitoring Plan* (Natural Resource Technology, 2010) for the JC Weadock Solid Waste Disposal Area (Weadock Landfill) as required by Special License Condition 20.b in Solid Waste Disposal Area Operating License No. 9233 issued on October 15, 2009. Since that time, the United States Environmental Protection Agency (USEPA) published the final rule for the regulation and management of Coal Combustion Residuals (CCR) under the Resource Conservation and Recovery Act (RCRA) (the CCR Rule) (USEPA, April 2015 as amended) imposing groundwater monitoring and corrective action requirements that apply to the Weadock Landfill. Subsequently, Michigan amended Part 115 of the Natural Resources and Environmental Protection Act (NREPA) PA 451 of 1994, as amended (a.k.a., Michigan Part 115 Solid Waste Management) to provide a basis for establishing a groundwater monitoring system and initiating detection and assessment monitoring to conform requirements for any licensed coal ash impoundment or landfill after December 28, 2018, with Part 115 amendments and the CCR Rule.

On January 15, 2021, Consumers Energy submitted the *Landfill Hydrogeological Monitoring Plan, JC Weadock Power Plant, Essexville, Michigan* (Weadock Landfill HMP), which includes components for Detection Monitoring and Assessment Monitoring, as well as Groundwater Surface Water Interface (GSI) Compliance Monitoring, to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to comply with the requirements of Part 115 and the CCR Rule. The Weadock Landfill HMP (TRC, February 2021) was revised per EGLE comments, submitted, and approved by EGLE on February 19, 2021, and incorporated, by reference, in Solid Waste Disposal Area Operating License No. 9640 issued on March 11, 2021.

1.1 Statement of Adherence to Approved Hydrogeological Monitoring Plan

This Second Quarter 2025 JC Weadock Hydrogeological Monitoring Report (Report) has been prepared by TRC on behalf of Consumers Energy to satisfy quarterly groundwater monitoring and reporting requirements during the active life of the coal ash landfill. This Report was prepared in accordance with the items listed in Appendix A (Solid Waste Monitoring Submittal Components) of the May 15, 2015 Michigan Department of Environmental Quality (MDEQ) – Office of Waste Management and Radiological Protection, now the EGLE Materials Management Division (MMD), communication prescribing the format for solid waste disposal facility monitoring submittals as published in OWMRP-115-29, dated July 5, 2013 *Format for Solid Waste Disposal Facility Monitoring Submittals*. All references herein to the EGLE are inclusive of the MDEQ. Information contained in this report was prepared in adherence to the Weadock Landfill HMP that was approved by the EGLE on February 19, 2021. The Weadock Landfill HMP is compliant with Public Act No. 640 of 2018 (PA 640) to amend the NREPA, also known as Part 115 of PA 451 of 1994, as amended (Part 115) (a.k.a., Michigan Part 115 Solid Waste Management).

1.2 Program Summary

This Report provides results and summarizes the monitoring activities completed in the second quarter 2025 at the JC Weadock Solid Waste Disposal Area (*i.e.* the Weadock Landfill) located

at 2742 Weadock Highway in Essexville, Michigan (Figure 1). This JC Weadock Disposal Area is currently authorized under a permit (Groundwater Discharge Authorization GWE-0005) issued pursuant to Part 31 to discharge to the unusable aquifer directly underlying the solid waste that vents almost immediately to the Saginaw River and Saginaw Bay.

The Weadock Landfill is currently in assessment monitoring pursuant to the CCR Rule. Consumers Energy first reported the potential for statistically significant increases (SSIs) for Appendix III constituents in the *Annual Groundwater Monitoring Report JC Weadock Power Plant Bottom Ash Pond CCR Unit* (TRC, January 2018). The statistical evaluation of the Appendix III indicator parameters confirming SSIs over background were as follows:

- Boron at JCW-MW-15011, JCW-MW-15012, JCW-MW-15023; and
- Field pH at JCW-MW-15023 (high).

On April 25, 2018, Consumers Energy entered assessment monitoring upon determining that an Alternate Source Demonstration for the Appendix III constituents was not successful. After subsequent sampling for Appendix IV constituents, Consumers Energy provided notice to the Department on January 14, 2019 that arsenic was detected at statistically significant levels above the federal groundwater protection standards (GWPS) established pursuant to §257.95(h) in one monitoring well at the Weadock Landfill (JCW-MW-15023), which was located downgradient of a 1,600 linear foot vent within the slurry wall enclosing the historical fly ash disposal area. The vent was designed to direct groundwater flow beneath the landfill to the discharge channel immediately upgradient from the National Pollutant Discharge Elimination System (NPDES) external outfall to prevent water from building up within the facility. In July 2018, this vent was closed (Golder, 2018) and the engineering improvement was approved by the Department (MDEQ, 2018). As a part of the vent closure, monitoring wells JCW-MW-15011, JCW-MW-15012, and JCW-MW-15023 were decommissioned by over drilling, removing the well material, and sealing the borehole to allow for the slurry wall construction as discussed in the *2018 Annual Groundwater Monitoring Report for the JC Weadock Landfill CCR Unit* (TRC, 2019a). Consumers Energy installed an additional nine monitoring wells in August 2018 to supplement the preexisting Michigan Part 115 compliance groundwater well network and provide appropriate coverage for the collection of groundwater levels and water quality data along the perimeter of the Weadock Landfill, as discussed in the Weadock Landfill HMP. Closing the vent and completely encircling the Weadock Landfill with a soil-bentonite slurry wall has demonstrated reduced groundwater flux around the entire perimeter of the landfill.

In March 2019, Consumers Energy submitted a Response Action Plan (Consumers, 2019), which identified interim response activities taken or to be taken to control possible sources of contamination. Consumers Energy further evaluated arsenic in groundwater at the Weadock Landfill as part of the nature and extent analysis and outlined potential remedies in the *Assessment of Corrective Measures* (TRC, 2019b), which was initiated on April 14, 2019, and completed on September 11, 2019, and focused on materials management with an emphasis on improving source control through the closure plan.

Compliance monitoring is being implemented under the Weadock Landfill HMP dated February 2021 and approved by the EGLE on February 19, 2021. Groundwater data collected in accordance with the Weadock Landfill HMP are used to:

- Assess background groundwater quality for the purposes of establishing and updating GWPS (HMP Section 7.1 Background Determination)
- Perform detection monitoring to assess whether a new release has occurred during operation of the landfill (*i.e.* SSI over background) (HMP Section 7.2 Detection Monitoring)
- Perform assessment monitoring to assess whether constituent concentrations in groundwater from prior operations are above a risk-based standard (*i.e.* statistically significant level over the GWPS) (HMP Section 7.3 Assessment Monitoring)
- Assess compliance with the GSI pathway (HMP Section 7.4)

Consumers Energy also continues to execute the self-implementing groundwater compliance schedule in conformance with §257.90 - §257.98 of the CCR Rule, which includes semiannual assessment monitoring in accordance with §257.95 during the second and fourth calendar quarters. Assessment monitoring data collected in accordance with the CCR Rule is used to assess whether constituent concentrations in groundwater from prior operations are above a risk-based standard (*i.e.* statistically significant level over the Appendix IV GWPS).

1.3 Site Overview

The JC Weadock Solid Waste Disposal Area is located within the former JC Weadock Power Plant (Site), located south of the DE Karn Power Plant, east of the Saginaw River, west of Underwood Drain and Saginaw Bay, and north of Tacey Drain and agricultural land (Figure 1). In addition to the disposal area, the Site consists of the generating facility which retired eight coal-fired generating units and infrastructure and utilities that support electrical transmission. Units 1 to 6 commenced operation in 1940 and retired in 1980 and Units 7 and 8 were added in 1955 and 1958 continued to operate through April 15, 2016.

1.4 Geology/Hydrogeology

The majority of Weadock Landfill area is comprised of surficial CCR and sand fill, as described in the Weadock Landfill HMP. USGS topographic maps and aerial photographs dating back to 1950, in addition to field descriptions of subsurface soil at the Site, indicate that the Site was largely developed by reclaiming low-lands through construction of perimeter dikes and subsequent ash filling (AECOM, 2009).

The surficial fill consists of a mixture of varying percentages of ash, sand, and clay-rich fill ranging from 5 to 15 feet thick. Below the surficial fill, native alluvium and lacustrine soils are present at varying depths. Generally, there is a well graded sand unit present to depths of 10-30 feet below ground surface (ft bgs) overlying a clay till which is observed at depths ranging from 25-75 ft bgs. In general, the alluvium soils (sands) are deeper along the Saginaw River and there are shallower lacustrine deposits (clays, silts, and sands deposited in or on the shores of glacial lakes) at other areas. Along the perimeter of the landfill, there is a well-graded sand unit present at depths ranging from 10 to 20 ft bgs. The sand is variable in thickness, ranging

from <1 to ~6.5 feet, and is discontinuous along the landfill perimeter, as evidenced by the soil boring logs and slurry wall construction documentation.

The alluvium soils pinch out and are not observed in soil borings located south and east of the Weadock Landfill, along the location of the historic shoreline. The non-water-bearing region south of the Weadock Landfill extends for at least a mile south and southeast of the Site.

Beneath the surficial fill and sand unit (where present) is 70 to 80 feet of clay till. Along the southern perimeter of the landfill, some of the upper portion of the clay till is sand-rich (generally greater than 20 ft bgs). The clay till acts as a hydraulic barrier that separates the shallow groundwater from the underlying sandstone. The sandstone unit, which is part of the Saginaw Formation, is generally encountered at 80-90 ft bgs.

The Weadock Landfill is bounded by several surface water features (Figures 1 and 2): the Saginaw River to the west, a discharge channel and Saginaw Bay (Lake Huron) to the north, Underwood Drain to the east, and Tacey Drain to the south. Groundwater flow in this water bearing zone is largely controlled by the surface water elevations of Saginaw River and Saginaw Bay.

2.0 Leachate Monitoring

The leachate monitoring program consists of an annual laboratory leachate sampling program (Q1) and an annual field leachate sampling program (Q4) per the Weadock Landfill HMP. This program was instituted to maintain the facility under the applicable portions of Part 115, Rule 311 – Leaching tests to evaluate potential for groundwater contamination at unlined industrial waste landfills. Specifically, Subrule (3) states that waste that is disposed of in an industrial waste landfill shall be retested to evaluate potential for groundwater contamination annually or on a more frequent schedule as specified by the solid waste control agency.

In addition to field leachate testing conducted annually to evaluate appropriateness of monitored constituents and changes to fate and transport properties, an annual laboratory leachate analysis program was included to better understand what, if any, changes to waste placement may be occurring at the Weadock Landfill based on the addition of air emissions controls and the commingling of air emissions controls residuals (Spray Dry Absorber – SDA) over time. The Weadock Landfill HMP includes the laboratory leachate testing program, consisting of four dry-handled Coal Combustion Residual (CCR) samples commingled with SDA materials collected from each of the disposal silos dedicated to DE Karn Electrical Generating Units 1 and 2. Karn Units 1 & 2 permanently ceased operation on May 31, 2023, so additional CCR and air emissions residuals are not being generated; therefore, there are no results to report for this waste stream and the laboratory leachate monitoring is discontinued. In order for the Weadock Landfill to achieve the final grades as approved in the Revised Final Closure Plan (Golder, March 2022), it is noteworthy that the landfill continues to receive materials in the form of uncontaminated soil from documented sources, and limited contaminated soil that has been authorized for placement in the Weadock Landfill under the Beneficial Use 4 designation as other materials designated for construction at a licensed solid waste disposal facility. These results are maintained with the closure certification documentation.

Additional support for evaluating the potential for groundwater contamination at the unlined industrial waste landfill includes the field leachate monitoring program conducted during the fourth quarter of each year. This program consists of an annual sampling collection from two (2) leachate headwells; LH-103R and LH-104. This program was implemented to determine constituents in the leachate as measured under actual conditions in the field and to assess which constituents have the potential to exceed applicable criteria at the compliance well locations. There are no field leachate data to report this quarter.

3.0 Groundwater Monitoring

3.1 Monitoring Well Network

The groundwater monitoring system presented in the Weadock Landfill HMP has been established in accordance with R 299.4906 and the CCR Rule §257.91 and consists of 27 monitoring wells (four background monitoring wells, 12 downgradient monitoring wells, and 11 additional wells used for static water level measurements only) that are screened in the uppermost aquifer. The monitoring well network has been designed to provide appropriate coverage for water level and water quality data collection along the perimeter of the landfill. The monitoring well locations are shown on Figure 2. Monitoring well specifications and purpose (i.e. static water level monitoring, groundwater quality monitoring, or GSI monitoring) are included in Table 1.

The Weadock Landfill HMP groundwater monitoring system consists of the following:

- ***Background Groundwater Quality:*** Four monitoring wells located southwest of the Weadock Landfill provide data on background groundwater quality that has not been affected by the CCR unit (MW-15002, MW-15008, MW-15016, and MW-15019) and are used to establish groundwater protection standards (GWPSs) for the landfill:
  - MW-15002 – MW-15008 – MW-15016 – MW-15019
- ***Downgradient Groundwater Quality:*** The twelve downgradient monitoring wells, located on the outside of the perimeter slurry wall include:
  - JCW-MW-18001 – JCW-MW-18004 – JCW-MW-18005 – JCW-MW-18006
  - MW-50 – MW-51 – MW-52 – MW-53
  - MW-53R – MW-54R – MW-55 – OW-57R Out
- ***Groundwater-Surface Water Interface (GSI) Monitoring***: Monitoring wells located along the surface water features adjacent to the Weadock Landfill are included in the monitoring program to meet the requirements of Part 31. Locations and alignments were established in the Phase II Groundwater Discharge Evaluation, Figure: Appendix K (Natural Resource Technology, 2005) as a baseline for monitoring future results. These monitoring wells are screened across the water table of the uppermost aquifer and serve as GSI monitoring wells to determine compliance with generic GSI criteria or site-specific mixing zone-based criteria as appropriate. The eight GSI compliance monitoring wells include:
  - MW-50 – MW-51 – MW-52 – MW-53
  - MW-53R – MW-54R – MW-55 – JCW-MW-18004
- ***Static Water Level Measurement Only:*** Eleven additional monitoring wells, located on the inside of the perimeter slurry wall at paired locations with several of the downgradient monitoring wells, are used to evaluate the groundwater flux across the slurry wall:
  - JCW-OW-18001 – JCW-OW-18002 – JCW-MW-18003 – JCW-MW-18004
  - JCW-MW-18005 – JCW-MW-18006 – MW-20 – OW-51
  - OW-53 – OW-54 – OW-55 – OW-56R
  - OW-57R IN – OW-61 – OW-63

3.2 May 2025 Monitoring Event

In accordance with the Weadock Landfill HMP, TRC conducted the second quarter 2025 monitoring event for the Weadock Landfill by collecting water levels and groundwater samples on May 12 through 15, 2025. Samples that were collected during this event were submitted to Consumers Energy Laboratory Services in Jackson, Michigan for analysis of total metals and inorganic parameters. Radium analysis was performed by Eurofins Environment Testing in Earth City, Missouri. Semiannual monitoring constituents include:

Section 11511a(3)(c) – Detection Monitoring Constituents	Section 11519b(2) – Assessment Monitoring Constituents	
Boron	Antimony	Lithium
Calcium	Arsenic	Mercury
Chloride	Barium	Molybdenum
Fluoride	Beryllium	Nickel
Iron	Cadmium	Selenium
pH (field measurement)	Chromium, total	Silver
Sulfate	Cobalt	Thallium
Total Dissolved Solids (TDS)	Copper	Vanadium
	Fluoride	Zinc
	Lead	Radium 226/228

Select samples were also analyzed for additional constituents including magnesium, sodium, potassium, and bicarbonate, carbonate, and total alkalinity to further assess geochemistry. Analytical results from the monitoring event are included in the attached laboratory reports (Appendix E).

Static water level measurements were collected at all locations after equilibration to atmospheric pressure. The depth to water was recorded to the nearest 0.01-ft in accordance with the procedures in the Weadock Landfill HMP. Static water elevation data are included in the attached field records (Appendix F).

Groundwater purging and sampling were conducted in accordance with low-flow sampling protocol as described in the Weadock Landfill HMP. Groundwater samples were collected using a peristaltic pump. The samples were collected in vendor-provided, nitric acid pre-preserved (metals only) and unpreserved sample containers and submitted to the laboratory for analysis. Groundwater sample preparation and analyses were performed in accordance with SW-846 "Test Methods for Evaluation Solid Waste – Chemical / Physical Methods," USEPA (latest revision). TRC followed chain of custody procedures to document the sample handling sequence.

TRC also collected quality assurance/quality control (QA/QC) samples during the groundwater

sampling event. The QA/QC samples consisted of two field blanks, one equipment blank, three field duplicates (MW-52, MW-55 [not including radium], MW-15002), and one field matrix spike/matrix spike duplicate sample pair (JCW-MW-18001).

3.2.1 Data Quality Review

Data were evaluated for completeness, overall quality and usability, method-specified sample holding times, precision and accuracy, and potential sample contamination. The laboratory data were found to be complete and usable for the purposes of the Weadock Landfill HMP. The data quality reviews for the Weadock Landfill monitoring network wells are summarized in Appendix B.

3.3 Groundwater Flow Rate and Direction

Potentiometric monitoring in the unusable aquifer beneath the facility includes static water level data collected for development of water table contours and evaluation of the potential for discharge from the facility. The monitoring under this section will be conducted quarterly until closure, as approved by the Director, and semiannually during the 30-year post-closure period. Monitoring will continue until the end of post closure (30 years) or as otherwise approved by the Director.

The measurements for top of casing (TOC) and recorded depth to water (DTW) with corresponding calculated static water level (SWL) is tabulated and presented in Table 1. A potentiometric surface map is provided as Figure 3.

Groundwater elevations measured at the Site in May 2025 are generally within the range of 579 to 595 feet above mean sea level (ft NAVD88). Groundwater elevations in monitoring wells located adjacent to Saginaw Bay and adjoining surface water bodies are typically encountered at a similar or slightly higher elevation relative to surrounding surface water features measured by the NOAA gauging station. A time-series plot included in Appendix A compares the groundwater elevation at the GSI monitoring wells (MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, JCW-MW-18004, and MW-55) to the nearby NOAA staff gauge. Water levels in wells adjacent to surface water bodies (e.g. Saginaw Bay, Tacey Drain) closely mirror the surface water elevation. Such conditions would result in a minimal gradient between the well and the drain which would result in minimal mass flux to the drain (Appendix A: Table A1).

The groundwater monitoring system is structured such that there are eleven monitoring well pairs used to evaluate the hydraulic gradient and potential for water flux across the slurry wall. Static water level observations from the paired wells are shown on time series charts in Appendix A. The static water level elevations inside of the Weadock Landfill perimeter slurry wall are generally significantly different (>3 ft) than static water levels outside of the slurry wall, which demonstrates the presence of a low permeability feature between the well pairings inside and outside of the constructed slurry wall. As such, the water level elevations indicate that the slurry wall is performing as designed. The general flow direction observed within the confinement of the slurry wall is similar to that identified in previous monitoring rounds. Due to the potential for radial flow, the downgradient wells are appropriately positioned to detect the presence of detection or assessment parameters that could potentially migrate from the

Weadock Landfill. As shown on Figure 3 and in Appendix A, the static water level outside of the slurry wall is lower than the static water level inside of the wall; therefore, the potential groundwater flux across the slurry wall was calculated and included in Table A2 of Appendix A.

3.4 Groundwater Analytical Data and Relevant Screening Criteria

Groundwater analytical data are evaluated in accordance with the Weadock Landfill HMP to determine the effectiveness of landfill structural and operational enhancement measures on the quality and quantity of groundwater flow beneath the footprint of the facility (Section 3.4.1 Detection Monitoring and Section 3.4.2 Assessment Monitoring). Additionally, analytical results are evaluated in support of GSI compliance. GSI criteria only apply to the designated compliance points as specified in Section 3.4.3 below; however, analytical results and data trends in groundwater collected from all perimeter dike wells are evaluated to identify potential GSI compliance issues. Data are evaluated by using a combination of screening against relevant criteria, as well as utilizing statistical analyses.

Analytical results from the second quarter 2025 monitoring event are included in the attached laboratory report (Appendix E). Groundwater analytical data from the second quarter 2025 monitoring event are summarized in Table 3 (background monitoring wells) and Table 4 (Weadock Landfill Monitoring Wells), as well as the associated Part 201 generic GSI and site-specific mixing-zone GSI criteria.[1] Field data are summarized in Table 2.

Mixing-zone criteria for arsenic, boron, molybdenum, and selenium are provided for the Karn-Weadock complex in the mixing zone determination dated October 4, 2024 (EGLE, 2024). As such, arsenic, boron, molybdenum, and selenium are compared to site-specific mixing zone-based GSI criteria, and all other constituents are screened against generic GSI criteria. All data are screened against GSI criteria; however, compliance with GSI criteria is determined at select monitoring locations as noted in Section 3.4.3 below.

The mixing zone determination included both final acute values (FAV) and final chronic values (FCV). If a concentration of a constituent at a groundwater well exceeds the acute criteria, and the exceedances are upgradient of the GSI compliance monitoring wells, Consumers Energy must demonstrate that data from all of the GSI compliance monitoring wells are, and will be, in compliance with acute mixing zone-based GSI criteria for those parameters. Averaging of groundwater data is not allowed for comparison to generic GSI or acute mixing zone-based GSI criteria. Acute mixing zoned-based or generic GSI criteria may not be exceeded in any individual GSI compliance monitoring well. If a concentration of a constituent at a GSI compliance monitoring well exceeds the chronic criterion, compliance can be demonstrated on a mass-flux basis. The facility can choose to demonstrate compliance by evaluating the total chronic loading based upon the contribution from each compliance well with respect to the total flux observed in the mixing zone.

Table 6 provides a summary of the exceedances over the most recent four quarters in accordance with the EGLE-prescribed format; only well/constituent pairs that exceed the

[1] Drinking water criteria are also included in Tables 3 and 4 for review purposes. There is not a complete drinking water pathway on-site. As such, the relevant compliance pathway is the GSI pathway.

relevant Part 115 compliance standard – the GSI pathway standard (Section 3.4.3) within the last four quarters are included.

3.4.1 Detection Monitoring

Detection monitoring is continuing through the active life of the Weadock Landfill to monitor for new releases from landfill operations. The detection monitoring program consists of potentiometric analysis and groundwater quality analysis. The potentiometric analysis, as discussed in Section 3.3, demonstrates that the slurry wall is performing as designed.

In addition to the comparison of analytical data to relevant screening criteria (Table 4), statistical trend analyses are used to evaluate groundwater quality each quarter. Consumers Energy manages and evaluates its groundwater data using Sanitas™ Statistical Software. Consumers Energy conducts intrawell trend analyses to examine data for a given well over time to determine if changes in water quality are occurring that may be associated with the landfill and to identify potential GSI compliance issues. Specifically, the Mann-Kendall test for trend was performed at a significance level (α) of 0.025 per tail for each constituent/sampling point dataset to assess trends. Sen's Slope estimator was used to assess the magnitude of the slope and the Mann-Kendall test was used to determine if the trend was statistically significant.

Appendix C includes a table summarizing the results of the trend tests as well as the Sanitas™ output summary statistics and graphs. Data are stable (i.e., no trend) or declining for the majority of the well/constituent pairs, with the following exceptions:

- The increasing trend for boron observed at JCW-MW-18006 continued in Q2 2025. The new increasing trend for boron observed at MW-50 in Q1 2025 was confirmed in Q2 2025.
- The increasing trend for chloride observed at MW-53R continued in Q2 2025. The new increasing trends for chloride observed at MW-54R and OW-57R OUT in Q1 2025 were confirmed in Q2 2025.
- Increasing trends for pH continued at MW-50 and MW-53R in Q2 2025.
- A new, unconfirmed increasing trend for TDS was observed at MW-54R in Q2 2025.

Although increasing trends for detection monitoring constituents were observed, individual constituent trends provide only a *potential indication* that there may be a release coming from the monitored unit. When these indicator trends are evaluated with other co-monitored conditions and parameters at the Weadock Landfill, the increasing trends for detection monitoring constituents do not appear to be a result of a new release from operation of the landfill. The potentiometric analysis demonstrates that the slurry wall is effective in reducing the flux of groundwater from the landfill. All concentrations remain below the applicable GSI criteria, as discussed in Section 3.4.3 below.

Consumers is further evaluating possible causes of the increasing boron concentrations at several porewater compliance monitoring wells. Previous studies (NRT, 2005) documented boron at significantly elevated concentrations at the Karn-Weadock Power Generating Complex. Boron was also identified as an SSI over background levels in the 2017 *Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit* (TRC, 2018) and was one of

the detection monitoring constituents that triggered the initiation of the assessment monitoring program. Statistical significance above the GWPS established for boron has been noted for these monitoring wells per the Part 115 groundwater monitoring program requirements, as discussed in Section 3.4.2.2. Continued monitoring and assessment for potential future actions is warranted at this time; however, observed concentrations of boron in each of the monitoring wells are less than the relevant Part 115 compliance standard – the GSI pathway standard (Section 3.4.3).

3.4.2 Assessment Monitoring Data Evaluation

Assessment monitoring is continuing at the Weadock Landfill in accordance with the Weadock Landfill HMP and §257.95 of the CCR Rule. The assessment monitoring data were statistically evaluated in accordance with the procedures in the Weadock Landfill HMP. The statistical evaluation details are provided in Appendix D. A summary of the confidence interval evaluation is provided in Table 5.

3.4.2.1 Establishing Groundwater Protection Standards

The GWPSs are used to assess constituent concentrations present in groundwater as a result of CCR unit operations by statistically comparing concentrations in the downgradient wells to each of the respective GWPSs for each detection and assessment monitoring constituent. The calculation of the GWPSs in accordance with the Weadock Landfill HMP is documented in the *Groundwater Protection Standards* technical memorandum included as Appendix H of the *First Quarter 2021 Hydrogeological Monitoring Report* (TRC, 2021b). The Federal CCR Rule requires establishment of GWPSs for assessment monitoring (Appendix IV) constituents only. Part 115 requires establishment of GWPSs for both detection and assessment monitoring constituents.

3.4.2.2 Data Comparison to Groundwater Protection Standards

Consistent with the *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (Unified Guidance) (USEPA, 2009) and the Weadock Landfill HMP, the preferred method for comparisons to a fixed standard are confidence limits. An exceedance of the standard occurs when the 99 percent lower confidence level of the downgradient data exceeds the GWPS.

Detection Monitoring Constituents (Part 115): The second quarter 2025 statistical evaluation indicates that boron at JCW-MW-18001, JCW-MW-18005, JCW-MW-18006, MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, and OW-57R OUT, calcium at JCW-MW-18001, and sulfate at JCW-MW-18001 were present at statistically significant levels above the GWPS. The GWPSs for boron, calcium, and sulfate were established based on background concentrations observed in wells unaffected by the Weadock Landfill or Weadock Bottom Ash Pond. Detection monitoring (i.e., Appendix III) constituents do not have associated health-based criteria and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. Overall, data continue to demonstrate compliance with the applicable criteria as described in Section 3.4.3 below.

Assessment Monitoring Constituents (Part 115 and Federal CCR): Based on the second quarter 2025 statistical evaluation, there are no assessment monitoring constituents present at statistically significant levels above the GWPSs within the Weadock Landfill groundwater monitoring system. Although concentrations of arsenic at MW-55 observed during individual sampling events are above the GWPS, the elevated concentrations are not a result of a release from the Weadock Landfill, as detailed in Section 3.5.

3.4.3 GSI Compliance Monitoring

The GSI monitoring program consists of the eight monitoring points located along the surface water features:

- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- JCW-MW-18004

Second quarter 2025 data from the GSI monitoring points are tabulated in Table 4. As described in the Weadock Landfill HMP, GSI monitoring program constituents were identified as detected constituents that have the potential to exceed the generic GSI criteria at the Weadock Landfill downgradient monitoring wells. At a minimum, these constituents include the following, identified based on prior groundwater monitoring as noted in the Weadock Landfill HMP:

- Boron
- Iron
- pH
- Sulfate
- Arsenic
- Chromium
- Lithium
- Molybdenum
- Selenium
- Vanadium

Additional constituents will be added to the GSI monitoring program as appropriate if detected above the relevant GSI criteria at the landfill monitoring wells in two consecutive events. Calcium, chloride, and total dissolved solids have been detected above the generic GSI criteria in one or more wells over two consecutive events; however, it is not appropriate to add these constituents to the GSI monitoring program for the following reasons:

- **Calcium:** Calcium has been detected above the generic GSI criterion at JCW-MW-18001. As discussed further in Section 3.5, the concentrations of calcium at JCW-MW-18001 are attributed to localized changes in geochemistry and are not indicative of a new release from the landfill. Concentrations in all other wells remain below the generic GSI criterion, supporting that the detected concentrations are localized to JCW-MW-18001. Given that JCW-MW-18001 is not a GSI compliance monitoring location and the increase in calcium is not attributed to the landfill operation, it is not appropriate to add calcium to the GSI compliance monitoring program.
- **Chloride:** Chloride has been detected above the generic GSI criterion of 50 mg/L in several wells. Chloride is regionally elevated, as evidenced by the calculated background concentration of 2,300 mg/L, documented in the *Groundwater Protection Standards* technical memorandum included as Appendix H of the *First Quarter 2021 Hydrogeological Monitoring Report* (TRC, 2021b). Consistent with the *Groundwater-Surface Water Interface Pathway Compliance Options* (MDEQ, 2018a) resource materials,

where the background concentration is greater than the risk-based GSI criterion, the background concentration may be substituted for the GSI criterion. All chloride concentrations are below the background concentration. Therefore, chloride is determined to be below the applicable level and is not included in the GSI compliance monitoring program.

- **Total Dissolved Solids:** Total dissolved solids (TDS) has been detected above the generic GSI criterion of 500 mg/L in several wells. TDS is regionally elevated, as evidenced by the calculated background concentration of 4,700 mg/L, documented in the *Groundwater Protection Standards* technical memorandum included as Appendix H of the *First Quarter 2021 Hydrogeological Monitoring Report* (TRC, 2021b). Consistent with the *Groundwater-Surface Water Interface Pathway Compliance Options* (MDEQ, 2018a) resource materials, where the background concentration is greater than the risk-based GSI criterion, the background concentration may be substituted for the GSI criterion. All TDS concentrations are below the background concentration. Therefore, TDS is determined to be below the applicable level and is not included in the GSI compliance monitoring program.

The confidence interval evaluation is provided in Appendix D. The confidence interval test compares the lower confidence limit to the GSI. Overall, data continue to demonstrate compliance with the applicable GSI criteria.

- **Boron:** The detection monitoring statistical evaluation found that boron concentrations are increasing at JCW-MW-18006 and MW-50. The assessment monitoring statistical evaluation found that boron was present at statistically significant levels above the GWPS at JCW-MW-18001, JCW-MW-18005, JCW-MW-18006, MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, and OW-57R OUT. Boron is a detection monitoring (i.e. Appendix III) constituent and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. All observations of boron are less than the recommended mixing-zone based GSI value specified in Table 1 of the *Implementation of a Mixing Zone Request, DE Karn/JC Weadock Complex* (EGLE, 2024) (Appendix D: Table 2).
- **Calcium:** The detection monitoring statistical evaluation did not find that calcium concentrations are increasing at any of the downgradient monitoring wells. The assessment monitoring statistical evaluation found that calcium was present at statistically significant levels above the GWPS at JCW-MW-18001. Consumers is asserting an ASD for the increases in calcium at JCW-MW-18001, as detailed in Section 3.5. Calcium is not identified to have the potential to exceed the generic GSI criteria at the Weadock Landfill downgradient monitoring wells; therefore, data are not evaluated against the GSI criteria.
- **pH:** The detection monitoring statistical evaluation found that pH readings were increasing at MW-50 and MW-53R. The assessment monitoring statistical evaluation did not find that pH was present at statistically significant levels above the GWPS at any of the downgradient monitoring wells. pH is a detection monitoring (i.e. Appendix III) constituent and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. All observations of pH are within the applicable GSI criteria (Appendix D: Table 2).
- **Sulfate:** The detection monitoring statistical evaluation did not find that sulfate concentrations were increasing at any of the downgradient monitoring wells. The assessment monitoring statistical evaluation found that sulfate was present at statistically

significant levels above the GWPS at JCW-MW-18001. Sulfate is a detection monitoring (i.e. Appendix III) constituent and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. JCW-MW-18001 is not a GSI compliance well; the concentrations of sulfate in the GSI compliance monitoring wells remain below the applicable GSI criterion (Final Acute Value [FAV]) (Appendix D: Table 2).

3.5 Alternate Source Demonstration

At this time, Consumers Energy is continuing to assert an Alternate Source Demonstration (ASD), for the following, as detailed below:

- Calcium and sulfate in monitoring well JCW-MW-18001; and
- Arsenic in monitoring well MW-55.

The groundwater conditions do not conclusively indicate a release from the unit for several reasons as detailed below.

3.5.1 Monitoring Well JCW-MW-18001: Calcium and Sulfate

Although confirmed increasing trends were observed at JCW-MW-18001 for calcium (through Q3 2024) and sulfate (through Q2 2024) and concentrations of calcium and sulfate are present at statistically significant levels above the GWPSs at JCW-MW-18001, these trends are not indicative of a new release from the landfill. Calcium and sulfate are two of several constituents that contribute to the overall TDS concentration and increasing calcium and sulfate concentrations likely contribute to an overall increase in TDS as well. TDS concentrations are not currently exhibiting a statistically significant upward trend; however, TDS concentrations have been increasing in past events and the data are discussed as part of this ASD. Increases of calcium, sulfate, and TDS concentrations at JCW-MW-18001 are attributed to changes occurring outside of the slurry wall as a result of changing water levels, rather than a change in flux from the landfill; therefore, Consumers Energy is continuing to assert an ASD for these constituents. The following lines of evidence as well as additional time series charts included in Appendix G support this ASD:

- The potentiometric analysis demonstrates that the slurry wall is effective in reducing the flux of groundwater from the landfill (Appendix A).
- Concentration data also support that the slurry wall is effective in reducing the flux of groundwater from the landfill, based on the following observations (Appendix G1):
  - JCW-MW-18001 was installed after the 1,600 linear foot gap in the landfill perimeter slurry wall was closed, as discussed in Section 1.2. Prior to the slurry wall expansion in July 2018, monitoring well JCW-MW-15023 was located within the gap of the slurry wall and was sampled between December 2015 and May 2018 as a part of the original Federal CCR program monitoring well network. The groundwater quality data collected from JCW-MW-15023 shows that groundwater in contact with CCR managed within the landfill was high in arsenic, and low in sulfate, calcium, and TDS (Appendix G1).
  - To accommodate the July 2018 slurry wall expansion, JCW-MW-15023 was decommissioned. Once slurry wall construction was completed, JCW-MW-18001 was

installed within 10-ft of the location of the former JCW-MW-15023 well, on the discharge channel side of the slurry wall. Additionally, an observation well, JCW-OW-18001, was installed on the landfill side of the slurry wall to monitor water levels to assess the effectiveness of the hydraulic control. Both JCW-MW-18001 (outside) and JCW-OW-18001 (inside) have been sampled recently to assess concentration trends.

  - Concentrations of arsenic are much higher inside of the slurry wall, within the landfill, while arsenic concentration remain low on the outside of the landfill.
  - Concentrations of calcium, sulfate, and TDS are much lower on the inside of the slurry wall and are higher outside of the slurry wall.

- These combined lines of evidence support that increasing concentrations of calcium, sulfate, and TDS are not a result of a change in flux from the landfill and instead are a result of changing groundwater conditions on the outside of the slurry wall.

3.5.2 Monitoring Well MW-55: Arsenic

Additionally, Consumers Energy is continuing to assert an ASD for arsenic at MW-55 indicating elevated levels of constituents at that location are not related to materials management of the Weadock Landfill (*2021 Annual Groundwater Monitoring and Corrective Action Report*; TRC, January 2022). The basis for this ASD is summarized below and updated time series plots in support of this ASD are included in Appendix G (Figure G2).

A targeted groundwater investigation was completed in August 2018 to further evaluate whether arsenic observed in MW-55 is potentially coming from the landfill or from another source. Data collected from the 2018 investigation as well as data collected during routine sampling events for Part 115 and Federal CCR groundwater compliance show the following:

- **Distinct Chemistry from Leachate –** The leachate chemistry from a monitoring well screened at the base of the ash fill (LH-104) is distinctly different from the groundwater chemistry near MW-55 and the temporary monitoring wells installed by TRC in the investigation area, as illustrated Appendix G of the 2019 Annual Groundwater Monitoring and Corrective Action Report (TRC, January 2020). Additionally, concentrations of arsenic and iron are generally much lower, and concentrations of boron are much higher within the landfill (LH-104) than outside of the landfill at MW-55 (Figure G2).
- **Conservative Tracer –** Boron is a metalloid known to be present in coal ash and can be used as a conservative tracer in groundwater. The average concentration of boron in Leachate Headwell LH-104 (11,000 ug/L: November 2017 - October 2024) is significantly higher than concentrations observed at any of the other locations sampled as a part of this monitoring program and approximately an order of magnitude higher than concentration observed at MW-55 (1,270 ug/L in May 2025). Additionally, recently observed boron concentrations at MW-55 are similar to or lower than historical concentrations, which further supports that the water quality at MW-55 is not directly affected by groundwater migrating from the landfill.
- **Changes in Geochemistry Related to Water Level Changes –** Water levels observed at MW-55, as shown in Appendices A and G, increased over 4-ft between 2010 and 2020. The oxidation-reduction potential (ORP) at MW-55 has generally decreased (i.e., is more reducing) since 2010, while pH has generally increased. These changes in field indicator parameters over time as a result of changes in water levels have affected the geochemical conditions in the vicinity of MW-55, resulting in changes in the solubility of both arsenic and

iron. Since 2021, water levels have been generally decreasing, resulting in a slight increase in ORP (i.e., is less reducing) and decreases in pH and concentrations of both arsenic and iron, which further illustrates the relationship between groundwater elevations, redox state, and concentration of arsenic and molybdenum in groundwater.

4.0 Conclusions and Recommendations

Detection monitoring is continuing through the active life of the Weadock Landfill to monitor for new releases from landfill operations. The detection monitoring program consists of potentiometric analysis and groundwater quality analysis. Evaluation of the second quarter 2025 data demonstrate that the slurry wall is functioning as designed.

The Weadock Landfill is currently in assessment monitoring pursuant to the CCR Rule, as discussed in the *2024 Annual Groundwater Monitoring and Corrective Action Report*, due to observed groundwater concentrations that are indicative of impact from past landfill operations. Evaluation of the second quarter 2025 data in accordance with the Weadock Landfill HMP demonstrate that boron, calcium, and sulfate are present at concentrations above the GWPSs. Boron, calcium, and sulfate are detection monitoring (i.e., Appendix III) constituents that do not have associated health-based criteria and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. The statistical evaluation in second quarter 2025 found that no constituents were present at statistically significant levels above applicable GSI criteria.

Therefore, Consumers Energy will continue with the detection and assessment monitoring as required by the CCR rule as well as the monitoring program relative to the implementation of the site-specific mixing zone authorization at the Weadock Landfill unit in conformance with the JC Weadock Landfill HMP. The third quarter monitoring event is scheduled for July 2025.

5.0 References

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Tables

Table 1
Summary of Groundwater Elevation Data
JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program
Essexville, Michigan

Well Location	Static Water Level Monitoring	Groundwater Quality Monitoring	GSI Monitoring	Leachage Analysis Program	TOC Elevation (ft)	Geologic Unit of Screen Interval	Screen Interval Elevation (ft)			May 12, 2025	
										Depth to Water (ft BTOC)	Groundwater Elevation (ft)
Background Monitoring Wells											
MW-15002	✓	✓	--	--	587.71	Sand	580.9	to	570.9	6.70	581.01
MW-15008	✓	✓	--	--	585.36	Sand with clay	578.7	to	568.7	4.51	580.85
MW-15016	✓	✓	--	--	586.49	Sand	581.2	to	578.2	4.00	582.49
MW-15019	✓	✓	--	--	586.17	Sand and Sand/Clay	579.5	to	569.5	5.40	580.77
Former Bottom Ash Pond: Downgradient Monitoring Wells											
JCW-MW-15007	✓	--	--	--	587.40	Sand	582.7	to	579.2	3.76	583.64
JCW-MW-15009	✓	--	--	--	589.64	Sand	581.9	to	576.9	9.01	580.63
JCW-MW-15010	✓	--	--	--	597.76	Sand	579.7	to	578.2	17.94	579.82
JCW-MW-15028	✓	--	--	--	589.64	Sand	567.7	to	564.7	7.31	582.33
Landfill: Downgradient Monitoring Wells (outside slurry wall)											
JCW-MW-18001	✓	✓	--	--	596.73	Sand and Sandy Clay	578.3	to	573.3	17.72	579.01
JCW-MW-18004	✓	✓	✓	--	593.04	Sandy Clay	583.9	to	578.9	12.50	580.54
JCW-MW-18005	✓	✓	--	--	590.89	Sand and Sandy Clay	580.0	to	575.0	8.63	582.26
JCW-MW-18006	✓	✓	--	--	600.72	Fly Ash and Sandy Clay	582.8	to	577.8	13.45	587.27
MW-50	✓	✓	✓	--	593.36	Sand	577.8	to	574.8	14.36	579.00
MW-51	✓	✓	✓	--	594.29	Sand and Clay	577.8	to	574.8	15.17	579.12
MW-52	✓	✓	✓	--	594.90	Sand	579.3	to	576.3	15.77	579.13
MW-53	✓	✓	✓	--	593.68	Sand and Clay	579.1	to	576.1	14.43	579.25
MW-53R	✓	✓	✓	--	594.25	Sand and Clay	580.4	to	575.4	15.15	579.10
MW-54R	✓	✓	✓	--	593.89	Clay and Sand	581.3	to	576.3	14.60	579.29
MW-55	✓	✓	✓	--	593.82	Sand	581.5	to	578.5	14.66	579.16
OW-57R OUT	✓	✓	--	--	591.00	Sandy Clay	577.0	to	572.0	9.67	581.33

Notes:

Survey data from: Rowe Professional Services Company (Nov. 2015) and Consumers Energy Company drawings: SG-21733, Sheet 1, Rev. G (Karn, 11/27/18); and SG-21733, Sheet 2, Rev. C (Weadock, 11/27/18).

Elevation in feet relative to North American Vertical Datum 1988 (NAVD 88).

TOC: Top of well casing.

ft BTOC: Feet below top of well casing.

Table 1
Summary of Groundwater Elevation Data
JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program
Essexville, Michigan

Well Location	Static Water Level Monitoring	Groundwater Quality Monitoring	GSI Monitoring	Leachage Analysis Program	TOC Elevation (ft)	Geologic Unit of Screen Interval	Screen Interval Elevation (ft)			May 12, 2025	
										Depth to Water (ft BTOC)	Groundwater Elevation (ft)
Landfill: Static Water Level Only (inside slurry wall)											
JCW-OW-18001	✓	--	--	--	595.84	Fly Ash and Sand	581.1	to	576.1	6.49	589.35
JCW-OW-18002	✓	--	--	--	593.63	Sand	578.9	to	573.9	10.05	583.58
JCW-OW-18003	✓	--	--	--	593.99	Sand and Clay	580.5	to	575.5	8.15	585.84
JCW-OW-18004	✓	--	--	--	594.19	Sandy Clay	584.6	to	579.6	6.16	588.03
JCW-OW-18006	✓	--	--	--	600.61	Fly Ash and Clay with Sand	582.9	to	577.9	7.06	593.55
MW-20	✓	--	--	--	592.73	NR	~581.1	to	~578.1	6.94	585.79
MW-58	✓	--	--	--	586.25	Sand	579.7		569.7	6.48	579.77
OW-51	✓	--	--	--	593.62	Clay and Sand	578.9	to	575.9	8.99	584.63
OW-53	✓	--	--	--	593.64	Clay and Sand	579.0	to	576.0	7.25	586.39
OW-54	✓	--	--	--	594.10	Clay and Sand	580.0	to	577.0	7.04	587.06
OW-55	✓	--	--	--	594.67	Clay (or Sand and Clay)	580.9	to	577.9	6.01	588.66
OW-56R	✓	--	--	--	592.01	Ash and Sand	577.5	to	572.5	5.65	586.36
OW-57R IN	✓	--	--	--	590.86	Sandy Clay	575.7	to	570.7	5.76	585.10
OW-61	✓	--	--	--	602.15	Ash and Sand	588.0	to	585.0	7.47	594.68
Landfill: Leachate Headwells											
LH-103R	✓	--	--	✓	612.70	Fly Ash	30.2	to	33.2	21.15	591.55
LH-104	✓	--	--	✓	596.56	Fly Ash	8.0	to	11.0	7.81	588.75

Notes:

Survey data from: Rowe Professional Services Company (Nov. 2015) and Consumers Energy Company drawings: SG-21733, Sheet 1, Rev. G (Karn, 11/27/18); and SG-21733, Sheet 2, Rev. C (Weadock, 11/27/18).

Elevation in feet relative to North American Vertical Datum 1988 (NAVD 88).

TOC: Top of well casing.

ft BTOC: Feet below top of well casing.

Table 2
Summary of Field Parameters
JC Weadock Solid Waste Disposal Area - Hydrogeological Monitoring Program
Essexville, Michigan

Sample Location	Sample Date	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Specific Conductivity (umhos/cm)	Temperature (°C)	Turbidity (NTU)
DE Karn & JC Weadock Background							
MW-15002	5/12/2025	0.80	81.0	7.2	408	11.8	0.1
MW-15008	5/12/2025	0.46	-109.2	7.0	1,441	11.4	0.0
MW-15016	5/12/2025	0.59	-70.8	6.9	1,370	12.0	0.0
MW-15019	5/12/2025	1.90	-64.6	6.8	1,691	11.1	0.0
JC Weadock Solid Waste Disposal Area							
JCW-MW-18001	5/13/2025	0.18	-0.8	6.8	3,373	12.6	1.5
JCW-MW-18004	5/14/2025	5.20	200.8	7.0	1,296	11.7	8.8
JCW-MW-18005	5/14/2025	0.28	71.3	6.8	1,312	13.0	8.2
JCW-MW-18006	5/14/2025	0.18	-52.0	7.0	1,100	13.2	1.5
MW-50	5/13/2025	0.09	-66.3	7.5	1,371	11.9	1.1
MW-51	5/13/2025	0.16	-14.7	7.3	1,404	11.1	4.4
MW-52	5/13/2025	0.12	4.7	6.9	1,496	11.6	1.3
MW-53	5/13/2025	0.08	-46.8	7.4	1,041	10.1	3.5
MW-53R	5/13/2025	0.24	22.8	7.0	1,180	9.4	5.4
MW-54R	5/14/2025	0.63	140.6	7.0	1,329	9.7	1.1
MW-55	5/14/2025	0.17	-44.9	7.0	1,221	10.7	1.4
OW-57ROUT	5/14/2025	0.90	72.1	7.0	1,173	12.6	1.3

Notes:

mg/L -Milligrams per Liter.

mV - Millivolts.

SU - Standard Units.

umhos/cm - Micromhos per centimeter.

°C - Degrees Celsius.

NTU - Nephelometric Turbidity Unit

Table 3
Summary of Groundwater Sampling Results (Analytical)
DE Karn & JC Weadock Background - RCRA CCR Monitoring Program
Essexville, Michigan

					Sample Location:	**MW-15002**	**MW-15008**	**MW-15016**	**MW-15019**
					Sample Date:	5/12/2025	5/12/2025	5/12/2025	5/12/2025
Constituent	Unit	EPA MCL	MI Residential*	MI Non-Residential*	MI GSI^				
Appendix III[(1)]									
Boron	ug/L	NC	500	500	4,000	99	110	336	212
Calcium	mg/L	NC	NC	NC	500[EE]	161	120	439	181
Chloride	mg/L	**250****	**250[E]**	**250[E]**	**50**	**1,180**	**376**	**153**	**376**
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	250**	250[E]	250[E]	500[EE]	40.5	13.1	279	104
Total Dissolved Solids	mg/L	**500****	**500[E]**	**500[E]**	**500**	**2,580**	**1,040**	**1,200**	**1,270**
pH, Field	SU	6.5 - 8.5**	6.5 - 8.5[E]	6.5 - 8.5[E]	6.5 - 9.0	7.2	7.0	6.9	6.8
Appendix IV[(1)]									
Antimony	ug/L	6	6.0	6.0	2.0	< 1	< 1	< 1	< 1
Arsenic	ug/L	10	10	10	10	9	3	7	2
Barium	ug/L	2,000	2,000	2,000	1,200	358	78	171	341
Beryllium	ug/L	4	4.0	4.0	33	< 1	< 1	< 1	< 1
Cadmium	ug/L	5	5.0	5.0	2.5	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	100	100	11	1	< 1	< 1	< 1
Cobalt	ug/L	NC	40	100	100	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	NC	4.0	4.0	14	< 1	< 1	< 1	< 1
Lithium	ug/L	NC	170	350	440	12	19	59	14
Mercury	ug/L	2	2.0	2.0	0.20#	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	NC	73	210	120	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NC	NC	NC	NC	< 0.147	0.252	0.255	0.400
Radium-228	pCi/L	NC	NC	NC	NC	< 0.662	< 0.735	< 0.622	< 0.646
Radium-226/228	pCi/L	5	NC	NC	NC	< 0.662	< 0.735	< 0.622	0.863
Selenium	ug/L	50	50	50	5.0	< 1	< 1	1	< 1
Thallium	ug/L	2	2.0	2.0	2.0	< 2	< 2	< 2	< 2
Additional MI Part 115[(2)]									
Iron	ug/L	**300****	**300[E]**	**300[E]**	500,000[EE]	**10,400**	**14,000**	**18,600**	**22,000**
Copper	ug/L	1,000**	1,000[E]	1,000[E]	20	3	1	3	2
Nickel	ug/L	NC	100	100	120	7	4	11	5
Silver	ug/L	100**	34	98	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	NC	**4.5**	62	27	**12**	**9**	2	3
Zinc	ug/L	5,000**	2,400	5,000[E]	260	21	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter; mg/L - milligrams per liter.
pCi/L - picocuries per liter; SU - standard units; pH is a field parameter.
MCL - Maximum Contaminant Level, EPA Drinking Water Standards and Health Advisories, April, 2012.
NC - no criteria.
* - Michigan Part 201 Generic Drinking Water Cleanup Criteria, December 30, 2013, updated October 12, 2023.
** - Secondary Maximum Contaminant Level (SMCL), EPA Secondary Drinking Water Regulations (SDWR) April, 2012.
^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. Chromium GSI criterion based on hexavalent chromium per footnote {H}. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}. GSI criterion for chloride is 50 mg/L when the discharge is to the Great Lakes or connecting waters per footnote {FF}
# - If detected above 0.20 ug/L, further evaluation of low-level mercury may be necessary to evaluate the GSI pathway per Michigan Part 201 and MDEQ policy and procedure 09-014 dated June 20, 2012.
[E] - Criterion is the aesthetic drinking water value per footnote {E}.
[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.
(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.
(2) Per Michigan Part 115 Amendment - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituent (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.
BOLD value indicates an exceedance of one or more of the listed criteria.
RED value indicates an exceedance of the MCL.
All metals were analyzed as total unless otherwise specified.

Table 4
Summary of Groundwater Sampling Results (Analytical)
JC Weadock Solid Waste Disposal Area - Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	JCW-MW-18001	JCW-MW-18004	JCW-MW-18005	JCW-MW-18006	MW-50	MW-51
					Sample Date:	5/13/2025	5/14/2025	5/14/2025	5/14/2025	5/13/2025	5/13/2025
Constituent	Unit	EPA MCL	MI Residential*	MI Non-Residential*	MI GSI^						
Appendix III[(1)]											
Boron	ug/L	NC	**500**	**500**	**4,000**	**1,540**	165	**1,080**	**2,970**	**2,830**	**938**
Calcium	mg/L	NC	NC	NC	**500[EE]**	**509**	229	248	125	191	161
Chloride	mg/L	250**	250[E]	250[E]	**50**	47.8	10.4	18.9	**64.6**	**52.2**	**64.0**
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**250****	**250[E]**	**250[E]**	**500[EE]**	**1,830**	**441**	**362**	64.3	**326**	**445**
Total Dissolved Solids	mg/L	**500****	**500[E]**	**500[E]**	**500**	**3,450**	**1,130**	**1,100**	**774**	**1,110**	**1,190**
pH, Field	SU	6.5 - 8.5**	6.5 - 8.5[E]	6.5 - 8.5[E]	6.5 - 9.0	6.8	7.0	6.8	7.0	7.5	7.3
Appendix IV[(1)]											
Antimony	ug/L	6	6.0	6.0	2.0	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**10**	**10**	**10**	**10**	7	4	6	**25**	3	**13**
Barium	ug/L	2,000	2,000	2,000	1,200	45	114	98	354	209	143
Beryllium	ug/L	4	4.0	4.0	33	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5	5.0	5.0	2.5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	100	100	**11**	< 1	**19**	2	< 1	< 1	< 1
Cobalt	ug/L	NC	40	100	100	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	NC	**4.0**	**4.0**	14	< 1	**9**	< 1	< 1	< 1	< 1
Lithium	ug/L	NC	170	350	440	110	43	37	55	68	32
Mercury	ug/L	2	2.0	2.0	0.20#	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	NC	73	210	120	< 5	< 5	6	< 5	< 5	< 5
Radium-226	pCi/L	NC	NC	NC	NC	< 0.39	< 0.505	< 0.328	< 0.339	< 0.327	< 0.28
Radium-228	pCi/L	NC	NC	NC	NC	< 0.5	< 1.11	< 0.542	0.969	0.893	0.921
Radium-226/228	pCi/L	5	NC	NC	NC	< 0.5	< 1.11	0.648	1.12	1.08	0.999
Selenium	ug/L	50	50	50	**5.0**	3	**13**	**8**	< 1	2	2
Thallium	ug/L	2	2.0	2.0	2.0	< 2	< 2	< 2	< 2	< 2	< 2
Additional MI Part 115[(2)]											
Iron	ug/L	**300****	**300[E]**	**300[E]**	500,000[EE]	**2,270**	**7,970**	**2,490**	**7,490**	**638**	**816**
Copper	ug/L	1,000**	1,000[E]	1,000[E]	20	4	10	3	2	2	2
Nickel	ug/L	NC	100	100	120	18	23	< 2	< 2	< 2	< 2
Silver	ug/L	100**	34	98	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	NC	**4.5**	62	27	3	**23**	3	3	< 2	< 2
Zinc	ug/L	5,000**	2,400	5,000[E]	260	< 10	25	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter; mg/L - milligrams per liter.

pCi/L - picocuries per liter; SU - standard units; pH is a field parameter.

MCL - Maximum Contaminant Level, EPA Drinking Water Standards and Health Advisories, April, 2012.

NC - no criteria.

* - Michigan Part 201 Generic Drinking Water Cleanup Criteria, December 30, 2013, updated October 12, 2023.

** - Secondary Maximum Contaminant Level (SMCL), EPA Secondary Drinking Water Regulations (SDWR) April, 2012.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. Chromium GSI criterion based on hexavalent chromium per footnote {H}. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}. GSI criterion for chloride is 50 mg/L when the discharge is to the Great Lakes or connecting waters per footnote {FF}

- If detected above 0.20 ug/L, further evaluation of low-level mercury may be necessary to evaluate the GSI pathway per Michigan Part 201 and MDEQ policy and procedure 09-014 dated June 20, 2012.

[E] - Criterion is the aesthetic drinking water value per footnote {E}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendment - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituent (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

BOLD value indicates an exceedance of one or more of the listed criteria.

RED value indicates an exceedance of the MCL.

All metals were analyzed as total unless otherwise specified.

Table 4
Summary of Groundwater Sampling Results (Analytical)
JC Weadock Solid Waste Disposal Area - Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	**MW-52**	**MW-53**	**MW-53R**	**MW-54R**	**MW-55**	**OW-57ROUT**
					Sample Date:	5/13/2025	5/13/2025	5/13/2025	5/14/2025	5/14/2025	5/14/2025
Constituent	Unit	EPA MCL	MI Residential*	MI Non-Residential*	MI GSI^						
Appendix III[1]											
Boron	ug/L	NC	**500**	**500**	**4,000**	**752**	**4,680**	**3,160**	**6,710**	**1,270**	**1,830**
Calcium	mg/L	NC	NC	NC	**500**[EE]	229	122	159	174	190	122
Chloride	mg/L	250**	250[E]	250[E]	**50**	46.9	**78.5**	**75.5**	**102**	16.7	**90.1**
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	1,080
Sulfate	mg/L	**250****	**250**[E]	**250**[E]	**500**[EE]	**446**	102	97.0	201	**334**	66.4
Total Dissolved Solids	mg/L	**500****	**500**[E]	**500**[E]	**500**	**1,280**	**784**	**856**	**1,020**	**984**	**770**
pH, Field	SU	6.5 - 8.5**	6.5 - 8.5[E]	6.5 - 8.5[E]	6.5 - 9.0	6.9	7.4	7.0	7.0	7.0	7.0
Appendix IV[1]											
Antimony	ug/L	6	6.0	6.0	2.0	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**10**	**10**	**10**	**10**	< 1	< 1	**16**	2	**18**	1
Barium	ug/L	2,000	2,000	2,000	1,200	74	541	165	100	214	82
Beryllium	ug/L	4	4.0	4.0	33	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5	5.0	5.0	2.5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	100	100	**11**	< 1	< 1	1	< 1	< 1	< 1
Cobalt	ug/L	NC	40	100	100	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	1,080
Lead	ug/L	NC	**4.0**	**4.0**	14	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	NC	170	350	440	34	44	56	98	24	28
Mercury	ug/L	2	2.0	2.0	0.20#	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	NC	73	210	120	< 5	< 5	< 5	24	21	6
Radium-226	pCi/L	NC	NC	NC	NC	< 0.315	0.547	< 0.574	< 0.349	< 0.403	< 0.295
Radium-228	pCi/L	NC	NC	NC	NC	0.507	1.20	< 1.24	< 0.491	< 0.485	< 0.641
Radium-226/228	pCi/L	5	NC	NC	NC	0.563	1.74	< 1.24	< 0.491	< 0.485	< 0.641
Selenium	ug/L	50	50	50	**5.0**	1	3	3	4	5	2
Thallium	ug/L	2	2.0	2.0	2.0	< 2	< 2	< 2	< 2	< 2	< 2
Additional MI Part 115[2]											
Iron	ug/L	**300****	**300**[E]	**300**[E]	500,000[EE]	**2,700**	**475**	**998**	150	**13,100**	32
Copper	ug/L	1,000**	1,000[E]	1,000[E]	20	2	< 1	2	2	2	1
Nickel	ug/L	NC	100	100	120	< 2	< 2	< 2	< 2	6	10
Silver	ug/L	100**	34	98	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	NC	**4.5**	62	27	< 2	< 2	2	< 2	< 2	< 2
Zinc	ug/L	5,000**	2,400	5,000[E]	260	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter; mg/L - milligrams per liter.

pCi/L - picocuries per liter; SU - standard units; pH is a field parameter.

MCL - Maximum Contaminant Level, EPA Drinking Water Standards and Health Advisories, April, 2012.

NC - no criteria.

* - Michigan Part 201 Generic Drinking Water Cleanup Criteria, December 30, 2013, updated October 12, 2023.

** - Secondary Maximum Contaminant Level (SMCL), EPA Secondary Drinking Water Regulations (SDWR) April, 2012.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michiga Part 201 criteria tables. Chromium GSI criterion based on hexavalent chromium per footnote {H}. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}. GSI criterion for chloride is 50 mg/L when the discharge is to the Great Lakes or connecting waters per footnote {FF}

- If detected above 0.20 ug/L, further evaluation of low-level mercury may be necessary to evaluate the GSI pathway per Michigan Part 201 and MDEQ policy and procedure 09-014 dated June 20, 2012.

[E] - Criterion is the aesthetic drinking water value per footnote {E}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendment - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituent (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

BOLD value indicates an exceedance of one or more of the listed criteria.

RED value indicates an exceedance of the MCL.

All metals were analyzed as total unless otherwise specified.

Table 5
Summary of Confidence Interval Evaluation: Second Quarter 2025
JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program
Essexville, Michigan

Assessment Monitoring Statistical Evaluation

Constituent	Units	GWPS	JCW-MW-18001		JCW-MW-18004		JCW-MW-18005		JCW-MW-18006		MW-50		MW-51		MW-52		MW-53		MW-53R		MW-54R		MW-55		OW-57R OUT	
			LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL
Boron[1]	ug/L	560	**1,300**	1,588	--	--	**970**	1,700	**2,300**	3,100	**1,900**	2,700	**850**	1,100	**820**	1,100	**4,700**	6,500	**2,000**	3,000	**5,600**	7,600	**730**	1,300	**1,700**	2,100
Calcium	mg/L	280	**460**	569	--	--	160	340	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/L	780	**1,700**	1,886	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	ug/L	21	1.0	30	--	--	--	--	19	27	--	--	9.1	21	--	--	--	--	--	--	--	--	--[2]	--[2]	--	--
Lead	ug/L	4	--	--	1.0	9.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	ug/L	6	--	--	2.0	23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

GSI Statistical Evaluation

Constituent	Units	GSI	JCW-MW-18004	
			LCL	UCL
Chromium	ug/L	11	1.0	19

Notes:

ug/L - micrograms per Liter

mg/L - milligrams per Liter

-- - Not Applicable; well/parameter pair did not directly exceed the applicable criterion and was not included in further analysis.

GWPS - Groundwater Protection Standard as established in TRC's Technical Memorandum dated April 23, 2021

GSI - Groundwater Surface Water Interface Criteria; GSI criteria is the generic Michigan Part 201 GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

UCL - Upper Confidence Limit (α = 0.01) of the downgradient data set.

LCL - Lower Confidence Limit (α = 0.01) of the downgradient data set.

1,300	Indicates a statistically significant exceedance of the GWPS (detection monitoring constituent). An exceedance occurs when the LCL is greater than the criterion.
1,300	Indicates a statistically significant exceedance of the GWPS (assessment monitoring constituent). An exceedance occurs when the LCL is greater than the criterion.

(1) Boron concentrations were confirmed as a statistically significant increase (SSI) over background levels and triggered assessment monitoring (2017 Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit, TRC, 2018).

(2) The concentrations of arsenic at MW-55 are not a result of a release from the unit, as detailed in the Alternate Source Demonstration (2024 Semiannual Groundwater Monitoring Report and Fourth Quarter 2024 Hydrogeological Monitoring Report, TRC, January 2025); therefore, confidence intervals were not calculated for comparison to GWPS.

Table 6
EGLE Exceedance Summary Table
JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program
Essexville, Michigan

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
SUMMARY OF STATISTICAL EXCEEDANCES

Data is in (X) ug/L or ( ) mg/L unless otherwise stated

Facility: JC Weadock – WDS# 395457

Well #	Location	Parameter	Part 201 GRCC	Statistical Limit (or 'CC' for Control Charts)	2 Qtr. 2025 (**bold** >201)	1 Qtr. 2025 (**bold** >201)	4 Qtr. 2024 (**bold** >201)	3 Qtr. 2024 (**bold** >201)

No Exceedances at Compliance Locations

Figures

BASE MAP: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.

PROJECT:
CONSUMERS ENERGY COMPANY
DE KARN AND JC WEADOCK POWER PLANTS
ESSEXVILLE, MICHIGAN

TITLE:
SITE LOCATION MAP

DRAWN BY:	A. ADAIR	PROJ. NO.:	634698.0000
CHECKED BY:	J. KRENZ		
APPROVED BY:	D. LITZ		**FIGURE 1**
DATE:	JULY 2025		

TRC
1540 EISENHOWER PLACE
ANN ARBOR, MI 48108-3284
PHONE: 734.971.7080

FILE: 464096_WEADOCK

COORDINATE SYSTEM: NAD 1983 STATEPLANE MICHIGAN SOUTH FIPS 2113 FEET; MAP ROTATION: 0
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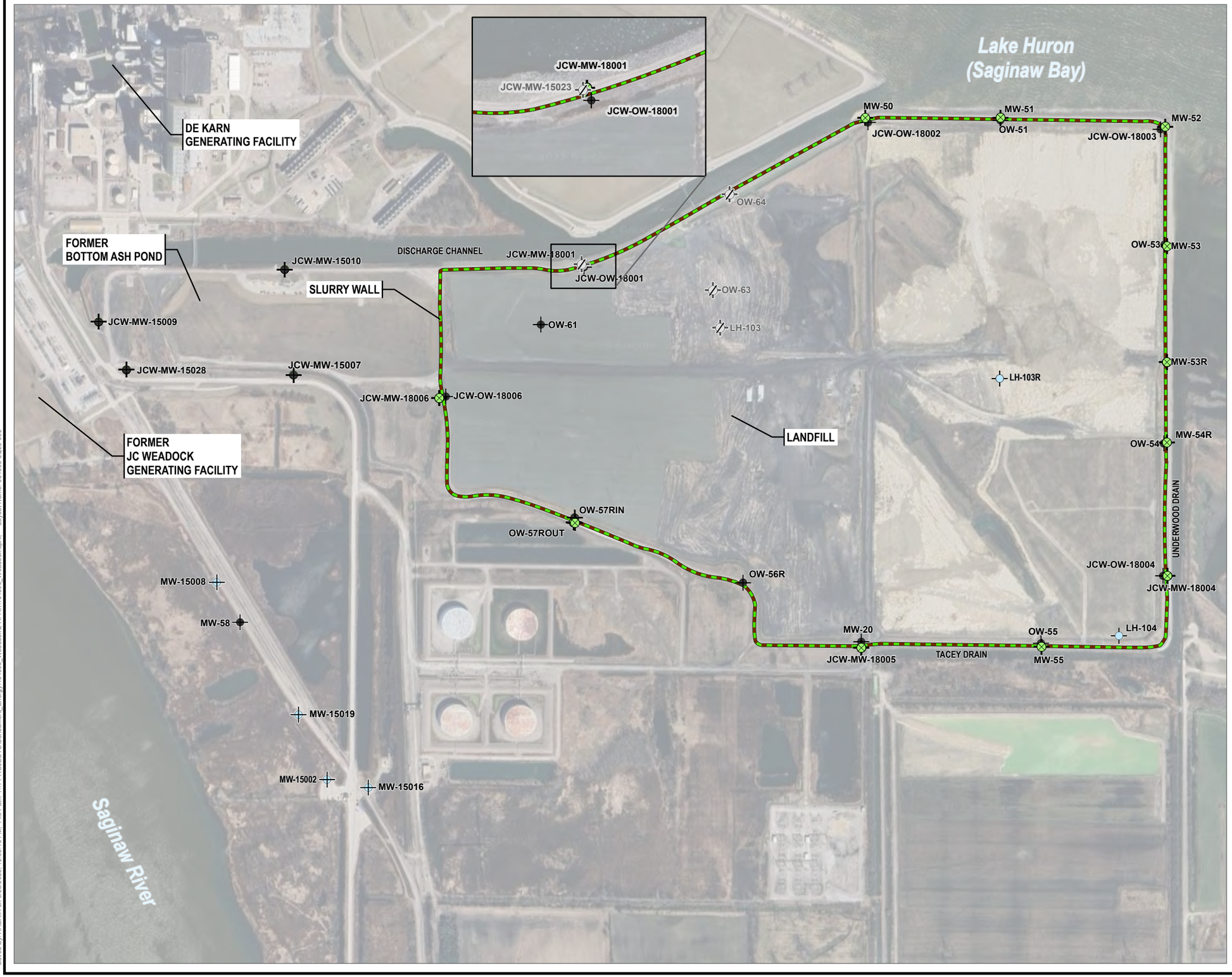

LEGEND

- BACKGROUND MONITORING WELL
- JCW BOTTOM ASH POND MONITORING WELL
- JCW LANDFILL HMP WELL
- MONITORING WELL (STATIC WATER LEVEL ONLY)
- LEACHATE HEADWELL
- DECOMMISSIONED WELL
- SLURRY WALL (APPROXIMATE)

NOTES

1. BASE MAP GOOGLE EARTH PRO AND PARTNERS, (4/5/2024).
2. MONITORING WELL AND SLURRY WALL LOCATIONS PROVIDED BY CEC; SG21733SHT2 REVB.DWG DATED 11/21/2018.

1:7,200
1" = 600'
0 600 1,200 FEET

PROJECT: CONSUMERS ENERGY COMPANY
JC WEADOCK POWER PLANT
ESSEXVILLE, MICHIGAN

TITLE: SITE MAP

DRAWN BY:	A. ADAIR	PROJ. NO.:	634698.0000
CHECKED BY:	J. KRENZ		FIGURE 2
APPROVED BY:	D. LITZ		
DATE:	JULY 2025		

TRC
1540 EISENHOWER PLACE
ANN ARBOR, MI 48108-3284
PHONE: 734.971.7080

FILE: 464096_Weadock.aprx

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl. Map Rotation: 0
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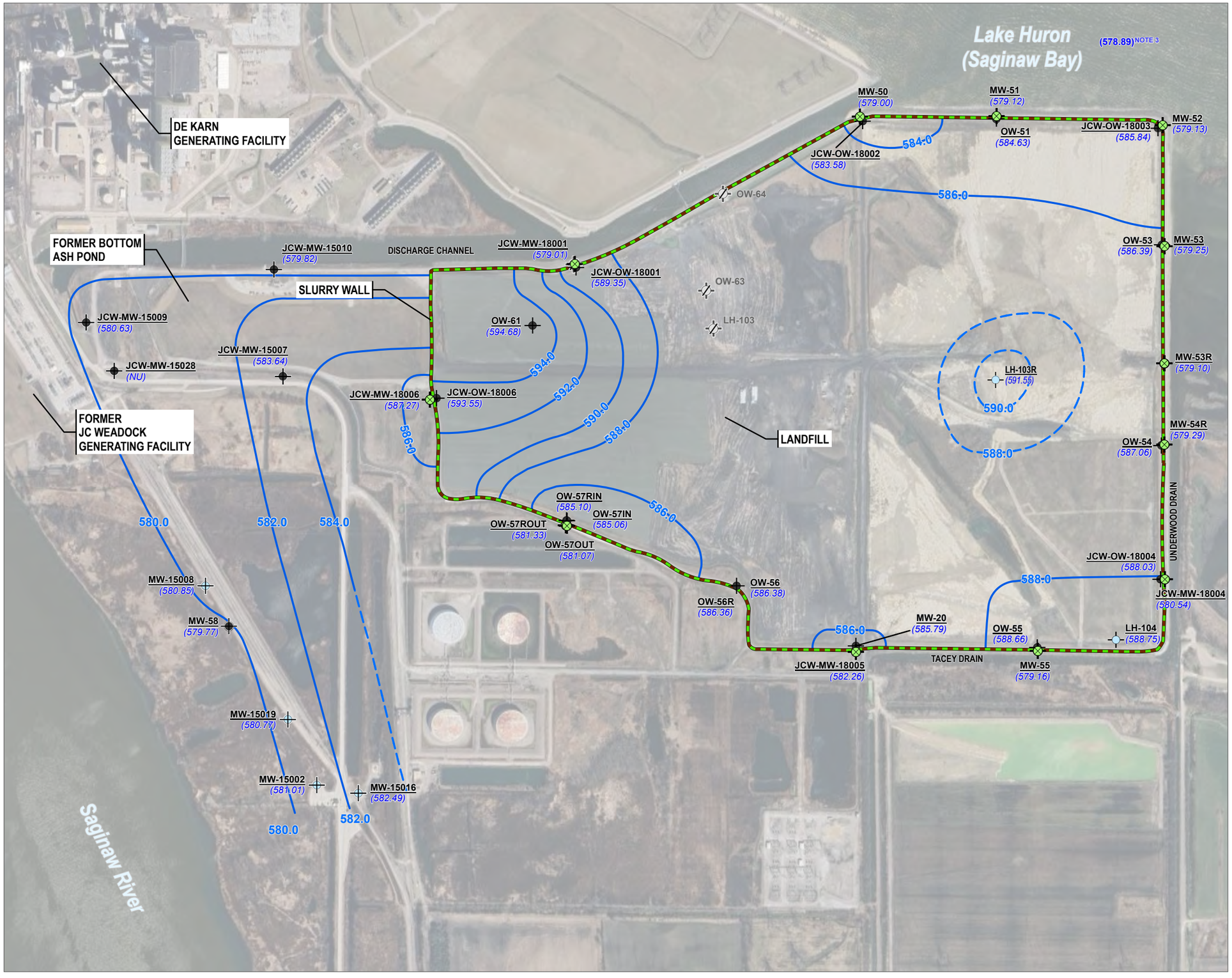

LEGEND

- BACKGROUND MONITORING WELL
- JCW BOTTOM ASH POND MONITORING WELL
- JCW LANDFILL HMP WELL
- MONITORING WELL (STATIC WATER LEVEL ONLY)
- LEACHATE HEADWELL
- DECOMMISSIONED WELL
- SLURRY WALL (APPROXIMATE)
- GROUNDWATER ELEVATION CONTOUR (2' INTERVAL, DASHED WHERE INFERRED)
- (579.18) GROUNDWATER ELEVATION (FEET)
- (NU) NOT USED TO DEVELOP CONTOURS

NOTES

1. BASE MAP GOOGLE EARTH PRO AND PARTNERS, (4/5/2024).
2. MONITORING WELL AND SLURRY WALL LOCATIONS PROVIDED BY CEC; SG21733SHT2 REVB.DWG DATED 11/21/2018.
3. NOAA/NATIONAL OCEANIC SERVICE GREAT LAKES GAUGING STATION, ESSEXVILLE, MI (ID: 9075035).
4. GROUNDWATER ELEVATIONS DISPLAYED IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.

N

1:7,200
1" = 600'

0 600 1,200 FEET

PROJECT: CONSUMERS ENERGY COMPANY
JC WEADOCK POWER PLANT
ESSEXVILLE, MICHIGAN

TITLE: POTENTIOMETRIC SURFACE MAP
MAY 2025

DRAWN BY:	A. ADAIR	PROJ. NO.:	634698.0000
CHECKED BY:	J. KRENZ		FIGURE 3
APPROVED BY:	D. LITZ		
DATE:	JULY 2025		

TRC
1540 EISENHOWER PLACE
ANN ARBOR, MI 48108-3284
PHONE: 734.971.7080

FILE: 464096_Weadock.aprx

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl; Map Rotation: 0
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Appendix A
Static Water Level Evaluation

Table A1
Static Water Levels for Select Perimeter Dike Monitoring Wells and NOAA Staff Gauge
JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program
Essexville, Michigan

Well Location	Date Measured	Groundwater Water Elevation (GWE) (ft)	Saginaw Bay Surface Water Elevation (SWE) (ft)	Elevation Difference (GWE-SWE)[(1)]
MW-50	5/12/2025	579.00	578.89	0.11
MW-51	5/12/2025	579.12		0.23
MW-52	5/12/2025	579.13		0.24
MW-53	5/12/2025	579.25		0.36
MW-53R	5/12/2025	579.10		0.21
MW-54R	5/12/2025	579.29		0.40
MW-55	5/12/2025	579.16		0.27
JCW-MW-18004	5/12/2025	580.54		1.65
Average:		**579.32**		

Notes:

Elevation in feet above North American Vertical Datum 1988 (NAVD 88)

TOC: top of well casing

ft BTOC: feet below top of well casing

(1) Positive elevation difference indicates flow toward the surface water body.

Table A2
Slurry Wall Gradient and Flux
JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program
Essexville, Michigan

Monitoring Well Pair Discharge Channel	SWL Obs Well (ft NAVD 88)	SWL MW (ft NAVD 88)	x_{wells} (ft)	i (ft/ft)	Saturated Thickness (ft)	Mean Thickness (ft)	Section Length (ft)	K (cm/sec)	i (ft/ft)	Area (ft^2)	Flow ft^3/day	Flow Gal/day	Flow Gal/yr
JCW-OW-18001	589.35		22.4	4.62E-01	2.00	2.88	1,010	2.30E-08	0.46	2,904	8.75E-02	0.65	239
JCW-MW-18001		579.01			3.75								
JCW-OW-18002	583.58		28.9	1.59E-01	4.00	4.25	970		0.16	4,123	4.26E-02	0.32	116
MW-50		579.00			4.50								

Monitoring Well Pair Adjacent Zone	SWL Obs Well (ft NAVD 88)	SWL MW (ft NAVD 88)	x_{wells} (ft)	i (ft/ft)	Saturated Thickness (ft)	Mean Thickness (ft)	Section Length (ft)	K (cm/sec)	i (ft/ft)	Area (ft^2)	Flow ft^3/day	Flow Gal/day	Flow Gal/yr
OW-51	584.63		14.4	3.83E-01	4.00	3.91	1,850	2.30E-08	0.38	7,234	1.81E-01	1.35	493
MW-51		579.12			3.82								
JCW-OW-18003	585.84		33.9	1.98E-01	3.50	3.42	740		0.20	2,531	3.27E-02	0.24	89
MW-52		579.13			3.34								
OW-53	586.39		20.1	3.55E-01	1.25	1.33	730		0.35	971	2.24E-02	0.17	61
MW-53		579.25			1.41								

Monitoring Well Pair Non-Adjacent Zone	SWL Obs Well (ft NAVD 88)	SWL MW (ft NAVD 88)	x_{wells} (ft)	i (ft/ft)	Saturated Thickness (ft)	Mean Thickness (ft)	Section Length (ft)	K (cm/sec)	i (ft/ft)	Area (ft^2)	Flow ft^3/day	Flow Gal/day	Flow Gal/yr
OW-54	587.06		21.2	3.66E-01	2.00	2.25	510	2.30E-08	0.37	1,148	2.74E-02	0.20	75
MW-54R		579.29			2.50								
JCW-OW-18004	588.03		26.6	2.82E-01	8.00	4.32	820		0.28	3,542	6.51E-02	0.49	178
JCW-MW-18004		580.54			0.64								
OW-55	588.66		24	3.97E-01	2.00	1.58	1,220		0.40	1,928	4.98E-02	0.37	136
MW-55		579.16			1.16								
MW-20	585.79		40.9	8.62E-02	1.50	1.38	1,120		0.09	1,540	8.66E-03	0.06	24
JCW-MW-18005		582.26			1.25								

Calculated Groundwater Discharge from JC Weadock (gal per day)	**=**	**3.87**
(cubic ft per day)	**=**	**0.52**
(cubic ft per min)		**3.6E-04**
Calculated Groundwater Discharge from JC Weadock (gal per yr)	**=**	**1,411**
(cubic ft per yr)	**=**	**189**
Calculated Groundwater Discharge from JC Weadock (gal per year per linear foot of dike)	**=**	**0.15**
(cubic feet per year per linear foot of dike)	**=**	**1.94E-02**

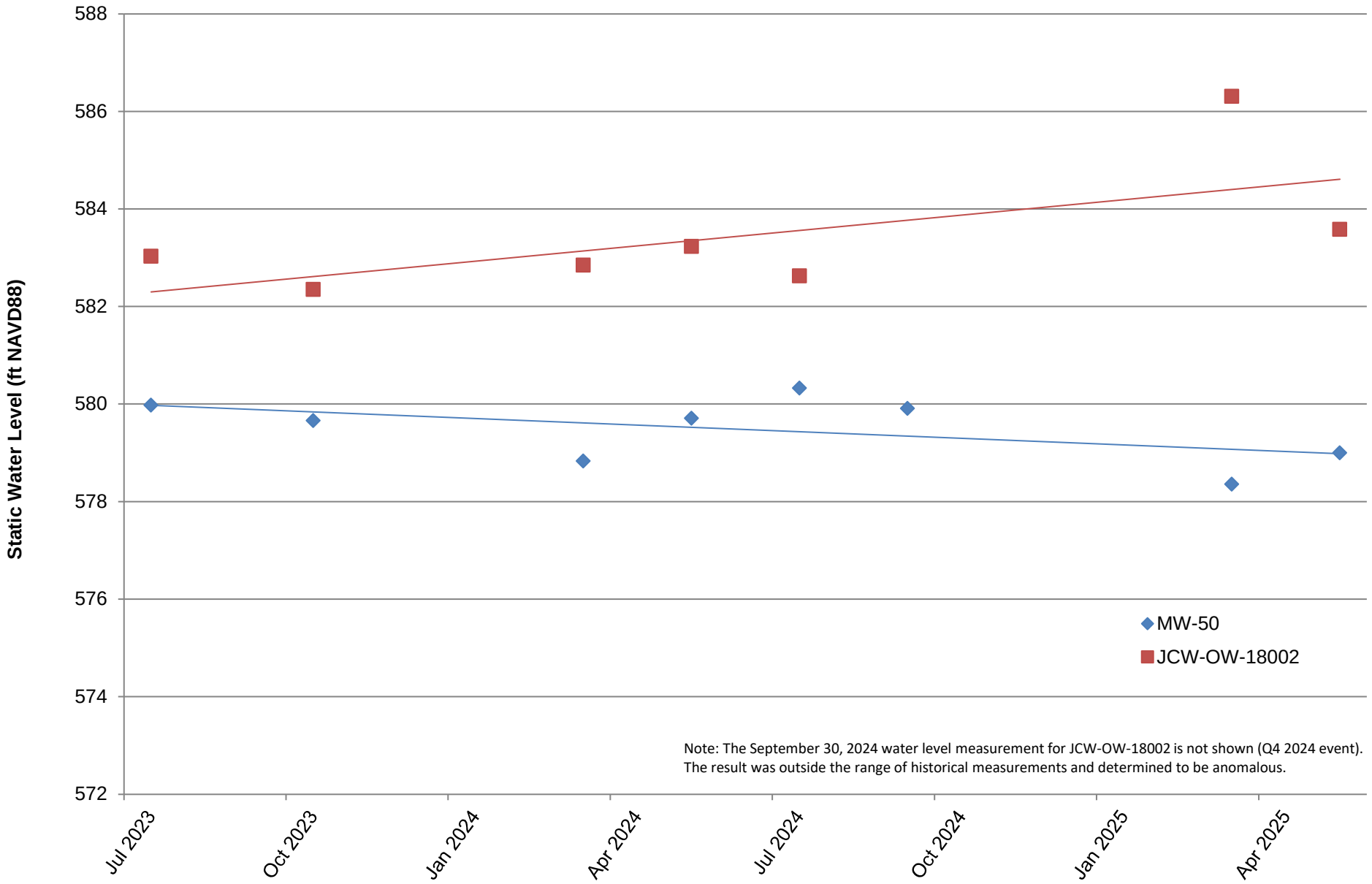
Notes:

Water level data collected on May 12, 2025 are shown by yellow cells: 579.01

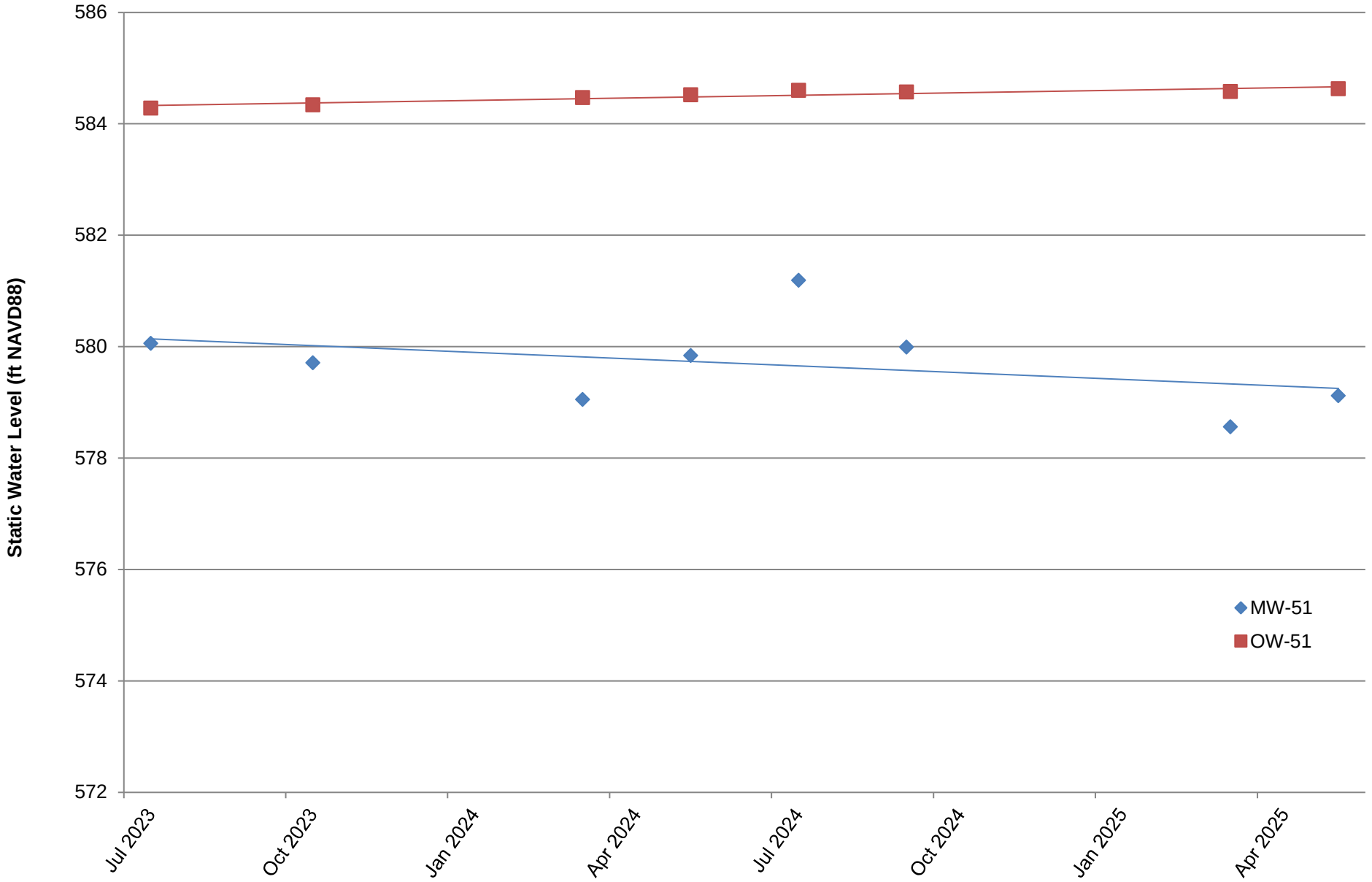
1. Monitoring Well Zones based on Phase II Evaluation, Appendix K Groundwater Discharge Calculations, September 30, 2005. Representative wells based on the Landfill Hydrogeological Monitoring Plan, February 2021.
2. Saturated thickness will be the thickness of the sand unit when the observed SWL is above the top of the sand unit, or the measured saturated thickness of the sand unit if the SWL is below the top of the sand unit.
3. Hydraulic conductivity taken as harmonic mean of laboratory tests done on in-place slurry wall from NTH Certified Quality Assurance Report, Appendix E, April 24, 2009
4. Arithmetic average used to develop geometric properties of each section/zone (e.g. discharge channel, adjacent, and non-adjacent)
5. If Obs well SWL < MW SWL calculated flow will be zero.

SWL = Static Water Level; Obs Well = Observation Well; MW= Monitoring Well; ft NAVD 88 = feet above North American Vertical Datum 1988
ft/ft = feet per foot; cm/sec = centimeters per second; ft^2 = square feet; ft^3/day = cubic feet per day; Gal/day = gallons per day; Gal/yr = gallons per year
i = hydraulic gradient; K = hydraulic conductivity; x_{wells} = distance between well pairs

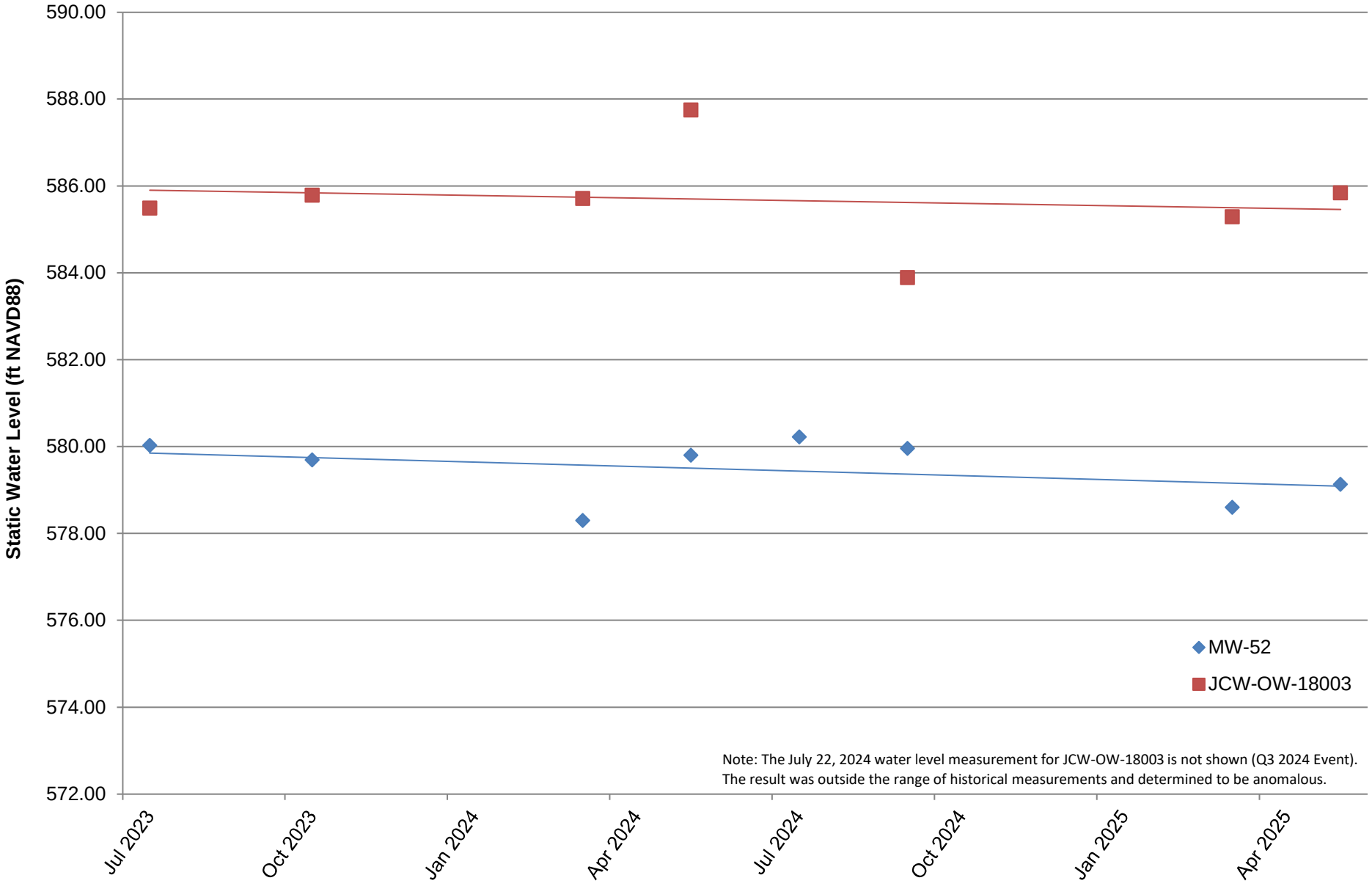
Appendix A
Static Water Level for MW-50 and JCW-OW-18002



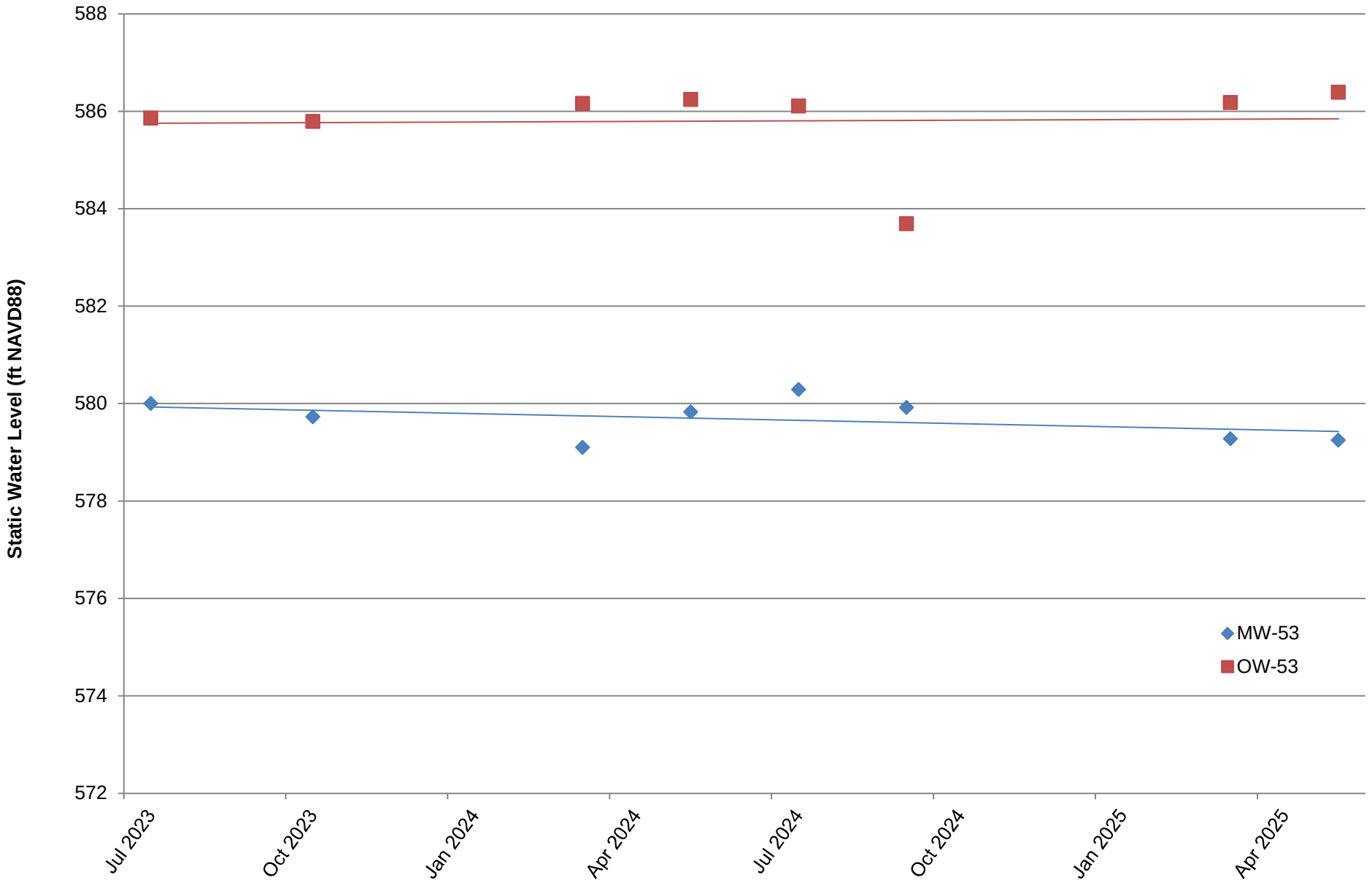
Appendix A
Static Water Level for MW-51 and OW-51



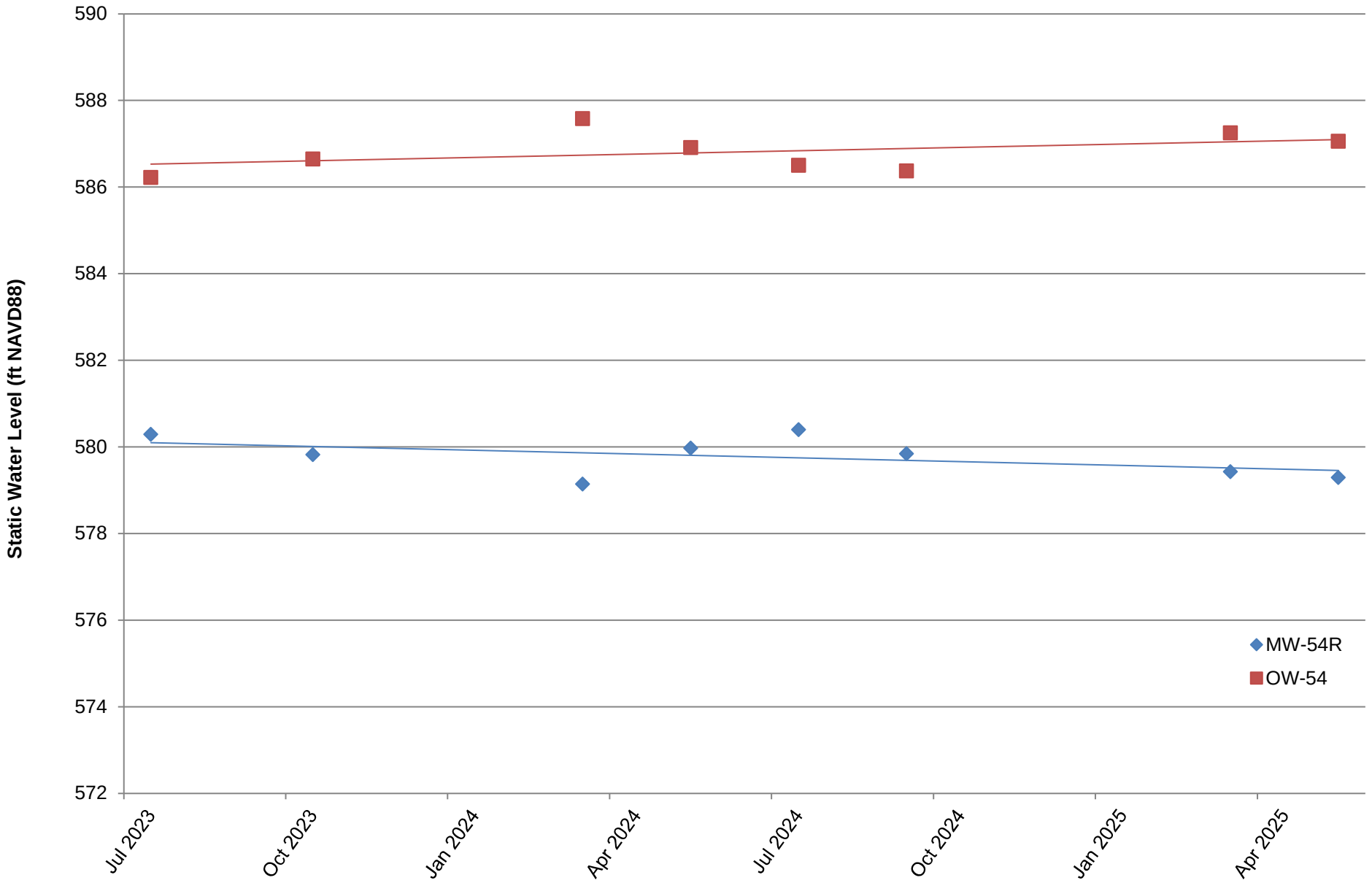
Appendix A
Static Water Level for MW-52 and JCW-OW-18003



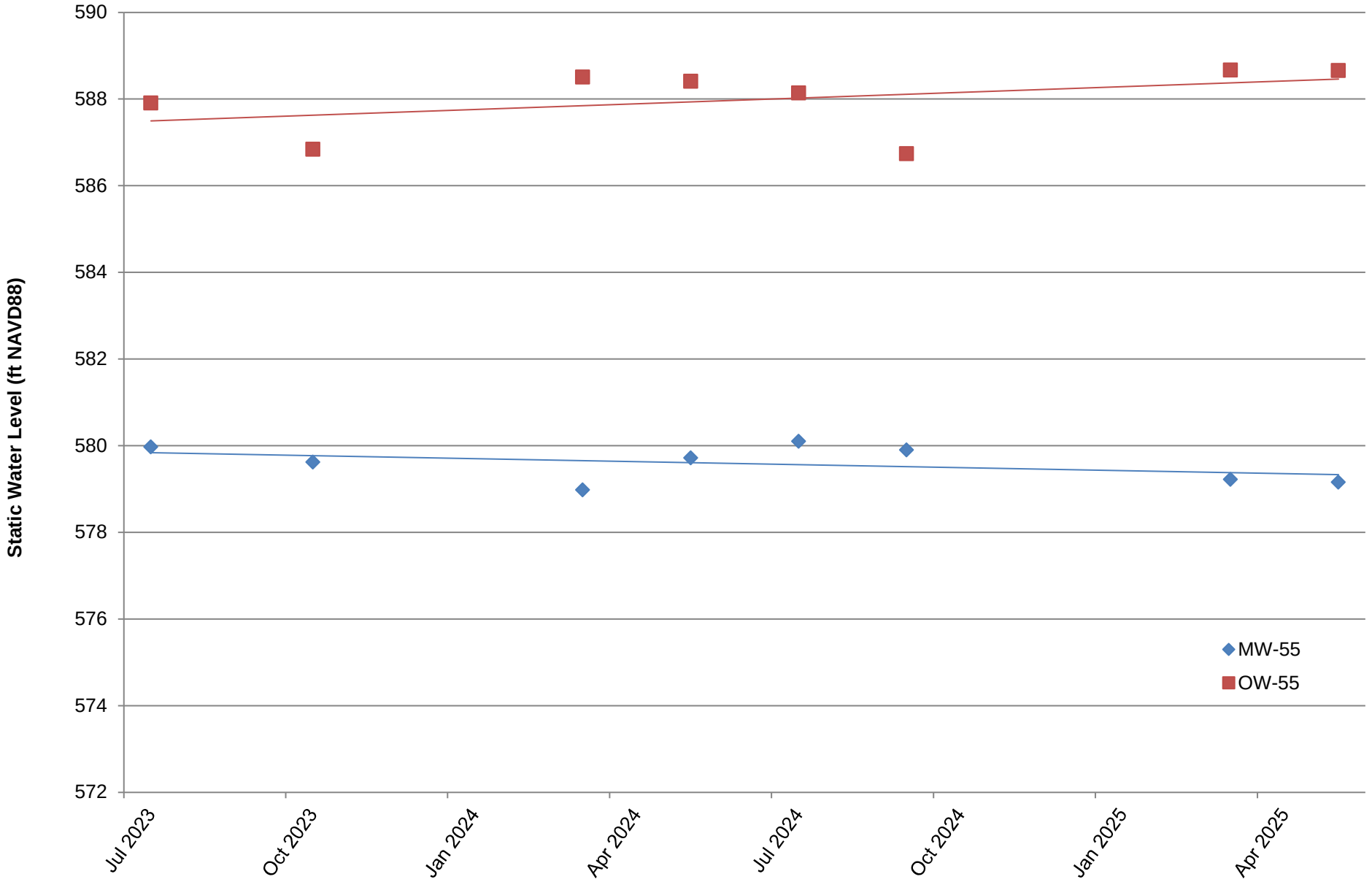
Appendix A
Static Water Level for MW-53 and OW-53



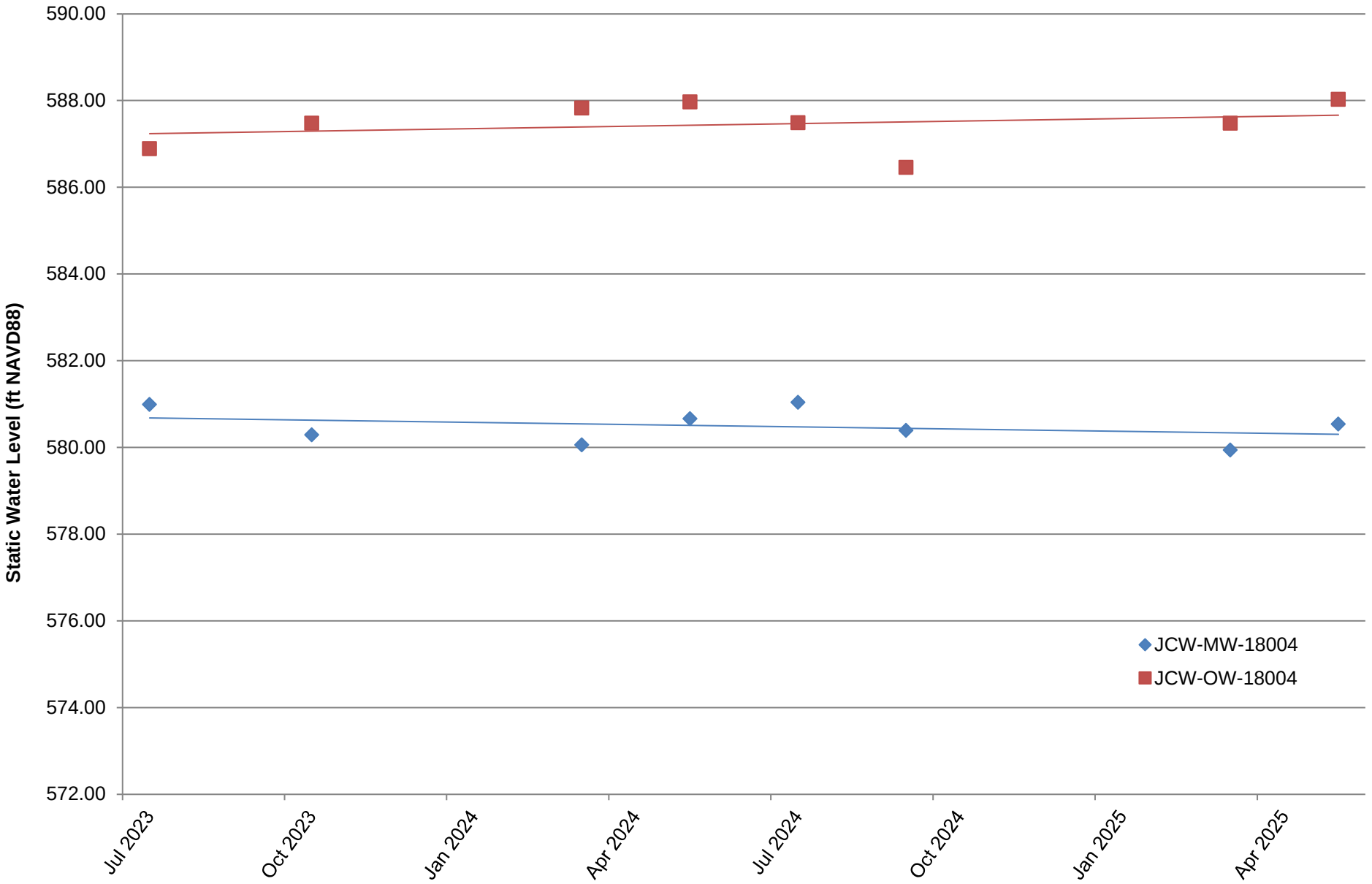
Appendix A
Static Water Level for MW-54R and OW-54



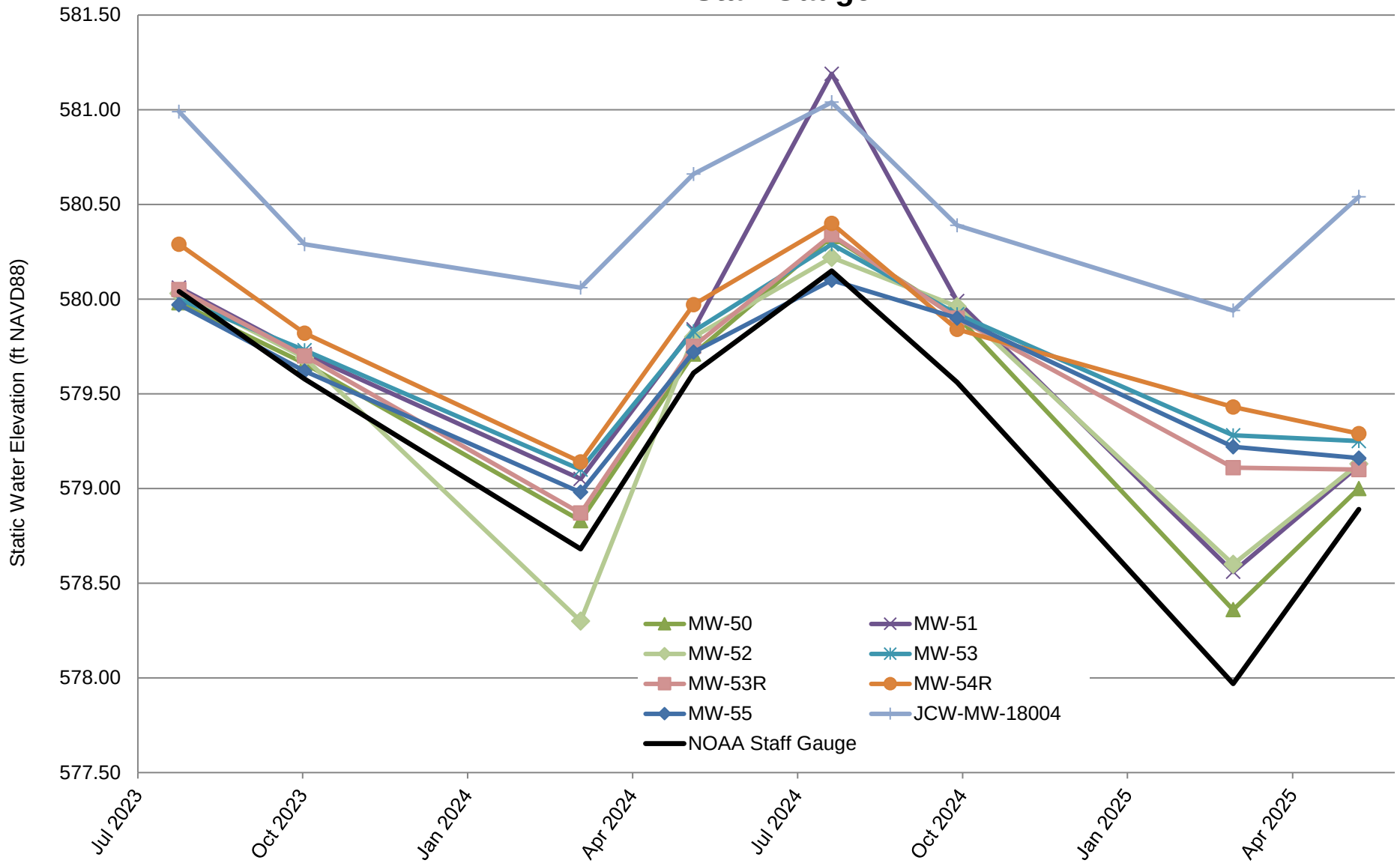
Appendix A
Static Water Level for MW-55 and OW-55



Appendix A
Static Water Level for JCW-MW-18004 and JCW-OW-18004



Appendix A
Static Water Elevations for Select Perimeter Dike Monitoring Wells and NOAA Staff Gauge



Appendix B
Data Quality Review

Laboratory Data Quality Review
Groundwater Monitoring Event May 2025
JC Weadock/DE Karn Background

Groundwater samples were collected by TRC for the May 2025 sampling event. Samples were analyzed for total metals, anions, and total dissolved solids by Consumers Energy (CE) Laboratory Services in Jackson, Michigan. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 25-0287.

During the May 2025 sampling event, a groundwater sample was collected from each of the following wells:

- MW-15002
- MW-15008
- MW-15016
- MW-15019

Each sample was analyzed for the following constituents:

Analyte Group	Method
Anions (Fluoride, Chloride, Sulfate)	EPA 300.0
Total Dissolved Solids (TDS)	SM 2540C
Total Metals	SW-846 6020B/7470A

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;

- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

It should be noted that results for method blanks and LCSs were not provided for review by CE Laboratory Services. Therefore, potential contamination arising from laboratory sample preparation and/or analytical procedures and the accuracy of the analytical method using a clean matrix could not be evaluated for the metals, anions, and TDS analyses.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed Appendix III and IV constituents and additional Part 115 metals will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, findings below may be used to support the removal of outliers.

QA/QC Sample Summary

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. No issues were noted.
- The preservation was assumed to be acceptable based on case narrative and COC preservation information; the cooler temperatures were between 0-6°C and acid was used for sample preservation, as applicable.
- The preparation times and dates for all analyses were provided in the electronic data deliverable (EDD) for this data set. All preparation and analysis holding time requirements were met.
- One field blank (FB-Background) was collected; an equipment blank was not collected with this data set. Target analytes were not detected above the RL in the field blank sample.
- Laboratory duplicate and MS/MSD analyses were not performed on a sample from this data set.
- Samples MW-15002/DUP-Background were submitted as the field duplicate pair with this data set; all criteria were met with the following exception.

- Vanadium was detected >5x the RL in sample MW-15002 and was detected <5x the RL in sample DUP-Background; the absolute difference was greater than the RL. Therefore, the positive results for vanadium should be considered estimated in all groundwater samples in this data set, as summarized in the attached table, Attachment A.

- The RLs met the project requirements and were deemed suitable for data use.
- Dilution factors for all analyses were provided in the EDD in this data set; all dilution factors were listed as 1-fold.

Attachment A
Summary of Data Non-Conformances for Groundwater Analytical Data
JC Weadock/DE Karn Background - Hydrogeological Monitoring Program
Essexville, Michigan

Samples	Collection Date	Analyte	Non-Conformance/Issue
MW-15002	5/12/2025	Vanadium	Field duplicate variability (absolute difference greater than reporting limit [RL]); potential uncertainty exists for the listed results.
MW-15008	5/12/2025		
MW-15016	5/12/2025		
MW-15019	5/12/2025		
DUP-Background	5/12/2025		

Laboratory Data Quality Review
Groundwater Monitoring Event May 2025
JC Weadock/Karn DEK Background

Groundwater samples were collected by TRC for the May 2025 sampling event. Samples were analyzed for radium by Eurofins - St. Louis, in Earth City, Missouri. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 240-224868-1.

During the May 2025 sampling event, a groundwater sample was collected from each of the following wells:

- MW-15002
- MW-15008
- MW-15016
- MW-15019

Each sample was analyzed for the following constituents:

Analyte Group	Method
Radium (Ra-226, Ra-228, Combined Ra-226 & Ra-228)	EPA 903.0, EPA 904.0

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the Department of Energy Evaluation of Radiochemical Data Usability (USDOE, 1997). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks, equipment blanks, and field blanks, where applicable. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Percent recoveries for carriers, where applicable, for radiochemistry only. Carriers are used to assess the chemical yield for the preparation and/or instrument efficiency;

- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed constituents will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, findings below may be used to support the removal of outliers.

QA/QC Sample Summary

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. The following should be noted:
  - The laboratory logged in the equipment blank with a sample ID of EQ-Background; however, the equipment blank sample ID is listed as EB-Background on the COC. The laboratory was not contacted about this issue and there is no adverse impact on the data.
- The cooler temperatures were between 0-6°C and samples were preserved with acid, as applicable, except as noted below.
  - The samples were not relinquished to the laboratory, Eurofins Cleveland in Barberton, OH, until four days after collection. The field staff has stated during previous rounds of data review that when this occurs, samples are stored in coolers, on ice until shipment to the lab. There was no adverse impact on the data usability due to this issue.
- Sample preparation and analysis holding time requirements were met.
- There was one equipment blank (EQ-Background) submitted with this dataset. No target analytes were detected in the sample.
- Target analytes were not detected in the method blanks.
- LCS recoveries and replicate error ratios (RERs), as applicable, for all target analytes were within laboratory control limits.
- MS/MSD analyses were not performed on the samples from this data set.

- A laboratory duplicate analysis was performed on sample EQ-Background. All criteria were met.
- Samples MW-15002/DUP-Background were submitted as the field duplicate pair with this data set; all criteria were met.
- Carrier recoveries were within 30-110%.
- The RLs met the project requirements and were deemed suitable for data use.
- All dilution factors were listed as 1-fold for the samples in this data set.

Laboratory Data Quality Review
Groundwater Monitoring Event May 2025
JC Weadock Landfill

Porewater samples were collected by TRC for the May 2025 sampling event. Samples were analyzed for total metals, anions, total dissolved solids, and/or alkalinity by Consumers Energy (CE) Laboratory Services in Jackson, Michigan. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 25-0285.

During the May 2025 sampling event, a porewater sample was collected from each of the following wells:

- JCW-MW-18001
- JCW-MW-18004
- JCW-MW-18005
- JCW-MW-18006
- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- OW-57ROUT

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
Anions (Fluoride, Chloride, Sulfate)	EPA 300.0
Total Dissolved Solids (TDS)	SM 2540C
Total Metals	SW-846 6020B/7470A
Alkalinity (Bicarbonate, Carbonate, and Total)	SM 2320B

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;

- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

It should be noted that results for method blanks and LCSs were not provided for review by CE Laboratory Services. Therefore, potential contamination arising from laboratory sample preparation and/or analytical procedures and the accuracy of the analytical method using a clean matrix could not be evaluated for the metals, anions, TDS, and alkalinity analyses.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed Appendix III and IV constituents, optional Piper Diagram analyses, and additional Part 115 constituents will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, findings below may be used to support the removal of outliers.

QA/QC Sample Summary

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. No issues were noted.
- The preservation was assumed to be acceptable based on case narrative and COC preservation information; the cooler temperatures were between 0-6°C and acid was used for sample preservation, as applicable.
  - Several of the samples were relinquished by the field team one day after collection. The field staff has stated during previous rounds of data review that when this occurs, samples are stored in coolers, on ice until shipment to the lab. There is no impact on data usability.

- The preparation times and dates for all analyses were provided in the electronic data deliverable (EDD) for this data set. All preparation and analysis holding time requirements were met.
- One field blank (FB-01) and one equipment blank (EB-01) were collected. Target analytes were not detected in these blank samples with the following exceptions.
  - Boron (32 µg/L) was detected in field blank FB-01 and boron (34 µg/L) and potassium (106 µg/L) were detected in equipment blank EB-01 at the listed concentrations. A potential false positive result exists for the boron result that was less than 10x the blank concentration, as summarized in Attachment A.
- MS and MSD analyses were performed on sample JCW-MW-18001 for total metals and anions. The recoveries were within the acceptance limits. Relative percent differences were not provided by the laboratory and therefore were not evaluated; further, MS/MSD concentrations were not provided by the laboratory. However, since all recoveries were within the acceptance limits, there is no impact on data usability due to this issue.
- Laboratory duplicate analyses were not performed on a sample from this data set.
- Samples MW-52/DUP-JCW-LF-01 and MW-55/DUP-JCW-LF-02 were submitted as the field duplicate pairs with this data set; all criteria were met.
- The RLs met the project requirements and were deemed suitable for data use.
- Dilution factors for all analyses were provided in the EDD in this data set; all dilution factors were listed as 1-fold.

Attachment A
Summary of Data Non-Conformances for Groundwater Analytical Data
JC Weadock Landfill - Hydrogeological Monitoring Program
Essexville, Michigan

Samples	Collection Date	Analyte	Non-Conformance/Issue
JCW-MW-18004	5/14/2025	Boron	Field blank and equipment blank contamination; potential false positive exists for the listed results.

Laboratory Data Quality Review
Groundwater Monitoring Event May 2025
JC Weadock Landfill

Porewater samples were collected by TRC for the May 2025 sampling event. Samples were analyzed for radium by Eurofins - St. Louis, in Earth City, Missouri. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 240-224773-1.

During the May 2025 sampling event, a groundwater sample was collected from each of the following wells:

- JCW-MW-18001
- JCW-MW-18004
- JCW-MW-18005
- JCW-MW-18006
- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- OW-57ROUT

Each sample was analyzed for the following constituents:

Analyte Group	Method
Radium (Ra-226, Ra-228, Combined Ra-226 & Ra-228)	EPA 903.0, EPA 904.0

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the Department of Energy Evaluation of Radiochemical Data Usability (USDOE, 1997). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks, equipment blanks, and field blanks, where applicable. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;

- Percent recoveries for carriers, where applicable, for radiochemistry only. Carriers are used to assess the chemical yield for the preparation and/or instrument efficiency;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed constituents will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, findings below may be used to support the removal of outliers.

QA/QC Sample Summary

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. No issues were noted.
- The cooler temperatures were between 0-6°C and samples were preserved with acid, as applicable, except as noted below.
    - The samples were not relinquished to the laboratory, Eurofins Cleveland in Barberton, OH, until two to three days after collection. The field staff has stated during previous rounds of data review that when this occurs, samples are stored in coolers, on ice until shipment to the lab. There was no adverse impact on the data usability due to this issue.
    - The samples were on ice when they were delivered to Eurofins Cleveland in Barberton, OH. The samples were not on ice when they were shipped to Eurofins St. Louis in Earth City MO for analysis. There is no adverse impact on data usability due to this issue since thermal preservation is not required for radium samples.
- Sample preparation and analysis holding time requirements were met.
- One equipment blank (EB-1) was collected. Target analytes were not detected in this blank sample.
- Target analytes were not detected in the method blanks with the following exception.

  - Radium-228 (0.7612 +/- 0.405 pCi/L) was detected in method blank MB 160-718622/1-A. Potential false positive results exist for the positive radium-228 and combined radium 226+228 results with normalized absolute differences <1.96, as summarized in Attachment A.
- LCS recoveries and replicate error ratios (RERs), as applicable, for all target analytes were within laboratory control limits.
- MS/MSD analyses were not performed on the samples from this data set.
- Laboratory duplicate analyses were performed on sample JCW-MW-18001 for Radium-226 and Radium-228. All criteria were met.
- Samples MW-52/DUP-01 were submitted as the field duplicate pair with this data set; all criteria were met.
- Carrier recoveries were within 30-110%.
- The RLs met the project requirements and were deemed suitable for data use.
- All dilution factors were listed as 1-fold for the samples in this data set.

Attachment A
Summary of Data Non-Conformances for Groundwater Analytical Data
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

Samples	Collection Date	Analyte	Non-Conformance/Issue
JCW-MW-18006	5/14/2025	Radium-228 and Combined Radium 226+228	Method blank contamination; potential false positive.
MW-50	5/13/2025		
MW-51	5/13/2025		
MW-52	5/13/2025		
MW-53	5/13/2025		
DUP-01	5/13/2025		

Laboratory Data Quality Review
Groundwater Monitoring Event May 2025
JC Weadock Alternate Source Demonstration

A porewater sample was collected by TRC for the May 2025 sampling event. The sample was analyzed for total metals, anions, total dissolved solids, and alkalinity by Consumers Energy (CE) Laboratory Services in Jackson, Michigan. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 25-0286.

During the May 2025 sampling event, a porewater sample was collected from the following well:

- JCW-OW-18001

The sample was analyzed for the following constituents:

Analyte Group	Method
Anions (Fluoride, Chloride, Sulfate)	EPA 300.0
Total Dissolved Solids (TDS)	SM 2540C
Total Metals	SW-846 6020B/7470A
Alkalinity (Bicarbonate, Carbonate, and Total)	SM 2320B

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;

- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

It should be noted that results for method blanks and LCSs were not provided for review by CE Laboratory Services. Therefore, potential contamination arising from laboratory sample preparation and/or analytical procedures and the accuracy of the analytical method using a clean matrix could not be evaluated for the metals, anions, TDS, and alkalinity analyses.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed Appendix III and IV constituents, optional Piper Diagram analyses, additional Part 115 constituents, as well as manganese will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, findings below may be used to support the removal of outliers.

QA/QC Sample Summary

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. There were no issues noted.
- The preservation was assumed to be acceptable based on case narrative and COC preservation information; the cooler temperature was between 0-6°C and acid was used for sample preservation, as applicable.
  - The sample was received by the laboratory two days after collection. The field staff has stated during previous rounds of data review that when this occurs, samples are stored in coolers, on ice until shipment to the lab. There is no impact on data usability.
  - It should be noted that the original COC included an incorrect relinquished date of 5/13/2025. The correct relinquished date of 5/14/2025 was provided on a revised COC.
- The preparation times and dates for all analyses were provided in the electronic data deliverable (EDD) for this data set. All preparation and analysis holding time requirements were met.
- There were no equipment blanks or field blanks collected with this data set.

- MS and MSD analyses were not performed on the sample from this data set.
- Laboratory duplicate analyses were not performed on the sample from this data set.
- Field duplicate pairs were not submitted with this data set
- The RLs met the project requirements and were deemed suitable for data use.
- Dilution factors for all analyses were provided in the EDD in this data set; all dilution factors were listed as 1-fold.

Appendix C
Detection Monitoring Statistical Trend Tests

Appendix C
Detection Monitoring Statistical Summary for JC Weadock Facility
Second Quarter 2025
Data from July 2023 to May 2025

Porewater Monitoring Points						
Constituent	**JCW-MW-18001**	**JCW-MW-18004**	**JCW-MW-18005**	**JCW-MW-18006**	**MW-50**	**MW-51**
Boron[(1)]	O	O	O	↑	↑	O
Calcium	↓*	O	O	O	O	O
Chloride	O	O	O	O	O	↓
Fluoride	O*	O*	O*	O*	O*	O*
Iron	O	O	O	O	O	O
pH/Corrosivity[(1)]	O	O	O	O	↑	O
Sulfate	O	O	O	O	O	O
Total Dissolved Solids	O	O	O	O	O	O

Notes:

O* = Non-detect (70%)

O = No trend

↑ = Upward trend, continuous

↑* = Upward trend, new

↑ = Upward trend, confirmed

↓ = Downward trend, continuous

↓* = Downward trend, new

(1) Boron concentrations and pH levels were confirmed as statistically significant increases (SSIs) over background levels and triggered assessment monitoring (2017 Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit, TRC, 2018).

Appendix C
Detection Monitoring Statistical Summary for JC Weadock Facility
Second Quarter 2025
Data from July 2023 to May 2025

Porewater Monitoring Points						
Constituent	**MW-52**	**MW-53**	**MW-53R**	**MW-54R**	**MW-55**	**OW-57R OUT**
Boron[(1)]	O	O	O	O	O	O
Calcium	O	O	↓*	O	O	O
Chloride	O	O	↑	↑	O	↑
Fluoride	O*	O*	O*	O*	O*	O
Iron	O	↓*	O	O	↓	O
pH/Corrosivity[(1)]	O	O	↑	O	O	O
Sulfate	↓	O	O	O	O	O
Total Dissolved Solids	↓*	O	O	↑*	O	O

Notes:

O* = Non-detect (70%)

O = No trend

↑ = Upward trend, continuous

↑* = Upward trend, new

↑ = Upward trend, confirmed

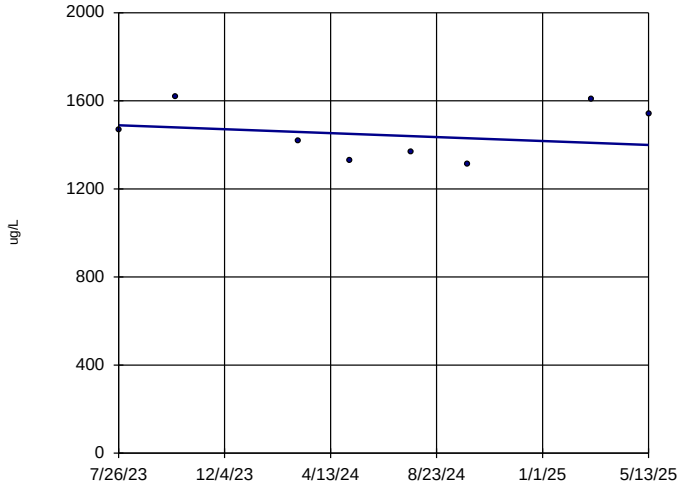
↓ = Downward trend, continuous

↓* = Downward trend, new

(1) Boron concentrations and pH levels were confirmed as statistically significant increases (SSIs) over background levels and triggered assessment monitoring (2017 Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit, TRC, 2018).

Boron, Total

JCW-MW-18001



n = 8

Slope = -49.74 units per year.

Mann-Kendall statistic = -4 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

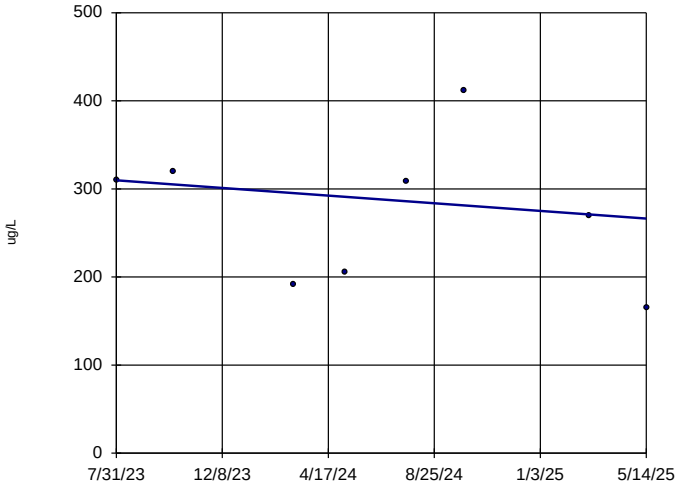
Sen's Slope Estimator Analysis Run 7/3/2025 4:20 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

JCW-MW-18004



n = 8

Slope = -24.18 units per year.

Mann-Kendall statistic = -6 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

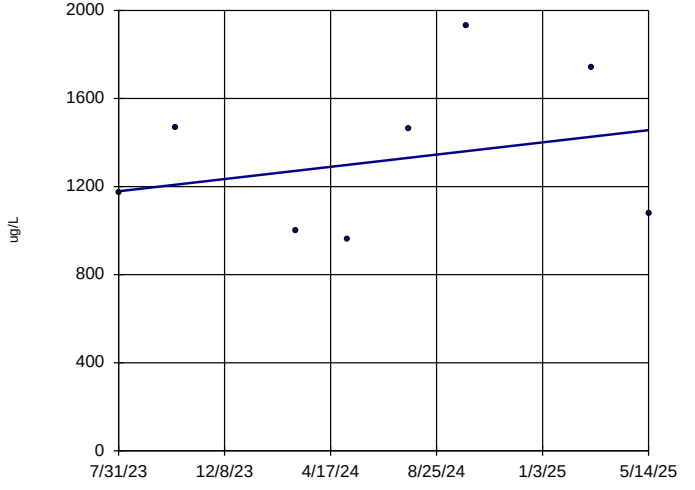
Sen's Slope Estimator Analysis Run 7/3/2025 4:20 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

JCW-MW-18005



n = 8

Slope = 155.1 units per year.

Mann-Kendall statistic = 4 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

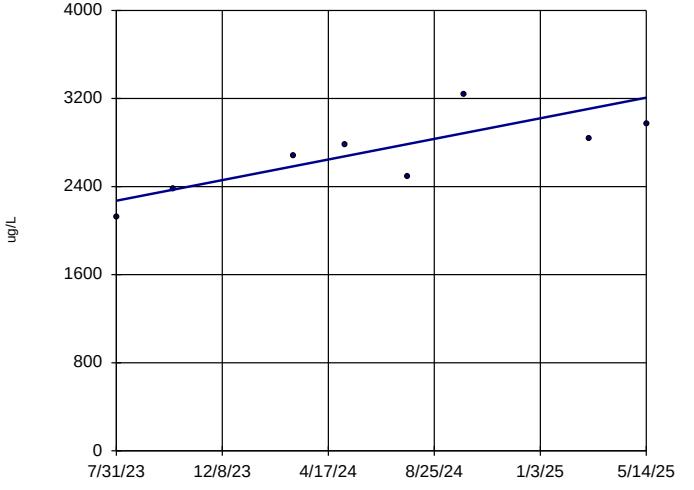
Sen's Slope Estimator Analysis Run 7/3/2025 4:20 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

JCW-MW-18006



n = 8

Slope = 522.7 units per year.

Mann-Kendall statistic = 20 critical = 17

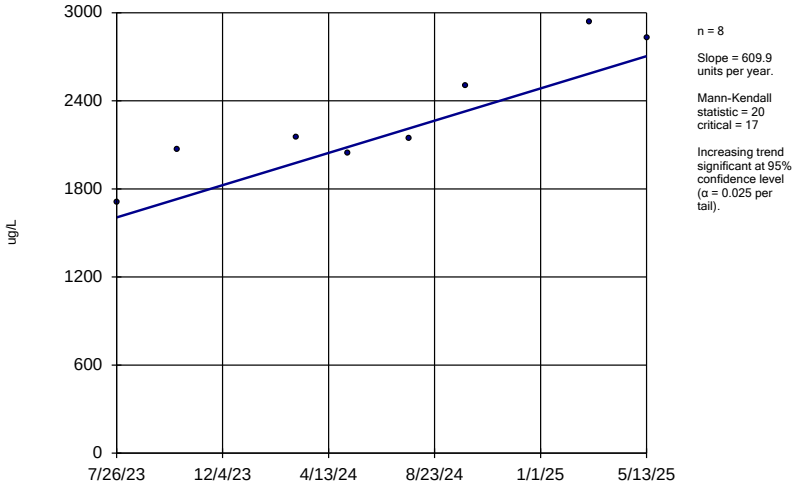
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:20 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Boron, Total

MW-50



n = 8

Slope = 609.9 units per year.

Mann-Kendall statistic = 20 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:20 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

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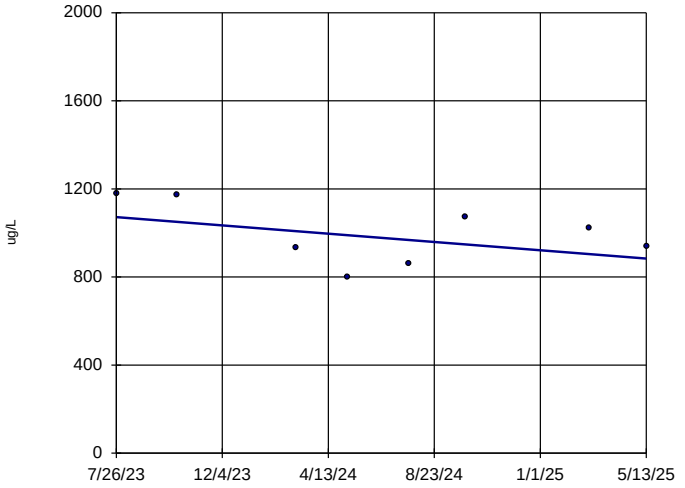
Boron, Total

MW-51



n = 8

Slope = -104.4 units per year.

Mann-Kendall statistic = -8 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

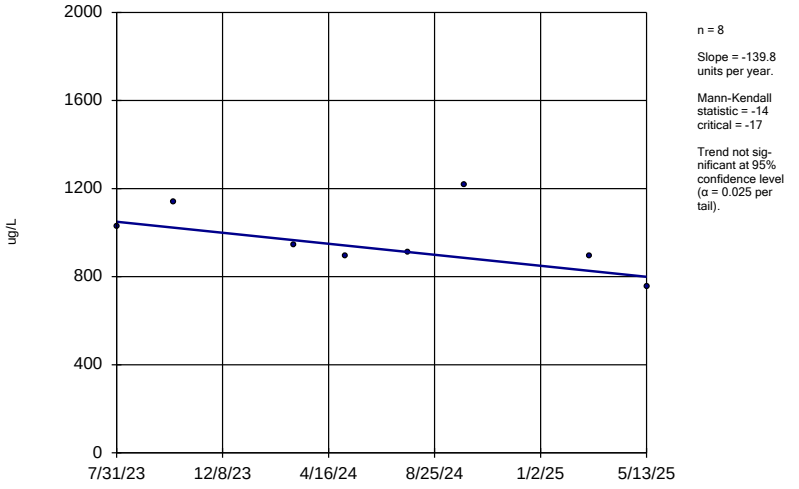
Sen's Slope Estimator Analysis Run 7/3/2025 4:20 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-52



n = 8

Slope = -139.8 units per year.

Mann-Kendall statistic = -14 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:20 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

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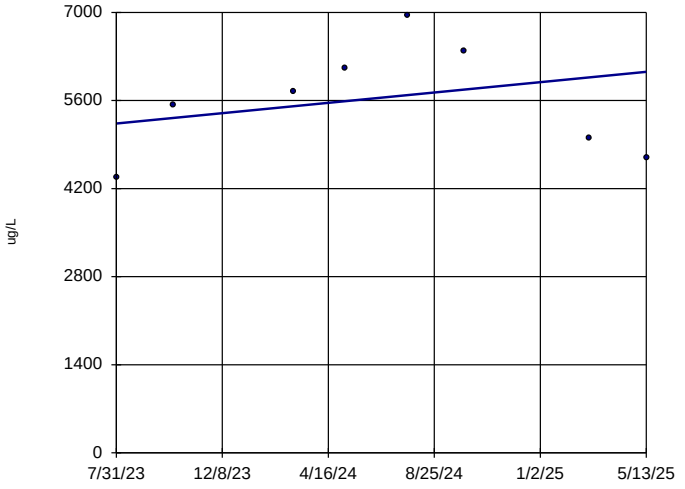
Boron, Total

MW-53



n = 8

Slope = 459.6 units per year.

Mann-Kendall statistic = 4 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

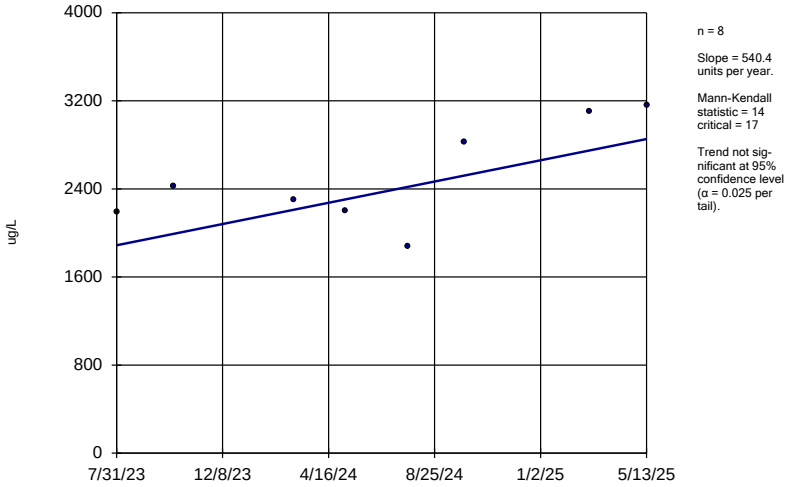
Sen's Slope Estimator Analysis Run 7/3/2025 4:20 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-53R



n = 8

Slope = 540.4 units per year.

Mann-Kendall statistic = 14 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:20 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

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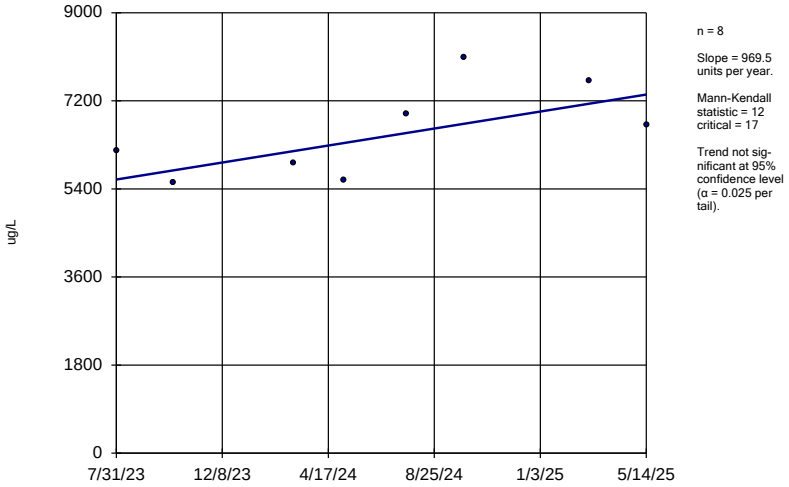
Boron, Total

MW-54R



n = 8

Slope = 969.5 units per year.

Mann-Kendall statistic = 12 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:20 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

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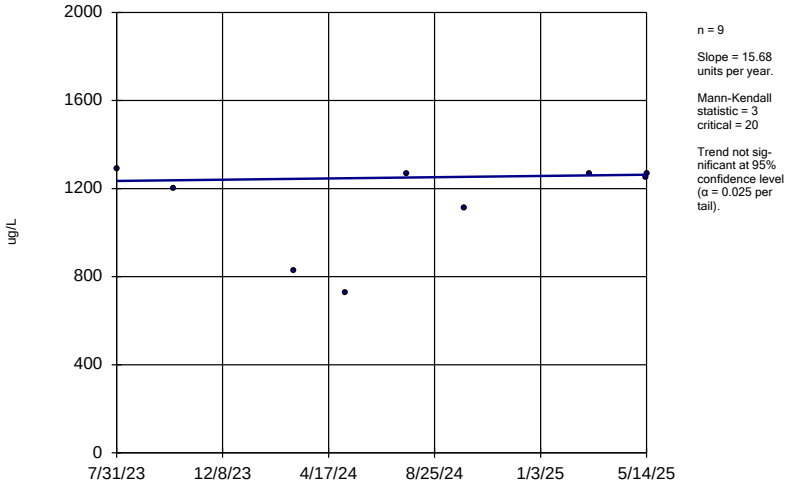
Boron, Total

MW-55



n = 9

Slope = 15.68 units per year.

Mann-Kendall statistic = 3 critical = 20

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:20 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

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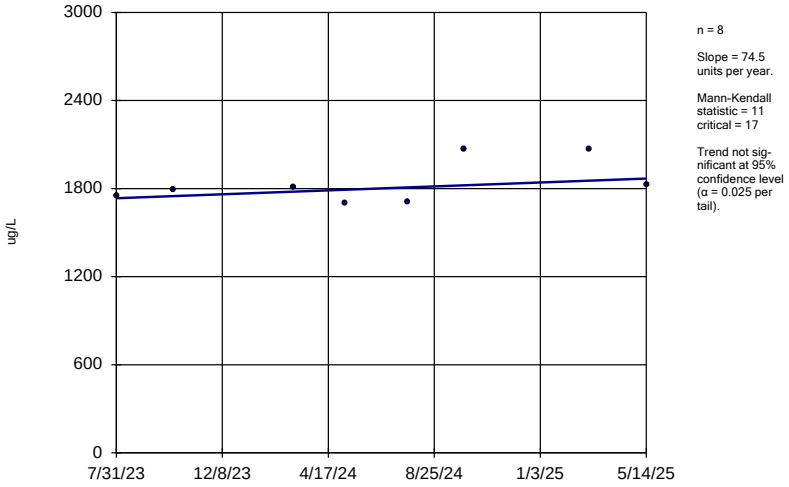
Boron, Total

OW-57ROUT



n = 8

Slope = 74.5 units per year.

Mann-Kendall statistic = 11 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:20 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

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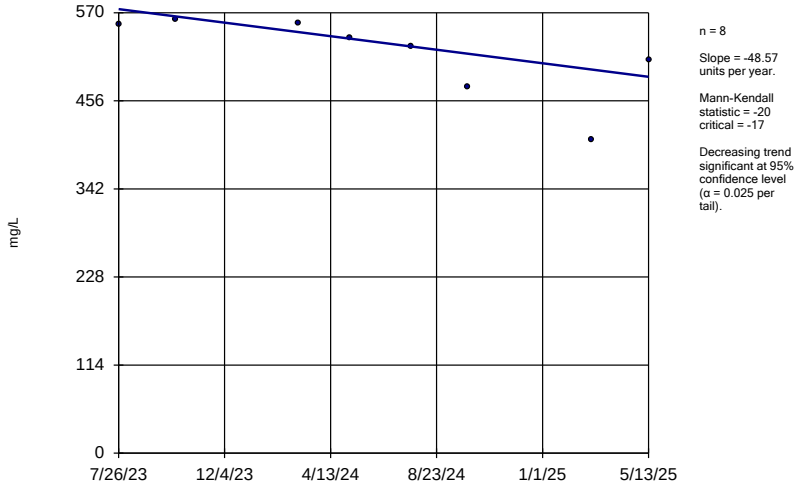
Calcium, Total

JCW-MW-18001



n = 8

Slope = -48.57 units per year.

Mann-Kendall statistic = -20 critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

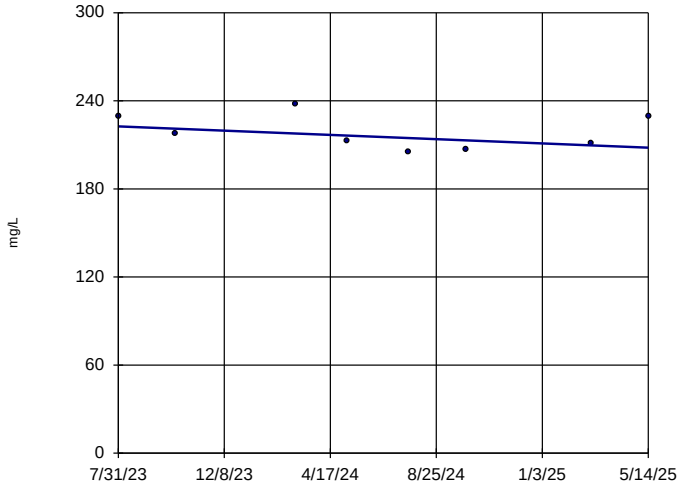
Sen's Slope Estimator Analysis Run 7/3/2025 4:20 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

JCW-MW-18004



n = 8

Slope = -8.08 units per year.

Mann-Kendall statistic = -7 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

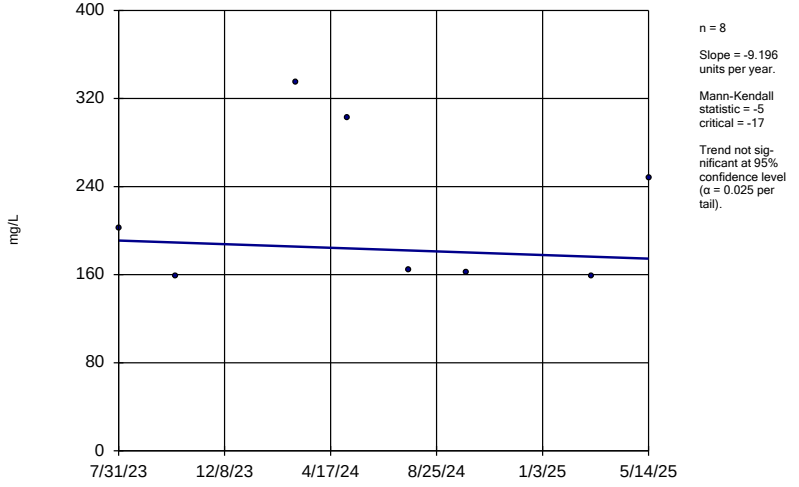
Sen's Slope Estimator Analysis Run 7/3/2025 4:20 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

JCW-MW-18005



n = 8

Slope = -9.196 units per year.

Mann-Kendall statistic = -5 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:20 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

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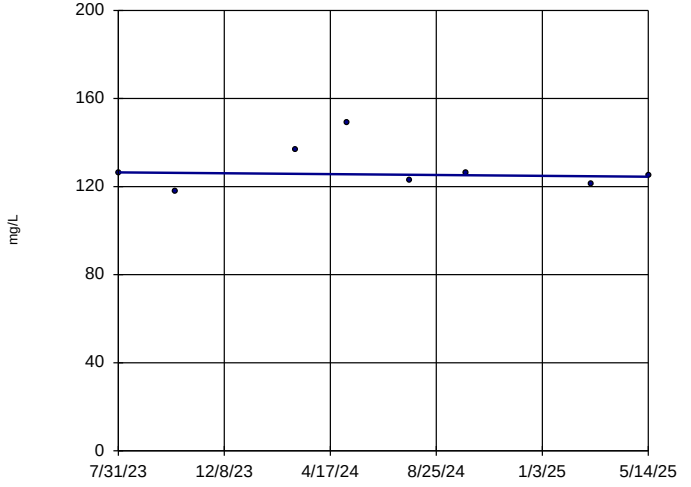
Calcium, Total

JCW-MW-18006



n = 8

Slope = -1.094 units per year.

Mann-Kendall statistic = -3 critical = -17

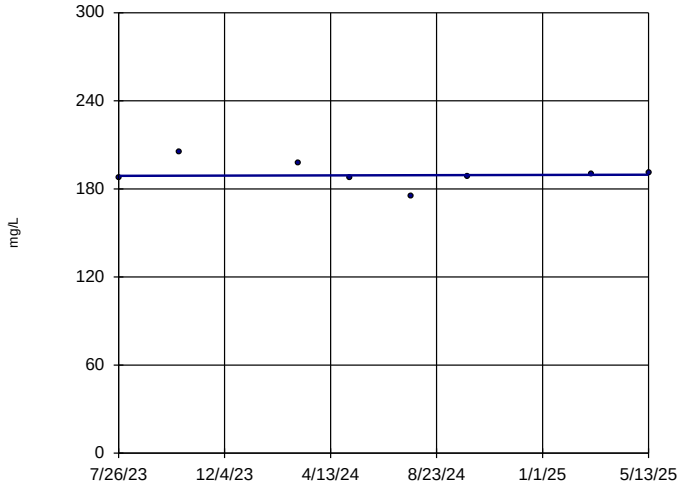
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Calcium, Total

MW-50



n = 8

Slope = 0.4215 units per year.

Mann-Kendall statistic = 1 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

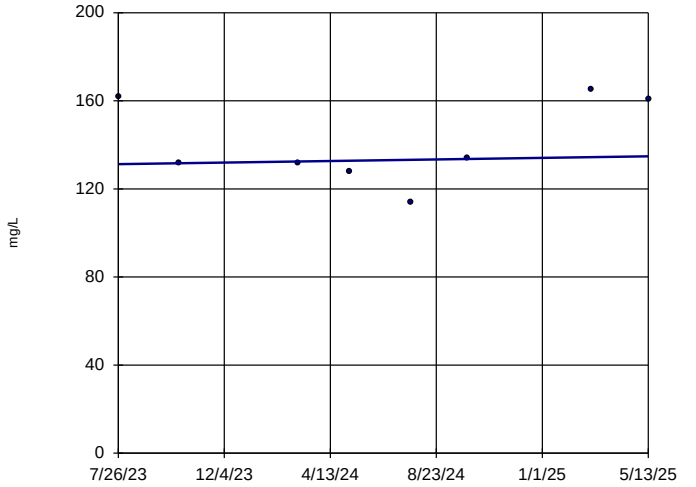
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-51



n = 8

Slope = 1.952 units per year.

Mann-Kendall statistic = 3 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

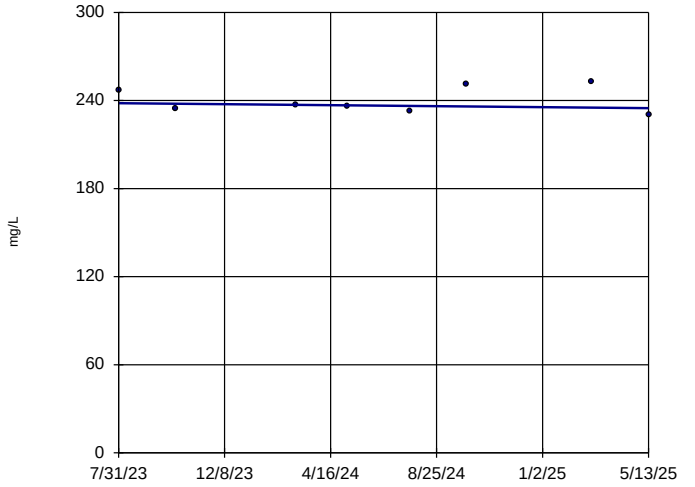
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-52



n = 8

Slope = -1.888 units per year.

Mann-Kendall statistic = -2 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

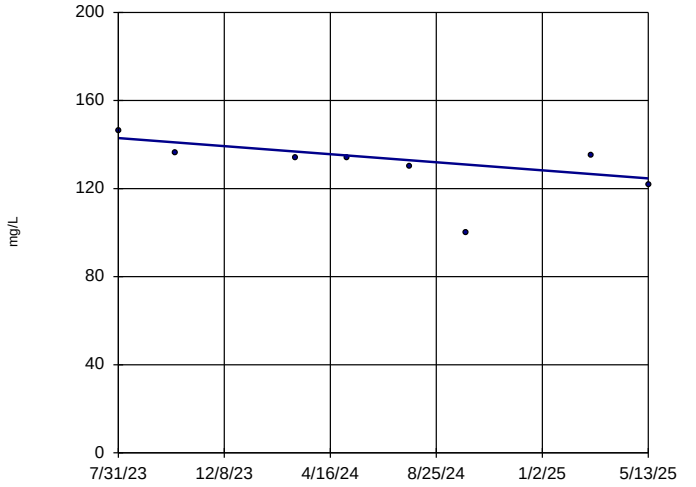
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-53



n = 8

Slope = -10.26 units per year.

Mann-Kendall statistic = -17 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

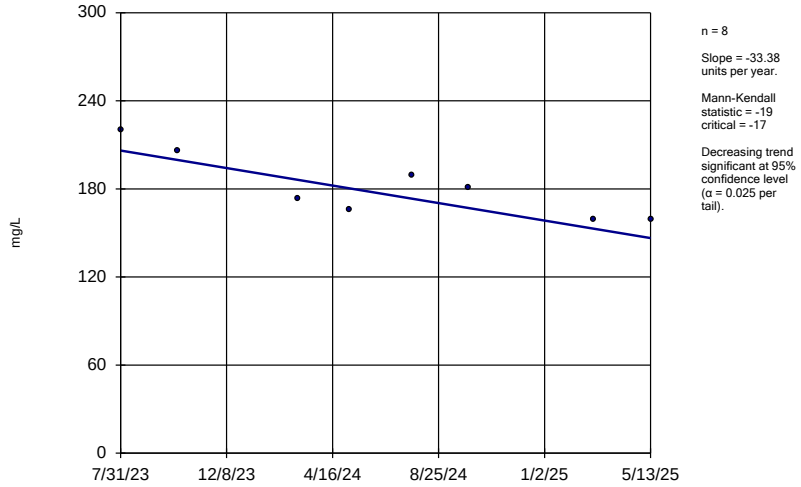
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-53R



n = 8

Slope = -33.38 units per year.

Mann-Kendall statistic = -19 critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

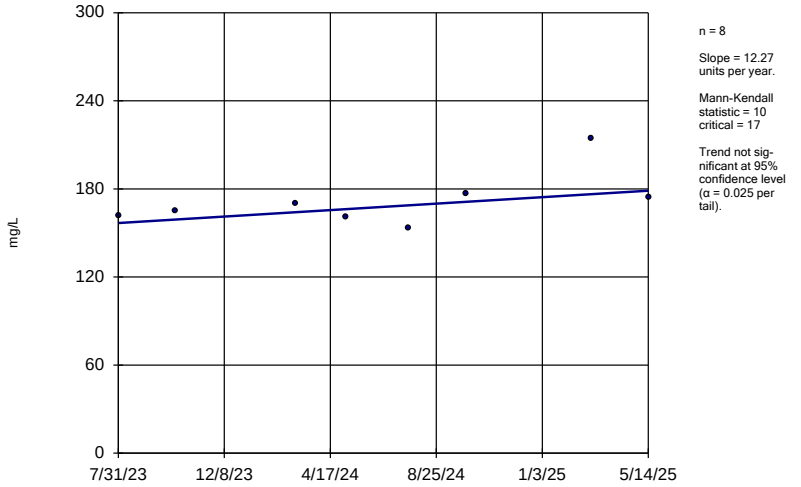
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-54R



n = 8

Slope = 12.27 units per year.

Mann-Kendall statistic = 10 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

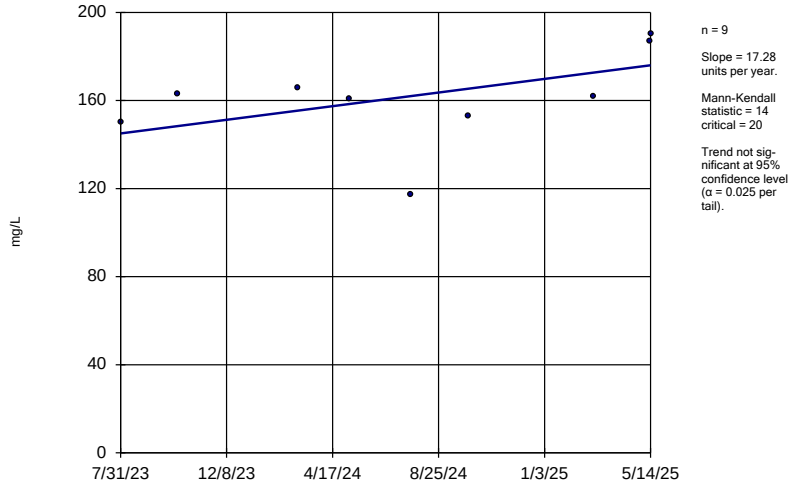
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-55



n = 9

Slope = 17.28 units per year.

Mann-Kendall statistic = 14 critical = 20

Trend not significant at 95% confidence level (α = 0.025 per tail).

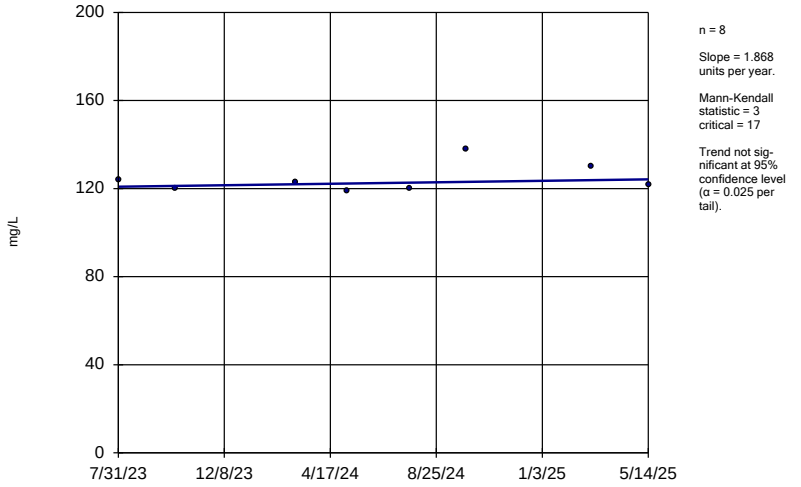
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

OW-57ROUT



n = 8

Slope = 1.868 units per year.

Mann-Kendall statistic = 3 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

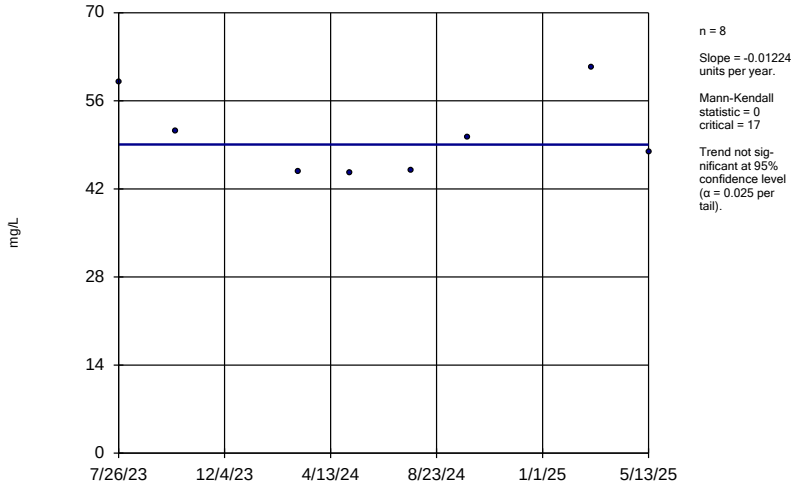
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Chloride

JCW-MW-18001



n = 8

Slope = -0.01224 units per year.

Mann-Kendall statistic = 0
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

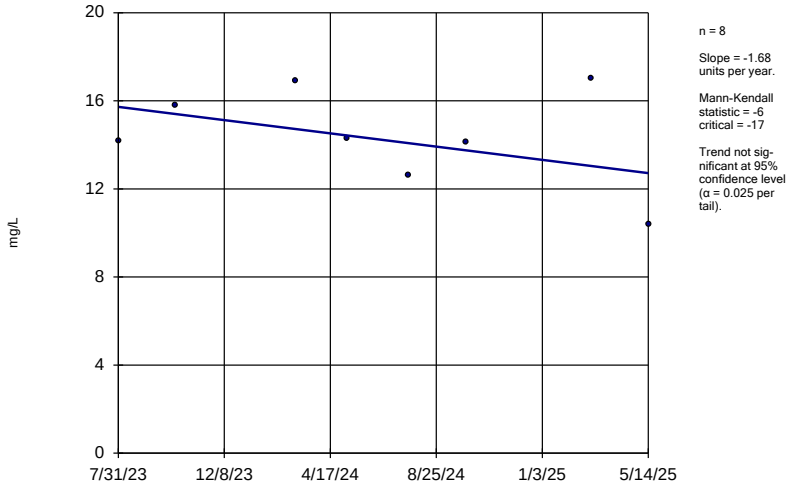
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Chloride

JCW-MW-18004



n = 8

Slope = -1.68 units per year.

Mann-Kendall statistic = -6
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

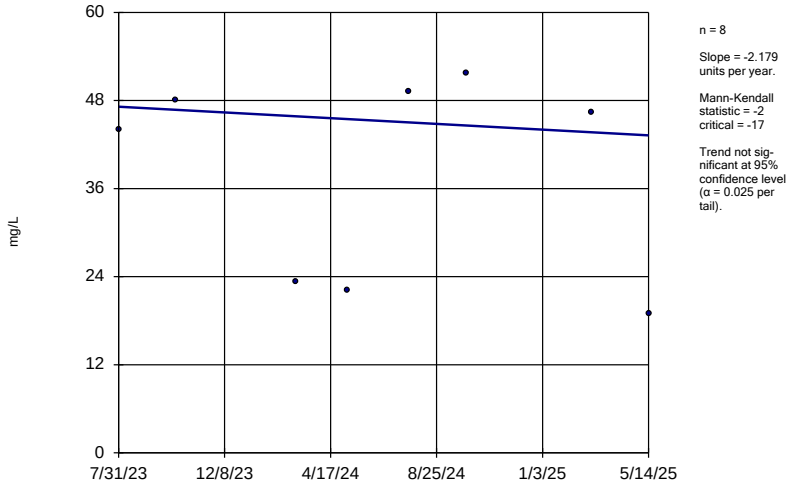
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Chloride

JCW-MW-18005



n = 8

Slope = -2.179 units per year.

Mann-Kendall statistic = -2
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

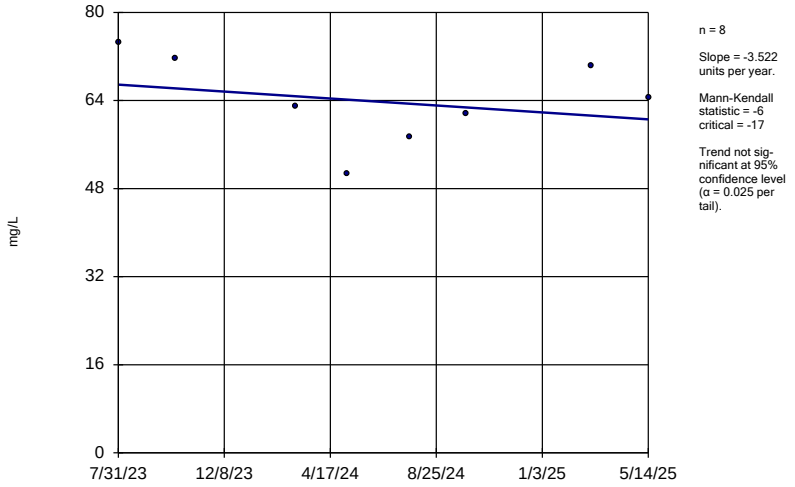
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Chloride

JCW-MW-18006



n = 8

Slope = -3.522 units per year.

Mann-Kendall statistic = -6
critical = -17

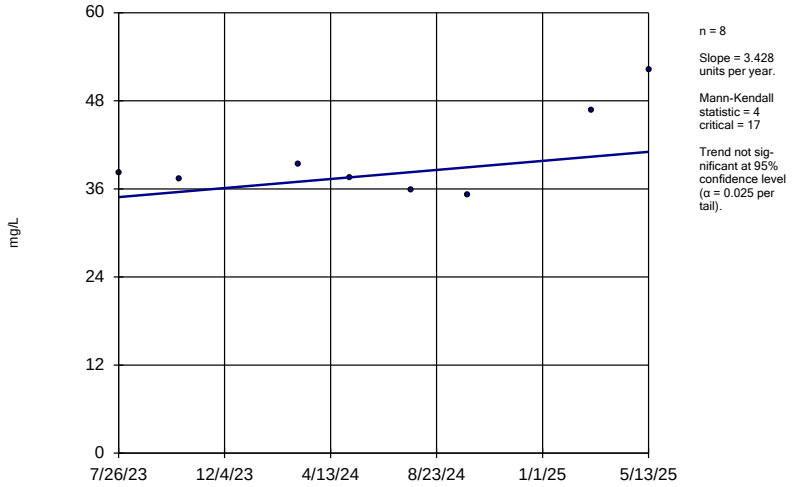
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Chloride

MW-50



n = 8

Slope = 3.428 units per year.

Mann-Kendall statistic = 4
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

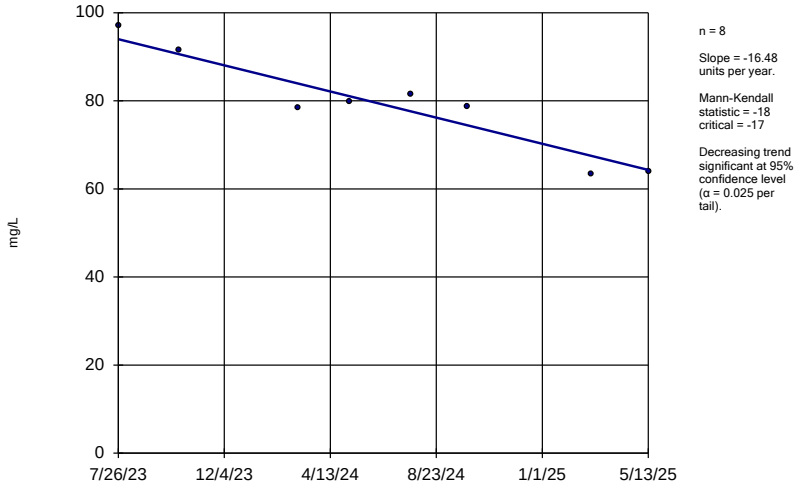
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Chloride

MW-51



n = 8

Slope = -16.48 units per year.

Mann-Kendall statistic = -18
critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

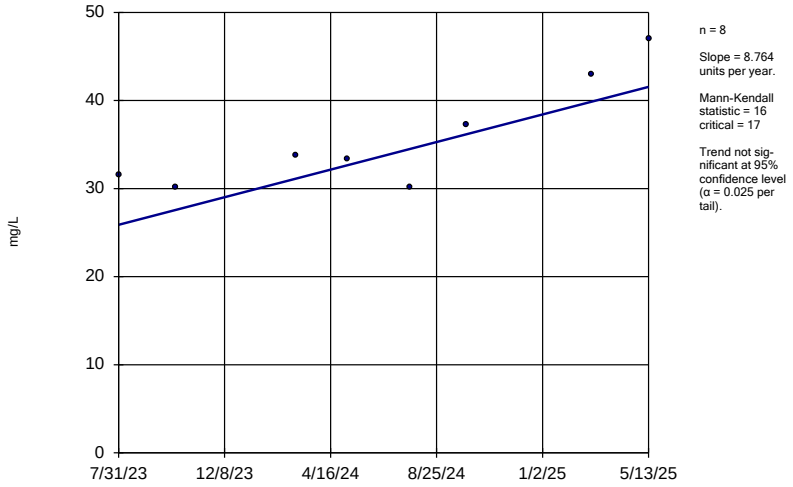
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Chloride

MW-52



n = 8

Slope = 8.764 units per year.

Mann-Kendall statistic = 16
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

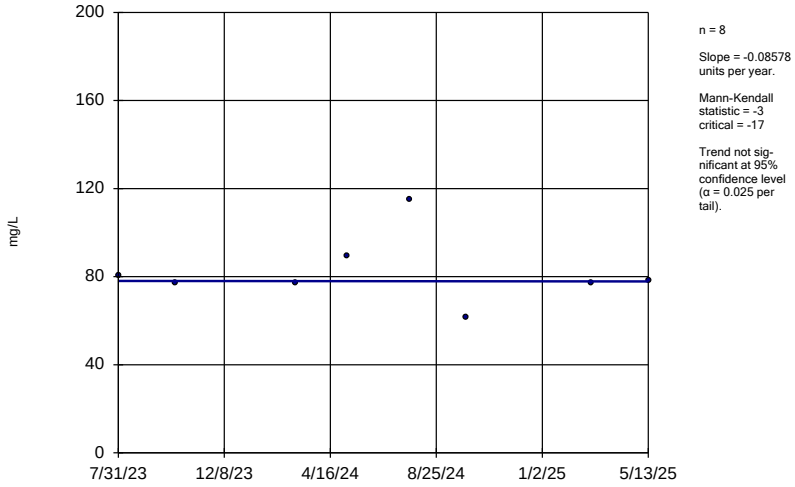
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Chloride

MW-53



n = 8

Slope = -0.08578 units per year.

Mann-Kendall statistic = -3
critical = -17

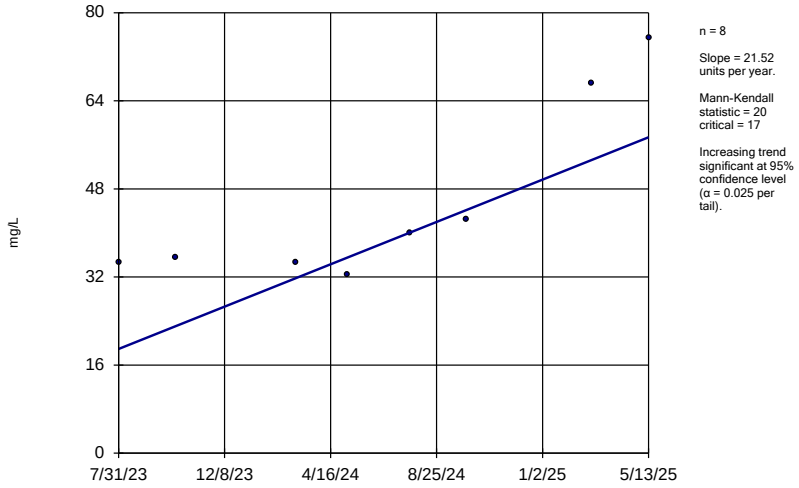
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Chloride

MW-53R



n = 8

Slope = 21.52 units per year.

Mann-Kendall statistic = 20 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

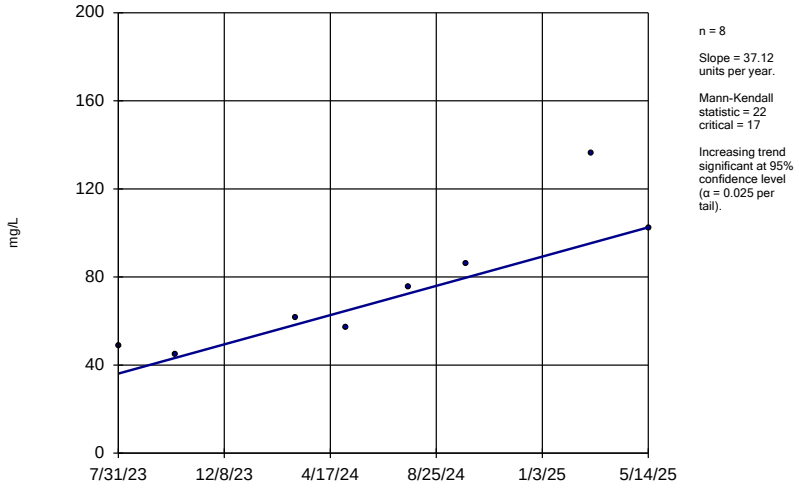
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Chloride

MW-54R



n = 8

Slope = 37.12 units per year.

Mann-Kendall statistic = 22 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

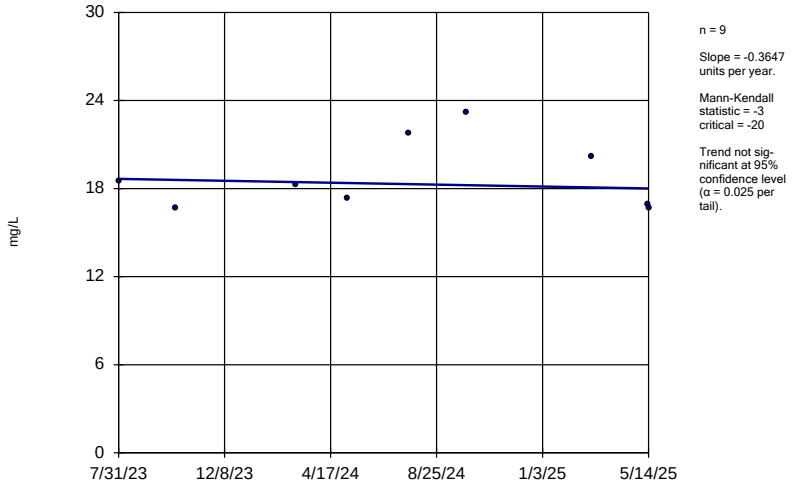
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Chloride

MW-55



n = 9

Slope = -0.3647 units per year.

Mann-Kendall statistic = -3 critical = -20

Trend not significant at 95% confidence level (α = 0.025 per tail).

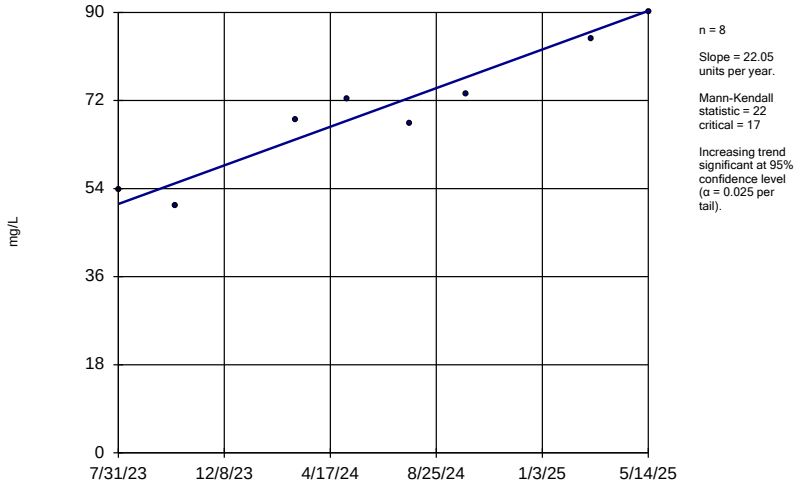
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Chloride

OW-57ROUT



n = 8

Slope = 22.05 units per year.

Mann-Kendall statistic = 22 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

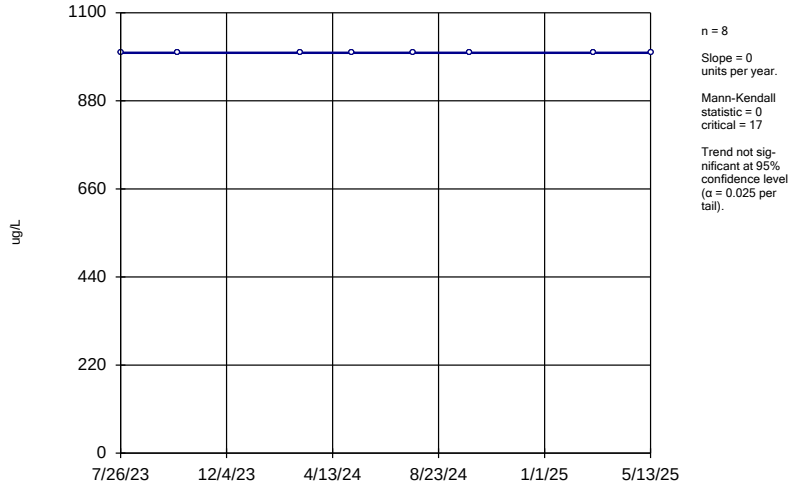
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18001



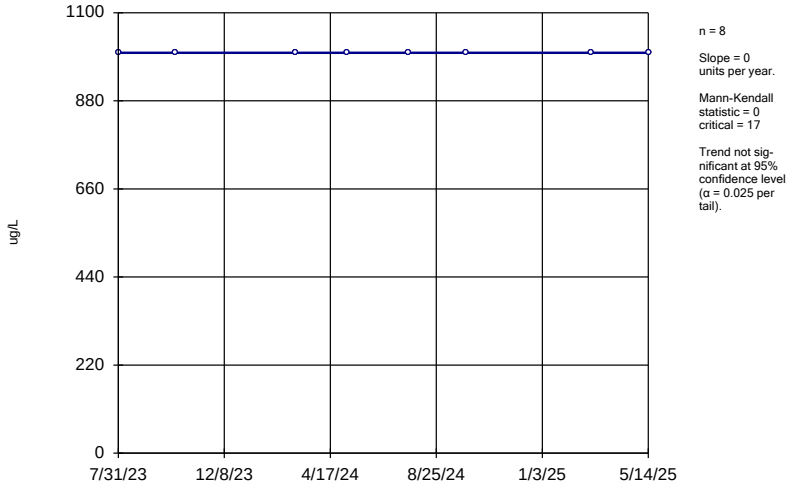
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18004



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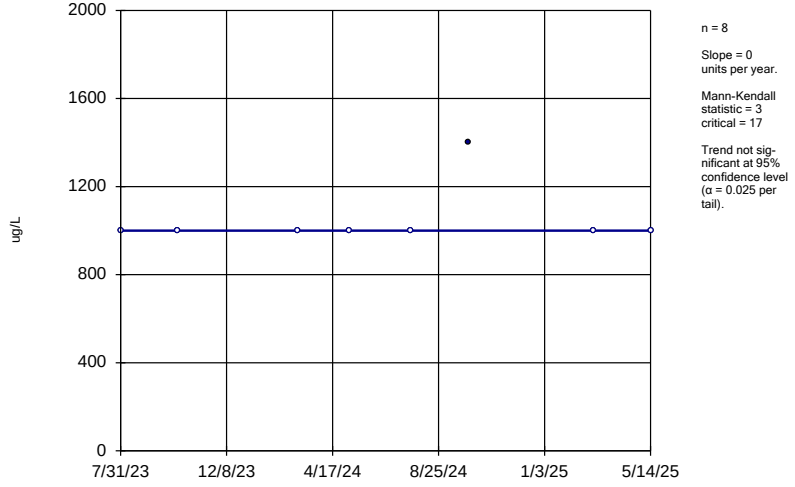
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18005



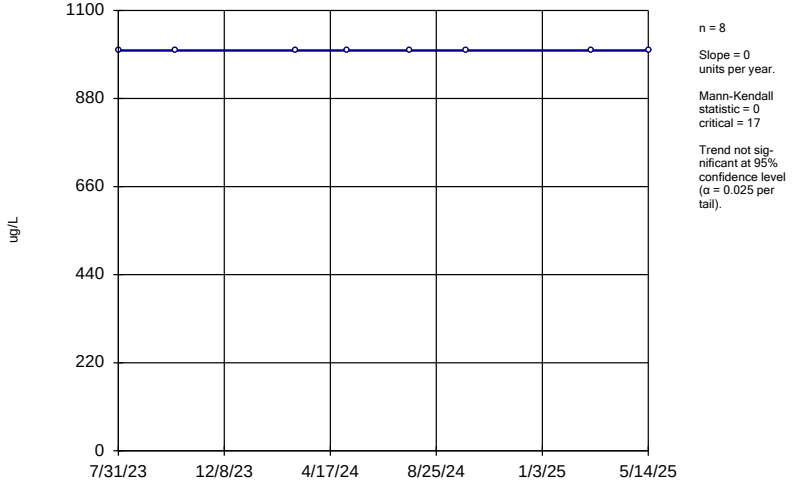
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18006



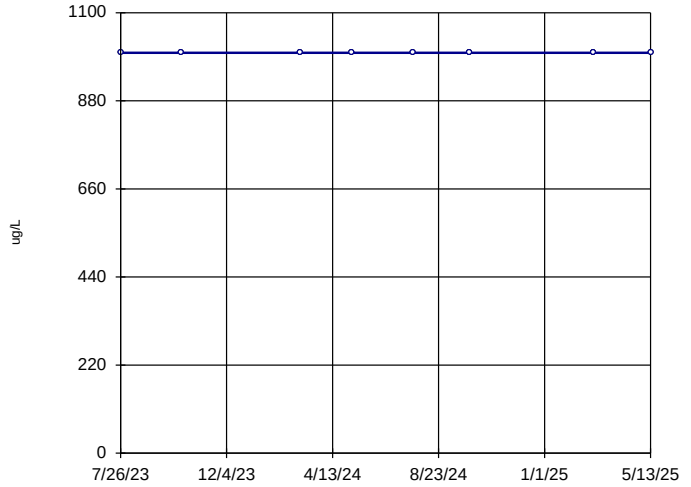
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-50



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

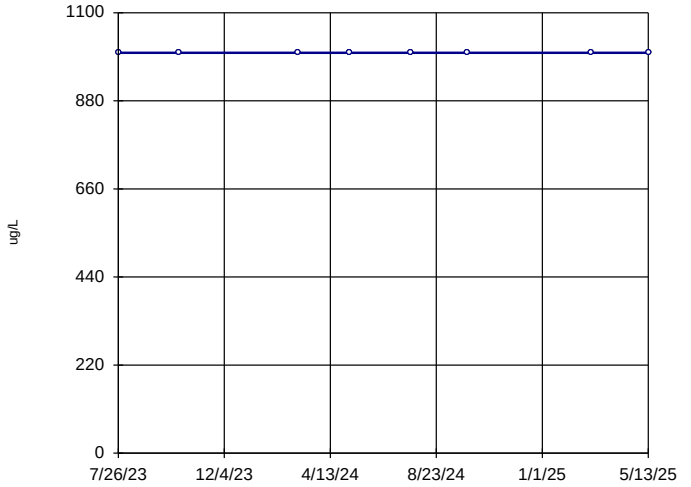
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-51



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

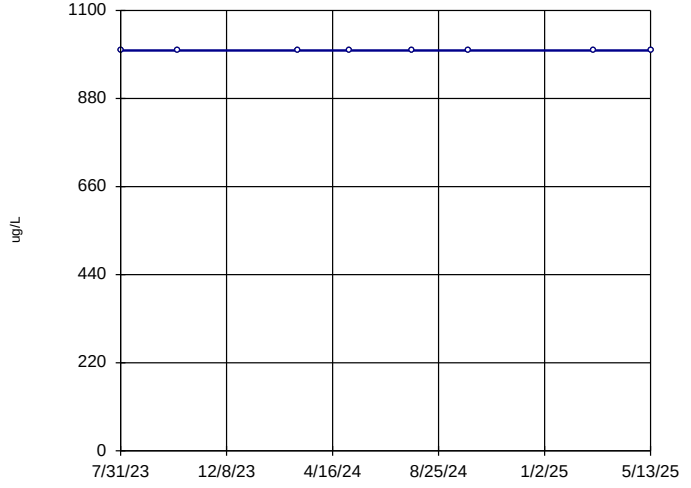
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-52



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

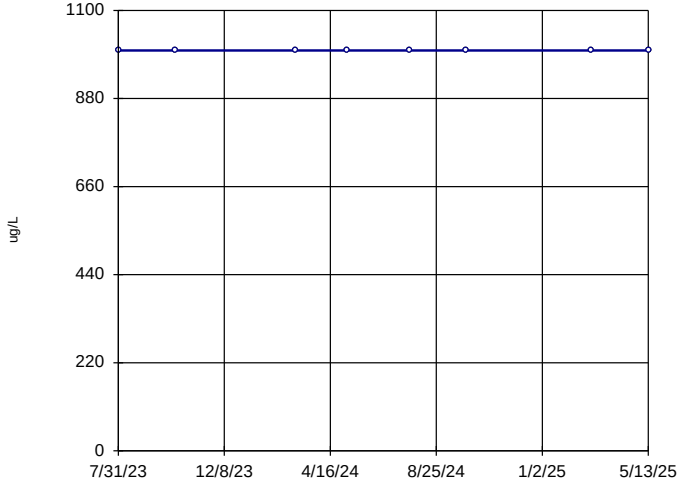
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-53



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

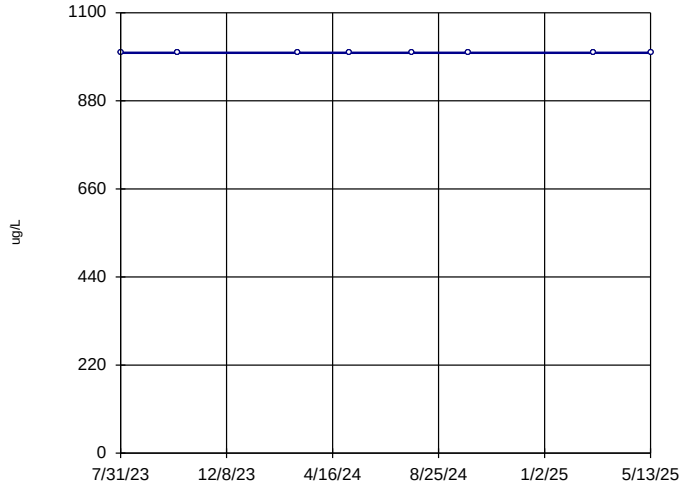
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-53R



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

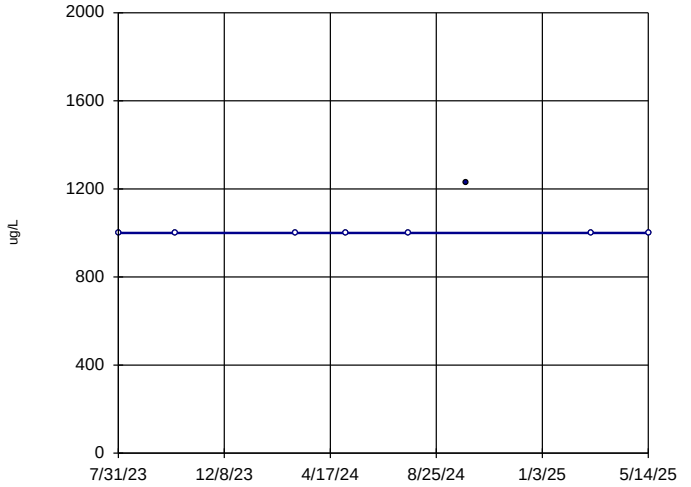
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-54R



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 3 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

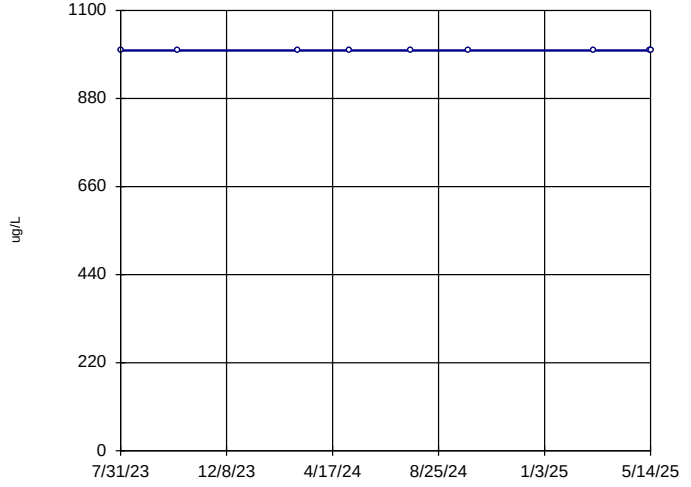
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-55



n = 9

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 20

Trend not significant at 95% confidence level (α = 0.025 per tail).

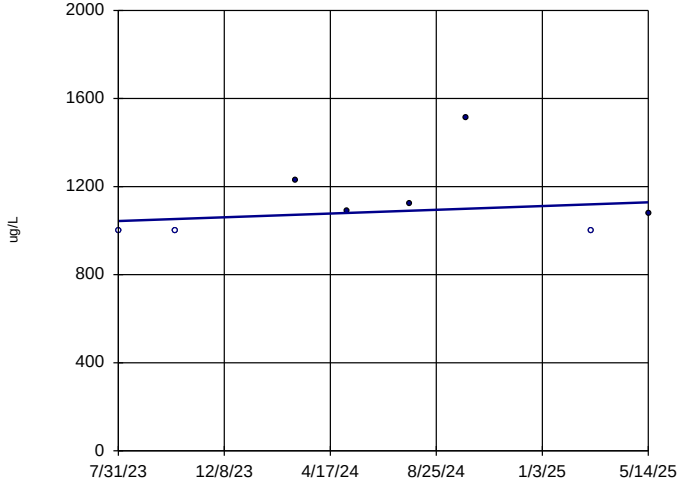
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

OW-57ROUT



n = 8

Slope = 47.4 units per year.

Mann-Kendall statistic = 5 critical = 17

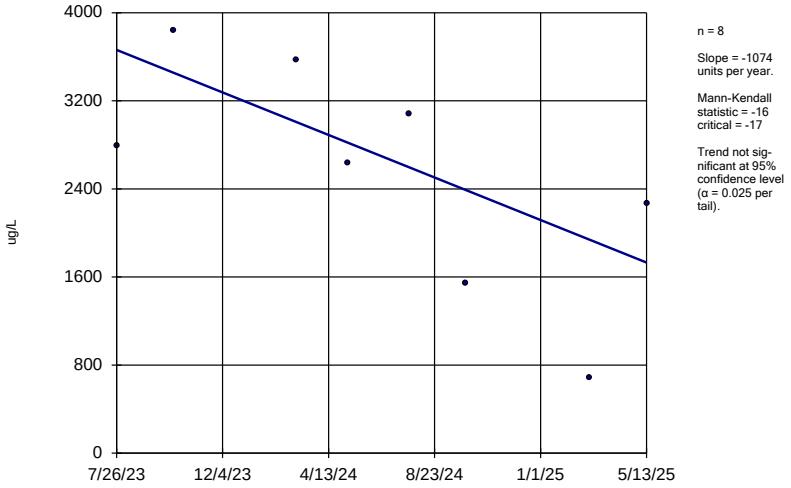
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Iron, Total

JCW-MW-18001



n = 8

Slope = -1074 units per year.

Mann-Kendall statistic = -16 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

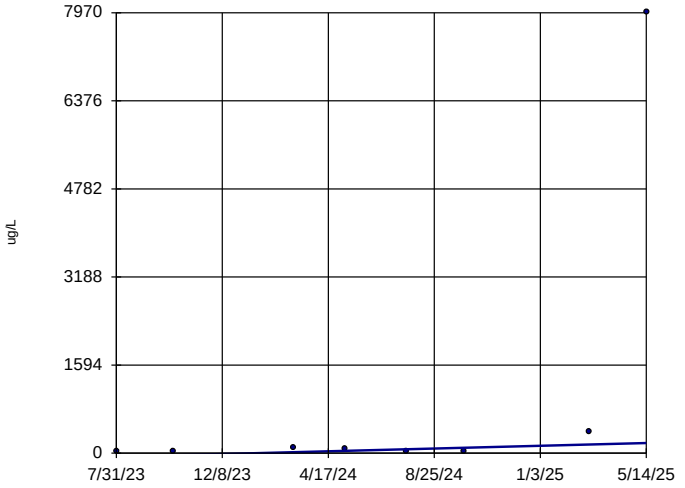
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Iron, Total

JCW-MW-18004



n = 8

Slope = 138.4 units per year.

Mann-Kendall statistic = 15 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

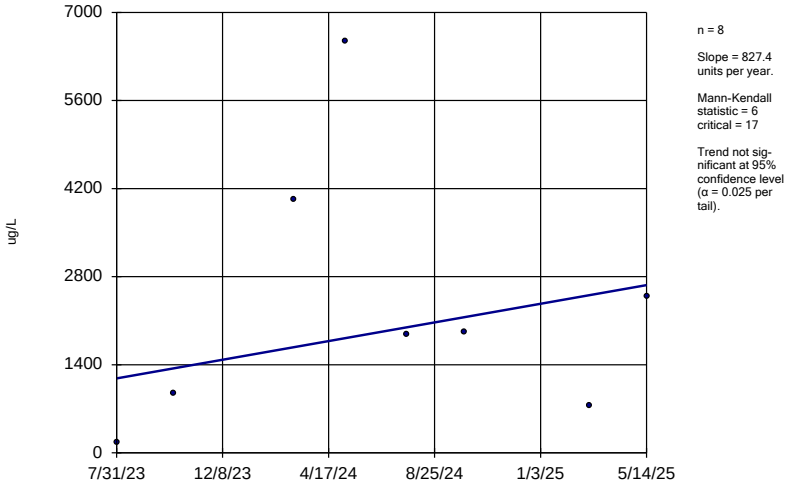
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Iron, Total

JCW-MW-18005



n = 8

Slope = 827.4 units per year.

Mann-Kendall statistic = 6 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

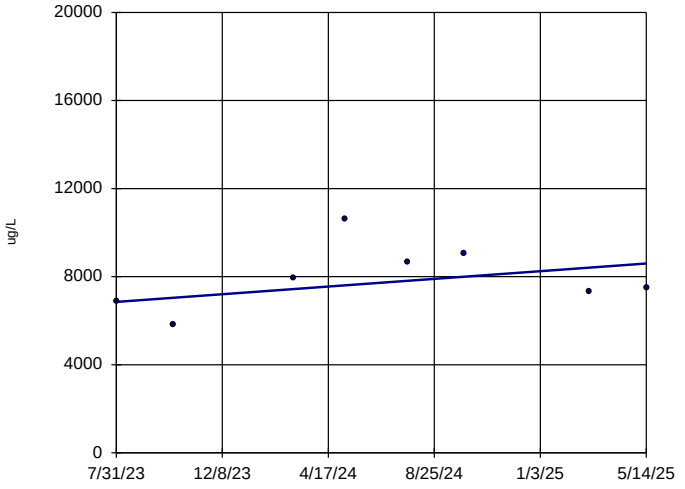
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Iron, Total

JCW-MW-18006



n = 8

Slope = 973.8 units per year.

Mann-Kendall statistic = 6 critical = 17

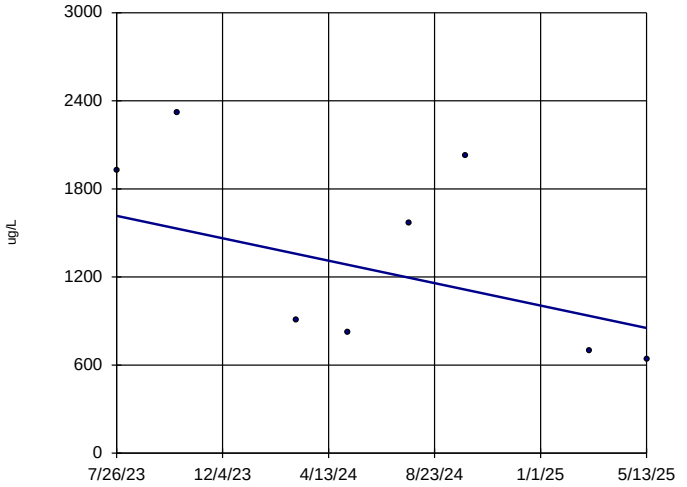
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Iron, Total

MW-50



n = 8

Slope = -424.3 units per year.

Mann-Kendall statistic = -14 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

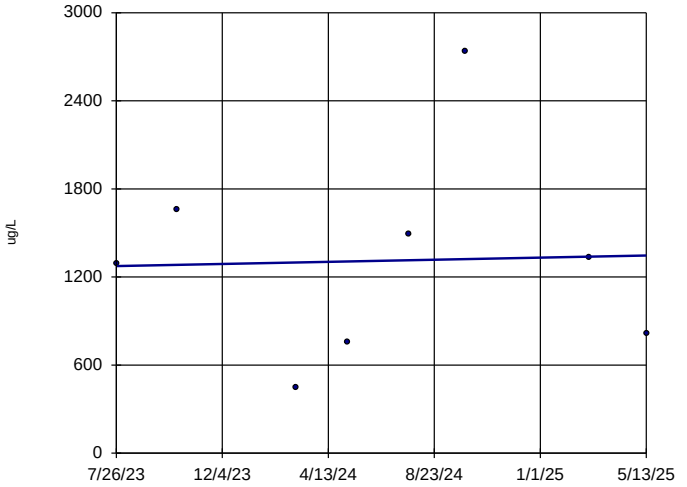
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-51



n = 8

Slope = 39.98 units per year.

Mann-Kendall statistic = 2 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

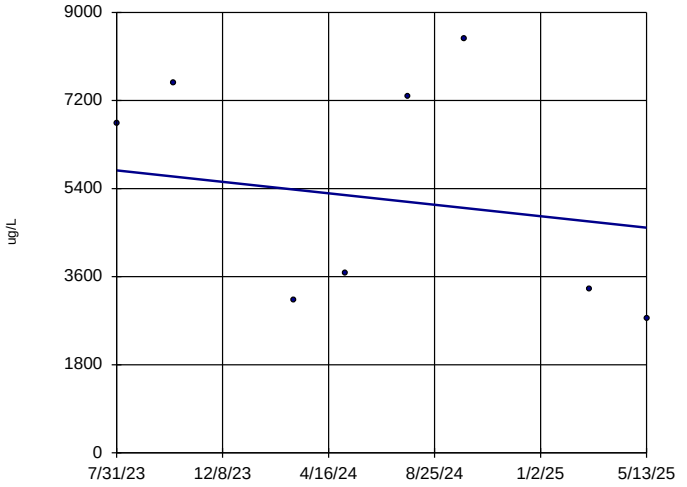
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-52



n = 8

Slope = -655.1 units per year.

Mann-Kendall statistic = -6 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

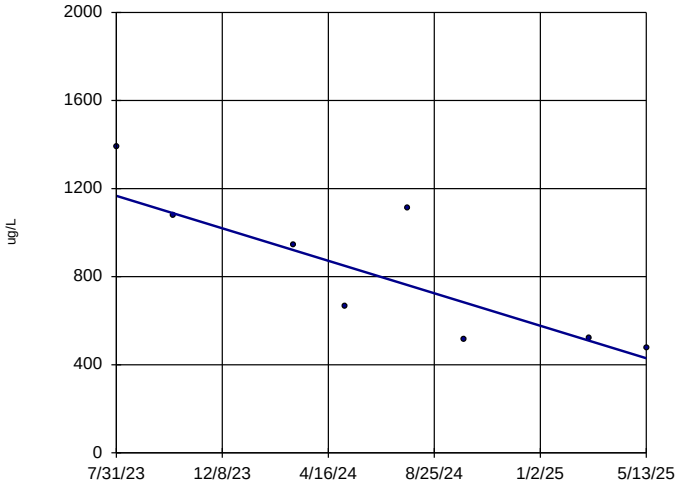
Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-53



n = 8

Slope = -412.8 units per year.

Mann-Kendall statistic = -20 critical = -17

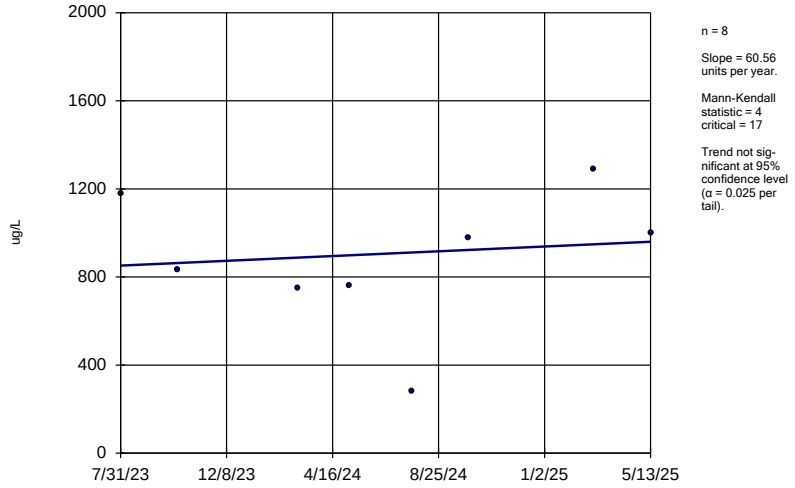
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:21 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Iron, Total

MW-53R



n = 8

Slope = 60.56 units per year.

Mann-Kendall statistic = 4 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

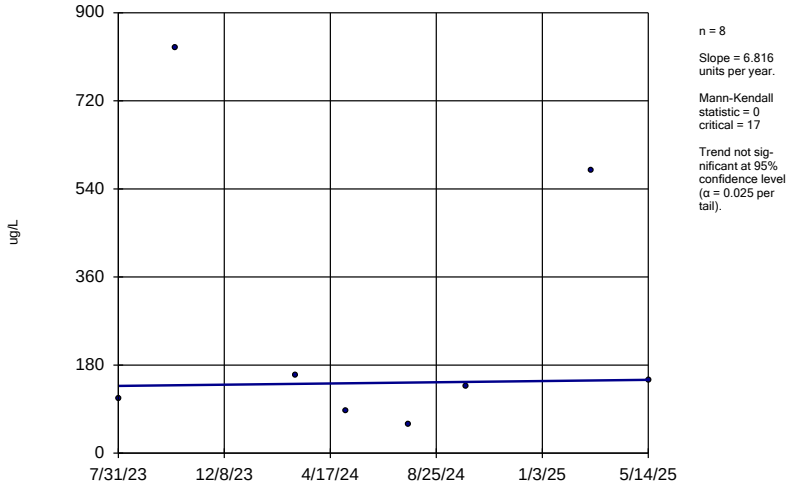
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-54R



n = 8

Slope = 6.816 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

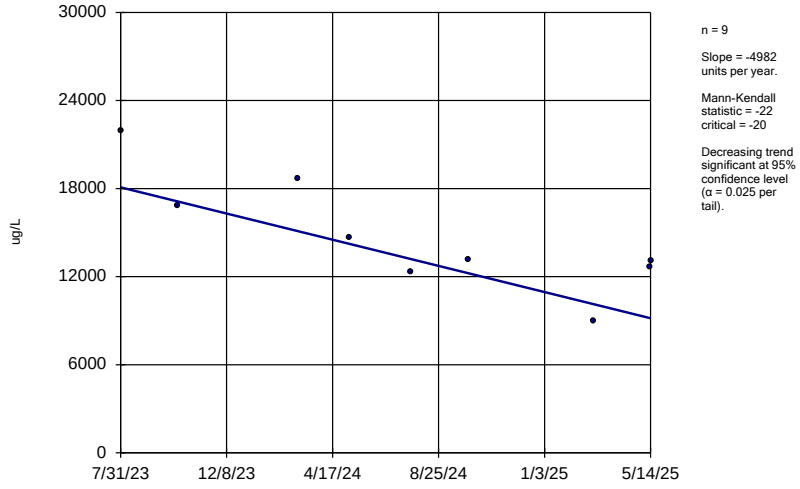
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-55



n = 9

Slope = -4982 units per year.

Mann-Kendall statistic = -22 critical = -20

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

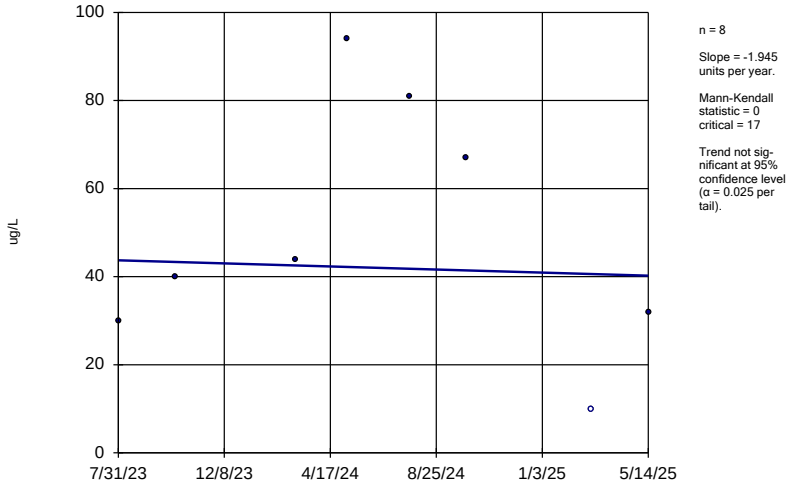
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Hollow symbols indicate censored values.

Iron, Total

OW-57ROUT



n = 8

Slope = -1.945 units per year.

Mann-Kendall statistic = 0 critical = 17

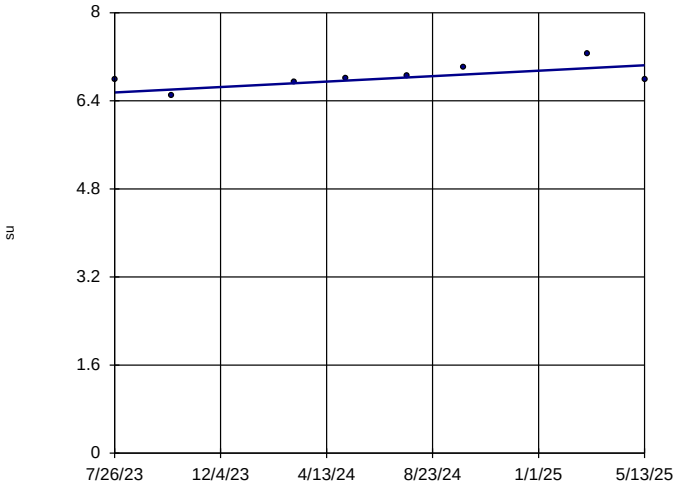
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

pH, Field

JCW-MW-18001



n = 8

Slope = 0.2752 units per year.

Mann-Kendall statistic = 16 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

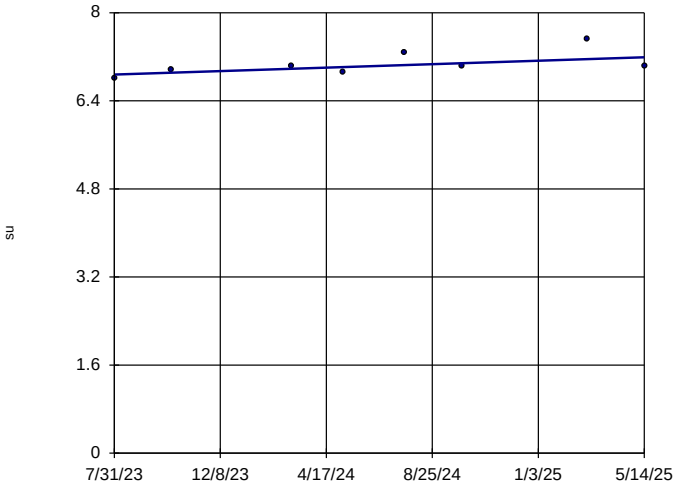
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

pH, Field

JCW-MW-18004



n = 8

Slope = 0.1757 units per year.

Mann-Kendall statistic = 15 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

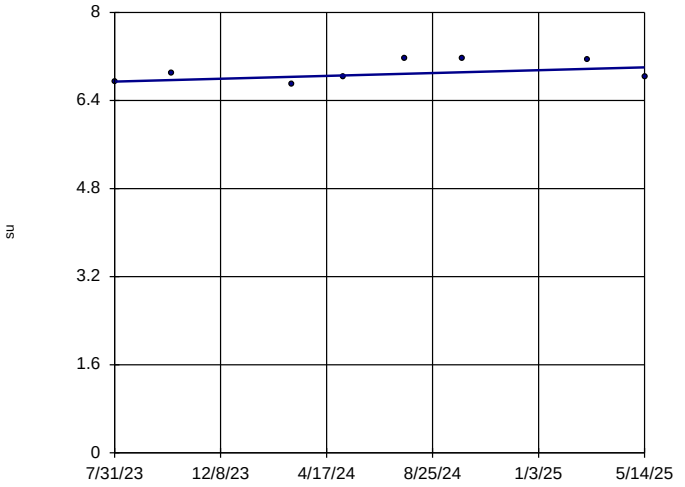
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

pH, Field

JCW-MW-18005



n = 8

Slope = 0.1443 units per year.

Mann-Kendall statistic = 8 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

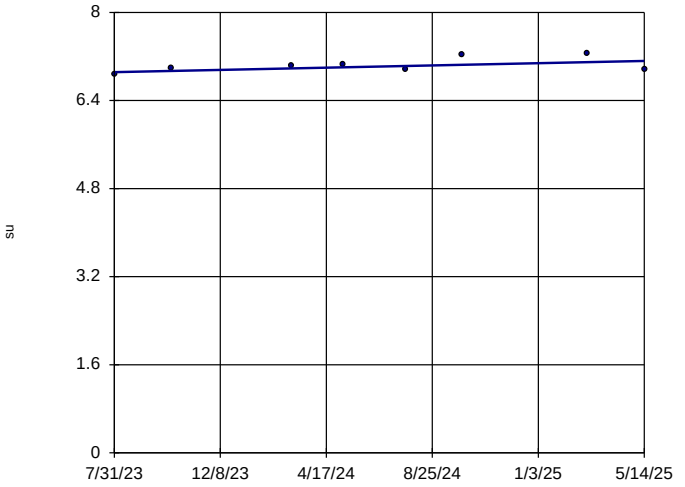
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

pH, Field

JCW-MW-18006



n = 8

Slope = 0.1129 units per year.

Mann-Kendall statistic = 11 critical = 17

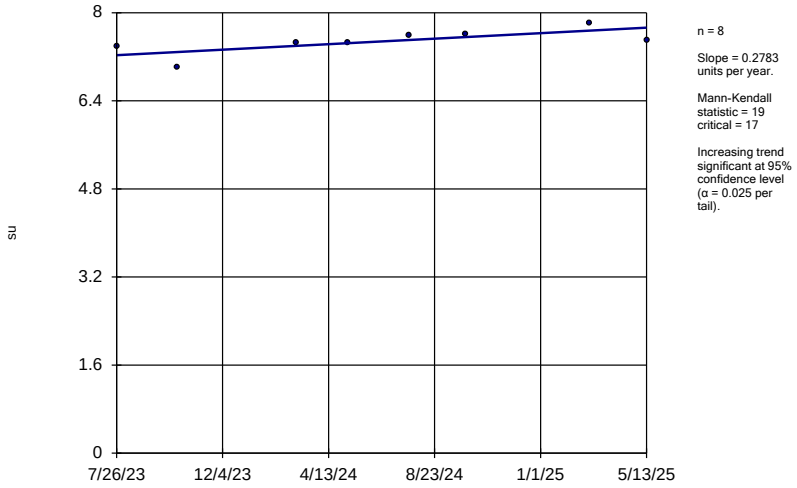
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

pH, Field

MW-50



n = 8

Slope = 0.2783 units per year.

Mann-Kendall statistic = 19 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

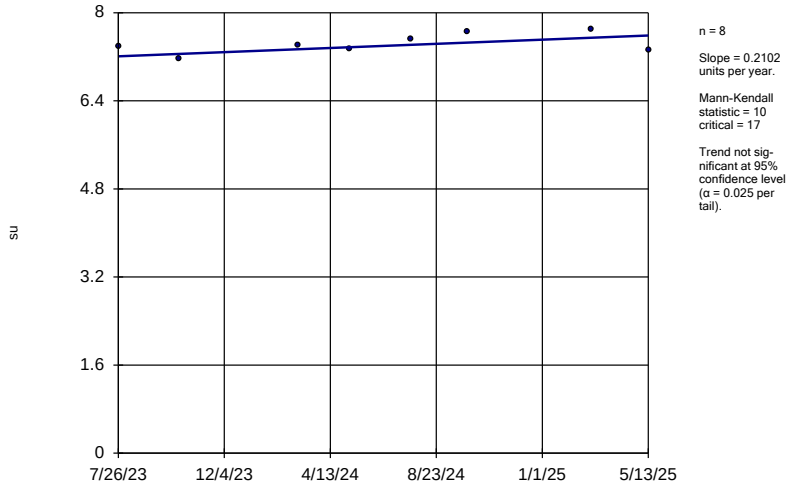
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-51



n = 8

Slope = 0.2102 units per year.

Mann-Kendall statistic = 10 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

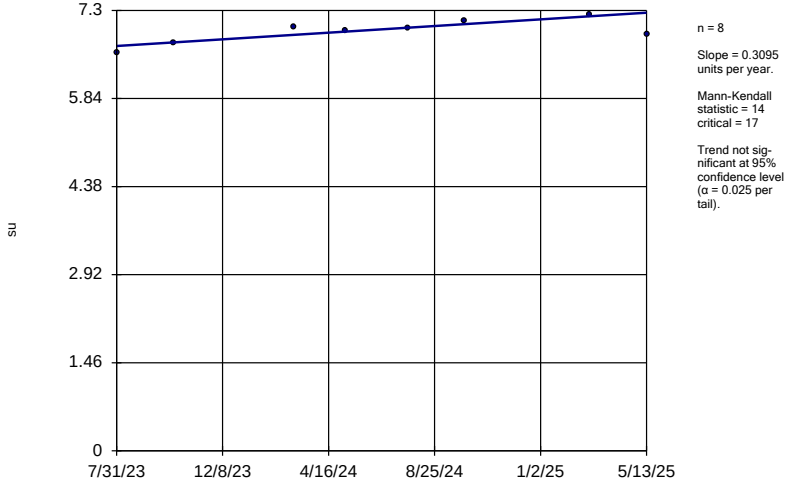
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-52



n = 8

Slope = 0.3095 units per year.

Mann-Kendall statistic = 14 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

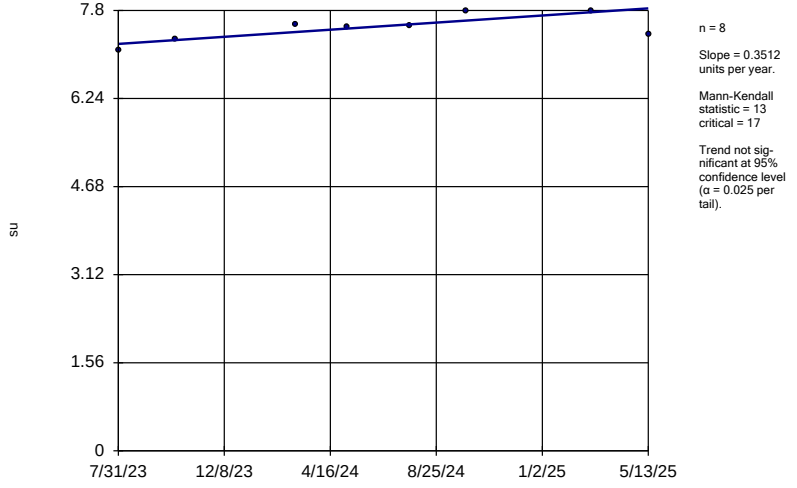
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-53



n = 8

Slope = 0.3512 units per year.

Mann-Kendall statistic = 13 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

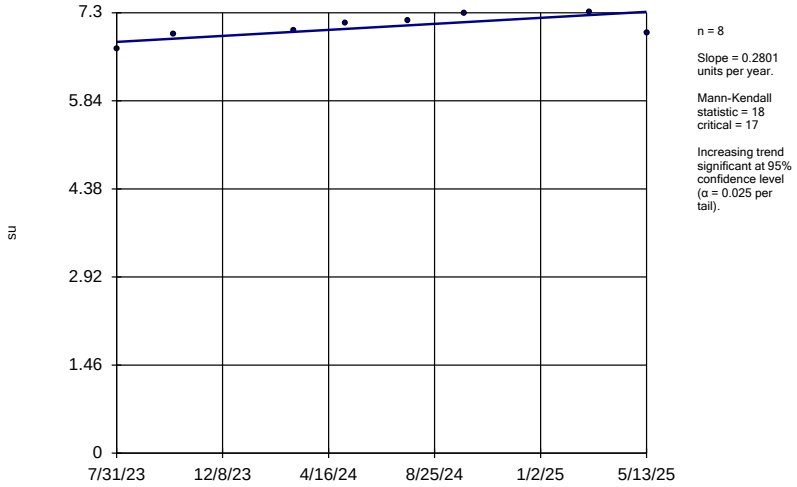
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-53R



n = 8

Slope = 0.2801 units per year.

Mann-Kendall statistic = 18 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

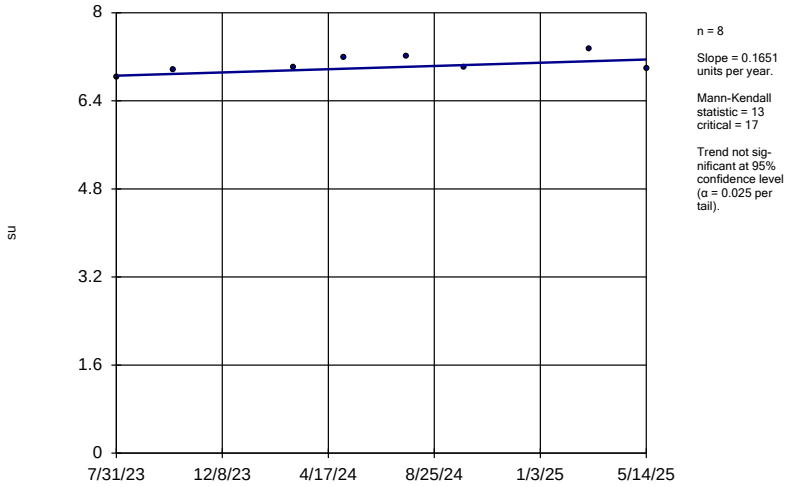
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-54R



n = 8

Slope = 0.1651 units per year.

Mann-Kendall statistic = 13 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

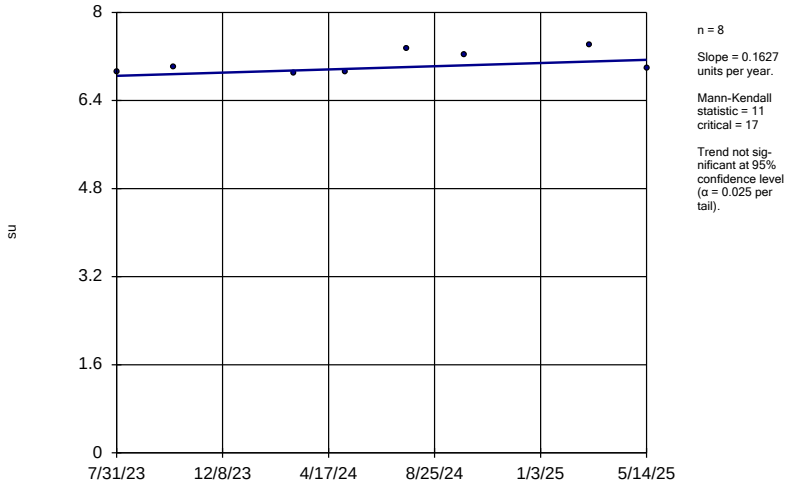
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-55



n = 8

Slope = 0.1627 units per year.

Mann-Kendall statistic = 11 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

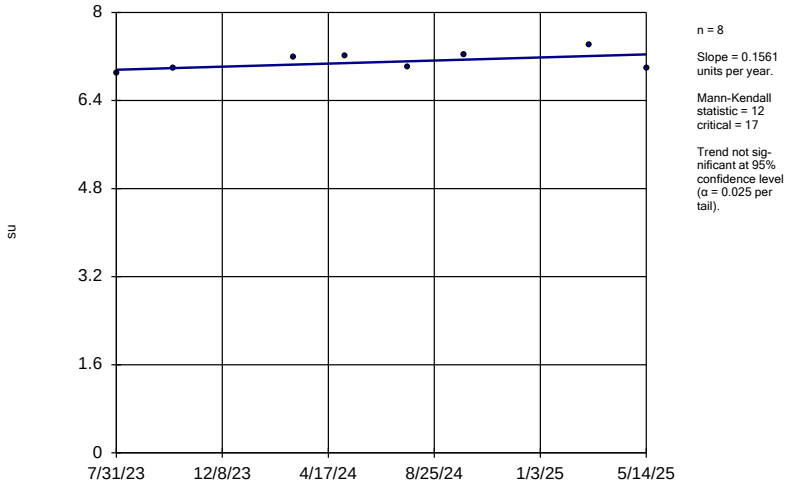
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

pH, Field

OW-57ROUT



n = 8

Slope = 0.1561 units per year.

Mann-Kendall statistic = 12 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

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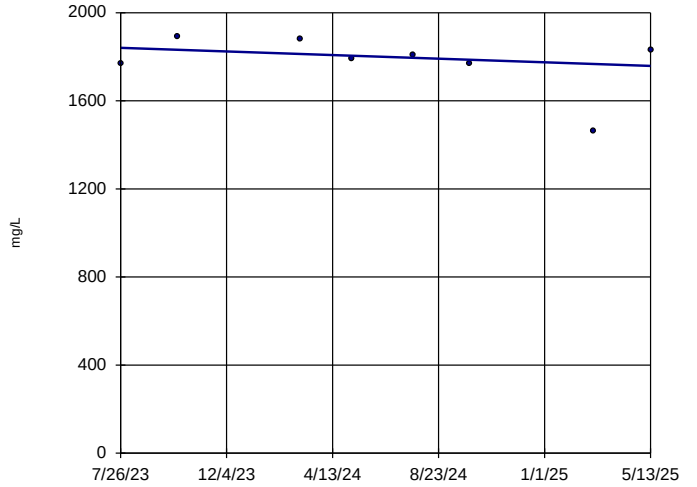
Sulfate

JCW-MW-18001



n = 8

Slope = -45.86 units per year.

Mann-Kendall statistic = -7 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

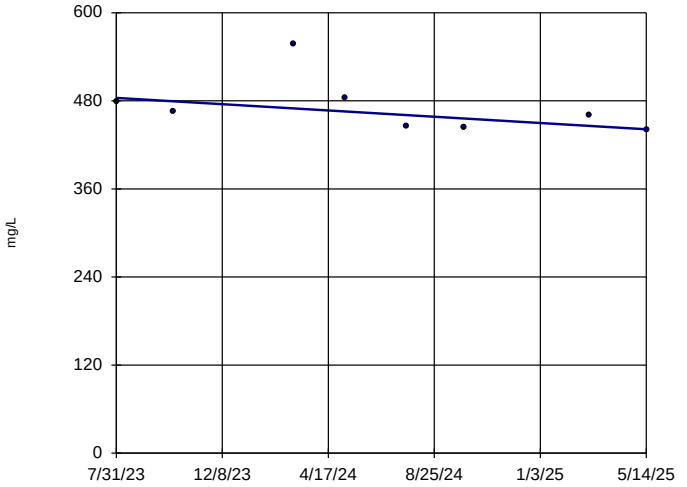
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sulfate

JCW-MW-18004



n = 8

Slope = -23.86 units per year.

Mann-Kendall statistic = -16 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

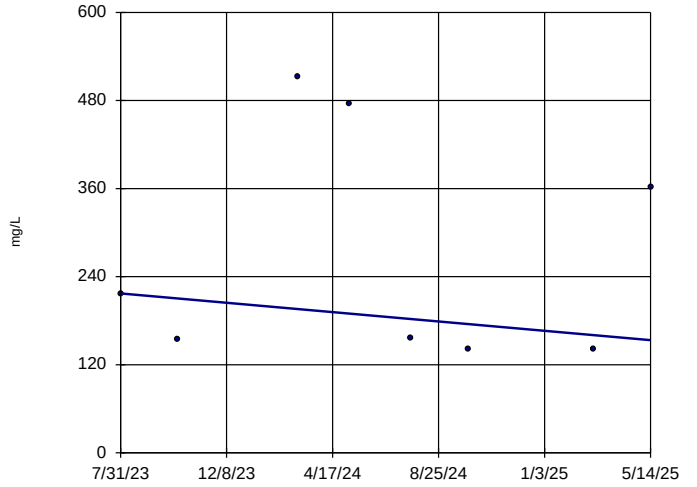
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sulfate

JCW-MW-18005



n = 8

Slope = -35.64 units per year.

Mann-Kendall statistic = -8 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

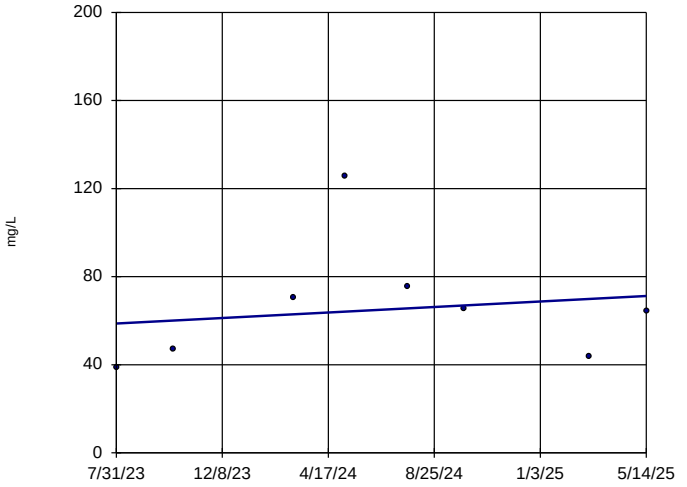
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sulfate

JCW-MW-18006



n = 8

Slope = 6.965 units per year.

Mann-Kendall statistic = 2 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

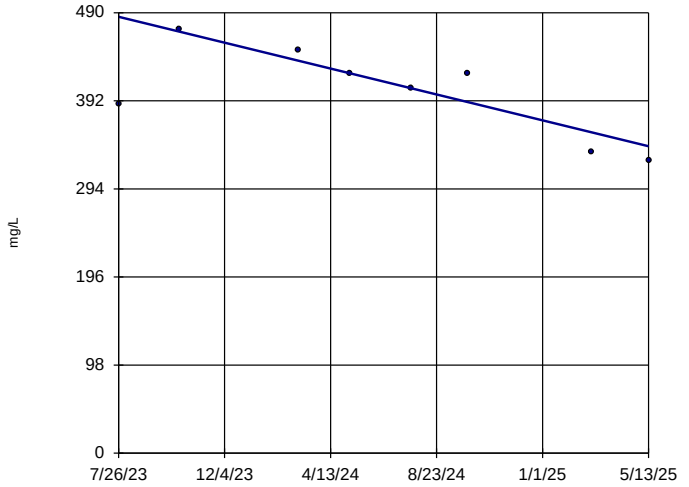
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sulfate

MW-50



n = 8

Slope = -79.98 units per year.

Mann-Kendall statistic = -16 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

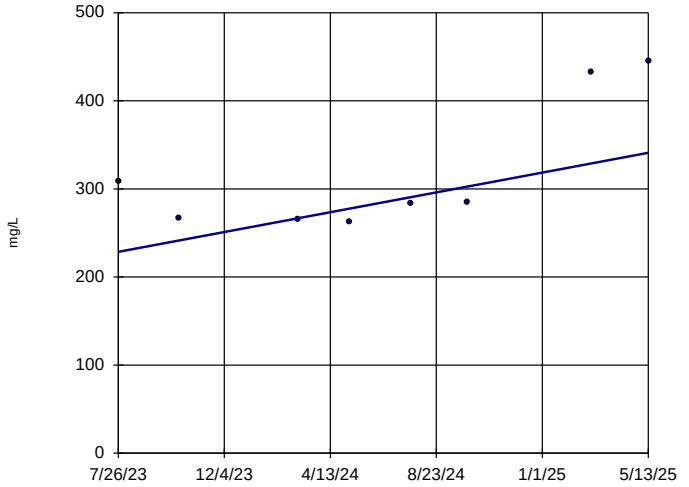
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sulfate

MW-51



n = 8

Slope = 62.45 units per year.

Mann-Kendall statistic = 12 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

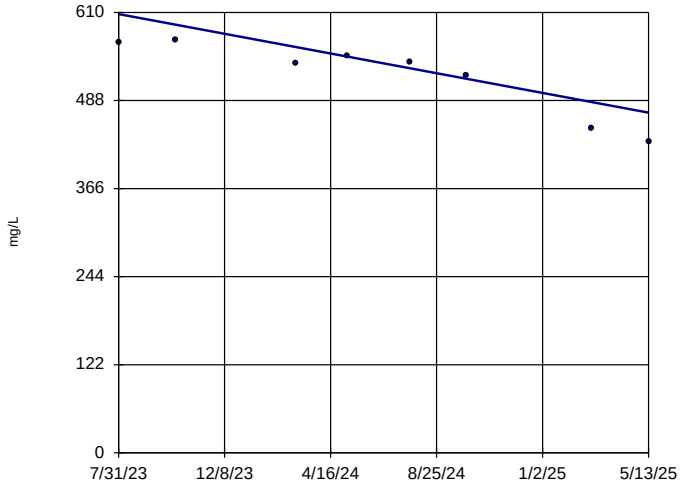
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sulfate

MW-52



n = 8

Slope = -76.4 units per year.

Mann-Kendall statistic = -22 critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

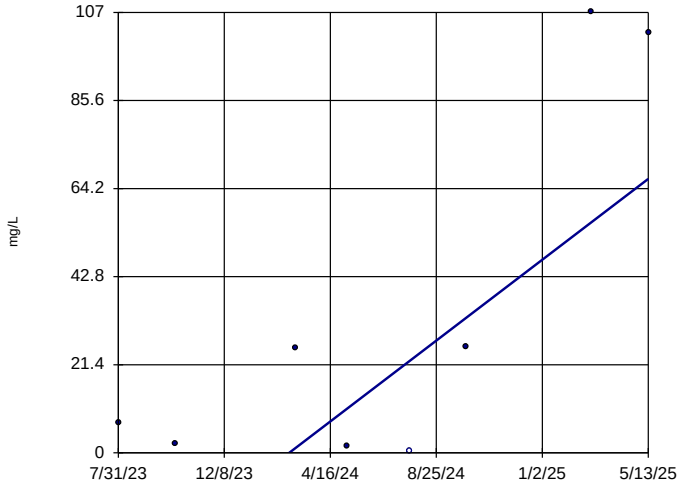
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Hollow symbols indicate censored values.

Sulfate

MW-53



n = 8

Slope = 54.99 units per year.

Mann-Kendall statistic = 10 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

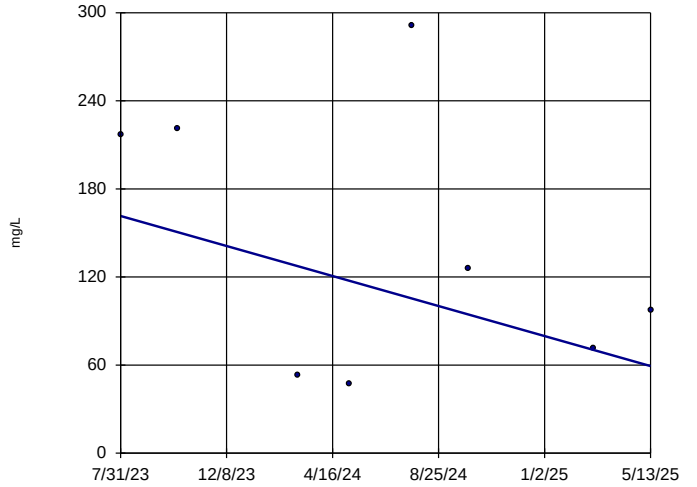
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sulfate

MW-53R



n = 8

Slope = -57.22 units per year.

Mann-Kendall statistic = -4
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

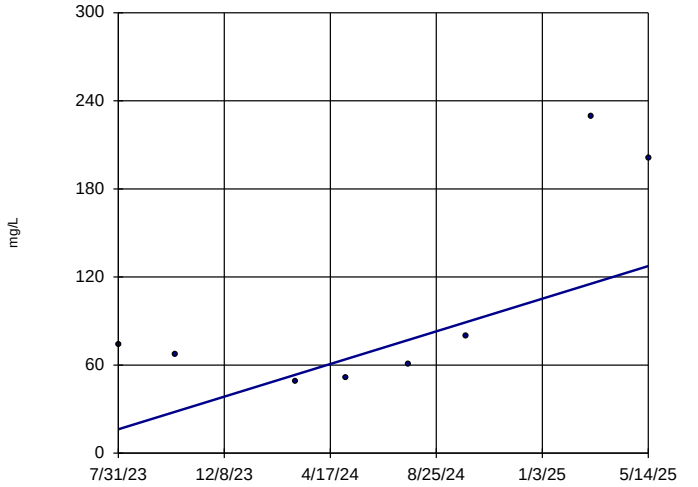
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sulfate

MW-54R



n = 8

Slope = 62.13 units per year.

Mann-Kendall statistic = 12
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

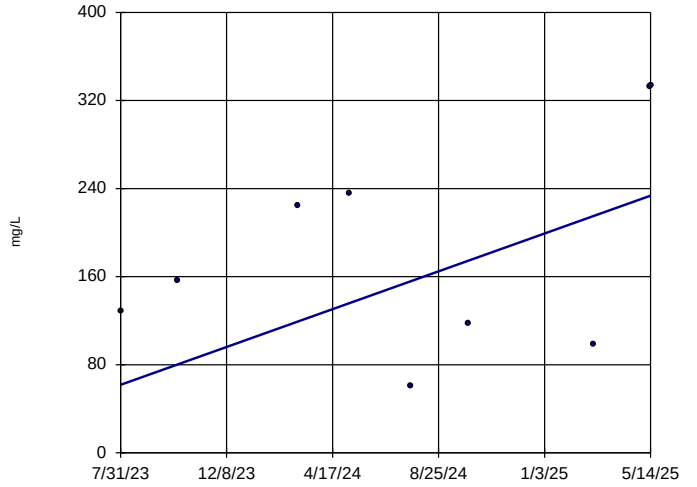
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sulfate

MW-55



n = 9

Slope = 96.05 units per year.

Mann-Kendall statistic = 10
critical = 20

Trend not significant at 95% confidence level (α = 0.025 per tail).

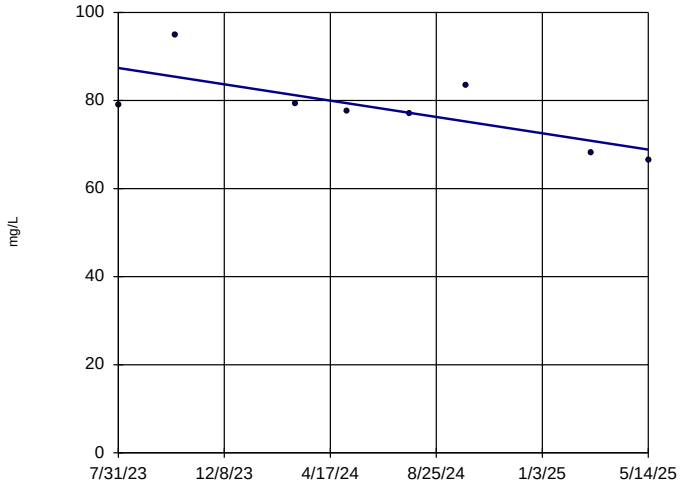
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sulfate

OW-57ROUT



n = 8

Slope = -10.35 units per year.

Mann-Kendall statistic = -16
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

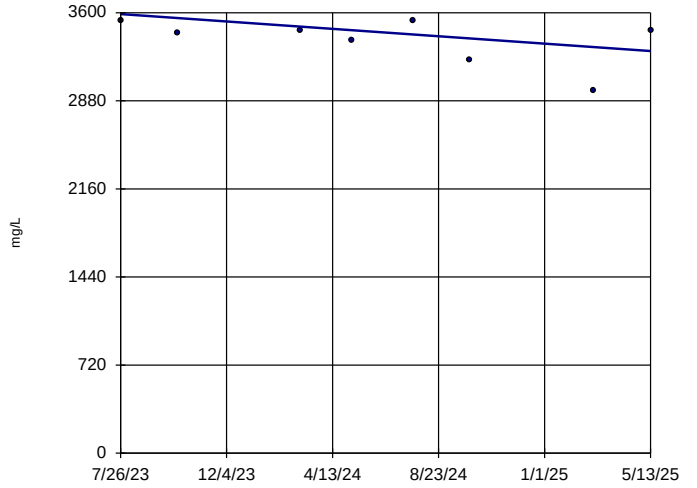
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

JCW-MW-18001



n = 8

Slope = -167.6 units per year.

Mann-Kendall statistic = -10 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

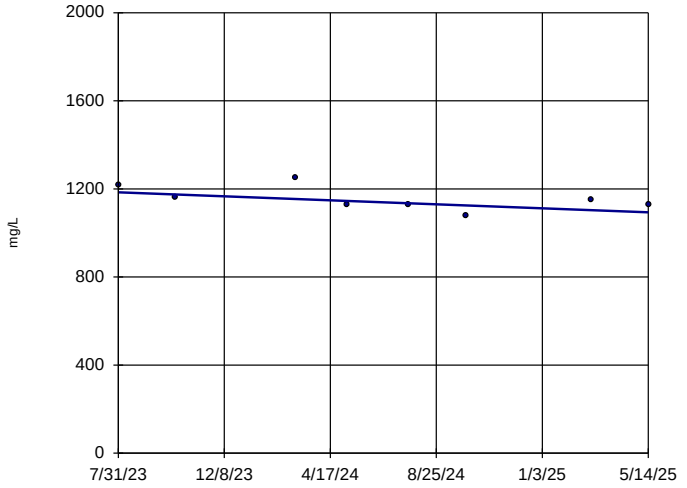
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

JCW-MW-18004



n = 8

Slope = -50.98 units per year.

Mann-Kendall statistic = -13 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

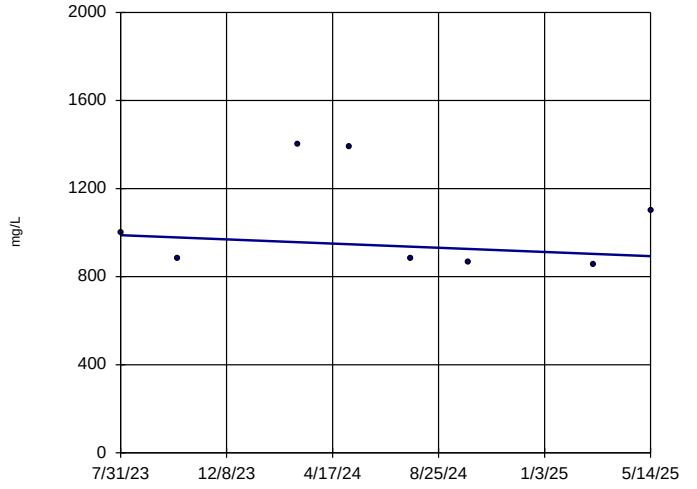
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

JCW-MW-18005



n = 8

Slope = -53.3 units per year.

Mann-Kendall statistic = -9 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

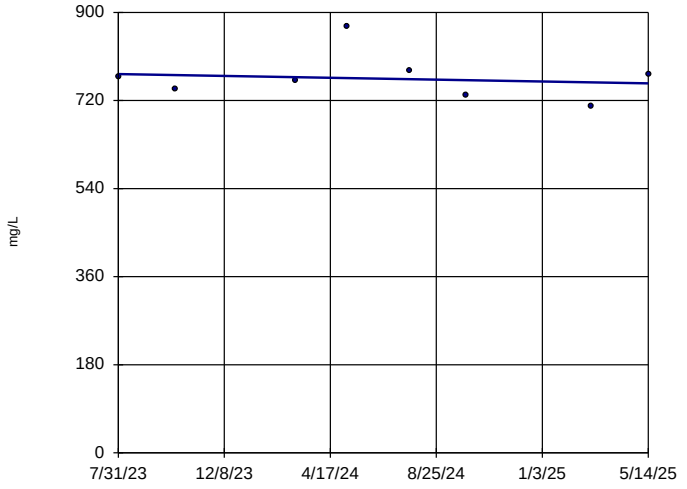
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

JCW-MW-18006



n = 8

Slope = -10.56 units per year.

Mann-Kendall statistic = -4 critical = -17

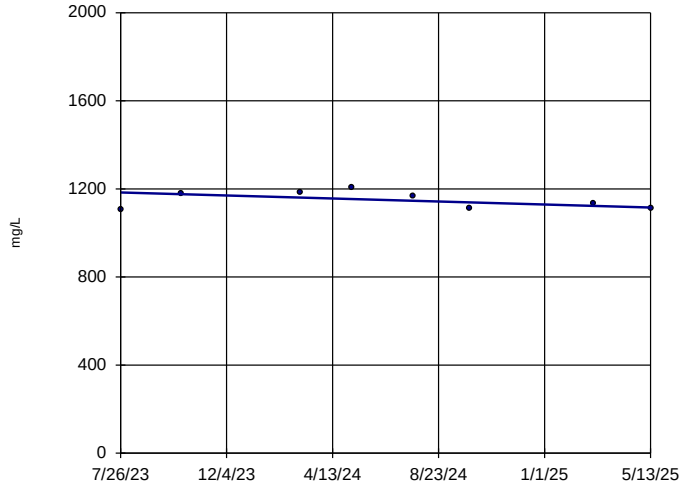
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Total Dissolved Solids

MW-50



n = 8

Slope = -37.99 units per year.

Mann-Kendall statistic = -5
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

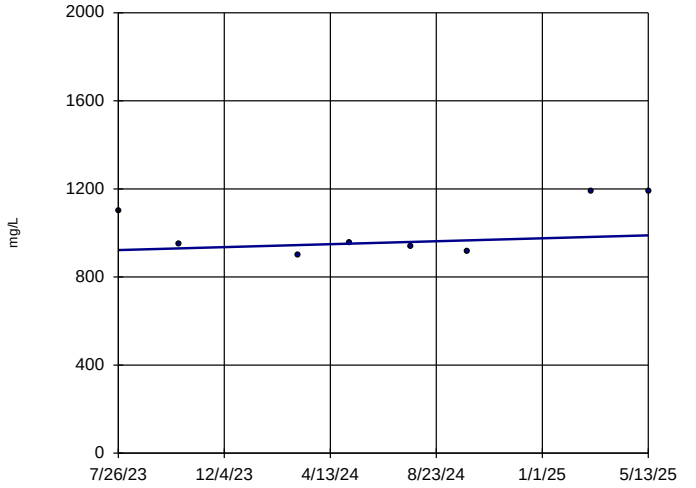
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-51



n = 8

Slope = 37.17 units per year.

Mann-Kendall statistic = 5
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

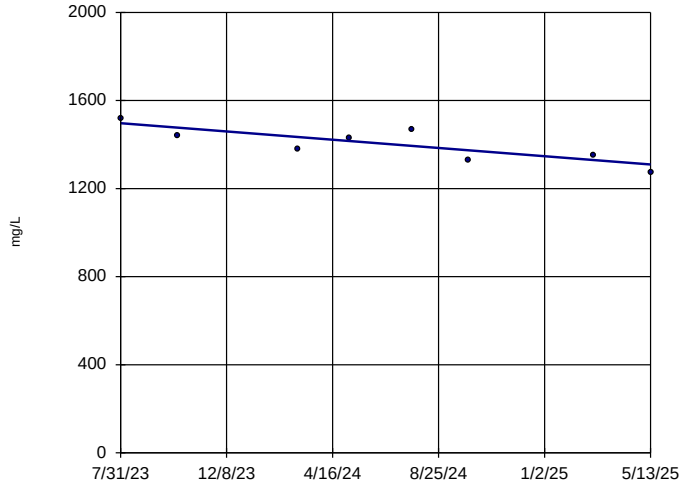
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-52



n = 8

Slope = -105 units per year.

Mann-Kendall statistic = -18
critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

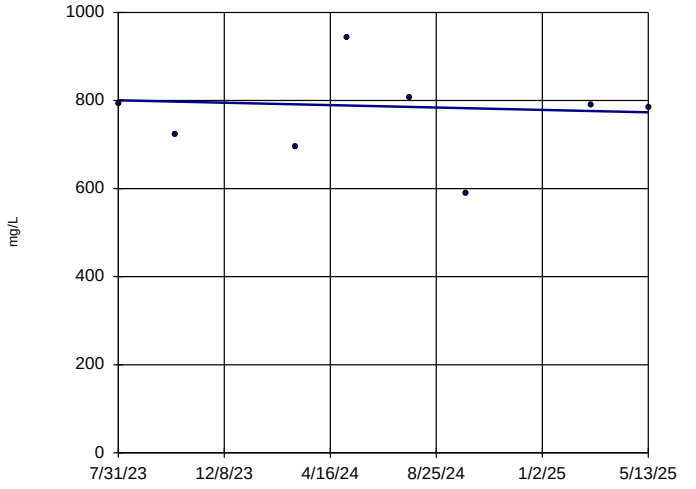
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-53



n = 8

Slope = -15.27 units per year.

Mann-Kendall statistic = -4
critical = -17

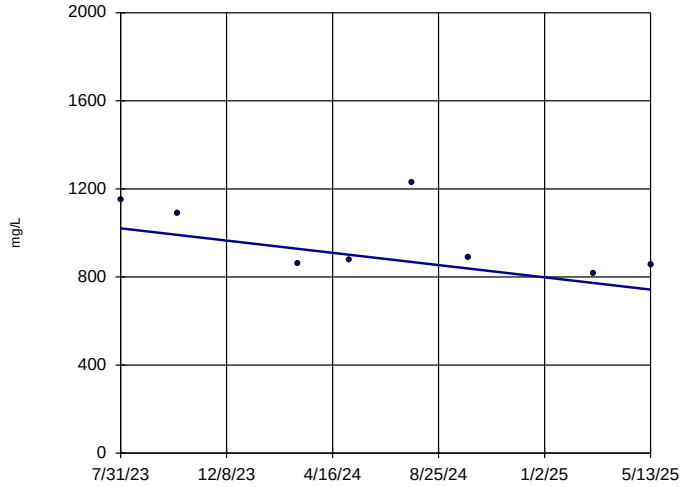
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Total Dissolved Solids

MW-53R



n = 8

Slope = -155.7 units per year.

Mann-Kendall statistic = -12
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

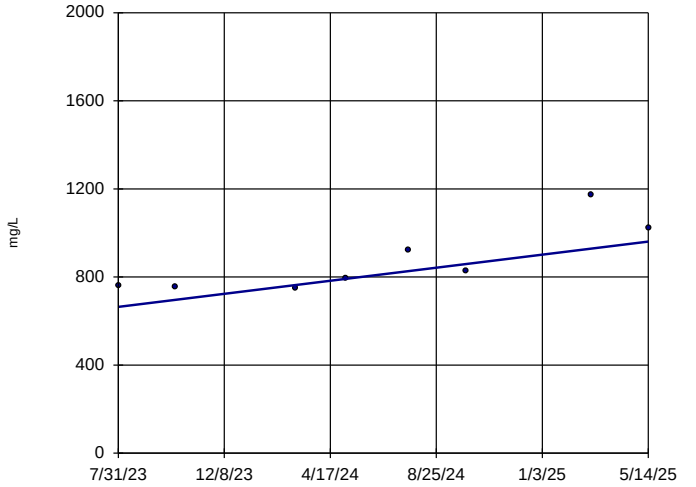
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-54R



n = 8

Slope = 165.7 units per year.

Mann-Kendall statistic = 18
critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

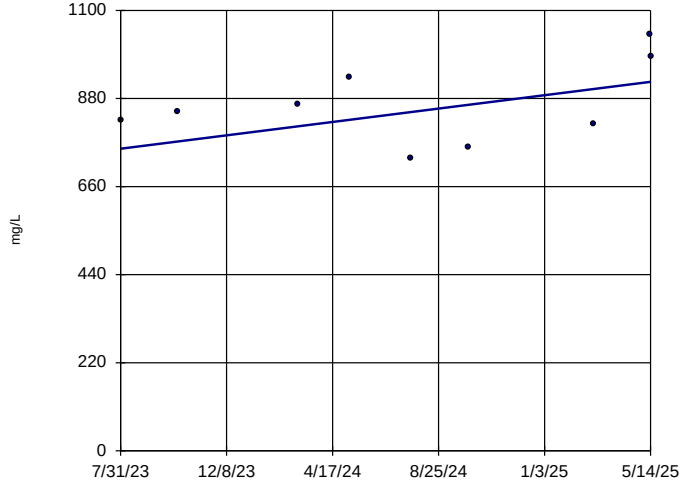
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-55



n = 9

Slope = 93.38 units per year.

Mann-Kendall statistic = 10
critical = 20

Trend not significant at 95% confidence level (α = 0.025 per tail).

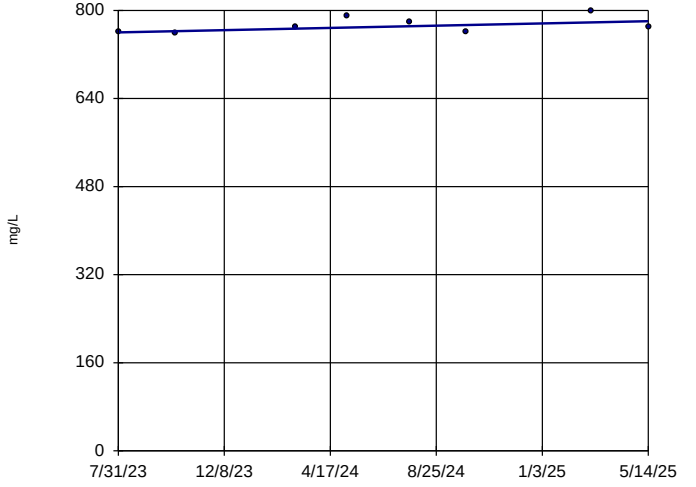
Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

OW-57ROUT



n = 8

Slope = 11.37 units per year.

Mann-Kendall statistic = 10
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 7/3/2025 4:22 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Appendix D
Assessment Monitoring and GSI Statistical Evaluation

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Technical Memorandum

Date:	July 28, 2025
To:	J.R. Register, Consumers Energy
From:	Darby Litz, TRC Kristin Lowery, TRC
Project No.:	634698.0000 Phase 002, Task 002
Subject:	Assessment Monitoring and GSI Statistical Evaluation of the Second Quarter 2025 Sampling Event JC Weadock Landfill, Consumers Energy Company, Essexville, Michigan

During the statistical evaluation of the initial assessment monitoring event (May 2018) for the JC Weadock Power Plant Landfill, arsenic was present in one or more downgradient monitoring wells at statistically significant levels exceeding the Groundwater Protection Standard (GWPS). Therefore, Consumers Energy Company (Consumers Energy) initiated an Assessment of Corrective Measures (ACM) within 90 days from when the Appendix IV exceedance was determined. The ACM was completed on September 11, 2019.

Currently, Consumers Energy is continuing semiannual assessment monitoring in accordance with §257.95 of the CCR Rule[1] at the JC Weadock Power Plant Landfill and quarterly groundwater monitoring in accordance with the February 2021 Weadock Landfill Hydrogeological Monitoring Plan (HMP). In accordance with §257.95 and the HMP, the assessment monitoring data must be compared to GWPSs to determine whether or not Appendix III and Appendix IV constituents, and additional Michigan Part 115 (as amended by PA 640) Section 11511a(3) and Section 11519b(2) constituents, are detected at statistically significant levels above the GWPSs. GWPSs were established in accordance with §257.95(h) and Part 115, as detailed in the April 23, 2021 Groundwater Protection Standards technical memorandum, which was also included in the First Quarter 2021 Hydrogeological Monitoring Report[2]. In accordance with the HMP, groundwater monitoring data from the designated groundwater-surface water interface (GSI) monitoring wells must be also compared to the GSI criteria to determine whether or not the GSI monitoring constituents are detected at statistically significant levels above the GSI criteria.

The statistical evaluation of the second quarter 2025 assessment monitoring event data indicates that the following constituents are present at statistically significant levels above the GWPSs in downgradient monitoring wells at the Weadock Landfill:

[1] USEPA final rule for the regulation and management of Coal Combustion Residuals (CCR) under the Resource Conservation and Recovery Act (RCRA) published April 17, 2015, as amended per Phase One, Part One of the CCR Rule (83 FR 36435).

[2] TRC. 2021. *First Quarter 2021 Hydrogeological Monitoring Report – JC Weadock Solid Waste Disposal Area, Essexville, Michigan.* Prepared for Consumers Energy Company. April.

Constituent	GWPS	#Downgradient Wells Exceeded
Boron	560 µg/L	11 of 12
Calcium	280 mg/L	1 of 12
Sulfate	780 mg/L	1 of 12

Corrective action has been triggered as a result of data collected during the initial assessment monitoring event. Consumers Energy will continue to evaluate corrective measures per §257.96 and §257.97 and execute the self-implementing groundwater compliance schedule in conformance with §257.90 - §257.98.

The statistical evaluation found that **no constituents were present at statistically significant levels exceeding the site-specific GSI criteria**.

Statistical Evaluation Procedures

Following each quarterly sampling event, compliance well data for the Weadock Landfill are evaluated in accordance with the Assessment Monitoring Statistical Data Evaluation and GSI Data Evaluation procedures in the HMP. The assessment monitoring and GSI monitoring programs were developed to evaluate concentrations of constituents present in the uppermost aquifer relative to acceptable levels (i.e., GWPSs or GSI criteria). To evaluate whether or not a criterion exceedance is statistically significant, the difference in concentration observed at the downgradient wells during a given monitoring event compared to the applicable criterion must be large enough, after accounting for variability in the sample data, that the result is unlikely to have occurred merely by chance. Consistent with the Unified Guidance [3], the preferred method for comparisons to a fixed standard is confidence limits. Based on the number of historical observations in the representative sample population, the sample mean, the sample standard deviation, and a selected confidence level (i.e., 99 percent), upper and lower confidence limits are calculated. The population mean concentration, with 99 percent confidence, will fall between the lower and upper confidence limits.

The concentrations observed in the downgradient wells are deemed to be a statistically significant exceedance when the 99 percent lower confidence limit of the downgradient data exceeds the criterion. If the confidence interval straddles the criterion (i.e., the lower confidence level is below the criterion, but the upper confidence level is above), the statistical test result indicates that there is insufficient confidence that the measured concentrations are greater than the criterion and thus no compelling evidence that the measured concentration is a result of a release from the CCR unit versus the inherent variability of the sample data. This statistical approach is consistent with the statistical methods for assessment monitoring presented in §257.93(f) and (g). Statistical evaluation methodologies built into the CCR Rule and Part 115 and numerous other federal rules are key in determining whether or not individually measured data points represent a concentration increase over the baseline or a fixed standard (such as a GWPS in an assessment monitoring program).

[3] USEPA. 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance*. Office of Conservation and Recovery. EPA 530/R-09-007.

For each detected constituent, the concentrations for each well were first compared directly to the GWPS, as shown on Table 1, or the GSI criteria, as shown on Table 2. Parameter-well combinations that included a direct exceedance of the criteria within the most recent two years of sampling events (eight quarterly sampling events, May 2023 through March 2025) were retained for further analysis.

Groundwater data were evaluated utilizing Sanitas™ statistical software. Sanitas™ is a software tool that is commercially available for performing statistical evaluation consistent with procedures outlined in the Unified Guidance. Within the Sanitas™ statistical program, confidence limits were used to perform the statistical comparison of compliance data to a fixed standard. Parametric and non-parametric confidence intervals were calculated for each parameter with a direct exceedance using a per test[4] 99 percent confidence level, i.e., a significance level (α) of 0.01. The following narrative describes the methods employed, the results obtained and the Sanitas™ output files are included as an attachment.

The statistical data evaluation included the following steps:

- Review of data quality checklists for the data sets;
- Graphical representation of the monitoring data as time versus concentration by well/constituent pair;
- Outlier testing of individual data points that appear from the graphical representations as potential outliers;
- Evaluation of visual trends apparent in the graphical representations for statistical significance;
- Evaluation of percentage of non-detects for each well-constituent pair;
- Distribution of the data; and
- Calculation of the confidence intervals for each cumulative dataset.

The results of these evaluations are presented and discussed below.

Data from each round were evaluated for completeness, overall quality, and usability and were deemed appropriate for the purposes of the assessment and GSI monitoring programs. Initially, the results were observed visually for potential outliers. No outliers were identified in the data set, with the possible exception of JCW-MW-18004. Results for multiple metals at JCW-MW-18004 in May 2025 were notably higher than historical results, e.g. chromium, lead, vanadium. The data quality review noted potential blank contamination for boron at JCW-MW-18004 but no concerns with the remainder of the results. Field documents note that the well ran dry during purging and was slow to recharge, which may have contributed to the anomalous results. The May 2025 results for JCW-MW-18004 have been kept in the dataset for statistical evaluation, but may be further qualified or rejected in future evaluations based on results from future (confirmatory) sampling events.

The Sanitas™ software was then used to test compliance at the downgradient monitoring wells using the confidence interval method for the most recent eight sampling events. Non-detect data was handled in accordance with the HMP for the purposes of calculating the confidence intervals.

[4] Confidence level is assessed for each individual comparison (i.e., per well and per constituent).

The Sanitas™ software generates an output that includes graphs of the parametric or non-parametric confidence intervals for each well along with notes on data transformations, as appropriate.

Assessment Monitoring Statistical Evaluation

The assessment monitoring statistical evaluation is performed on the downgradient monitoring wells in accordance with the HMP. The downgradient monitoring wells include:

- JCW-MW-18001
- JCW-MW-18004
- JCW-MW-18005
- JCW-MW-18006
- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- OW-57R Out

The concentrations from each well were first compared directly to the GWPS, as shown on Table 1. Constituent-well combinations that included a direct exceedance of the GWPS within the past eight monitoring events were retained for further analysis (Attachment 1). Direct comparison GWPS exceedances include the following constituent well combinations:

- Boron in MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, OW-57R OUT, JCW-MW-18001, JCW-MW-18005, and JCW-MW-18006;
- Calcium in JCW-MW-18001 and JCW-MW-18005;
- Sulfate in JCW-MW-18001;
- Arsenic in MW-55, MW-51, JCW-MW-18001, and JCW-MW-18006;
- Lead in JCW-MW-18004; and
- Vanadium in JCW-MW-18004.

The purpose of assessment monitoring is to assess whether constituent concentrations in groundwater from prior operations are above a risk-based standard (i.e. GWPS). As detailed in the Alternate Source Demonstration (Fourth Quarter 2024 Hydrogeological Monitoring Report for the Weadock Landfill, TRC, January 2025), the arsenic concentrations at MW-55 are not the result of a release from the unit; therefore, comparison of these concentrations to the GWPS is not appropriate and assessment monitoring confidence intervals were not calculated.

The software outputs for the assessment monitoring data evaluation are included in Attachment 1 along with data reports showing the values used for the evaluation. The percentage of non-detect observations are also included in Attachment 1. Visual trends were apparent in multiple wells for arsenic, boron, calcium, and sulfate. These data sets were tested further in Sanitas™ utilizing Sen's Slope to estimate the average rate of change in concentration over time and utilizing the Mann-Kendall trend test to test for significance of the trend at the 98% confidence level. The trend tests show that there are no statistically significant trends (Attachment 1).

The Sanitas™ software generates an output that includes graphs of the confidence bands and parametric or non-parametric confidence intervals for each well along with notes on data transformations, as appropriate. The data distributions are as follows:

Distribution	Constituent-Well Combinations
Normal	Arsenic at JCW-MW-18006 and MW-51 Boron at JCW-MW-18001, JCW-MW-18005, JCW-MW-18006, MW-50, MW-51, MW-52, MW-53, MW-53R, and MW-54R
Normalized by power transformation	Calcium at JCW-MW-18001 (2^{nd} power) Sulfate at JCW-MW-18001 (6^{th} power)
Not normal (non-parametric test used)	Arsenic at JCW-MW-18001 Boron at MW-55 and OW-57R OUT Calcium at JCW-MW-18005 Lead at JCW-MW-18004 (non-detects) Vanadium at JCW-MW-18004 (non-detects)

The interval tests compare the lower confidence limit to the GWPS. Statistically significant exceedances of the GWPS were noted for boron at JCW-MW-18001, JCW-MW-18005, JCW-MW-18006, MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, and OW-57R OUT, calcium at JCW-MW-18001, and sulfate at JCW-MW-18001. Boron concentrations have been consistently above the GWPS since monitoring under the Weadock Landfill HMP began in first quarter 2021. Calcium at JCW-MW-18001 was a confirmed GWPS exceedance in first quarter 2023 resulting from increases in calcium concentration beginning in first quarter 2021. No trend in calcium concentrations was observed at JCW-MW-18001 as of second quarter 2024. Sulfate at JCW-MW-18001 was a confirmed GWPS exceedance in second quarter 2023 resulting from increases in sulfate concentrations. As noted in the Alternate Source Demonstration (Fourth Quarter 2024 Hydrogeological Monitoring Report for the Weadock Landfill, TRC, January 2025), multiple lines of evidence indicate that the increases in calcium and sulfate concentrations are not a result of a change in flux from the landfill and is instead the result of changing groundwater conditions outside the slurry wall.

Corrective action has been triggered for the site as a result of data collected during the initial May 2018 assessment monitoring event. Consumers Energy will continue to evaluate corrective measures per §257.96 and §257.97 and will continue executing the self-implementing groundwater compliance schedule in conformance with §257.90 - §257.98.

GSI Statistical Evaluation

Eight monitoring wells located along the surface water features adjacent to the Weadock Landfill are included in the GSI monitoring program to meet the requirements of Part 31:

- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- JCW-MW-18004

The concentrations from each well were first compared directly to the GSI criteria, as shown on Table 2. Constituent-well combinations that included a direct exceedance of the GSI criteria within the past eight monitoring events were retained for further analysis (Attachment 2). Direct comparison GSI exceedances include the following constituent well combination:

- Chromium at JCW-MW-18004.

The software outputs for the assessment monitoring data evaluation are included in Attachment 1 along with data reports showing the values used for the evaluation. The Sanitas™ software generates an output that includes graphs of the confidence bands and parametric or non-parametric confidence intervals for each well along with notes on data transformations, as appropriate. The data distributions are as follows:

Distribution	Constituent-Well Combinations
Not normal (non-parametric test used)	Chromium at JCW-MW-18004 (non-detects)

The confidence interval evaluation shows that no constituents are present at statistically significant concentrations above the GSI criteria.

Attachments

Table 1 Comparison of Groundwater Sampling Results to Groundwater Protection Standards
Table 2 Comparison of Groundwater Sampling Results to GSI

Attachment 1 Assessment Monitoring Sanitas™ Output Files
Attachment 2 GSI Sanitas™ Output Files

Tables

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

	Sample Location:		MW-50														
	Sample Date:		7/26/2023	7/26/2023	10/9/2023	10/9/2023	3/5/2024	3/5/2024	5/7/2024	5/7/2024	7/23/2024	7/23/2024	10/1/2024	10/1/2024	3/4/2025	3/4/2025	5/13/2025
Constituent	Unit	GWPS															
Appendix III[1]				Field Dup		Field Dup		Field Dup		Field Dup		Field Dup		Field Dup		Field Dup	
Boron	ug/L	**560**	**1,720**	**1,690**	**2,070**	**2,060**	**2,170**	**2,140**	**2,070**	**2,020**	**2,100**	**2,180**	**2,550**	**2,450**	**2,920**	**2,950**	**2,830**
Calcium	mg/L	**280**	188	187	205	206	199	196	184	191	175	175	184	193	191	189	191
Chloride	mg/L	2,300	37.4	39.1	37.6	37.0	40.1	38.6	37.1	38.1	34.9	36.7	33.9	36.4	46.7	46.6	52.2
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	392	385	470	472	449	448	425	421	403	410	423	422	337	332	326
Total Dissolved Solids	mg/L	4,700	1,100	1,110	1,170	1,190	1,180	1,190	1,250	1,160	1,190	1,140	1,100	1,120	1,140	1,130	1,110
pH, Field	SU	6.5 - 8.5	7.4	--	7.0	--	7.5	--	7.5	--	7.6	--	7.6	--	7.8	--	7.5
Appendix IV[1]																	
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	3	3	3	3	3	3	3	3	4	4	5	5	4	4	3
Barium	ug/L	2,000	114	113	135	136	187	179	176	180	188	192	211	215	200	198	209
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	< 1	1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	58	59	59	59	69	68	61	62	62	61	56	58	66	65	68
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	6	6	5	5	6	6	6	6	5	5	< 5
Radium-226	pCi/L	NA	--	--	0.291	0.320	--	--	0.270	0.349	--	--	0.355	0.353	--	--	< 0.327
Radium-228	pCi/L	NA	--	--	1.15	1.46	--	--	1.47	1.38	--	--	< 0.773	1.41	--	--	0.893
Radium-226/228	pCi/L	5.0	--	--	1.44	1.78	--	--	1.20	1.03	--	--	1.10	1.77	--	--	1.08
Selenium	ug/L	50	1	1	< 1	2	3	3	1	2	1	2	2	2	2	2	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]																	
Iron	ug/L	28,000	1,960	1,900	2,300	2,340	889	930	834	817	1,530	1,610	1,930	2,120	707	682	638
Copper	ug/L	1,000	2	2	1	1	1	1	2	2	2	3	1	< 1	2	2	2
Nickel	ug/L	100	2	< 2	< 2	2	8	8	< 2	< 2	7	8	3	3	3	5	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-51							
		Sample Date:	7/26/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025
Constituent	Unit	GWPS								
Appendix III[(1)]										
Boron	ug/L	**560**	**1,180**	**1,170**	**935**	**798**	**862**	**1,070**	**1,020**	**938**
Calcium	mg/L	**280**	162	132	132	128	114	134	165	161
Chloride	mg/L	2,300	97.0	91.6	78.3	79.9	81.5	78.8	63.3	64.0
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	308	267	266	262	283	285	432	445
Total Dissolved Solids	mg/L	4,700	1,100	952	902	958	940	916	1,190	1,190
pH, Field	SU	6.5 - 8.5	7.4	7.2	7.4	7.4	7.5	7.7	7.7	7.3
Appendix IV[(1)]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	10	18	10	13	19	**27**	12	13
Barium	ug/L	2,000	141	141	127	117	123	130	143	143
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	2	< 1	1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	40	34	31	28	28	25	27	32
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	--	0.285	--	0.181	--	0.223	--	< 0.280
Radium-228	pCi/L	NA	--	1.23	--	0.863	--	1.40	--	0.921
Radium-226/228	pCi/L	5.0	--	1.52	--	0.681	--	1.62	--	0.999
Selenium	ug/L	50	< 1	< 1	1	< 1	1	< 1	2	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[(2)]										
Iron	ug/L	28,000	1,290	1,660	446	760	1,490	2,740	1,330	816
Copper	ug/L	1,000	3	2	1	1	1	1	1	2
Nickel	ug/L	100	4	< 2	< 2	3	6	4	3	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	2	2	2	2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
pCi/L - picocuries per liter.
-- - not analyzed.
GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.
Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.
All metals were analyzed as total unless otherwise specified.
(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.
(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.
(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-52								
		Sample Date:	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	5/13/2025
Constituent	Unit	GWPS									
Appendix III[1]											Field Dup
Boron	ug/L	**560**	**1,030**	**1,140**	**945**	**895**	**909**	**1,220**	**894**	**752**	**759**
Calcium	mg/L	**280**	247	234	237	236	233	251	253	229	231
Chloride	mg/L	2,300	31.5	30.2	33.8	33.3	30.1	37.2	43.0	46.9	47.0
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	569	572	540	550	542	522	449	446	415
Total Dissolved Solids	mg/L	4,700	1,520	1,440	1,380	1,430	1,470	1,330	1,350	1,280	1,270
pH, Field	SU	6.5 - 8.5	6.6	6.8	7.0	7.0	7.0	7.1	7.2	6.9	--
Appendix IV[1]											
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Barium	ug/L	2,000	99	108	94	91	88	93	77	74	76
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	27	27	27	29	29	27	30	34	33
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	--	0.444	--	0.162	--	0.149	--	< 0.315	< 0.301
Radium-228	pCi/L	NA	--	1.64	--	1.19	--	0.706	--	0.507	1.19
Radium-226/228	pCi/L	5.0	--	2.08	--	1.03	--	0.855	--	0.563	1.35
Selenium	ug/L	50	< 1	< 1	2	1	1	3	2	1	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]											
Iron	ug/L	28,000	6,720	7,560	3,120	3,680	7,290	8,450	3,350	2,700	2,810
Copper	ug/L	1,000	2	1	2	2	2	3	1	2	2
Nickel	ug/L	100	< 2	< 2	< 2	< 2	6	< 2	< 2	< 2	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-53							
		Sample Date:	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025
Constituent	Unit	GWPS								
Appendix III[1]										
Boron	ug/L	**560**	**4,370**	**5,530**	**5,740**	**6,110**	**6,960**	**6,380**	**5,010**	**4,680**
Calcium	mg/L	**280**	146	136	134	134	130	100	135	122
Chloride	mg/L	2,300	80.3	77.4	77.4	89.3	115	61.6	77.3	78.5
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	7.39	2.28	25.4	1.53	< 1.00	25.9	107	102
Total Dissolved Solids	mg/L	4,700	792	722	694	942	806	588	790	784
pH, Field	SU	6.5 - 8.5	7.1	7.3	7.5	7.5	7.5	7.8	7.8	7.4
Appendix IV[1]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	1	1	1	1	2	1	1	< 1
Barium	ug/L	2,000	692	719	654	582	581	386	578	541
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	44	42	50	50	57	40	40	44
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	--	0.679	--	0.561	--	0.572	--	0.547
Radium-228	pCi/L	NA	--	1.72	--	1.81	--	0.913	--	1.20
Radium-226/228	pCi/L	5.0	--	2.40	--	1.25	--	1.48	--	1.74
Selenium	ug/L	50	2	2	3	2	4	3	3	3
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]										
Iron	ug/L	28,000	1,390	1,080	947	665	1,110	518	521	475
Copper	ug/L	1,000	< 1	< 1	1	2	1	< 1	< 1	< 1
Nickel	ug/L	100	< 2	< 2	< 2	< 2	6	< 2	3	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	2	< 2	2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
pCi/L - picocuries per liter.
-- - not analyzed.
GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.
Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.
All metals were analyzed as total unless otherwise specified.
(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.
(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.
(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-53R							
		Sample Date:	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025
Constituent	Unit	GWPS								
Appendix III[(1)]										
Boron	ug/L	**560**	**2,190**	**2,420**	**2,300**	**2,200**	**1,880**	**2,830**	**3,100**	**3,160**
Calcium	mg/L	**280**	220	206	173	166	189	181	159	159
Chloride	mg/L	2,300	34.6	35.5	34.7	32.5	40.0	42.5	67.2	75.5
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	217	221	53.2	47.6	291	126	71.5	97.0
Total Dissolved Solids	mg/L	4,700	1,150	1,090	862	880	1,230	890	814	856
pH, Field	SU	6.5 - 8.5	6.7	7.0	7.0	7.1	7.2	7.3	7.3	7.0
Appendix IV[(1)]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	17	16	9	10	8	16	15	16
Barium	ug/L	2,000	144	110	165	164	132	128	136	165
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	1	< 1	< 1	< 1	< 1	1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	62	61	56	53	62	56	54	56
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	--	0.174	--	0.155	--	0.184	--	< 0.574
Radium-228	pCi/L	NA	--	0.968	--	0.674	--	< 0.632	--	< 1.24
Radium-226/228	pCi/L	5.0	--	1.14	--	0.567	--	0.702	--	< 1.24
Selenium	ug/L	50	2	1	2	1	2	2	3	3
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[(2)]										
Iron	ug/L	28,000	1,180	834	752	761	280	975	1,290	998
Copper	ug/L	1,000	1	1	2	1	2	1	< 1	2
Nickel	ug/L	100	< 2	< 2	< 2	< 2	8	< 2	4	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
pCi/L - picocuries per liter.
-- - not analyzed.
GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.
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All metals were analyzed as total unless otherwise specified.
(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.
(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.
(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-54R							
		Sample Date:	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/2/2024	3/4/2025	5/14/2025
Constituent	Unit	GWPS								
Appendix III[1]										
Boron	ug/L	**560**	**6,170**	**5,520**	**5,940**	**5,580**	**6,930**	**8,080**	**7,610**	**6,710**
Calcium	mg/L	**280**	162	165	170	161	153	177	214	174
Chloride	mg/L	2,300	48.5	45.0	61.7	56.9	75.4	86.2	136	102
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	1,230	< 1,000	< 1,000
Sulfate	mg/L	**780**	73.8	67.4	48.6	51.3	60.4	79.8	229	201
Total Dissolved Solids	mg/L	4,700	761	756	752	792	924	826	1,170	1,020
pH, Field	SU	6.5 - 8.5	6.8	7.0	7.0	7.2	7.2	7.0	7.4	7.0
Appendix IV[1]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	1	1	1	1	2	2	2
Barium	ug/L	2,000	106	113	97	83	90	100	96	100
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	1	< 1	1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	1230	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	75	70	76	73	83	83	93	98
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	15	17	15	18	17	17	20	24
Radium-226	pCi/L	NA	--	0.160	--	0.180	--	0.213	--	< 0.349
Radium-228	pCi/L	NA	--	1.38	--	0.829	--	< 0.588	--	< 0.491
Radium-226/228	pCi/L	5.0	--	1.54	--	0.829	--	0.639	--	< 0.491
Selenium	ug/L	50	1	1	3	2	4	5	6	4
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]										
Iron	ug/L	28,000	111	829	159	87	59	137	579	150
Copper	ug/L	1,000	6	2	2	3	2	2	1	2
Nickel	ug/L	100	< 2	2	< 2	< 2	7	3	8	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

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Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-55									
		Sample Date:	7/31/2023	10/9/2023	3/5/2024	5/8/2024	7/23/2024	10/2/2024	10/2/2024	3/4/2025	5/14/2025	5/13/2025
Constituent	Unit	GWPS										
Appendix III[1]									Field Dup			Field Dup
Boron	ug/L	**560**	**1,290**	**1,200**	**825**	**729**	**1,270**	**1,130**	**1,090**	**1,270**	**1,270**	**1,250**
Calcium	mg/L	**280**	150	163	166	161	117	150	156	162	190	187
Chloride	mg/L	2,300	18.5	16.7	18.3	17.3	21.8	23.0	23.3	20.2	16.7	16.9
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	129	156	224	236	60.2	117	117	98.1	334	333
Total Dissolved Solids	mg/L	4,700	827	846	866	934	730	756	758	818	984	1,040
pH, Field	SU	6.5 - 8.5	6.9	7.0	6.9	6.9	7.4	7.2	--	7.4	7.0	--
Appendix IV[1]												
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	**75**	**75**	**46**	**39**	**45**	**54**	**56**	13	18	17
Barium	ug/L	2,000	240	248	260	235	186	222	218	202	214	218
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	27	26	26	26	29	25	26	24	24	23
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	33	56	27	25	25	44	44	22	21	21
Radium-226	pCi/L	NA	--	0.406	--	0.137	--	0.274	--	--	< 0.403	--
Radium-228	pCi/L	NA	--	1.26	--	1.11	--	< 0.899	--	--	< 0.485	--
Radium-226/228	pCi/L	5.0	--	1.67	--	0.971	--	< 0.899	--	--	< 0.485	--
Selenium	ug/L	50	1	1	1	4	1	1	< 1	5	5	5
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]												
Iron	ug/L	28,000	21,900	16,800	18,700	14,700	12,300	12,600	13,800	8,950	13,100	12,700
Copper	ug/L	1,000	< 1	< 1	1	1	1	< 1	< 1	1	2	2
Nickel	ug/L	100	22	3	< 2	6	4	4	4	5	6	7
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	OW-57R OUT								
		Sample Date:	7/31/2023	10/9/2023	3/6/2024	5/8/2024	7/24/2024	7/24/2024	10/2/2024	3/5/2025	5/14/2025
Constituent	Unit	GWPS									
Appendix III[1]								Field Dup			
Boron	ug/L	**560**	**1,750**	**1,790**	**1,810**	**1,700**	**1,690**	**1,730**	**2,070**	**2,070**	**1,830**
Calcium	mg/L	**280**	124	120	123	119	120	120	138	130	122
Chloride	mg/L	2,300	53.7	50.6	68.1	72.3	65.9	68.6	73.3	84.7	90.1
Fluoride	ug/L	4,000	< 1,000	< 1,000	1,230	1,090	1,100	1,140	1,510	< 1,000	1,080
Sulfate	mg/L	**780**	79.0	94.8	79.3	77.6	75.5	78.3	83.4	68.1	66.4
Total Dissolved Solids	mg/L	4,700	762	758	770	790	760	796	762	798	770
pH, Field	SU	6.5 - 8.5	6.9	7.0	7.2	7.2	7.0	--	7.2	7.4	7.0
Appendix IV[1]											
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	< 1	1	1	2	2	2	1	1
Barium	ug/L	2,000	72	77	81	75	78	77	83	73	82
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	2	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	1,230	1,090	1,100	1,140	1,510	< 1,000	1,080
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	24	23	28	26	25	25	24	26	28
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	6	7	6	6	7	7	7	6	6
Radium-226	pCi/L	NA	--	< 0.155	--	0.115	--	--	0.163	--	< 0.295
Radium-228	pCi/L	NA	--	0.586	--	0.845	--	--	< 0.543	--	< 0.641
Radium-226/228	pCi/L	5.0	--	0.680	--	0.731	--	--	0.570	--	< 0.641
Selenium	ug/L	50	1	< 1	< 1	1	1	2	1	1	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]											
Iron	ug/L	28,000	30	40	44	94	77	85	67	< 20	32
Copper	ug/L	1,000	1	2	2	2	2	2	2	2	1
Nickel	ug/L	100	13	15	12	15	18	17	15	15	10
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

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(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18001							
		Sample Date:	7/26/2023	10/5/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025
Constituent	Unit	GWPS								
Appendix III[(1)]										
Boron	ug/L	**560**	**1,470**	**1,620**	**1,420**	**1,330**	**1,370**	**1,310**	**1,610**	**1,540**
Calcium	mg/L	**280**	**555**	**562**	**557**	**537**	**526**	**474**	**405**	**509**
Chloride	mg/L	2,300	58.9	51.1	44.7	44.5	45.0	50.3	61.4	47.8
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	**1,770**	**1,890**	**1,880**	**1,790**	**1,810**	**1,770**	**1,460**	**1,830**
Total Dissolved Solids	mg/L	4,700	3,530	3,430	3,450	3,370	3,530	3,210	2,960	3,450
pH, Field	SU	6.5 - 8.5	6.8	6.5	6.8	6.8	6.9	7.0	7.3	6.8
Appendix IV[(1)]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	1	< 1	2	2	2	**30**	7
Barium	ug/L	2,000	49	48	49	46	50	66	60	45
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	102	110	106	102	107	90	90	110
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	--	< 0.139	--	0.124	--	0.158	--	< 0.390
Radium-228	pCi/L	NA	--	0.783	--	0.525	--	< 0.430	--	< 0.500
Radium-226/228	pCi/L	5.0	--	0.886	--	0.506	--	< 0.430	--	< 0.500
Selenium	ug/L	50	2	1	2	2	2	2	2	3
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[(2)]										
Iron	ug/L	28,000	2,790	3,840	3,570	2,630	3,080	1,540	686	2,270
Copper	ug/L	1,000	2	2	3	4	5	2	2	4
Nickel	ug/L	100	41	3	14	4	13	5	12	18
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	2	< 2	3	2	2	< 2	3	3
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

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(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18004							
		Sample Date:	7/31/2023	10/9/2023	3/5/2024	5/8/2024	7/23/2024	10/2/2024	3/4/2025	5/14/2025[3]
Constituent	Unit	GWPS								
Appendix III[1]										
Boron	ug/L	**560**	310	319	192	206	308	412	269	165
Calcium	mg/L	**280**	229	218	238	213	205	207	211	229
Chloride	mg/L	2,300	14.2	15.8	16.9	14.3	12.6	14.1	17.0	10.4
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	478	466	557	484	446	444	460	441
Total Dissolved Solids	mg/L	4,700	1,220	1,160	1,250	1,130	1,130	1,080	1,150	1,130
pH, Field	SU	6.5 - 8.5	6.8	7.0	7.0	6.9	7.3	7.0	7.5	7.0
Appendix IV[1]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	4
Barium	ug/L	2,000	30	34	26	26	29	34	27	114
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	1	< 1	< 1	2	< 1	19
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**9**
Lithium	ug/L	180	50	49	43	43	50	46	26	43
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	--	< 0.155	--	0.102	--	0.120	--	< 0.505
Radium-228	pCi/L	NA	--	1.24	--	0.672	--	< 0.656	--	< 1.11
Radium-226/228	pCi/L	5.0	--	1.30	--	0.672	--	< 0.656	--	< 1.11
Selenium	ug/L	50	2	< 1	4	4	< 1	1	2	13
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]										
Iron	ug/L	28,000	24	36	98	73	41	36	398	7,970
Copper	ug/L	1,000	2	2	2	2	2	2	2	10
Nickel	ug/L	100	< 2	< 2	< 2	< 2	4	< 2	4	23
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**23**
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	25

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

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(3) Radium sample collected 5/15/2025.

Table 1
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JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18005							
		Sample Date:	7/31/2023	10/9/2023	3/6/2024	5/8/2024	7/23/2024	10/2/2024	3/5/2025	5/14/2025
Constituent	Unit	GWPS								
Appendix III[(1)]										
Boron	ug/L	**560**	**1,170**	**1,470**	**1,000**	**960**	**1,460**	**1,930**	**1,740**	**1,080**
Calcium	mg/L	**280**	202	159	**335**	**302**	164	162	159	248
Chloride	mg/L	2,300	44.1	48.1	23.3	22.1	49.2	51.8	46.4	18.9
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	1,400	< 1,000	< 1,000
Sulfate	mg/L	**780**	216	154	512	475	156	142	141	362
Total Dissolved Solids	mg/L	4,700	1,000	884	1,400	1,390	884	866	854	1,100
pH, Field	SU	6.5 - 8.5	6.8	6.9	6.7	6.8	7.2	7.2	7.1	6.8
Appendix IV[(1)]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	1	3	4	2	2	2	6
Barium	ug/L	2,000	76	74	136	127	67	71	77	98
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	1,400	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	3	< 1
Lithium	ug/L	180	33	32	43	41	34	31	29	37
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	5	6
Radium-226	pCi/L	NA	--	0.221	--	0.165	--	0.169	--	< 0.328
Radium-228	pCi/L	NA	--	1.17	--	1.23	--	< 0.640	--	< 0.542
Radium-226/228	pCi/L	5.0	--	1.39	--	1.07	--	< 0.640	--	0.648
Selenium	ug/L	50	2	1	2	< 1	2	2	2	8
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[(2)]										
Iron	ug/L	28,000	171	948	4,020	6,550	1,890	1,930	750	2,490
Copper	ug/L	1,000	2	1	7	2	2	< 1	2	3
Nickel	ug/L	100	8	9	< 2	< 2	11	7	9	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	3
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

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-- - not analyzed.

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Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18006												
		Sample Date:	7/31/2023	7/31/2023	10/9/2023	10/9/2023	3/6/2024	3/6/2024	5/8/2024	5/8/2024	7/24/2024	10/2/2024	3/5/2025	3/5/2025	5/14/2025
Constituent	Unit	GWPS													
Appendix III[1]				Field Dup		Field Dup		Field Dup		Field Dup				Field Dup	
Boron	ug/L	**560**	**2,100**	**2,140**	**2,280**	**2,470**	**2,650**	**2,700**	**2,740**	**2,830**	**2,490**	**3,240**	**2,800**	**2,880**	**2,970**
Calcium	mg/L	**280**	126	126	117	119	137	136	148	150	123	126	122	120	125
Chloride	mg/L	2,300	73.0	75.9	72.3	71.1	61.3	64.7	49.2	52.0	57.3	61.6	70.2	70.4	64.6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	39.4	37.9	46.9	47.6	69.7	71.6	122	129	75.5	65.4	42.4	45.3	64.3
Total Dissolved Solids	mg/L	4,700	765	770	738	748	748	776	864	878	782	732	706	712	774
pH, Field	SU	6.5 - 8.5	6.9	--	7.0	--	7.0	--	7.1	--	7.0	7.2	7.3	--	7.0
Appendix IV[1]															
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	18	19	17	18	**22**	**23**	**29**	**29**	**23**	**27**	**22**	**23**	**25**
Barium	ug/L	2,000	354	346	342	381	445	464	390	387	412	468	417	408	354
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	36	36	37	39	52	54	59	61	49	48	43	43	55
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	--	--	0.506	0.431	--	--	0.218	0.280	--	0.520	--	--	< 0.339
Radium-228	pCi/L	NA	--	--	0.783	1.39	--	--	0.919	0.528	--	0.768	--	--	0.969
Radium-226/228	pCi/L	5.0	--	--	1.29	1.82	--	--	0.919	0.528	--	1.29	--	--	1.12
Selenium	ug/L	50	2	2	< 1	1	3	3	< 1	1	2	2	2	2	< 1
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]															
Iron	ug/L	28,000	6,910	6,860	5,660	5,930	7,970	7,890	10,400	10,800	8,650	9,050	7,350	7,290	7,490
Copper	ug/L	1,000	< 1	< 1	< 1	1	2	2	1	1	1	2	< 1	< 1	2
Nickel	ug/L	100	< 2	< 2	< 2	3	5	9	6	6	5	4	5	5	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	3	3	2	2	4	4	3	3	3	4	3	3	3
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-50												
						Sample Date:	7/26/2023	7/26/2023	10/9/2023	10/9/2023	3/5/2024	3/5/2024	5/7/2024	5/7/2024	7/23/2024	7/23/2024	10/1/2024	10/1/2024	3/4/2025	3/4/2025	5/13/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**														
Appendix III[(1)]								Field Dup		Field Dup		Field Dup		Field Dup		Field Dup		Field Dup	
Boron	ug/L	4,000	44,000	69,000	44,000		1,720	1,690	2,070	2,060	2,170	2,140	2,070	2,020	2,100	2,180	2,550	2,450	2,920	2,950	2,830
Sulfate	mg/L	1,200[F]	NC	NC	1,200		392	385	470	472	449	448	425	421	403	410	423	422	337	332	326
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		7.4	--	7.0	--	7.5	--	7.5	--	7.6	--	7.6	--	7.8	--	7.5
Appendix IV[(1)]																					
Arsenic	ug/L	10	100	680	100		3	3	3	3	3	3	3	3	4	4	5	5	4	4	3
Chromium	ug/L	11[H]	NC	NC	**11**		< 1	< 1	< 1	< 1	1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440		58	59	59	59	69	68	61	62	62	61	56	58	66	65	68
Molybdenum	ug/L	120	1,320	NC	1,320		< 5	< 5	< 5	< 5	6	6	5	5	6	6	6	6	5	5	< 5
Selenium	ug/L	5.0	55	120	55		1	1	< 1	2	3	3	1	2	1	2	2	2	2	2	2
MI Part 115 Parameters[(2)]																					
Iron	ug/L	500,000[EE]	NC	NC	500,000		1,960	1,900	2,300	2,340	889	930	834	817	1,530	1,610	1,930	2,120	707	682	638
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	MW-51								
					Sample Date:	5/8/2023	7/26/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III(1)														
Boron	ug/L	4,000	44,000	69,000	44,000	1,230	1,180	1,170	935	798	862	1,070	1,020	938
Sulfate	mg/L	1,200[F]	NC	NC	1,200	356	308	267	266	262	283	285	432	445
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0	7.3	7.4	7.2	7.4	7.4	7.5	7.7	7.7	7.3
Appendix IV(1)														
Arsenic	ug/L	10	100	680	100	8	10	18	10	13	19	27	12	13
Chromium	ug/L	11[H]	NC	NC	**11**	< 1	2	< 1	1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440	40	40	34	31	28	28	25	27	32
Molybdenum	ug/L	120	1,320	NC	1,320	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55	1	< 1	< 1	1	< 1	1	< 1	2	2
MI Part 115 Parameters(2)														
Iron	ug/L	500,000[EE]	NC	NC	500,000	450	1,290	1,660	446	760	1,490	2,740	1,330	816
Vanadium	ug/L	27	NC	NC	27	< 2	< 2	< 2	2	2	2	2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	MW-52									
					Sample Date:	5/8/2023	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	5/13/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**										
Appendix III(1)															Field Dup
Boron	ug/L	4,000	44,000	69,000	44,000	993	1,030	1,140	945	895	909	1,220	894	752	759
Sulfate	mg/L	1,200[F]	NC	NC	1,200	581	569	572	540	550	542	522	449	446	415
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0	6.9	6.6	6.8	7.0	7.0	7.0	7.1	7.2	6.9	--
Appendix IV(1)															
Arsenic	ug/L	10	100	680	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chromium	ug/L	11[H]	NC	NC	**11**	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440	23	27	27	27	29	29	27	30	34	33
Molybdenum	ug/L	120	1,320	NC	1,320	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55	< 1	< 1	< 1	2	1	1	3	2	1	2
MI Part 115 Parameters(2)															
Iron	ug/L	500,000[EE]	NC	NC	500,000	2,720	6,720	7,560	3,120	3,680	7,290	8,450	3,350	2,700	2,810
Vanadium	ug/L	27	NC	NC	27	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	MW-53								
					Sample Date:	5/8/2023	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III(1)														
Boron	ug/L	4,000	44,000	69,000	44,000	2,620	4,370	5,530	5,740	6,110	6,960	6,380	5,010	4,680
Sulfate	mg/L	1,200[F]	NC	NC	1,200	50.8	7.39	2.28	25.4	1.53	< 1.00	25.9	107	102
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0	7.4	7.1	7.3	7.5	7.5	7.5	7.8	7.8	7.4
Appendix IV(1)														
Arsenic	ug/L	10	100	680	100	< 1	1	1	1	1	2	1	1	< 1
Chromium	ug/L	11[H]	NC	NC	**11**	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440	34	44	42	50	50	57	40	40	44
Molybdenum	ug/L	120	1,320	NC	1,320	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55	2	2	2	3	2	4	3	3	3
MI Part 115 Parameters(2)														
Iron	ug/L	500,000[EE]	NC	NC	500,000	569	1,390	1,080	947	665	1,110	518	521	475
Vanadium	ug/L	27	NC	NC	27	< 2	< 2	< 2	2	< 2	2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	MW-53R								
					Sample Date:	5/8/2023	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III[(1)]														
Boron	ug/L	4,000	44,000	69,000	44,000	2,140	2,190	2,420	2,300	2,200	1,880	2,830	3,100	3,160
Sulfate	mg/L	1,200[F]	NC	NC	1,200	185	217	221	53.2	47.6	291	126	71.5	97
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0	6.8	6.7	7.0	7.0	7.1	7.2	7.3	7.3	7.0
Appendix IV[(1)]														
Arsenic	ug/L	10	100	680	100	14	17	16	9	10	8	16	15	16
Chromium	ug/L	11[H]	NC	NC	**11**	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1	1
Lithium	ug/L	440	NC	NC	440	56	62	61	56	53	62	56	54	56
Molybdenum	ug/L	120	1,320	NC	1,320	< 5	< 5	<5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55	1	2	1	2	1	2	2	3	3
MI Part 115 Parameters[(2)]														
Iron	ug/L	500,000[EE]	NC	NC	500,000	1,410	1,180	834	752	761	280	975	1,290	998
Vanadium	ug/L	27	NC	NC	27	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	MW-54R								
					Sample Date:	5/9/2023	7/31/2023	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/2/2024	3/4/2025	5/14/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III(1)														
Boron	ug/L	4,000	44,000	69,000	44,000	5,240	6,170	5,520	5,940	5,580	6,930	8,080	7,610	6,710
Sulfate	mg/L	1,200[F]	NC	NC	1,200	67.2	73.8	67.4	48.6	51.3	60.4	79.8	229	201
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0	6.9	6.8	7.0	7.0	7.2	7.2	7.0	7.4	7.0
Appendix IV(1)														
Arsenic	ug/L	10	100	680	100	< 1	< 1	1	1	1	1	2	2	2
Chromium	ug/L	11[H]	NC	NC	**11**	< 1	< 1	< 1	1	< 1	1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440	65	75	70	76	73	83	83	93	98
Molybdenum	ug/L	120	1,320	NC	1,320	13	15	17	15	18	17	17	20	24
Selenium	ug/L	5.0	55	120	55	1	1	1	3	2	4	5	6	4
MI Part 115 Parameters(2)														
Iron	ug/L	500,000[EE]	NC	NC	500,000	74	111	829	159	87	59	137	579	150
Vanadium	ug/L	27	NC	NC	27	< 2	< 2	< 2	< 2	< 2	< 2	< 2	2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-55									
						Sample Date:	5/9/2023	7/31/2023	10/9/2023	3/5/2024	5/8/2024	7/23/2024	10/2/2024	10/2/2024	3/4/2025	5/14/2025	5/13/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									Field Dup			
Appendix III(1)																	
Boron	ug/L	4,000	44,000	69,000	44,000		1,140	1,290	1,200	825	729	1,270	1,130	1,090	1,270	1,270	1,250
Sulfate	mg/L	1,200[F]	NC	NC	1,200		208	129	156	224	236	60.2	117	117	98.1	334	333
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		6.9	6.9	7.0	6.9	6.9	7.4	7.2	--	7.4	7.0	--
Appendix IV(1)																	
Arsenic	ug/L	10	100	680	100		44	75	75	46	39	45	54	56	13	18	17
Chromium	ug/L	11[H]	NC	NC	**11**		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440		24	27	26	26	26	29	25	26	24	24	23
Molybdenum	ug/L	120	1,320	NC	1,320		30	33	56	27	25	25	44	44	22	21	21
Selenium	ug/L	5.0	55	120	55		< 1	1	1	1	4	1	1	< 1	5	5	5
MI Part 115 Parameters(2)																	
Iron	ug/L	500,000[EE]	NC	NC	500,000		21,600	21,900	16,800	18,700	14,700	12,300	12,600	13,800	8,950	13,100	12,700
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	JCW-MW-18004						
						Sample Date:	7/31/2023	10/9/2023	3/5/2024	5/8/2024	7/23/2024	10/2/2024	3/4/2025	5/14/2025[3]
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III[1]														
Boron	ug/L	4,000	44,000	69,000	44,000		310	319	192	206	308	412	269	165
Sulfate	mg/L	1,200[F]	NC	NC	1,200		478	466	557	484	446	444	460	441
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		6.8	7.0	7.0	6.9	7.3	7.0	7.5	7.0
Appendix IV[1]														
Arsenic	ug/L	10	100	680	100		< 1	< 1	< 1	< 1	< 1	< 1	< 1	4
Chromium	ug/L	11[H]	NC	NC	**11**		< 1	< 1	1	< 1	< 1	2	< 1	**19**
Lithium	ug/L	440	NC	NC	440		50	49	43	43	50	46	26	43
Molybdenum	ug/L	120	1,320	NC	1,320		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55		2	< 1	4	4	< 1	1	2	13
MI Part 115 Parameters[2]														
Iron	ug/L	500,000[EE]	NC	NC	500,000		24	36	98	73	41	36	398	7,970
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	< 2	< 2	< 2	23

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

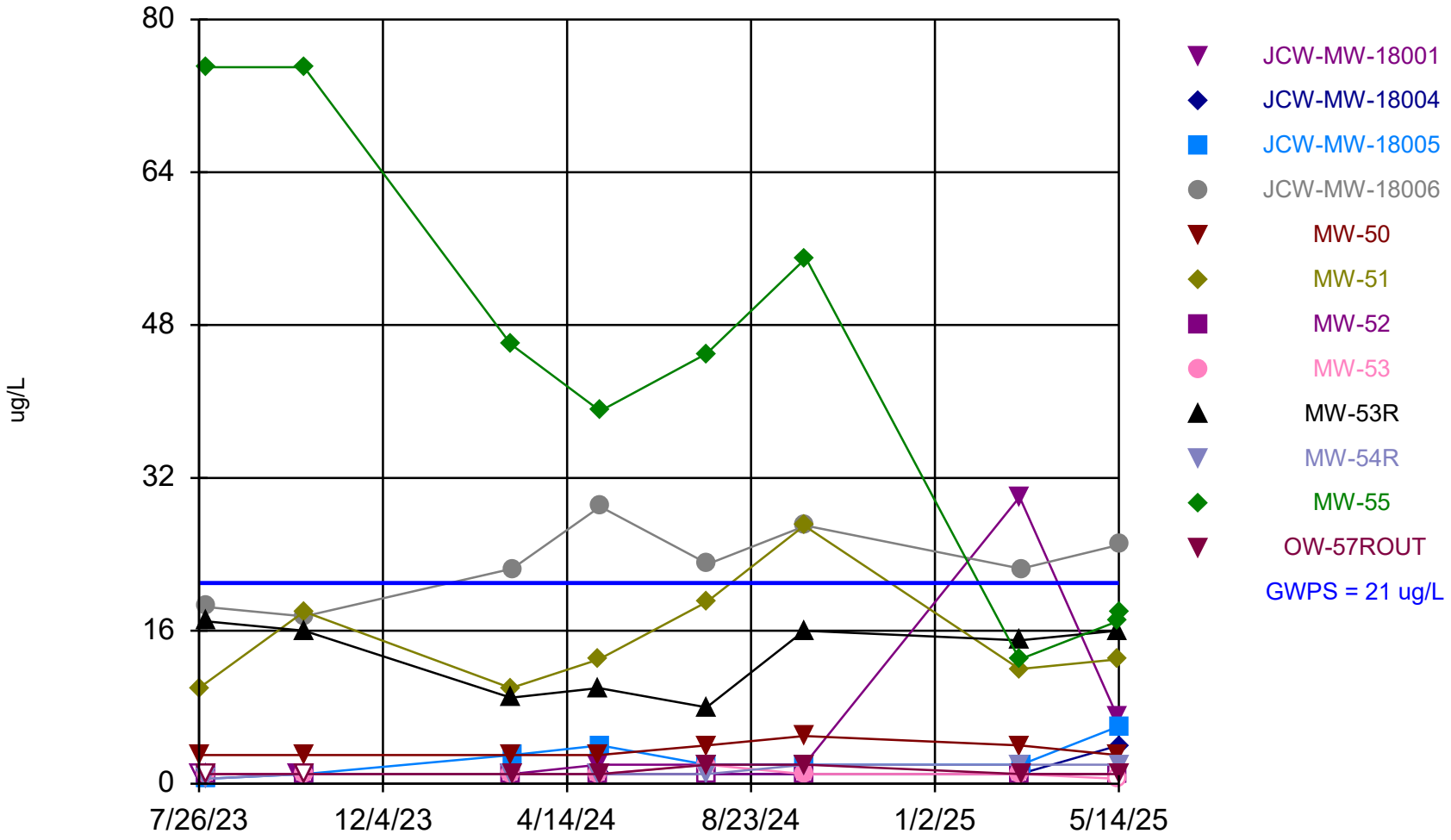
(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Attachment 1
Assessment Monitoring Sanitas™ Output Files

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

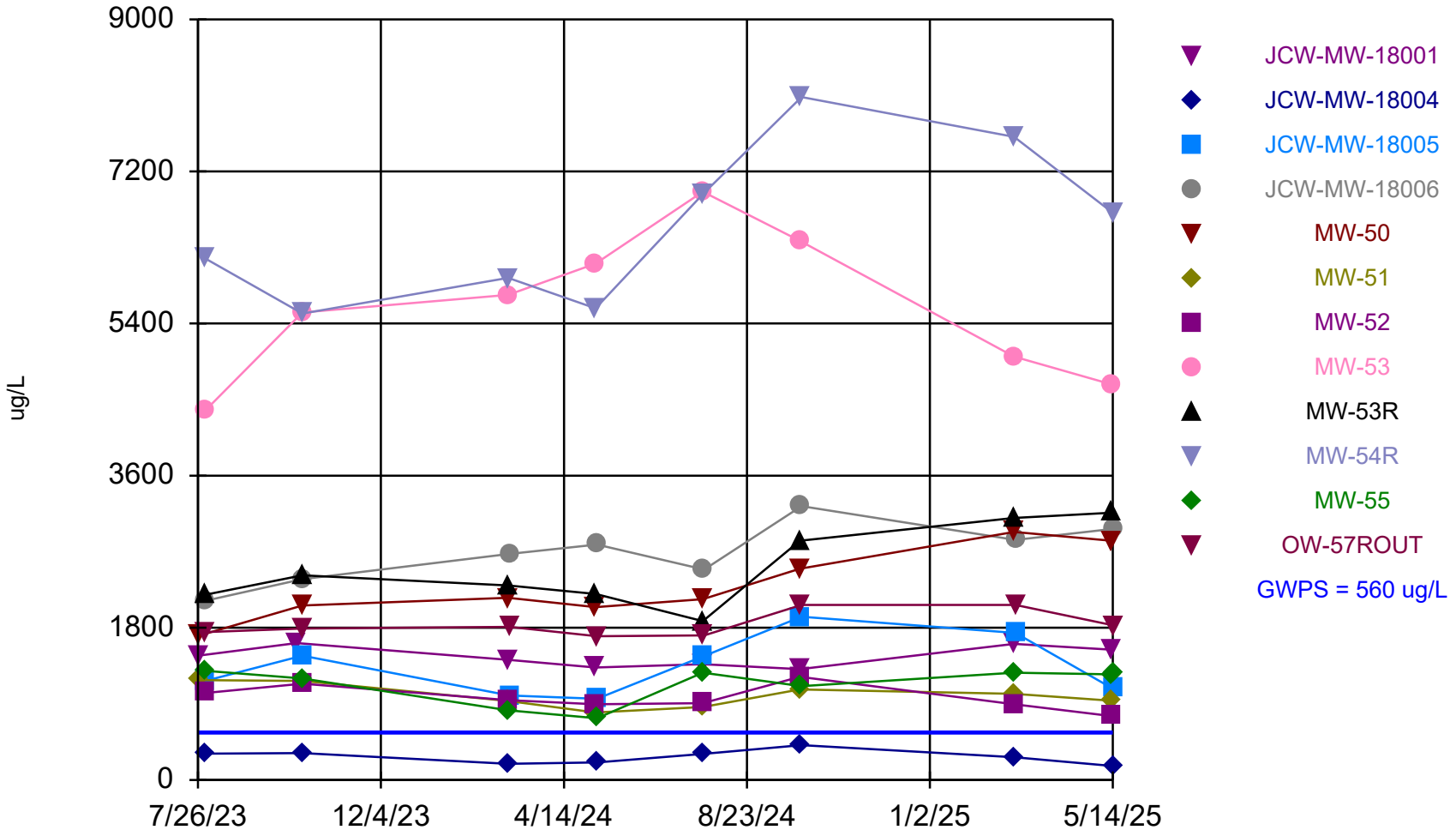
Arsenic Comparison to GWPS



Constituent: Arsenic, Total Analysis Run 7/1/2025 12:28 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

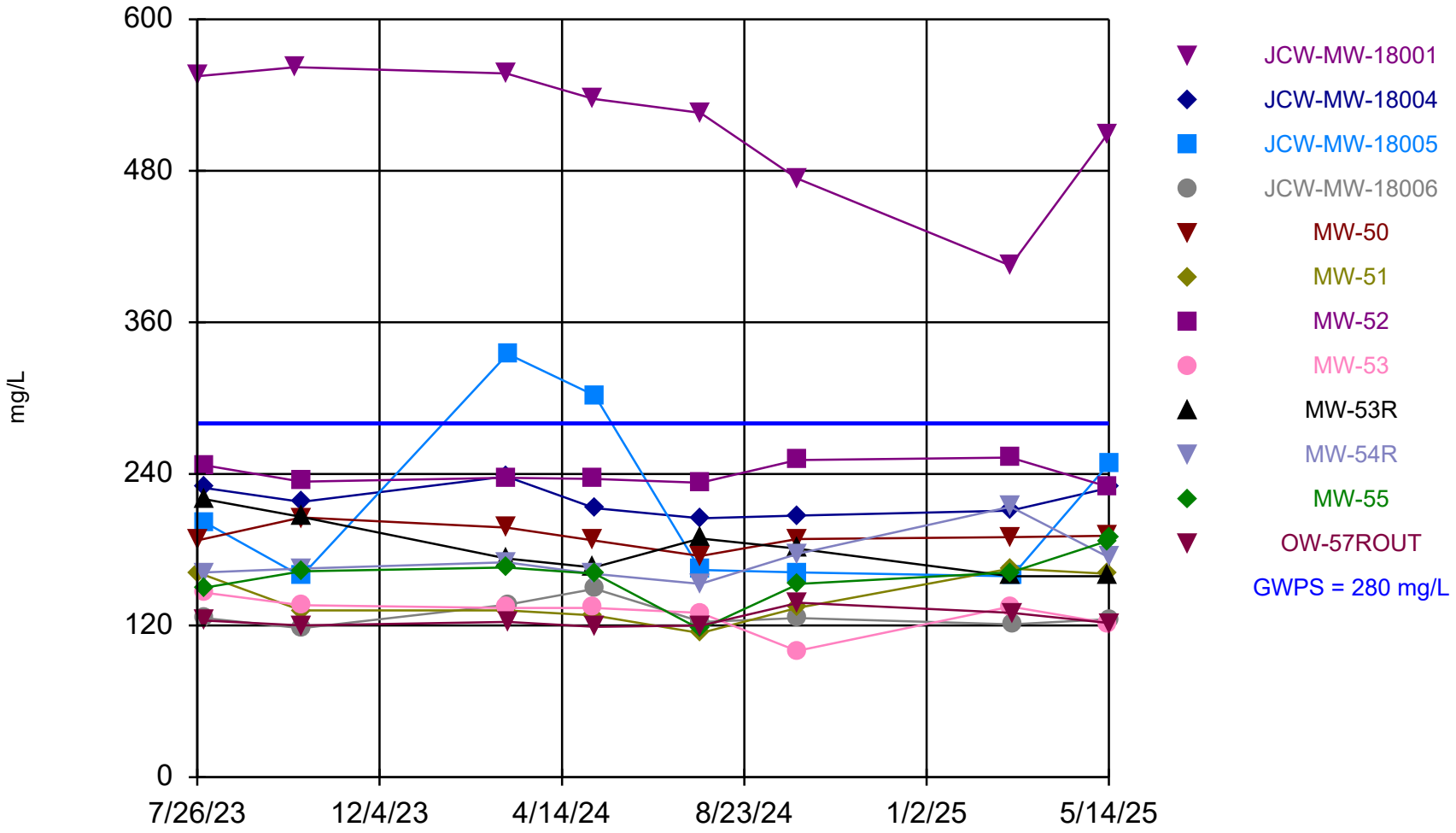
Boron Comparison to GWPS



Constituent: Boron, Total Analysis Run 7/1/2025 12:29 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Calcium Comparison to GWPS

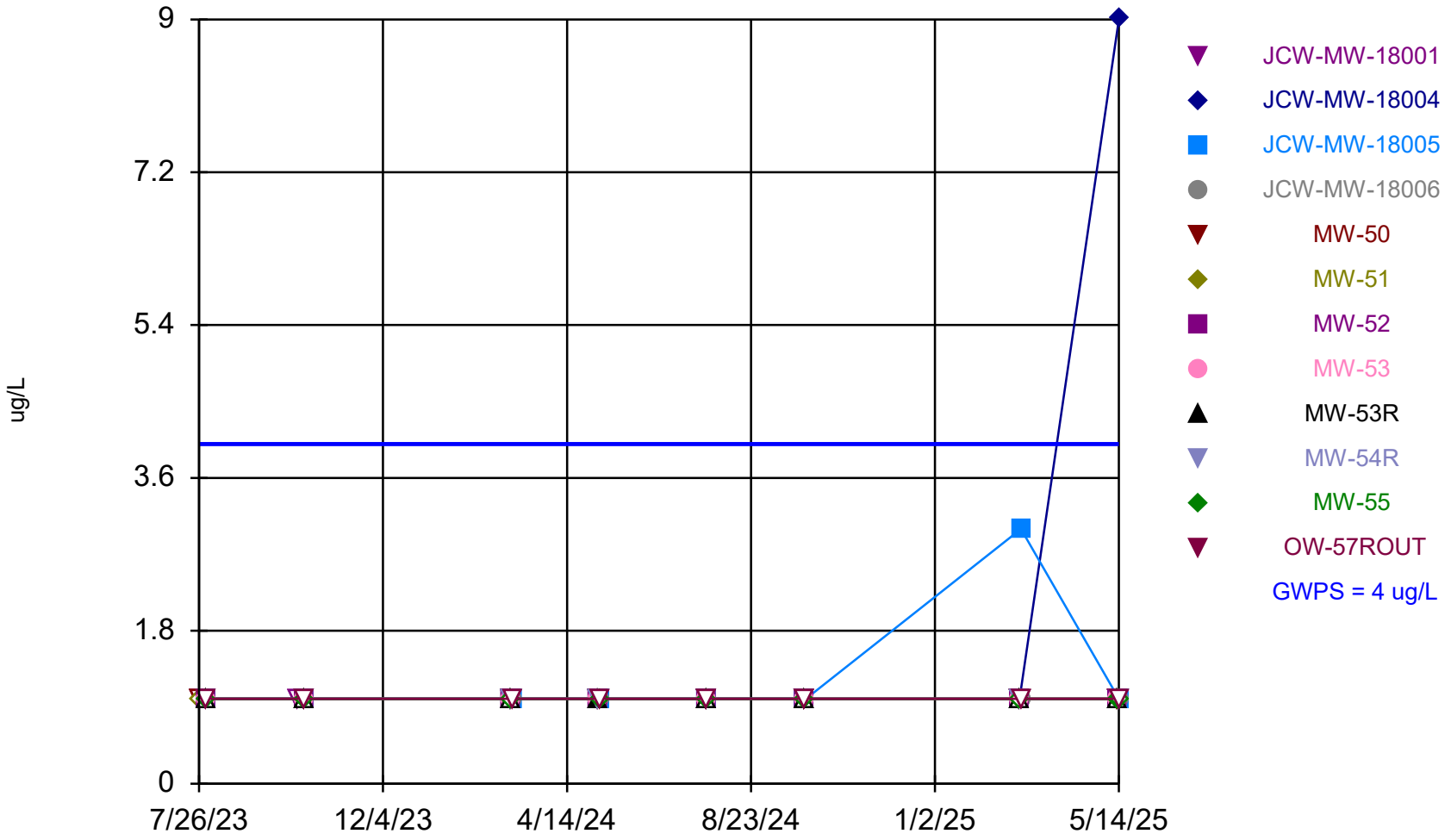


Constituent: Calcium, Total Analysis Run 7/1/2025 12:30 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Lead Comparison to GWPS

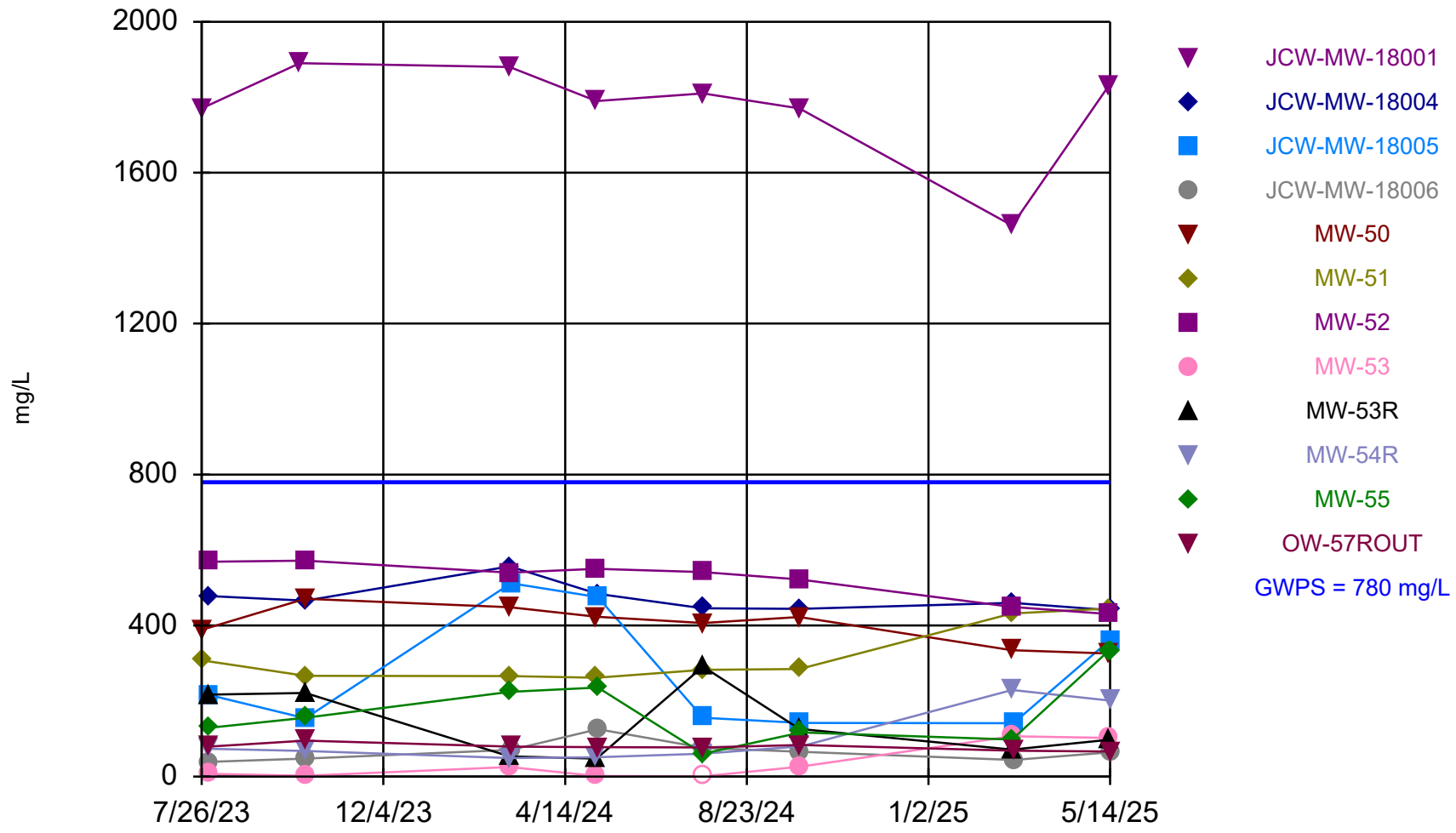


Constituent: Lead, Total Analysis Run 7/1/2025 12:31 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Sulfate Comparison to GWPS

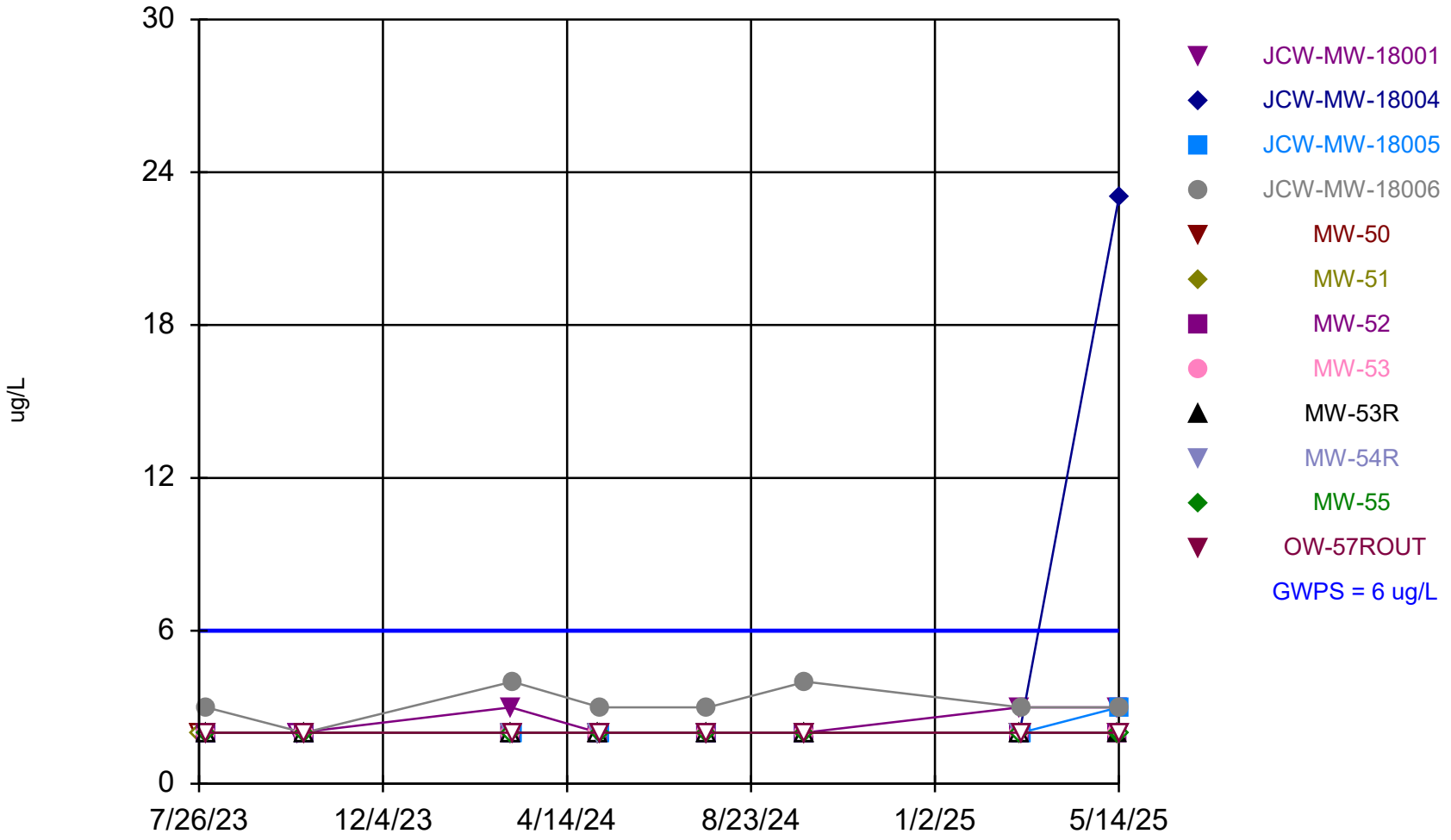


Constituent: Sulfate Analysis Run 7/1/2025 12:32 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Vanadium Comparison to GWPS



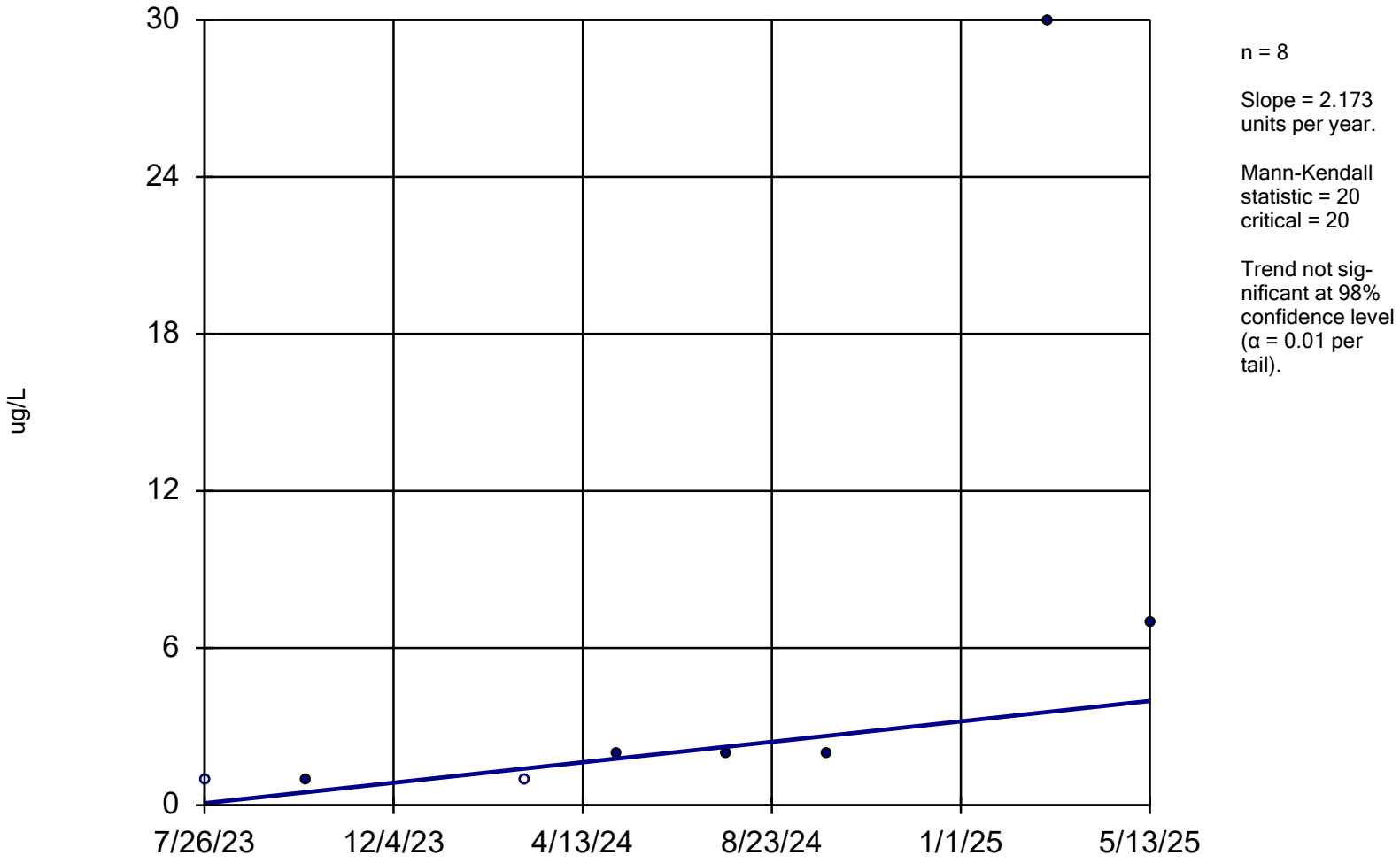
Constituent: Vanadium, Total Analysis Run 7/1/2025 12:33 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

JCW-MW-18001



n = 8

Slope = 2.173 units per year.

Mann-Kendall statistic = 20
critical = 20

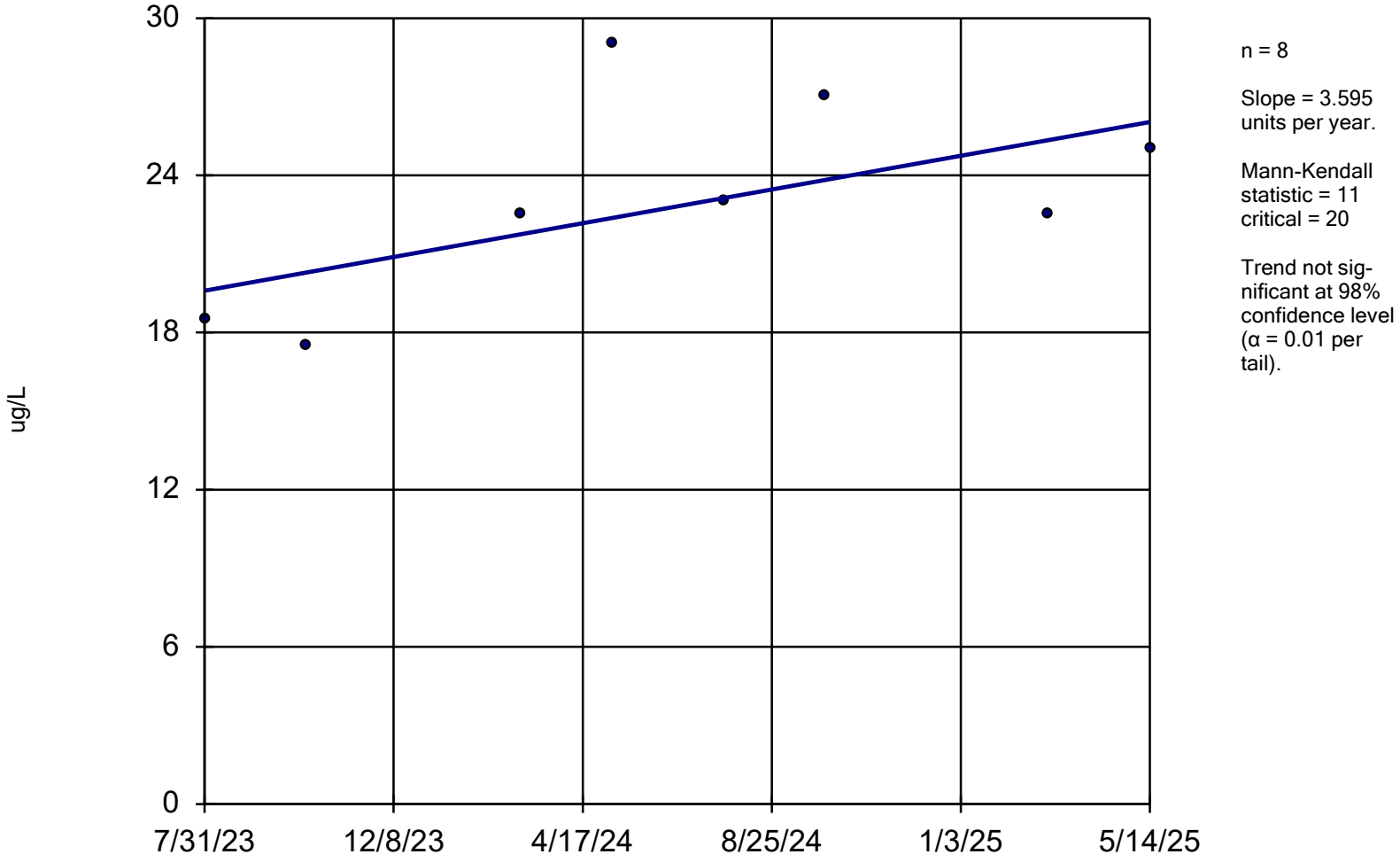
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Arsenic, Total Analysis Run 7/1/2025 12:47 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sen's Slope Estimator

JCW-MW-18006



n = 8

Slope = 3.595 units per year.

Mann-Kendall statistic = 11
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

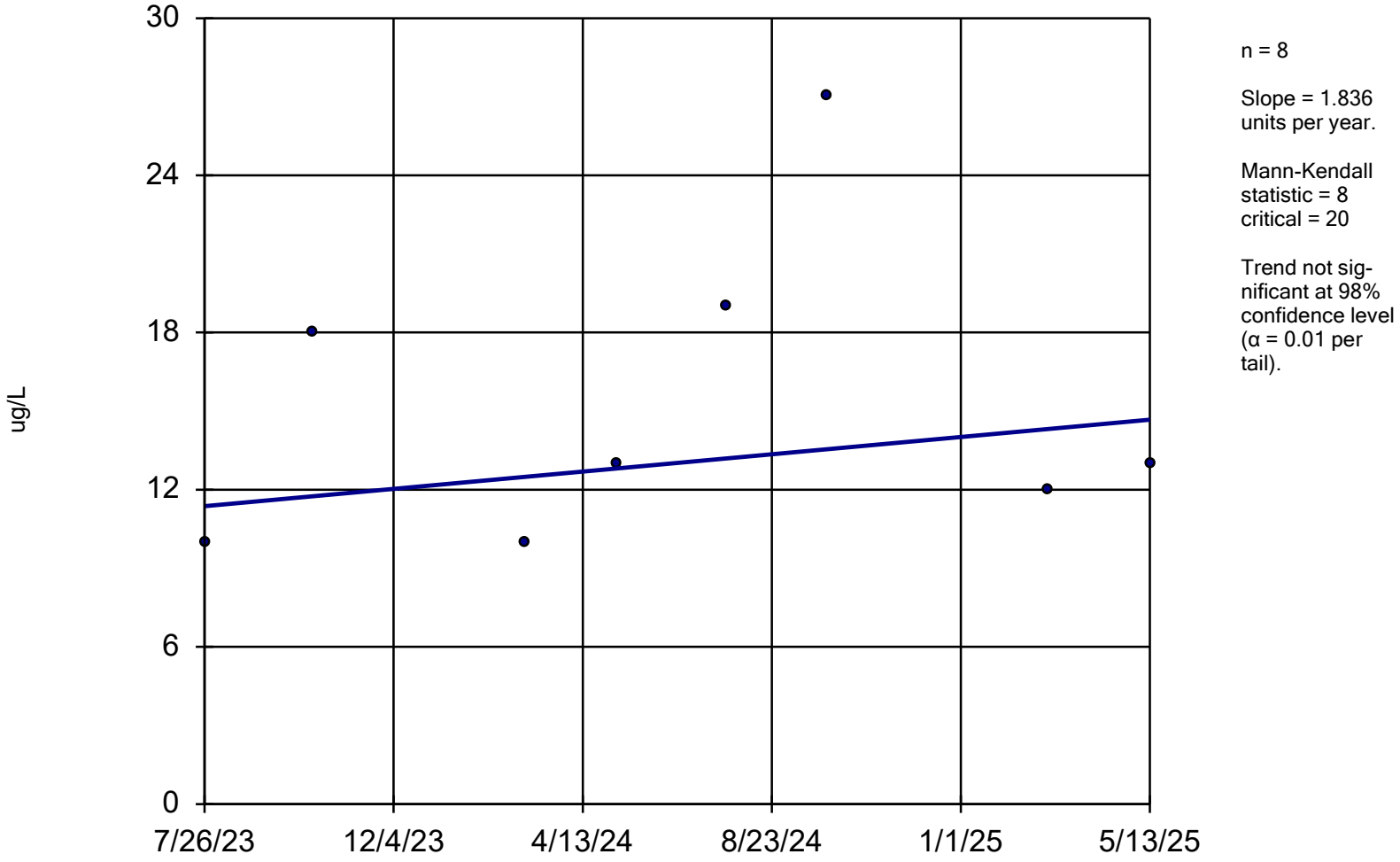
Constituent: Arsenic, Total Analysis Run 7/1/2025 12:47 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sen's Slope Estimator

MW-51



n = 8

Slope = 1.836 units per year.

Mann-Kendall statistic = 8
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

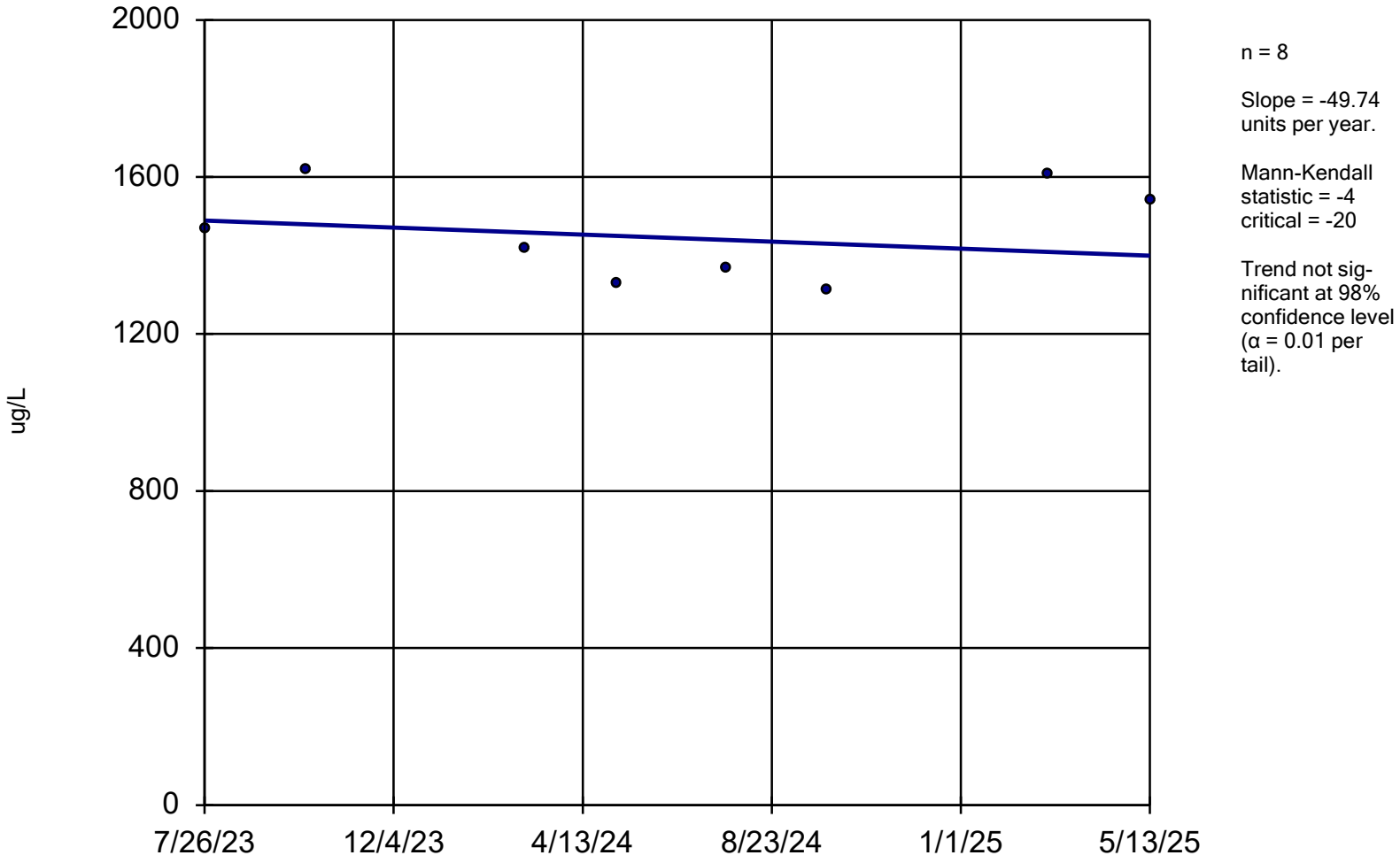
Constituent: Arsenic, Total Analysis Run 7/1/2025 12:47 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sen's Slope Estimator

JCW-MW-18001



n = 8

Slope = -49.74 units per year.

Mann-Kendall statistic = -4
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

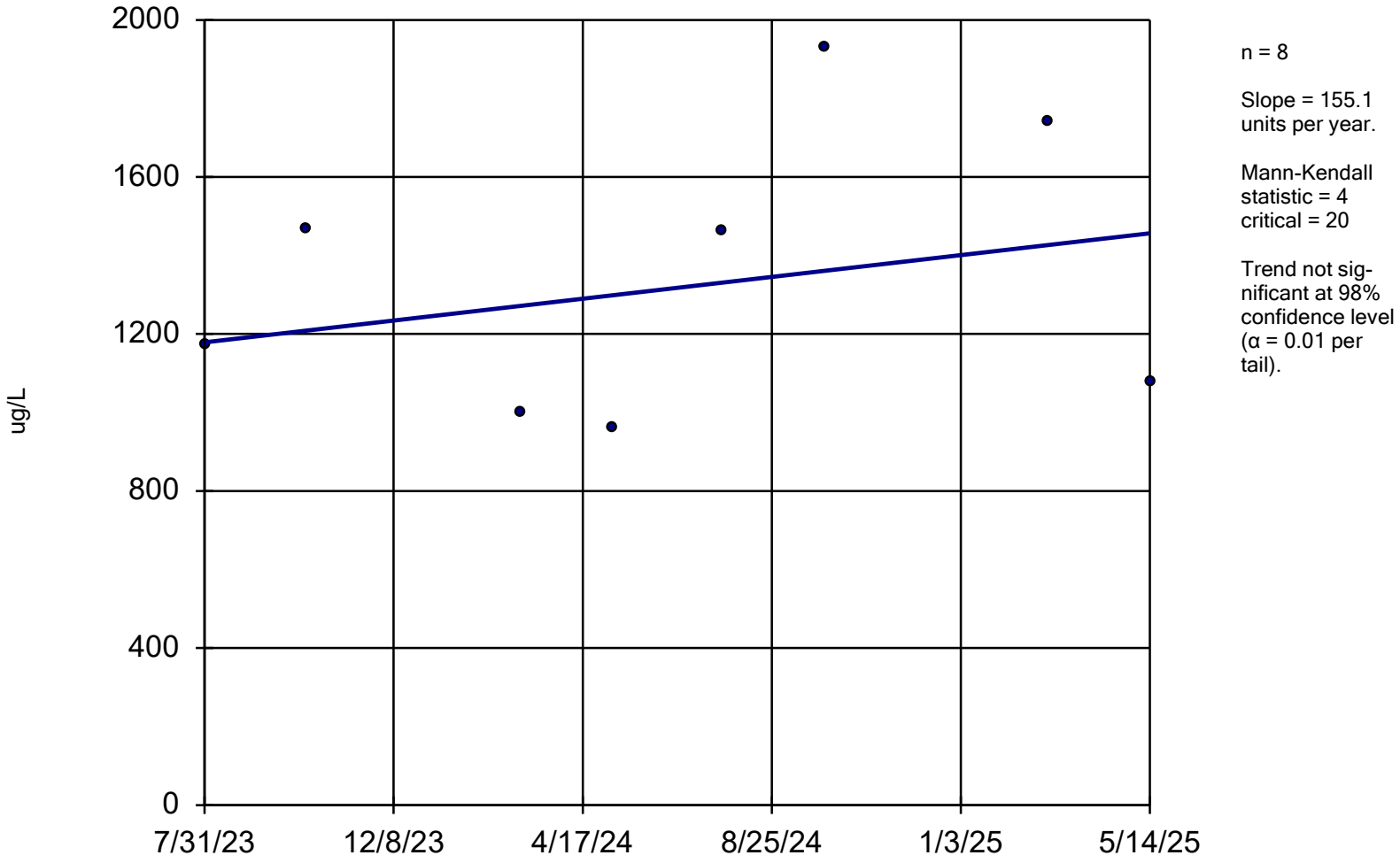
Constituent: Boron, Total Analysis Run 7/1/2025 12:47 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sen's Slope Estimator

JCW-MW-18005



n = 8

Slope = 155.1 units per year.

Mann-Kendall statistic = 4
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

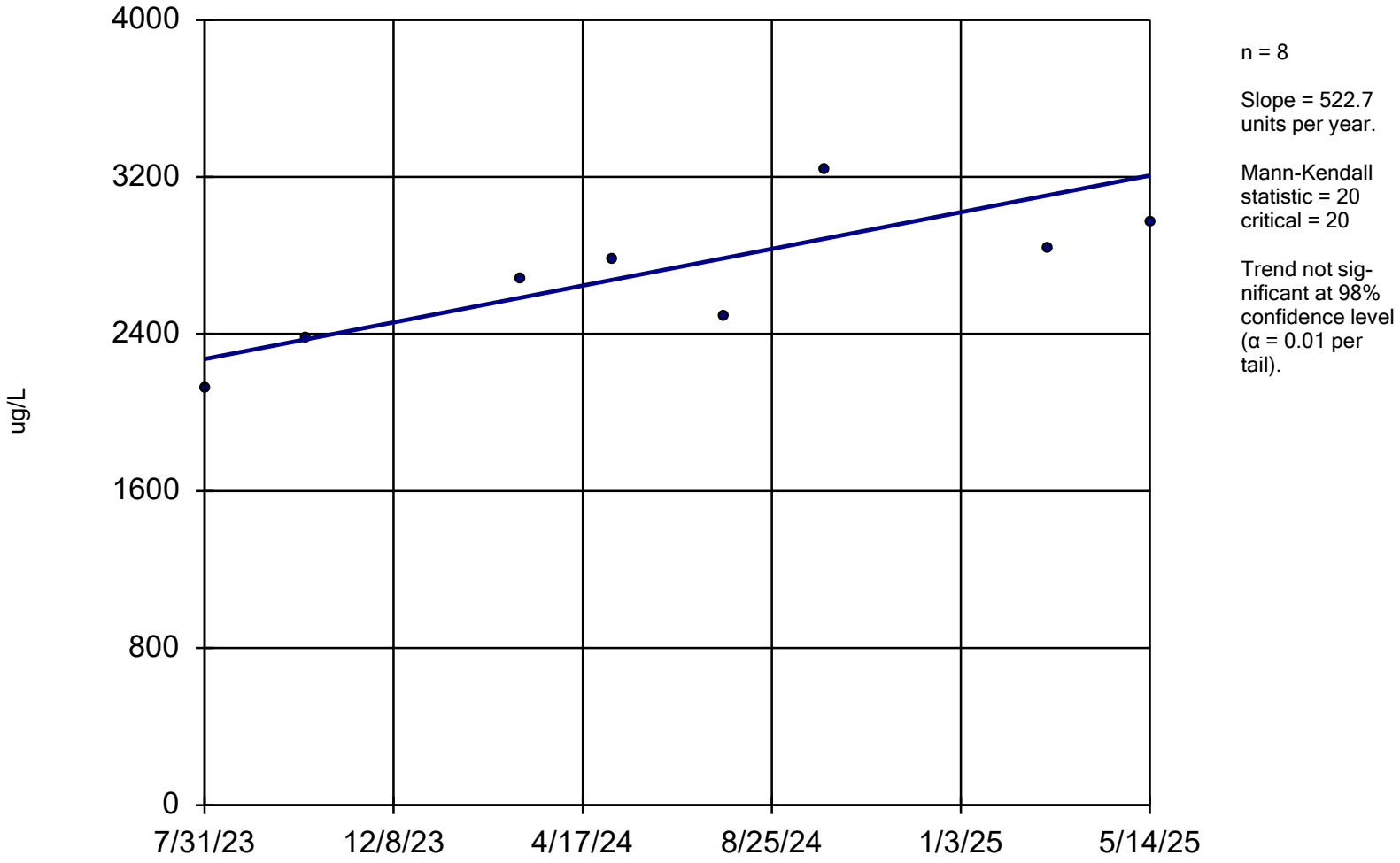
Constituent: Boron, Total Analysis Run 7/1/2025 12:48 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sen's Slope Estimator

JCW-MW-18006



n = 8

Slope = 522.7 units per year.

Mann-Kendall statistic = 20
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

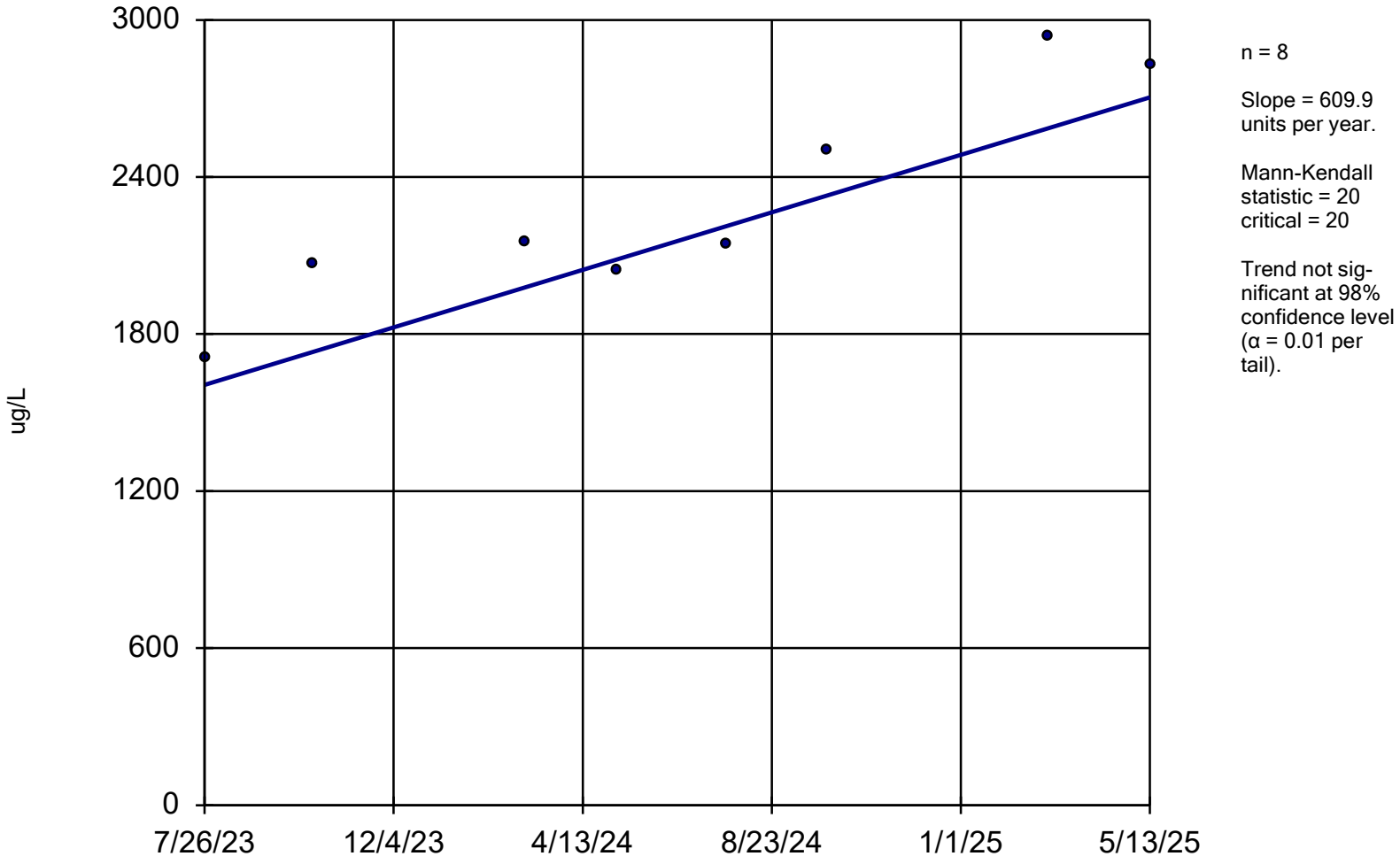
Constituent: Boron, Total Analysis Run 7/1/2025 12:48 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sen's Slope Estimator

MW-50



n = 8

Slope = 609.9 units per year.

Mann-Kendall statistic = 20
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

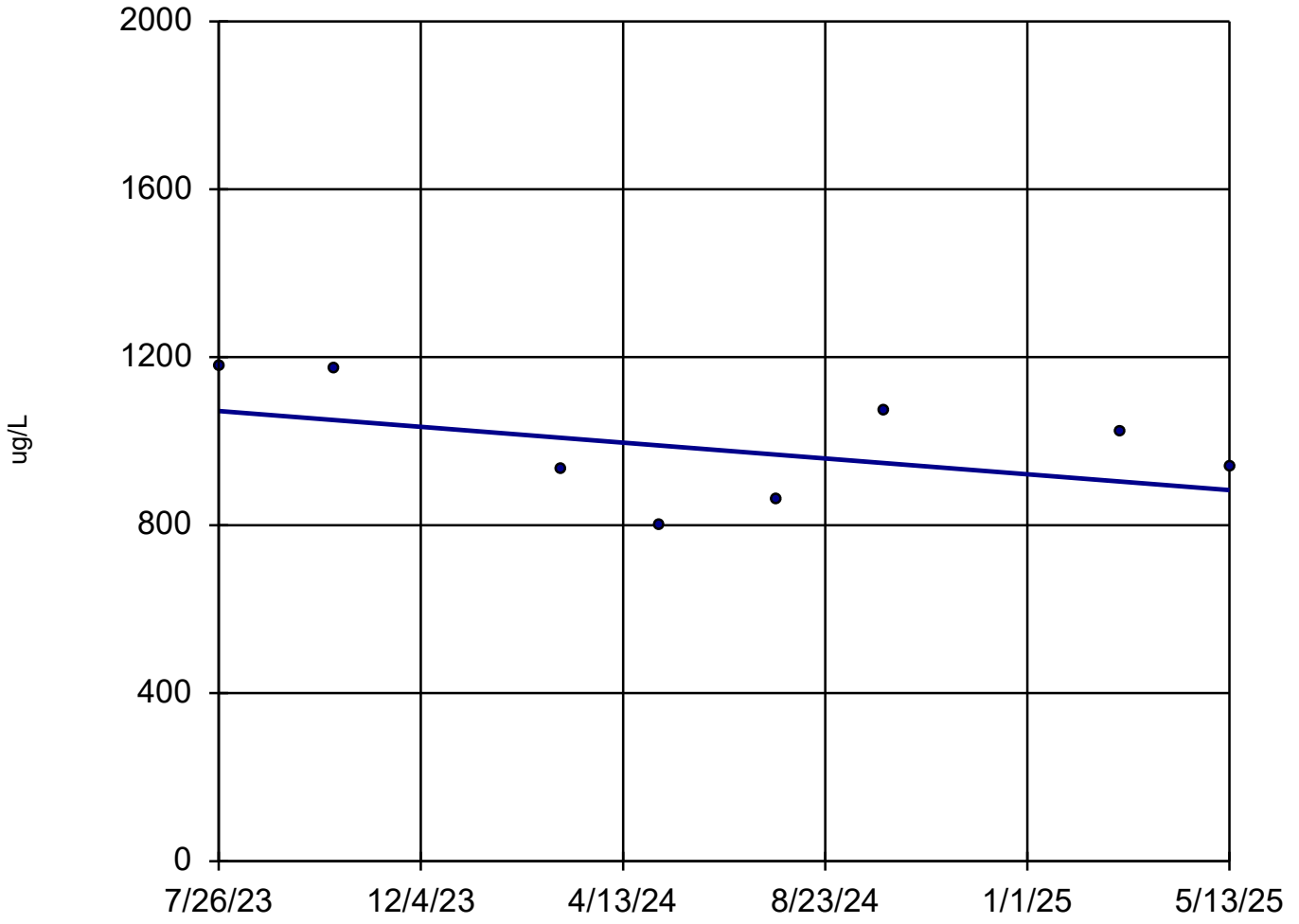
Constituent: Boron, Total Analysis Run 7/1/2025 12:48 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sen's Slope Estimator

MW-51



n = 8

Slope = -104.4 units per year.

Mann-Kendall statistic = -8
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

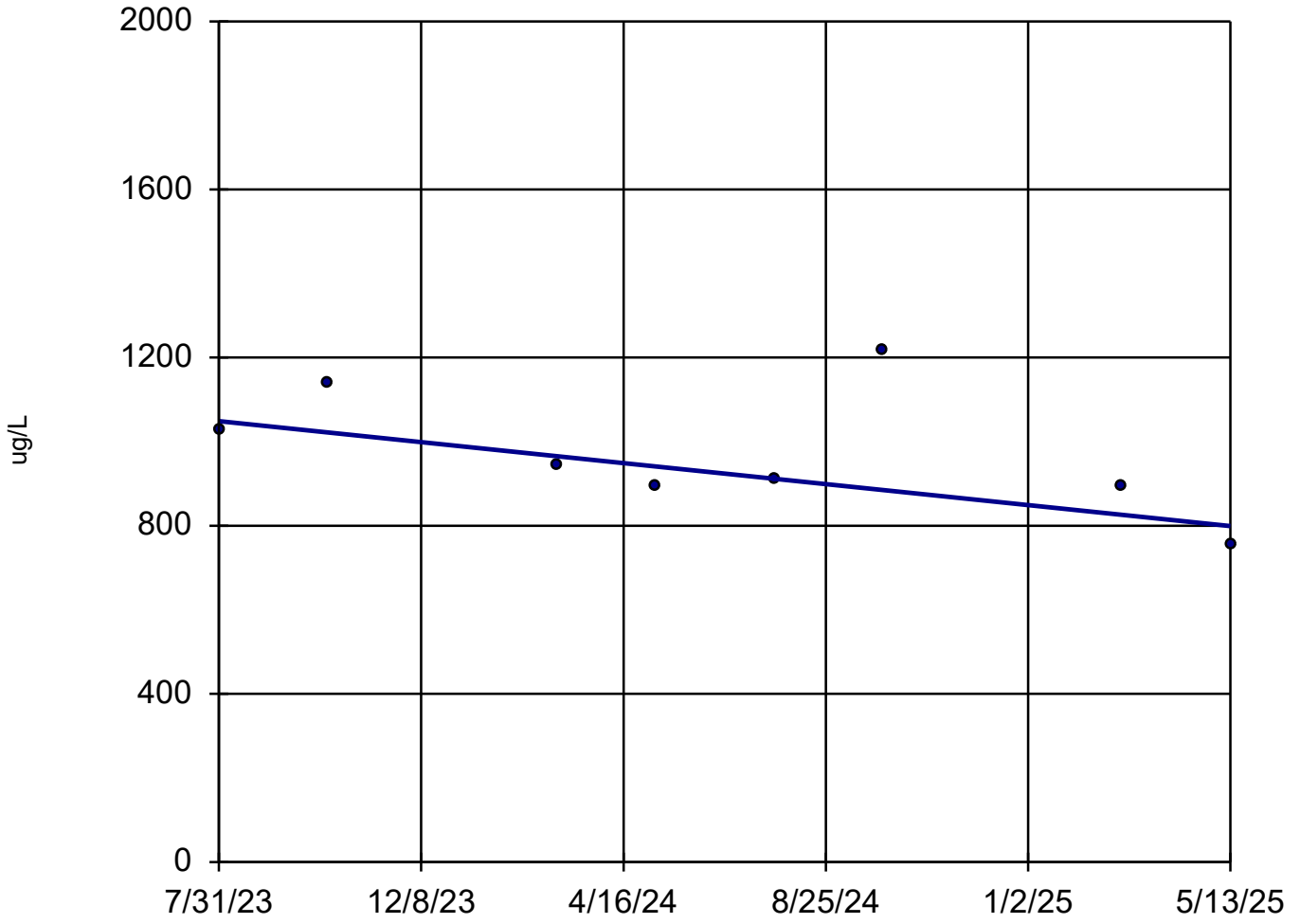
Constituent: Boron, Total Analysis Run 7/1/2025 12:48 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sen's Slope Estimator

MW-52



n = 8

Slope = -139.8 units per year.

Mann-Kendall statistic = -14
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

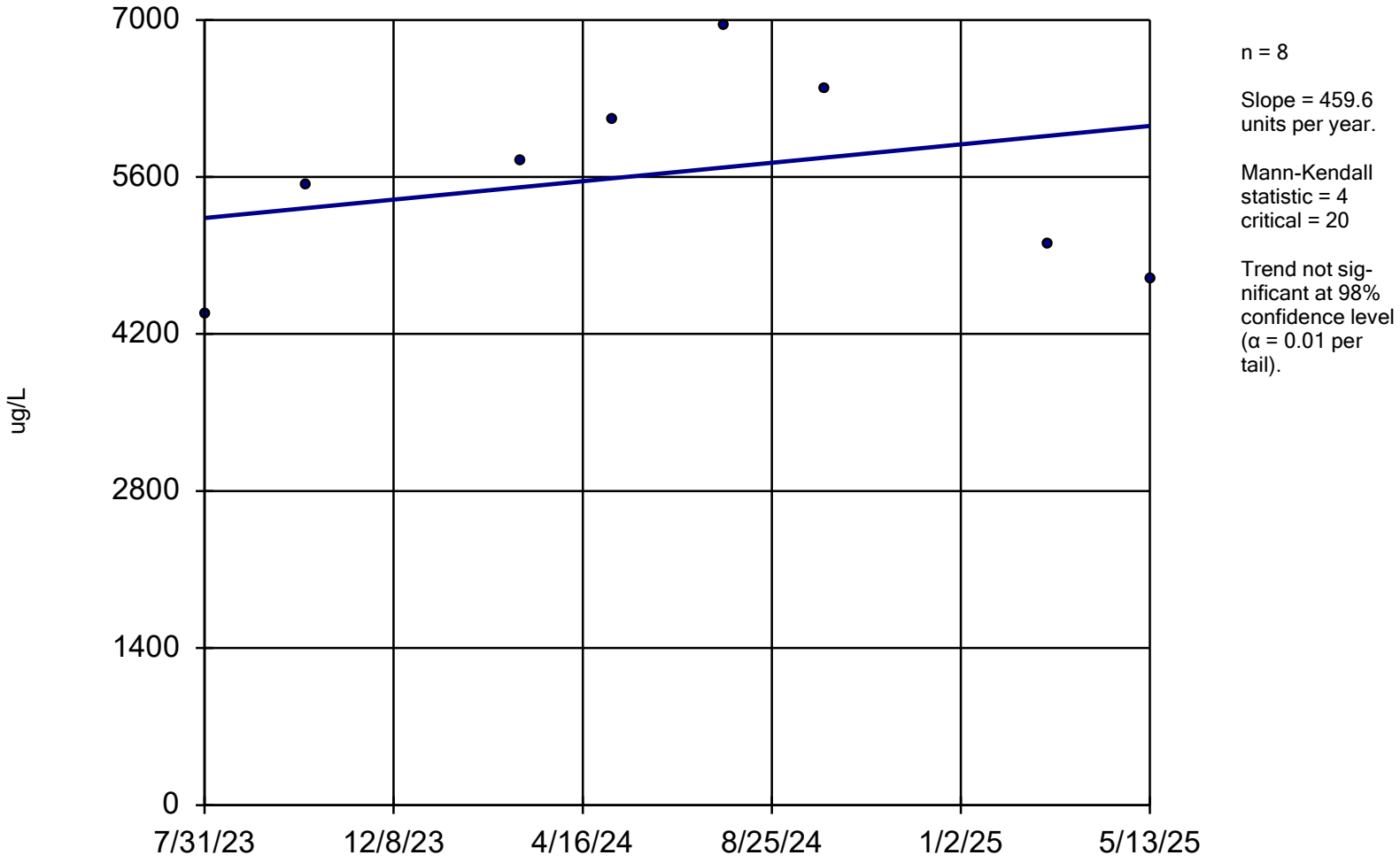
Constituent: Boron, Total Analysis Run 7/1/2025 12:48 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sen's Slope Estimator

MW-53



n = 8

Slope = 459.6 units per year.

Mann-Kendall statistic = 4
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

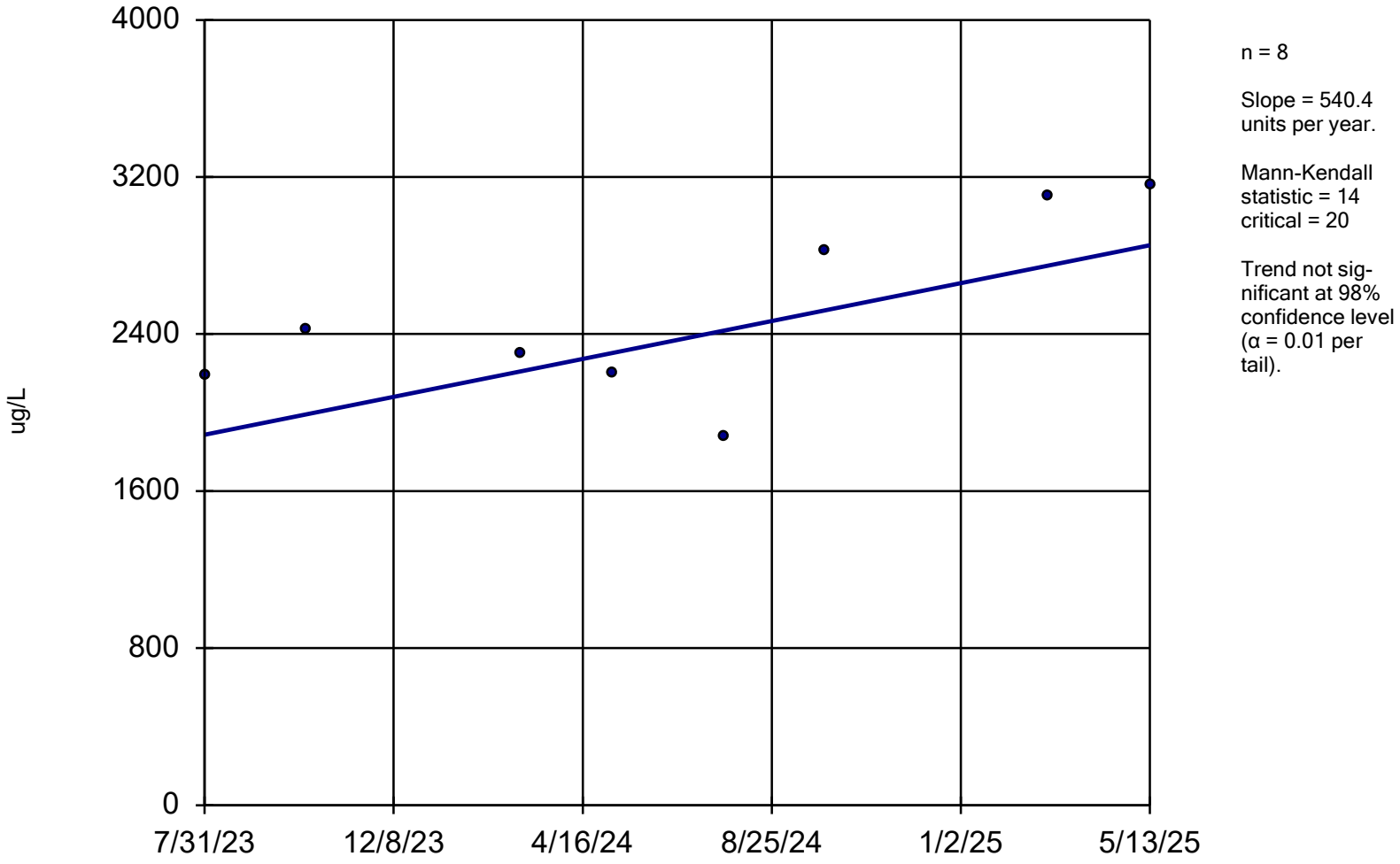
Constituent: Boron, Total Analysis Run 7/1/2025 12:48 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sen's Slope Estimator

MW-53R



n = 8

Slope = 540.4 units per year.

Mann-Kendall statistic = 14
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

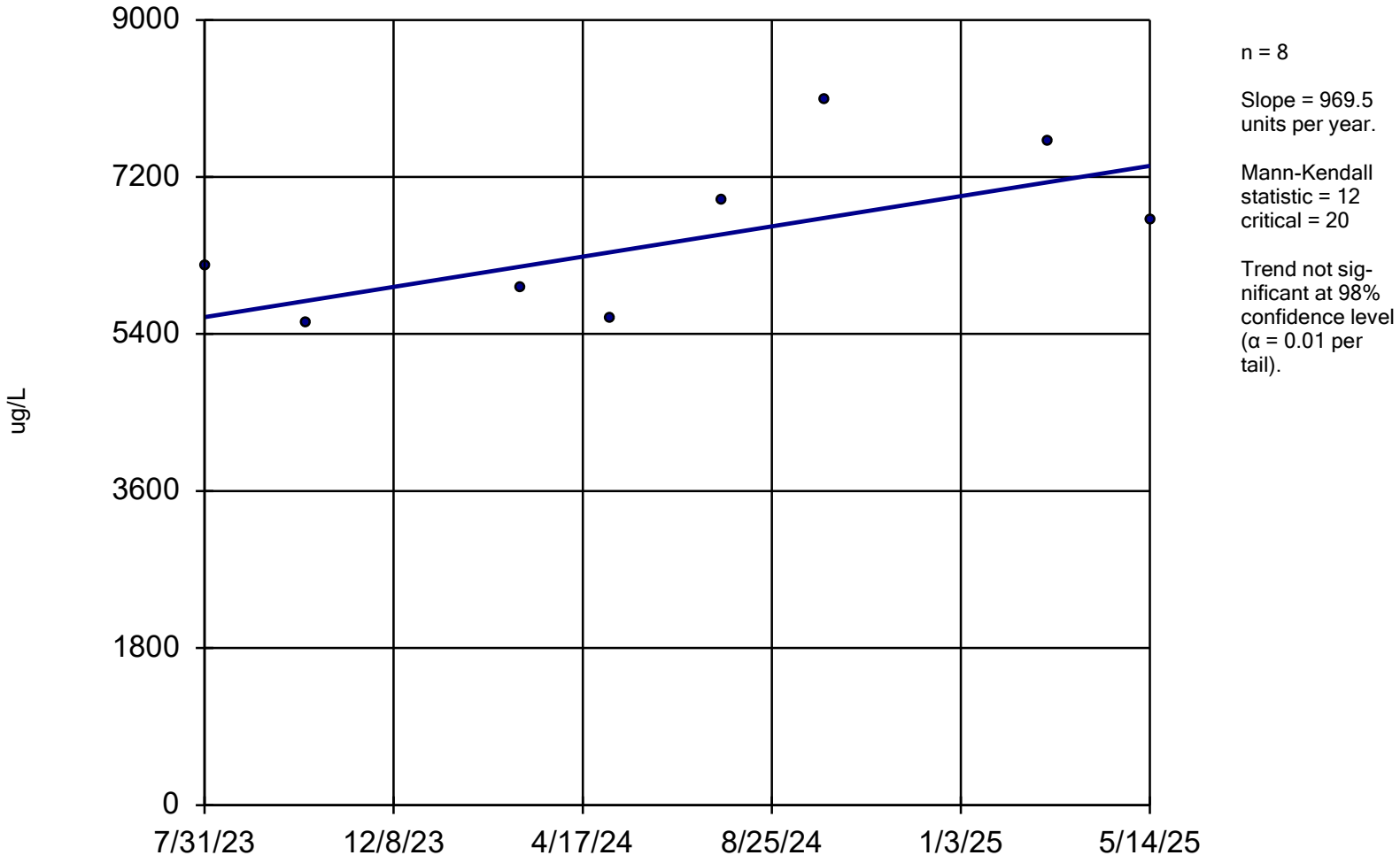
Constituent: Boron, Total Analysis Run 7/1/2025 12:48 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sen's Slope Estimator

MW-54R



n = 8

Slope = 969.5 units per year.

Mann-Kendall statistic = 12
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

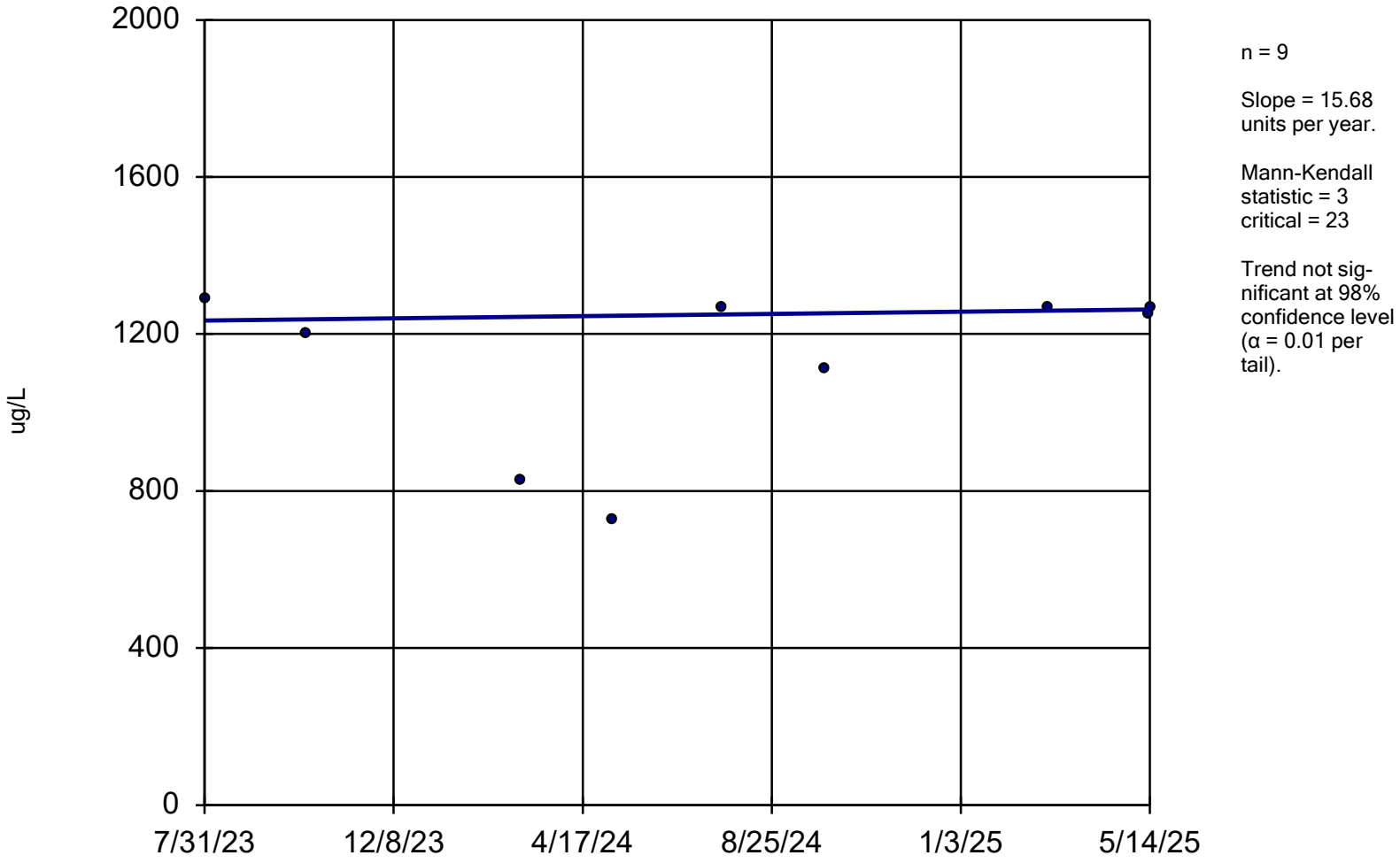
Constituent: Boron, Total Analysis Run 7/1/2025 12:48 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sen's Slope Estimator

MW-55



n = 9

Slope = 15.68 units per year.

Mann-Kendall statistic = 3
critical = 23

Trend not significant at 98% confidence level (α = 0.01 per tail).

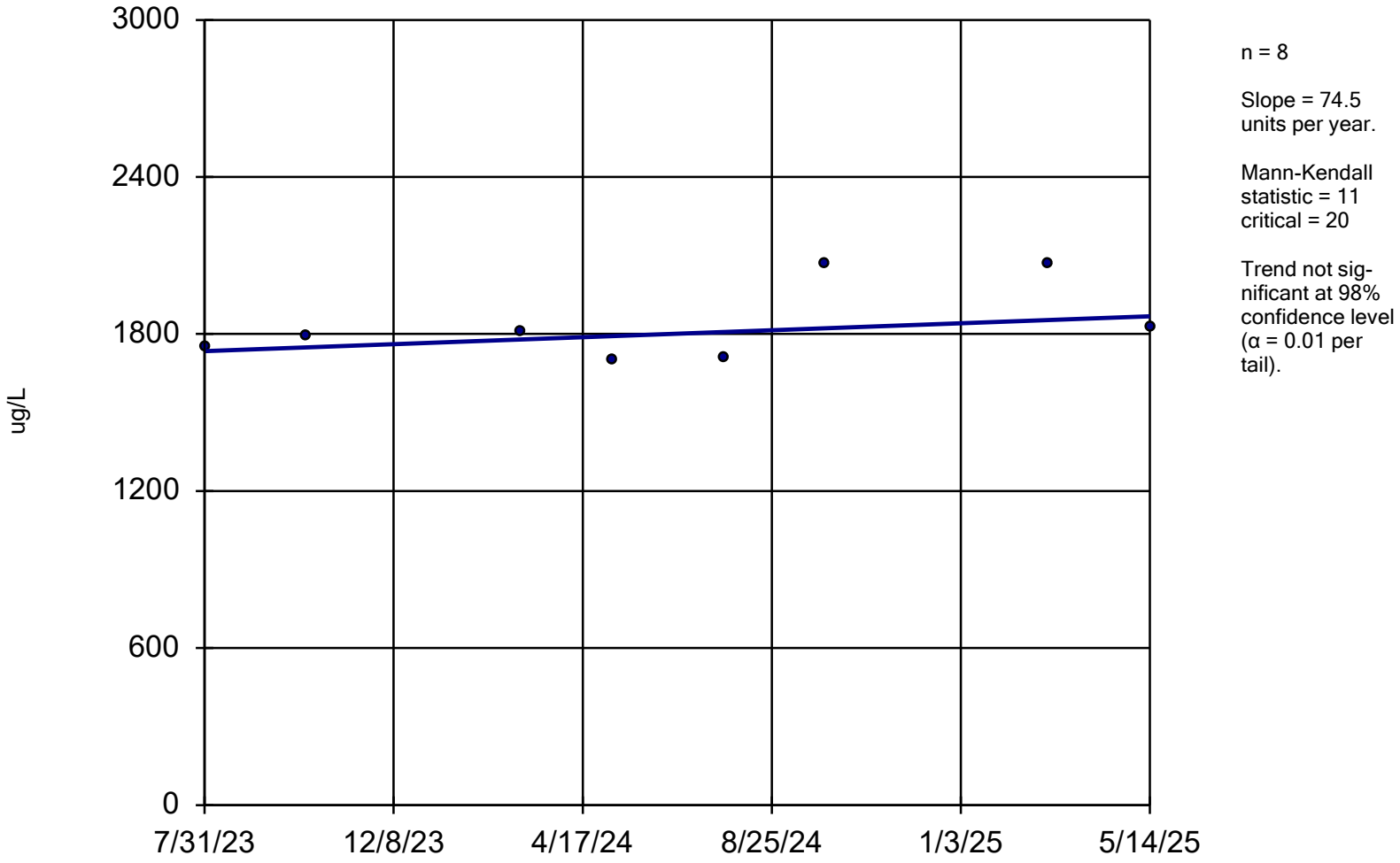
Constituent: Boron, Total Analysis Run 7/1/2025 12:48 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sen's Slope Estimator

OW-57ROUT



n = 8

Slope = 74.5 units per year.

Mann-Kendall statistic = 11
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

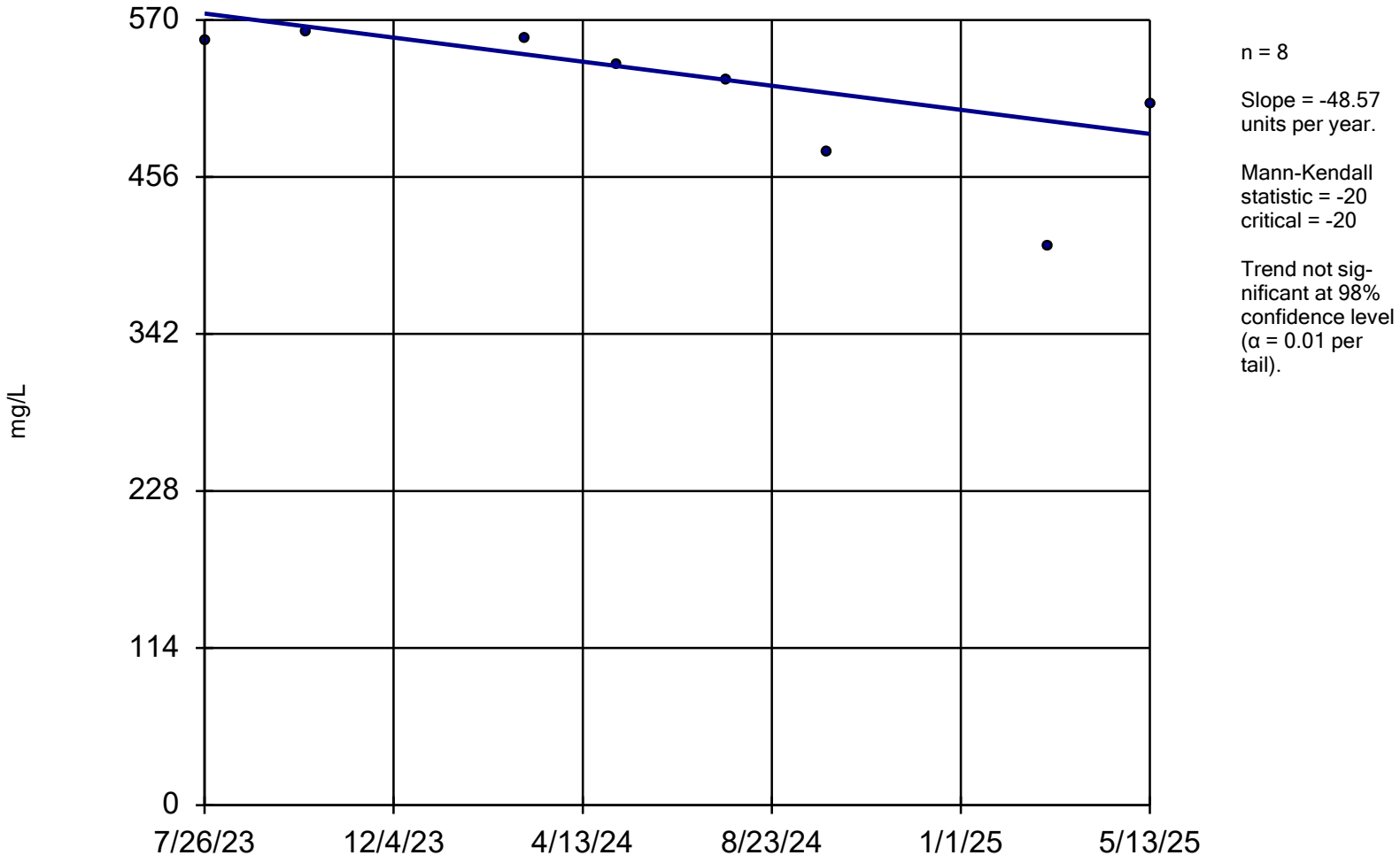
Constituent: Boron, Total Analysis Run 7/1/2025 12:48 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sen's Slope Estimator

JCW-MW-18001



n = 8

Slope = -48.57 units per year.

Mann-Kendall statistic = -20
critical = -20

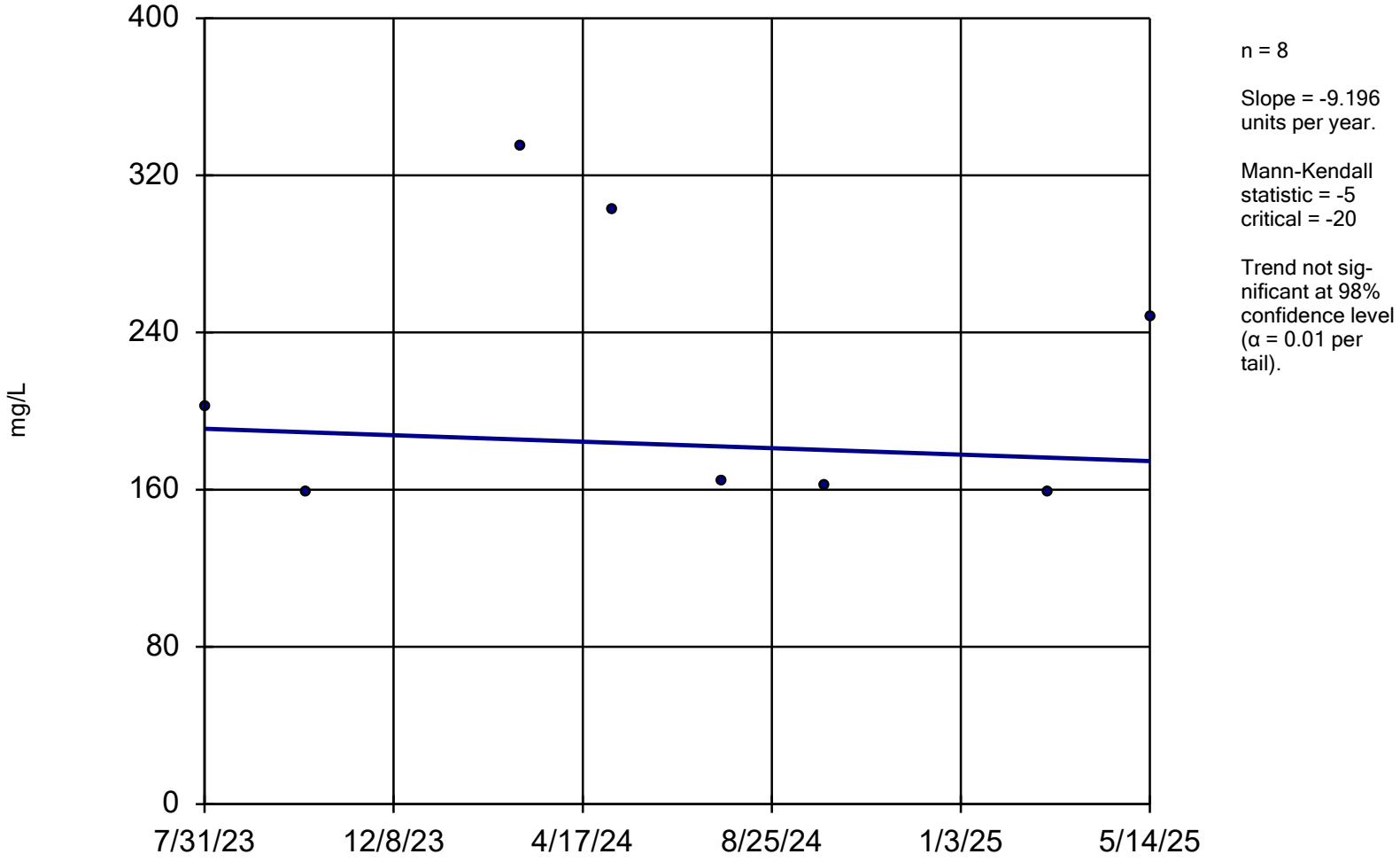
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Calcium, Total Analysis Run 7/1/2025 12:48 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sen's Slope Estimator

JCW-MW-18005



n = 8

Slope = -9.196 units per year.

Mann-Kendall statistic = -5
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

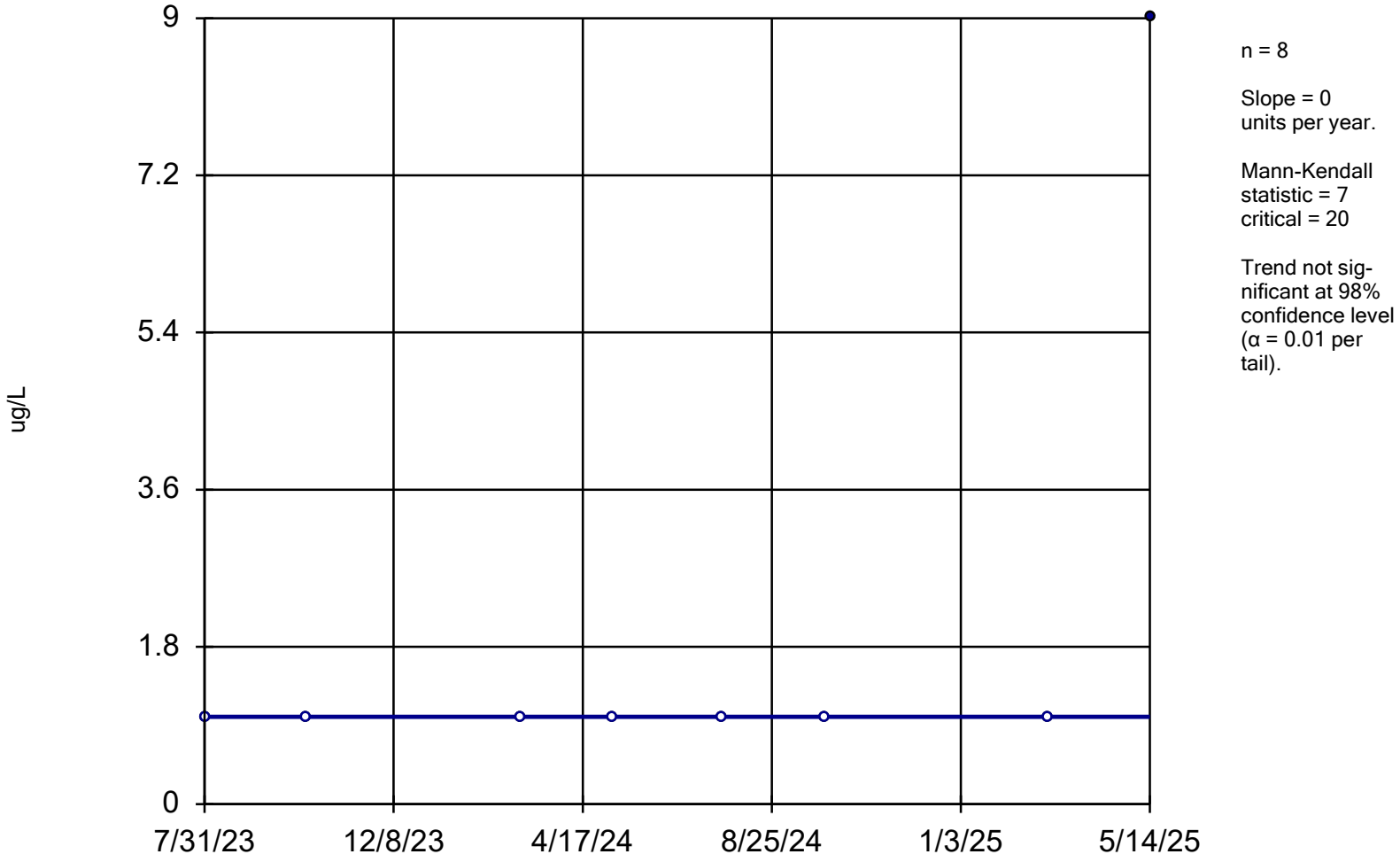
Constituent: Calcium, Total Analysis Run 7/1/2025 12:48 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

JCW-MW-18004



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 7
critical = 20

Trend not sig-
nificant at 98%
confidence level
(α = 0.01 per
tail).

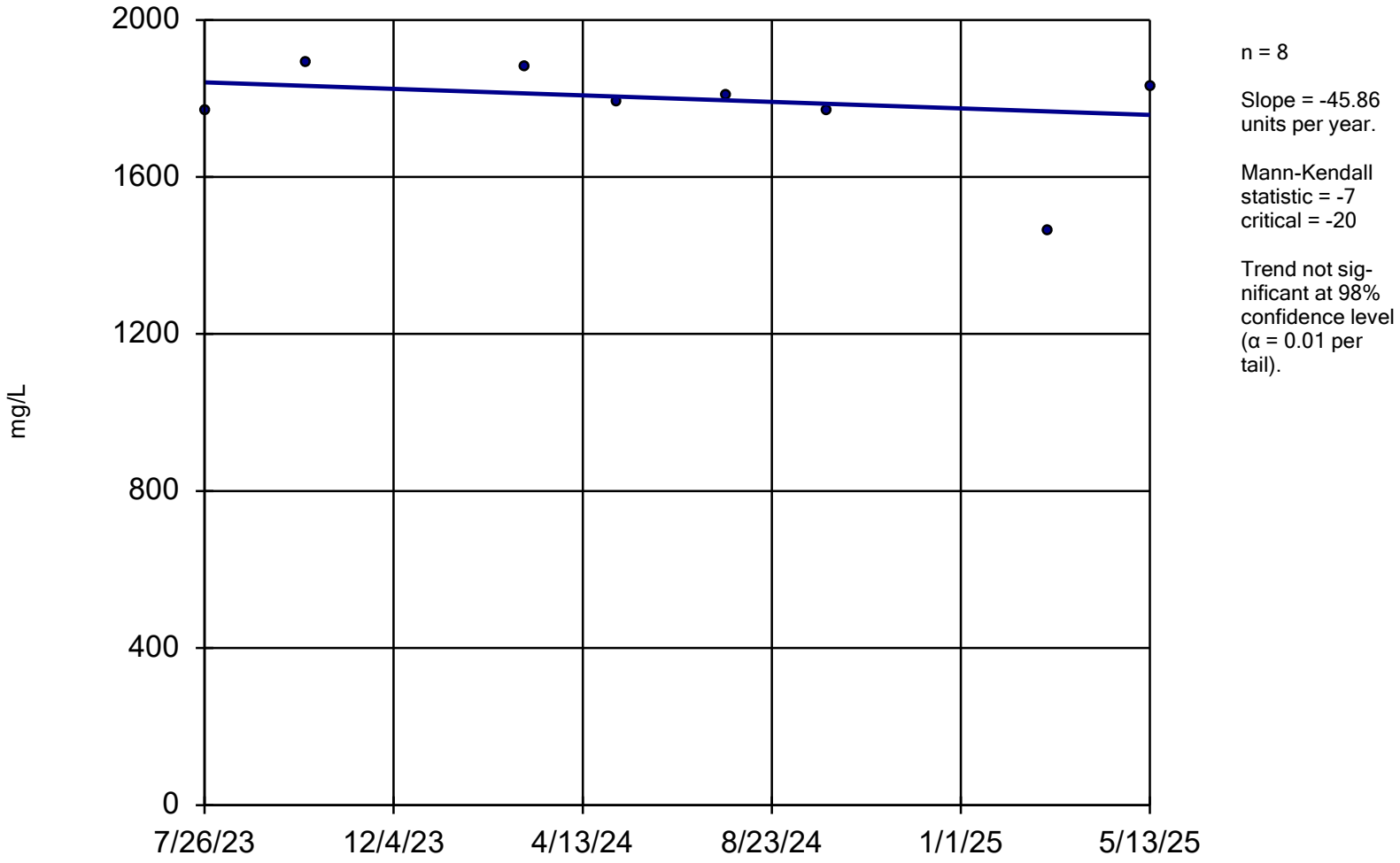
Constituent: Lead, Total Analysis Run 7/1/2025 12:48 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sen's Slope Estimator

JCW-MW-18001



n = 8

Slope = -45.86 units per year.

Mann-Kendall statistic = -7
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

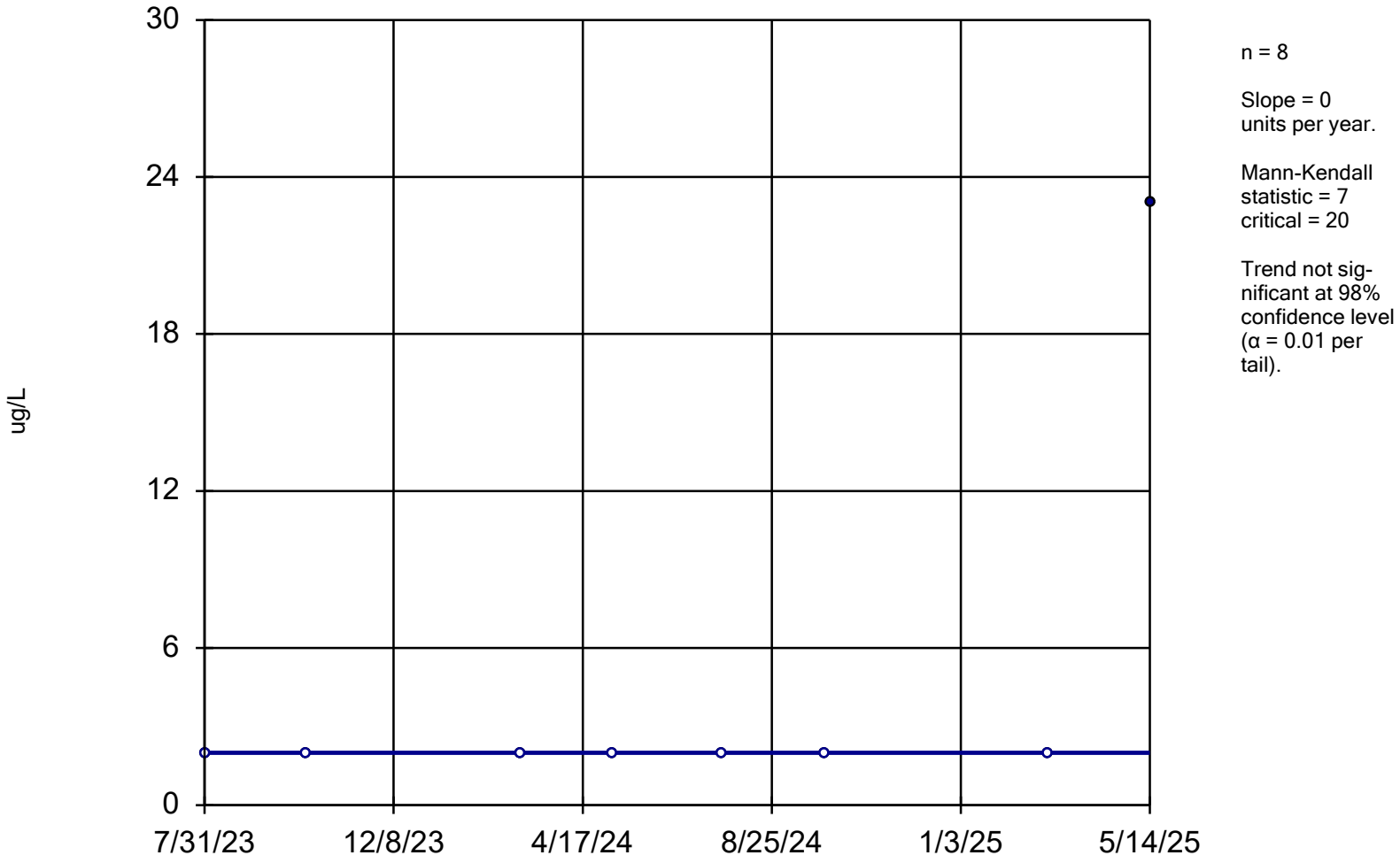
Constituent: Sulfate Analysis Run 7/1/2025 12:48 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

JCW-MW-18004

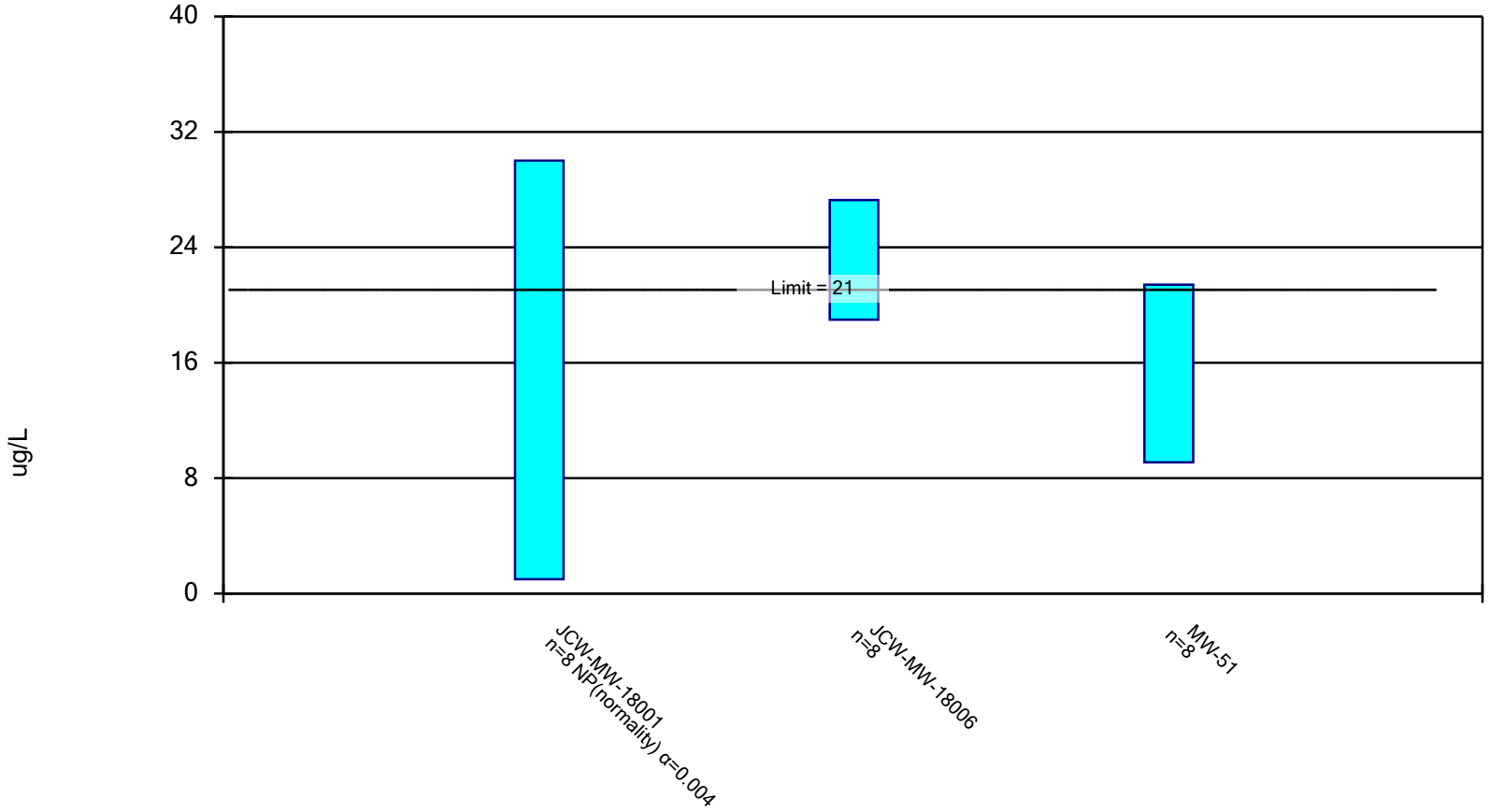


Constituent: Vanadium, Total Analysis Run 7/1/2025 12:48 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic, Total Analysis Run 7/1/2025 12:50 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Confidence Interval

Constituent: Arsenic, Total (ug/L) Analysis Run 7/1/2025 12:51 PM

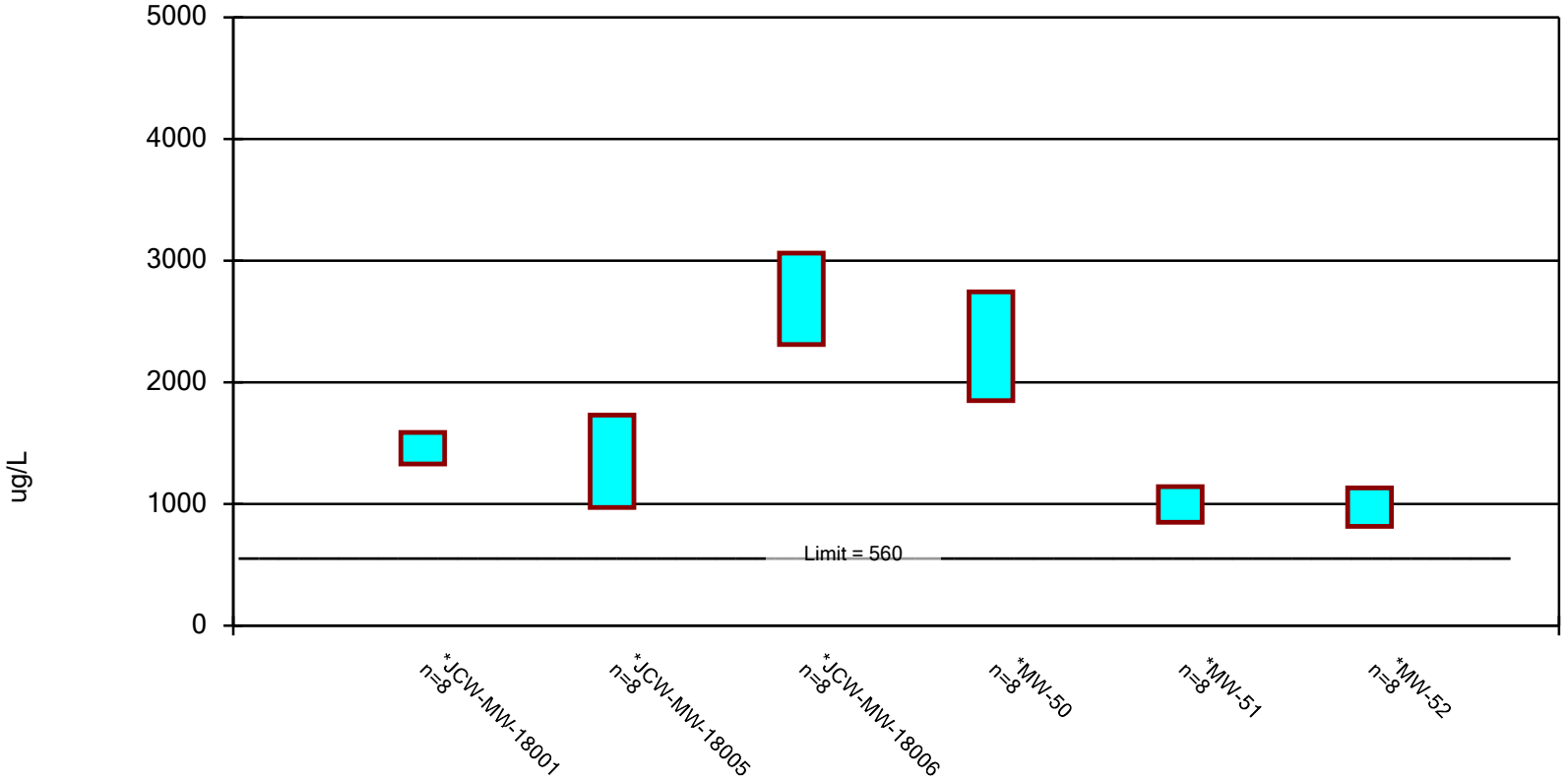
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

	JCW-MW-18001	JCW-MW-18006	MW-51
7/26/2023	<1		10
7/31/2023		18.5 (D)	
10/5/2023	1		
10/9/2023		17.5 (D)	18
3/5/2024	<1		10
3/6/2024		22.5 (D)	
5/7/2024	2		13
5/8/2024		29 (D)	
7/23/2024	2		19
7/24/2024		23	
10/1/2024	2		27
10/2/2024		27	
3/4/2025	30		12
3/5/2025		22.5 (D)	
5/13/2025	7		13
5/14/2025		25	
Mean	5.75	23.13	15.25
Std. Dev.	9.996	3.907	5.8
Upper Lim.	30	27.27	21.4
Lower Lim.	1	18.98	9.102

ND substitution: RL or RL/2 if <15% NDs.

Parametric Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Boron, Total Analysis Run 7/1/2025 12:50 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Confidence Interval

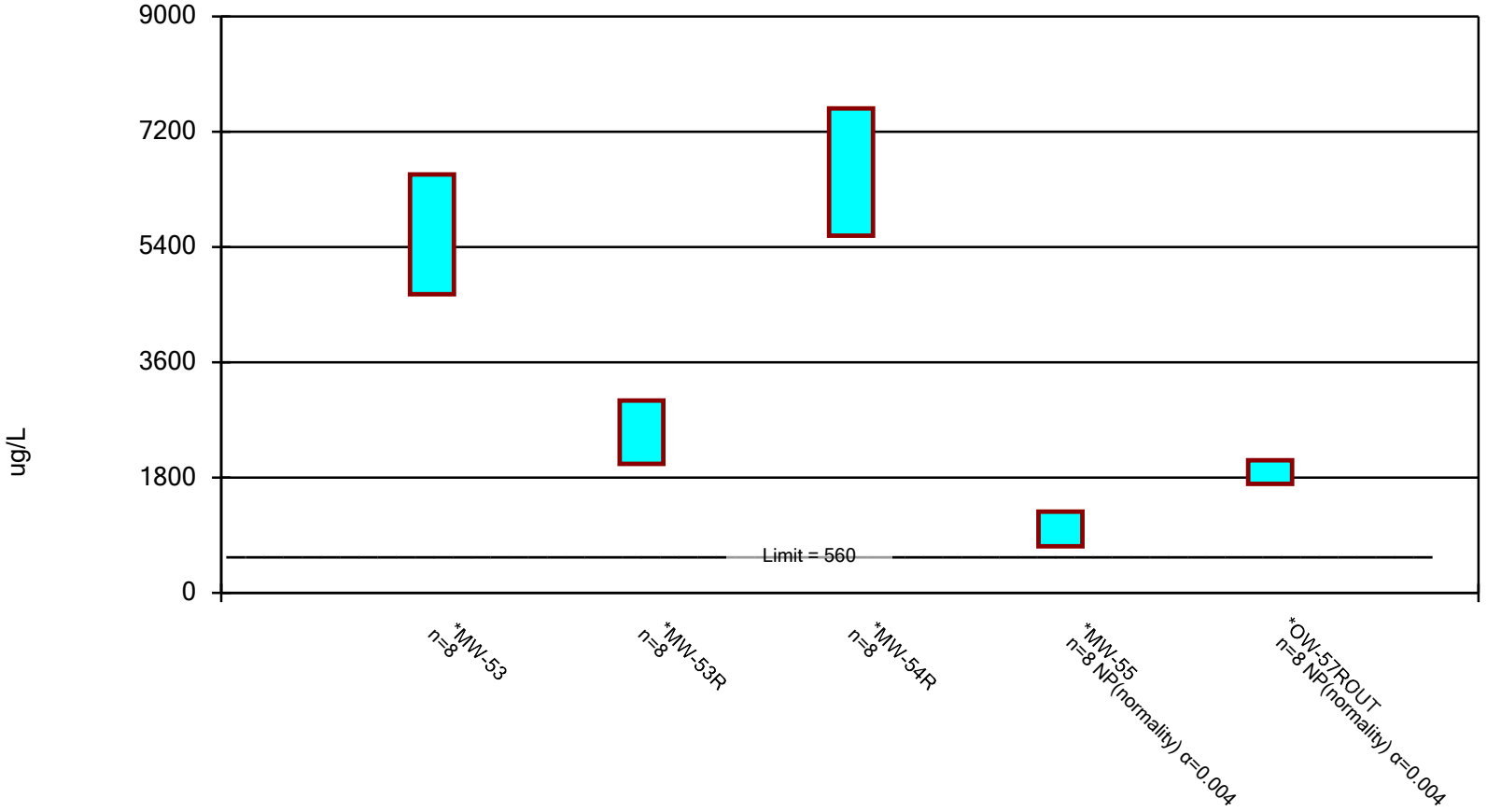
Constituent: Boron, Total (ug/L) Analysis Run 7/1/2025 12:51 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

	JCW-MW-18001	JCW-MW-18005	JCW-MW-18006	MW-50	MW-51	MW-52
7/26/2023	1470			1705 (D)	1180	
7/31/2023		1170	2120 (D)			1030
10/5/2023	1620					
10/9/2023		1470	2375 (D)	2065 (D)	1170	1140
3/5/2024	1420			2155 (D)	935	945
3/6/2024		1000	2675 (D)			
5/7/2024	1330			2045 (D)	798	895
5/8/2024		960	2785 (D)			
7/23/2024	1370	1460		2140 (D)	862	909
7/24/2024			2490			
10/1/2024	1310			2500 (D)	1070	1220
10/2/2024		1930	3240			
3/4/2025	1610			2935 (D)	1020	894
3/5/2025		1740	2840 (D)			
5/13/2025	1540			2830	938	755.5 (D)
5/14/2025		1080	2970			
Mean	1459	1351	2687	2297	996.6	973.6
Std. Dev.	121.7	357.5	353.9	421.7	138.6	149.6
Upper Lim.	1588	1730	3062	2744	1144	1132
Lower Lim.	1330	972.3	2312	1850	849.7	815

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Boron, Total Analysis Run 7/1/2025 12:50 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Confidence Interval

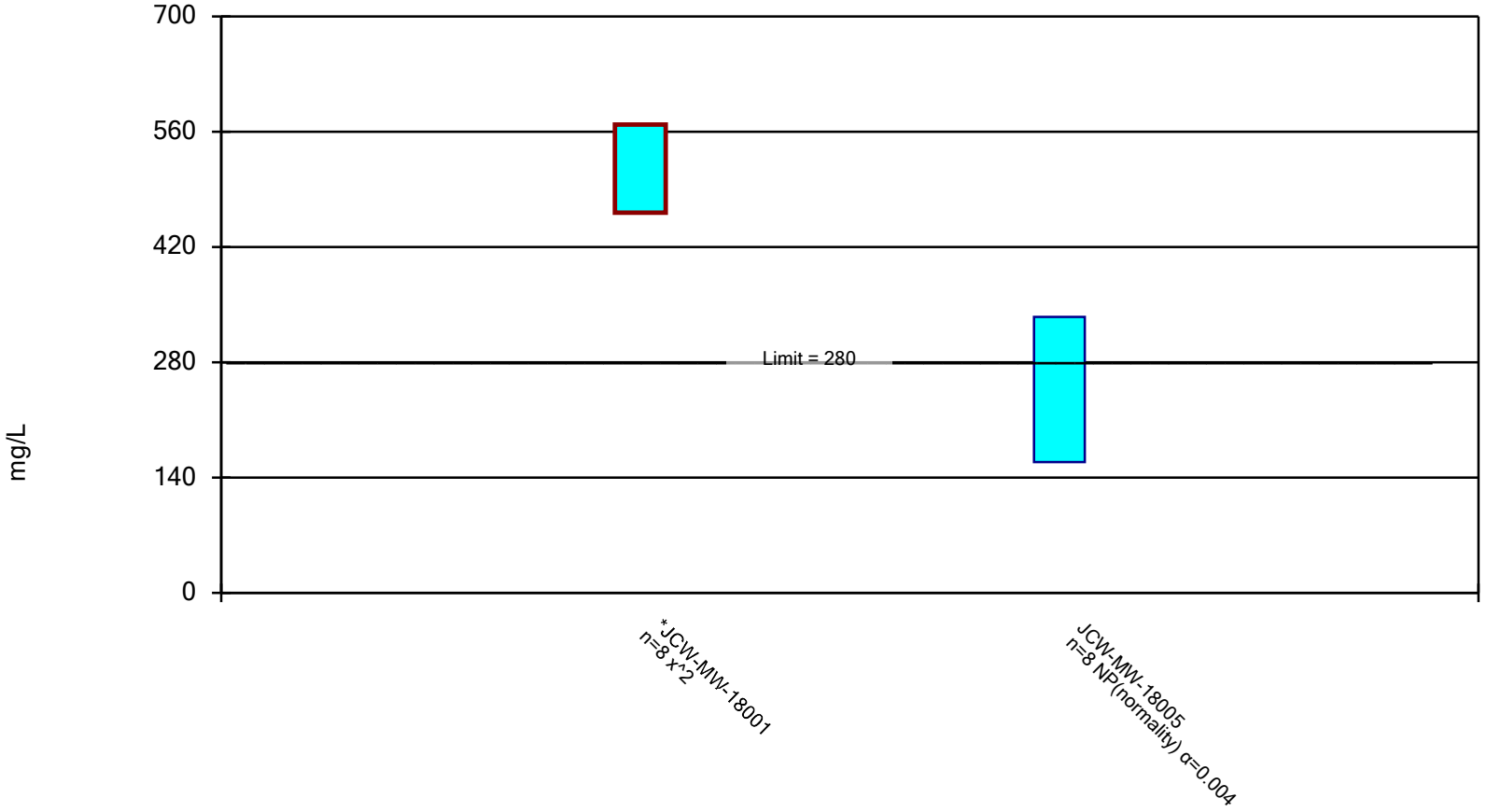
Constituent: Boron, Total (ug/L) Analysis Run 7/1/2025 12:51 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

	MW-53	MW-53R	MW-54R	MW-55	OW-57ROUT
7/31/2023	4370	2190	6170		1750
10/9/2023	5530	2420	5520	1200	1790
3/5/2024	5740	2300	5940	825	
3/6/2024					1810
5/7/2024	6110	2200	5580		
5/8/2024				729	1700
7/23/2024	6960	1880	6930	1270	
7/24/2024					1710 (D)
10/1/2024	6380	2830			
10/2/2024			8080	1110 (D)	2070
3/4/2025	5010	3100	7610	1270	
3/5/2025					2070
5/13/2025	4680	3160		1250	
5/14/2025			6710	1270	1830
Mean	5598	2510	6568	1116	1841
Std. Dev.	882.4	466.1	937.3	217.3	148.3
Upper Lim.	6533	3004	7561	1270	2070
Lower Lim.	4662	2016	5574	729	1700

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Calcium, Total Analysis Run 7/1/2025 12:51 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Confidence Interval

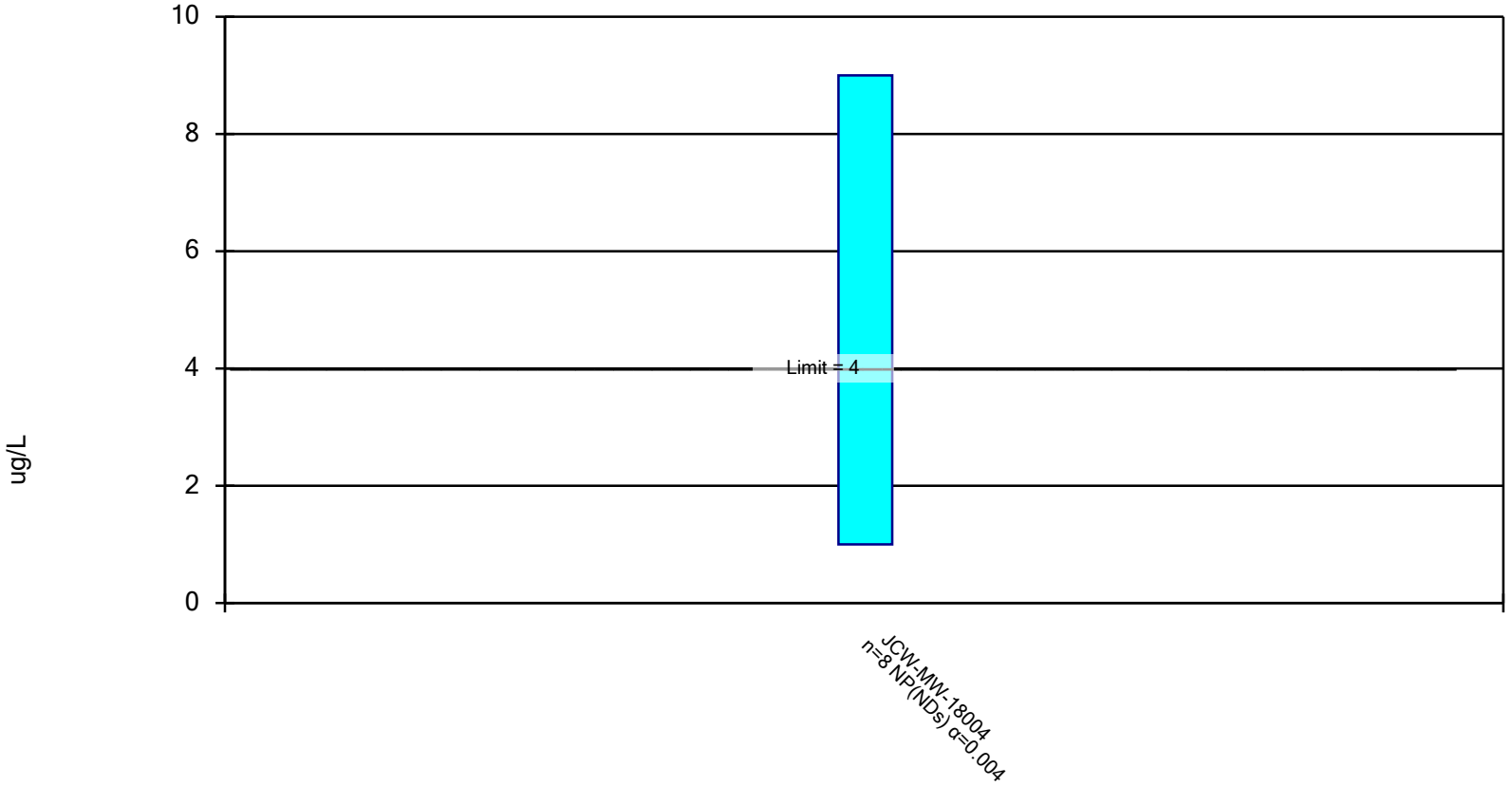
Constituent: Calcium, Total (mg/L) Analysis Run 7/1/2025 12:51 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

	JCW-MW-18001	JCW-MW-18005
7/26/2023	555	
7/31/2023		202
10/5/2023	562	
10/9/2023		159
3/5/2024	557	
3/6/2024		335
5/7/2024	537	
5/8/2024		302
7/23/2024	526	164
10/1/2024	474	
10/2/2024		162
3/4/2025	405	
3/5/2025		159
5/13/2025	509	
5/14/2025		248
Mean	515.6	216.4
Std. Dev.	53.44	70.6
Upper Lim.	568.8	335
Lower Lim.	461.8	159

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Lead, Total Analysis Run 7/1/2025 12:51 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Confidence Interval

Constituent: Lead, Total (ug/L) Analysis Run 7/1/2025 12:51 PM

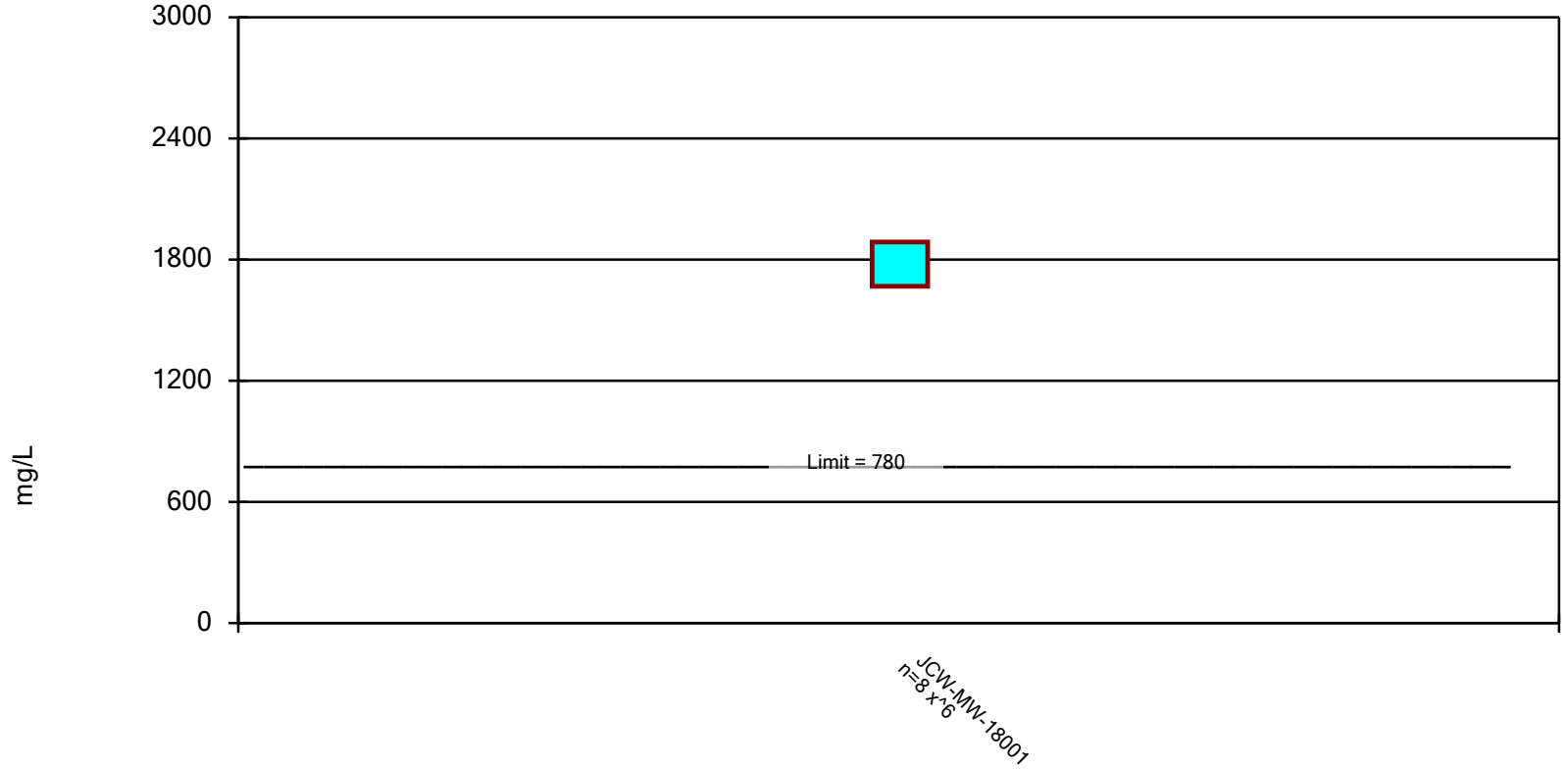
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

	JCW-MW-18004
7/31/2023	<1
10/9/2023	<1
3/5/2024	<1
5/8/2024	<1
7/23/2024	<1
10/2/2024	<1
3/4/2025	<1
5/14/2025	9
Mean	2
Std. Dev.	2.828
Upper Lim.	9
Lower Lim.	1

ND substitution: RL or RL/2 if <15% NDs.

Parametric Confidence Interval

Compliance limit is exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Sulfate Analysis Run 7/1/2025 12:51 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Confidence Interval

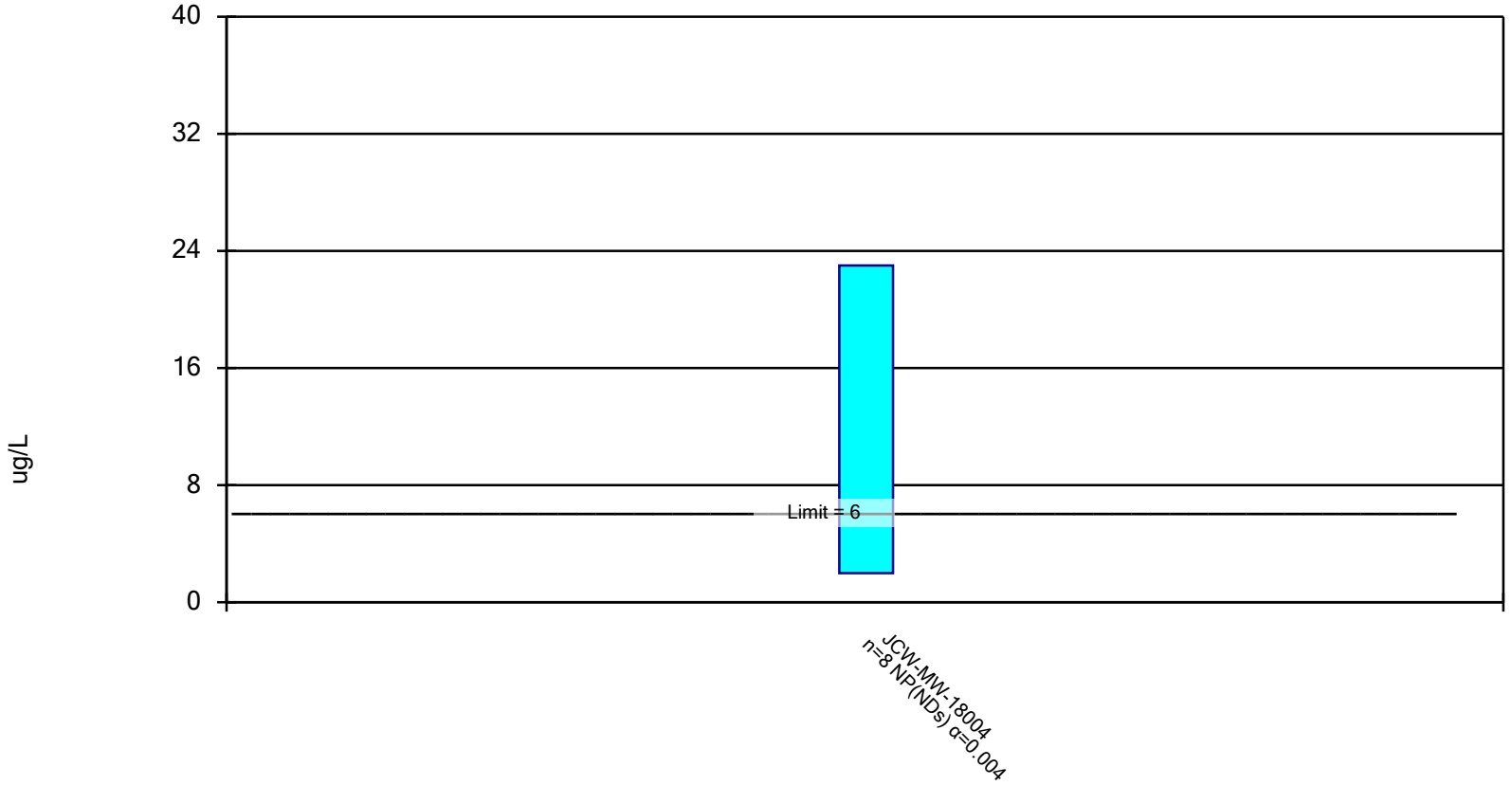
Constituent: Sulfate (mg/L) Analysis Run 7/1/2025 12:51 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

	JCW-MW-18001
7/26/2023	1770
10/5/2023	1890
3/5/2024	1880
5/7/2024	1790
7/23/2024	1810
10/1/2024	1770
3/4/2025	1460
5/13/2025	1830
Mean	1775
Std. Dev.	135.2
Upper Lim.	1886
Lower Lim.	1668

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Vanadium, Total Analysis Run 7/1/2025 12:51 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Confidence Interval

Constituent: Vanadium, Total (ug/L) Analysis Run 7/1/2025 12:51 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

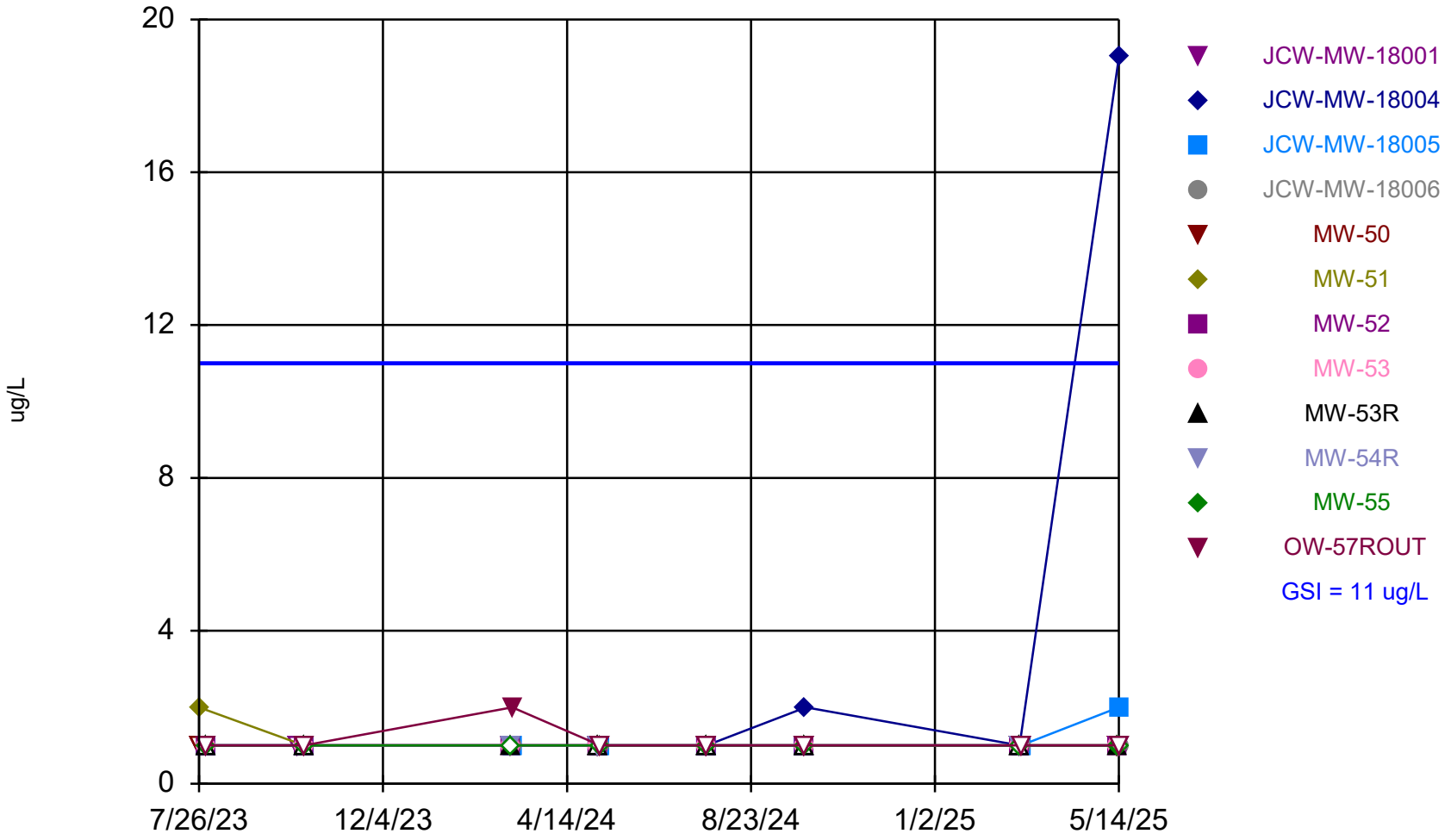
	JCW-MW-18004
7/31/2023	<2
10/9/2023	<2
3/5/2024	<2
5/8/2024	<2
7/23/2024	<2
10/2/2024	<2
3/4/2025	<2
5/14/2025	23
Mean	4.625
Std. Dev.	7.425
Upper Lim.	23
Lower Lim.	2

ND substitution: RL or RL/2 if <15% NDs.

Attachment 2
GSI Sanitas™ Output Files

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Chromium Comparison to GSI



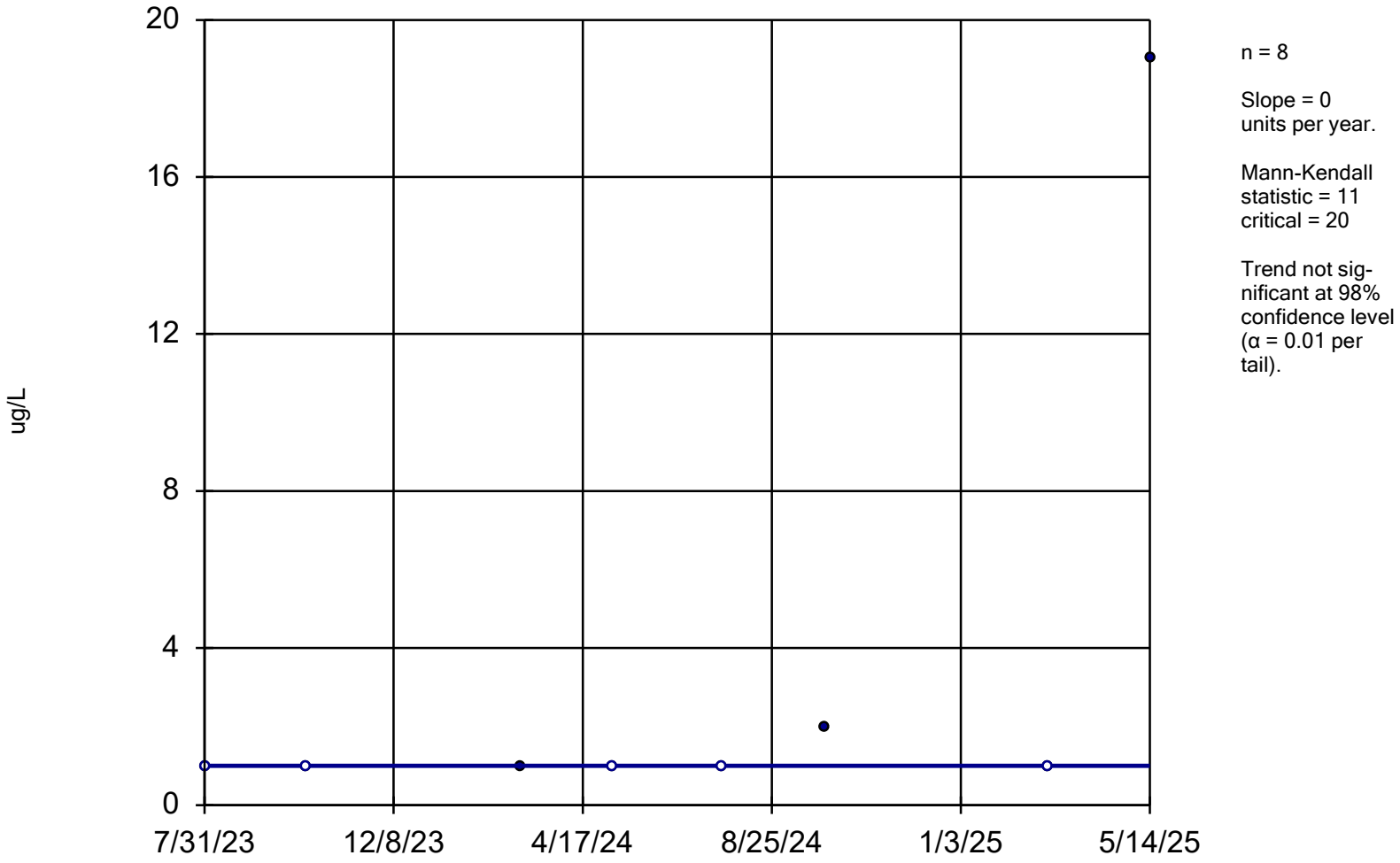
Constituent: Chromium, Total Analysis Run 7/1/2025 12:59 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

JCW-MW-18004

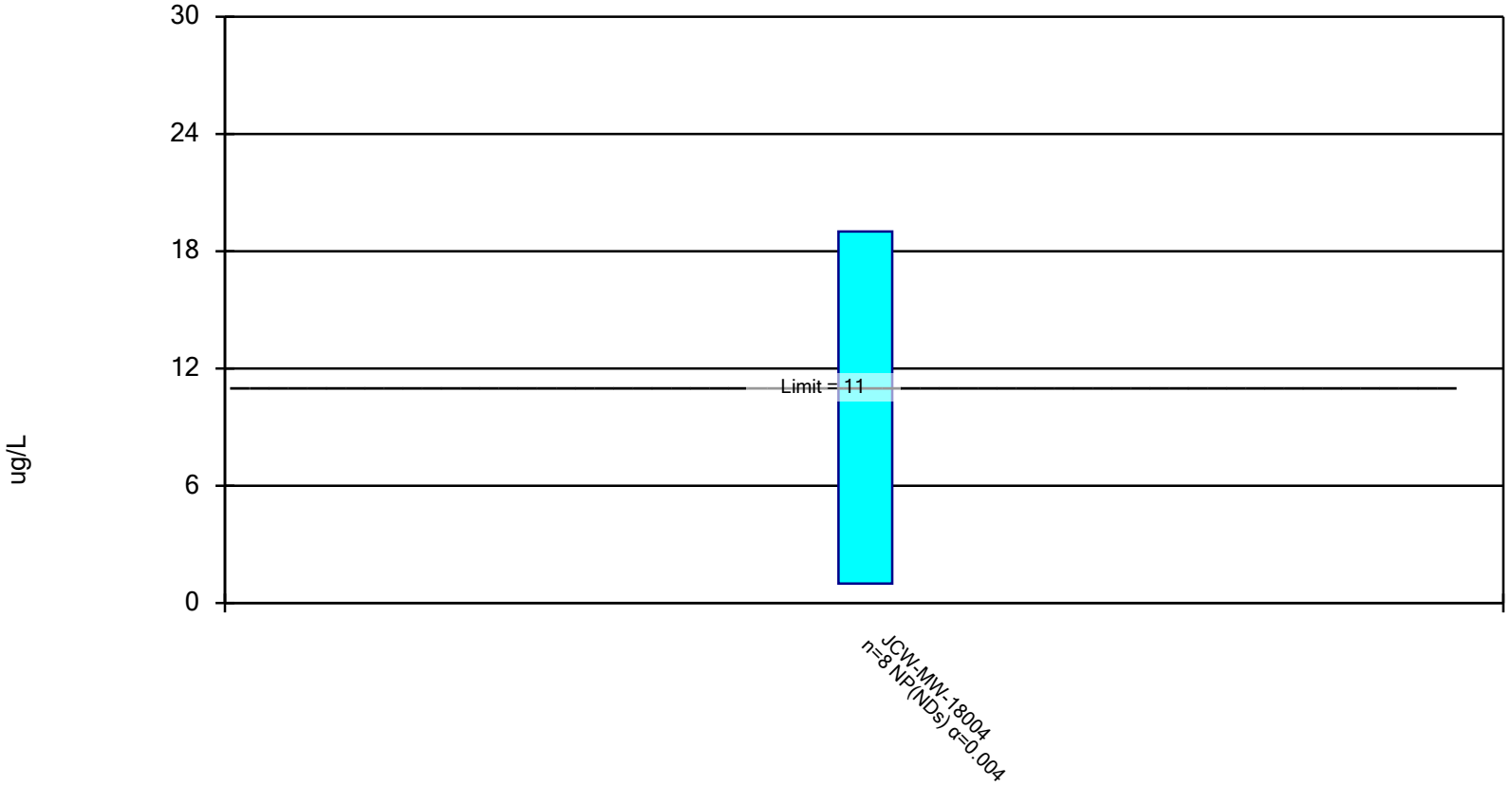


Constituent: Chromium, Total Analysis Run 7/1/2025 1:00 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Chromium, Total Analysis Run 7/1/2025 1:01 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

Confidence Interval

Constituent: Chromium, Total (ug/L) Analysis Run 7/1/2025 1:01 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q2

	JCW-MW-18004
7/31/2023	<1
10/9/2023	<1
3/5/2024	1
5/8/2024	<1
7/23/2024	<1
10/2/2024	2
3/4/2025	<1
5/14/2025	19
Mean	3.375
Std. Dev.	6.323
Upper Lim.	19
Lower Lim.	1

ND substitution: RL or RL/2 if <15% NDs.

Appendix E
Laboratory Analytical Report

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135 W. Trail St.
Jackson, MI 49201

phone 517-788-1251
fax 517-788-2533

To: JJFirlit, Karn/Weadock

From: EBlaj, T-258

Date: May 31, 2025

Subject: HMP GROUNDWATER MONITORING – JCW POREWATER – 2025 Q2

CC: HDRegister, P22-521

Darby Litz, Project Manager
TRC Environmental Corporation
1540 Eisenhower Place
Ann Arbor, MI 48108

Chemistry Project: 25-0285

TRC Environmental, Inc. conducted groundwater monitoring at the JCWeadock site during the week of 05/12/2025 for the 2nd Quarter requirements, as specified in the Hydrogeological Monitoring Plan for the site. The samples were received for analysis by the Chemistry department of Laboratory Services on 05/15/2025.

The report that follows presents the results of the requested analytical testing; the results apply only to the samples as received. All samples have been analyzed in accordance with the 2016 TNI Standard and the applicable A2LA accreditation scope for Laboratory Services. Any exceptions to applicable test method criteria and standard compliance are noted in the Case Narrative or flagged with applicable qualifiers in the analytical results section.

Reviewed and approved by:

Emil Blaj
Sr. Technical Analyst
Project Lead

ilac-MRA A2LA ACCREDITED Certificate #1097.04

Testing performed in accordance with the A2LA scope of accredidation specified in the listed certificate.
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CASE NARRATIVE

I. Sample Receipt

All samples were received within hold time and in good conditions; no anomalies were noted on the attached Sample Log-In Shipment Inspection Form during sample check-in. Identification of all samples included in the work order/project is provided in the sample summary section. All sample preservation and temperature upon receipt was verified by the sample custodian and confirmed to meet method requirements.

II. Methodology

Unless otherwise indicated, sample preparation and analysis was performed in accordance with the corresponding test methods from "Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100); SW-846, "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods", USEPA (latest revisions), and Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WPCF, latest edition.

III. Results/Quality Control

Analytical results for this report are presented by laboratory sample ID, container, & aliquot number. Results for the field blanks, field duplicates, and recoveries of the field matrix spike & matrix spike duplicate samples are included in the results section; all other quality control data is listed in the Quality Control Summary associated with the particular test method, as appropriate. Unless specifically noted in the case narrative, all method quality control requirements have been met. If any results are qualified, the corresponding data flags/qualifiers are listed on the last page of the results section. Any additional information on method performance, when applicable, is presented in this section of the case narrative. When data flags are not needed, the qualifiers text box on the last page is left blank, and a statement confirms that no exceptions occurred.

DEFINITIONS / QUALIFIERS

The following qualifiers and/or acronyms are used in the report, where applicable:

Acronym	Description
RL	Reporting Limit
ND	Result not detected or below Reporting Limit
NT	Non TNI Analyte
LCS	Laboratory Control Sample
LRB	Laboratory Reagent Blank (also referred to as Method Blank)
DUP	Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
TDL	Target Detection Limit
SM	Standard Methods Compendium

Qualifier	Description
*	Generic data flag, applicable description added in the corresponding notes section
B	The analyte was detected in the LRB at a level which is significant relative to sample result
D	Reporting limit elevated due to dilution
E	Estimated due to result exceeding the linear range of the analyzer
H	The maximum recommended hold time was exceeded
I	Dilution required due to matrix interference; reporting limit elevated
J	Estimated due to result found above MDL but below PQL (or RL)
K	Reporting limit raised due to matrix interference
M	The precision for duplicate analysis was not met; RPD outside acceptance criteria
N	Non-homogeneous sample made analysis questionable
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Matrix Spike or Matrix Spike Duplicate recovery outside acceptance criteria
R	Result confirmed by new sample preparation and reanalysis
X	Other notation required; comment listed in sample notes and/or case narrative

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Work Order Sample Summary

Customer Name: Karn/Weadock Complex
Work Order ID: Q2-2025 Weadock Porewater Wells
Date Received: 5/15/2025
Chemistry Project: 25-0285

Sample #	Field Sample ID	Matrix	Sample Date	Site
25-0285-01	JCW-MW-18001	Groundwater	05/13/2025 08:29	JCW Solid Waste Disposal Area, Porewater
25-0285-02	JCW-MW-18004	Groundwater	05/14/2025 13:35	JCW Solid Waste Disposal Area, Porewater
25-0285-03	JCW-MW-18005	Groundwater	05/14/2025 11:23	JCW Solid Waste Disposal Area, Porewater
25-0285-04	JCW-MW-18006	Groundwater	05/14/2025 13:10	JCW Solid Waste Disposal Area, Porewater
25-0285-05	MW-50	Groundwater	05/13/2025 11:26	JCW Solid Waste Disposal Area, Porewater
25-0285-06	MW-51	Groundwater	05/13/2025 12:15	JCW Solid Waste Disposal Area, Porewater
25-0285-07	MW-52	Groundwater	05/13/2025 13:01	JCW Solid Waste Disposal Area, Porewater
25-0285-08	MW-53	Groundwater	05/13/2025 14:00	JCW Solid Waste Disposal Area, Porewater
25-0285-09	MW-53R	Groundwater	05/13/2025 14:37	JCW Solid Waste Disposal Area, Porewater
25-0285-10	MW-54R	Groundwater	05/14/2025 08:28	JCW Solid Waste Disposal Area, Porewater
25-0285-11	MW-55	Groundwater	05/14/2025 09:58	JCW Solid Waste Disposal Area, Porewater
25-0285-12	OW-57ROUT	Groundwater	05/14/2025 12:05	JCW Solid Waste Disposal Area, Porewater
25-0285-13	DUP-JCW-LF-01	Groundwater	05/13/2025 00:00	JCW Solid Waste Disposal Area, Porewater
25-0285-14	DUP-JCW-LF-02	Groundwater	05/13/2025 00:00	JCW Solid Waste Disposal Area, Porewater
25-0285-15	JCW-MW-18001 MS	Groundwater	05/13/2025 08:29	JCW Solid Waste Disposal Area, Porewater
25-0285-16	JCW-MW-18001 MSD	Groundwater	05/13/2025 08:29	JCW Solid Waste Disposal Area, Porewater
25-0285-17	FB-01	Water	05/13/2025 11:00	JCW Solid Waste Disposal Area, Porewater
25-0285-18	EB-01	Water	05/13/2025 11:39	JCW Solid Waste Disposal Area, Porewater

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Analytical Report

Report Date: 05/31/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18001**
Lab Sample ID: 25-0285-01
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/13/2025
Collect Time: 08:29 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-01-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0520-11

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-01-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	7		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	45		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	1540		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	509000		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	4		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	2270		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	110		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	127000		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	ND		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	18		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	17500		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	3		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	292000		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	3		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-01-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	47800		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	1830000		ug/L	1000.0	05/20/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0285-01-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	3450		mg/L	10.0	05/15/2025	AB25-0515-07

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Analytical Report

Report Date: 05/31/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18001**
Lab Sample ID: 25-0285-01
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/13/2025
Collect Time: 08:29 AM

Alkalinity by SM 2320B

Aliquot #: 25-0285-01-C04-A01 **Analyst: DLS**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Alkalinity, Total	748000		ug/L	10000.0	05/17/2025	AB25-0517-01
Alkalinity, Bicarbonate	748000		ug/L	10000.0	05/17/2025	AB25-0517-01
Alkalinity, Carbonate	ND		ug/L	10000.0	05/17/2025	AB25-0517-01

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18004**
Lab Sample ID: 25-0285-02
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/14/2025
Collect Time: 01:35 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-02-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0520-11

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-02-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	4		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	114		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	165		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	229000		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	19		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	10		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	7970		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	9		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	43		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	78100		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	ND		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	23		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	5300		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	13		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	21500		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	23		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	25		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-02-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	10400		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	441000		ug/L	1000.0	05/20/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0285-02-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1130		mg/L	10.0	05/15/2025	AB25-0515-07

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18005**
Lab Sample ID: 25-0285-03
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/14/2025
Collect Time: 11:23 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-03-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0520-11

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-03-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	6		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	98		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	1080		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	248000		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	2		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	3		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	2490		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	37		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	47800		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	6		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	5170		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	8		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	22300		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	3		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-03-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	18900		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	362000		ug/L	1000.0	05/22/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0285-03-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1100		mg/L	10.0	05/15/2025	AB25-0515-07

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18006**
Lab Sample ID: 25-0285-04
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/14/2025
Collect Time: 01:10 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-04-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0520-11

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-04-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	25		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	354		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	2970		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	125000		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	2		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	7490		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	55		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	40800		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	ND		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	8570		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	98800		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	3		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-04-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	64600		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	64300		ug/L	1000.0	05/20/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0285-04-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	774		mg/L	10.0	05/15/2025	AB25-0515-07

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-50**
Lab Sample ID: 25-0285-05
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/13/2025
Collect Time: 11:26 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-05-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0520-11

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-05-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	3		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	209		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	2830		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	191000		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	2		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	638		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	68		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	66800		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	ND		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	8380		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	2		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	58600		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-05-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	52200		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	326000		ug/L	1000.0	05/20/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0285-05-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1110		mg/L	10.0	05/15/2025	AB25-0515-07

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-51**
Lab Sample ID: 25-0285-06
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/13/2025
Collect Time: 12:15 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-06-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0520-11

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-06-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	13		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	143		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	938		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	161000		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	2		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	816		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	32		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	49600		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	ND		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	4420		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	2		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	137000		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-06-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	64000		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	445000		ug/L	1000.0	05/20/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0285-06-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1190		mg/L	10.0	05/15/2025	AB25-0515-07

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-52**
Lab Sample ID: 25-0285-07
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/13/2025
Collect Time: 01:01 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-07-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0520-11

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-07-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	74		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	752		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	229000		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	2		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	2700		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	34		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	75200		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	ND		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	4140		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	1		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	51900		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-07-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	46900		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	446000		ug/L	1000.0	05/20/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0285-07-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1280		mg/L	10.0	05/15/2025	AB25-0515-07

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-53**
Lab Sample ID: 25-0285-08
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/13/2025
Collect Time: 02:00 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-08-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0520-11

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-08-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	541		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	4680		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	122000		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	475		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	44		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	39200		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	ND		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	7390		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	3		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	69300		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-08-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	78500		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	102000		ug/L	1000.0	05/20/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0285-08-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	784		mg/L	10.0	05/15/2025	AB25-0515-07

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-53R**
Lab Sample ID: 25-0285-09
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/13/2025
Collect Time: 02:37 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-09-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0520-11

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-09-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	16		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	165		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	3160		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	159000		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	1		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	2		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	998		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	56		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	49800		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	ND		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	5590		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	3		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	61000		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	2		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-09-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	75500		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	97000		ug/L	1000.0	05/20/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0285-09-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	856		mg/L	10.0	05/15/2025	AB25-0515-07

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-54R**
Lab Sample ID: 25-0285-10
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/14/2025
Collect Time: 08:28 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-10-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0520-11

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-10-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	2		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	100		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	6710		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	174000		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	2		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	150		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	98		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	58100		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	24		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	3530		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	4		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	71100		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-10-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	102000		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	201000		ug/L	1000.0	05/20/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0285-10-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1020		mg/L	10.0	05/15/2025	AB25-0515-07

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-55**
Lab Sample ID: 25-0285-11
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/14/2025
Collect Time: 09:58 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-11-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0520-11

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-11-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	18		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	214		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	1270		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	190000		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	2		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	13100		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	24		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	33900		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	21		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	6		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	4260		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	5		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	86200		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-11-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	16700		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	334000		ug/L	1000.0	05/22/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0285-11-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	984		mg/L	10.0	05/15/2025	AB25-0515-07

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **OW-57ROUT**
Lab Sample ID: 25-0285-12
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/14/2025
Collect Time: 12:05 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-12-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0520-11

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-12-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	1		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	82		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	1830		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	122000		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	1		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	32		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	28		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	70400		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	6		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	10		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	2570		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	2		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	64100		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-12-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	90100		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	1080		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	66400		ug/L	1000.0	05/20/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0285-12-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	770		mg/L	10.0	05/15/2025	AB25-0515-07

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **DUP-JCW-LF-01**
Lab Sample ID: 25-0285-13
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/13/2025
Collect Time: 12:00 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-13-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0520-11

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-13-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	76		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	759		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	231000		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	2		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	2810		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	33		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	76700		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	ND		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	4150		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	2		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	52400		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-13-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	47000		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	415000		ug/L	1000.0	05/20/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0285-13-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1270		mg/L	10.0	05/15/2025	AB25-0515-07

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **DUP-JCW-LF-02**
Lab Sample ID: 25-0285-14
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/13/2025
Collect Time: 12:00 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-14-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0520-11

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-14-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	17		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	218		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	1250		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	187000		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	2		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	12700		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	23		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	33600		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	21		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	7		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	4190		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	5		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	84400		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-14-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	16900		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	333000		ug/L	1000.0	05/20/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0285-14-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1040		mg/L	10.0	05/15/2025	AB25-0515-02

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18001 MS**
Lab Sample ID: 25-0285-15
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/13/2025
Collect Time: 08:29 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-15-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	101		%	0.2	05/22/2025	AB25-0527-01

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-15-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	100		%	1.0	05/21/2025	AB25-0521-01
Arsenic	106		%	1.0	05/21/2025	AB25-0521-01
Barium	99		%	5.0	05/21/2025	AB25-0521-01
Beryllium	87		%	1.0	05/21/2025	AB25-0521-01
Boron	105		%	20.0	05/21/2025	AB25-0521-01
Cadmium	97.1		%	0.2	05/21/2025	AB25-0521-01
Calcium	99.3		%	1000.0	05/21/2025	AB25-0521-01
Chromium	101		%	1.0	05/21/2025	AB25-0521-01
Cobalt	99		%	6.0	05/21/2025	AB25-0521-01
Copper	89		%	1.0	05/21/2025	AB25-0521-01
Iron	103		%	20.0	05/21/2025	AB25-0521-01
Lead	94		%	1.0	05/21/2025	AB25-0521-01
Lithium	99		%	10.0	05/21/2025	AB25-0521-01
Magnesium	103		%	1000.0	05/21/2025	AB25-0521-01
Molybdenum	119		%	5.0	05/21/2025	AB25-0521-01
Nickel	94		%	2.0	05/21/2025	AB25-0521-01
Potassium	99		%	100.0	05/21/2025	AB25-0521-01
Selenium	111		%	1.0	05/21/2025	AB25-0521-01
Silver	95.9		%	0.2	05/21/2025	AB25-0521-01
Sodium	110		%	1000.0	05/21/2025	AB25-0521-01
Thallium	91		%	2.0	05/21/2025	AB25-0521-01
Vanadium	106		%	2.0	05/21/2025	AB25-0521-01
Zinc	92		%	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-15-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	103		%	1000.0	05/20/2025	AB25-0520-03
Fluoride	93		%	1000.0	05/20/2025	AB25-0520-03
Sulfate	108		%	1000.0	05/20/2025	AB25-0520-03

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Analytical Report

Report Date: 05/31/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18001 MSD**
Lab Sample ID: 25-0285-16
Matrix: Groundwater

Laboratory Project: **25-0285**
Collect Date: 05/13/2025
Collect Time: 08:29 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-16-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	102		%	0.2	05/22/2025	AB25-0527-01

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-16-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	98		%	1.0	05/21/2025	AB25-0521-01
Arsenic	107		%	1.0	05/21/2025	AB25-0521-01
Barium	107		%	5.0	05/21/2025	AB25-0521-01
Beryllium	86		%	1.0	05/21/2025	AB25-0521-01
Boron	107		%	20.0	05/21/2025	AB25-0521-01
Cadmium	95.2		%	0.2	05/21/2025	AB25-0521-01
Calcium	114		%	1000.0	05/21/2025	AB25-0521-01
Chromium	106		%	1.0	05/21/2025	AB25-0521-01
Cobalt	103		%	6.0	05/21/2025	AB25-0521-01
Copper	88		%	1.0	05/21/2025	AB25-0521-01
Iron	113		%	20.0	05/21/2025	AB25-0521-01
Lead	95		%	1.0	05/21/2025	AB25-0521-01
Lithium	99		%	10.0	05/21/2025	AB25-0521-01
Magnesium	111		%	1000.0	05/21/2025	AB25-0521-01
Molybdenum	120		%	5.0	05/21/2025	AB25-0521-01
Nickel	96		%	2.0	05/21/2025	AB25-0521-01
Potassium	104		%	100.0	05/21/2025	AB25-0521-01
Selenium	114		%	1.0	05/21/2025	AB25-0521-01
Silver	95.3		%	0.2	05/21/2025	AB25-0521-01
Sodium	117		%	1000.0	05/21/2025	AB25-0521-01
Thallium	92		%	2.0	05/21/2025	AB25-0521-01
Vanadium	120		%	2.0	05/21/2025	AB25-0521-01
Zinc	93		%	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-16-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	104		%	1000.0	05/20/2025	AB25-0520-03
Fluoride	93		%	1000.0	05/20/2025	AB25-0520-03
Sulfate	100		%	1000.0	05/20/2025	AB25-0520-03

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Analytical Report

Report Date: 05/31/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **FB-01**
Lab Sample ID: 25-0285-17
Matrix: Water

Laboratory Project: **25-0285**
Collect Date: 05/13/2025
Collect Time: 11:00 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-17-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0527-01

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-17-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	ND		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	32		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	ND		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	ND		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	ND		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	ND		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	ND		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	ND		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	ND		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-17-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	ND		ug/L	1000.0	05/20/2025	AB25-0520-03

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Analytical Report

Report Date: 05/31/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **EB-01**
Lab Sample ID: 25-0285-18
Matrix: Water

Laboratory Project: **25-0285**
Collect Date: 05/13/2025
Collect Time: 11:39 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0285-18-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0527-01

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0285-18-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	ND		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	34		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	ND		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	ND		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	ND		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	ND		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	ND		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	106		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	ND		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0285-18-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	ND		ug/L	1000.0	05/20/2025	AB25-0520-03

Data Qualifiers	Exception Summary
	No exceptions occurred.

General Standard Operating Procedure

TITLE: SAMPLE LOG-IN – SHIPMENT INSPECTION FORM

Project Number: 25-0285 **Inspection Date:** 5.15.25 **Inspection By:** KDR

Sample Origin/Project Name: Q2-2025 SC Weadock Porewater Wells

Shipment Delivered By: Enter the type of shipment carrier.

Inter-Company Mail_____ FedEx ✓ UPS _____ USPS _____

Tracking Number: 2886 7064 5226 Other/Carry In (whom) _____

Shipping Containers: Enter the type and number of shipping containers received.

Cooler ✓ Cardboard Box _____ Custom Case _____ Envelope/Mailer _____

Loose/Unpackaged Containers _____ Other _____

Condition of Shipment: Enter the as-received condition of the shipment container.

Damaged Shipment Observed: None ✓ Dented _____ Leaking _____

Other _____

Shipment Security: Enter if any of the shipping containers were opened before receipt.

Shipping Containers Received: Opened _____ Sealed ✓ N/A _____

Enclosed Documents: Enter the type of documents enclosed with the shipment.

CoC ✓ Work Request _____ Air Data Sheet_____ Other_____

Temperature of Containers: Measure the temperature of several sample containers.

As-Received Temperature Range 1.8-2.9 °C Samples Received on Ice: Yes ✓ No____

M&TE # and Expiration LS028757 / 1.16.26

Number and Type of Containers: Enter the type and total number of sample containers received.

Container Type	Water	Soil	Other	Broken	Leaking
VOA (40mL or (60mL))	2				
Quart/Liter (g / p)					
9-oz (amber glass jar)					
2-oz (amber glass)					
125 mL (plastic)	36				
24 mL vial (glass)					
250 mL (plastic)	14				
Other					

All sample pH meeting criteria? Yes ✓ No___ N/A___ **pH paper lot #** 210224 **Exp. Date** 12.1.26

Indicate if an Exception Report (Page 2 of 2) is needed: Yes ____ No ✓

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135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q2-2025 JC Weadock Porewater Wells

PROJECT NUMBER: **25-0285**

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: A. Kast

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit | email: | phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	Alkalinity					REMARKS
25-0285-01	5/13/25	0829	GW	JCW-MW-18001	5	4	1						x	x	x	x					
-02	5/14/25	1335 1128	GW	JCW-MW-18004	3	2	1						x	x	x						
-03	5/14/25	~~0958~~	GW	JCW-MW-18005	3	2	1						x	x	x						Time: 11:23
-04	5/14/25	1310	GW	JCW-MW-18006	3	2	1						x	x	x						
-05	5/13/25	1126	GW	MW-50	3	2	1						x	x	x						
-06	5/13/25	1215	GW	MW-51	3	2	1						x	x	x						
-07	5/13/25	1301	GW	MW-52	3	2	1						x	x	x						
-08	5/13/25	1400	GW	MW-53	3	2	1						x	x	x						
-09	5/13/25	1437	GW	MW-53R	3	2	1						x	x	x						
-10	5/14/25	0923	GW	MW-54R	3	2	1						x	x	x						
-11	5/14/25	0958	GW	MW-55	3	2	1						x	x	x						
-12	5/14/25	1205	GW	OW-57ROUT	3	2	1						x	x	x						

RELINQUISHED BY: Adam Watt — DATE/TIME: 5/14/25 1552 — RECEIVED BY: FedEx

RELINQUISHED BY: Fed Ex — DATE/TIME: 05-15-25 10:05 — RECEIVED BY:

COMMENTS:

Received on Ice? ☑ Yes ☐ No — M&TE #: LS028757

Temperature: 1.8-2.9 °C — Cal. Due Date: 01-16-26

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135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q2-2025 JC Weadock Porewater Wells

PROJECT NUMBER: 25-0285

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: A. Kast

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0285-13	5/13/25	—	GW	DUP-JCW-LF-01	3	2	1						x	x	x		
-14	5/14/25	—	GW	DUP-JCW-LF-02	3	2	1						x	x	x		
-15	5/13/25	0829	GW	JCW-MW-18001 MS	2	1	1						x	x			
-16	5/13/25	0829	GW	JCW-MW-18001 MSD	2	1	1						x	x			
-17	5/13/25	1100	GW	FB-01	2	1	1						x	x			
-18	5/13/25	1139	W	EB-01	2	1	1						x	x			

RELINQUISHED BY: Amber Kast — DATE/TIME: 5/14/25 1552 — RECEIVED BY: FedEx

RELINQUISHED BY: Fed Ex — DATE/TIME: 05-15-25 10:05 — RECEIVED BY:

COMMENTS:

Received on Ice? ☑ Yes ☐ No — M&TE #: LS028757

Temperature: 1.8-2.9 °C — Cal. Due Date: 01-16-26

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135 W. Trail St.
Jackson, MI 49201

phone 517-788-1251
fax 517-788-2533

To: JJFirlit, Karn/Weadock

From: EBlaj, T-258

Date: May 31, 2025

Subject: RCRA GROUNDWATER MONITORING – DEK-JCW BACKGROUND WELLS – 2025 Q2

CC: HDRegister, P22-521

Darby Litz, Project Manager
TRC Companies, Inc.
1540 Eisenhower Place
Ann Arbor, MI 48108

Chemistry Project: 25-0287

TRC Environmental, Inc. conducted groundwater monitoring at the Karn/Weadock Background Wells area during the week of 05/15/2025 for the 2nd Quarter requirement, as specified in the Sampling and Analysis Plan for the site. The samples were received for analysis by the Chemistry department of Laboratory Services on 05/14/2025.

The report that follows presents the results of the requested analytical testing; the results apply only to the samples as received. All samples have been analyzed in accordance with the 2016 TNI Standard and the applicable A2LA accreditation scope for Laboratory Services. Any exceptions to applicable test method criteria and standard compliance are noted in the Case Narrative or flagged with applicable qualifiers in the analytical results section.

Reviewed and approved by:

Emil Blaj
Sr. Technical Analyst
Project Lead

ilac-MRA A2LA ACCREDITED Certificate #1097.04

Testing performed in accordance with the A2LA scope of accredidation specified in the listed certificate.
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CASE NARRATIVE

I. Sample Receipt

All samples were received within hold time and in good conditions; no anomalies were noted on the attached Sample Log-In Shipment Inspection Form during sample check-in. Identification of all samples included in the work order/project is provided in the sample summary section. All sample preservation and temperature upon receipt was verified by the sample custodian and confirmed to meet method requirements.

II. Methodology

Unless otherwise indicated, sample preparation and analysis was performed in accordance with the corresponding test methods from "Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100); SW-846, "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods", USEPA (latest revisions), and Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WPCF, 22nd Edition, 2012.

III. Results/Quality Control

Analytical results for this report are presented by laboratory sample ID, container, & aliquot number. Results for the field blanks, field duplicates, and recoveries of the field matrix spike & matrix spike duplicate samples are included in the results section, when applicable; all other quality control data is listed in the Quality Control Summary associated with the particular test method, as appropriate. Unless specifically noted in the case narrative, all method quality control requirements have been met. If any results are qualified, the corresponding data flags/qualifiers are listed on the last page of the results section. Any additional information on method performance, when applicable, is presented in this section of the case narrative. When data flags are not needed, the qualifiers text box on the last page is left blank, and a statement confirms that no exceptions occurred.

DEFINITIONS / QUALIFIERS

The following qualifiers and/or acronyms are used in the report, where applicable:

Acronym	Description
RL	Reporting Limit
ND	Result not detected or below Reporting Limit
NT	Non TNI analyte
LCS	Laboratory Control Sample
LRB	Laboratory Reagent Blank (also referred to as Method Blank)
DUP	Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
TDL	Target Detection Limit
SM	Standard Methods Compendium

Qualifier	Description
*	Generic data flag, applicable description added in the corresponding notes section
B	The analyte was detected in the LRB at a level which is significant relative to sample result
D	Reporting limit elevated due to dilution
E	Estimated due to result exceeding the linear range of the analyzer
H	The maximum recommended hold time was exceeded
I	Dilution required due to matrix interference; reporting limit elevated
J	Estimated due to result found above MDL but below PQL (or RL)
K	Reporting limit raised due to matrix interference
M	The precision for duplicate analysis was not met; RPD outside acceptance criteria
N	Non-homogeneous sample made analysis questionable
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Matrix Spike or Matrix Spike Duplicate recovery outside acceptance criteria
R	Result confirmed by new sample preparation and reanalysis
X	Other notation required; comment listed in sample notes and/or case narrative

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Work Order Sample Summary

Customer Name: Karn/Weadock Complex
Work Order ID: Q2-2025 DEK-JCW Background Wells
Date Received: 5/14/2025
Chemistry Project: 25-0287

Sample #	Field Sample ID	Matrix	Sample Date	Site
25-0287-01	MW-15002	Groundwater	05/12/2025 10:38	DEK JCW Background
25-0287-02	MW-15008	Groundwater	05/12/2025 13:17	DEK JCW Background
25-0287-03	MW-15016	Groundwater	05/12/2025 11:41	DEK JCW Background
25-0287-04	MW-15019	Groundwater	05/12/2025 12:22	DEK JCW Background
25-0287-05	DUP-Background	Groundwater	05/12/2025 00:00	DEK JCW Background
25-0287-06	FB- Background	Water	05/12/2025 12:22	DEK JCW Background

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Analytical Report

Report Date: 05/31/25

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15002**
Lab Sample ID: 25-0287-01
Matrix: Groundwater

Laboratory Project: **25-0287**
Collect Date: 05/12/2025
Collect Time: 10:38 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0287-01-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0527-01

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0287-01-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Arsenic	9		ug/L	1.0	05/22/2025	AB25-0522-05
Barium	358		ug/L	5.0	05/22/2025	AB25-0522-05
Beryllium	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Boron	99		ug/L	20.0	05/22/2025	AB25-0522-05
Cadmium	ND		ug/L	0.2	05/22/2025	AB25-0522-05
Calcium	161000		ug/L	1000.0	05/22/2025	AB25-0522-05
Chromium	1		ug/L	1.0	05/22/2025	AB25-0522-05
Cobalt	ND		ug/L	6.0	05/22/2025	AB25-0522-05
Copper	3		ug/L	1.0	05/22/2025	AB25-0522-05
Iron	10400		ug/L	20.0	05/22/2025	AB25-0522-05
Lead	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Lithium	12		ug/L	10.0	05/22/2025	AB25-0522-05
Molybdenum	ND		ug/L	5.0	05/22/2025	AB25-0522-05
Nickel	7		ug/L	2.0	05/22/2025	AB25-0522-05
Selenium	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Silver	ND		ug/L	0.2	05/22/2025	AB25-0522-05
Thallium	ND		ug/L	2.0	05/22/2025	AB25-0522-05
Vanadium	12		ug/L	2.0	05/22/2025	AB25-0522-05
Zinc	21		ug/L	10.0	05/22/2025	AB25-0522-05

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0287-01-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	1180000		ug/L	1000.0	05/22/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/21/2025	AB25-0520-03
Sulfate	40500		ug/L	1000.0	05/21/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0287-01-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	2580		mg/L	10.0	05/15/2025	AB25-0515-02

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Analytical Report

Report Date: 05/31/25

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15008**
Lab Sample ID: 25-0287-02
Matrix: Groundwater

Laboratory Project: **25-0287**
Collect Date: 05/12/2025
Collect Time: 01:17 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0287-02-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0527-01

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0287-02-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Arsenic	3		ug/L	1.0	05/22/2025	AB25-0522-05
Barium	78		ug/L	5.0	05/22/2025	AB25-0522-05
Beryllium	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Boron	110		ug/L	20.0	05/22/2025	AB25-0522-05
Cadmium	ND		ug/L	0.2	05/22/2025	AB25-0522-05
Calcium	120000		ug/L	1000.0	05/22/2025	AB25-0522-05
Chromium	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Cobalt	ND		ug/L	6.0	05/22/2025	AB25-0522-05
Copper	1		ug/L	1.0	05/22/2025	AB25-0522-05
Iron	14000		ug/L	20.0	05/22/2025	AB25-0522-05
Lead	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Lithium	19		ug/L	10.0	05/22/2025	AB25-0522-05
Molybdenum	ND		ug/L	5.0	05/22/2025	AB25-0522-05
Nickel	4		ug/L	2.0	05/22/2025	AB25-0522-05
Selenium	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Silver	ND		ug/L	0.2	05/22/2025	AB25-0522-05
Thallium	ND		ug/L	2.0	05/22/2025	AB25-0522-05
Vanadium	9		ug/L	2.0	05/22/2025	AB25-0522-05
Zinc	ND		ug/L	10.0	05/22/2025	AB25-0522-05

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0287-02-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	376000		ug/L	1000.0	05/22/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/21/2025	AB25-0520-03
Sulfate	13100		ug/L	1000.0	05/21/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0287-02-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1040		mg/L	10.0	05/15/2025	AB25-0515-02

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Analytical Report

Report Date: 05/31/25

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15016**
Lab Sample ID: 25-0287-03
Matrix: Groundwater

Laboratory Project: **25-0287**
Collect Date: 05/12/2025
Collect Time: 11:41 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0287-03-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0527-01

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0287-03-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Arsenic	7		ug/L	1.0	05/22/2025	AB25-0522-05
Barium	171		ug/L	5.0	05/22/2025	AB25-0522-05
Beryllium	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Boron	336		ug/L	20.0	05/22/2025	AB25-0522-05
Cadmium	ND		ug/L	0.2	05/22/2025	AB25-0522-05
Calcium	439000		ug/L	1000.0	05/22/2025	AB25-0522-05
Chromium	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Cobalt	ND		ug/L	6.0	05/22/2025	AB25-0522-05
Copper	3		ug/L	1.0	05/22/2025	AB25-0522-05
Iron	18600		ug/L	20.0	05/22/2025	AB25-0522-05
Lead	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Lithium	59		ug/L	10.0	05/22/2025	AB25-0522-05
Molybdenum	ND		ug/L	5.0	05/22/2025	AB25-0522-05
Nickel	11		ug/L	2.0	05/22/2025	AB25-0522-05
Selenium	1		ug/L	1.0	05/22/2025	AB25-0522-05
Silver	ND		ug/L	0.2	05/22/2025	AB25-0522-05
Thallium	ND		ug/L	2.0	05/22/2025	AB25-0522-05
Vanadium	2		ug/L	2.0	05/22/2025	AB25-0522-05
Zinc	ND		ug/L	10.0	05/22/2025	AB25-0522-05

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0287-03-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	153000		ug/L	1000.0	05/22/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/21/2025	AB25-0520-03
Sulfate	279000		ug/L	1000.0	05/22/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0287-03-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1200		mg/L	10.0	05/15/2025	AB25-0515-02

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Analytical Report

Report Date: 05/31/25

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15019**
Lab Sample ID: 25-0287-04
Matrix: Groundwater

Laboratory Project: **25-0287**
Collect Date: 05/12/2025
Collect Time: 12:22 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0287-04-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0527-01

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0287-04-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Arsenic	2		ug/L	1.0	05/22/2025	AB25-0522-05
Barium	341		ug/L	5.0	05/22/2025	AB25-0522-05
Beryllium	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Boron	212		ug/L	20.0	05/22/2025	AB25-0522-05
Cadmium	ND		ug/L	0.2	05/22/2025	AB25-0522-05
Calcium	181000		ug/L	1000.0	05/22/2025	AB25-0522-05
Chromium	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Cobalt	ND		ug/L	6.0	05/22/2025	AB25-0522-05
Copper	2		ug/L	1.0	05/22/2025	AB25-0522-05
Iron	22000		ug/L	20.0	05/22/2025	AB25-0522-05
Lead	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Lithium	14		ug/L	10.0	05/22/2025	AB25-0522-05
Molybdenum	ND		ug/L	5.0	05/22/2025	AB25-0522-05
Nickel	5		ug/L	2.0	05/22/2025	AB25-0522-05
Selenium	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Silver	ND		ug/L	0.2	05/22/2025	AB25-0522-05
Thallium	ND		ug/L	2.0	05/22/2025	AB25-0522-05
Vanadium	3		ug/L	2.0	05/22/2025	AB25-0522-05
Zinc	ND		ug/L	10.0	05/22/2025	AB25-0522-05

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0287-04-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	376000		ug/L	1000.0	05/22/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/21/2025	AB25-0520-03
Sulfate	104000		ug/L	1000.0	05/21/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0287-04-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1270		mg/L	10.0	05/15/2025	AB25-0515-02

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Analytical Report

Report Date: 05/31/25

Sample Site: **DEK JCW Background**
Field Sample ID: **DUP-Background**
Lab Sample ID: 25-0287-05
Matrix: Groundwater

Laboratory Project: **25-0287**
Collect Date: 05/12/2025
Collect Time: 12:00 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0287-05-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0527-01

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0287-05-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Arsenic	7		ug/L	1.0	05/22/2025	AB25-0522-05
Barium	348		ug/L	5.0	05/22/2025	AB25-0522-05
Beryllium	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Boron	96		ug/L	20.0	05/22/2025	AB25-0522-05
Cadmium	ND		ug/L	0.2	05/22/2025	AB25-0522-05
Calcium	161000		ug/L	1000.0	05/22/2025	AB25-0522-05
Chromium	1		ug/L	1.0	05/22/2025	AB25-0522-05
Cobalt	ND		ug/L	6.0	05/22/2025	AB25-0522-05
Copper	2		ug/L	1.0	05/22/2025	AB25-0522-05
Iron	10200		ug/L	20.0	05/22/2025	AB25-0522-05
Lead	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Lithium	13		ug/L	10.0	05/22/2025	AB25-0522-05
Molybdenum	ND		ug/L	5.0	05/22/2025	AB25-0522-05
Nickel	7		ug/L	2.0	05/22/2025	AB25-0522-05
Selenium	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Silver	ND		ug/L	0.2	05/22/2025	AB25-0522-05
Thallium	ND		ug/L	2.0	05/22/2025	AB25-0522-05
Vanadium	9		ug/L	2.0	05/22/2025	AB25-0522-05
Zinc	21		ug/L	10.0	05/22/2025	AB25-0522-05

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0287-05-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	1180000		ug/L	1000.0	05/22/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/21/2025	AB25-0520-03
Sulfate	41300		ug/L	1000.0	05/21/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0287-05-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	2340		mg/L	10.0	05/15/2025	AB25-0515-02

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Analytical Report

Report Date: 05/31/25

Sample Site: **DEK JCW Background**
Field Sample ID: **FB- Background**
Lab Sample ID: 25-0287-06
Matrix: Water

Laboratory Project: **25-0287**
Collect Date: 05/12/2025
Collect Time: 12:22 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0287-06-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0527-01

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0287-06-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Arsenic	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Barium	ND		ug/L	5.0	05/22/2025	AB25-0522-05
Beryllium	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Boron	ND		ug/L	20.0	05/22/2025	AB25-0522-05
Cadmium	ND		ug/L	0.2	05/22/2025	AB25-0522-05
Calcium	ND		ug/L	1000.0	05/22/2025	AB25-0522-05
Chromium	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Cobalt	ND		ug/L	6.0	05/22/2025	AB25-0522-05
Copper	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Iron	ND		ug/L	20.0	05/22/2025	AB25-0522-05
Lead	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Lithium	ND		ug/L	10.0	05/22/2025	AB25-0522-05
Molybdenum	ND		ug/L	5.0	05/22/2025	AB25-0522-05
Nickel	ND		ug/L	2.0	05/22/2025	AB25-0522-05
Selenium	ND		ug/L	1.0	05/22/2025	AB25-0522-05
Silver	ND		ug/L	0.2	05/22/2025	AB25-0522-05
Thallium	ND		ug/L	2.0	05/22/2025	AB25-0522-05
Vanadium	ND		ug/L	2.0	05/22/2025	AB25-0522-05
Zinc	ND		ug/L	10.0	05/22/2025	AB25-0522-05

Data Qualifiers	Exception Summary
	No exceptions occurred.

General Standard Operating Procedure

TITLE: SAMPLE LOG-IN – SHIPMENT INSPECTION FORM

Project Number: 25-0287 **Inspection Date:** 5.14.25 **Inspection By:** LMO | FMW

Sample Origin/Project Name: Q2-2025 JCW-DEIC Background wells

Shipment Delivered By: Enter the type of shipment carrier.

Inter-Company Mail_____ FedEx ✓ UPS _____ USPS _____

Tracking Number: 8812 3163 4494 Other/Carry In (whom) _____

Shipping Containers: Enter the type and number of shipping containers received.

Cooler ✓ Cardboard Box _____ Custom Case _____ Envelope/Mailer _____

Loose/Unpackaged Containers _____ Other _____

Condition of Shipment: Enter the as-received condition of the shipment container.

Damaged Shipment Observed: None ✓ Dented _____ Leaking _____

Other _____

Shipment Security: Enter if any of the shipping containers were opened before receipt.

Shipping Containers Received: Opened _____ Sealed ✓ N/A _____

Enclosed Documents: Enter the type of documents enclosed with the shipment.

CoC ✓ Work Request _____ Air Data Sheet_____ Other_____

Temperature of Containers: Measure the temperature of several sample containers.

As-Received Temperature Range 1.3-5.9 °C Samples Received on Ice: Yes ✓ No____

M&TE # and Expiration LS028757 / 1.16.26

Number and Type of Containers: Enter the type and total number of sample containers received.

Container Type	Water	Soil	Other	Broken	Leaking
VOA (40mL or 60mL)					
Quart/Liter (g / p)					
9-oz (amber glass jar)					
2-oz (amber glass)					
125 mL (plastic)	4				
24 mL vial (glass)					
250 mL (plastic)	5				
Other					

All sample pH meeting criteria? Yes ✓ No___ N/A___ **pH paper lot #** 210224 **Exp. Date** 12.1.24

Indicate if an Exception Report (Page 2 of 2) is needed: Yes ____ No ✓

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Page 1 of 1

SAMPLING SITE / CUSTOMER: Q2-2025 JCW-DEK Background Wells

PROJECT NUMBER: 25-0287

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: A. Whaley

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	REMARKS
25-0287-01	5-12-25	1038	GW	MW-15002	3	2	1						x	x	x	
-02		1317	GW	MW-15008	3	2	1						x	x	x	
-03		1141	GW	MW-15016	3	2	1						x	x	x	
-04		1222	GW	MW-15019	3	2	1						x	x	x	
-05		—	GW	DUP-Background	3	2	1						x	x	x	
-06		1222	W	FB- Background	1								x			

RELINQUISHED BY: A. Whaley — DATE/TIME: 5/12/25 1600 — RECEIVED BY: Fed Ex Shipping

RELINQUISHED BY: Fed Ex — DATE/TIME: 05-14-26 14:35 — RECEIVED BY:

COMMENTS:

Received on Ice? ☑ Yes ☐ No — M&TE #: LS028757

Temperature: 1.3 -5.9 °C — Cal. Due Date: 01-16-26

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135 W. Trail St.
Jackson, MI 49201
phone 517-788-1251
fax 517-788-2533

To: JJFirlit, Karn/Weadock

From: EBlaj, T-258

Date: May 31, 2025

Subject: HMP GROUNDWATER MONITORING – JCWEADOCK ASD – 2025 Q2

CC: HDRegister, P22-521

Darby Litz, Project Manager
TRC Environmental Corporation
1540 Eisenhower Place
Ann Arbor, MI 48108

Chemistry Project: 25-0286

TRC Environmental, Inc. conducted groundwater monitoring at the JCWeadock site during the week of 05/12/2025 for the 2nd Quarter requirements, as specified in the Hydrogeological Monitoring Plan for the site. The sample was received for analysis by the Chemistry department of Laboratory Services on 05/15/2025.

The report that follows presents the results of the requested analytical testing; the results apply only to the samples as received. All samples have been analyzed in accordance with the 2016 TNI Standard and the applicable A2LA accreditation scope for Laboratory Services. Any exceptions to applicable test method criteria and standard compliance are noted in the Case Narrative, or flagged with applicable qualifiers in the analytical results section.

Reviewed and approved by:

Emil Blaj
Sr. Technical Analyst
Project Lead

ilac-MRA A2LA ACCREDITED Certificate #1097.04

Testing performed in accordance with the A2LA scope of accredidation specified in the listed certificate.
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CASE NARRATIVE

I. Sample Receipt

All samples were received within hold time and in good conditions; no anomalies were noted on the attached Sample Log-In Shipment Inspection Form during sample check-in. Identification of all samples included in the work order/project is provided in the sample summary section. All sample preservation and temperature upon receipt was verified by the sample custodian and confirmed to meet method requirements.

II. Methodology

Unless otherwise indicated, sample preparation and analysis was performed in accordance with the corresponding test methods from "Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100); SW-846, "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods", USEPA (latest revisions), and Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WPCF, latest edition.

III. Results/Quality Control

Analytical results for this report are presented by laboratory sample ID, container, & aliquot number. Results for the field blanks, field duplicates, and recoveries of the field matrix spike & matrix spike duplicate samples are included in the results section; all other quality control data is listed in the Quality Control Summary associated with the particular test method, as appropriate. Unless specifically noted in the case narrative, all method quality control requirements have been met. If any results are qualified, the corresponding data flags/qualifiers are listed on the last page of the results section. Any additional information on method performance, when applicable, is presented in this section of the case narrative. When data flags are not needed, the qualifiers text box on the last page is left blank, and a statement confirms that no exceptions occurred.

DEFINITIONS / QUALIFIERS

The following qualifiers and/or acronyms are used in the report, where applicable:

Acronym	Description
RL	Reporting Limit
ND	Result not detected or below Reporting Limit
NT	Non TNI Analyte
LCS	Laboratory Control Sample
LRB	Laboratory Reagent Blank (also referred to as Method Blank)
DUP	Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
TDL	Target Detection Limit
SM	Standard Methods Compendium

Qualifier	Description
*	Generic data flag, applicable description added in the corresponding notes section
B	The analyte was detected in the LRB at a level which is significant relative to sample result
D	Reporting limit elevated due to dilution
E	Estimated due to result exceeding the linear range of the analyzer
H	The maximum recommended hold time was exceeded
I	Dilution required due to matrix interference; reporting limit elevated
J	Estimated due to result found above MDL but below PQL (or RL)
K	Reporting limit raised due to matrix interference
M	The precision for duplicate analysis was not met; RPD outside acceptance criteria
N	Non-homogeneous sample made analysis questionable
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Matrix Spike or Matrix Spike Duplicate recovery outside acceptance criteria
R	Result confirmed by new sample preparation and reanalysis
X	Other notation required; comment listed in sample notes and/or case narrative

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Work Order Sample Summary

Customer Name: Karn/Weadock Complex
Work Order ID: Q2-2025 Weadock ASD
Date Received: 5/15/2025
Chemistry Project: 25-0286

Sample #	Field Sample ID	Matrix	Sample Date	Site
25-0286-01	JCW-OW-18001	Groundwater	05/13/2025 10:37	JC Weadock ASD

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Analytical Report

Report Date: 05/31/25

Sample Site: **JC Weadock ASD**
Field Sample ID: **JCW-OW-18001**
Lab Sample ID: 25-0286-01
Matrix: Groundwater

Laboratory Project: **25-0286**
Collect Date: 05/13/2025
Collect Time: 10:37 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0286-01-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	05/22/2025	AB25-0527-01

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0286-01-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Arsenic	152		ug/L	1.0	05/21/2025	AB25-0521-01
Barium	70		ug/L	5.0	05/21/2025	AB25-0521-01
Beryllium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Boron	1740		ug/L	20.0	05/21/2025	AB25-0521-01
Cadmium	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Calcium	224000		ug/L	1000.0	05/21/2025	AB25-0521-01
Chromium	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Cobalt	ND		ug/L	6.0	05/21/2025	AB25-0521-01
Copper	1		ug/L	1.0	05/21/2025	AB25-0521-01
Iron	10600		ug/L	20.0	05/21/2025	AB25-0521-01
Lead	ND		ug/L	1.0	05/21/2025	AB25-0521-01
Lithium	58		ug/L	10.0	05/21/2025	AB25-0521-01
Magnesium	47800		ug/L	1000.0	05/21/2025	AB25-0521-01
Molybdenum	8		ug/L	5.0	05/21/2025	AB25-0521-01
Nickel	7		ug/L	2.0	05/21/2025	AB25-0521-01
Potassium	11700		ug/L	100.0	05/21/2025	AB25-0521-01
Selenium	5		ug/L	1.0	05/21/2025	AB25-0521-01
Silver	ND		ug/L	0.2	05/21/2025	AB25-0521-01
Sodium	99000		ug/L	1000.0	05/21/2025	AB25-0521-01
Thallium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Vanadium	ND		ug/L	2.0	05/21/2025	AB25-0521-01
Zinc	ND		ug/L	10.0	05/21/2025	AB25-0521-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0286-01-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	107000		ug/L	1000.0	05/20/2025	AB25-0520-03
Fluoride	ND		ug/L	1000.0	05/20/2025	AB25-0520-03
Sulfate	456000		ug/L	1000.0	05/20/2025	AB25-0520-03

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0286-01-C03-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1250		mg/L	10.0	05/15/2025	AB25-0515-02

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Analytical Report

Report Date: 05/31/25

Sample Site: **JC Weadock ASD**
Field Sample ID: **JCW-OW-18001**
Lab Sample ID: 25-0286-01
Matrix: Groundwater

Laboratory Project: **25-0286**
Collect Date: 05/13/2025
Collect Time: 10:37 AM

Alkalinity by SM 2320B

Aliquot #: 25-0286-01-C04-A01 **Analyst: DLS**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Alkalinity, Total	401000		ug/L	10000.0	05/17/2025	AB25-0517-01
Alkalinity, Bicarbonate	401000		ug/L	10000.0	05/17/2025	AB25-0517-01
Alkalinity, Carbonate	ND		ug/L	10000.0	05/17/2025	AB25-0517-01

Data Qualifiers	Exception Summary
	No exceptions occurred.

General Standard Operating Procedure

TITLE: SAMPLE LOG-IN – SHIPMENT INSPECTION FORM

Project Number: 25-0286 **Inspection Date:** 5-15-25 **Inspection By:** FMV/KDR

Sample Origin/Project Name: Q2-2025 JC Weadock ASD

Shipment Delivered By: Enter the type of shipment carrier.

Inter-Company Mail_____ FedEx ✓ UPS _____ USPS _____

Tracking Number: 2886 7064 5226 Other/Carry In (whom) _____

Shipping Containers: Enter the type and number of shipping containers received.

Cooler ✓ Cardboard Box _____ Custom Case _____ Envelope/Mailer _____

Loose/Unpackaged Containers _____ Other _____

Condition of Shipment: Enter the as-received condition of the shipment container.

Damaged Shipment Observed: None ✓ Dented _____ Leaking _____

Other _____

Shipment Security: Enter if any of the shipping containers were opened before receipt.

Shipping Containers Received: Opened _____ Sealed ✓ N/A _____

Enclosed Documents: Enter the type of documents enclosed with the shipment.

CoC ✓ Work Request _____ Air Data Sheet_____ Other_____

Temperature of Containers: Measure the temperature of several sample containers.

As-Received Temperature Range 1.8 - 2.9 °C Samples Received on Ice: Yes ✓ No____

M&TE # and Expiration LS028757/ 01-16-26

Number and Type of Containers: Enter the type and total number of sample containers received.

Container Type	Water	Soil	Other	Broken	Leaking
VOA (40mL or 60mL)	2				
Quart/Liter (g / p)					
9-oz (amber glass jar)					
2-oz (amber glass)					
125 mL (plastic)	2				
24 mL vial (glass)					
250 mL (plastic)	1				
Other					

All sample pH meeting criteria? Yes ✓ No___ N/A___ **pH paper lot #** 210224 **Exp. Date** 12-1-26

Indicate if an Exception Report (Page 2 of 2) is needed: Yes ____ No ✓

CHAIN OF CUSTODY

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Page 1 of 1

SAMPLING SITE / CUSTOMER: Q2-2025 JC Weadock ASD	PROJECT NUMBER: 25-0286	SAP CC or WO#:	ANALYSIS REQUESTED (Attach List if More Space is Needed)
SAMPLING TEAM: A. Kast	TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____	REQUESTER: Harold Register	QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____
SEND REPORT TO: Joseph Firlit	email:	phone:	
COPY TO: Harold Register; TRC	MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste		

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	HNO_3	H_2SO_4	NaOH	HCl	MeOH	Other	Total Metals	Anions	TDS	Alkalinity					REMARKS
25-0286-01	5/13/25	1037	GW	JCW-OW-18001	5	4	1						x	x	x	x					

RELINQUISHED BY: Ashton Kast	DATE/TIME: 5/13/25 12:35	RECEIVED BY: FedEx
RELINQUISHED BY: Fed Ex	DATE/TIME: 05-15-25 10:05	RECEIVED BY:

COMMENTS:

Received on Ice? ☑ Yes ☐ No M&TE #: LS028757

Temperature: 1.8-2.9 °C Cal. Due Date: 01-16-26

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Darby Litz
TRC Environmental Corporation.
1540 Eisenhower Place
Ann Arbor, Michigan 48108-7080

Generated 6/17/2025 3:33:17 PM

JOB DESCRIPTION

Karn/Weadock CCR Background Wells

JOB NUMBER

240-224868-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

myEOL

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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Authorized for release by
Kris Brooks, Project Manager II
Kris.Brooks@et.eurofinsus.com
(330)966-9790

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Definitions/Glossary

Client: TRC Environmental Corporation. Job ID: 240-224868-1
Project/Site: Karn/Weadock CCR Background Wells

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

Job ID: 240-224868-1 Eurofins Cleveland

Job Narrative
240-224868-1

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 5/17/2025 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 4.3°C, 4.6°C and 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.

Method Summary

Client: TRC Environmental Corporation.
Job ID: 240-224868-1
Project/Site: Karn/Weadock CCR Background Wells

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep STD	Preparation, Precipitate Separation (Standard In-Growth)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

Sample Summary

Client: TRC Environmental Corporation.
Job ID: 240-224868-1
Project/Site: Karn/Weadock CCR Background Wells

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-224868-1	MW-15002	Water	05/12/25 10:38	05/17/25 08:00
240-224868-2	MW-15008	Water	05/12/25 13:17	05/17/25 08:00
240-224868-3	MW-15016	Water	05/12/25 11:41	05/17/25 08:00
240-224868-4	MW-15019	Water	05/12/25 12:22	05/17/25 08:00
240-224868-5	DUP-BACKGROUND	Water	05/12/25 00:00	05/17/25 08:00
240-224868-6	EQ-BACKGROUND	Water	05/12/25 14:00	05/17/25 08:00

Client: TRC Environmental Corporation.
Job ID: 240-224868-1
Project/Site: Karn/Weadock CCR Background Wells

Client Sample ID: MW-15002
Lab Sample ID: 240-224868-1
Date Collected: 05/12/25 10:38
Matrix: Water
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0980	U	0.0937	0.0941	1.00	0.147	pCi/L	05/22/25 08:32	06/13/25 07:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.3*		*30 - 110*	*05/22/25 08:32*	*06/13/25 07:27*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0707	U	0.350	0.350	1.00	0.662	pCi/L	05/22/25 08:34	06/05/25 11:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.3*		*30 - 110*	*05/22/25 08:34*	*06/05/25 11:59*	*1*
Y Carrier	*83.4*		*30 - 110*	*05/22/25 08:34*	*06/05/25 11:59*	*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	0.0274	U	0.362	0.362	5.00	0.662	pCi/L		06/17/25 11:42	1

Client Sample ID: MW-15008 — Lab Sample ID: 240-224868-2

Date Collected: 05/12/25 13:17 — **Matrix: Water**
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.252**		0.127	0.129	1.00	0.156	pCi/L	05/22/25 08:32	06/13/25 07:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.6*		*30 - 110*	*05/22/25 08:32*	*06/13/25 07:27*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.397	U	0.448	0.450	1.00	0.735	pCi/L	05/22/25 08:34	06/05/25 11:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.6*		*30 - 110*	*05/22/25 08:34*	*06/05/25 11:59*	*1*
Y Carrier	*85.2*		*30 - 110*	*05/22/25 08:34*	*06/05/25 11:59*	*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	0.648	U	0.466	0.468	5.00	0.735	pCi/L		06/17/25 11:42	1

Client Sample ID: MW-15016 — Lab Sample ID: 240-224868-3

Date Collected: 05/12/25 11:41 — **Matrix: Water**
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.255**		0.105	0.107	1.00	0.109	pCi/L	05/22/25 08:32	06/13/25 07:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.3*		*30 - 110*	*05/22/25 08:32*	*06/13/25 07:28*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.176	U	0.310	0.310	1.00	0.622	pCi/L	05/22/25 08:34	06/05/25 11:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.3*		*30 - 110*	*05/22/25 08:34*	*06/05/25 11:59*	*1*
Y Carrier	*83.7*		*30 - 110*	*05/22/25 08:34*	*06/05/25 11:59*	*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	0.0789	U	0.327	0.328	5.00	0.622	pCi/L		06/17/25 11:42	1

Client: TRC Environmental Corporation.
Job ID: 240-224868-1
Project/Site: Karn/Weadock CCR Background Wells

Client Sample ID: MW-15019
Lab Sample ID: 240-224868-4
Date Collected: 05/12/25 12:22
Matrix: Water
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.400**		0.129	0.134	1.00	0.123	pCi/L	05/22/25 08:32	06/13/25 07:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.1*		*30 - 110*	*05/22/25 08:32*	*06/13/25 07:28*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.464	U	0.408	0.410	1.00	0.646	pCi/L	05/22/25 08:34	06/05/25 11:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.1*		*30 - 110*	*05/22/25 08:34*	*06/05/25 11:59*	*1*
Y Carrier	*80.0*		*30 - 110*	*05/22/25 08:34*	*06/05/25 11:59*	*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	**0.863**		0.428	0.431	5.00	0.646	pCi/L		06/17/25 11:42	1

Client: TRC Environmental Corporation.
Job ID: 240-224868-1
Project/Site: Karn/Weadock CCR Background Wells

Client Sample ID: DUP-BACKGROUND
Lab Sample ID: 240-224868-5

Date Collected: 05/12/25 00:00
Matrix: Water

Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.152	U	0.106	0.107	1.00	0.154	pCi/L	05/22/25 08:32	06/13/25 07:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.1*		*30 - 110*	*05/22/25 08:32*	*06/13/25 07:29*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0894	U	0.326	0.326	1.00	0.585	pCi/L	05/22/25 08:34	06/05/25 11:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.1*		*30 - 110*	*05/22/25 08:34*	*06/05/25 11:59*	*1*
Y Carrier	*86.7*		*30 - 110*	*05/22/25 08:34*	*06/05/25 11:59*	*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	0.242	U	0.343	0.343	5.00	0.585	pCi/L		06/17/25 11:42	1

Client: TRC Environmental Corporation.
Job ID: 240-224868-1
Project/Site: Karn/Weadock CCR Background Wells

Client Sample ID: EQ-BACKGROUND
Lab Sample ID: 240-224868-6

Date Collected: 05/12/25 14:00
Matrix: Water

Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0652	U	0.0730	0.0733	1.00	0.118	pCi/L	05/22/25 08:32	06/13/25 07:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.3*		*30 - 110*	*05/22/25 08:32*	*06/13/25 07:29*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.257	U	0.337	0.338	1.00	0.562	pCi/L	05/22/25 08:34	06/05/25 11:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.3*		*30 - 110*	*05/22/25 08:34*	*06/05/25 11:59*	*1*
Y Carrier	*79.3*		*30 - 110*	*05/22/25 08:34*	*06/05/25 11:59*	*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	0.322	U	0.345	0.346	5.00	0.562	pCi/L		06/17/25 11:42	1

Tracer/Carrier Summary

Client: TRC Environmental Corporation.
Job ID: 240-224868-1
Project/Site: Karn/Weadock CCR Background Wells

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
240-224868-1	MW-15002	87.3
240-224868-2	MW-15008	88.6
240-224868-3	MW-15016	83.3
240-224868-4	MW-15019	83.1
240-224868-5	DUP-BACKGROUND	81.1
240-224868-6	EQ-BACKGROUND	85.3
240-224868-6 DU	EQ-BACKGROUND	92.0
LCS 160-718777/2-A	Lab Control Sample	84.6
MB 160-718777/1-A	Method Blank	85.8

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
240-224868-1	MW-15002	87.3	83.4
240-224868-2	MW-15008	88.6	85.2
240-224868-3	MW-15016	83.3	83.7
240-224868-4	MW-15019	83.1	80.0
240-224868-5	DUP-BACKGROUND	81.1	86.7
240-224868-6	EQ-BACKGROUND	85.3	79.3
240-224868-6 DU	EQ-BACKGROUND	92.0	83.4
LCS 160-718778/2-A	Lab Control Sample	84.6	81.1
MB 160-718778/1-A	Method Blank	85.8	83.7

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-718777/1-A
Matrix: Water
Analysis Batch: 722314

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 718777

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04377	U	0.0648	0.0649	1.00	0.111	pCi/L	05/22/25 08:32	06/13/25 07:27	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.8*		*30 - 110*	*05/22/25 08:32*	*06/13/25 07:27*	*1*

Lab Sample ID: LCS 160-718777/2-A
Matrix: Water
Analysis Batch: 722314

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 718777

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			9.58	8.502		0.931	1.00	0.115	pCi/L	89	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*84.6*		*30 - 110*

Lab Sample ID: 240-224868-6 DU
Matrix: Water
Analysis Batch: 722317

Client Sample ID: EQ-BACKGROUND
Prep Type: Total/NA
Prep Batch: 718777

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.0652	U		0.03373	U	0.0615	1.00	0.109	pCi/L			0.23	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*92.0*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-718778/1-A
Matrix: Water
Analysis Batch: 720981

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 718778

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.08419	U	0.313	0.313	1.00	0.564	pCi/L	05/22/25 08:34	06/05/25 11:59	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.8*		*30 - 110*	*05/22/25 08:34*	*06/05/25 11:59*	*1*
Y Carrier	*83.7*		*30 - 110*	*05/22/25 08:34*	*06/05/25 11:59*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-718778/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 720981 **Prep Batch: 718778**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			9.38	11.28		1.52	1.00	0.594	pCi/L	120	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*84.6*		*30 - 110*
Y Carrier	*81.1*		*30 - 110*

Lab Sample ID: 240-224868-6 DU **Client Sample ID: EQ-BACKGROUND**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 720982 **Prep Batch: 718778**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.257	U		-0.03497	U	0.283	1.00	0.540	pCi/L			0.47	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*92.0*		*30 - 110*
Y Carrier	*83.4*		*30 - 110*

QC Association Summary

Client: TRC Environmental Corporation.
Job ID: 240-224868-1
Project/Site: Karn/Weadock CCR Background Wells

Rad

Prep Batch: 718777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-224868-1	MW-15002	Total/NA	Water	PrecSep STD	
240-224868-2	MW-15008	Total/NA	Water	PrecSep STD	
240-224868-3	MW-15016	Total/NA	Water	PrecSep STD	
240-224868-4	MW-15019	Total/NA	Water	PrecSep STD	
240-224868-5	DUP-BACKGROUND	Total/NA	Water	PrecSep STD	
240-224868-6	EQ-BACKGROUND	Total/NA	Water	PrecSep STD	
MB 160-718777/1-A	Method Blank	Total/NA	Water	PrecSep STD	
LCS 160-718777/2-A	Lab Control Sample	Total/NA	Water	PrecSep STD	
240-224868-6 DU	EQ-BACKGROUND	Total/NA	Water	PrecSep STD	

Prep Batch: 718778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-224868-1	MW-15002	Total/NA	Water	PrecSep_0	
240-224868-2	MW-15008	Total/NA	Water	PrecSep_0	
240-224868-3	MW-15016	Total/NA	Water	PrecSep_0	
240-224868-4	MW-15019	Total/NA	Water	PrecSep_0	
240-224868-5	DUP-BACKGROUND	Total/NA	Water	PrecSep_0	
240-224868-6	EQ-BACKGROUND	Total/NA	Water	PrecSep_0	
MB 160-718778/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-718778/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
240-224868-6 DU	EQ-BACKGROUND	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: TRC Environmental Corporation. Job ID: 240-224868-1
Project/Site: Karn/Weadock CCR Background Wells

Client Sample ID: MW-15002 Lab Sample ID: 240-224868-1

Date Collected: 05/12/25 10:38 **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718777	OGC	EET SL	05/22/25 08:32
Total/NA	Analysis	903.0		1	722314	SWS	EET SL	06/13/25 07:27
Total/NA	Prep	PrecSep_0			718778	OGC	EET SL	05/22/25 08:34
Total/NA	Analysis	904.0		1	720981	FLC	EET SL	06/05/25 11:59
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/17/25 11:42

Client Sample ID: MW-15008 Lab Sample ID: 240-224868-2

Date Collected: 05/12/25 13:17 **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718777	OGC	EET SL	05/22/25 08:32
Total/NA	Analysis	903.0		1	722314	SWS	EET SL	06/13/25 07:27
Total/NA	Prep	PrecSep_0			718778	OGC	EET SL	05/22/25 08:34
Total/NA	Analysis	904.0		1	720981	FLC	EET SL	06/05/25 11:59
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/17/25 11:42

Client Sample ID: MW-15016 Lab Sample ID: 240-224868-3

Date Collected: 05/12/25 11:41 **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718777	OGC	EET SL	05/22/25 08:32
Total/NA	Analysis	903.0		1	722317	SWS	EET SL	06/13/25 07:28
Total/NA	Prep	PrecSep_0			718778	OGC	EET SL	05/22/25 08:34
Total/NA	Analysis	904.0		1	720982	FLC	EET SL	06/05/25 11:59
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/17/25 11:42

Client Sample ID: MW-15019 Lab Sample ID: 240-224868-4

Date Collected: 05/12/25 12:22 **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718777	OGC	EET SL	05/22/25 08:32
Total/NA	Analysis	903.0		1	722317	SWS	EET SL	06/13/25 07:28
Total/NA	Prep	PrecSep_0			718778	OGC	EET SL	05/22/25 08:34
Total/NA	Analysis	904.0		1	720982	FLC	EET SL	06/05/25 11:59
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/17/25 11:42

Lab Chronicle

Client: TRC Environmental Corporation. Job ID: 240-224868-1
Project/Site: Karn/Weadock CCR Background Wells

Client Sample ID: DUP-BACKGROUND — Lab Sample ID: 240-224868-5

Date Collected: 05/12/25 00:00 — **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718777	OGC	EET SL	05/22/25 08:32
Total/NA	Analysis	903.0		1	722317	SWS	EET SL	06/13/25 07:29
Total/NA	Prep	PrecSep_0			718778	OGC	EET SL	05/22/25 08:34
Total/NA	Analysis	904.0		1	720982	FLC	EET SL	06/05/25 11:59
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/17/25 11:42

Client Sample ID: EQ-BACKGROUND — Lab Sample ID: 240-224868-6

Date Collected: 05/12/25 14:00 — **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718777	OGC	EET SL	05/22/25 08:32
Total/NA	Analysis	903.0		1	722317	SWS	EET SL	06/13/25 07:29
Total/NA	Prep	PrecSep_0			718778	OGC	EET SL	05/22/25 08:34
Total/NA	Analysis	904.0		1	720982	FLC	EET SL	06/05/25 11:59
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/17/25 11:42

Laboratory References:

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

Accreditation/Certification Summary

Client: TRC Environmental Corporation. Job ID: 240-224868-1
Project/Site: Karn/Weadock CCR Background Wells

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-27
ANAB	Dept. of Defense ELAP	L2305	04-06-27
ANAB	Dept. of Energy	L2305.01	04-06-27
ANAB	ISO/IEC 17025	L2305	04-06-27
Arizona	State	AZ0813	12-08-25
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-27
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-25
Kentucky (DW)	State	KY90125	12-31-25
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana (All)	NELAP	106151	06-30-25
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
MI - RadChem Recognition	State	9005	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-26
North Carolina (DW)	State	29700	08-02-25
North Dakota	State	R-207	06-30-25
Oklahoma	NELAP	9997	08-31-25
Oregon	NELAP	4157	09-01-25
Pennsylvania	NELAP	68-00540	02-28-26
South Carolina	State	85002	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	525-23-138-94730	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-26
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

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

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: A. Whaley	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-132343-33282.1
Client Contact: Jacob Krenz	Phone: 734-210-9239	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin: MI	Page: Page 1 of 1
Company: TRC Environmental Corporation.	PWSID:	Analysis Requested		Job #:
Address: 1540 Eisenhower Place	Due Date Requested: Standard			Preservation Codes: D - HNO3
City: Ann Arbor	TAT Requested (days): Standard			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 734-971-7080(Tel) 734-971-9022(Fax)	PO #: ~~RO Requested~~ 225027			
Email: JKrenz@trccompanies.com	WO #: ~~6~~634698.0000			Other:
Project Name: Kam/Weadock CCR Background Well	Project #: 24024154			
Site:	SSOW#:			

240-224868 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0, Ra226Ra228_GFPC	904.0 - Standard Target List	Total Number of containers	Special Instructions/Note:
MW-15002	5/12/25	1038	15RAB	Water	N	N	X	X	2	
MW-15008		817	G	Water	N	N	X	X	2	
MW-15016		1141	G	Water	N	N	X	X	2	
MW-15019		1222	G	Water	N	N	X	X	2	
DUP-Background		—	G	Water	N	N	X	X	2	
EB-Backgroud		1400	C	Water	N	N	X	X	2	
				Water						

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5/12/25 1940	TRC	TRC storage	5-12-25 1940	TRC
2	[signature]	5/16/25 0902	TRC	[signature]	5/16/25 0902	EEM
3	Relinquished by:	Date/Time:	Company	Received by: SCollins	5/17/25 10:00	[illegible]

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

Cooler Temperature(s) °C and Other Remarks: 8.0D

Ver: 10/10/2024

Eurofins – Cleveland Sample Receipt Form/Narrative **Login # :** _____
Barberton Facility

Client IRC Environmental Corp Site Name _____ Cooler unpacked by: JC

Cooler Received on 5/17/25 Opened on 5/17/25

FedEx: 1st Grd Exp UPS FAS (Waypoint) Client Drop Off Eurofins Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # EC Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag (None) Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☑ See Multiple Cooler Form

IR GUN # 13 (CF +0.5 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____	(Yes) No	
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes) No NA	
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes (No)	
-Were tamper/custody seals intact and uncompromised?	(Yes) No NA	
3. Shippers' packing slip attached to the cooler(s)?	Yes (No)	
4. Did custody papers accompany the sample(s)?	Yes (No)	
5. Were the custody papers relinquished & signed in the appropriate place?	Yes (No)	
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes (No)	
7. Did all bottles arrive in good condition (Unbroken)?	(Yes) No	
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes (No)	
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)?	(Y)	(Y)
10. Were correct bottle(s) used for the test(s) indicated?	(Yes) No	
11. Sufficient quantity received to perform indicated analyses?	(Yes) No	
12. Are these work share samples and all listed on the COC?	Yes (No)	
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	(Yes) No NA	pH Strip Lot# HC457151
14. Were VOAs on the COC?	(Yes) No	
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes No (NA)	
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes (No)	
17. Was a LL Hg or Me Hg trip blank present? _____	Yes (No)	

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Labeled by: MC

Labels Verified by:

Samples are as follows: MW-15002 5/12/25 1038, MW-15008 5/12/25 1317, MW-15016 5/12/25 1141, MW-15014 5/12/25 1222, EQ Background 5/12/25 1403, Dup-Background 5/12/25 —

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Login # _____

Eurofins - Cleveland Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client Box Other	IR GUN #: 13	4.1	4.6	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ↓	5.1	5.6	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ↓	3.8	4.3	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
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EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
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EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

5/20/2025

Login Container Summary Report

240-224868

6/17/2025

Temperature readings. _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
MW-15002	240-224868-A 1	Plastic 1 liter - Nitric Acid	<2			
MW-15002	240-224868-B-1	Plastic 1 liter - Nitric Acid	<2			
MW-15008	240-224868-A-2	Plastic 1 liter - Nitric Acid	<2			
MW-15008	240-224868-B-2	Plastic 1 liter - Nitric Acid	<2			
MW-15016	240-224868-A 3	Plastic 1 liter - Nitric Acid	<2			
MW-15016	240-224868-B-3	Plastic 1 liter - Nitric Acid	<2			
MW-15019	240-224868-A-4	Plastic 1 liter - Nitric Acid	<2			
MW-15019	240-224868-B-4	Plastic 1 liter - Nitric Acid	<2			
DUP-BACKGROUND	240-224868-A-5	Plastic 1 liter - Nitric Acid	<2			
DUP-BACKGROUND	240-224868-B-5	Plastic 1 liter - Nitric Acid	<2			
EQ-BACKGROUND	240-224868-A-6	Plastic 1 liter - Nitric Acid	<2			
EQ-BACKGROUND	240-224868-B-6	Plastic 1 liter Nitric Acid	<2			

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Brooks, Kris M	Carrier Tracking No(s): N/A	COC No: 240-202684.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin: Michigan	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): N/A		Job #: 240-224868-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 6/18/2025			
City: Earth City	TAT Requested (days): N/A			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Karn/Weadock CCR Groundwater Monitoring	Project #: 24024154			
Site: N/A	SSOW#: N/A			

Analysis Requested

Preservation Codes: -

Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_STD Standard Target List	904.0/PrecSep_0 Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-15002 (240-224868-1)	5/12/25	10:38 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-15008 (240-224868-2)	5/12/25	13:17 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-15016 (240-224868-3)	5/12/25	11:41 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-15019 (240-224868-4)	5/12/25	12:22 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
DUP-BACKGROUND (240-224868-5)	5/12/25	Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
EQ-BACKGROUND (240-224868-6)	5/12/25	14:00 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
JCollins	5/20/25	Eur	Sierra Worthington	5/21/25 0810	EMSL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 10/10/2024

Login Sample Receipt Checklist

Client: TRC Environmental Corporation.

Job Number: 240-224868-1

Login Number: 224868
List Number: 2
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 05/21/25 10:26 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	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	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Darby Litz
TRC Environmental Corporation.
1540 Eisenhower Place
Ann Arbor, Michigan 48108-7080

Generated 6/17/2025 12:53:28 PM

JOB DESCRIPTION

Karn/Weadock CCR Groundwater Monitoring

JOB NUMBER

240-224773-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

myEOL

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
6/17/2025 12:53:28 PM

Authorized for release by
Kris Brooks, Project Manager II
Kris.Brooks@et.eurofinsus.com
(330)966-9790

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Definitions/Glossary

Client: TRC Environmental Corporation. Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

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

Job ID: 240-224773-1 Eurofins Cleveland

Job Narrative
240-224773-1

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 5/17/2025 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 4.3°C, 4.6°C and 5.6°C.

Gas Flow Proportional Counter
Method 904.0: Radium-228 batch 718622
The detection goal was not met for the following samples due to the reduced sample volume used in prep attributed to the presence of matrix interferences: JCW-MW-18004 (240-224773-2) and MW-53R (240-224773-9). Analytical results are reported with the detection limit achieved.

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.

Method Summary

Client: TRC Environmental Corporation. Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep STD	Preparation, Precipitate Separation (Standard In-Growth)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

Sample Summary

Client: TRC Environmental Corporation. Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-224773-1	JCW-MW-18001	Water	05/13/25 08:29	05/17/25 08:00
240-224773-2	JCW-MW-18004	Water	05/15/25 07:14	05/17/25 08:00
240-224773-3	JCW-MW-18005	Water	05/14/25 11:23	05/17/25 08:00
240-224773-4	JCW-MW-18006	Water	05/14/25 13:10	05/17/25 08:00
240-224773-5	MW-50	Water	05/13/25 11:26	05/17/25 08:00
240-224773-6	MW-51	Water	05/13/25 12:15	05/17/25 08:00
240-224773-7	MW-52	Water	05/13/25 13:01	05/17/25 08:00
240-224773-8	MW-53	Water	05/13/25 14:00	05/17/25 08:00
240-224773-9	MW-53R	Water	05/13/25 14:37	05/17/25 08:00
240-224773-10	MW-54R	Water	05/14/25 08:28	05/17/25 08:00
240-224773-11	MW-55	Water	05/14/25 09:58	05/17/25 08:00
240-224773-12	OW-57ROUT	Water	05/14/25 12:05	05/17/25 08:00
240-224773-13	DUP-01	Water	05/13/25 00:00	05/17/25 08:00
240-224773-14	EB-1	Water	05/13/25 11:39	05/17/25 08:00

Client: TRC Environmental Corporation.
Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: JCW-MW-18001
Lab Sample ID: 240-224773-1
Date Collected: 05/13/25 08:29
Matrix: Water
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0679	U	0.212	0.212	1.00	0.390	pCi/L	05/21/25 08:08	06/13/25 17:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.5*		*30 - 110*	*05/21/25 08:08*	*06/13/25 17:05*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.355	U	0.316	0.318	1.00	0.500	pCi/L	05/21/25 08:14	06/13/25 12:07	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.5*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:07*	*1*
Y Carrier	*87.1*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:07*	*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	0.423	U	0.381	0.382	5.00	0.500	pCi/L		06/16/25 22:38	1

Client Sample ID: JCW-MW-18004 Lab Sample ID: 240-224773-2

Date Collected: 05/15/25 07:14 **Matrix: Water**
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.000	U	0.238	0.238	1.00	0.505	pCi/L	05/21/25 08:08	06/13/25 17:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*63.9*		*30 - 110*	*05/21/25 08:08*	*06/13/25 17:05*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.348	U G	0.643	0.644	1.00	1.11	pCi/L	05/21/25 08:14	06/13/25 12:08	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*63.9*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:08*	*1*
Y Carrier	*77.8*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:08*	*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	0.348	U	0.686	0.687	5.00	1.11	pCi/L		06/16/25 22:38	1

Client: TRC Environmental Corporation.
Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: JCW-MW-18005
Lab Sample ID: 240-224773-3
Date Collected: 05/14/25 11:23
Matrix: Water
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.237	U	0.215	0.216	1.00	0.328	pCi/L	05/21/25 08:08	06/13/25 17:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.6*		*30 - 110*	*05/21/25 08:08*	*06/13/25 17:05*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.410	U	0.347	0.349	1.00	0.542	pCi/L	05/21/25 08:14	06/13/25 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.6*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*1*
Y Carrier	*81.5*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*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	**0.648**		0.408	0.410	5.00	0.542	pCi/L		06/16/25 22:38	1

Client: TRC Environmental Corporation. Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: JCW-MW-18006 Lab Sample ID: 240-224773-4

Date Collected: 05/14/25 13:10 **Matrix: Water**
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.147	U	0.201	0.201	1.00	0.339	pCi/L	05/21/25 08:08	06/13/25 17:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.1*		*30 - 110*	*05/21/25 08:08*	*06/13/25 17:05*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.969**		0.440	0.449	1.00	0.593	pCi/L	05/21/25 08:14	06/13/25 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.1*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*1*
Y Carrier	*85.2*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*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**		0.484	0.492	5.00	0.593	pCi/L		06/16/25 22:38	1

Client: TRC Environmental Corporation.
Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: MW-50
Lab Sample ID: 240-224773-5
Date Collected: 05/13/25 11:26
Matrix: Water
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.186	U	0.204	0.205	1.00	0.327	pCi/L	05/21/25 08:08	06/13/25 17:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.8*		*30 - 110*	*05/21/25 08:08*	*06/13/25 17:06*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.893**		0.437	0.445	1.00	0.610	pCi/L	05/21/25 08:14	06/13/25 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.8*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*1*
Y Carrier	*80.7*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*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	**1.08**		0.482	0.490	5.00	0.610	pCi/L		06/16/25 22:38	1

Client: TRC Environmental Corporation.
Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: MW-51
Lab Sample ID: 240-224773-6
Date Collected: 05/13/25 12:15
Matrix: Water
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0776	U	0.154	0.154	1.00	0.280	pCi/L	05/21/25 08:08	06/13/25 17:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.1*		*30 - 110*	*05/21/25 08:08*	*06/13/25 17:06*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.921**		0.462	0.470	1.00	0.632	pCi/L	05/21/25 08:14	06/13/25 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.1*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*1*
Y Carrier	*77.0*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*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	**0.999**		0.487	0.495	5.00	0.632	pCi/L		06/16/25 22:38	1

Client: TRC Environmental Corporation.
Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: MW-52
Lab Sample ID: 240-224773-7

Date Collected: 05/13/25 13:01
Matrix: Water

Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0559	U	0.167	0.167	1.00	0.315	pCi/L	05/21/25 08:08	06/13/25 17:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.8*		*30 - 110*	*05/21/25 08:08*	*06/13/25 17:06*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.507**		0.341	0.344	1.00	0.507	pCi/L	05/21/25 08:14	06/13/25 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.8*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*1*
Y Carrier	*82.2*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*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	**0.563**		0.380	0.382	5.00	0.507	pCi/L		06/16/25 22:38	1

Client: TRC Environmental Corporation.
Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: MW-53
Lab Sample ID: 240-224773-8
Date Collected: 05/13/25 14:00
Matrix: Water
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.547		0.258	0.262	1.00	0.290	pCi/L	05/21/25 08:08	06/13/25 17:07	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*30 - 110*	*05/21/25 08:08*	*06/13/25 17:07*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.20		0.449	0.462	1.00	0.574	pCi/L	05/21/25 08:14	06/13/25 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*1*
Y Carrier	*82.2*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*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	1.74		0.518	0.531	5.00	0.574	pCi/L		06/16/25 22:38	1

Client: TRC Environmental Corporation.
Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: MW-53R
Lab Sample ID: 240-224773-9
Date Collected: 05/13/25 14:37
Matrix: Water
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.207	U	0.329	0.329	1.00	0.574	pCi/L	05/21/25 08:08	06/13/25 17:07	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.3*		*30 - 110*	*05/21/25 08:08*	*06/13/25 17:07*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.679	U G	0.756	0.759	1.00	1.24	pCi/L	05/21/25 08:14	06/13/25 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.3*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*1*
Y Carrier	*81.1*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*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	0.885	U	0.824	0.827	5.00	1.24	pCi/L		06/16/25 22:38	1

Client: TRC Environmental Corporation.
Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: MW-54R
Lab Sample ID: 240-224773-10
Date Collected: 05/14/25 08:28
Matrix: Water
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0407	U	0.163	0.163	1.00	0.349	pCi/L	05/21/25 08:08	06/13/25 17:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.3*		*30 - 110*	*05/21/25 08:08*	*06/13/25 17:09*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.000	U	0.259	0.259	1.00	0.491	pCi/L	05/21/25 08:14	06/13/25 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.3*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*1*
Y Carrier	*79.3*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*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	-0.0407	U	0.306	0.306	5.00	0.491	pCi/L		06/16/25 22:38	1

Client: TRC Environmental Corporation.
Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: MW-55
Lab Sample ID: 240-224773-11
Date Collected: 05/14/25 09:58
Matrix: Water
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.231	U	0.250	0.251	1.00	0.403	pCi/L	05/21/25 08:08	06/13/25 17:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.3*		*30 - 110*	*05/21/25 08:08*	*06/13/25 17:10*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.227	U	0.291	0.292	1.00	0.485	pCi/L	05/21/25 08:14	06/13/25 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.3*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*1*
Y Carrier	*81.1*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*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	0.458	U	0.384	0.385	5.00	0.485	pCi/L		06/16/25 22:38	1

Client: TRC Environmental Corporation.
Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: OW-57ROUT
Lab Sample ID: 240-224773-12

Date Collected: 05/14/25 12:05
Matrix: Water
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0518	U	0.155	0.155	1.00	0.295	pCi/L	05/21/25 08:08	06/13/25 17:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.0*		*30 - 110*	*05/21/25 08:08*	*06/13/25 17:10*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0192	U	0.349	0.349	1.00	0.641	pCi/L	05/21/25 08:14	06/13/25 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.0*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*1*
Y Carrier	*77.0*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:09*	*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	0.0710	U	0.382	0.382	5.00	0.641	pCi/L		06/16/25 22:38	1

Client Sample ID: DUP-01 — Lab Sample ID: 240-224773-13

Date Collected: 05/13/25 00:00 — **Matrix: Water**
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.160	U	0.187	0.187	1.00	0.301	pCi/L	05/21/25 08:08	06/13/25 17:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*30 - 110*	*05/21/25 08:08*	*06/13/25 17:10*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.19**		0.489	0.501	1.00	0.633	pCi/L	05/21/25 08:14	06/13/25 12:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:12*	*1*
Y Carrier	*80.0*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:12*	*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	**1.35**		0.524	0.535	5.00	0.633	pCi/L		06/16/25 22:38	1

Client: TRC Environmental Corporation. Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: EB-1
Lab Sample ID: 240-224773-14

Date Collected: 05/13/25 11:39
Matrix: Water
Date Received: 05/17/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0670	U	0.153	0.153	1.00	0.285	pCi/L	05/21/25 08:08	06/13/25 17:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.8*		*30 - 110*	*05/21/25 08:08*	*06/13/25 17:10*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.312	U	0.308	0.310	1.00	0.494	pCi/L	05/21/25 08:14	06/13/25 12:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.8*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:12*	*1*
Y Carrier	*85.2*		*30 - 110*	*05/21/25 08:14*	*06/13/25 12:12*	*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	0.379	U	0.344	0.346	5.00	0.494	pCi/L		06/16/25 22:38	1

Tracer/Carrier Summary

Client: TRC Environmental Corporation. Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Method: 903.0 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
240-224773-1	JCW-MW-18001	94.5
240-224773-1 DU	JCW-MW-18001	97.5
240-224773-2	JCW-MW-18004	63.9
240-224773-3	JCW-MW-18005	87.6
240-224773-4	JCW-MW-18006	83.1
240-224773-5	MW-50	88.8
240-224773-6	MW-51	84.1
240-224773-7	MW-52	94.8
240-224773-8	MW-53	92.3
240-224773-9	MW-53R	83.3
240-224773-10	MW-54R	97.3
240-224773-11	MW-55	86.3
240-224773-12	OW-57ROUT	94.0
240-224773-13	DUP-01	80.3
240-224773-14	EB-1	90.8
LCS 160-718621/2-A	Lab Control Sample	90.0
MB 160-718621/1-A	Method Blank	87.1

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
240-224773-1	JCW-MW-18001	94.5	87.1
240-224773-1 DU	JCW-MW-18001	97.5	83.0
240-224773-2	JCW-MW-18004	63.9	77.8
240-224773-3	JCW-MW-18005	87.6	81.5
240-224773-4	JCW-MW-18006	83.1	85.2
240-224773-5	MW-50	88.8	80.7
240-224773-6	MW-51	84.1	77.0
240-224773-7	MW-52	94.8	82.2
240-224773-8	MW-53	92.3	82.2
240-224773-9	MW-53R	83.3	81.1
240-224773-10	MW-54R	97.3	79.3
240-224773-11	MW-55	86.3	81.1
240-224773-12	OW-57ROUT	94.0	77.0
240-224773-13	DUP-01	80.3	80.0
240-224773-14	EB-1	90.8	85.2
LCS 160-718622/2-A	Lab Control Sample	90.0	84.5
MB 160-718622/1-A	Method Blank	87.1	83.7

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-718621/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 722314 — **Prep Batch: 718621**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.009054	U	0.150	0.150	1.00	0.310	pCi/L	05/21/25 08:08	06/13/25 17:05	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.1		30 - 110	05/21/25 08:08	06/13/25 17:05	1

Lab Sample ID: LCS 160-718621/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 722314 — **Prep Batch: 718621**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			9.58	8.497		1.16	1.00	0.309	pCi/L	89	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	90.0		30 - 110

Lab Sample ID: 240-224773-1 DU — **Client Sample ID: JCW-MW-18001**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 722314 — **Prep Batch: 718621**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.0679	U		0.07151	U	0.170	1.00	0.311	pCi/L			0.01	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	97.5		30 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-718622/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 722314 — **Prep Batch: 718622**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.7612		0.399	0.405	1.00	0.558	pCi/L	05/21/25 08:14	06/13/25 12:03	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.1		30 - 110	05/21/25 08:14	06/13/25 12:03	1
Y Carrier	83.7		30 - 110	05/21/25 08:14	06/13/25 12:03	1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-718622/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 722317 **Prep Batch: 718622**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			9.35	10.11		1.36	1.00	0.578	pCi/L	108	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*90.0*		*30 - 110*
Y Carrier	*84.5*		*30 - 110*

Lab Sample ID: 240-224773-1 DU **Client Sample ID: JCW-MW-18001**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 722317 **Prep Batch: 718622**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.355	U		0.3258	U	0.335	1.00	0.540	pCi/L			0.05	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*97.5*		*30 - 110*
Y Carrier	*83.0*		*30 - 110*

Rad

Prep Batch: 718621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-224773-1	JCW-MW-18001	Total/NA	Water	PrecSep STD	
240-224773-2	JCW-MW-18004	Total/NA	Water	PrecSep STD	
240-224773-3	JCW-MW-18005	Total/NA	Water	PrecSep STD	
240-224773-4	JCW-MW-18006	Total/NA	Water	PrecSep STD	
240-224773-5	MW-50	Total/NA	Water	PrecSep STD	
240-224773-6	MW-51	Total/NA	Water	PrecSep STD	
240-224773-7	MW-52	Total/NA	Water	PrecSep STD	
240-224773-8	MW-53	Total/NA	Water	PrecSep STD	
240-224773-9	MW-53R	Total/NA	Water	PrecSep STD	
240-224773-10	MW-54R	Total/NA	Water	PrecSep STD	
240-224773-11	MW-55	Total/NA	Water	PrecSep STD	
240-224773-12	OW-57ROUT	Total/NA	Water	PrecSep STD	
240-224773-13	DUP-01	Total/NA	Water	PrecSep STD	
240-224773-14	EB-1	Total/NA	Water	PrecSep STD	
MB 160-718621/1-A	Method Blank	Total/NA	Water	PrecSep STD	
LCS 160-718621/2-A	Lab Control Sample	Total/NA	Water	PrecSep STD	
240-224773-1 DU	JCW-MW-18001	Total/NA	Water	PrecSep STD	

Prep Batch: 718622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-224773-1	JCW-MW-18001	Total/NA	Water	PrecSep_0	
240-224773-2	JCW-MW-18004	Total/NA	Water	PrecSep_0	
240-224773-3	JCW-MW-18005	Total/NA	Water	PrecSep_0	
240-224773-4	JCW-MW-18006	Total/NA	Water	PrecSep_0	
240-224773-5	MW-50	Total/NA	Water	PrecSep_0	
240-224773-6	MW-51	Total/NA	Water	PrecSep_0	
240-224773-7	MW-52	Total/NA	Water	PrecSep_0	
240-224773-8	MW-53	Total/NA	Water	PrecSep_0	
240-224773-9	MW-53R	Total/NA	Water	PrecSep_0	
240-224773-10	MW-54R	Total/NA	Water	PrecSep_0	
240-224773-11	MW-55	Total/NA	Water	PrecSep_0	
240-224773-12	OW-57ROUT	Total/NA	Water	PrecSep_0	
240-224773-13	DUP-01	Total/NA	Water	PrecSep_0	
240-224773-14	EB-1	Total/NA	Water	PrecSep_0	
MB 160-718622/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-718622/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
240-224773-1 DU	JCW-MW-18001	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: TRC Environmental Corporation. Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: JCW-MW-18001 — Lab Sample ID: 240-224773-1

Date Collected: 05/13/25 08:29 — **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718621	OGC	EET SL	05/21/25 08:08
Total/NA	Analysis	903.0		1	722314	SWS	EET SL	06/13/25 17:05
Total/NA	Prep	PrecSep_0			718622	OGC	EET SL	05/21/25 08:14
Total/NA	Analysis	904.0		1	722317	SWS	EET SL	06/13/25 12:07
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/16/25 22:38

Client Sample ID: JCW-MW-18004 — Lab Sample ID: 240-224773-2

Date Collected: 05/15/25 07:14 — **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718621	OGC	EET SL	05/21/25 08:08
Total/NA	Analysis	903.0		1	722314	SWS	EET SL	06/13/25 17:05
Total/NA	Prep	PrecSep_0			718622	OGC	EET SL	05/21/25 08:14
Total/NA	Analysis	904.0		1	722317	SWS	EET SL	06/13/25 12:08
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/16/25 22:38

Client Sample ID: JCW-MW-18005 — Lab Sample ID: 240-224773-3

Date Collected: 05/14/25 11:23 — **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718621	OGC	EET SL	05/21/25 08:08
Total/NA	Analysis	903.0		1	722314	SWS	EET SL	06/13/25 17:05
Total/NA	Prep	PrecSep_0			718622	OGC	EET SL	05/21/25 08:14
Total/NA	Analysis	904.0		1	722317	SWS	EET SL	06/13/25 12:09
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/16/25 22:38

Client Sample ID: JCW-MW-18006 — Lab Sample ID: 240-224773-4

Date Collected: 05/14/25 13:10 — **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718621	OGC	EET SL	05/21/25 08:08
Total/NA	Analysis	903.0		1	722314	SWS	EET SL	06/13/25 17:05
Total/NA	Prep	PrecSep_0			718622	OGC	EET SL	05/21/25 08:14
Total/NA	Analysis	904.0		1	722317	SWS	EET SL	06/13/25 12:09
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/16/25 22:38

Lab Chronicle

Client: TRC Environmental Corporation. Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: MW-50
Lab Sample ID: 240-224773-5
Date Collected: 05/13/25 11:26 **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718621	OGC	EET SL	05/21/25 08:08
Total/NA	Analysis	903.0		1	722314	SWS	EET SL	06/13/25 17:06
Total/NA	Prep	PrecSep_0			718622	OGC	EET SL	05/21/25 08:14
Total/NA	Analysis	904.0		1	722317	SWS	EET SL	06/13/25 12:09
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/16/25 22:38

Client Sample ID: MW-51
Lab Sample ID: 240-224773-6
Date Collected: 05/13/25 12:15 **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718621	OGC	EET SL	05/21/25 08:08
Total/NA	Analysis	903.0		1	722314	SWS	EET SL	06/13/25 17:06
Total/NA	Prep	PrecSep_0			718622	OGC	EET SL	05/21/25 08:14
Total/NA	Analysis	904.0		1	722317	SWS	EET SL	06/13/25 12:09
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/16/25 22:38

Client Sample ID: MW-52
Lab Sample ID: 240-224773-7
Date Collected: 05/13/25 13:01 **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718621	OGC	EET SL	05/21/25 08:08
Total/NA	Analysis	903.0		1	722314	SWS	EET SL	06/13/25 17:06
Total/NA	Prep	PrecSep_0			718622	OGC	EET SL	05/21/25 08:14
Total/NA	Analysis	904.0		1	722317	SWS	EET SL	06/13/25 12:09
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/16/25 22:38

Client Sample ID: MW-53
Lab Sample ID: 240-224773-8
Date Collected: 05/13/25 14:00 **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718621	OGC	EET SL	05/21/25 08:08
Total/NA	Analysis	903.0		1	722314	SWS	EET SL	06/13/25 17:07
Total/NA	Prep	PrecSep_0			718622	OGC	EET SL	05/21/25 08:14
Total/NA	Analysis	904.0		1	722317	SWS	EET SL	06/13/25 12:09
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/16/25 22:38

Lab Chronicle

Client: TRC Environmental Corporation. Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: MW-53R — Lab Sample ID: 240-224773-9

Date Collected: 05/13/25 14:37 — **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718621	OGC	EET SL	05/21/25 08:08
Total/NA	Analysis	903.0		1	722314	SWS	EET SL	06/13/25 17:07
Total/NA	Prep	PrecSep_0			718622	OGC	EET SL	05/21/25 08:14
Total/NA	Analysis	904.0		1	722317	SWS	EET SL	06/13/25 12:09
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/16/25 22:38

Client Sample ID: MW-54R — Lab Sample ID: 240-224773-10

Date Collected: 05/14/25 08:28 — **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718621	OGC	EET SL	05/21/25 08:08
Total/NA	Analysis	903.0		1	722316	SWS	EET SL	06/13/25 17:09
Total/NA	Prep	PrecSep_0			718622	OGC	EET SL	05/21/25 08:14
Total/NA	Analysis	904.0		1	722317	SWS	EET SL	06/13/25 12:09
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/16/25 22:38

Client Sample ID: MW-55 — Lab Sample ID: 240-224773-11

Date Collected: 05/14/25 09:58 — **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718621	OGC	EET SL	05/21/25 08:08
Total/NA	Analysis	903.0		1	722316	SWS	EET SL	06/13/25 17:10
Total/NA	Prep	PrecSep_0			718622	OGC	EET SL	05/21/25 08:14
Total/NA	Analysis	904.0		1	722317	SWS	EET SL	06/13/25 12:09
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/16/25 22:38

Client Sample ID: OW-57ROUT — Lab Sample ID: 240-224773-12

Date Collected: 05/14/25 12:05 — **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718621	OGC	EET SL	05/21/25 08:08
Total/NA	Analysis	903.0		1	722316	SWS	EET SL	06/13/25 17:10
Total/NA	Prep	PrecSep_0			718622	OGC	EET SL	05/21/25 08:14
Total/NA	Analysis	904.0		1	722317	SWS	EET SL	06/13/25 12:09
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/16/25 22:38

Lab Chronicle

Client: TRC Environmental Corporation. Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Client Sample ID: DUP-01 — Lab Sample ID: 240-224773-13

Date Collected: 05/13/25 00:00 — **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718621	OGC	EET SL	05/21/25 08:08
Total/NA	Analysis	903.0		1	722316	SWS	EET SL	06/13/25 17:10
Total/NA	Prep	PrecSep_0			718622	OGC	EET SL	05/21/25 08:14
Total/NA	Analysis	904.0		1	722316	SWS	EET SL	06/13/25 12:12
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/16/25 22:38

Client Sample ID: EB-1 — Lab Sample ID: 240-224773-14

Date Collected: 05/13/25 11:39 — **Matrix: Water**
Date Received: 05/17/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			718621	OGC	EET SL	05/21/25 08:08
Total/NA	Analysis	903.0		1	722316	SWS	EET SL	06/13/25 17:10
Total/NA	Prep	PrecSep_0			718622	OGC	EET SL	05/21/25 08:14
Total/NA	Analysis	904.0		1	722316	SWS	EET SL	06/13/25 12:12
Total/NA	Analysis	Ra226_Ra228		1	722322	CAH	EET SL	06/16/25 22:38

Laboratory References:

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

Accreditation/Certification Summary

Client: TRC Environmental Corporation. Job ID: 240-224773-1
Project/Site: Karn/Weadock CCR Groundwater Monitoring

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-27
ANAB	Dept. of Defense ELAP	L2305	04-06-27
ANAB	Dept. of Energy	L2305.01	04-06-27
ANAB	ISO/IEC 17025	L2305	04-06-27
Arizona	State	AZ0813	12-08-25
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-27
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-25
Kentucky (DW)	State	KY90125	12-31-25
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana (All)	NELAP	106151	06-30-25
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
MI - RadChem Recognition	State	9005	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-26
North Carolina (DW)	State	29700	08-02-25
North Dakota	State	R-207	06-30-25
Oklahoma	NELAP	9997	08-31-25
Oregon	NELAP	4157	09-01-25
Pennsylvania	NELAP	68-00540	02-28-26
South Carolina	State	85002	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	525-23-138-94730	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-26
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

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

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone (330) 497-9396 Phone (330) 497-0772

MICHIGAN 190

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: A. Kast	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-132626-29048.1
Client Contact: Jacob Krenz	Phone:	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin:	Page: Page 1 of 2
Company: TRC Environmental Corporation.	PWSID:			Job #:
Address: 1540 Eisenhower Place	Due Date Requested:			
City: Ann Arbor	TAT Requested (days): Standard			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 734-971-7080(Tel) 734-971-9022(Fax)	PO #: 228027			
Email: JKrenz@trccompanies.com	WO #: 5533828.0000			
Project Name: Karn/Weadock CCR JCW Lanfill	Project #: 24024154			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
D - HNO3

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	904.0, Ra226Ra228_GFPC	903.0 - Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D		
JCW-MW-18001	5/13/25	0829	G	Water	N	N	X	X		
JCW-MW-18004	5/15/25	0714	G	Water	N	N	X	X		
JCW-MW-18005	5/14/25	1123	G	Water	N	N	X	X		
JCW-MW-18006	5/14/25	1310	G	Water	N	N	X	X		
MW-50	5/13/25	1126	G	Water	N	N	X	X		
MW-51	5/13/25	1215	G	Water	N	N	X	X		
MW-52	5/13/25	1301	G	Water	N	N	X	X		
MW-53	5/13/25	1400	G	Water	N	N	X	X		
MW-53R	5/13/25	1437	G	Water	N	N	X	X		
MW-54R	5/14/25	0825	G	Water	N	N	X	X		
MW-55	5/14/25	0958	G	Water	N	N	X	X		

240-224773 COC

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Ashlyn Kast	5/15/25 0835	TRC	TRC Fridge Storage (AM)	5/15/25 1405	TRC
2	Mandi Bell	5/16/25 0902	TRC	Lilly McC	5/16/25 0902	EETA
3	Lilly McC	5/16/25 0900	EETA	J Collins	5/17/25 800	ECC

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

Cooler Temperature(s) °C and Other Remarks:

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone (330) 497-9396 Phone (330) 497-0772

MICHIGAN
190

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: A. Kast	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-132626-29048.2
Client Contact: Jacob Krenz	Phone:	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin:	Page: Page 2 of 2
Company: TRC Environmental Corporation.	PWSID:			Job #:
Address: 1540 Eisenhower Place	Due Date Requested:			
City: Ann Arbor	TAT Requested (days): standard			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 734-971-7080(Tel) 734-971-9022(Fax)	PO #: 228027			
Email: JKrenz@trccompanies.com	WO #: 5533828.0000			
Project Name: Karn/Weadock CCR JCW Lanfill	Project #: 24024154			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
D - HNO3

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	904.0, Ra226Ra228_GFPC	903.0 - Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D		
OW-57ROUT	5/14/25	1205	G	Water	N	N	X	X		
DUP-01	5/13/25	—	G	Water	N	N	X	X		
EB--1	5/13/25	1139	G	Water	N	N	X	X		
				Water						

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Ashton Kast	5/15/25 0835	TRC	TRC Fedex Storage	5/15/25 1405	TRC
2	Michelle Bell	5/16/25 0902	TRC	Lilly Mich	5/16/25 0902	EETA
3	Lilly Mich	5/16/25 0902	EETA	S Collins	5/17/25 600	Lab

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

Cooler Temperature(s) °C and Other Remarks:

Ver: 05/06/2024

6/17/2025

Eurofins – Cleveland Sample Receipt Form/Narrative Login # :
Barberton Facility

Client TRC Environmental Corporation Site Name

Cooler unpacked by: JC

Cooler Received on 5/17/25 Opened on 5/17/25

FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

Eurofins Cooler # EC Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☑ See Multiple Cooler Form

IR GUN # 13 (CF +0.5 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	Yes	No
11. Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC457151
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #	Yes	No
17. Was a LL Hg or Me Hg trip blank present?	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM Date by via Verbal Voice Mail Other

Concerning

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Labeled by:

Labels Verified by:

19. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.

Sample(s) were received in a broken container.

Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

Time preserved: Preservative(s) added/Lot number(s):

VOA Sample Preservation - Date/Time VOAs Frozen:

Login # : _____

6/17/2025

Eurofins - Cleveland Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client Box Other	IR GUN #: [1]	4.1	4.6	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: [2]	5.1	5.6	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: [3]	3.8	4.3	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:	

5/17/2025

Login Container Summary Report

240-224773

6/17/2025

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
JCW-MW-18001	240-224773-A-1	Plastic 1 liter - Nitric Acid	<2			
JCW-MW-18001	240-224773-B-1	Plastic 1 liter - Nitric Acid	<2			
JCW-MW-18004	240-224773-A-2	Plastic 1 liter - Nitric Acid	<2			
JCW-MW-18004	240-224773-B-2	Plastic 1 liter - Nitric Acid	<2			
JCW-MW-18005	240-224773-A-3	Plastic 1 liter - Nitric Acid	<2			
JCW-MW-18005	240-224773-B-3	Plastic 1 liter - Nitric Acid	<2			
JCW-MW-18006	240-224773-A-4	Plastic 1 liter - Nitric Acid	<2			
JCW-MW-18006	240-224773-B-4	Plastic 1 liter - Nitric Acid	<2			
MW-50	240-224773-A-5	Plastic 1 liter - Nitric Acid	<2			
MW-50	240-224773-B-5	Plastic 1 liter - Nitric Acid	<2			
MW-51	240-224773-A-6	Plastic 1 liter - Nitric Acid	<2			
MW-51	240-224773-B-6	Plastic 1 liter - Nitric Acid	<2			
MW-52	240-224773-A-7	Plastic 1 liter - Nitric Acid	<2			
MW-52	240-224773-B-7	Plastic 1 liter - Nitric Acid	<2			
MW-53	240-224773-A-8	Plastic 1 liter - Nitric Acid	<2			
MW-53	240-224773-B-8	Plastic 1 liter - Nitric Acid	<2			
MW-53R	240-224773-A-9	Plastic 1 liter - Nitric Acid	<2			
MW-53R	240-224773-B-9	Plastic 1 liter - Nitric Acid	<2			
MW-54R	240-224773-A-10	Plastic 1 liter - Nitric Acid	<2			
MW-54R	240-224773-B-10	Plastic 1 liter - Nitric Acid	<2			
MW-55	240-224773-A-11	Plastic 1 liter - Nitric Acid	<2			
MW-55	240-224773-B-11	Plastic 1 liter - Nitric Acid	<2			
OW-57ROUT	240-224773-A-12	Plastic 1 liter - Nitric Acid	<2			
OW-57ROUT	240-224773-B-12	Plastic 1 liter - Nitric Acid	<2			
DUP-01	240-224773-A-13	Plastic 1 liter - Nitric Acid	<2			
DUP-01	240-224773-B-13	Plastic 1 liter - Nitric Acid	<2			
EB-1	240-224773-A-14	Plastic 1 liter - Nitric Acid	<2			
EB-1	240-224773-B-14	Plastic 1 liter - Nitric Acid	<2			

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Brooks, Kris M	Carrier Tracking No(s): N/A	COC No: 240-202597.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin: Michigan	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): N/A		Job #: 240-224773-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 6/18/2025			Preservation Codes: -
City: Earth City	TAT Requested (days): N/A			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Karn/Weadock CCR Groundwater Monitoring	Project #: 24024154			
Site: N/A	SSOW#: N/A			Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_STD Standard Target List	904.0/PrecSep_0 Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
JCW-MW-18001 (240-224773-1)	5/13/25	08:29 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
JCW-MW-18004 (240-224773-2)	5/15/25	07:14 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
JCW-MW-18005 (240-224773-3)	5/14/25	11:23 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
JCW-MW-18006 (240-224773-4)	5/14/25	13:10 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-50 (240-224773-5)	5/13/25	11:26 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-51 (240-224773-6)	5/13/25	12:15 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-52 (240-224773-7)	5/13/25	13:01 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-53 (240-224773-8)	5/13/25	14:00 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-53R (240-224773-9)	5/13/25	14:37 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.

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

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

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

Relinquished by: MALISSA LOAR	Date/Time: 5-19-25 8AM	Company	Received by: [signature]	Date/Time: 1010 MAY 20 2025	Company
Relinquished by:	Date/Time:	Company	Received by: Cheyenne Forrest	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Brooks, Kris M	Carrier Tracking No(s): N/A	COC No: 240-202597.2
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin: Michigan	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): N/A		Job #: 240-224773-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 6/18/2025			Preservation Codes: -
City: Earth City	TAT Requested (days): N/A			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Karn/Weadock CCR Groundwater Monitoring	Project #: 24024154			
Site: N/A	SSOW#: N/A			Other: N/A

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_STD Standard Target List	904.0/PrecSep_0 Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-54R (240-224773-10)	5/14/25	08:28 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-55 (240-224773-11)	5/14/25	09:58 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
OW-57ROUT (240-224773-12)	5/14/25	12:05 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
DUP-01 (240-224773-13)	5/13/25	Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
EB-1 (240-224773-14)	5/13/25	11:39 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
MALISSA LOAR	5-19-25 8AM		[signature]	1010 MAY 20 2025	
Relinquished by:	Date/Time:	Company	Received by: Cheyenne Forrest	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

eurofins | Environment Testing

CONDITION UPON RECEIPT FORM

240-224776 Login
PM: Brooks, Kris M
Company: TRC Environmental Corpo

Client: Cleveland

Initiated by: MLP Date: MAY 20 2025 Time: 1010 Shipper: FE Package Quantity:

- Mercury solid samples must be received at 0- 6°C. If not, note temp below.
- Metal solid samples must be refrigerated (0- 6°C) upon receipt.
- If samples are from West Virginia, please fill out form ADMIN-0031.

Thermometer ID and CF (Circle One):
ID: CF: ID: IR-1 CF: -(

	Shipping #(s)	Uncorrected Package Temp (°C)	Corrected Pac Temp (°C)
1.	4238 4619 4962	12.8	12.6
2.	4951	13.2	13.0
3.	4940	1.7	1.5
4.	5796	-0.3	-0.5
5.			
6.			

Condition Circle "Y" for yes, "N" for no and "N/A" for not applicable.
Inspected by: CLF

1.	Y (N)	Are there custody seals present on the cooler?	9.	Y N (N/A)	Do custody seals on bottles appear to be tampered with?
2.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?	10.	(Y) N	Sample received in proper containers?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	11.	Y N (N/A)	Headspace in Rn-222 samples? • Any air bubble must have NCM • If Yes, note sample ID's below
4.	(Y) N	Sample received with Chain of Custody (COC)?	12.	(Y) N N/A	Individual containers frisked after unpacking? CLF
5.	(Y) N	Does the COC include the following : • sample ID's that match the container(s)? • location, date and time of collection? • collector's name? • sample preservation type?	13.	(Y) N N/A	Was sample received with proper pH? pH strip lot #: LRS-4801 If not: • contact PM (do not adjust without approval) • Record sample ID and pH in notes • If pH is adjusted, record info below
6.	Y (N)	Was sample received broken?	14.	Y N (N/A)	Are containers for Rn-222, C-14, Cl-36, H-3 & I-129/131 marked with "Do Not Preserve" label?
7.	(Y) N	Is sample volume sufficient for analysis?	15.	Y N (N/A)	Are soil containers for C-14, H-3 & I-129/131 marked with "Do Not Dry" label?
8.	Y (N)	Are there custody seals present on bottles?			

Notes:

pH Adjustment (if needed)	
Preservative and lot#:	Date/Time of Preservation:
Amount of Preservative:	Final pH checked by (initials/date):
	Final pH and pH strip lot#:

Login Sample Receipt Checklist

Client: TRC Environmental Corporation.

Job Number: 240-224773-1

Login Number: 224773
List Number: 2
Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis
List Creation: 05/20/25 12:25 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	

Appendix F
Field Records

TRC

PROJECT NAME:	CEC Karn LF: 2025 GW Compliance
PROJECT NUMBER:	634694.0000.0000
PROJECT MANAGER:	Darby Litz
SITE LOCATION:	2742 Weadock Hwy Essexville, MI 48732
DATES OF FIELDWORK:	5/12/2025 TO
PURPOSE OF FIELDWORK:	Second Quarter Sampling Event
WORK PERFORMED BY:	A. Whaley, A. Kast, E. Wielgopolski

5-29-25
SIGNED DATE

6/2/25
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME: CEC Karn LF: 2025 GW Compliand	DATE: 5/12/25	TIME ARRIVED: 0830
PROJECT NUMBER: 634694.0000.0000	AUTHOR: AW, AK (ER)	TIME LEFT: 1630

WEATHER

TEMPERATURE: 69-46 °F WIND: 5-10 MPH VISIBILITY: Clear

WORK / SAMPLING PERFORMED

- Safety orientation with Andrew
- Calibrated YSI, Lamotte
- Sampled wells - MW-01, MW-03, MW-06, MW-08, MW-16, MW-14, MW-12, MW-10
- WL for MW-23, OW-07

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
None	

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

S Wm. 5-15-25
SIGNED DATE

5-16-25
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME: CEC Karn LF: 2025 GW Compliance	DATE: 5/12/25	TIME ARRIVED: 0800
PROJECT NUMBER: 634694.0000.0000	AUTHOR: AW, AK, ER	TIME LEFT: 1740

WEATHER

TEMPERATURE: 60-80 °F WIND: 10-15 MPH VISIBILITY: clear

WORK / SAMPLING PERFORMED

Arrive on-site & check in w/ security
Contact John Gaeth for well keys & to notify of arrival
Collect site-wide water levels

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

Ashley Watt 5/20/25
SIGNED DATE

E Wiffin 6/2/25
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME:	CEC Karn BAP/LI: 2025 GW Comp	DATE: 5-12-25	TIME ARRIVED: 0810
PROJECT NUMBER:	634695.0000.00000	AUTHOR: AK EW AW	TIME LEFT: 1740

WEATHER		
TEMPERATURE: 63-76 °F	WIND: 0-10 MPH	VISIBILITY: Clear

WORK / SAMPLING PERFORMED

Site orientation
Water levels

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
No access to decommissioning area	collect water levels / samples on 5-14-25

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM - Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	Purge to Ground

5-15-25
SIGNED DATE

5-15-25
CHECKED BY DATE

TRC

WATER LEVEL DATA

PROJECT NAME:	CEC Karn/Weadock: 2024 GW Compliance	DATE: 5-12-25
PROJECT NUMBER:	634694.0000/634695.0000	AUTHOR: AW AK, EW

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
MW-01	—	TOC	—	—	NA	NM
MW-02	1500	TOC	18.25	30.35	NA	NM
MW-03	—	TOC	—	—	NA	NM
MW-04	15:12	TOC	18.92	33.83	NA	NM
MW-06	09:25	TOC	9.91	24.36	NA	NM
MW-08		TOC			NA	NM
MW-10		TOC			NA	NM
MW-12		TOC			NA	NM
MW-14		TOC			NA	NM
MW-16		TOC			NA	NM
MW-17	13:55	TOC	14.51	~~24.30~~ 24.30 (AW)	NA	NM
MW-18	14:15	TOC	27.54	39.65	NA	NM
MW-19	14:23	TOC	17.84	29.93	NA	NM
MW-20	15:17	TOC	53.42	72.00	NA	NM
MW-21	15:23	TOC	52.13	60.58	NA	NM
MW-22	15:30	TOC	17.65	29.57	NA	NM
MW-23	16:31	TOC	Dry	15.09	NA	NM
OW-01	15:02	TOC	51.96	64.05	NA	NM
OW-02	15:32	TOC	16.56	22.00	NA	NM
OW-03	15:39	TOC	17.89	28.76	NA	NM
OW-04		TOC			NA	NM
OW-05		TOC			NA	NM
OW-06	16:58	TOC	23.15	25.20	NA	NM
OW-07	16:35	TOC	16.07	23.90	NA	NM
OW-08	—	TOC	—	—	NA	NM

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

SIGNED 5-15-25 DATE

CHECKED 5/22/25 DATE

TRC

WATER LEVEL DATA

PROJECT NAME:	CEC Karn/Weadock: 2024 GW Compliance	DATE:	5-12-25
PROJECT NUMBER:	634694.0020	AUTHOR:	AW, AK, EW

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
MW-01	0959	TOC	17.94	24.31	NA	NM
MW-02	—	TOC	—	—	NA	NM
MW-03	1059	TOC	18.24	30.70	NA	NM
MW-04	—	TOC	—	—	NA	NM
MW-06	1157	TOC	9.89	24.33	NA	NM
MW-08	1248	TOC	18.10	27.47	NA	NM
MW-10	1545	TOC	17.31	24.88	NA	NM
MW-12	1457	TOC	19.07	23.98	NA	NM
MW-14	1423	TOC	15.01	19.0	NA	NM
MW-16	1344	TOC	16.75	21.27	NA	NM
MW-17		TOC			NA	NM
MW-18		TOC			NA	NM
MW-19		TOC			NA	NM
MW-20		TOC			NA	NM
MW-21		TOC			NA	NM
MW-22		TOC			NA	NM
MW-23	1631	TOC	DRY	15.09	NA	NM
OW-01		TOC			NA	NM
OW-02		TOC			NA	NM
OW-03		TOC			NA	NM
OW-04		TOC			NA	NM
OW-05		TOC			NA	NM
OW-06		TOC			NA	NM
OW-07	1635	TOC	16.07	23.90	NA	NM
OW-08	—	TOC	—	—	NA	NM

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

SIGNED 5-16-25 DATE

CHECKED 5-16-25 DATE

TRC

WATER LEVEL DATA

PROJECT NAME: CEC Karn/Weadock: 2025 GW Compliance	DATE: 5/12/25
PROJECT NUMBER: 634694.0000	AUTHOR: AW, (AK) EW

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
MW-01		TOC			NA	NM
MW-02		TOC			NA	NM
MW-03		TOC			NA	NM
MW-04	1305	TOC	18.82	33 (186.85)	NA	NM
MW-06		TOC			NA	NM
MW-08		TOC			NA	NM
MW-10		TOC			NA	NM
MW-12		TOC			NA	NM
MW-14		TOC			NA	NM
MW-16		TOC			NA	NM
MW-17		TOC			NA	NM
MW-18		TOC			NA	NM
MW-19		TOC			NA	NM
MW-20		TOC			NA	NM
MW-21		TOC			NA	NM
MW-22		TOC			NA	NM
MW-23		TOC			NA	NM
OW-01		TOC			NA	NM
OW-02		TOC			NA	NM
OW-03		TOC			NA	NM
OW-04		TOC			NA	NM
OW-05	1422	TOC	14.21	17.49	NA	NM
OW-06		TOC			NA	NM
OW-07		TOC			NA	NM
OW-08	1327	TOC	11.06	17.93	NA	NM

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

SIGNED 5/20/25 DATE

CHECKED 5-22-25 DATE

TRC

WATER LEVEL DATA

PROJECT NAME:	CEC Karn/Weadock: 2025 GW Compliance	DATE:	5/12/25
PROJECT NUMBER:	634698.0000	AUTHOR:	A. Whaley, A. Kast, E. Wielgo

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
OW-09	1330	TOC	10.44	12.79	NA	NM
OW-10		TOC			NA	NM
OW-11		TOC			NA	NM
OW-12		TOC			NA	NM
OW-13		TOC			NA	NM
OW-15		TOC			NA	NM
EW-01		TOC			NA	NM
EW-02		TOC			NA	NM
EW-03		TOC			NA	NM
EW-04	1442	TOC	15.28	20.64	NA	NM
EW-05	1452	TOC	14.61	19.39	NA	NM
EW-06	1458	TOC	11.13	16.29	NA	NM
PZ-01		TOC			NA	NM
PZ-02		TOC			NA	NM
PZ-03		TOC			NA	NM
PZ-04		TOC			NA	NM
PZ-05		TOC			NA	NM
PZ-06		TOC			NA	NM
PZ-07		TOC			NA	NM
PZ-08	1415	TOC	15.21	20.66	NA	NM
PZ-09	1448	TOC	14.94	21.61	NA	NM
PZ-10	1444	TOC	11.37	17.78	NA	NM
PZ-11	1435	TOC	14.25	18.02	NA	NM

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

SIGNED 5/20/25 DATE

CHECKED 5-22-25 DATE

TRC

WATER LEVEL DATA

PROJECT NAME:	CEC Karn/Weadock: 2024 GW Compliance	DATE:	5-12-25
PROJECT NUMBER:	634694.0000 / 634695.0000	AUTHOR:	A. Whaley, A. Kast, E. Wielgo

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
OW-09	—	TOC	—	—	NA	NM
OW-10	1352	TOC	7.97	17.88	NA	NM
OW-11	1400	TOC	25.04	25.45	NA	NM
~~OW-12~~		~~TOC~~			~~NA~~	~~NM~~
* OW-13	16:15	TOC	4.18	14.38	NA	NM
OW-15	16:58	TOC	3.39	19.72	NA	NM
EW-01	15:55	TOC	14.35	19.90	NA	NM
EW-02	16:10	TOC	15.86	21.05	NA	NM
EW-03	16:44	TOC	15.40	20.75	NA	NM
EW-04		TOC			NA	NM
EW-05		TOC			NA	NM
EW-06		TOC			NA	NM
PZ-01	15:50	TOC	13.80	14.15	NA	NM
PZ-02	15:47	TOC	15.83	23.10	NA	NM
PZ-03	16:01	TOC	15.71	20.87	NA	NM
PZ-04	16:13	TOC	15.44	20.94	NA	NM
PZ-05	16:17	TOC	15.40	21.40	NA	NM
PZ-06	16:25	TOC	15.95	20.35	NA	NM
PZ-07	16:35	TOC	15.51	21.00	NA	NM
PZ-08		TOC			NA	NM
PZ-09		TOC			NA	NM
PZ-10		TOC			NA	NM
PZ-11		TOC			NA	NM

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

SIGNED 5-15-25 DATE

CHECKED 5/22/25 DATE

TRC

WATER LEVEL DATA

PROJECT NAME:	CEC Karn/Weadock: 2025 GW Compliance	DATE:	5/12/25
PROJECT NUMBER:	634844.0000/634845.0000	AUTHOR:	A. Whaley, A. Kast, E. Wielgo

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
DEK-MW-18001	13:58	TOC	9.62	19.66	NA	NM
* DEK-MW-15002	14:49	TOC	7.12	15.73		
DEK-MW-15003	1410	TOC	19.44	28.00		
DEK-MW-15004	14:18		29.69	41.80		
DEK-MW-15005	14:27		10.55	22.32		
* DEK-MW-15006	1500		9.92	21.52		
DEK-MW-22001	1432		10.62	24.20		
DEK-MW-22002	1443		12.28	26.82		
DEK-MW-22003	1449		12:05	24.45		
DEK-MW-22004	14:30		10.44	22.44		
DEK-MW-22005	1435		8.76	20.29		
DEK-MW-22006	14:52		9.07	17.10		
MW-15002	~~TOC~~ 10:18	TOC	6.70	16.93	NA	NM
MW-15008	12:52	TOC	4.51	17.45		
MW-15016	11:16	TOC	4.00	7.75		
MW-15019	1207	TOC	5.40	16.78		

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

SIGNED — DATE 5-15-25

CHECKED — DATE 5/22/25

TRC

WATER LEVEL DATA

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance	DATE:	5/12/25
PROJECT NUMBER:	634698.0000.0000	AUTHOR:	A. Whaley, A. Kast, E. Wielgo

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
JCW-MW-18001	0954	TOC	17.72	23.76	NA	NM
JCW-MW-18004	1134	TOC	12.50	14.75	NA	NM
JCW-MW-18005	0849	TOC	8.63	16.34	NA	NM
JCW-MW-18006	0942	TOC	13.45	23.70	NA	NM
JCW-OW-18001	0956	TOC	6.49	20.76	NA	NM
JCW-OW-18002	1013	TOC	10.05	19.82	NA	NM
JCW-OW-18003	1032	TOC	8.15	18.62	NA	NM
JCW-OW-18004	1132	TOC	6.16	14.85	NA	NM
JCW-OW-18006	0939	TOC	7.06	23.47	NA	NM
LH-103R	1225	TOC (AK 7/1/25) 21.72	21.15	33.49	NA	NM
LH-104	1155	TOC	7.81	14.16	NA	NM — Loose casing
MW-20	0852	TOC	6.94	14.03	NA	NM
MW-50	1015	TOC	14.36	19.30	NA	NM
MW-51	1021	TOC	15.03 17	20.00	NA	NM
MW-52	1035	TOC 15.77	15.77	19.93	NA	NM
MW-53	1057	TOC	14.43	18.32	NA	NM
MW-53R	1107	TOC	15.15	18.85	NA	NM
MW-54R	1122	TOC	14.60	17.22	NA	NM
MW-55	1145	TOC	14.66	16.40	NA	NM
MW-58	1426	TOC	6.48	18.27	NA	NM
OW-51	1023	TOC 8.99	8.59	17.29	NA	NM
OW-53	1055	TOC	7.25	17.96	NA	NM
OW-54	1119	TOC	7.04	16.50	NA	NM
OW-55	1148	TOC	6.01	19.84	NA	NM
OW-56	0900	TOC	5.64	19.38	NA	NM

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

SIGNED 5/20/25 DATE

CHECKED 5-22-25 DATE

REVISED 04/2019

TRC

WATER LEVEL DATA

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance	DATE:
PROJECT NUMBER:	634698.0000.0000	AUTHOR: A. Whaley, A. Kast, E. Wielgo

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
OW-56R	0858	TOC	5.65	20.23	NA	NM
OW-57 IN	0921	TOC	5.57	19.61	NA	NM
OW-57R IN	0922	TOC	5.76	20.20	NA	NM
OW-57 OUT	0916	TOC	10.21	19.57	NA	NM
OW-57R OUT	0914	TOC	9.67	20.26	NA	NM
OW-61	1005	TOC	7.47	26.21	NA	NM
~~OW-63~~		~~TOC~~			NA	~~NM~~
JCW-MW-15007	1403	TOC	3.76	8.91	NA	NM
JCW-MW-15009	1345	TOC	9.01	13.01	NA	NM
JCW-MW-15010	1355	TOC	17.94	19.58	NA	NM
JCW-MW-15028	1340	TOC	7.31	25.09	NA	NM
~~MW-15002~~						
~~MW-15008~~						
~~MW-15016~~						
~~MW-15019~~						

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

[signature] 5/20/25
SIGNED DATE

[signature] 5-22-25
CHECKED DATE

TRC

PROJECT NAME:	CEC Weadock ~~E~~ Background 2025 GW Compliance
PROJECT NUMBER:	634698.0000.0000
PROJECT MANAGER:	Darby Litz
SITE LOCATION:	2742 Weadock Hwy Essexville, MI 48732
DATES OF FIELDWORK:	5/12/2025
PURPOSE OF FIELDWORK:	Second Quarter 2025 Groundwater Sampling
WORK PERFORMED BY:	A. Whaley, A. Kast, E. Wielgopolski

5-15-25
SIGNED DATE

5/20/25
CHECKED BY DATE

REVISED 04/2019

TRC

GENERAL NOTES

PROJECT NAME:	CEC Weadock ~~LF~~ Plant Background 2025 GW Com	DATE: 5-12-25	TIME ARRIVED: 08:10
PROJECT NUMBER:	634698.0000.0000	AUTHOR: (AW) JK JJ	TIME LEFT: 17:40

WEATHER		
TEMPERATURE: 62-74 °F	WIND: 0-10 MPH	VISIBILITY: Clear

WORK / SAMPLING PERFORMED

Site orientation, Calibrate Meter
Sample Background wells MW-150002, 15008, 15016, and MW-15019
Water levels

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
None	

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

Adam White 5-15-25
SIGNED DATE

Adam Kult 5/20/25
CHECKED BY DATE

TRC

EQUIPMENT SUMMARY

PROJECT NAME:	Karn/ Background CEC Weadock LF 2025 GW Co	SAMPLER NAME:	~~J. Jasso,~~ A. Whaley
PROJECT NO.:	634698.0000.0000		

WATER LEVEL MEASUREMENTS COLLECTED WITH:

HERON DIPPER-T	TRC A2
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

PRODUCT LEVEL MEASUREMENTS COLLECTED WITH:

NA	NA
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

DEPTH TO BOTTOM OF WELL MEASUREMENTS COLLECTED WITH:

HERON DIPPER-T	TRC A2
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

PURGING METHOD

PERISTALTIC PUMP	TRC A2
NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)

SAMPLING METHOD

PERISTALTIC PUMP	TRC A2
NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)
NA	NA
NAME AND MODEL OF FILTERATION DEVICE	FILTER TYPE AND SIZE
DEDICATED POLY TUBING	☑ LOW-FLOW SAMPLING EVENT
TUBING TYPE	

PURGE WATER DISPOSAL METHOD

☑ GROUND ☐ DRUM ☐ POTW ☐ POLYTANK ☐ OTHER _____

DECONTAMINATION AND FIELD BLANK WATER SOURCE

STORE BOUGHT	LABORATORY PROVIDED
POTABLE WATER SOURCE	DI WATER SOURCE
5-15-25	5/20/25
SIGNED / DATE	CHECKED BY / DATE

REVISED 04/2019

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	CEC Weadock LF 2025 GW Compliance Kaml Background	MODEL: YSI Pro DSS	SAMPLER: AW AK EW
PROJECT NO.:	634698.0000.0000	SERIAL #: TRC A2	DATE: 5-15-25

PH CALIBRATION CHECK

pH 7 (LOT #): 5GB0488 (EXP. DATE): Feb 27 POST-CAL. READING / STANDARD	pH 4 10 (LOT #): 4.00 5GB0477 (EXP. DATE): Feb 27 POST-CAL. READING / STANDARD	CAL. RANGE	TIME
7.02 / 7.02	4.00 / 4.00	☒ WITHIN RANGE	09:48
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 5GB 1086 (EXP. DATE): Feb 26 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
1288 / 1288	20.1	☒ WITHIN RANGE	09 54
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 24M100419 (EXP. DATE): Dec 29 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
241.0 / 241.0	19.7	☒ WITHIN RANGE	09 57
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING POST-CAL. READING / SATURATED AIR	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
100% / 100%		☒ WITHIN RANGE	10:00
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): 24004711 (EXP. DATE): 2/25 POST-CAL. READING / STANDARD	(LOT #): 24006053 (EXP. DATE): 3/25 POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0 / 0	9.97 / 10.0	☒ WITHIN RANGE	10:05
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION (LOT #): (EXP. DATE):	☑ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	CALIBRATION RANGES (1)
☐ pH	pH: +/- 0.2 S.U.
☐ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

Separate Turbidity Meter
LaMotte 2020e

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
None	

SIGNED 5-15-25 DATE

CHECKED BY 5/20/25 DATE

TRC WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF 2025 GW C ~~Background~~ Rain	PREPARED	CHECKED
PROJECT NUMBER:	634698.0000.0000	BY (AW) AK EW DATE: 5/12/25	BY: AK DATE: 5/20/25

SAMPLE ID: MW-15002 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 10:18	DATE: 5/12/25	SAMPLE	TIME: 10:38	DATE: 5/12/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 6.70 T/ PVC

DEPTH TO BOTTOM: 16.93 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 4.0 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: None

TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.15 SU CONDUCTIVITY: 4076 umhos/cm

ORP: 84.0 mV DO: 0.80 mg/L

TURBIDITY: 0.11 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 11.8 °C FERROUS Fe — mg/L

COLOR: Clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☒ DUP- Background

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1018	200	6.95	530	197.3	1.52	24.27	12.0	6.70	INITIAL
1023		7.03	465.7	150.1	0.90	3.19	11.8	6.90	1.0
1028		7.11	410.1	90.4	0.79	2.28	11.5	7.00	2.0
1033		7.13	404.8	85.4	0.80	0.10	11.5	7.05	3.0
1038		7.15	407.6	81.0	0.80	0.11	11.8	7.08	4.0

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	A	☐ Y ☒ N		125 mL	PLASTIC	D	☐ Y ☐ N
2	125 mL	PLASTIC	A	☐ Y ☒ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N	4	1 L	PLASTIC	B	☐ Y ☒ N
2	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	Fed-EX	DATE SHIPPED:	5-13-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	A. Wlad	DATE SIGNED:	5-15-25

TRC WATER SAMPLE LOG

PROJECT NAME: Karnl Background CEC Weadock LF 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634698.0000.0000	BY: AW AK EW DATE: 5/12/25	BY: AW DATE: 5/20/25

SAMPLE ID: MW-15 ook | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 12.52	DATE: 5/12/25	SAMPLE	TIME: 13:17	DATE: 5/12/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 4.51 T/ PVC

DEPTH TO BOTTOM: 17.45 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 5.0 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: None

TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.01 SU CONDUCTIVITY: 1441 umhos/cm

ORP: -109.2 mV DO: 0.46 mg/L

TURBIDITY: 0.00 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 11.4 °C FERROUS Fe — mg/L

COLOR: Clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP- ____

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1252	200	7.08	966	-116.1	2.30	1.28	12.0	4.51	INITIAL
1257	↓	7.02	1332	-111.8	0.70	0.51	11.0	↓	1.0
1302		7.02	1364	-111.5	0.61	0.00	10.9		2.0
1307		7.02	1420	-110.0	0.51	0.00	11.1		3.0
1312		7.01	1430	-109.6	0.48	0.00	11.4		4.0
1317	↓	7.01	1441	-109.2	0.46	0.00	11.4	↓	5.0

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N	2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: Fed EX	DATE SHIPPED: 5-13-25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: A. Wilmot	DATE SIGNED: 5-15-25

TRC WATER SAMPLE LOG

PROJECT NAME: Kern Background CEC Weadock LF 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634698.0000.0000	BY: (AW) AK EW DATE: 5/12/25	BY: AK DATE: 5/20/25

SAMPLE ID: MW-15016 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 11:16	DATE: 5/12/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 4.00 T/ PVC

DEPTH TO BOTTOM: 7.75 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 4.0 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: None

TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1141	DATE: 5/12/25

PH: 6.86 SU CONDUCTIVITY: 1370 umhos/cm

ORP: -70.8 mV DO: 0.59 mg/L

TURBIDITY: 0.00 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 120 °C FERROUS Fe ~~mg/L~~

COLOR: Clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR (L))
11:16	200	6.76	926	-17.3	2.94	5.65	12.6	4.25	INITIAL
1121		6.74	1144	-38.7	1.69	0.80	12.1	4.35	1.0
1126		6.77	1285	-56.4	1.10	0.00	12.0	4.40	2.0
1131		6.82	1358	-65.9	0.70	0.00	11.9	4.40	2.0
1136		6.85	1364	-68.7	0.63	0.00	12.0	4.40	3.0
1141		6.86	1370	-70.8	0.59	0.00	12.0	4.40	4.0

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N	2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: Fed EX	DATE SHIPPED: 5-13-25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: A. Wahl	DATE SIGNED: 5-15-25

TRC WATER SAMPLE LOG

PROJECT NAME: Karn/ Background CEC Weadock LF 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634698.0000.0000	BY: (AW) AK EW DATE: 5/12/25	BY: AK DATE: 5/20/25

SAMPLE ID: MW-150I9 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1207	DATE: 5/12/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 5.40 T/ PVC

DEPTH TO BOTTOM: 16.78 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: ~~6.00~~ 3.0 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: none

TURBIDITY: ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1222	DATE: 5/12/25

PH: 6.83 SU CONDUCTIVITY: 1691 umhos/cm

ORP: -64.6 mV DO: 1.90 mg/L

TURBIDITY: 0.00 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 11.1 °C FERROUS Fe ——— mg/L

COLOR: Clear ODOR: none

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: FILTRATE ODOR:

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS: FB-Background collected 1222

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1207	200	6.75	1774	~~5.70~~ -60.1 (AW)	5.70	0.32	12.9	5.40	INITIAL
1212	↓	6.79	1700	-64.7	2.20	0.00	11.0	5.50	1.0
1217		6.82	1694	-65.1	2.07	0.00	11.2	5.52	2.0
1222		6.83	1691	-64.6	1.90	0.00	11.1	5.52	3.0

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ———

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N	2	1 L	PLASTIC	B	☐ Y ☒ N
2	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: Fed Ex	DATE SHIPPED: 5-13-25	AIRBILL NUMBER: ———
COC NUMBER: ———	SIGNATURE: A. Wilson	DATE SIGNED: 5-15-25

9 of 910

CHAIN OF CUSTODY

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135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

Page 1 of 1

SAMPLING SITE / CUSTOMER: Q2-2025 JCW-DEK Background Wells

PROJECT NUMBER: 25-0287

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: A. Whaley

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	REMARKS
25-0287-01	5-12-25	1038	GW	MW-15002	3	2	1						x	x	x	
-02		1317	GW	MW-15008	3	2	1						x	x	x	
-03		1141	GW	MW-15016	3	2	1						x	x	x	
-04		1222	GW	MW-15019	3	2	1						x	x	x	
-05		—	GW	DUP-Background	3	2	1						x	x	x	
-06		1222	W	FB- Background	1								x			

RELINQUISHED BY: A. Whaley — DATE/TIME: 5/12/25 1600 — RECEIVED BY: Fed Ex Shipping

RELINQUISHED BY: — DATE/TIME: — RECEIVED BY:

COMMENTS:

Received on Ice? ☐ Yes ☐ No

Temperature: _____ °C

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: A. Whaley	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-132343-33282.1
Client Contact: Jacob Krenz	Phone: 734-210-9239	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin: MI	Page: Page 1 of 1
Company: TRC Environmental Corporation.	PWSID:	Analysis Requested		Job #:
Address: 1540 Eisenhower Place	Due Date Requested: Standard			Preservation Codes: D - HNO3
City: Ann Arbor	TAT Requested (days): Standard			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 734-971-7080(Tel) 734-971-9022(Fax)	PO #: ~~RO Requested~~ 22-5027			
Email: JKrenz@trccompanies.com	WO #: ~~6~~634698.0000			
Project Name: Karn/Weadock CCR Background Well	Project #: 24024154			
Site:	SSOW#:			Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0, Ra226Ra228_GFPC	904.0 - Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D		
MW-15002	5/12/25	1038	G RAB	Water	N	N	X	X	2	
MW-15008		1317	G	Water	N	N	X	X	2	
MW-15016		1141	G	Water	N	N	X	X	2	
MW-15019		1222	G	Water	N	N	X	X	2	
DUP-Background		—	G	Water	N	N	X	X	2	
EB-Backgroud		1400	C	Water	N	N	X	X	2	
				Water						

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	5/12/25 1940	TRC	TRC, Storage	5-12-25 1940	TRC
Relinquished by: [signature]	Date/Time: 5/16/25 0902	Company TRC	Received by: [signature]	Date/Time: 5/16/25 0902	Company EETM
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 10/10/2024

TRC

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance
PROJECT NUMBER:	634698.0000.0000
PROJECT MANAGER:	Darby Litz
SITE LOCATION:	2742 Weadock Hwy Essexville, MI 48732
DATES OF FIELDWORK:	5/12/2025 TO 5/15/2025
PURPOSE OF FIELDWORK:	Second Quarter 2025 Groundwater Sampling
WORK PERFORMED BY:	A. Kast

A. Kast 6/2/25
SIGNED DATE

E. Wagner 6/2/25
CHECKED BY DATE

EQUIPMENT SUMMARY

PROJECT NAME:	CEC Weadock LF: 2025 GW Co	SAMPLER NAME:	A. Kast
PROJECT NO.:	634698.0000.0000		

WATER LEVEL MEASUREMENTS COLLECTED WITH:

NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)
HERON DIPPER-T	TRC A2

PRODUCT LEVEL MEASUREMENTS COLLECTED WITH:

NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)
NA	NA

DEPTH TO BOTTOM OF WELL MEASUREMENTS COLLECTED WITH:

NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)
HERON DIPPER-T	TRC A2

PURGING METHOD

NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)
PERISTALTIC PUMP	TRC A2

SAMPLING METHOD

NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)
PERISTALTIC PUMP	TRC A2
GEOTECH DISPOSABLE FILTER	0.45 MICRON
NAME AND MODEL OF FILTERATION DEVICE	FILTER TYPE AND SIZE
DEDICATED POLY TUBING	☑ LOW-FLOW SAMPLING EVENT
TUBING TYPE	

PURGE WATER DISPOSAL METHOD

☑ GROUND ☐ DRUM ☐ POTW ☐ POLYTANK ☐ OTHER _____

DECONTAMINATION AND FIELD BLANK WATER SOURCE

POTABLE WATER SOURCE	DI WATER SOURCE
STORE BOUGHT	LABORATORY PROVIDED

SIGNED	DATE	CHECKED BY	DATE
Asher Kast	6/2/25	S Wiffin	6/2/25

REVISED 04/2019

TRC

GENERAL NOTES

PROJECT NAME:	CEC Weadock LF: 2025 GW Com	DATE: 5/12/25	TIME ARRIVED: 0800
PROJECT NUMBER:	634698.0000.0000	AUTHOR: AW ~~JK~~ ~~JJ~~ AK	TIME LEFT: 17:40

WEATHER		
TEMPERATURE: 60-80 °F	WIND: 10-15 MPH	VISIBILITY: Clear

WORK / SAMPLING PERFORMED

Collected static water levels site-wide

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

Adam West 5/20/25
SIGNED DATE

[signature] 6/2/25
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME:	CEC Weadock LF: 2025 GW Com	DATE: 5/13/25	TIME ARRIVED: 0730
PROJECT NUMBER:	634698.0000.0000	AUTHOR: AW ~~JK~~ ~~JJ~~ EW (AK)	TIME LEFT: ~~03~~ 1520

WEATHER		
TEMPERATURE: 70-72 °F	WIND: 10 MPH	VISIBILITY: clear/overcast

WORK / SAMPLING PERFORMED

Check in w/ security @ 7:30
Start sampling Weadock LF: MW-50, MW-51, MW-52, JCW-MW-18001, JCW-MW-18001, MW-53
Collect MS/MSD
collected DUP-JCW-01 and DUP-01 at MW-52

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
Cord on peristaltic pump had a loose connection & would not pump	Swapped out peristaltic pumps w/ Elliot

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

Adam Kast 5/20/25
SIGNED DATE

S Wiffin 6/2/25
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME:	CEC Weadock LF: 2025 GW Com	DATE: 5/14/25	TIME ARRIVED: 0715
PROJECT NUMBER:	634698.0000.0000	AUTHOR: AW ~~JK~~ AW	TIME LEFT:

WEATHER

TEMPERATURE: 65-75 °F WIND: 10-15 MPH VISIBILITY: clear/overcast

WORK / SAMPLING PERFORMED

Arrive on-site, check in w/ security
Sample MW-54R, MW-55, OW-57R OUT, JCW-MW-18004, JCW-MW-18005, JCW-MW-18006,

Collected ~~5000~~ DUP-JCW-LF-02 at MW-55

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
JCW-MW-18004 Can dry while sampling	Collected radium samples on 5/15 at 07:14 AM (confirmed with PM)

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

Alyssa West 5/20/25
SIGNED DATE

E. Wilson 6/2/25
CHECKED BY DATE

TRC

GENERAL NOTES

& weddock

PROJECT NAME: CEC Karn BAP/LI: 2025 GW Comp	DATE: 5/15/25	TIME ARRIVED: 0700
PROJECT NUMBER: 634695.0000.00000	AUTHOR: (AK) EW AW	TIME LEFT: 1130

WEATHER

TEMPERATURE: 65-75 °F WIND: 10-15 MPH VISIBILITY: Clear

WORK / SAMPLING PERFORMED

~~Collect~~ Check in w/ security
Collect radium sample at JCW-MW-18004
Sample DEK-MW-15004, 22005, 22004 & 22002

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM - Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	Purge to Ground

Allen Vest 5/20/25
SIGNED DATE

S Wiffin 6/2/25
CHECKED BY DATE

EQUIPMENT SUMMARY

PROJECT NAME:	CEC Weadock LF: 2025 GW Co	SAMPLER NAME:	~~J. Jasso~~, A. Kast
PROJECT NO.:	634698.0000.0000		

WATER LEVEL MEASUREMENTS COLLECTED WITH:

HERON DIPPER-T	TRC A2
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

PRODUCT LEVEL MEASUREMENTS COLLECTED WITH:

NA	NA
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

DEPTH TO BOTTOM OF WELL MEASUREMENTS COLLECTED WITH:

HERON DIPPER-T	TRC A2
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

PURGING METHOD

PERISTALTIC PUMP	TRC A2
NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)

SAMPLING METHOD

PERISTALTIC PUMP	TRC A2
NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)
NA	NA
NAME AND MODEL OF FILTERATION DEVICE	FILTER TYPE AND SIZE
DEDICATED POLY TUBING	☑ LOW-FLOW SAMPLING EVENT
TUBING TYPE	

PURGE WATER DISPOSAL METHOD

☑ GROUND ☐ DRUM ☐ POTW ☐ POLYTANK ☐ OTHER _____

DECONTAMINATION AND FIELD BLANK WATER SOURCE

STORE BOUGHT	LABORATORY PROVIDED
POTABLE WATER SOURCE	DI WATER SOURCE
Adam Kast 5/28/25	E Nyffenegger 6/2/25
SIGNED DATE	CHECKED BY DATE

REVISED 04/2019

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance	MODEL: ~~YSI Pro DSS~~ Aqua Troll 600	SAMPLER: AW / AK / EW
PROJECT NO.:	634698.0000.0000	SERIAL #: TRC A2	DATE: 5/13/25

PH CALIBRATION CHECK

pH 7 (LOT #): 5GA0404 (EXP. DATE): 1/27 POST-CAL. READING / STANDARD	pH 4 / 10 (LOT #): 4610445 (EXP. DATE): 9/26 POST-CAL. READING / STANDARD	CAL. RANGE	TIME
7.02 / 7.02	4.00 / 4.00	☒ WITHIN RANGE	0737
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 5GA0816 (EXP. DATE): 1/26 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
1260 / 1260	19.20	☒ WITHIN RANGE	0741
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 240100351 (EXP. DATE): 4/19/29 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
230 / 230	19.38	☒ WITHIN RANGE	0744
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING D.I. POST-CAL. READING /SATURATED AIR	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
100% / 100%	19.50	☒ WITHIN RANGE	0746
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): 43097 (EXP. DATE): 4/25 POST-CAL. READING / STANDARD	(LOT #): (EXP. DATE): POST-CAL. READING / STANDARD	CAL. RANGE	TIME
100 / 100	/	☒ WITHIN RANGE	0749
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION (LOT #): (EXP. DATE):	☑ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	CALIBRATION RANGES (1)
☐ pH	pH: +/- 0.2 S.U.
☐ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS

Anna Watt 5/20/25
SIGNED DATE

E Wyffels 6/2/25
CHECKED BY DATE

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance	MODEL: ~~YSI Pro DSS~~ Aqua Troll 600	SAMPLER: AW (AK) EW
PROJECT NO.:	634698.0000.0000	SERIAL #: TRC A2	DATE: 5/14/25

PH CALIBRATION CHECK

pH 7 (LOT #): 5GA0404 (EXP. DATE): 1/27	pH 4 / 10 (LOT #): 461045 (EXP. DATE): 9/26	CAL. RANGE	TIME
POST-CAL. READING / STANDARD	POST-CAL. READING / STANDARD		
7.03 / 7.03	4.00 / 4.00	☒ WITHIN RANGE	0732
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 5GA0816 (EXP. DATE): 1/26	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
POST-CAL. READING / STANDARD			
1215 / 1215	17.6	☒ WITHIN RANGE	0734
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 24D100351 (EXP. DATE): 4/19/29	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
POST-CAL. READING / STANDARD			
235 / 235	18.2	☒ WITHIN RANGE	0736
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING N. I.	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
POST-CAL. READING /SATURATED AIR			
100% / 100%	18.8	☒ WITHIN RANGE	0740
100% / 100%	18.0	☒ WITHIN RANGE	0753
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): A3097 (EXP. DATE): 4/25	(LOT #): (EXP. DATE):	CAL. RANGE	TIME
POST-CAL. READING / STANDARD	POST-CAL. READING / STANDARD		
100 / 100	/	☒ WITHIN RANGE	0742
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION (LOT #): (EXP. DATE):	☑ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	CALIBRATION RANGES (1)
☐ pH	pH: +/- 0.2 S.U.
☐ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS

Adam Kost — SIGNED — 5/20/25 DATE

S Waffler — CHECKED BY — 6/2/25 DATE

TRC

WATER SAMPLE LOG

PROJECT NAME: CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634698.0000.0000	BY: AW (AK) EW DATE: 5/13/25	BY: EW DATE: 6/2/25

SAMPLE ID: MW-50 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1051	DATE: 5/13/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 14.35 T/ PVC

DEPTH TO BOTTOM: 19.30 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 7 ☒ LITERS ☐ GALLONS

COLOR: clear/particulate ODOR: None

TURBIDITY

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1126	DATE: 5/13/25

PH: 7.50 SU CONDUCTIVITY: 1371.2 umhos/cm

ORP: -66.3 mV DO: 0.09 mg/L

TURBIDITY: 1.12 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 11.86 °C FERROUS Fe — mg/L

COLOR: clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
10	200	7.50	1251.8	16.2	8.09	19.19	14.27	14.35	INITIAL
		7.50	845.69	7.8	7.40	17.13	13.56	14.41	1
1101		7.50	322.79	-18.8	7.27	11.10	13.44	14.41	2
1106		7.51	1391.9	-40.4	0.12	11.08	11.93	14.40	3
1110		7.50	1387.2	-50.1	0.10	9.10	11.91	14.40	4
1116		7.50	1379.9	-59.1	0.09	1.13	11.84	14.40	5
1121		7.50	1372.5	-64.4	0.09	1.10	11.88	14.40	6
1126		7.50	1371.2	-66.3	0.09	1.12	11.86	14.40	7
				SAMPLE					

Turned flow thru cell so water made contact w/ sensors

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~125 mL~~	~~PLASTIC~~	~~D~~	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~3~~	~~40 mL~~	~~VOA~~	~~E~~	☐ Y ☐ N
~~3~~	~~60 mL~~	~~VOA~~	~~A~~	☐ Y ☐ N	2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~1~~	~~125 mL~~	~~PLASTIC~~	~~C~~	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: FedEx	DATE SHIPPED: 5/14/25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: Allison Kent	DATE SIGNED: 5/20/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER:	634698.0000.0000	BY: AW (AK) EW DATE: 5/13/25	BY: SW DATE: 6/2/25

SAMPLE ID: MW-51 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1145	DATE: 5/13/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 15.18 T/ PVC

DEPTH TO BOTTOM: 20.00 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 6 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: None

TURBIDITY: ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1215	DATE: 5/13/25

PH: 7.33 SU CONDUCTIVITY: 1403.5 umhos/cm

ORP: -14.7 mV DO: 0.16 mg/L

TURBIDITY: 4.41 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 11.08 °C FERROUS Fe — mg/L

COLOR: Clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP- _____

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1145	200	7.49	1352.8	44.7	3.46	8.85	12.03	15.18	INITIAL
1150		7.36	1410.0	35.3	0.29	6.06	11.26	15.13	1
1155		7.33	1406.1	26.3	0.22	6.19	11.24	15.15	2
1200		7.33	1402.7	14.0	0.19	4.79	11.16	15.15	3
1205		7.33	1404.1	-0.2	0.16	4.83	11.12	15.15	4
1210		7.33	1405.9	-9.8	0.16	4.47	11.00	15.15	5
1215		7.33	1403.5	-14.7	0.16	4.41	11.08	15.15	6
				SAMPLE					

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~1~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~	2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~1~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	5/14/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	Allison Wall	DATE SIGNED:	5/20/25

WATER SAMPLE LOG

PROJECT NAME: CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634698.0000.0000	BY: AW (AK) EW DATE: 5/13/25	BY: EW DATE: 6/2/25

SAMPLE ID: MW-52 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1231	DATE: 5/13/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 15.78 T/ PVC

DEPTH TO BOTTOM: 19.95 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 6 ☒ LITERS ☐ GALLONS

COLOR: clear ODOR: None

TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1301	DATE: 5/13/25

PH: 6.91 SU CONDUCTIVITY: 1495.6 umhos/cm

ORP: 4.7 mV DO: 0.12 mg/L

TURBIDITY: 1.26 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 11.60°C FERROUS Fe — mg/L

COLOR: clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☒ DUP- 01 (Radium)

COMMENTS: DUP- JCW-LF-01

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1231	200	7.13	1440.6	51.4	4.13	11.65	12.46	15.73	INITIAL
1236		7.01	1482.7	51.7	0.29	7.20	11.61	15.85	1
1241		6.94	1488.5	37.0	0.18	1.46	11.90	15.92	2
1246		6.93	1490.6	27.0	0.15	1.53	11.81	15.93	3
1251		6.92	1491.2	16.4	0.12	1.42	11.64	15.95	4
1256		6.92	1494.9	9.4	0.12	1.36	11.62	15.96	5
1301		6.91	1495.6	4.7	0.12	1.26	11.60	15.97	6
				SAMPLE					

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	A	☐ Y ☒ N		125 mL	PLASTIC	D	☐ Y ☐ N
2	125 mL	PLASTIC	A	☐ Y ☒ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N	4 x	1 L	PLASTIC	B	☐ Y ☑ N
2	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: FedEx	DATE SHIPPED: 5/14/25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: [signature]	DATE SIGNED: 5/20/25

WATER SAMPLE LOG

PROJECT NAME: CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634698.0000.0000	BY: AW (AK) EW DATE: 5/13/25	BY: SW DATE: 6/2/25

SAMPLE ID: MW-53 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1335	DATE: 5/13/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 14.40 T/ PVC

DEPTH TO BOTTOM: 18.32 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 7.5 ☒ LITERS ☐ GALLONS

COLOR: clear ODOR: slight

TURBIDITY

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1400	DATE: 5/13/25

PH: 7.37 SU CONDUCTIVITY: 1040.7 umhos/cm

ORP: -46.8 mV DO: 0.08 mg/L

TURBIDITY: 3.52 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 10.10 °C FERROUS Fe — mg/L

COLOR: clear ODOR: slight

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1335	300	7.58	1008.0	10.3	3.72	19.96	11.66	14.40	INITIAL
1340		7.36	1041.1	-0.1	0.15	5.76	10.39	14.53	1.5
1345		7.33	1043.2	-19.8	0.10	3.32	10.35	14.61	3
1350		7.34	1040.1	-35.0	0.08	3.27	10.27	14.58	4.5
1355		7.36	1041.1	-41.2	0.08	3.33	10.12	14.59	6
1400		7.37	1040.7	-46.8	0.08	3.52	10.10	14.60	7.5
			SAMPLE						

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~125 mL~~	~~PLASTIC~~	~~D~~	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~40 mL~~	~~VOA~~	~~E~~	☐ Y ☐ N
~~1~~	~~60 mL~~	~~VOA~~	~~A~~	☐ Y ☐ N	2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~1~~	~~125 mL~~	~~PLASTIC~~	~~C~~	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: FedEx	DATE SHIPPED: 5/14/25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: [signature]	DATE SIGNED: 5/20/25

TRC WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER:	634698.0000.0000	BY: AW (AK) EW DATE: 5/13/25	BY: EW DATE: 6/2/25

SAMPLE ID: MW-53R | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1417	DATE: 5/13/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 15.15 T/ PVC

DEPTH TO BOTTOM: 18.85 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 6 ☒ LITERS ☐ GALLONS

COLOR: Cloudy/brown ODOR: Slight

TURBIDITY ☐ NONE ☐ SLIGHT ☐ MODERATE ☒ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1437	DATE: 5/13/25

PH: 6.97 SU CONDUCTIVITY: 1179.7 umhos/cm

ORP: 22.8 mV DO: 0.24 mg/L

TURBIDITY: 5.37 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: ~~15.47~~ 9.39 °C FERROUS Fe — mg/L

COLOR: clear ODOR: slight

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1417	300	7.07	1204.7	28.0	3.90	997.50	11.24	15.15	INITIAL
1422		6.95	1205.0	28.9	0.21	52.20	10.08	15.22	1.5
1427		6.96	1183.8	31.2	0.24	5.30	9.41	15.30	3
1432		6.97	1186.3	28.6	0.24	5.11	9.43	15.40	4.5
1437		6.97	1179.7	22.8	0.24	5.37	9.39	15.47	6
				SAMPLE					

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N		~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☒ N		~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☒ N~~		2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~						☐ Y ☐ N

SHIPPING METHOD:	FedEX	DATE SHIPPED:	5/14/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	Allison Kast	DATE SIGNED:	5/20/25

TRC WATER SAMPLE LOG

CEC Headcock LF 2025

PROJECT NAME: ~~CEC Karn BAP/LI 2025 GW-C~~	PREPARED	CHECKED
PROJECT NUMBER: 634695.0000.00000	BY: (AK) EW AW DATE: 5/14/25	BY: EW DATE: 6/2/25

SAMPLE ID: MW-54R

WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0748	DATE: 5/14/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 14.46 T/ PVC

DEPTH TO BOTTOM: 17.22 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 12 ☑ LITERS ☐ GALLONS

COLOR: cloudy/brownish ODOR: None

TURBIDITY ☐ NONE ☐ SLIGHT ☒ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 0828	DATE: 5/14/25

PH: 6.99 SU CONDUCTIVITY: 1329.4 umhos/cm

ORP: 140.6 mV DO: 0.63 mg/L

TURBIDITY: 1.09 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 9.67 °C FERROUS Fe — mg/L

COLOR: clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0748	300	7.00	1369.7	188.4	2.15	128.32	10.53	14.46	INITIAL
0753		6.97	1290.6	192.8	3.00	328.47	10.99	14.56	1.5
0758		7.02	1334.8	177.8	2.40	40.10	10.35	14.68	3
0803		7.00	1319.5	172.1	1.54	20.70	10.01	14.72	4.5
0808		6.97	1318.1	168.0	1.65	19.94	10.24	14.75	6
0813		6.99	1329.8	152.1	0.95	19.11	9.80	14.78	7.5
0818		7.00	1323.7	150.3	0.84	1.13	9.73	14.78	9
0823		6.99	1329.8	145.8	0.66	1.07	9.67	14.80	10.5
0828		6.99	1329.4	140.6	0.63	1.09	9.67	14.82	12
			SAMPLE						

Recalibrate D.O.

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~125 mL~~	~~PLASTIC~~	~~D~~	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~40 mL~~	~~VOA~~	~~E~~	☐ Y ☐ N
~~1~~	~~60 mL~~	~~VOA~~	~~A~~	☐ Y ☐ N	2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~1~~	~~125 mL~~	~~PLASTIC~~	~~C~~	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: FedEx	DATE SHIPPED: 5/14/25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: Ashley West	DATE SIGNED: 5/20/25

TRC WEADOCK WATER SAMPLE LOG

PROJECT NAME:	CEC ~~Karn-BAP/LI~~: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER:	634698.0000.00000	BY: AK EW AW DATE: 5/14/25	BY: SW DATE: 6/2/25

SAMPLE ID: MW-55 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0928	DATE: 5/14/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 14.69 T/ PVC

DEPTH TO BOTTOM: 16.40 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 6 ☑ LITERS ☐ GALLONS

COLOR: cloudy/light brown ODOR: slight

TURBIDITY

☐ NONE ☐ SLIGHT ☒ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 0958	DATE: 5/14/25

PH: 6.98 SU CONDUCTIVITY: 1220.8 umhos/cm

ORP: -44.9 mV DO: 0.17 mg/L

TURBIDITY: 1.40 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 10.65 °C FERROUS Fe — mg/L

COLOR: clear ODOR: moderate

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☒ DUP- JCW-LF-02

COMMENTS: No DUP on Radium

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0928	200	7.03	1186.5	124.3	5.26	140.98	11.50	14.69	INITIAL
0933		6.98	1186.7	47.9	0.34	12.48	10.64	14.78	1
0938		6.99	1180.6	-2.5	0.23	12.98	10.63	14.80	2
0943		6.98	1194.0	-28.3	0.18	13.27	10.57	14.79	3
0948		6.98	1207.1	-37.9	0.17	2.52	10.55	14.78	4
0953		6.98	1218.0	-42.8	0.17	1.49	10.70	14.79	5
0958		6.98	1220.8	-44.9	0.17	1.40	10.65	14.80	6
				SAMPLE					

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	A	☐ Y ☒ N	~~2~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
2	125 mL	PLASTIC	A	☐ Y ☒ N	~~2~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~2~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~	2	1 L	PLASTIC	B	☐ Y ☒ N
2	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~2~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	5/14/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	[signature]	DATE SIGNED:	5/20/25

TRC WATER SAMPLE LOG

PROJECT NAME:	CEC ~~Kern BAP/LI~~ weekly: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER:	634696.0000.00000	BY: AK EW AW DATE: 5/14/25	BY: ECW DATE: 6/2/25

SAMPLE ID: OW-57R OUT | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1150	DATE: 5/14/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 9.66 T/ PVC

DEPTH TO BOTTOM: 20.26 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 3.5 ☑ LITERS ☐ GALLONS

COLOR: Clear ODOR: None

TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1205	DATE: 5/14/25

PH: 6.98 SU CONDUCTIVITY: 1172.6 umhos/cm

ORP: 72.1 mV DO: 0.90 mg/L

TURBIDITY: 1.33 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 1256 °C FERROUS Fe — mg/L

COLOR: Clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1150	200	7.03	1124.1	96.0	3.95	5.99	14.39	9.66	INITIAL
1155	200	7.00	1171.4	81.9	0.92	4.48	12.14	10.73	1.5
1200		6.95	1177.5	78.6	0.88	2.24	12.80	12.42	2.5
1205		6.98	1172.6	72.1	0.90	1.33	12.56	13.88	3.5
				SAMPLE					

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~2~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~1~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~	2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~1~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	5/14/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	Adam Kelt	DATE SIGNED:	5/20/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER:	634698.0000.0000	BY: AW (AK) EW DATE: 5/13/25	BY: SW DATE: 6/2/25

SAMPLE ID: JCW-MW-18001 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0759	DATE: 5/13/25	SAMPLE	TIME: 0829	DATE: 5/13/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 17.72 T/ PVC

DEPTH TO BOTTOM: 23.76 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 6 ☒ LITERS ☐ GALLONS

COLOR: Cloudy/white ODOR: Moderate

TURBIDITY ☐ NONE ☐ SLIGHT ☐ MODERATE ☒ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 6.79 SU CONDUCTIVITY: 3372.6 umhos/cm

ORP: -0.8 mV DO: 0.18 mg/L

TURBIDITY: 1.48 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 12.60C FERROUS Fe ——— mg/L

COLOR: Clear ODOR: Moderate

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: Clear FILTRATE ODOR: ~~No~~ Moderate

QC SAMPLE: ☒ MS/MSD ☐ DUP- ———

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0759	200	6.93	3236.5	114.6	5.19	1159.5	13.73	17.72	INITIAL
0804		6.78	3283.6	77.1	0.23	51.70	13.01	17.76	1
0809		6.78	3332.2	46.7	0.24	12.66	12.40	17.80	2
0814		6.78	3356.0	20.7	0.17	11.76	12.25	17.78	3
0819		6.79	3372.9	13.0	0.19	1.42	12.35	17.74	4
0824		6.79	3376.8	8.0	0.19	1.31	12.64	17.79	5
0829		6.79	3372.6	-0.8	0.18	1.48	12.60	17.80	6
				SAMPLE					

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 mg/L TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ———

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~125 mL~~	~~PLASTIC~~	~~D~~		~~☐ Y ☐ N~~
3	125 mL	PLASTIC	A	☐ Y ☑ N	~~40 mL~~	~~VOA~~	~~E~~		~~☐ Y ☐ N~~
2	60 mL	VOA	A	☐ Y ☒ N	2	1 L	PLASTIC	B	☐ Y ☒ N
3	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~125 mL~~	~~PLASTIC~~	~~C~~		~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	5/14/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	Ashlin Vest	DATE SIGNED:	5/20/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER:	634698.0000.0000	BY: AW (AK) EW DATE: 5/13/25	BY: EW DATE: 6/12/25

SAMPLE ID: JCW-OW-18001 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1002	DATE: 5/13/25	SAMPLE	TIME: 1037	DATE: 5/13/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 6.53 T/ PVC

DEPTH TO BOTTOM: 20.76 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 7 ☒ LITERS ☐ GALLONS

COLOR: Slightly cloudy ODOR: Moderate

TURBIDITY ☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 6.90 SU CONDUCTIVITY: 1562. umhos/cm

ORP: -64.4 mV DO: 0.28 mg/L

TURBIDITY: 2.84 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 12.08 °C FERROUS Fe _____ mg/L

COLOR: clear ODOR: Moderate

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP- _____

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1002	200	6.95	1587.8	-61.5	1.75	18.46	12.64	6.53	INITIAL
~~1007~~ 1007		6.88	1608.9	-58.9	0.59	18.00	12.75	6.62	1
1012		6.88	1600.0	-59.6	0.40	18.26	12.34	6.63	2
1017		6.88	1600.0	-60.0	0.32	17.78	12.12	6.65	3
1022		6.88	1585.9	-61.7	0.29	17.60	12.10	6.66	4
1027		6.89	1570.6	-62.9	0.28	2.80	12.07	6.65	5
1032		6.90	1567.2	-63.6	0.29	2.90	12.00	6.67	6
1037		6.90	1562.1	-64.4	0.28	2.88	12.08	6.68	7
				SAMPLE					

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~125 mL~~	~~PLASTIC~~	~~D~~	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~3~~	~~40 mL~~	~~VOA~~	~~E~~	☐ Y ☐ N
2	60 mL	VOA	A	☐ Y ☒ N	~~2~~	~~1 L~~	~~PLASTIC~~	~~B~~	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~1~~	~~125 mL~~	~~PLASTIC~~	~~C~~	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	5/14/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	[signature]	DATE SIGNED:	5/20/25

TRC

WATER SAMPLE LOG

PROJECT NAME: CEC ~~Karn BAP/LI~~ Weadock 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634695.0000.00000	BY: AK EW AW DATE: 5/14/25	BY: EW DATE: 6/2/25

SAMPLE ID: JCW-MW-18004 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0849	DATE: 5/14/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 12.57 T/ PVC

DEPTH TO BOTTOM: 14.75 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 3 ☑ LITERS ☐ GALLONS

COLOR: clear ODOR: None

TURBIDITY: ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1335	DATE: 5/14/25

PH: 7.04 SU CONDUCTIVITY: 1296.3 umhos/cm

ORP: 200.8 mV DO: 5.20 mg/L

TURBIDITY: 8.76 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 11.65 °C FERROUS Fe — mg/L

COLOR: clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS: slow recharge ; radium samples collected on 5/15/25 @ 0714 AM

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0849	200	7.85	1140.8	206.7	7.62	60.58	11.86	12.57	INITIAL
0854	100	7.10	1200.1	194.1	6.73	16.64	10.43	13.28	1
0859	100	7.07	1228.1	198.2	6.51	15.84	11.18	13.52	1.5
0904	100	7.06	1290.4	202.1	6.25	6.03	11.61	13.85	2
0909	100	7.06	1295.6	201.5	5.81	9.93	11.53	14.22	2.5
0914	100	7.04	1296.3	200.8	5.20	8.76	11.65	14.50	3
0919	100								

Well ran dry

Collect samples @ 1335 on 5/14/25 (TDS, anions, total metals)

Collect radium samples on 5/15/25 @ 0714

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~3~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~3~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~	2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~1~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD: FedEx	DATE SHIPPED: 5/14/25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: Allison Kost	DATE SIGNED: 5/20/25

TRC WATER SAMPLE LOG

PROJECT NAME: CEC ~~Kern BAP/LI~~ Weedpatch: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634695.0000.00000	BY: AK EW AW DATE: 5/14/25	BY: GW DATE: 6/12/25

SAMPLE ID: ~~MW-1~~ JCW-MW-13005 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1038	DATE: 5/14/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 8.64 T/ PVC

DEPTH TO BOTTOM: 16.34 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 9.5 ☑ LITERS ☐ GALLONS

COLOR: Yellowish Brown ODOR: None

TURBIDITY ☐ NONE ☐ SLIGHT ☒ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1123	DATE: 5/14/25

PH: 6.84 SU CONDUCTIVITY: 1311.8 umhos/cm

ORP: 71.3 mV DO: 0.28 mg/L

TURBIDITY: 8.16 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 12.99 °C FERROUS Fe — mg/L

COLOR: Slightly Brown ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1038	300	6.78	1171.2	32.8	10.54	39.89	12.31	8.64	INITIAL
1043	200	6.79	1180.6	53.0	0.64	35.69	12.06	10.10	1.5
1048		6.80	1260.9	56.6	0.30	46.25	13.29	10.32	2.5
1053		6.83	1300.1	59.8	0.27	32.44	14.35	10.56	3.5
1058		6.85	1306.8	62.4	0.22	20.09	14.45	10.66	4.5
1103		6.87	1308.9	63.4	0.21	18.82	13.61	10.74	5.5
1108		6.86	1310.4	64.9	0.23	10.38	13.02	10.79	6.5
1113		6.85	1314.8	68.5	0.26	8.34	12.83	10.81	7.5
1118		6.85	1312.9	69.9	0.27	8.21	12.95	10.84	8.5
1123		6.84	1311.8	71.3	0.28	8.16	12.99	10.86	9.5

SAMPLE

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~125 mL~~	~~PLASTIC~~	~~D~~	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~40 mL~~	~~VOA~~	~~E~~	☐ Y ☐ N
~~1~~	~~60 mL~~	~~VOA~~	~~A~~	☐ Y ☒ N	2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~1~~	~~125 mL~~	~~PLASTIC~~	~~C~~	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: FedEx	DATE SHIPPED: 5/14/25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: [signature]	DATE SIGNED: 5/20/25

TRC WATER SAMPLE LOG

PROJECT NAME:	CEC ~~Kern BAP/LI~~ Wedbush: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER:	634695.0000.00000	BY: (AK) EW AW DATE: 5/14/25	BY: EW DATE: 6/2/25

SAMPLE ID: ~~AA~~ JCW-MW-18006 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1235	DATE: 5/14/25	SAMPLE	TIME: 1310	DATE: 5/14/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 13.62 T/ PVC

DEPTH TO BOTTOM: 23.70 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 7 ☑ LITERS ☐ GALLONS

COLOR: Cloudy/slight orange ODOR: Moderate

TURBIDITY: ☐ NONE ☐ SLIGHT ☒ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 6.96 SU CONDUCTIVITY: 1099.7 umhos/cm

ORP: -52.0 mV DO: 0.18 mg/L

TURBIDITY: 1.48 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 13.22 °C FERROUS Fe — mg/L

COLOR: Clear ODOR: moderate

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP- ____

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1235	200	7.08	1091.9	-8.1	3.50	33.99	14.61	13.62	INITIAL
1240		7.02	1036.0	-27.1	0.29	23.08	13.46	13.79	1
1245		6.97	1028.5	-28.2	0.24	18.22	13.34	13.80	2
1250		6.96	1045.5	-31.7	0.21	17.86	13.38	13.81	3
1255		6.96	1066.7	-38.1	0.19	15.60	13.36	13.81	4
1300		6.96	1088.0	-46.2	0.18	3.29	13.41	13.81	5
1305		6.96	1089.8	-49.3	0.18	1.81	13.36	13.81	6
1310		6.96	1099.7	-52.0	0.18	1.48	13.22	13.81	7
				SAMPLE					

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~125 mL~~	~~PLASTIC~~	~~D~~	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~3~~	~~40 mL~~	~~VOA~~	E	☐ Y ☐ N
~~1~~	~~60 mL~~	~~VOA~~	A	☐ Y ☐ N	2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~1~~	~~125 mL~~	~~PLASTIC~~	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	5/14/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	Allyn Kast	DATE SIGNED:	5/20/25

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone (330) 497-9396 Phone (330) 497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: A. Vast	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-132626-29048.1
Client Contact: Jacob Krenz	Phone:	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin:	Page: Page 1 of 2
Company: TRC Environmental Corporation.	PWSID:			Job #:
Address: 1540 Eisenhower Place	Due Date Requested:			
City: Ann Arbor	TAT Requested (days): Standard			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 734-971-7080(Tel) 734-971-9022(Fax)	PO #: 228027			
Email: JKrenz@trccompanies.com	WO #: 5533828.0000			
Project Name: Karn/Weadock CCR JCW Lanfill	Project #: 24024154			
Site:	SSOW#:			

Analysis Requested

Preservation Codes: D - HNO3

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	904.0, Ra228Ra228_GFPC	903.0 - Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D		
JCW-MW-18001	5/13/25	0829	G	Water	N	N	X	X		
JCW-MW-18004	5/15/25	0714	G	Water	N	N	X	X		
JCW-MW-18005	5/14/25	1123	G	Water	N	N	X	X		
JCW-MW-18006	5/14/25	1310	G	Water	N	N	X	X		
MW-50	5/13/25	1126	G	Water	N	N	X	X		
MW-51	5/13/25	1215	G	Water	N	N	X	X		
MW-52	5/13/25	1301	G	Water	N	N	X	X		
MW-53	5/13/25	1400	G	Water	N	N	X	X		
MW-53R	5/13/25	1437	G	Water	N	N	X	X		
MW-54R	5/14/25	0828	G	Water	N	N	X	X		
MW-55	5/14/25	0958	G	Water	N	N	X	X		

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Adrian Vast	5/15/25 0835	TRC	TRC Storage (AM)	5/15/25 1405	TRC
Relinquished by: Mandi Bell	5/16/25 0902	TRC	Received by:	5/16/25 0902	FEDEX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 05/06/2024

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone (330) 497-9396 Phone (330) 497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: A. Kast	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-132626-29048.2
Client Contact: Jacob Krenz	Phone:	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin:	Page: Page 2 of 2
Company: TRC Environmental Corporation.	PWSID:	Analysis Requested		Job #:
Address: 1540 Eisenhower Place	Due Date Requested:			Preservation Codes: D - HNO3
City: Ann Arbor	TAT Requested (days): Standard			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 734-971-7080(Tel) 734-971-9022(Fax)	PO #: 228027			
Email: JKrenz@trccompanies.com	WO #: 5533828.0000			
Project Name: Karn/Weadock CCR JCW Lanfill	Project #: 24024154			
Site:	SSOW#:			Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	904.0, Ra226Ra228_GFPC	903.0 - Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D		
OW-57ROUT	5/14/25	1205	G	Water	N	N	X	X		
DUP-01	5/13/25	—	G	Water	N	N	X	X		
EB–1	5/13/25	1139	G	Water	N	N	X	X		
				Water						

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Ashton Hall	5/15/25 0835	TRC	TRC Fedex Storage Lab	5/15/25 1405	TRC
2	Michelle Bell	5/16/25 0902	TRC	Lily McC	5/16/25 0902	EEIA
3						

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

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CONSUMERS ENERGY COMPANY – LABORATORY SERVICES

135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q2-2025 JC Weadock Porewater Wells

SAMPLING TEAM:

PROJECT NUMBER: 25-0285

SAP CC or WO#:

REQUESTER: Harold Register

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit

COPY TO: Harold Register; TRC

email: phone:

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0285-01	5/13/25	0829	GW	JCW-MW-18001	5	4	1						x	x	x	x	
-02	5/14/25	1335	GW	JCW-MW-18004	3	2	1						x	x	x		
-03	5/14/25	~~0958~~ 1128	GW	JCW-MW-18005	3	2	1						x	x	x		Time: 11:23
-04	5/14/25	1310	GW	JCW-MW-18006	3	2	1						x	x	x		
-05	5/13/25	1126	GW	MW-50	3	2	1						x	x	x		
-06	5/13/25	1215	GW	MW-51	3	2	1						x	x	x		
-07	5/13/25	1301	GW	MW-52	3	2	1						x	x	x		
-08	5/13/25	1400	GW	MW-53	3	2	1						x	x	x		
-09	5/13/25	1437	GW	MW-53R	3	2	1						x	x	x		
-10	5/14/25	0923	GW	MW-54R	3	2	1						x	x	x		
-11	5/14/25	0958	GW	MW-55	3	2	1						x	x	x		
-12	5/14/25	1205	GW	OW-57ROUT	3	2	1						x	x	x		

RELINQUISHED BY: [signature] DATE/TIME: 5/14/25 1552 RECEIVED BY:

RELINQUISHED BY: DATE/TIME: RECEIVED BY:

COMMENTS:

Received on Ice? ☐ Yes ☐ No M&TE #: _____

Temperature: _____ °C Cal. Due Date: _____

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SAMPLING SITE / CUSTOMER: Q2-2025 JC Weadock Porewater Wells

SAMPLING TEAM:

PROJECT NUMBER: 25-0285

SAP CC or WO#:

REQUESTER: Harold Register

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit

COPY TO: Harold Register; TRC

email: phone:

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	HNO_3	H_2SO_4	NaOH	HCl	MeOH	Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0285-13	5/13/25	—	GW	DUP-JCW-LF-01	3	2	1						x	x	x		
-14	5/14/25	—	GW	DUP-JCW-LF-02	3	2	1						x	x	x		
-15	5/13/25	0829	GW	JCW-MW-18001 MS	2	1	1						x	x			
-16	5/13/25	0829	GW	JCW-MW-18001 MSD	2	1	1						x	x			
-17	5/13/25	1100	GW	FB-01	2	1	1						x	x			
-18	5/13/25	1139	W	EB-01	2	1	1						x	x			

RELINQUISHED BY: Colleen West — DATE/TIME: 5/14/25 1552 — RECEIVED BY:

RELINQUISHED BY: — DATE/TIME: — RECEIVED BY:

COMMENTS:

Received on Ice? ☐ Yes ☐ No M&TE #: _____

Temperature: _____ °C Cal. Due Date: _____

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Page 1 of 1

SAMPLING SITE / CUSTOMER: Q2-2025 JC Weadock ASD

PROJECT NUMBER: 25-0286

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM:

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	HNO_3	H_2SO_4	NaOH	HCl	MeOH	Other	ANALYSIS REQUESTED: Total Metals	Anions	TDS	Alkalinity
25-0286-01	5/13/25	1037	GW	JCW-OW-18001	5	4	1						x	x	x	x

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

REMARKS

RELINQUISHED BY: Dawn Kest — DATE/TIME: 5/13/25 12:38 — RECEIVED BY:

RELINQUISHED BY: — DATE/TIME: — RECEIVED BY:

COMMENTS:

Received on Ice? ☐ Yes ☐ No M&TE #: _____

Temperature: _____ °C Cal. Due Date: _____

Appendix G
Alternate Source Demonstration Supporting Information

A CMS Energy Company

Date: July 25, 2025

To: Operating Record

From: Harold D. Register, Jr., P.E.

RE: Alternate Source Demonstration Professional Engineer Certification, §257.94(e)2
JC Weadock Landfill CCR Unit

Professional Engineer Certification Statement [40 CFR 257.94(e)2]

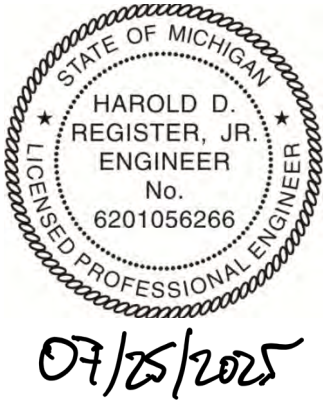
I hereby certify that the alternative source demonstration presented within this Second Quarter 2025 Hydrogeological Monitoring Report for the JC Weadock Landfill CCR unit has been prepared to meet the requirements of Title 40 CFR §257.94(e)2 of the Federal CCR Rule. This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR §257.94(e)2.

Signature

July 25, 2025
Date of Certification

Harold D. Register, Jr., P.E.
Name

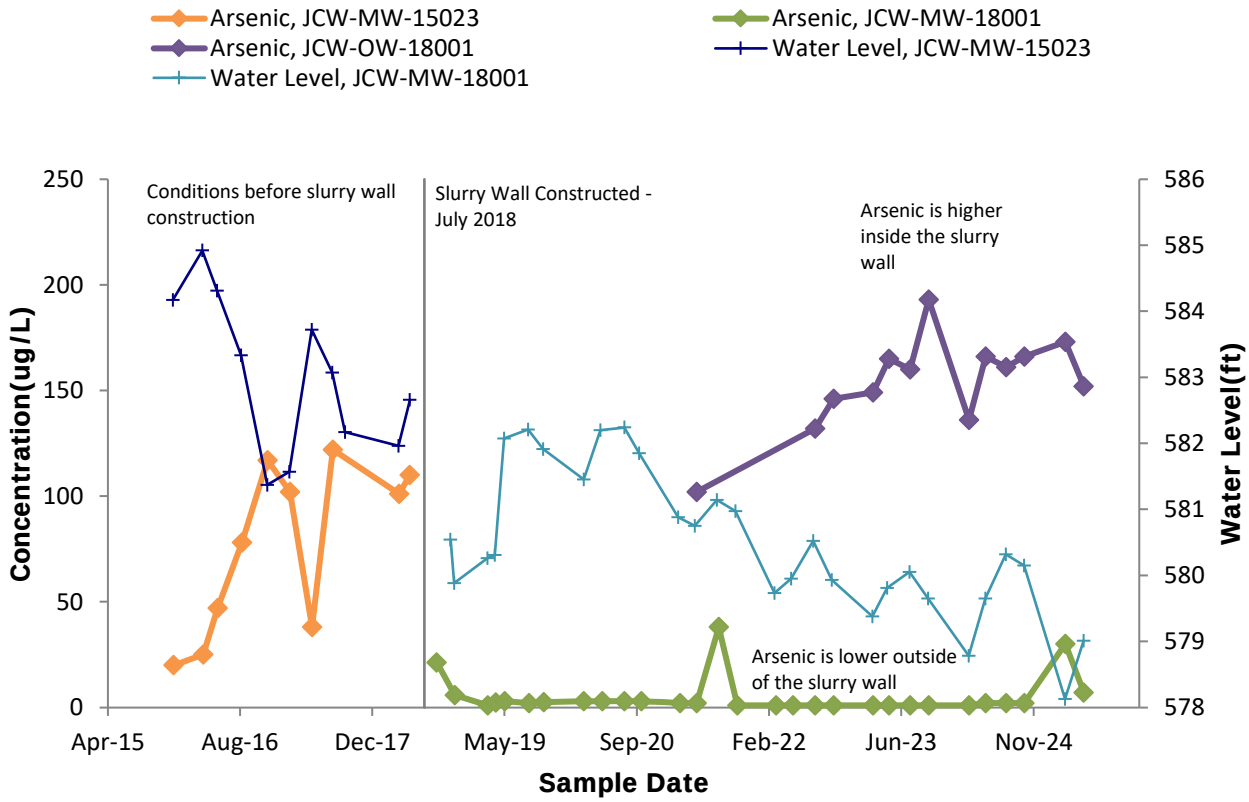
6201056266
Professional Engineer Certification Number



References

TRC (July 2025). *2025 Semiannual Groundwater Monitoring Report and Second Quarter 2025 Hydrogeological Monitoring Report, JC Weadock Landfill Solid Waste Disposal Area, Essexville, Michigan*

Figure G1: Time Series Plots for JCW-MW-18001 ASD



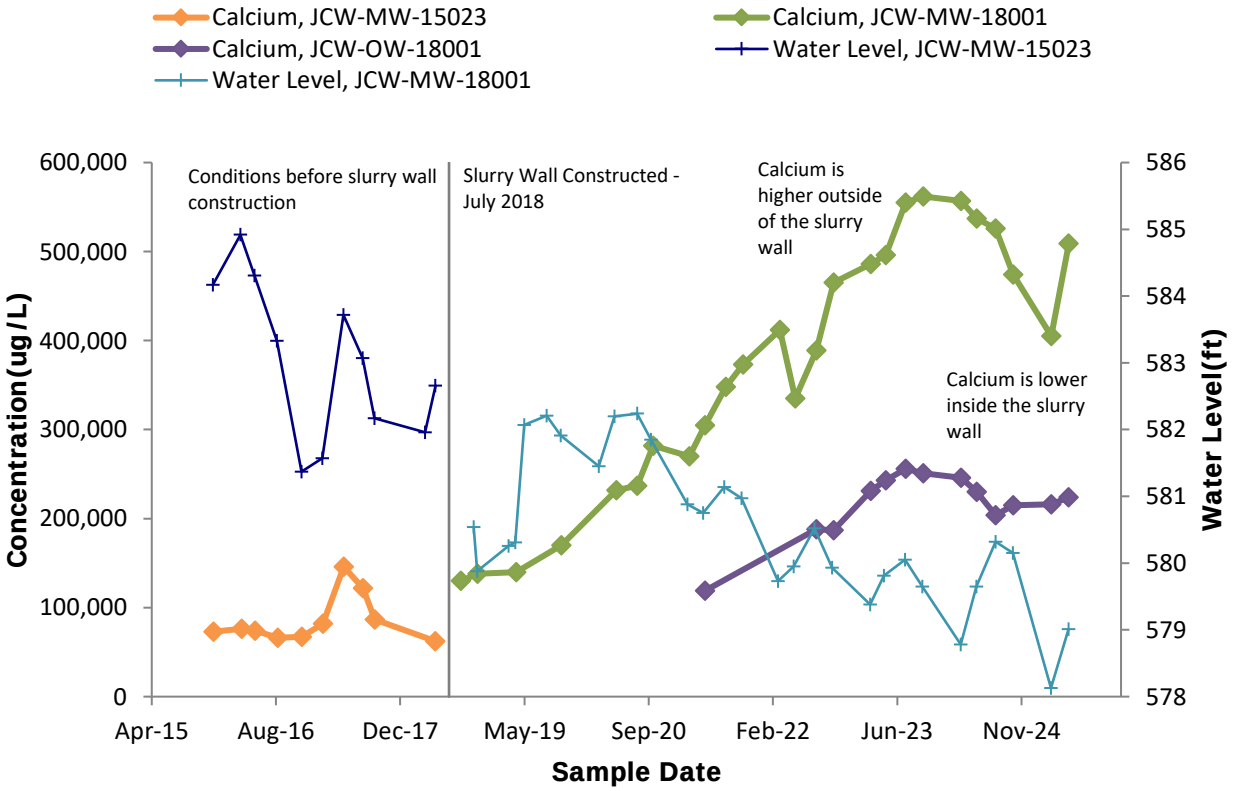
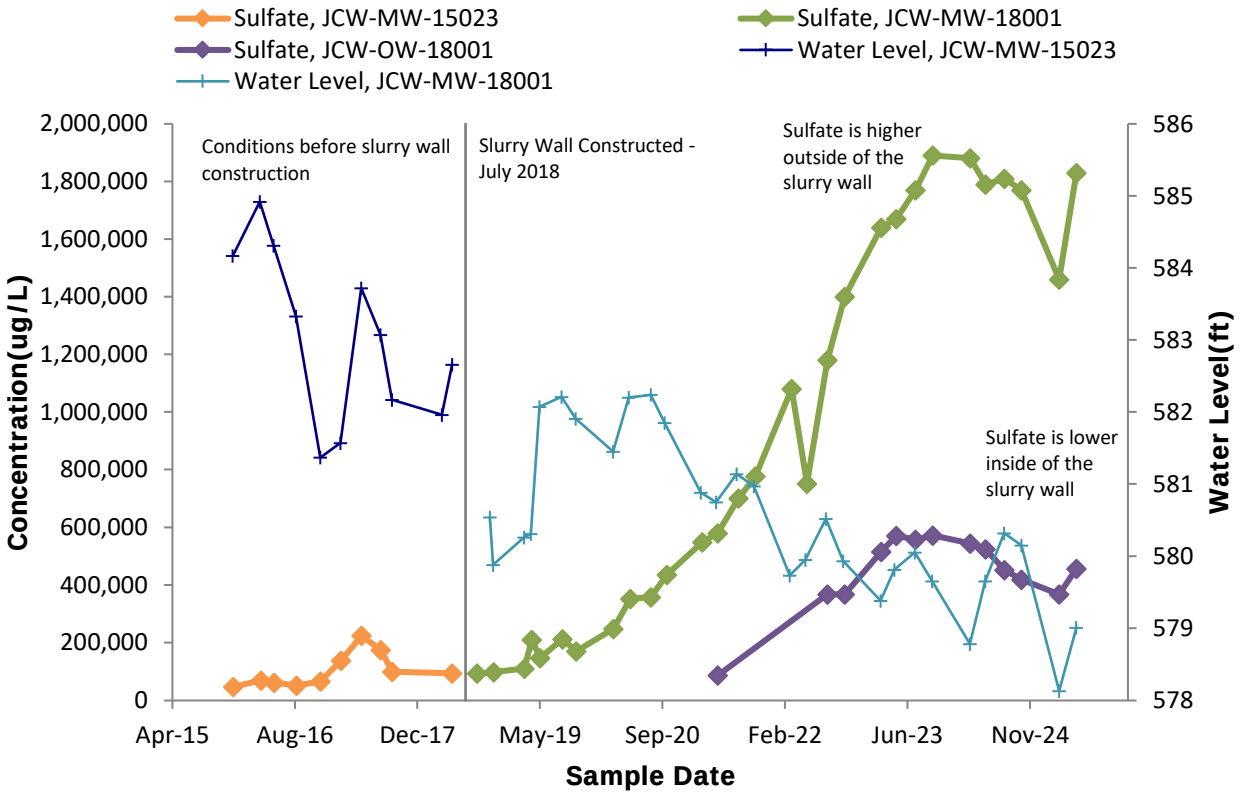


Figure G1: Time Series Plots for JCW-MW-18001 ASD



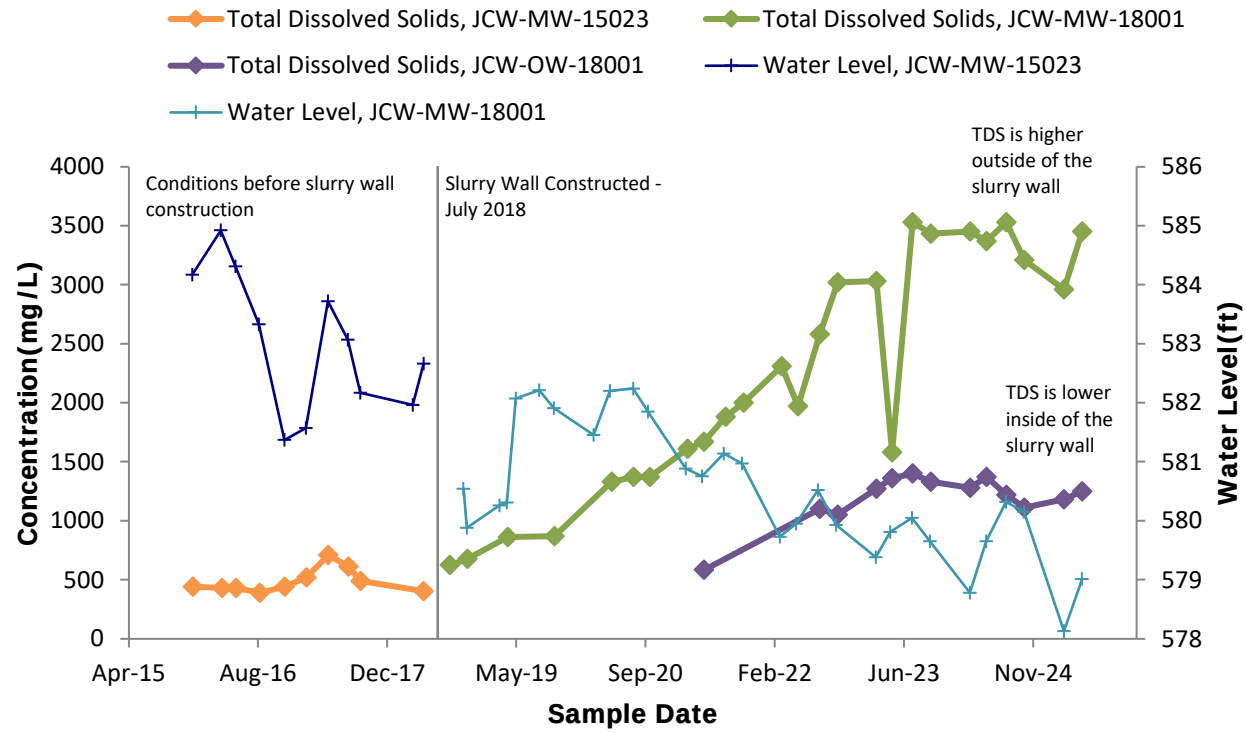
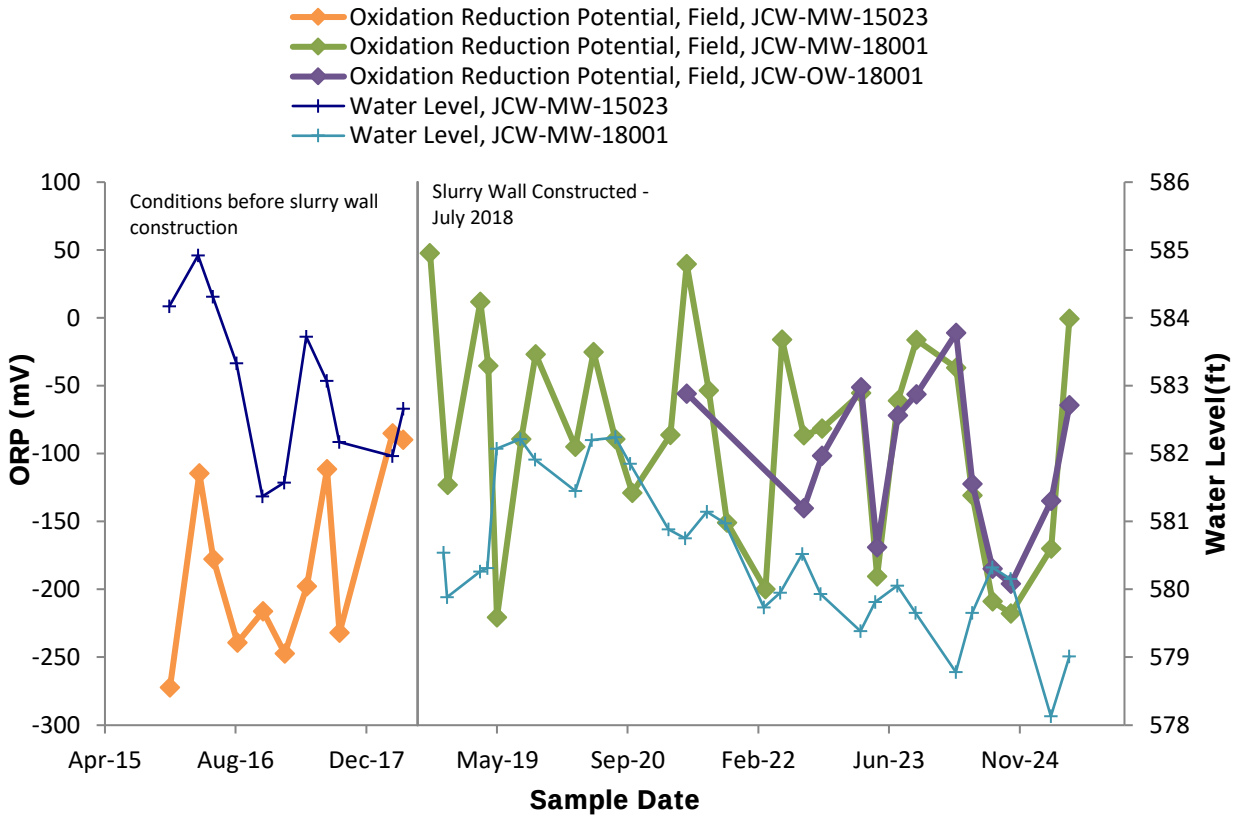


Figure G1: Time Series Plots for JCW-MW-18001 ASD



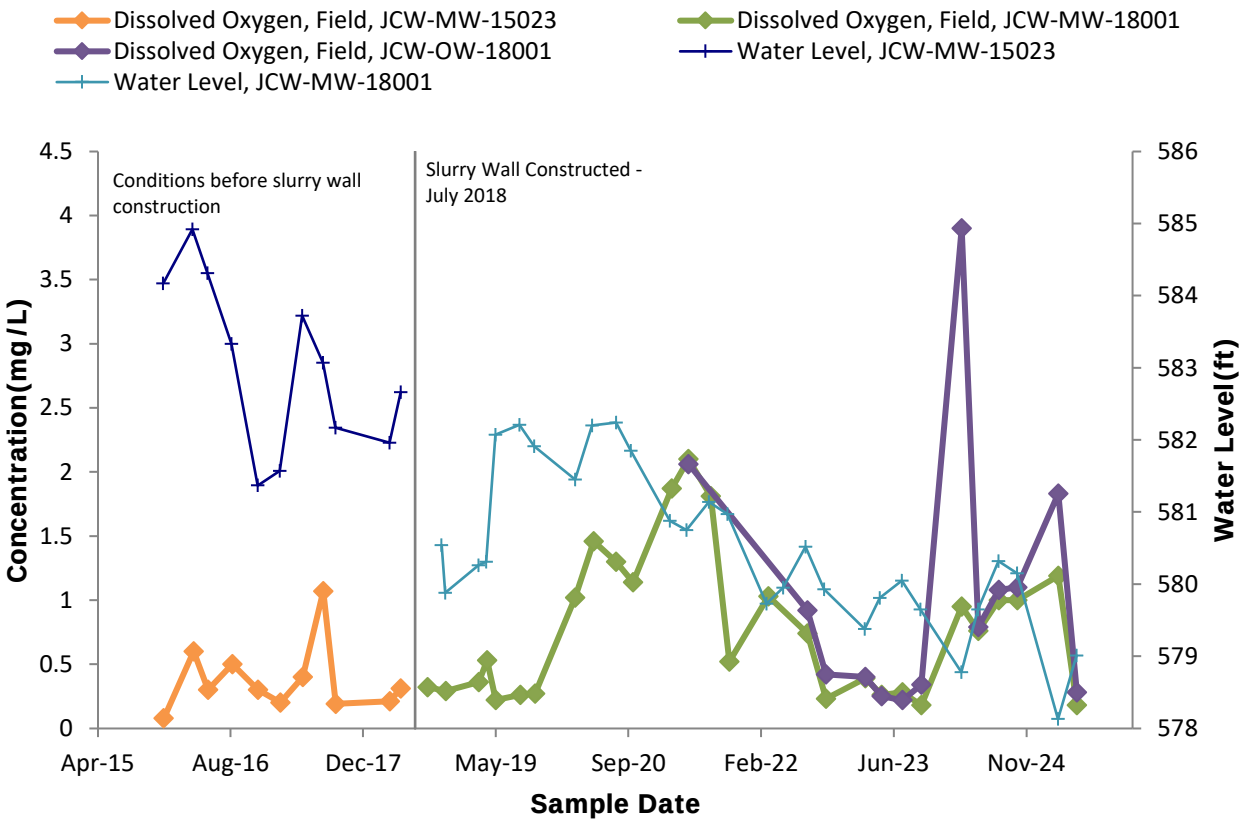
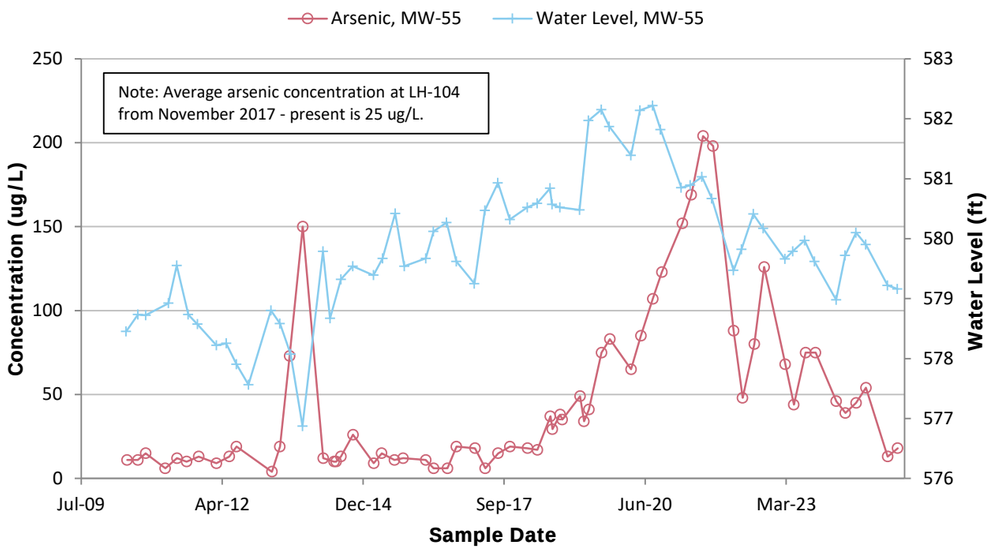
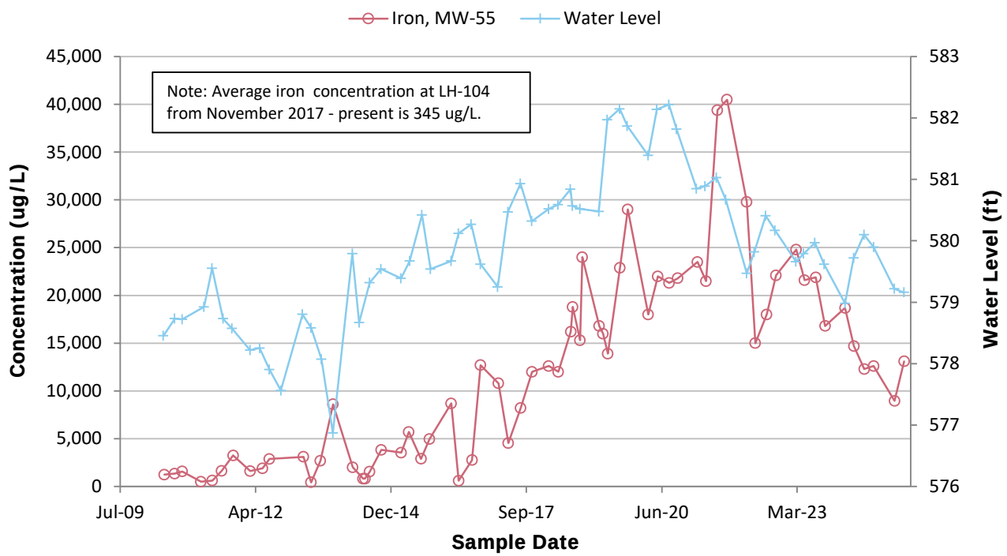
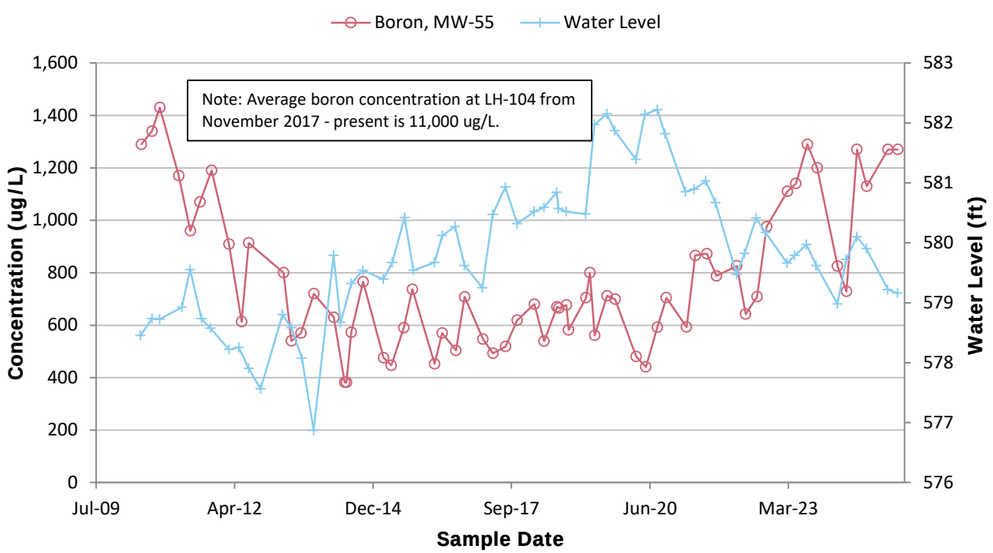
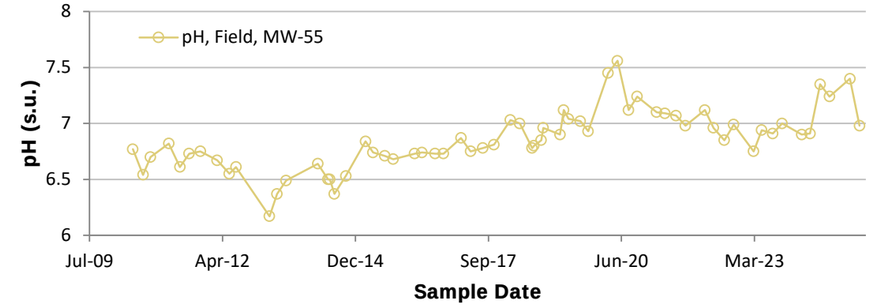


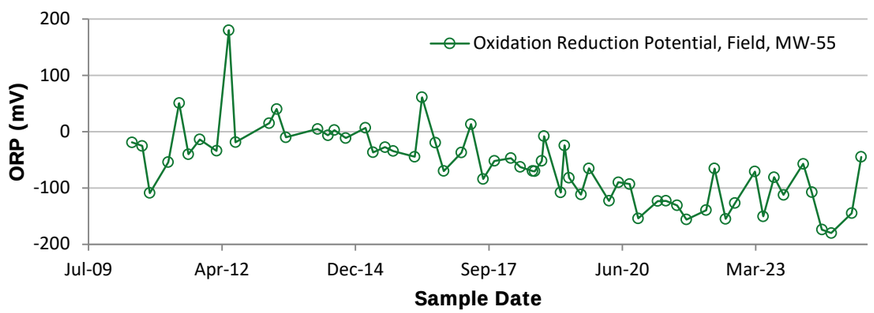
Figure G2: Time Series Plots for MW-55 ASD











Enclosure 4

Third Quarter 2025 Hydrogeological Monitoring Report, JC Weadock Solid Waste Disposal Area, Essexville, Michigan. (TRC, October 30, 2025)

Third Quarter 2025 Hydrogeological Monitoring Report

JC Weadock Solid Waste Disposal Area
Essexville, Michigan

October 2025

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1.0 Introduction

Consumers Energy implemented a comprehensive compliance monitoring plan documented in the *Revised Hydrogeological Monitoring Plan* (Natural Resource Technology, 2010) for the JC Weadock Solid Waste Disposal Area (Weadock Landfill) as required by Special License Condition 20.b in Solid Waste Disposal Area Operating License No. 9233 issued on October 15, 2009. Since that time, the United States Environmental Protection Agency (USEPA) published the final rule for the regulation and management of Coal Combustion Residuals (CCR) under the Resource Conservation and Recovery Act (RCRA) (the CCR Rule) (USEPA, April 2015 as amended) imposing groundwater monitoring and corrective action requirements that apply to the Weadock Landfill. Subsequently, Michigan amended Part 115 of the Natural Resources and Environmental Protection Act (NREPA) PA 451 of 1994, as amended (a.k.a., Michigan Part 115 Solid Waste Management) to provide a basis for establishing a groundwater monitoring system and initiating detection and assessment monitoring to conform requirements for any licensed coal ash impoundment or landfill after December 28, 2018, with Part 115 amendments and the CCR Rule.

On January 15, 2021, Consumers Energy submitted the *Landfill Hydrogeological Monitoring Plan, JC Weadock Power Plant, Essexville, Michigan* (Weadock Landfill HMP), which includes components for Detection Monitoring and Assessment Monitoring, as well as Groundwater Surface Water Interface (GSI) Compliance Monitoring, to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to comply with the requirements of Part 115 and the CCR Rule. The Weadock Landfill HMP (TRC, February 2021) was revised per EGLE comments, submitted, and approved by EGLE on February 19, 2021, and incorporated, by reference, in Solid Waste Disposal Area Operating License No. 9640 issued on March 11, 2021.

1.1 Statement of Adherence to Approved Hydrogeological Monitoring Plan

This Third Quarter 2025 JC Weadock Hydrogeological Monitoring Report (Report) has been prepared by TRC on behalf of Consumers Energy to satisfy quarterly groundwater monitoring and reporting requirements during the active life of the coal ash landfill. This Report was prepared in accordance with the items listed in Appendix A (Solid Waste Monitoring Submittal Components) of the May 15, 2015 Michigan Department of Environmental Quality (MDEQ) – Office of Waste Management and Radiological Protection, now the EGLE Materials Management Division (MMD), communication prescribing the format for solid waste disposal facility monitoring submittals as published in OWMRP-115-29, dated July 5, 2013 *Format for Solid Waste Disposal Facility Monitoring Submittals*. All references herein to the EGLE are inclusive of the MDEQ. Information contained in this report was prepared in adherence to the Weadock Landfill HMP that was approved by the EGLE on February 19, 2021. The Weadock Landfill HMP is compliant with Part 115 of PA 451 of 1994, as amended by Public Act No. 640 of 2018 (Part 115) (a.k.a., Michigan Part 115 Solid Waste Management).

1.2 Program Summary

This Report provides results and summarizes the monitoring activities completed in the third quarter 2025 at the JC Weadock Solid Waste Disposal Area (*i.e.* the Weadock Landfill) located at 2742 Weadock Highway in Essexville, Michigan (Figure 1). This JC Weadock Disposal Area

is currently authorized under a permit (Groundwater Discharge Authorization GWE-0005) issued pursuant to Part 31 to discharge to the unusable aquifer directly underlying the solid waste that vents almost immediately to the Saginaw River and Saginaw Bay.

The Weadock Landfill is currently in assessment monitoring pursuant to the CCR Rule. Consumers Energy first reported the potential for statistically significant increases (SSIs) for Appendix III constituents in the *Annual Groundwater Monitoring Report JC Weadock Power Plant Bottom Ash Pond CCR Unit* (TRC, January 2018). The statistical evaluation of the Appendix III indicator parameters confirming SSIs over background were as follows:

- Boron at JCW-MW-15011, JCW-MW-15012, JCW-MW-15023; and
- Field pH at JCW-MW-15023 (high).

On April 25, 2018, Consumers Energy entered assessment monitoring upon determining that an Alternate Source Demonstration for the Appendix III constituents was not successful. After subsequent sampling for Appendix IV constituents, Consumers Energy provided notice to the Department on January 14, 2019 that arsenic was detected at statistically significant levels above the federal groundwater protection standards (GWPS) established pursuant to §257.95(h) in one monitoring well at the Weadock Landfill (JCW-MW-15023), which was located downgradient of a 1,600 linear foot vent within the slurry wall enclosing the historical fly ash disposal area. The vent was designed to direct groundwater flow beneath the landfill to the discharge channel immediately upgradient from the National Pollutant Discharge Elimination System (NPDES) external outfall to prevent water from building up within the facility. In July 2018, this vent was closed (Golder, 2018) and the engineering improvement was approved by the Department (MDEQ, 2018). As a part of the vent closure, monitoring wells JCW-MW-15011, JCW-MW-15012, and JCW-MW-15023 were decommissioned by over drilling, removing the well material, and sealing the borehole to allow for the slurry wall construction as discussed in the *2018 Annual Groundwater Monitoring Report for the JC Weadock Landfill CCR Unit* (TRC, 2019a). Consumers Energy installed an additional nine monitoring wells in August 2018 to supplement the preexisting Michigan Part 115 compliance groundwater well network and provide appropriate coverage for the collection of groundwater levels and water quality data along the perimeter of the Weadock Landfill, as discussed in the Weadock Landfill HMP. Closing the vent and completely encircling the Weadock Landfill with a soil-bentonite slurry wall has demonstrated reduced groundwater flux around the entire perimeter of the landfill.

In March 2019, Consumers Energy submitted a Response Action Plan (Consumers, 2019), which identified interim response activities taken or to be taken to control possible sources of contamination. Consumers Energy further evaluated arsenic in groundwater at the Weadock Landfill as part of the nature and extent analysis and outlined potential remedies in the *Assessment of Corrective Measures* (TRC, 2019b), which was initiated on April 14, 2019, and completed on September 11, 2019, and focused on materials management with an emphasis on improving source control through the closure plan.

Compliance monitoring is being implemented under the Weadock Landfill HMP dated February 2021 and approved by the EGLE on February 19, 2021. Groundwater data collected in accordance with the Weadock Landfill HMP are used to:

- Assess background groundwater quality for the purposes of establishing and updating GWPS (HMP Section 7.1 Background Determination)
- Perform detection monitoring to assess whether a new release has occurred during operation of the landfill (*i.e.* SSI over background) (HMP Section 7.2 Detection Monitoring)
- Perform assessment monitoring to assess whether constituent concentrations in groundwater from prior operations are above a risk-based standard (*i.e.* statistically significant level over the GWPS) (HMP Section 7.3 Assessment Monitoring)
- Assess compliance with the GSI pathway (HMP Section 7.4)

Consumers Energy also continues to execute the self-implementing groundwater compliance schedule in conformance with §257.90 - §257.98 of the CCR Rule, which includes semiannual assessment monitoring in accordance with §257.95 during the second and fourth calendar quarters. Assessment monitoring data collected in accordance with the CCR Rule is used to assess whether constituent concentrations in groundwater from prior operations are above a risk-based standard (*i.e.* statistically significant level over the Appendix IV GWPS).

1.3 Site Overview

The JC Weadock Solid Waste Disposal Area is located within the former JC Weadock Power Plant (Site), located south of the DE Karn Power Plant, east of the Saginaw River, west of Underwood Drain and Saginaw Bay, and north of Tacey Drain and agricultural land (Figure 1). In addition to the disposal area, the Site consists of the generating facility which retired eight coal-fired generating units and infrastructure and utilities that support electrical transmission. Units 1 to 6 commenced operation in 1940 and retired in 1980 and Units 7 and 8 were added in 1955 and 1958 continued to operate through April 15, 2016.

1.4 Geology/Hydrogeology

The majority of Weadock Landfill area is comprised of surficial CCR and sand fill, as described in the Weadock Landfill HMP. USGS topographic maps and aerial photographs dating back to 1950, in addition to field descriptions of subsurface soil at the Site, indicate that the Site was largely developed by reclaiming low-lands through construction of perimeter dikes and subsequent ash filling (AECOM, 2009).

The surficial fill consists of a mixture of varying percentages of ash, sand, and clay-rich fill ranging from 5 to 15 feet thick. Below the surficial fill, native alluvium and lacustrine soils are present at varying depths. Generally, there is a well graded sand unit present to depths of 10-30 feet below ground surface (ft bgs) overlying a clay till which is observed at depths ranging from 25-75 ft bgs. In general, the alluvium soils (sands) are deeper along the Saginaw River and there are shallower lacustrine deposits (clays, silts, and sands deposited in or on the shores of glacial lakes) at other areas. Along the perimeter of the landfill, there is a well-graded sand unit present at depths ranging from 10 to 20 ft bgs. The sand is variable in thickness, ranging

from <1 to ~6.5 feet, and is discontinuous along the landfill perimeter, as evidenced by the soil boring logs and slurry wall construction documentation.

The alluvium soils pinch out and are not observed in soil borings located south and east of the Weadock Landfill, along the location of the historic shoreline. The non-water-bearing region south of the Weadock Landfill extends for at least a mile south and southeast of the Site.

Beneath the surficial fill and sand unit (where present) is 70 to 80 feet of clay till. Along the southern perimeter of the landfill, some of the upper portion of the clay till is sand-rich (generally greater than 20 ft bgs). The clay till acts as a hydraulic barrier that separates the shallow groundwater from the underlying sandstone. The sandstone unit, which is part of the Saginaw Formation, is generally encountered at 80-90 ft bgs.

The Weadock Landfill is bounded by several surface water features (Figures 1 and 2): the Saginaw River to the west, a discharge channel and Saginaw Bay (Lake Huron) to the north, Underwood Drain to the east, and Tacey Drain to the south. Groundwater flow in this water bearing zone is largely controlled by the surface water elevations of Saginaw River and Saginaw Bay.

2.0 Leachate Monitoring

The leachate monitoring program consists of an annual laboratory leachate sampling program (Q1) and an annual field leachate sampling program (Q4) per the Weadock Landfill HMP. This program was instituted to maintain the facility under the applicable portions of Part 115, Rule 311 – Leaching tests to evaluate potential for groundwater contamination at unlined industrial waste landfills. Specifically, Subrule (3) states that waste that is disposed of in an industrial waste landfill shall be retested to evaluate potential for groundwater contamination annually or on a more frequent schedule as specified by the solid waste control agency.

In addition to field leachate testing conducted annually to evaluate appropriateness of monitored constituents and changes to fate and transport properties, an annual laboratory leachate analysis program was included to better understand what, if any, changes to waste placement may be occurring at the Weadock Landfill based on the addition of air emissions controls and the commingling of air emissions controls residuals (Spray Dry Absorber – SDA) over time. The Weadock Landfill HMP includes the laboratory leachate testing program, consisting of four dry-handled Coal Combustion Residual (CCR) samples commingled with SDA materials collected from each of the disposal silos dedicated to DE Karn Electrical Generating Units 1 and 2. Karn Units 1 & 2 permanently ceased operation on May 31, 2023, so additional CCR and air emissions residuals are not being generated; therefore, there are no results to report for this waste stream and the laboratory leachate monitoring is discontinued. In order for the Weadock Landfill to achieve the final grades as approved in the Revised Final Closure Plan (Golder, March 2022), the landfill continues to receive materials in the form of uncontaminated soil from documented sources, and limited contaminated soil that has been authorized for placement in the Weadock Landfill under the Beneficial Use 4 designation as other materials designated for construction at a licensed solid waste disposal facility. These results are maintained with the closure certification documentation.

Additional support for evaluating the potential for groundwater contamination at the unlined industrial waste landfill includes the field leachate monitoring program conducted during the fourth quarter of each year. This program consists of an annual sampling collection from two (2) leachate headwells; LH-103R and LH-104. This program was implemented to determine constituents in the leachate as measured under actual conditions in the field and to assess which constituents have the potential to exceed applicable criteria at the compliance well locations. There are no field leachate data to report this quarter.

3.0 Groundwater Monitoring

3.1 Monitoring Well Network

The groundwater monitoring system presented in the Weadock Landfill HMP has been established in accordance with R 299.4906 and the CCR Rule §257.91 and consists of 27 monitoring wells (four background monitoring wells, 12 downgradient monitoring wells, and 11 additional wells used for static water level measurements only) that are screened in the uppermost aquifer. The monitoring well network has been designed to provide appropriate coverage for water level and water quality data collection along the perimeter of the landfill. The monitoring well locations are shown on Figure 2. Monitoring well specifications and purpose (i.e. static water level monitoring, groundwater quality monitoring, or GSI monitoring) are included in Table 1.

The Weadock Landfill HMP groundwater monitoring system consists of the following:

- ***Background Groundwater Quality:*** Four monitoring wells located southwest of the Weadock Landfill provide data on background groundwater quality that has not been affected by the CCR unit (MW-15002, MW-15008, MW-15016, and MW-15019) and are used to establish groundwater protection standards (GWPSs) for the landfill:
  - MW-15002 – MW-15008 – MW-15016 – MW-15019
- ***Downgradient Groundwater Quality:*** The twelve downgradient monitoring wells, located on the outside of the perimeter slurry wall include:
  - JCW-MW-18001 – JCW-MW-18004 – JCW-MW-18005 – JCW-MW-18006
  - MW-50 – MW-51 – MW-52 – MW-53
  - MW-53R – MW-54R – MW-55 – OW-57R Out
- ***Groundwater-Surface Water Interface (GSI) Monitoring***: Monitoring wells located along the surface water features adjacent to the Weadock Landfill are included in the monitoring program to meet the requirements of Part 31. Locations and alignments were established in the Phase II Groundwater Discharge Evaluation, Figure: Appendix K (Natural Resource Technology, 2005) as a baseline for monitoring future results. These monitoring wells are screened across the water table of the uppermost aquifer and serve as GSI monitoring wells to determine compliance with generic GSI criteria or site-specific mixing zone-based criteria as appropriate. The eight GSI compliance monitoring wells include:
  - MW-50 – MW-51 – MW-52 – MW-53
  - MW-53R – MW-54R – MW-55 – JCW-MW-18004
- ***Static Water Level Measurement Only:*** Eleven additional monitoring wells, located on the inside of the perimeter slurry wall at paired locations with several of the downgradient monitoring wells, are used to evaluate the groundwater flux across the slurry wall:
  - JCW-OW-18001 – JCW-OW-18002 – JCW-MW-18003 – JCW-MW-18004
  - JCW-MW-18005 – JCW-MW-18006 – MW-20 – OW-51
  - OW-53 – OW-54 – OW-55 – OW-56R
  - OW-57R IN – OW-61 – OW-63

3.2 July 2025 Monitoring Event

In accordance with the Weadock Landfill HMP, TRC conducted the third quarter 2025 monitoring event for the Weadock Landfill by collecting water levels and groundwater samples on July 14-15, 2025. Samples that were collected during this event were submitted to Consumers Energy Laboratory Services in Jackson, Michigan for analysis of total metals and inorganic parameters. Quarterly monitoring constituents include:

Section 11511a(3)(c) – Detection Monitoring Constituents	Section 11519b(2) – Assessment Monitoring Constituents	
Boron	Antimony	Lithium
Calcium	Arsenic	Mercury
Chloride	Barium	Molybdenum
Fluoride	Beryllium	Nickel
Iron	Cadmium	Selenium
pH (field measurement)	Chromium, total	Silver
Sulfate	Cobalt	Thallium
Total Dissolved Solids (TDS)	Copper	Vanadium
	Fluoride	Zinc
	Lead	

Select samples were also analyzed for additional constituents including magnesium, sodium, potassium, and bicarbonate, carbonate, and total alkalinity to further assess geochemistry. Analytical results from the monitoring event are included in the attached laboratory reports (Appendix E).

Static water level measurements were collected at all locations after equilibration to atmospheric pressure. The depth to water was recorded to the nearest 0.01-ft in accordance with the procedures in the Weadock Landfill HMP. Static water elevation data are included in the attached field records (Appendix F).

Groundwater purging and sampling were conducted in accordance with low-flow sampling protocol as described in the Weadock Landfill HMP. Groundwater samples were collected using a peristaltic pump. The samples were collected in vendor-provided, nitric acid pre-preserved (metals only) and unpreserved sample containers and submitted to the laboratory for analysis. Groundwater sample preparation and analyses were performed in accordance with SW-846 "Test Methods for Evaluation Solid Waste – Chemical / Physical Methods," USEPA (latest revision). TRC followed chain of custody procedures to document the sample handling sequence.

TRC also collected quality assurance/quality control (QA/QC) samples during the groundwater sampling event. The QA/QC samples consisted of two field blanks, one equipment blank, three field duplicates (MW-51, JCW-MW-18006, MW-15002), and one field matrix spike/matrix spike duplicate sample pair (JCW-MW-18001).

3.2.1 Data Quality Review

Data were evaluated for completeness, overall quality and usability, method-specified sample holding times, precision and accuracy, and potential sample contamination. The laboratory data were found to be complete and usable for the purposes of the Weadock Landfill HMP. The data quality reviews for the Weadock Landfill monitoring network wells are summarized in Appendix B.

3.3 Groundwater Flow Rate and Direction

Potentiometric monitoring in the unusable aquifer beneath the facility includes static water level data collected for development of water table contours and evaluation of the potential for discharge from the facility. The monitoring under this section will be conducted quarterly until closure, as approved by the Director, and semiannually during the 30-year post-closure period. Monitoring will continue until the end of post closure (30 years) or as otherwise approved by the Director.

The measurements for top of casing (TOC) and recorded depth to water (DTW) with corresponding calculated static water level (SWL) is tabulated and presented in Table 1. A potentiometric surface map is provided as Figure 3.

Groundwater elevations measured at the Site in July 2025 are generally within the range of 579 to 595 feet above mean sea level (ft NAVD88). Groundwater elevations in monitoring wells located adjacent to Saginaw Bay and adjoining surface water bodies are typically encountered at a similar or slightly higher elevation relative to surrounding surface water features measured by the NOAA gauging station. A time-series plot included in Appendix A compares the groundwater elevation at the GSI monitoring wells (MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, JCW-MW-18004, and MW-55) to the nearby NOAA staff gauge. Water levels in wells adjacent to surface water bodies (e.g. Saginaw Bay, Tacey Drain) closely mirror the surface water elevation. Such conditions would result in a minimal gradient between the well and the drain which would result in minimal mass flux to the drain (Appendix A: Table A1).

The groundwater monitoring system is structured such that there are eleven monitoring well pairs used to evaluate the hydraulic gradient and potential for water flux across the slurry wall. Static water level observations from the paired wells are shown on time series charts in Appendix A. The static water level elevations inside of the Weadock Landfill perimeter slurry wall are generally significantly different (>3 ft) than static water levels outside of the slurry wall, which demonstrates the presence of a low permeability feature between the well pairings inside and outside of the constructed slurry wall. As such, the water level elevations indicate that the slurry wall is performing as designed. The general flow direction observed within the confinement of the slurry wall is similar to that identified in previous monitoring rounds. Due to the potential for radial flow, the downgradient wells are appropriately positioned to detect the

presence of detection or assessment parameters that could potentially migrate from the Weadock Landfill. As shown on Figure 3 and in Appendix A, the static water level outside of the slurry wall is lower than the static water level inside of the wall; therefore, the potential groundwater flux across the slurry wall was calculated and included in Table A2 of Appendix A.

3.4 Groundwater Analytical Data and Relevant Screening Criteria

Groundwater analytical data are evaluated in accordance with the Weadock Landfill HMP to determine the effectiveness of landfill structural and operational enhancement measures on the quality and quantity of groundwater flow beneath the footprint of the facility (Section 3.4.1 Detection Monitoring and Section 3.4.2 Assessment Monitoring). Additionally, analytical results are evaluated in support of GSI compliance. GSI criteria only apply to the designated compliance points as specified in Section 3.4.3 below; however, analytical results and data trends in groundwater collected from all perimeter dike wells are evaluated to identify potential GSI compliance issues. Data are evaluated by using a combination of screening against relevant criteria, as well as utilizing statistical analyses.

Analytical results from the third quarter 2025 monitoring event are included in the attached laboratory report (Appendix E). Groundwater analytical data from the third quarter 2025 monitoring event are summarized in Table 3 (background monitoring wells) and Table 4 (Weadock Landfill Monitoring Wells), as well as the associated Part 201 generic GSI and site-specific mixing-zone GSI criteria.[1] Field data are summarized in Table 2.

Mixing-zone criteria for arsenic, boron, molybdenum, and selenium are provided for the Karn-Weadock complex in the mixing zone determination dated October 4, 2024 (EGLE, 2024). As such, arsenic, boron, molybdenum, and selenium are compared to site-specific mixing zone-based GSI criteria, and all other constituents are screened against generic GSI criteria. All data are screened against GSI criteria; however, compliance with GSI criteria is determined at select monitoring locations as noted in Section 3.4.3 below.

The mixing zone determination included both final acute values (FAV) and final chronic values (FCV). If a concentration of a constituent at a groundwater well exceeds the acute criteria, and the exceedances are upgradient of the GSI compliance monitoring wells, Consumers Energy must demonstrate that data from all of the GSI compliance monitoring wells are, and will be, in compliance with acute mixing zone-based GSI criteria for those parameters. Averaging of groundwater data is not allowed for comparison to generic GSI or acute mixing zone-based GSI criteria. Acute mixing zoned-based or generic GSI criteria may not be exceeded in any individual GSI compliance monitoring well. If a concentration of a constituent at a GSI compliance monitoring well exceeds the chronic criterion, compliance can be demonstrated on a mass-flux basis. The facility can choose to demonstrate compliance by evaluating the total chronic loading based upon the contribution from each compliance well with respect to the total flux observed in the mixing zone.

[1] Drinking water criteria are also included in Tables 3 and 4 for review purposes. There is not a complete drinking water pathway on-site. As such, the relevant compliance pathway is the GSI pathway.

Table 6 provides a summary of the exceedances over the most recent four quarters in accordance with the EGLE-prescribed format; only well/constituent pairs that exceed the relevant Part 115 compliance standard – the GSI pathway standard (Section 3.4.3) within the last four quarters are included.

3.4.1 Detection Monitoring

Detection monitoring is continuing through the active life of the Weadock Landfill to monitor for new releases from landfill operations. The detection monitoring program consists of potentiometric analysis and groundwater quality analysis. The potentiometric analysis, as discussed in Section 3.3, demonstrates that the slurry wall is performing as designed.

In addition to the comparison of analytical data to relevant screening criteria (Table 4), statistical trend analyses are used to evaluate groundwater quality each quarter. Consumers Energy manages and evaluates its groundwater data using Sanitas™ Statistical Software. Consumers Energy conducts intrawell trend analyses to examine data for a given well over time to determine if changes in water quality are occurring that may be associated with the landfill and to identify potential GSI compliance issues. Specifically, the Mann-Kendall test for trend was performed at a significance level (α) of 0.025 per tail for each constituent/sampling point dataset to assess trends. Sen's Slope estimator was used to assess the magnitude of the slope and the Mann-Kendall test was used to determine if the trend was statistically significant.

Appendix C includes a table summarizing the results of the trend tests as well as the Sanitas™ output summary statistics and graphs. Data are stable (i.e., no trend) or declining for the majority of the well/constituent pairs, with the following exceptions:

- The increasing trend for boron observed at MW-50 continued in Q3 2025.
- The increasing trends for chloride observed at MW-53R, MW-54R, and OW-57R OUT continued in Q3 2025.
- New, unconfirmed increasing trends for sulfate were observed at MW-51 and MW-54R in Q3 2025.
- The increasing trend for TDS that was initially observed at MW-54R in Q2 2025 was confirmed in Q3 2025.

Although increasing trends for detection monitoring constituents were observed, individual constituent trends provide only a *potential indication* that there may be a release coming from the monitored unit. When these indicator trends are evaluated with other co-monitored conditions and parameters at the Weadock Landfill, the increasing trends for detection monitoring constituents do not appear to be a result of a new release from operation of the landfill. The potentiometric analysis demonstrates that the slurry wall is effective in reducing the flux of groundwater from the landfill. All concentrations remain below the applicable GSI criteria, as discussed in Section 3.4.3 below.

Consumers is further evaluating possible causes of the increasing boron concentrations at several porewater compliance monitoring wells. Previous studies (NRT, 2005) documented boron at significantly elevated concentrations at the Karn-Weadock Power Generating Complex.

Boron was also identified as an SSI over background levels in the 2017 *Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit* (TRC, 2018) and was one of the detection monitoring constituents that triggered the initiation of the assessment monitoring program. Statistical significance above the GWPS established for boron has been noted for these monitoring wells per the Part 115 groundwater monitoring program requirements, as discussed in Section 3.4.2.2. Continued monitoring and assessment for potential future actions is warranted at this time; however, observed concentrations of boron in each of the monitoring wells are less than the relevant Part 115 compliance standard – the GSI pathway standard (Section 3.4.3).

3.4.2 Assessment Monitoring Data Evaluation

Assessment monitoring is continuing at the Weadock Landfill in accordance with the Weadock Landfill HMP and §257.95 of the CCR Rule. The assessment monitoring data were statistically evaluated in accordance with the procedures in the Weadock Landfill HMP. The statistical evaluation details are provided in Appendix D. A summary of the confidence interval evaluation is provided in Table 5.

3.4.2.1 Establishing Groundwater Protection Standards

The GWPSs are used to assess constituent concentrations present in groundwater as a result of CCR unit operations by statistically comparing concentrations in the downgradient wells to each of the respective GWPSs for each detection and assessment monitoring constituent. The calculation of the GWPSs in accordance with the Weadock Landfill HMP is documented in the *Groundwater Protection Standards* technical memorandum included as Appendix H of the *First Quarter 2021 Hydrogeological Monitoring Report* (TRC, 2021b). The Federal CCR Rule requires establishment of GWPSs for assessment monitoring (Appendix IV) constituents only. Part 115 requires establishment of GWPSs for both detection and assessment monitoring constituents.

3.4.2.2 Data Comparison to Groundwater Protection Standards

Consistent with the *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (Unified Guidance) (USEPA, 2009) and the Weadock Landfill HMP, the preferred method for comparisons to a fixed standard are confidence limits. An exceedance of the standard occurs when the 99 percent lower confidence level of the downgradient data exceeds the GWPS.

Detection Monitoring Constituents (Part 115): The third quarter 2025 statistical evaluation indicates that boron at JCW-MW-18001, JCW-MW-18005, JCW-MW-18006, MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, and OW-57R OUT, calcium at JCW-MW-18001, and sulfate at JCW-MW-18001 were present at statistically significant levels above the GWPS. The GWPSs for boron, calcium, and sulfate were established based on background concentrations observed in wells unaffected by the Weadock Landfill or Weadock Bottom Ash Pond. Detection monitoring (i.e., Appendix III) constituents do not have associated health-based criteria and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. Overall, data continue to demonstrate compliance with the applicable criteria as described in Section 3.4.3 below.

Assessment Monitoring Constituents (Part 115 and Federal CCR): Based on the third quarter 2025 statistical evaluation, there are no assessment monitoring constituents present at statistically significant levels above the GWPSs within the Weadock Landfill groundwater monitoring system. Although concentrations of arsenic at MW-55 observed during individual sampling events are above the GWPS, the elevated concentrations are not a result of a release from the Weadock Landfill, as detailed in Section 3.5.

3.4.3 GSI Compliance Monitoring

The GSI monitoring program consists of the eight monitoring points located along the surface water features:

- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- JCW-MW-18004

Third quarter 2025 data from the GSI monitoring points are tabulated in Table 4. As described in the Weadock Landfill HMP, GSI monitoring program constituents were identified as detected constituents that have the potential to exceed the generic GSI criteria at the Weadock Landfill downgradient monitoring wells. At a minimum, these constituents include the following, identified based on prior groundwater monitoring as noted in the Weadock Landfill HMP:

- Boron
- Iron
- pH
- Sulfate
- Arsenic
- Chromium
- Lithium
- Molybdenum
- Selenium
- Vanadium

Additional constituents will be added to the GSI monitoring program as appropriate if detected above the relevant GSI criteria at the landfill monitoring wells in two consecutive events. Calcium, chloride, and total dissolved solids have been detected above the generic GSI criteria in one or more wells over two consecutive events; however, it is not appropriate to add these constituents to the GSI monitoring program for the following reasons:

- **Calcium:** Calcium has been detected above the generic GSI criterion at JCW-MW-18001. As discussed further in Section 3.5, the concentrations of calcium at JCW-MW-18001 are attributed to localized changes in geochemistry and are not indicative of a new release from the landfill. Concentrations in all other wells remain below the generic GSI criterion, supporting that the detected concentrations are localized to JCW-MW-18001. Given that JCW-MW-18001 is not a GSI compliance monitoring location and the increase in calcium is not attributed to the landfill operation, it is not appropriate to add calcium to the GSI compliance monitoring program.
- **Chloride:** Chloride has been detected above the generic GSI criterion of 50 mg/L in several wells. Chloride is regionally elevated, as evidenced by the calculated background concentration of 2,300 mg/L, documented in the *Groundwater Protection Standards* technical memorandum included as Appendix H of the *First Quarter 2021*

Hydrogeological Monitoring Report (TRC, 2021b). Consistent with the *Groundwater-Surface Water Interface Pathway Compliance Options* (MDEQ, 2018a) resource materials, where the background concentration is greater than the risk-based GSI criterion, the background concentration may be substituted for the GSI criterion. All chloride concentrations are below the background concentration. Therefore, chloride is determined to be below the applicable level and is not included in the GSI compliance monitoring program.

- **Total Dissolved Solids:** Total dissolved solids (TDS) has been detected above the generic GSI criterion of 500 mg/L in several wells. TDS is regionally elevated, as evidenced by the calculated background concentration of 4,700 mg/L, documented in the *Groundwater Protection Standards* technical memorandum included as Appendix H of the *First Quarter 2021 Hydrogeological Monitoring Report* (TRC, 2021b). Consistent with the *Groundwater-Surface Water Interface Pathway Compliance Options* (MDEQ, 2018a) resource materials, where the background concentration is greater than the risk-based GSI criterion, the background concentration may be substituted for the GSI criterion. All TDS concentrations are below the background concentration. Therefore, TDS is determined to be below the applicable level and is not included in the GSI compliance monitoring program.

The confidence interval evaluation is provided in Appendix D. The confidence interval test compares the lower confidence limit to the GSI. Overall, data continue to demonstrate compliance with the applicable GSI criteria.

- **Boron:** The detection monitoring statistical evaluation found that boron concentrations are increasing at MW-50. The assessment monitoring statistical evaluation found that boron was present at statistically significant levels above the GWPS at JCW-MW-18001, JCW-MW-18005, JCW-MW-18006, MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, and OW-57R OUT. Boron is a detection monitoring (i.e. Appendix III) constituent and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. All observations of boron are less than the recommended mixing-zone based GSI value specified in Table 1 of the *Implementation of a Mixing Zone Request, DE Karn/JC Weadock Complex* (EGLE, 2024) (Appendix D: Table 2).
- **Calcium:** The detection monitoring statistical evaluation did not find that calcium concentrations are increasing at any of the downgradient monitoring wells. The assessment monitoring statistical evaluation found that calcium was present at statistically significant levels above the GWPS at JCW-MW-18001. Consumers is asserting an ASD for the increases in calcium at JCW-MW-18001, as detailed in Section 3.5. Calcium is not identified to have the potential to exceed the generic GSI criteria at the Weadock Landfill downgradient monitoring wells as discussed above; therefore, data are not evaluated against the GSI criteria.
- **Sulfate:** The detection monitoring statistical evaluation found that sulfate concentrations were increasing at MW-51 and MW-54R. The assessment monitoring statistical evaluation found that sulfate was present at statistically significant levels above the GWPS at JCW-MW-18001. Sulfate is a detection monitoring (i.e. Appendix III) constituent and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. JCW-MW-18001 is not a GSI compliance well; the concentrations of sulfate in the GSI compliance monitoring wells remain below the applicable GSI criterion (Final Acute Value [FAV]) (Appendix D: Table 2).

- **Total Dissolved Solids:** The detection monitoring statistical evaluation found that TDS concentrations were increasing at MW-54R. The assessment monitoring evaluation did not find that TDS was present at statistically significant levels above the GWPS at any of the downgradient monitoring wells. TDS is not identified to have the potential to exceed the generic GSI criteria at the Weadock Landfill downgradient monitoring wells as discussed above; therefore, data are not evaluated against the GSI criteria.

3.5 Alternate Source Demonstration

At this time, Consumers Energy is continuing to assert an Alternate Source Demonstration (ASD), for the following, as detailed below:

- Calcium and sulfate in monitoring well JCW-MW-18001; and
- Arsenic in monitoring well MW-55.

The groundwater conditions do not conclusively indicate a release from the unit for several reasons as detailed below.

3.5.1 Monitoring Well JCW-MW-18001: Calcium and Sulfate

Although confirmed increasing trends were observed at JCW-MW-18001 for calcium (through Q3 2024) and sulfate (through Q2 2024) and concentrations of calcium and sulfate are present at statistically significant levels above the GWPSs at JCW-MW-18001, these concentrations are not indicative of a new release from the landfill. Calcium and sulfate are two of several constituents that contribute to the overall TDS concentration and increasing calcium and sulfate concentrations likely contribute to an overall increase in TDS as well. TDS concentrations are not currently exhibiting a statistically significant upward trend; however, TDS concentrations have been increasing in past events and the data are discussed as part of this ASD. Increases of calcium, sulfate, and TDS concentrations at JCW-MW-18001 are attributed to changes occurring outside of the slurry wall as a result of changing water levels, rather than a change in flux from the landfill; therefore, Consumers Energy is continuing to assert an ASD for these constituents. The following lines of evidence as well as additional time series charts included in Appendix G support this ASD:

- The potentiometric analysis demonstrates that the slurry wall is effective in reducing the flux of groundwater from the landfill (Appendix A).
- Concentration data also support that the slurry wall is effective in reducing the flux of groundwater from the landfill, based on the following observations (Appendix G1):
  - JCW-MW-18001 was installed after the 1,600 linear foot gap in the landfill perimeter slurry wall was closed, as discussed in Section 1.2. Prior to the slurry wall expansion in July 2018, monitoring well JCW-MW-15023 was located within the gap of the slurry wall and was sampled between December 2015 and May 2018 as a part of the original Federal CCR program monitoring well network. The groundwater quality data collected from JCW-MW-15023 shows that groundwater in contact with CCR managed within the landfill was high in arsenic, and low in sulfate, calcium, and TDS (Appendix G1).
  - To accommodate the July 2018 slurry wall expansion, JCW-MW-15023 was decommissioned. Once slurry wall construction was completed, JCW-MW-18001 was

installed within 10-ft of the location of the former JCW-MW-15023 well, on the discharge channel side of the slurry wall. Additionally, an observation well, JCW-OW-18001, was installed on the landfill side of the slurry wall to monitor water levels to assess the effectiveness of the hydraulic control. Both JCW-MW-18001 (outside) and JCW-OW-18001 (inside) have been sampled recently to assess concentration trends.

  - Concentrations of arsenic are much higher inside of the slurry wall, within the landfill, while arsenic concentration remain low on the outside of the landfill.
  - Concentrations of calcium, sulfate, and TDS are much lower on the inside of the slurry wall and are higher outside of the slurry wall.

- These combined lines of evidence support that increasing concentrations of calcium, sulfate, and TDS are not a result of a change in flux from the landfill and instead are a result of changing groundwater conditions on the outside of the slurry wall.

3.5.2 Monitoring Well MW-55: Arsenic

Additionally, Consumers Energy is continuing to assert an ASD for arsenic at MW-55 indicating elevated levels of constituents at that location are not related to materials management of the Weadock Landfill (*2021 Annual Groundwater Monitoring and Corrective Action Report*; TRC, January 2022). The basis for this ASD is summarized below and updated time series plots in support of this ASD are included in Appendix G (Figure G2).

A targeted groundwater investigation was completed in August 2018 to further evaluate whether arsenic observed in MW-55 is potentially coming from the landfill or from another source. Data collected from the 2018 investigation as well as data collected during routine sampling events for Part 115 and Federal CCR groundwater compliance show the following:

- **Distinct Chemistry from Leachate –** The leachate chemistry from a monitoring well screened at the base of the ash fill (LH-104) is distinctly different from the groundwater chemistry near MW-55 and the temporary monitoring wells installed by TRC in the investigation area, as illustrated Appendix G of the 2019 Annual Groundwater Monitoring and Corrective Action Report (TRC, January 2020). Additionally, concentrations of arsenic and iron are generally much lower, and concentrations of boron are much higher within the landfill (LH-104) than outside of the landfill at MW-55 (Figure G2).
- **Conservative Tracer –** Boron is a metalloid known to be present in coal ash and can be used as a conservative tracer in groundwater. The average concentration of boron in Leachate Headwell LH-104 (11,000 ug/L: November 2017 - October 2024) is significantly higher than concentrations observed at any of the other locations sampled as a part of this monitoring program and approximately an order of magnitude higher than concentration observed at MW-55 (1,060 ug/L in July 2025). Additionally, recently observed boron concentrations at MW-55 are similar to or lower than historical concentrations, which further supports that the water quality at MW-55 is not directly affected by groundwater migrating from the landfill.
- **Changes in Geochemistry Related to Water Level Changes –** Water levels observed at MW-55, as shown in Appendices A and G, increased over 4-ft between 2010 and 2020. The oxidation-reduction potential (ORP) at MW-55 has generally decreased (i.e., is more reducing) since 2010, while pH has generally increased. These changes in field indicator parameters over time as a result of changes in water levels have affected the geochemical conditions in the vicinity of MW-55, resulting in changes in the solubility of both arsenic and

iron. Since 2021, water levels have been generally decreasing, resulting in a slight increase in ORP (i.e., is less reducing) and decreases in pH and concentrations of both arsenic and iron, which further illustrates the relationship between groundwater elevations, redox state, and concentration of arsenic and molybdenum in groundwater.

4.0 Conclusions and Recommendations

Detection monitoring is continuing through the active life of the Weadock Landfill to monitor for new releases from landfill operations. The detection monitoring program consists of potentiometric analysis and groundwater quality analysis. Evaluation of the third quarter 2025 data demonstrate that the slurry wall is functioning as designed.

The Weadock Landfill is currently in assessment monitoring pursuant to the CCR Rule, as discussed in the *2024 Annual Groundwater Monitoring and Corrective Action Report*, due to observed groundwater concentrations that are indicative of impact from past landfill operations. Evaluation of the third quarter 2025 data in accordance with the Weadock Landfill HMP demonstrate that boron, calcium, and sulfate are present at concentrations above the GWPSs. Boron, calcium, and sulfate are detection monitoring (i.e., Appendix III) constituents that do not have associated health-based criteria and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. The statistical evaluation in third quarter 2025 found that no constituents were present at statistically significant levels above applicable GSI criteria.

Therefore, Consumers Energy will continue with the detection and assessment monitoring as required by the CCR rule as well as the monitoring program relative to the implementation of the site-specific mixing zone authorization at the Weadock Landfill unit in conformance with the JC Weadock Landfill HMP. The fourth quarter monitoring event is scheduled for October 2025.

5.0 References

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Tables

Table 1

Summary of Groundwater Elevation Data

JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program

Essexville, Michigan

Well Location	Static Water Level Monitoring	Groundwater Quality Monitoring	GSI Monitoring	Leachate Analysis Program	TOC Elevation (ft)	Geologic Unit of Screen Interval	Screen Interval Elevation (ft)			July 14, 2025	
										Depth to Water (ft BTOC)	Groundwater Elevation (ft)
Background Monitoring Wells											
MW-15002	✓	✓	--	--	587.71	Sand	580.9	to	570.9	7.99	579.72
MW-15008	✓	✓	--	--	585.36	Sand with clay	578.7	to	568.7	4.98	580.38
MW-15016	✓	✓	--	--	586.49	Sand	581.2	to	578.2	5.26	581.23
MW-15019	✓	✓	--	--	586.17	Sand and Sand/Clay	579.5	to	569.5	6.42	579.75
Former Bottom Ash Pond: Downgradient Monitoring Wells											
JCW-MW-15007	✓	--	--	--	587.40	Sand	582.7	to	579.2	4.93	582.47
JCW-MW-15009	✓	--	--	--	589.64	Sand	581.9	to	576.9	9.75	579.89
JCW-MW-15010	✓	--	--	--	597.76	Sand	579.7	to	578.2	17.85	579.91
JCW-MW-15028	✓	--	--	--	589.64	Sand	567.7	to	564.7	8.99	580.65
Landfill: Downgradient Monitoring Wells (outside slurry wall)											
JCW-MW-18001	✓	✓	--	--	596.73	Sand and Sandy Clay	578.3	to	573.3	17.33	579.40
JCW-MW-18004	✓	✓	✓	--	593.04	Sandy Clay	583.9	to	578.9	13.05	579.99
JCW-MW-18005	✓	✓	--	--	590.89	Sand and Sandy Clay	580.0	to	575.0	10.15	580.74
JCW-MW-18006	✓	✓	--	--	600.72	Fly Ash and Sandy Clay	582.8	to	577.8	15.26	585.46
MW-50	✓	✓	✓	--	593.36	Sand	577.8	to	574.8	13.93	579.43
MW-51	✓	✓	✓	--	594.29	Sand and Clay	577.8	to	574.8	14.84	579.45
MW-52	✓	✓	✓	--	594.90	Sand	579.3	to	576.3	15.50	579.40
MW-53	✓	✓	✓	--	593.68	Sand and Clay	579.1	to	576.1	14.15	579.53
MW-53R	✓	✓	✓	--	594.25	Sand and Clay	580.4	to	575.4	14.80	579.45
MW-54R	✓	✓	✓	--	593.89	Clay and Sand	581.3	to	576.3	14.31	579.58
MW-55	✓	✓	✓	--	593.82	Sand	581.5	to	578.5	14.49	579.33
OW-57R OUT	✓	✓	--	--	591.00	Sandy Clay	577.0	to	572.0	10.75	580.25

Notes:

Survey data from: Rowe Professional Services Company (Nov. 2015) and Consumers Energy Company drawings: SG-21733, Sheet 1, Rev. G (Karn, 11/27/18); and SG-21733, Sheet 2, Rev. C (Weadock, 11/27/18).

Elevation in feet relative to North American Vertical Datum 1988 (NAVD 88).

TOC: Top of well casing.

ft BTOC: Feet below top of well casing.

Table 1

Summary of Groundwater Elevation Data

JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program

Essexville, Michigan

Well Location	Static Water Level Monitoring	Groundwater Quality Monitoring	GSI Monitoring	Leachate Analysis Program	TOC Elevation (ft)	Geologic Unit of Screen Interval	Screen Interval Elevation (ft)			July 14, 2025	
										Depth to Water (ft BTOC)	Groundwater Elevation (ft)
Landfill: Static Water Level Only (inside slurry wall)											
JCW-OW-18001	✓	--	--	--	595.84	Fly Ash and Sand	581.1	to	576.1	8.23	587.61
JCW-OW-18002	✓	--	--	--	593.63	Sand	578.9	to	573.9	10.74	582.89
JCW-OW-18003	✓	--	--	--	593.99	Sand and Clay	580.5	to	575.5	8.40	585.59
JCW-OW-18004	✓	--	--	--	594.19	Sandy Clay	584.6	to	579.6	7.68	586.51
JCW-OW-18006	✓	--	--	--	600.61	Fly Ash and Clay with Sand	582.9	to	577.9	9.12	591.49
MW-20	✓	--	--	--	592.73	NR	~581.1	to	~578.1	8.21	584.52
MW-58	✓	--	--	--	586.25	Sand	579.7		569.7	5.93	580.32
OW-51	✓	--	--	--	593.62	Clay and Sand	578.9	to	575.9	8.95	584.67
OW-53	✓	--	--	--	593.64	Clay and Sand	579.0	to	576.0	7.80	585.84
OW-54	✓	--	--	--	594.10	Clay and Sand	580.0	to	577.0	7.70	586.40
OW-55	✓	--	--	--	594.67	Clay (or Sand and Clay)	580.9	to	577.9	7.14	587.53
OW-56R	✓	--	--	--	592.01	Ash and Sand	577.5	to	572.5	6.98	585.03
OW-57R IN	✓	--	--	--	590.86	Sandy Clay	575.7	to	570.7	6.16	584.70
OW-61	✓	--	--	--	602.15	Ash and Sand	588.0	to	585.0	9.57	592.58
Landfill: Leachate Headwells											
LH-103R	✓	--	--	✓	612.70	Fly Ash	30.2	to	33.2	22.16	590.54
LH-104	✓	--	--	✓	596.56	Fly Ash	8.0	to	11.0	9.11	587.45

Notes:

Survey data from: Rowe Professional Services Company (Nov. 2015) and Consumers Energy Company drawings: SG-21733, Sheet 1, Rev. G (Karn, 11/27/18); and SG-21733, Sheet 2, Rev. C (Weadock, 11/27/18).

Elevation in feet relative to North American Vertical Datum 1988 (NAVD 88).

TOC: Top of well casing.

ft BTOC: Feet below top of well casing.

Table 2

Summary of Field Parameters

JC Weadock Solid Waste Disposal Area - Hydrogeological Monitoring Program

Essexville, Michigan

Sample Location	Sample Date	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Specific Conductivity (umhos/cm)	Temperature (°C)	Turbidity (NTU)
DE Karn & JC Weadock Background							
MW-15002	7/15/2025	0.40	-67.0	6.8	4,933	15.5	0.7
MW-15008	7/15/2025	0.33	-89.0	6.8	2,156	16.0	2.6
MW-15016	7/15/2025	0.45	-89.8	6.8	2,093	19.6	1.7
MW-15019	7/15/2025	0.50	-82.5	6.8	2,159	16.2	1.9
JC Weadock Solid Waste Disposal Area							
JCW-MW-18001	7/14/2025	0.94	-143.7	6.7	3,596	14.4	6.1
JCW-MW-18004	7/15/2025	4.62	-107.8	6.9	1,357	18.6	107.8
JCW-MW-18005	7/15/2025	0.40	41.6	7.0	1,273	15.7	0.0
JCW-MW-18006	7/15/2025	0.98	-158.8	6.9	1,096	15.4	4.6
MW-50	7/15/2025	0.95	-226.9	7.4	1,346	14.2	3.9
MW-51	7/15/2025	0.93	-186.4	7.2	1,422	13.1	9.5
MW-52	7/15/2025	0.92	-161.4	6.7	1,587	14.0	6.6
MW-53	7/15/2025	0.92	-196.2	7.4	909	14.2	6.4
MW-53R	7/15/2025	1.16	-145.0	6.9	1,222	13.5	3.8
MW-54R	7/15/2025	0.68	19.4	6.9	1,602	18.7	0.7
MW-55	7/15/2025	1.00	-166.9	6.9	1,140	16.0	4.4
OW-57ROUT	7/15/2025	0.95	16.8	6.9	1,322	21.6	1.4

Notes:

mg/L - Milligrams per Liter.

mV - Millivolts.

SU - Standard Units.

umhos/cm - Micromhos per centimeter.

°C - Degrees Celsius.

NTU - Nephelometric Turbidity Unit

Table 3
Summary of Groundwater Sampling Results (Analytical)
JC Weadock Background - Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	**MW-15002**	**MW-15008**	**MW-15016**	**MW-15019**
					Sample Date:	7/15/2025	7/15/2025	7/15/2025	7/15/2025
Constituent	Unit	EPA MCL	MI Residential*	MI Non-Residential*	MI GSI^				
Appendix III(1)									
Boron	ug/L	NC	500	500	4,000	152	135	484	233
Calcium	mg/L	NC	NC	NC	500EE	157	118	259	169
Chloride	mg/L	**250****	**250E**	**250E**	**50**	**1,570**	**465**	**230**	**384**
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	250**	250E	250E	500EE	79.6	5.05	184	96.2
Total Dissolved Solids	mg/L	**500****	**500E**	**500E**	**500**	**2,970**	**1,260**	**1,370**	**1,350**
pH, Field	SU	6.5 - 8.5**	6.5 - 8.5E	6.5 - 8.5E	6.5 - 9.0	6.8	6.8	6.8	6.8
Appendix IV(1)									
Antimony	ug/L	6	6.0	6.0	2.0	< 1	< 1	< 1	< 1
Arsenic	ug/L	**10**	**10**	**10**	**10**	**17**	7	**19**	4
Barium	ug/L	2,000	2,000	2,000	1,200	496	103	263	391
Beryllium	ug/L	4	4.0	4.0	33	< 1	< 1	< 1	< 1
Cadmium	ug/L	5	5.0	5.0	2.5	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	100	100	11	1	< 1	< 1	< 1
Cobalt	ug/L	NC	40	100	100	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	NC	4.0	4.0	14	< 1	< 1	< 1	< 1
Lithium	ug/L	NC	170	350	440	21	21	45	15
Mercury	ug/L	2	2.0	2.0	0.20#	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	NC	73	210	120	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NC	NC	NC	NC	--	--	--	--
Radium-228	pCi/L	NC	NC	NC	NC	--	--	--	--
Radium-226/228	pCi/L	5	NC	NC	NC	--	--	--	--
Selenium	ug/L	50	50	50	5.0	< 1	< 1	< 1	< 1
Thallium	ug/L	2	2.0	2.0	2.0	< 2	< 2	< 2	< 2
Additional MI Part 115(2)									
Iron	ug/L	**300****	**300E**	**300E**	500,000EE	**14,400**	**14,800**	**21,300**	**22,400**
Copper	ug/L	1,000**	1,000E	1,000E	20	2	< 1	2	1
Nickel	ug/L	NC	100	100	120	8	5	12	6
Silver	ug/L	100**	34	98	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	NC	**4.5**	62	27	**17**	**13**	3	**5**
Zinc	ug/L	5,000**	2,400	5,000E	260	23	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter; mg/L - milligrams per liter.

pCi/L - picocuries per liter; SU - standard units; pH is a field parameter.

MCL - Maximum Contaminant Level, EPA Drinking Water Standards and Health Advisories, April, 2012.

NC - no criteria; -- - not analyzed.

* - Michigan Part 201 Generic Drinking Water Cleanup Criteria, December 30, 2013, updated October 12, 2023.

** - Secondary Maximum Contaminant Level (SMCL), EPA Secondary Drinking Water Regulations (SDWR) April, 2012.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. Chromium GSI criterion based on hexavalent chromium per footnote {H}. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}. GSI criterion for chloride is 50 mg/L when the discharge is to the Great Lakes or connecting waters per footnote {FF}

- If detected above 0.20 ug/L, further evaluation of low-level mercury may be necessary to evaluate the GSI pathway per Michigan Part 201 and MDEQ policy and procedure 09-014 dated June 20, 2012.

E - Criterion is the aesthetic drinking water value per footnote {E}.

EE - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendment - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituent (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

BOLD value indicates an exceedance of one or more of the listed criteria.

RED value indicates an exceedance of the MCL.

All metals were analyzed as total unless otherwise specified.

Table 4
Summary of Groundwater Sampling Results (Analytical)
JC Weadock Solid Waste Disposal Area - Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	**JCW-MW-18001**	**JCW-MW-18004**	**JCW-MW-18005**	**JCW-MW-18006**	**MW-50**	**MW-51**
					Sample Date:	7/14/2025	7/15/2025	7/15/2025	7/15/2025	7/15/2025	7/15/2025
Constituent	Unit	EPA MCL	MI Residential*	MI Non-Residential*	MI GSI^						
Appendix III[(1)]											
Boron	ug/L	NC	**500**	**500**	**4,000**	**1,330**	309	**1,520**	**2,660**	**3,200**	**897**
Calcium	mg/L	NC	NC	NC	500[EE]	479	219	172	122	187	161
Chloride	mg/L	250**	250[E]	250[E]	**50**	43.8	13.9	41.9	**68.9**	**53.1**	**62.4**
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**250****	**250[E]**	**250[E]**	**500[EE]**	**1,630**	**489**	175	66.4	**272**	**437**
Total Dissolved Solids	mg/L	**500****	**500[E]**	**500[E]**	**500**	**3,140**	**1,140**	**904**	**754**	**1,040**	**1,150**
pH, Field	SU	6.5 - 8.5**	6.5 - 8.5[E]	6.5 - 8.5[E]	6.5 - 9.0	6.7	6.9	7.0	6.9	7.4	7.2
Appendix IV[(1)]											
Antimony	ug/L	6	6.0	6.0	2.0	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**10**	**10**	**10**	**10**	8	< 1	1	**26**	5	**19**
Barium	ug/L	2,000	2,000	2,000	1,200	61	29	82	363	200	147
Beryllium	ug/L	4	4.0	4.0	33	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5	5.0	5.0	2.5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	100	100	11	< 1	3	< 1	< 1	< 1	< 1
Cobalt	ug/L	NC	40	100	100	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	NC	4.0	4.0	14	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	NC	170	350	440	98	44	33	50	68	28
Mercury	ug/L	2	2.0	2.0	0.20#	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	NC	73	210	120	< 5	< 5	5	< 5	< 5	< 5
Radium-226	pCi/L	NC	NC	NC	NC	--	--	--	--	--	--
Radium-228	pCi/L	NC	NC	NC	NC	--	--	--	--	--	--
Radium-226/228	pCi/L	5	NC	NC	NC	--	--	--	--	--	--
Selenium	ug/L	50	50	50	**5.0**	3	1	4	4	3	3
Thallium	ug/L	2	2.0	2.0	2.0	< 2	< 2	< 2	< 2	< 2	< 2
Additional MI Part 115[(2)]											
Iron	ug/L	**300****	**300[E]**	**300[E]**	500,000[EE]	**1,930**	**509**	80	**7,620**	**1,360**	**2,020**
Copper	ug/L	1,000**	1,000[E]	1,000[E]	20	3	2	2	1	1	1
Nickel	ug/L	NC	100	100	120	22	14	15	6	9	8
Silver	ug/L	100**	34	98	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	NC	4.5	62	27	3	< 2	< 2	4	< 2	2
Zinc	ug/L	5,000**	2,400	5,000[E]	260	11	20	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter; mg/L - milligrams per liter.

pCi/L - picocuries per liter; SU - standard units; pH is a field parameter.

MCL - Maximum Contaminant Level, EPA Drinking Water Standards and Health Advisories, April, 2012.

NC - no criteria; -- - not analyzed.

* - Michigan Part 201 Generic Drinking Water Cleanup Criteria, December 30, 2013, updated October 12, 2023.

** - Secondary Maximum Contaminant Level (SMCL), EPA Secondary Drinking Water Regulations (SDWR) April, 2012.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. Chromium GSI criterion based on hexavalent chromium per footnote {H}. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}. GSI criterion for chloride is 50 mg/L when the discharge is to the Great Lakes or connecting waters per footnote {FF}

- If detected above 0.20 ug/L, further evaluation of low-level mercury may be necessary to evaluate the GSI pathway per Michigan Part 201 and MDEQ policy and procedure 09-014 dated June 20, 2012.

[E] - Criterion is the aesthetic drinking water value per footnote {E}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendment - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituent (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

BOLD value indicates an exceedance of one or more of the listed criteria.

RED value indicates an exceedance of the MCL.

All metals were analyzed as total unless otherwise specified.

Table 4
Summary of Groundwater Sampling Results (Analytical)
JC Weadock Solid Waste Disposal Area - Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	**MW-52**	**MW-53**	**MW-53R**	**MW-54R**	**MW-55**	**OW-57ROUT**
					Sample Date:	7/15/2025	7/15/2025	7/15/2025	7/15/2025	7/15/2025	7/15/2025
Constituent	Unit	EPA MCL	MI Residential*	MI Non-Residential*	MI GSI^						
Appendix III[(1)]											
Boron	ug/L	NC	**500**	**500**	**4,000**	**837**	**5,600**	**3,220**	**6,920**	**1,060**	**1,770**
Calcium	mg/L	NC	NC	NC	500[EE]	244	104	170	197	172	138
Chloride	mg/L	250**	250[E]	250[E]	**50**	42.7	**86.2**	**81.0**	**115**	15.1	**81.2**
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**250****	**250[E]**	**250[E]**	**500[EE]**	**480**	3.64	123	211	**252**	63.7
Total Dissolved Solids	mg/L	**500****	**500[E]**	**500[E]**	**500**	**1,370**	**606**	**900**	**1,120**	**898**	**800**
pH, Field	SU	6.5 - 8.5**	6.5 - 8.5[E]	6.5 - 8.5[E]	6.5 - 9.0	6.7	7.4	6.9	6.9	6.9	6.9
Appendix IV[(1)]											
Antimony	ug/L	6	6.0	6.0	2.0	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**10**	**10**	**10**	**10**	< 1	1	**14**	3	**23**	6
Barium	ug/L	2,000	2,000	2,000	1,200	89	411	160	113	200	85
Beryllium	ug/L	4	4.0	4.0	33	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5	5.0	5.0	2.5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	100	100	11	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	NC	40	100	100	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	NC	4.0	4.0	14	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	NC	170	350	440	29	42	54	100	25	27
Mercury	ug/L	2	2.0	2.0	0.20#	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	NC	73	210	120	< 5	< 5	< 5	25	22	7
Radium-226	pCi/L	NC	NC	NC	NC	--	--	--	--	--	--
Radium-228	pCi/L	NC	NC	NC	NC	--	--	--	--	--	--
Radium-226/228	pCi/L	5	NC	NC	NC	--	--	--	--	--	--
Selenium	ug/L	50	50	50	**5.0**	3	3	5	**7**	**12**	4
Thallium	ug/L	2	2.0	2.0	2.0	< 2	< 2	< 2	< 2	< 2	< 2
Additional MI Part 115[(2)]											
Iron	ug/L	**300****	**300[E]**	**300[E]**	500,000[EE]	**6,760**	**502**	**575**	29	**12,400**	**362**
Copper	ug/L	1,000**	1,000[E]	1,000[E]	20	2	< 1	2	2	1	2
Nickel	ug/L	NC	100	100	120	12	5	9	11	8	18
Silver	ug/L	100**	34	98	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	NC	4.5	62	27	< 2	3	3	3	< 2	3
Zinc	ug/L	5,000**	2,400	5,000[E]	260	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter; mg/L - milligrams per liter.

pCi/L - picocuries per liter; SU - standard units; pH is a field parameter.

MCL - Maximum Contaminant Level, EPA Drinking Water Standards and Health Advisories, April, 2012.

NC - no criteria; -- - not analyzed.

* - Michigan Part 201 Generic Drinking Water Cleanup Criteria, December 30, 2013, updated October 12, 2023.

** - Secondary Maximum Contaminant Level (SMCL), EPA Secondary Drinking Water Regulations (SDWR) April, 2012.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michiga Part 201 criteria tables. Chromium GSI criterion based on hexavalent chromium per footnote {H}. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}. GSI criterion for chloride is 50 mg/L when the discharge is to the Great Lakes or connecting waters per footnote {FF}

- If detected above 0.20 ug/L, further evaluation of low-level mercury may be necessary to evaluate the GSI pathway per Michigan Part 201 and MDEQ policy and procedure 09-014 dated June 20, 2012.

[E] - Criterion is the aesthetic drinking water value per footnote {E}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendment - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituent (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

BOLD value indicates an exceedance of one or more of the listed criteria.

RED value indicates an exceedance of the MCL.

All metals were analyzed as total unless otherwise specified.

Table 5

Summary of Confidence Interval Evaluation: Third Quarter 2025

JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program

Essexville, Michigan

Assessment Monitoring Statistical Evaluation

Constituent	Units	GWPS	JCW-MW-18001		JCW-MW-18004		JCW-MW-18005		JCW-MW-18006		MW-50		MW-51		MW-52		MW-53		MW-53R		MW-54R		MW-55		OW-57R OUT	
			LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL
Boron[1]	ug/L	560	**1,300**	1,578	--	--	**1,000**	1,800	**2,500**	3,000	**2,000**	3,000	**840**	1,100	**790**	1,100	**5,000**	6,500	**2,100**	3,200	**5,700**	7,600	**880**	1,300	**1,700**	2,100
Calcium	mg/L	280	**450**	561	--	--	160	340	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/L	780	**1,600**	1,903	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	ug/L	21	0.5	13	--	--	--	--	20	28	--	--	10.5	22	--	--	--	--	--	--	--	--	--[2]	--[2]	--	--
Lead	ug/L	4	--	--	1.0	9.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	ug/L	6	--	--	2.0	23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

GSI Statistical Evaluation

Constituent	Units	GSI	JCW-MW-18004	
			LCL	UCL
Chromium	ug/L	11	1.0	19

Notes:

ug/L - micrograms per Liter

mg/L - milligrams per Liter

-- - Not Applicable; well/parameter pair did not directly exceed the applicable criterion and was not included in further analysis.

GWPS - Groundwater Protection Standard as established in TRC's Technical Memorandum dated April 23, 2021

GSI - Groundwater Surface Water Interface Criteria; GSI criteria is the generic Michigan Part 201 GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

UCL - Upper Confidence Limit (α = 0.01) of the downgradient data set.

LCL - Lower Confidence Limit (α = 0.01) of the downgradient data set.

1,300	Indicates a statistically significant exceedance of the GWPS (detection monitoring constituent). An exceedance occurs when the LCL is greater than the criterion.
1,300	Indicates a statistically significant exceedance of the GWPS (assessment monitoring constituent). An exceedance occurs when the LCL is greater than the criterion.

(1) Boron concentrations were confirmed as a statistically significant increase (SSI) over background levels and triggered assessment monitoring (2017 Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit, TRC, 2018).

(2) The concentrations of arsenic at MW-55 are not a result of a release from the unit, as detailed in the Alternate Source Demonstration (2024 Semiannual Groundwater Monitoring Report and Fourth Quarter 2024 Hydrogeological Monitoring Report, TRC, January 2025); therefore, confidence intervals were not calculated for comparison to GWPS.

Table 6

EGLE Exceedance Summary Table

JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program

Essexville, Michigan

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
SUMMARY OF STATISTICAL EXCEEDANCES

Data is in	**(X) ug/L**	**or**
	( ) mg/L	
unless otherwise stated		

Facility: JC Weadock – WDS# 395457

Well #	Location	Parameter	Part 201 GRCC	Statistical Limit (or 'CC' for Control Charts)	3 Qtr. 2025 (**bold** >201)	2 Qtr. 2025 (**bold** >201)	1 Qtr. 2025 (**bold** >201)	4 Qtr. 2024 (**bold** >201)

No Exceedances at Compliance Locations

Figures

0 1,500 3,000

FEET

1:36,000 1" = 3,000'

BASE MAP: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.

PROJECT:

CONSUMERS ENERGY COMPANY
DE KARN AND JC WEADOCK POWER PLANTS
ESSEXVILLE, MICHIGAN

TITLE:

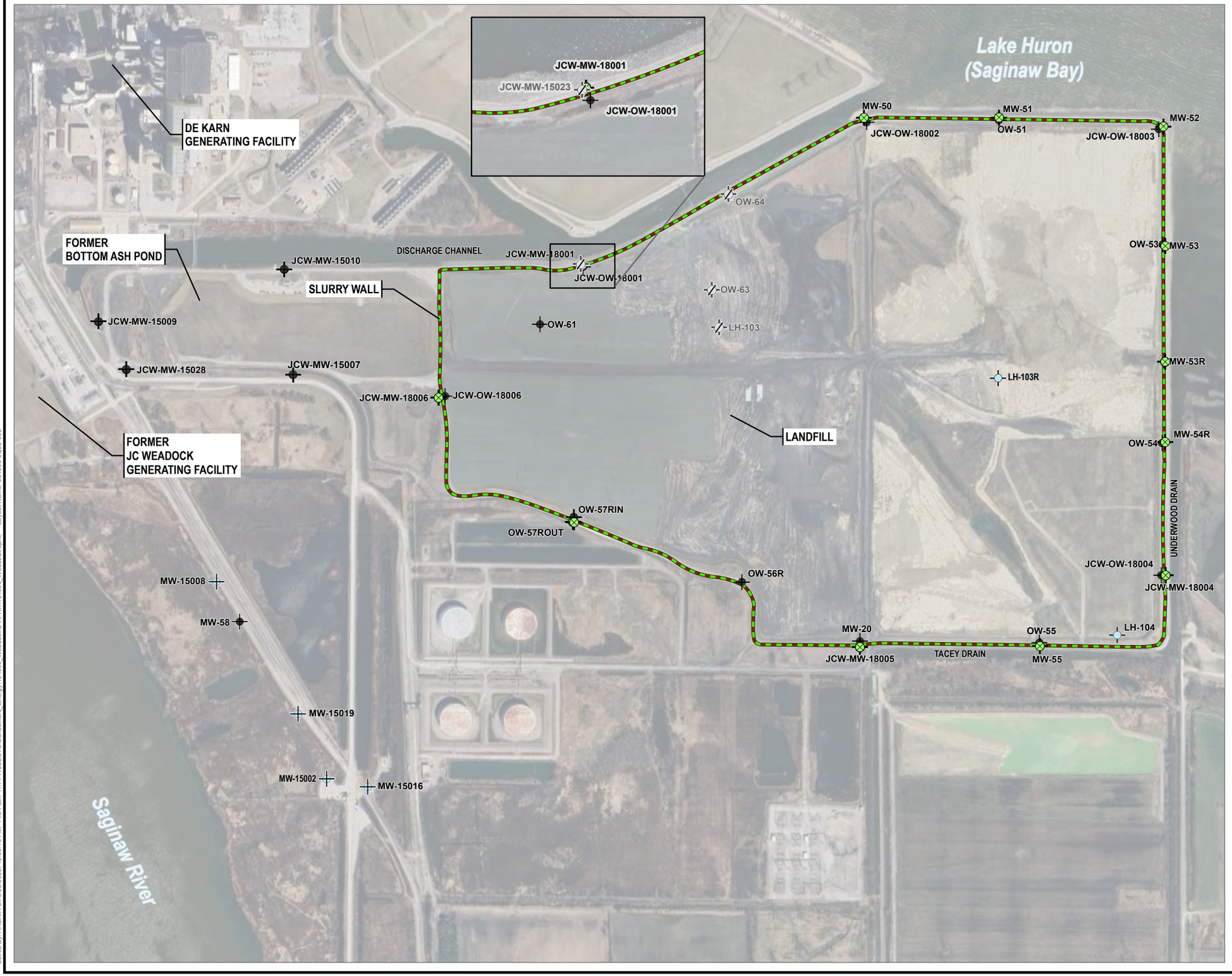
SITE LOCATION MAP

DRAWN BY:	A. ADAIR	PROJ. NO.:	634698.0000
CHECKED BY:	J. KRENZ		
APPROVED BY:	D. LITZ		**FIGURE 1**
DATE:	OCTOBER2025		

TRC
1540 EISENHOWER PLACE
ANN ARBOR, MI 48108-3284
PHONE: 734.971.7080

FILE: 464096_WEADOCK

COORDINATE SYSTEM: NAD 1983 STATEPLANE MICHIGAN SOUTH FIPS 2113 FEET: MAP ROTATION: 0
-- SAVED BY: AADAIR ON 6/26/2025, 12:03:10 PM -- FILE PATH: T:\1-PROJECTS\CONSUMERS_ENERGY\464096_WEADOCK\2-APRX\464096_WEADOCK.APRX -- LAYOUT NAME: 634698-2025-001



LEGEND

- BACKGROUND MONITORING WELL
- JCW BOTTOM ASH POND MONITORING WELL
- JCW LANDFILL HMP WELL
- MONITORING WELL (STATIC WATER LEVEL ONLY)
- LEACHATE HEADWELL
- DECOMMISSIONED WELL
- SLURRY WALL (APPROXIMATE)

NOTES

1. BASE MAP GOOGLE EARTH PRO AND PARTNERS, (4/5/2024).
2. MONITORING WELL AND SLURRY WALL LOCATIONS PROVIDED BY CEC; SG21733SHT2 REVB.DWG DATED 11/21/2018.

1:7,200
1" = 600'
0 600 1,200 FEET

PROJECT: CONSUMERS ENERGY COMPANY
JC WEADOCK POWER PLANT
ESSEXVILLE, MICHIGAN

TITLE: SITE MAP

DRAWN BY:	A. ADAIR	PROJ. NO.:	634698.0000
CHECKED BY:	J. KRENZ		FIGURE 2
APPROVED BY:	D. LITZ		
DATE:	OCTOBER 2025		

TRC
1540 EISENHOWER PLACE
ANN ARBOR, MI 48108-3284
PHONE: 734.971.7080

FILE: 464096_Weadock.aprx

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl. Map Rotation: 0
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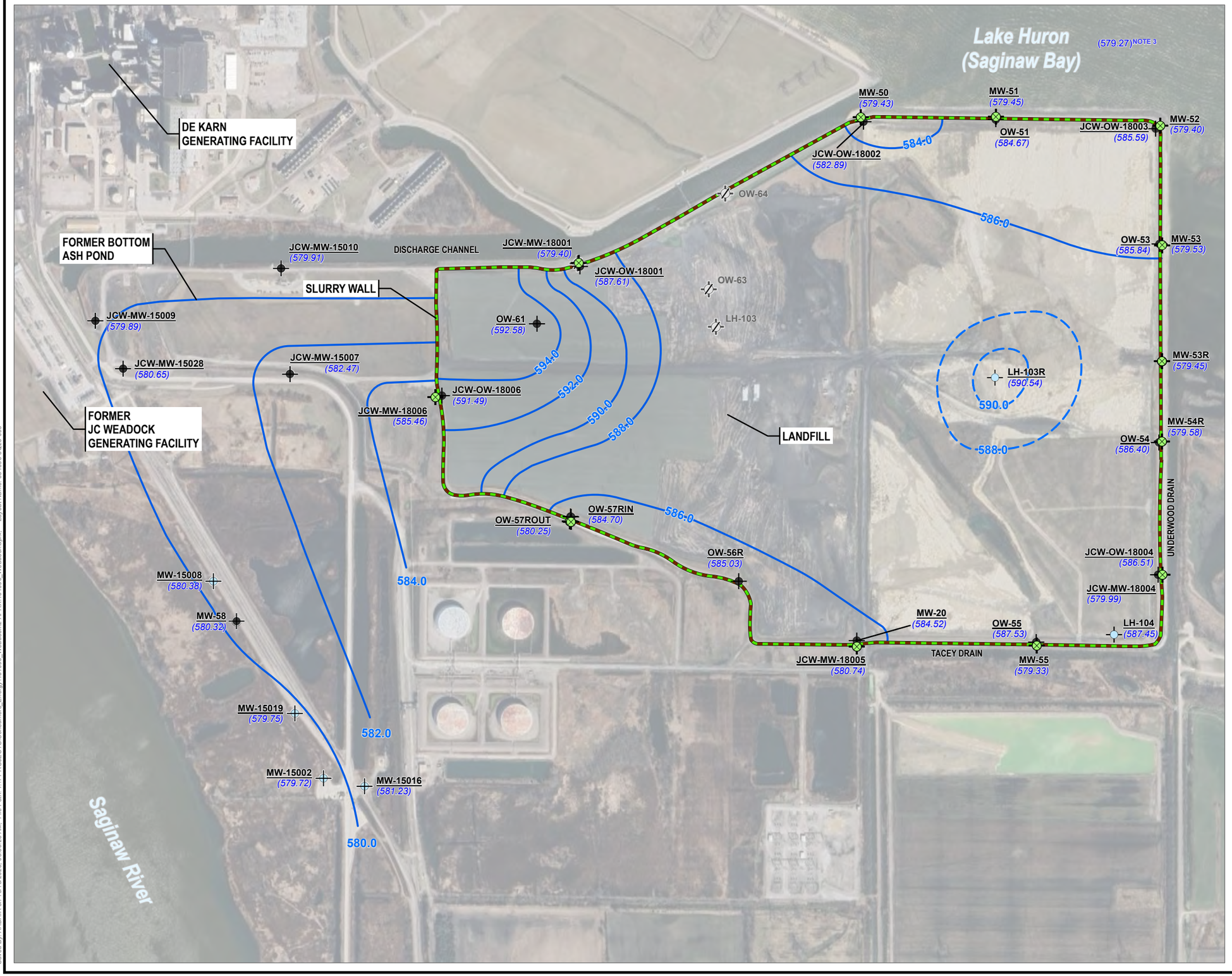


LEGEND

- BACKGROUND MONITORING WELL
- JCW BOTTOM ASH POND MONITORING WELL
- JCW LANDFILL HMP WELL
- MONITORING WELL (STATIC WATER LEVEL ONLY)
- LEACHATE HEADWELL
- DECOMMISSIONED WELL
- SLURRY WALL (APPROXIMATE)
- GROUNDWATER ELEVATION CONTOUR (2' INTERVAL, DASHED WHERE INFERRED)
- (579.18) GROUNDWATER ELEVATION (FEET)
- (NU) NOT USED TO DEVELOP CONTOURS

NOTES

1. BASE MAP GOOGLE EARTH PRO AND PARTNERS, (4/5/2024).
2. MONITORING WELL AND SLURRY WALL LOCATIONS PROVIDED BY CEC; SG21733SHT2 REVB.DWG DATED 11/21/2018.
3. NOAA/NATIONAL OCEANIC SERVICE GREAT LAKES GAUGING STATION, ESSEXVILLE, MI (ID: 9075035).
4. GROUNDWATER ELEVATIONS DISPLAYED IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.
5. GROUNDWATER ELEVATIONS DETERMINED BY WATER LEVEL MEASUREMENTS COLLECTED ON JULY 14, 2025

1:7,200
1" = 600'
0 600 1,200 FEET

PROJECT: CONSUMERS ENERGY COMPANY
JC WEADOCK POWER PLANT
ESSEXVILLE, MICHIGAN

TITLE: POTENTIOMETRIC SURFACE MAP
JULY 2025

DRAWN BY:	A. ADAIR	PROJ. NO.:	634698.0000
CHECKED BY:	J. KRENZ		FIGURE 3
APPROVED BY:	D. LITZ		
DATE:	OCTOBER 2025		

TRC
1540 EISENHOWER PLACE
ANN ARBOR, MI 48108-3284
PHONE: 734.971.7080

FILE: 464096_Weadock.aprx

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl; Map Rotation: 0
Saved By: AADAIR on 10/15/2025, 08:56:28 AM; File Path: T:\1-PROJECTS\Consumers_Energy\464096_Weadock\2-APRX\464096_Weadock.aprx; Layout Name: 634698-3Q25-003

Appendix A
Static Water Level Evaluation

Table A1

Static Water Levels for Select Perimeter Dike Monitoring Wells and NOAA Staff Gauge
JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program
Essexville, Michigan

Well Location	Date Measured	Groundwater Water Elevation (GWE) (ft)	Saginaw Bay Surface Water Elevation (SWE) (ft)	Elevation Difference (GWE-SWE)[(1)]
MW-50	7/14/2025	579.43	579.26	0.17
MW-51	7/14/2025	579.45		0.19
MW-52	7/14/2025	579.40		0.14
MW-53	7/14/2025	579.53		0.27
MW-53R	7/14/2025	579.45		0.19
MW-54R	7/14/2025	579.58		0.32
MW-55	7/14/2025	579.33		0.07
JCW-MW-18004	7/14/2025	579.99		0.73
Average:		**579.52**		

Notes:

Elevation in feet above North American Vertical Datum 1988 (NAVD 88)

TOC: top of well casing

ft BTOC: feet below top of well casing

(1) Positive elevation difference indicates flow toward the surface water body.

Table A2

Slurry Wall Gradient and Flux

JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program

Essexville, Michigan

Monitoring Well Pair Discharge Channel	SWL Obs Well (ft NAVD 88)	SWL MW (ft NAVD 88)	x_{wells} (ft)	i (ft/ft)	Saturated Thickness (ft)	Mean Thickness (ft)	Section Length (ft)	K (cm/sec)	i (ft/ft)	Area (ft^2)	Flow ft^3/day	Flow Gal/day	Flow Gal/yr
JCW-OW-18001	587.61		22.4	3.67E-01	2.00	2.88	1,010	2.30E-08	0.37	2,904	6.95E-02	0.52	190
JCW-MW-18001		579.40			3.75								
JCW-OW-18002	582.89		28.9	1.20E-01	4.00	4.25	970		0.12	4,123	3.22E-02	0.24	88
MW-50		579.43			4.50								

Monitoring Well Pair Adjacent Zone	SWL Obs Well (ft NAVD 88)	SWL MW (ft NAVD 88)	x_{wells} (ft)	i (ft/ft)	Saturated Thickness (ft)	Mean Thickness (ft)	Section Length (ft)	K (cm/sec)	i (ft/ft)	Area (ft^2)	Flow ft^3/day	Flow Gal/day	Flow Gal/yr
OW-51	584.67		14.4	3.63E-01	4.00	4.08	1,850	2.30E-08	0.36	7,539	1.78E-01	1.33	487
MW-51		579.45			4.15								
JCW-OW-18003	585.59		33.9	1.83E-01	3.50	3.56	740		0.18	2,631	3.14E-02	0.23	86
MW-52		579.40			3.61								
OW-53	585.84		20.1	3.13E-01	1.25	1.47	730		0.31	1,073	2.19E-02	0.16	60
MW-53		579.53			1.69								

Monitoring Well Pair Non-Adjacent Zone	SWL Obs Well (ft NAVD 88)	SWL MW (ft NAVD 88)	x_{wells} (ft)	i (ft/ft)	Saturated Thickness (ft)	Mean Thickness (ft)	Section Length (ft)	K (cm/sec)	i (ft/ft)	Area (ft^2)	Flow ft^3/day	Flow Gal/day	Flow Gal/yr
OW-54	586.40		21.2	3.21E-01	2.00	2.25	510	2.30E-08	0.32	1,148	2.40E-02	0.18	66
MW-54R		579.58			2.50								
JCW-OW-18004	586.51		26.6	2.45E-01	8.00	4.05	820		0.25	3,317	5.30E-02	0.40	145
JCW-MW-18004		579.99			0.09								
OW-55	587.53		24	3.42E-01	2.00	1.67	1,220		0.34	2,031	4.53E-02	0.34	124
MW-55		579.33			1.33								
MW-20	584.52		40.9	9.24E-02	1.50	1.38	1,120		0.09	1,540	9.27E-03	0.07	25
JCW-MW-18005		580.74			1.25								

Calculated Groundwater Discharge from JC Weadock (gal per day)	**=**	**3.48**
(cubic ft per day)	**=**	**0.47**
(cubic ft per min)		**3.2E-04**
Calculated Groundwater Discharge from JC Weadock (gal per yr)	**=**	**1,270**
(cubic ft per yr)	**=**	**170**
Calculated Groundwater Discharge from JC Weadock (gal per year per linear foot of dike)	**=**	**0.13**
(cubic feet per year per linear foot of dike)	**=**	**1.75E-02**

Notes:

Water level data collected on July 14, 2025 are shown by yellow cells: 579.40

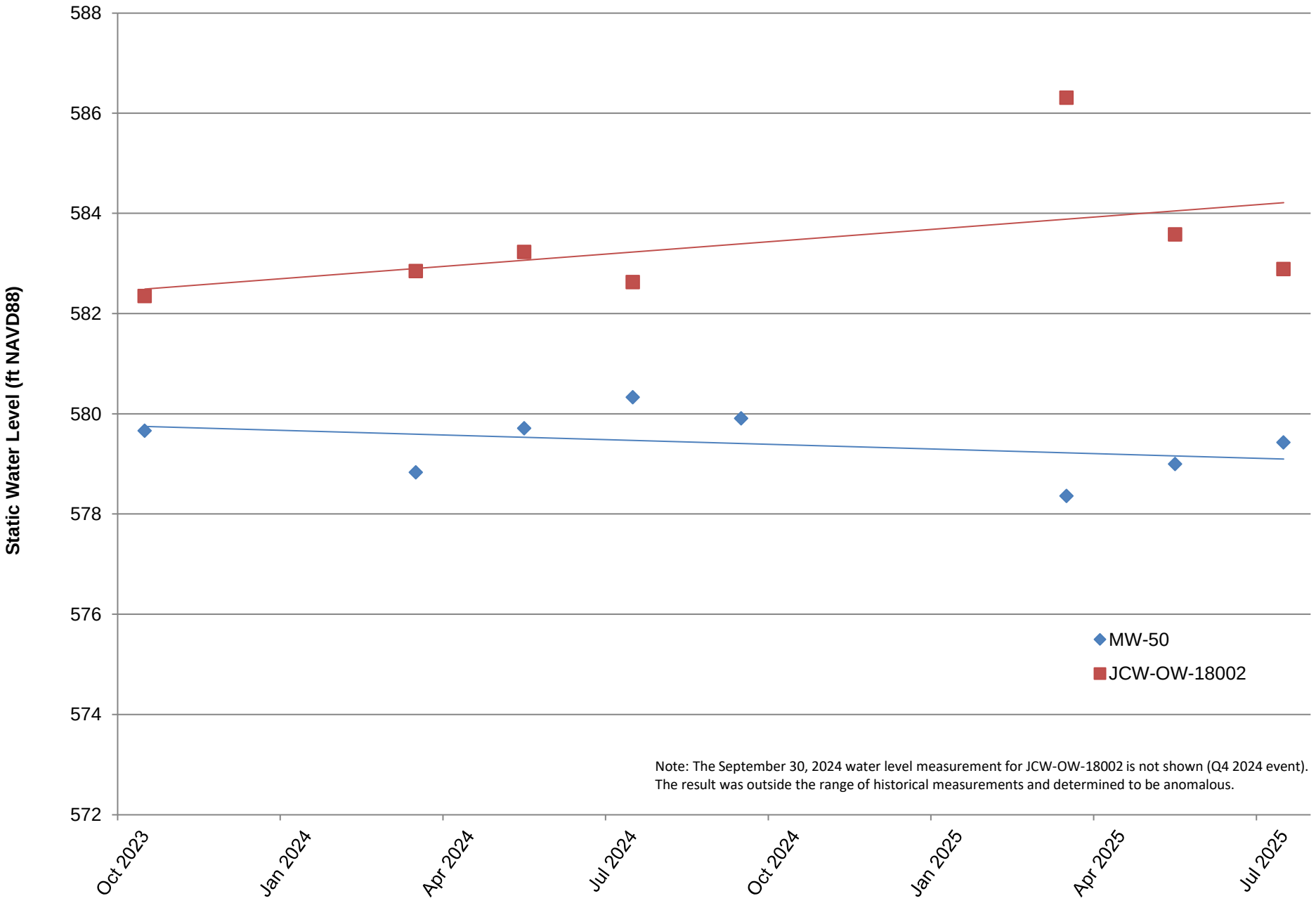
1. Monitoring Well Zones based on Phase II Evaluation, Appendix K Groundwater Discharge Calculations, September 30, 2005. Representative wells based on the Landfill Hydrogeological Monitoring Plan, February 2021.
2. Saturated thickness will be the thickness of the sand unit when the observed SWL is above the top of the sand unit, or the measured saturated thickness of the sand unit if the SWL is below the top of the sand unit.
3. Hydraulic conductivity taken as harmonic mean of laboratory tests done on in-place slurry wall from NTH Certified Quality Assurance Report, Appendix E, April 24, 2009
4. Arithmetic average used to develop geometric properties of each section/zone (e.g. discharge channel, adjacent, and non-adjacent)
5. If Obs well SWL < MW SWL calculated flow will be zero.

SWL = Static Water Level; Obs Well = Observation Well; MW= Monitoring Well; ft NAVD 88 = feet above North American Vertical Datum 1988

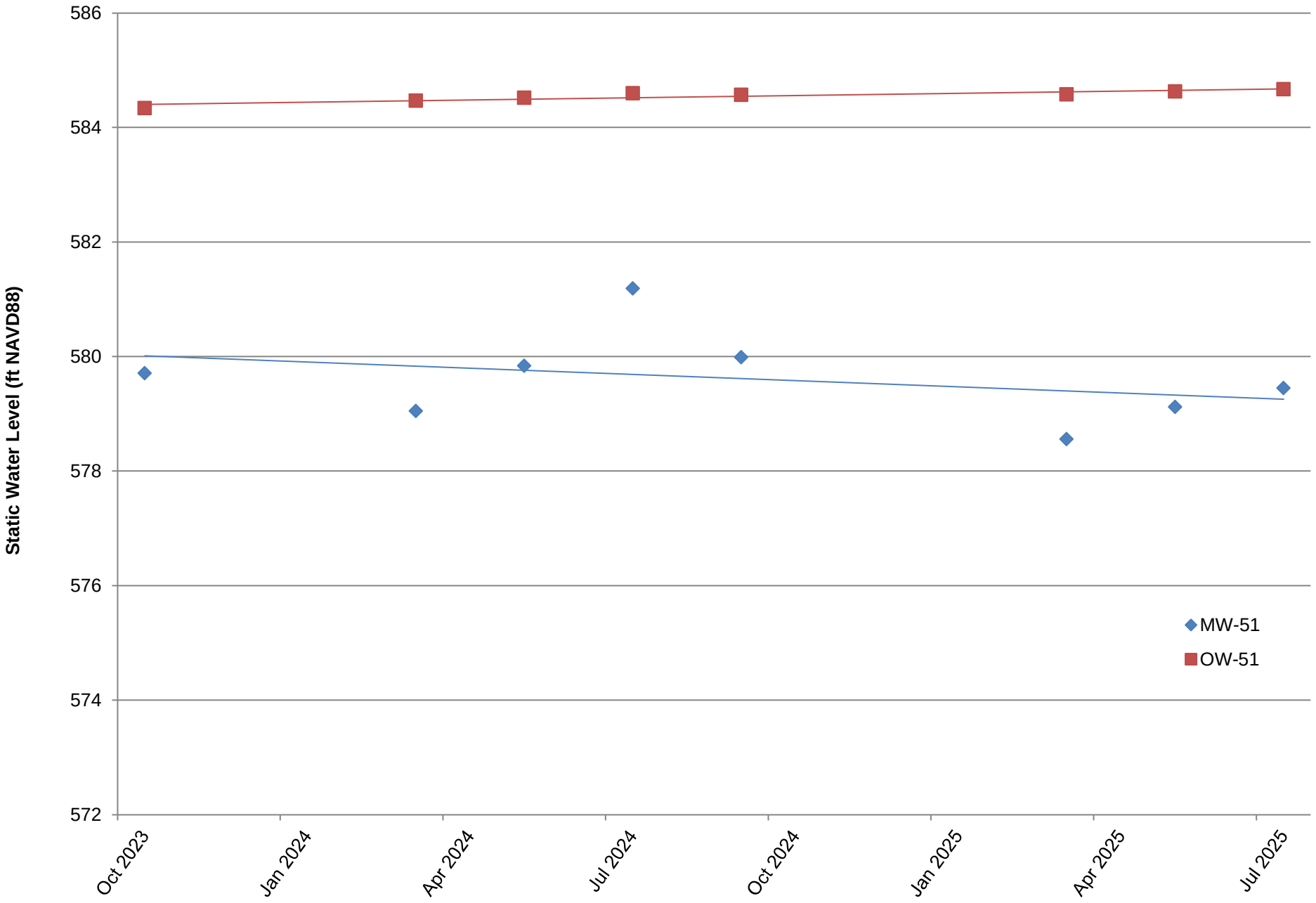
ft/ft = feet per foot; cm/sec = centimeters per second; ft^2 = square feet; ft^3/day = cubic feet per day; Gal/day = gallons per day; Gal/yr = gallons per year

i = hydraulic gradient; K = hydraulic conductivity; x_{wells} = distance between well pairs

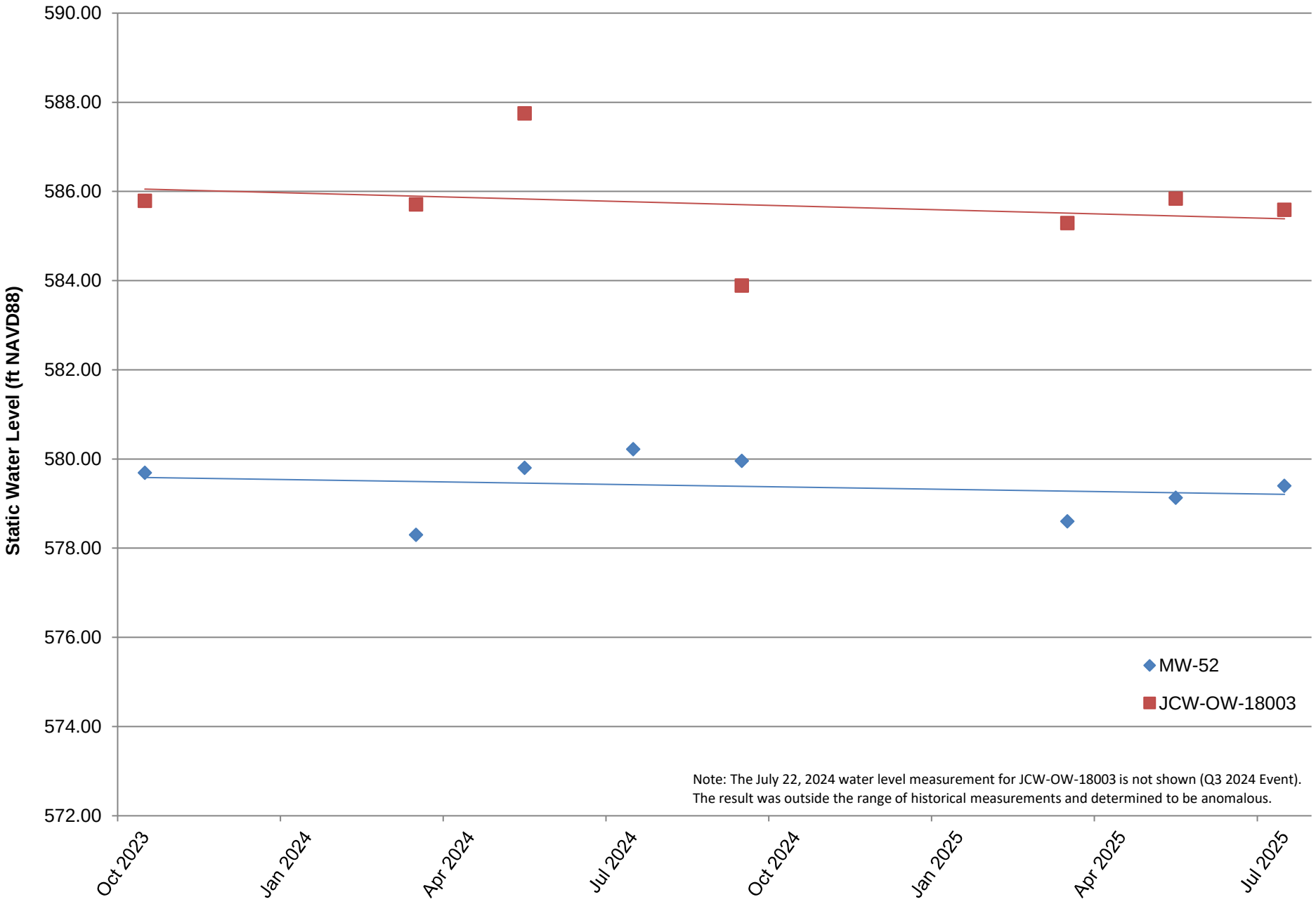
Appendix A
Static Water Level for MW-50 and JCW-OW-18002



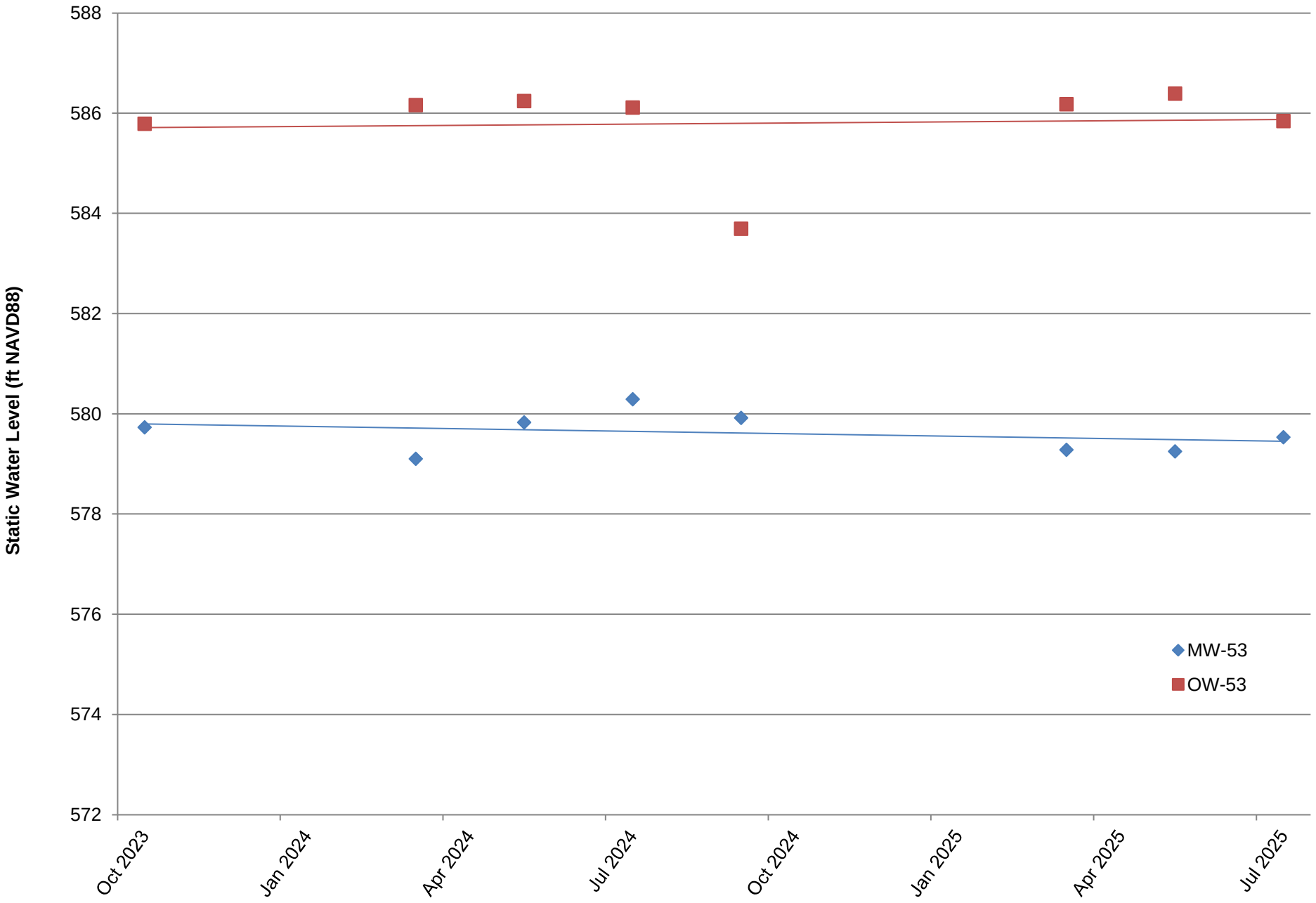
Appendix A
Static Water Level for MW-51 and OW-51



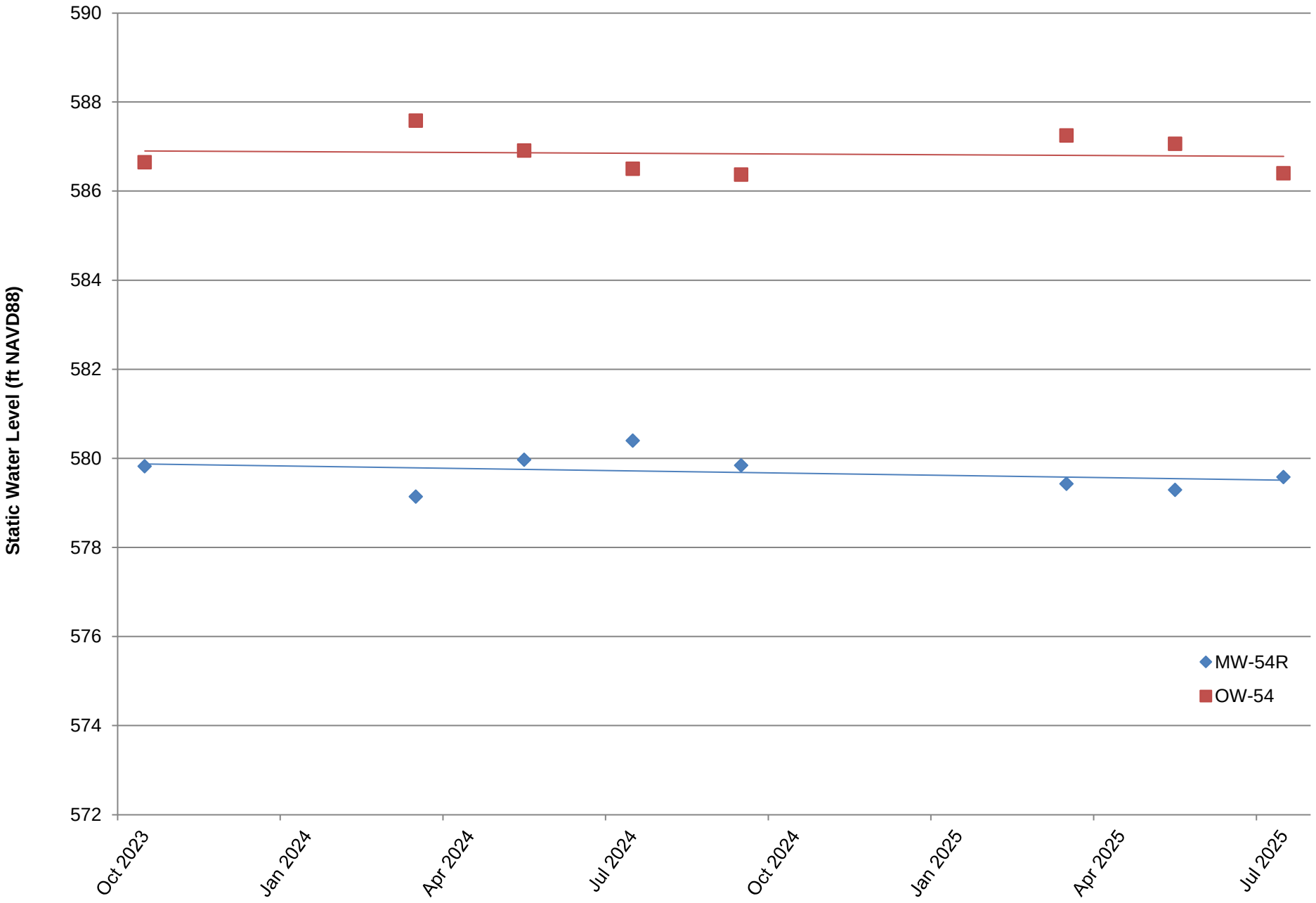
Appendix A
Static Water Level for MW-52 and JCW-OW-18003



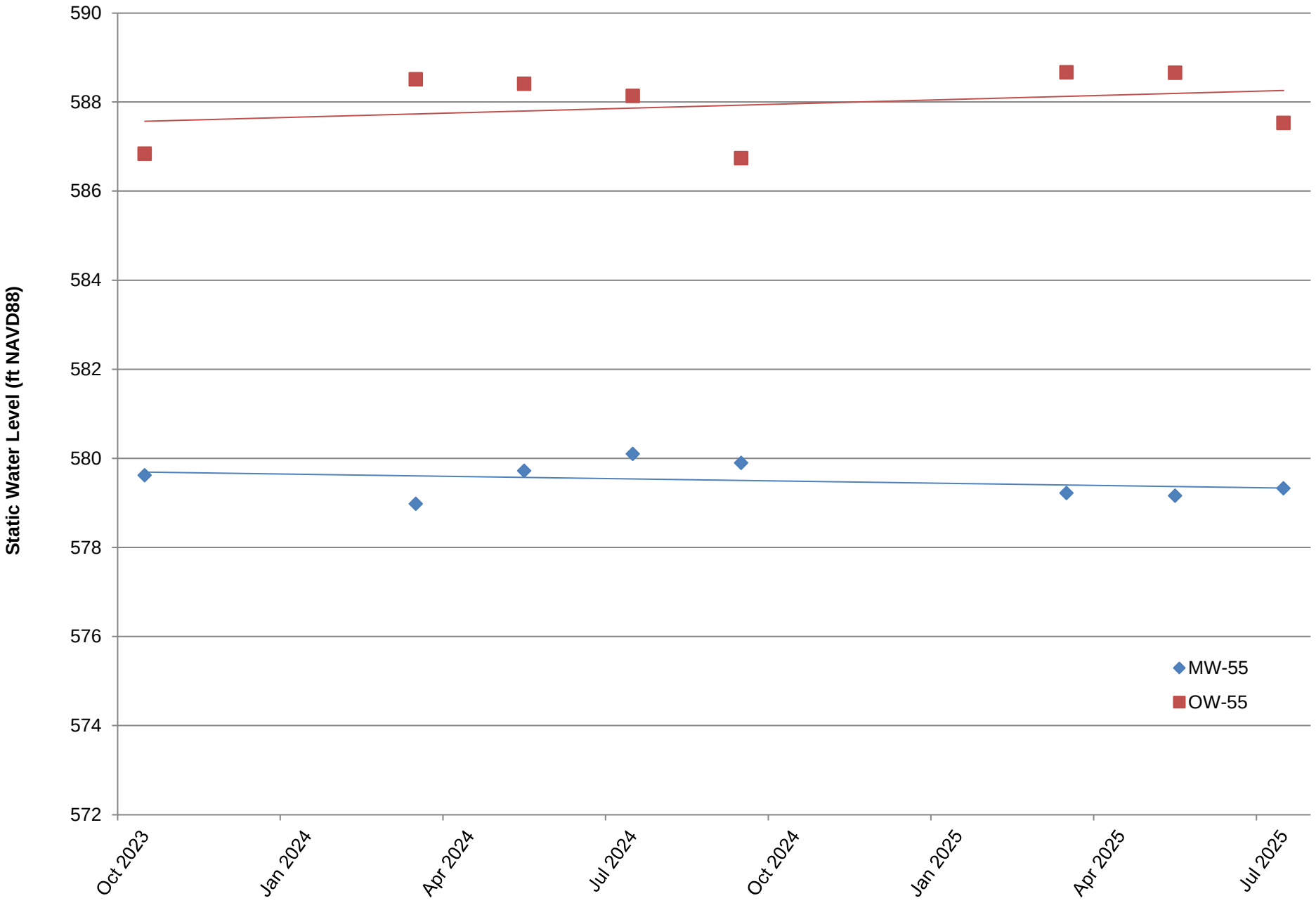
Appendix A
Static Water Level for MW-53 and OW-53



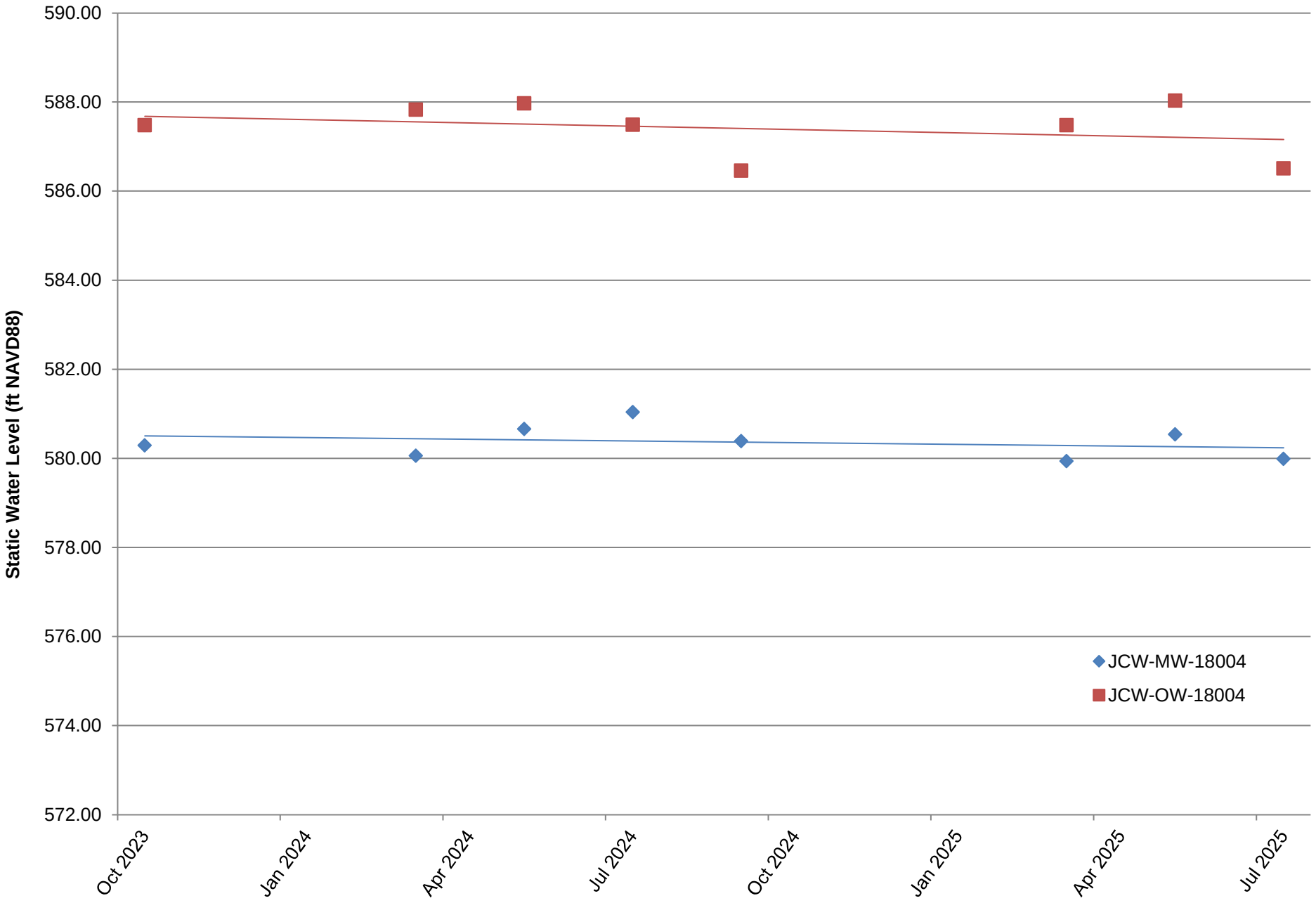
Appendix A
Static Water Level for MW-54R and OW-54



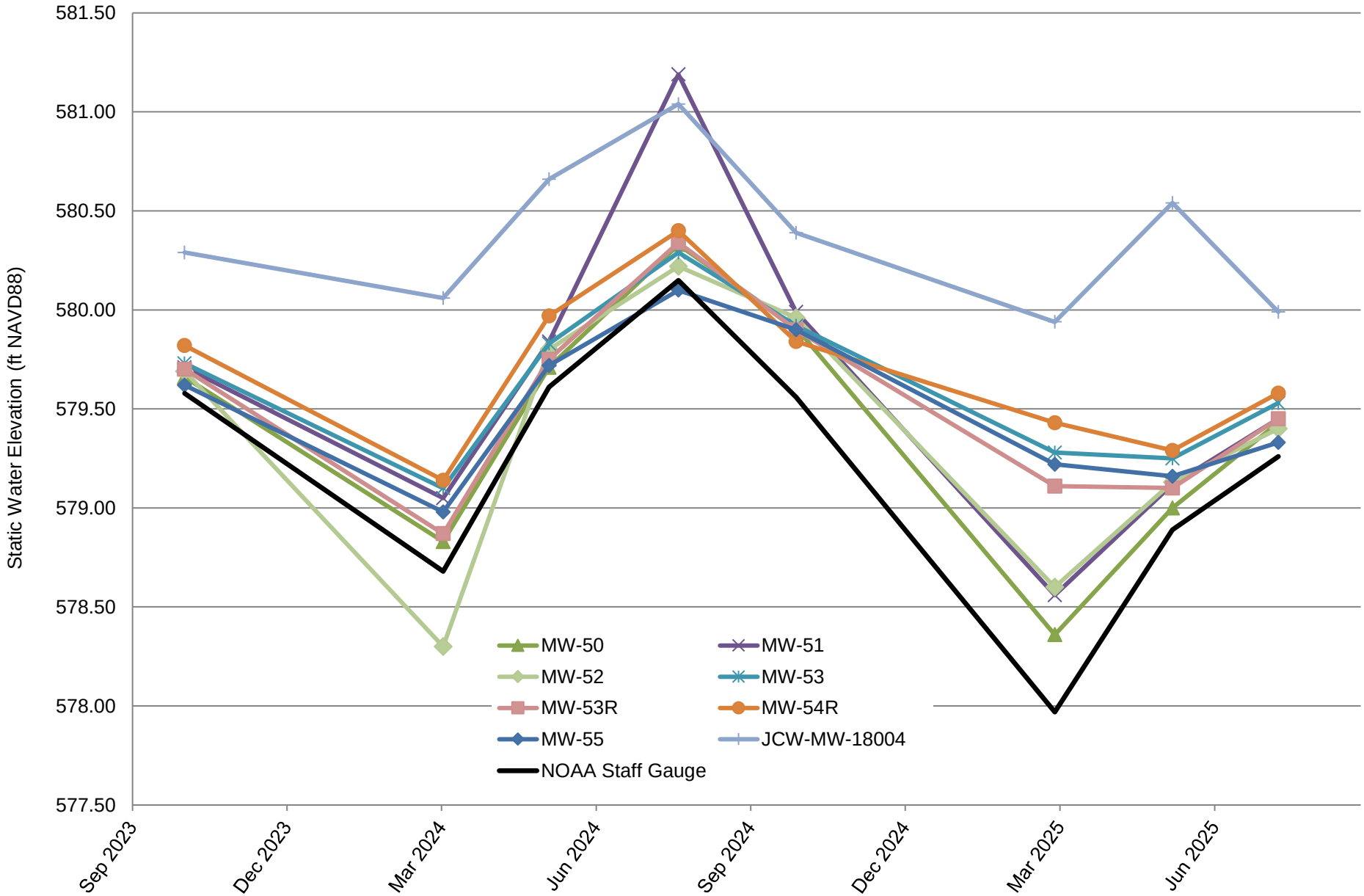
Appendix A
Static Water Level for MW-55 and OW-55



Appendix A
Static Water Level for JCW-MW-18004 and JCW-OW-18004



Appendix A
Static Water Elevations for Select Perimeter Dike Monitoring Wells and NOAA Staff Gauge



Appendix B
Data Quality Review

Laboratory Data Quality Review
Groundwater Monitoring Event July 2025
JC Weadock/DE Karn Background

Groundwater samples were collected by TRC for the July 2025 sampling event. Samples were analyzed for total metals, anions, and total dissolved solids by Consumers Energy (CE) Laboratory Services in Jackson, Michigan. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 25-0480.

During the July 2025 sampling event, groundwater samples were collected from each of the following wells:

- MW-15002
- MW-15008
- MW-15016
- MW-15019

Each sample was analyzed for the following constituents:

Analyte Group	Method
Anions (Fluoride, Chloride, Sulfate)	EPA 300.0
Total Dissolved Solids (TDS)	SM 2540C
Total Metals	SW-846 6020B/7470A

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;

- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

It should be noted that results for method blanks and LCSs were not provided for review by CE Laboratory Services. Therefore, potential contamination arising from laboratory sample preparation and/or analytical procedures and the accuracy of the analytical method using a clean matrix could not be evaluated for the metals, anions, and TDS analyses.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed Appendix III and IV constituents and additional Part 115 metals will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, the findings below may be used to support the removal of outliers.

QA/QC Sample Summary

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. The requested analytes were analyzed and reported.
- The preservation was assumed to be acceptable based on case narrative and COC preservation information; the cooler temperatures were between 0-6°C and acid was used for sample preservation, as applicable, with the following note.
    - The COC did not indicate that the metals bottle for sample FB-Background was preserved. This was assumed to be an error since the sample was noted to have proper preservation in the electronic data deliverable (EDD).
- The preparation times and dates for all analyses were provided in the EDD for this data set. All preparation and analysis holding time requirements were met.
- One field blank (FB-Background) was collected. Target analytes were not detected above the RL in the field blank sample.
- Laboratory duplicate and MS/MSD analyses were not performed on a sample from this data set.

- Samples MW-15002/DUP-Background were submitted as the field duplicate pair with this data set; all criteria were met.
- The RLs met the project requirements and were deemed suitable for data use.
- Dilution factors for all analyses were provided in the EDD in this data set; all dilution factors were listed as 1-fold.

Laboratory Data Quality Review
Groundwater Monitoring Event July 2025
JC Weadock Landfill

Porewater samples were collected by TRC for the July 2025 sampling event. Samples were analyzed for total metals, anions, total dissolved solids, and/or alkalinity by Consumers Energy (CE) Laboratory Services in Jackson, Michigan. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 25-0478.

During the July 2025 sampling event, porewater samples were collected from each of the following wells:

- JCW-MW-18001
- JCW-MW-18004
- JCW-MW-18005
- JCW-MW-18006
- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- OW-57ROUT

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
Anions (Fluoride, Chloride, Sulfate)	EPA 300.0
Total Dissolved Solids (TDS)	SM 2540C
Total Metals	SW-846 6020B/7470A
Alkalinity (Bicarbonate, Carbonate, and Total)	SM 2320B

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;

- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

It should be noted that results for method blanks and LCSs were not provided for review by CE Laboratory Services. Therefore, potential contamination arising from laboratory sample preparation and/or analytical procedures and the accuracy of the analytical method using a clean matrix could not be evaluated for the metals, anions, TDS, and alkalinity analyses.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed Appendix III and IV constituents, optional Piper Diagram analyses, and additional Part 115 constituents will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, findings below may be used to support the removal of outliers.

QA/QC Sample Summary

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. The requested analytes were analyzed and reported.
- The preservation was assumed to be acceptable based on case narrative and COC preservation information; the cooler temperatures were between 0-6°C and acid was used for sample preservation, as applicable.
    - Select samples were relinquished by the field team one day after collection. The field staff has stated during previous rounds of data review that when this occurs, samples are stored in coolers, on ice until shipment to the lab. There is no impact on data usability.

- The preparation times and dates for all analyses were provided in the electronic data deliverable (EDD) for this data set. All preparation and analysis holding time requirements were met.
- One field blank (FB-01) and one equipment blank (EB-01) were collected. Target analytes were not detected in these blank samples with the following exceptions.
    - Copper (1 µg/L) was detected in field blank FB-01 at the listed concentration. Potential false positive exists for the copper results that were less than 10x the blank concentration, as summarized in Attachment A.
- MS and MSD analyses were performed on sample JCW-MW-18001 for total metals and anions. The recoveries were within the acceptance limits. Relative percent differences were not provided by the laboratory and therefore were not evaluated; further, MS/MSD concentrations were not provided by the laboratory. However, since all recoveries were within the acceptance limits, there is no impact on data usability due to this issue.
- Laboratory duplicate analyses were not performed on a sample from this data set.
- Samples MW-51/DUP-JCW-LF-01 and JCW-MW-18006/DUP-JCW-LF-02 were submitted as the field duplicate pairs with this data set; all criteria were met.
- The RLs met the project requirements and were deemed suitable for data use.
- Dilution factors for all analyses were provided in the EDD in this data set; all dilution factors were listed as 1-fold.

Attachment A

Summary of Data Non-Conformances for Groundwater Analytical Data

JC Weadock Landfill

Essexville, Michigan

Samples	Collection Date	Analyte	Non-Conformance/Issue
JCW-MW-18001	7/14/2025	Copper	Field blank contamination; potential false positive exists for the listed results.
JCW-MW-18004	7/15/2025		
JCW-MW-18005	7/15/2025		
JCW-MW-18006	7/15/2025		
MW-50	7/15/2025		
MW-51	7/15/2025		
MW-52	7/15/2025		
MW-53R	7/15/2025		
MW-54R	7/15/2025		
MW-55	7/15/2025		
OW-57ROUT	7/15/2025		
DUP-JCW-LF-01	7/15/2025		

Laboratory Data Quality Review
Groundwater Monitoring Event July 2025
JC Weadock Alternate Source Demonstration

A porewater sample was collected by TRC for the July 2025 sampling event. The sample was analyzed for total metals, anions, total dissolved solids, and alkalinity by Consumers Energy (CE) Laboratory Services in Jackson, Michigan. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 25-0479R (revised 9/3/2025).

During the July 2025 sampling event, a porewater sample was collected from the following well:

- JCW-OW-18001

The sample was analyzed for the following constituents:

Analyte Group	Method
Anions (Fluoride, Chloride, Sulfate)	EPA 300.0
Total Dissolved Solids (TDS)	SM 2540C
Total Metals	SW-846 6020B/7470A
Alkalinity (Bicarbonate, Carbonate, and Total)	SM 2320B

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;

- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

It should be noted that results for method blanks and LCSs were not provided for review by CE Laboratory Services. Therefore, potential contamination arising from laboratory sample preparation and/or analytical procedures and the accuracy of the analytical method using a clean matrix could not be evaluated for the metals, anions, TDS, and alkalinity analyses.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed Appendix III and IV constituents, optional Piper Diagram analyses, and additional Part 115 constituents will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, findings below may be used to support the removal of outliers.

QA/QC Sample Summary

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. There were no issues noted.
- The preservation was assumed to be acceptable based on case narrative and COC preservation information; the cooler temperature was between 0-6°C and acid was used for sample preservation, as applicable.
- The preparation times and dates for all analyses were provided in the electronic data deliverable (EDD) for this data set. All preparation and analysis holding time requirements were met.
- There were no equipment blanks or field blanks collected with this data set.
- MS and MSD analyses were not performed on the sample from this data set.
- Laboratory duplicate analyses were not performed on the sample from this data set.
- A field duplicate pair was not submitted with this data set

- The RLs met the project requirements and were deemed suitable for data use. Dilution factors for all analyses were provided in the EDD in this data set; all dilution factors were listed as 1-fold.

Appendix C
Detection Monitoring Statistical Trend Tests

Appendix C
Detection Monitoring Statistical Summary for JC Weadock Facility
Third Quarter 2025
Data from October 2023 to July 2025

Porewater Monitoring Points						
Constituent	**JCW-MW-18001**	**JCW-MW-18004**	**JCW-MW-18005**	**JCW-MW-18006**	**MW-50**	**MW-51**
Boron[(1)]	O	O	O	O	↑	O
Calcium	↓	O	O	O	O	O
Chloride	O	O	O	O	O	↓
Fluoride	O*	O*	O*	O*	O*	O*
Iron	↓*	O	O	O	O	O
pH/Corrosivity[(1)]	O	O	O	O	O	O
Sulfate	O	O	O	O	↓*	↑*
Total Dissolved Solids	O	O	O	O	↓*	O

Notes:

O* = Non-detect (70%)
O = No trend
↑ = Upward trend, continuous
↑* = Upward trend, new
↑ = Upward trend, confirmed
↓ = Downward trend, continuous
↓* = Downward trend, new

(1) Boron concentrations and pH levels were confirmed as statistically significant increases (SSIs) over background levels and triggered assessment monitoring (2017 Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit, TRC, 2018).

Appendix C
Detection Monitoring Statistical Summary for JC Weadock Facility
Third Quarter 2025
Data from October 2023 to July 2025

Porewater Monitoring Points						
Constituent	**MW-52**	**MW-53**	**MW-53R**	**MW-54R**	**MW-55**	**OW-57R OUT**
Boron[(1)]	O	O	O	O	O	O
Calcium	O	O	O	O	O	O
Chloride	O	O	↑	↑	O	↑
Fluoride	O*	O*	O*	O*	O*	O
Iron	O	↓	O	O	O	O
pH/Corrosivity[(1)]	O	O	O	O	O	O
Sulfate	↓	O	O	↑*	O	↓*
Total Dissolved Solids	O	O	O	↑	O	O

Notes:

O* = Non-detect (70%)

O = No trend

↑ = Upward trend, continuous

↑* = Upward trend, new

↑ = Upward trend, confirmed

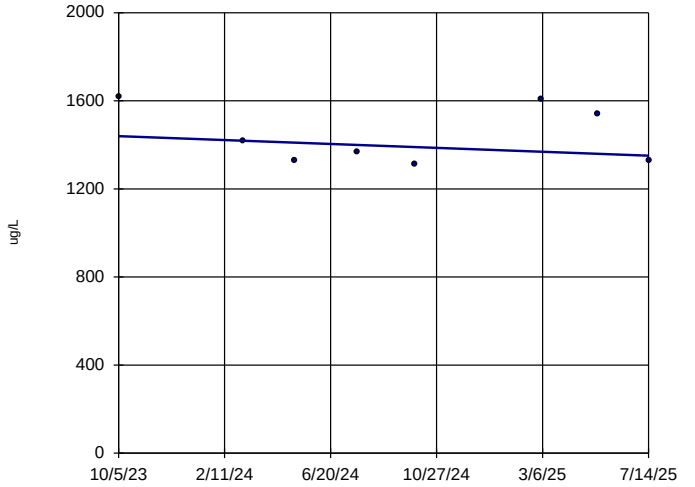
↓ = Downward trend, continuous

↓* = Downward trend, new

(1) Boron concentrations and pH levels were confirmed as statistically significant increases (SSIs) over background levels and triggered assessment monitoring (2017 Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit, TRC, 2018).

Boron, Total

JCW-MW-18001



n = 8

Slope = -49.74 units per year.

Mann-Kendall statistic = -7 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

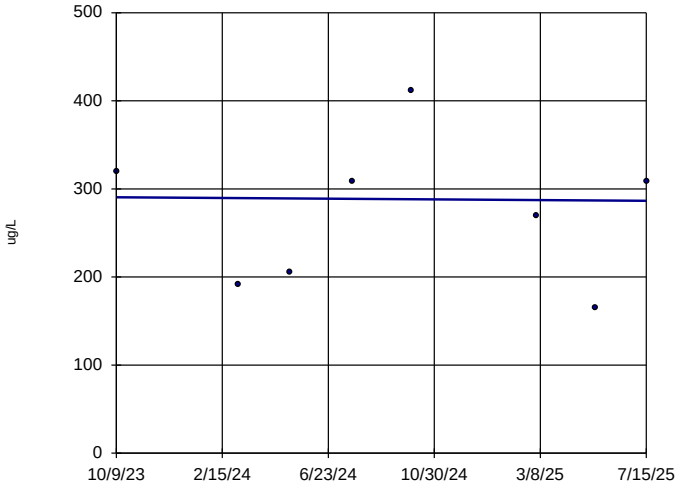
Sen's Slope Estimator Analysis Run 9/11/2025 8:56 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Boron, Total

JCW-MW-18004



n = 8

Slope = -2.318 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

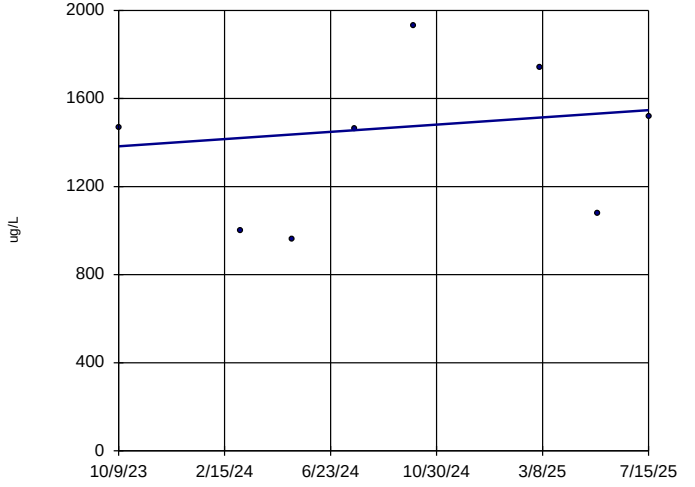
Sen's Slope Estimator Analysis Run 9/11/2025 8:56 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Boron, Total

JCW-MW-18005



n = 8

Slope = 92.67 units per year.

Mann-Kendall statistic = 6 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

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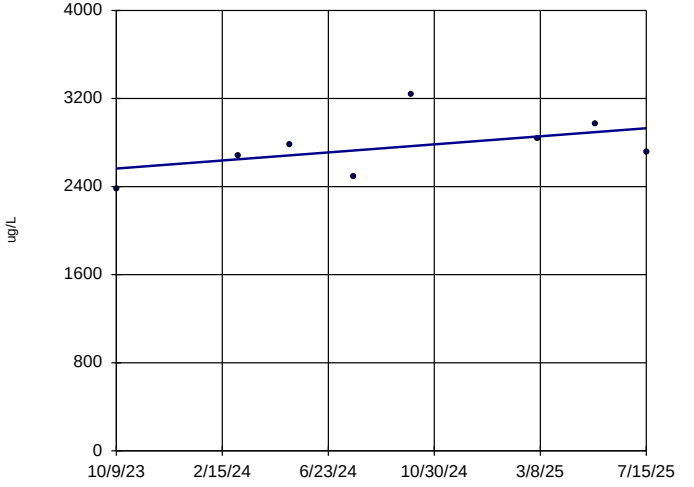
Boron, Total

JCW-MW-18006



n = 8

Slope = 207.6 units per year.

Mann-Kendall statistic = 12 critical = 17

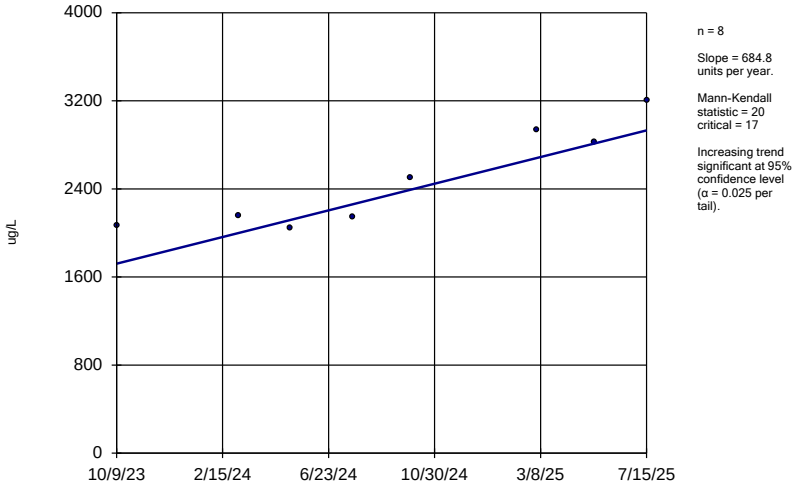
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Boron, Total

MW-50



n = 8

Slope = 684.8 units per year.

Mann-Kendall statistic = 20 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

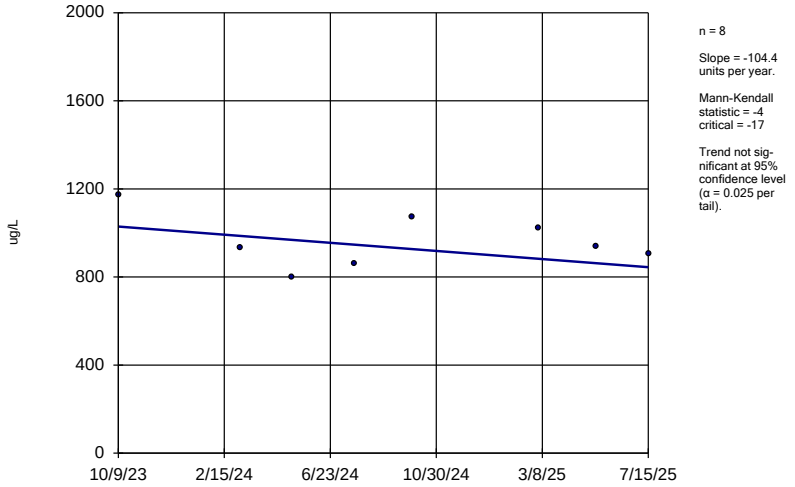
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Boron, Total

MW-51



n = 8

Slope = -104.4 units per year.

Mann-Kendall statistic = -4 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

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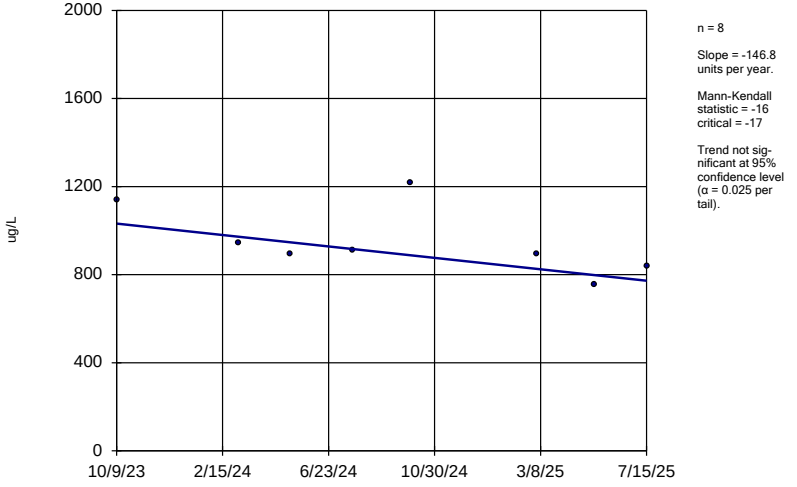
Boron, Total

MW-52



n = 8

Slope = -146.8 units per year.

Mann-Kendall statistic = -16 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

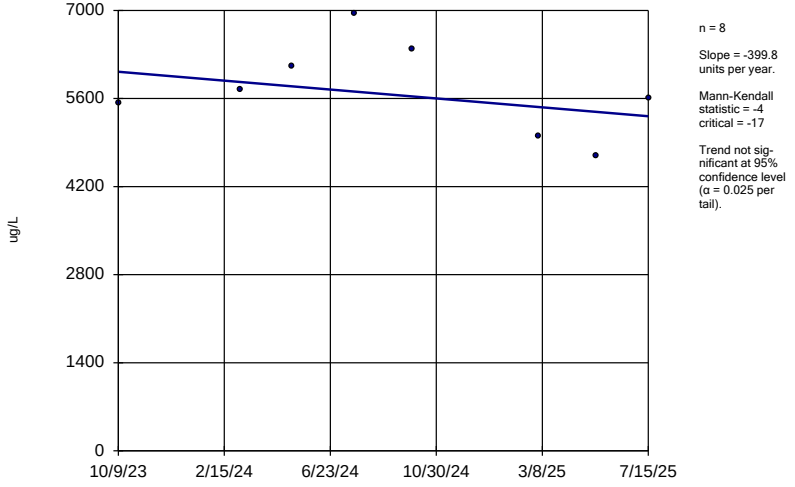
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Boron, Total

MW-53



n = 8

Slope = -399.8 units per year.

Mann-Kendall statistic = -4 critical = -17

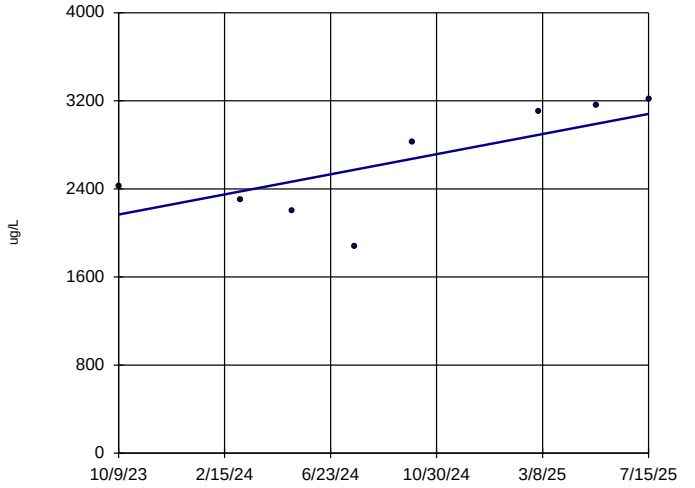
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Boron, Total

MW-53R



n = 8

Slope = 516.9 units per year.

Mann-Kendall statistic = 16 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

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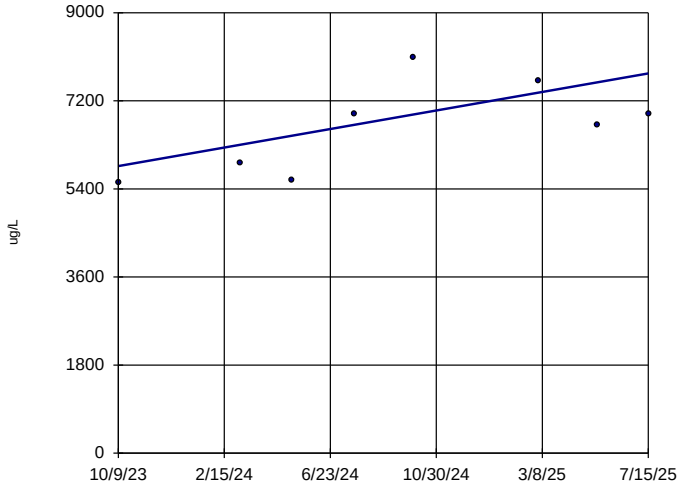
Boron, Total

MW-54R



n = 8

Slope = 1072 units per year.

Mann-Kendall statistic = 12 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

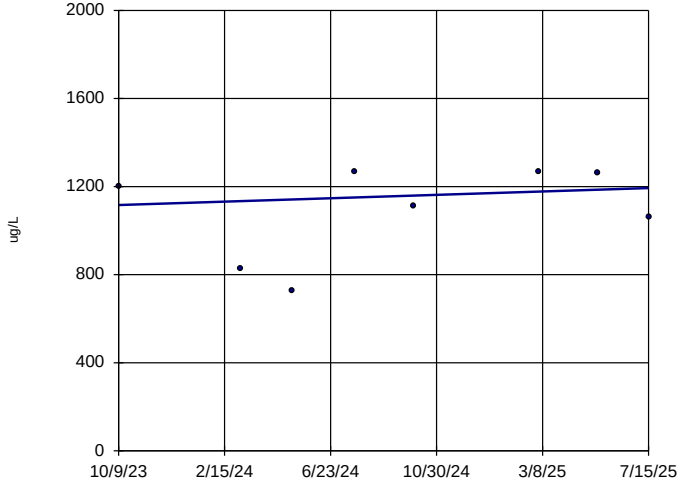
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Boron, Total

MW-55



n = 8

Slope = 43.73 units per year.

Mann-Kendall statistic = 3 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

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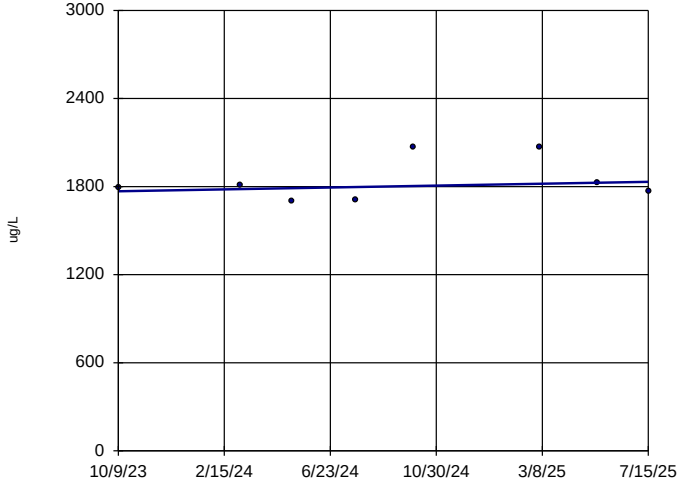
Boron, Total

OW-57ROUT



n = 8

Slope = 36.22 units per year.

Mann-Kendall statistic = 5 critical = 17

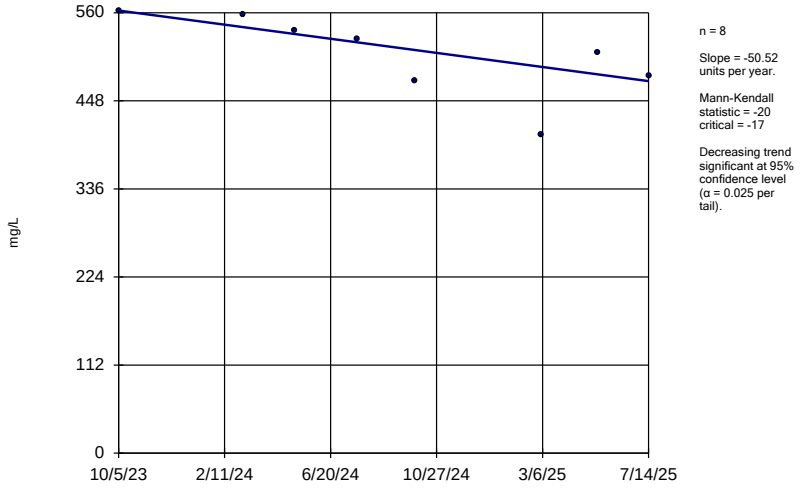
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Calcium, Total

JCW-MW-18001



n = 8

Slope = -50.52 units per year.

Mann-Kendall statistic = -20 critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

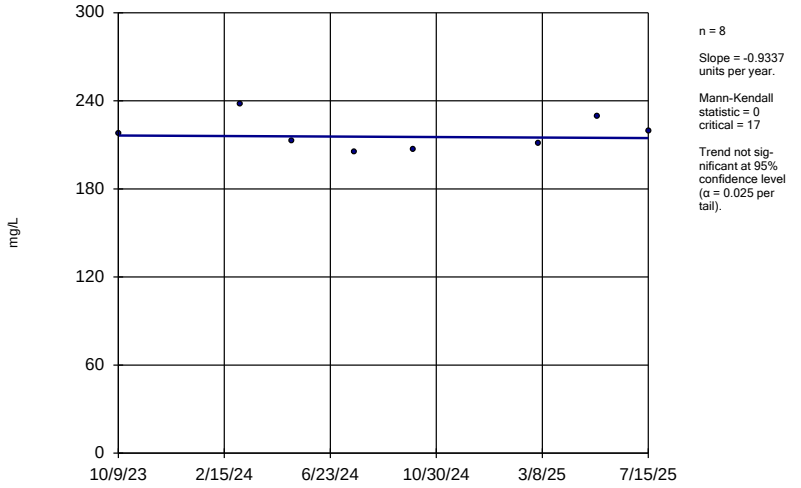
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Calcium, Total

JCW-MW-18004



n = 8

Slope = -0.9337 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

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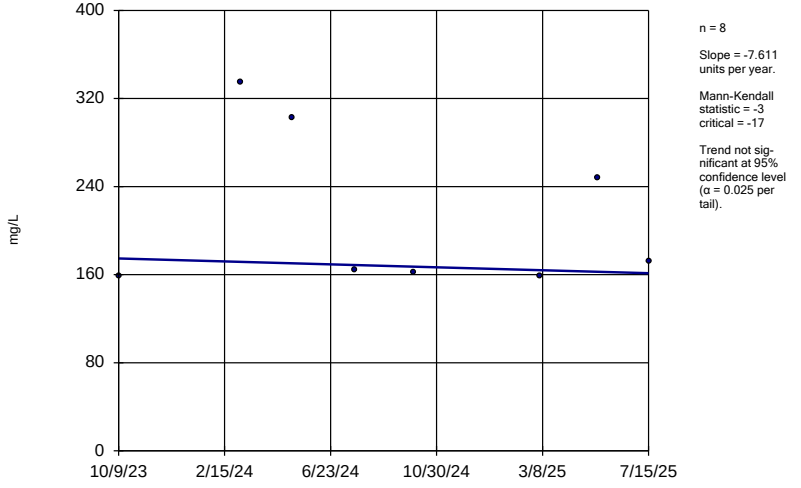
Calcium, Total

JCW-MW-18005



n = 8

Slope = -7.611 units per year.

Mann-Kendall statistic = -3 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

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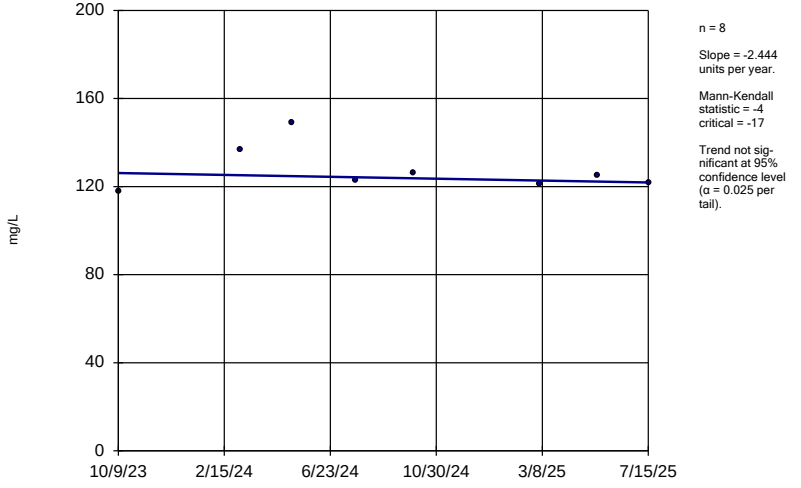
Calcium, Total

JCW-MW-18006



n = 8

Slope = -2.444 units per year.

Mann-Kendall statistic = -4 critical = -17

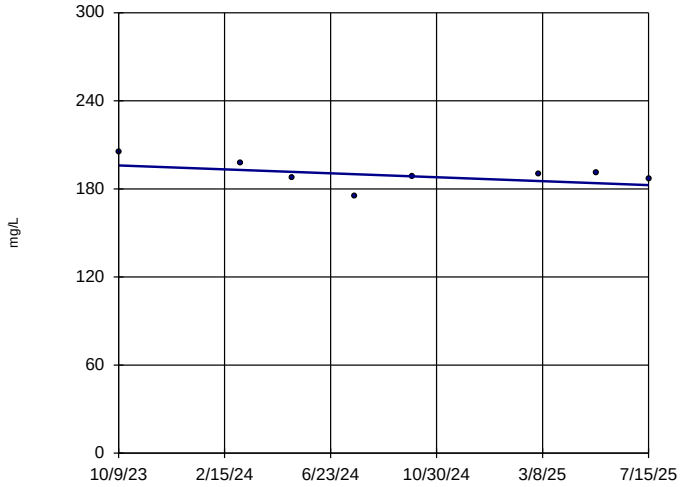
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Calcium, Total

MW-50



n = 8

Slope = -7.616 units per year.

Mann-Kendall statistic = -8 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

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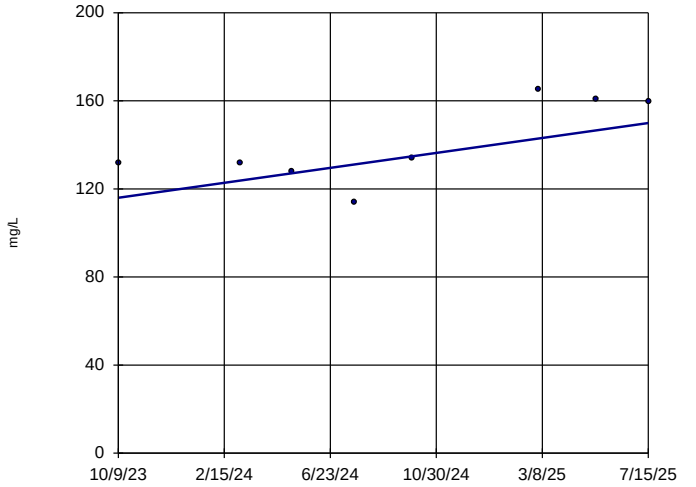
Calcium, Total

MW-51



n = 8

Slope = 19.19 units per year.

Mann-Kendall statistic = 11 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

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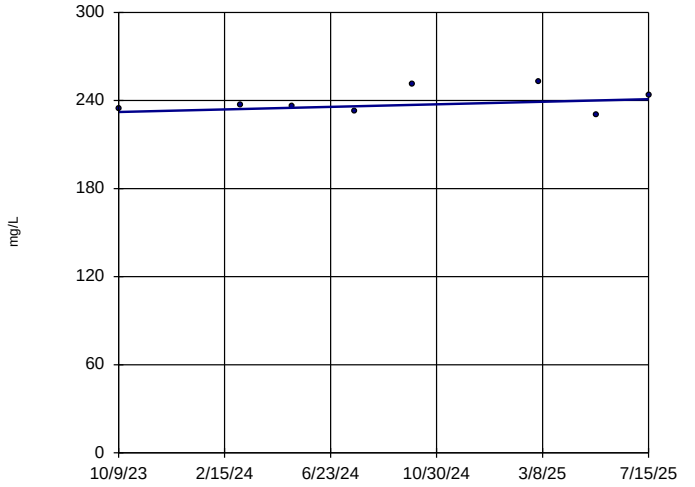
Calcium, Total

MW-52



n = 8

Slope = 4.941 units per year.

Mann-Kendall statistic = 4 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

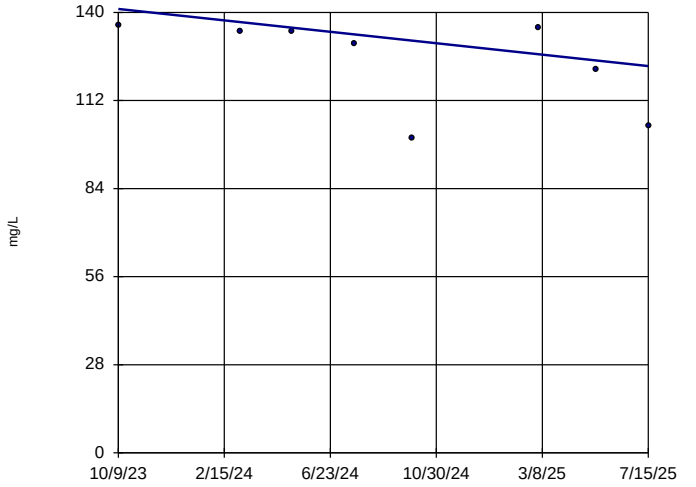
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Calcium, Total

MW-53



n = 8

Slope = -10.26 units per year.

Mann-Kendall statistic = -15 critical = -17

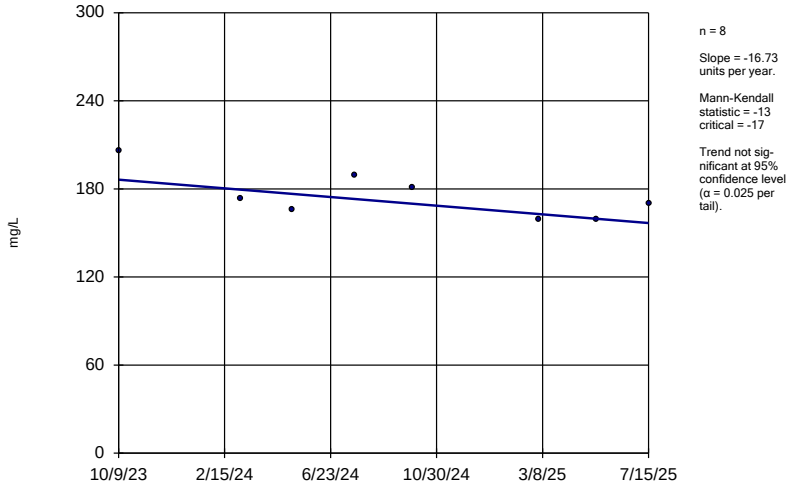
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Calcium, Total

MW-53R



n = 8

Slope = -16.73 units per year.

Mann-Kendall statistic = -13 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

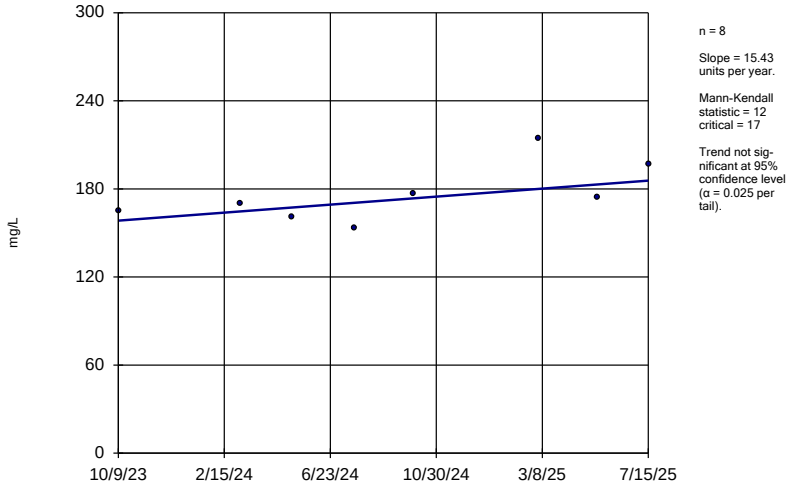
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Calcium, Total

MW-54R



n = 8

Slope = 15.43 units per year.

Mann-Kendall statistic = 12 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

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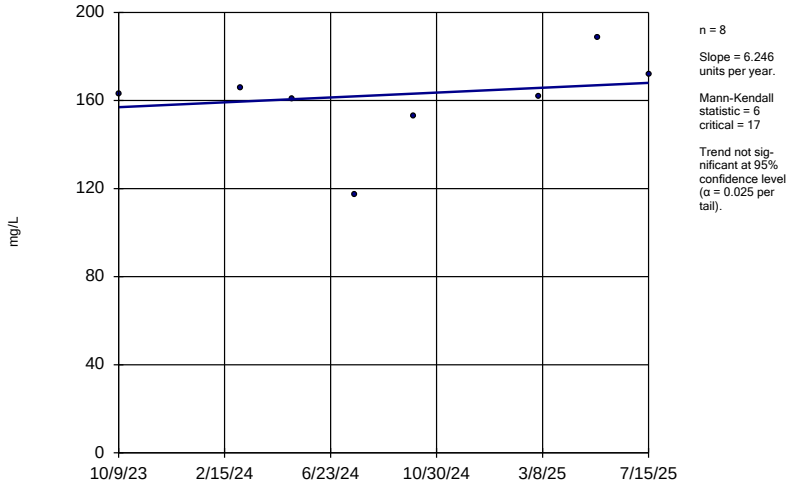
Calcium, Total

MW-55



n = 8

Slope = 6.246 units per year.

Mann-Kendall statistic = 6 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

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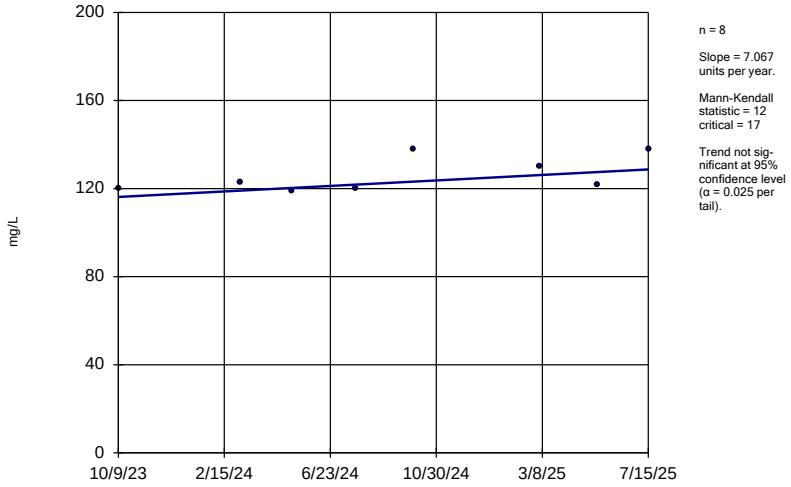
Calcium, Total

OW-57ROUT



n = 8

Slope = 7.067 units per year.

Mann-Kendall statistic = 12 critical = 17

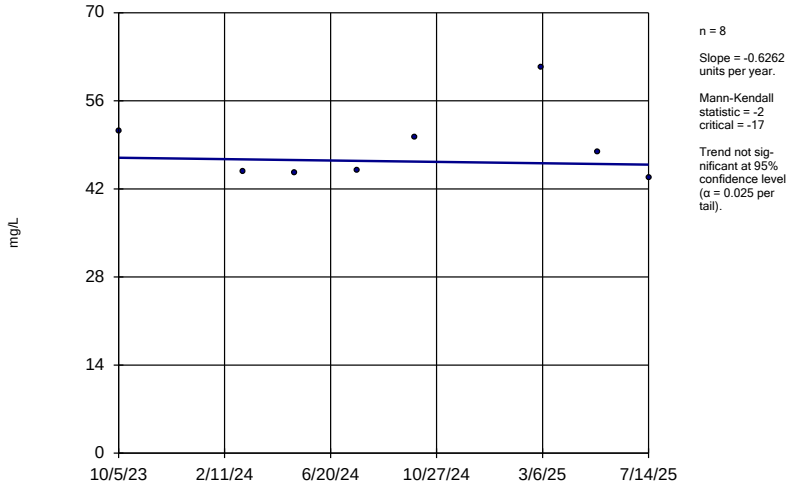
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Chloride

JCW-MW-18001



n = 8

Slope = -0.6262 units per year.

Mann-Kendall statistic = -2 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

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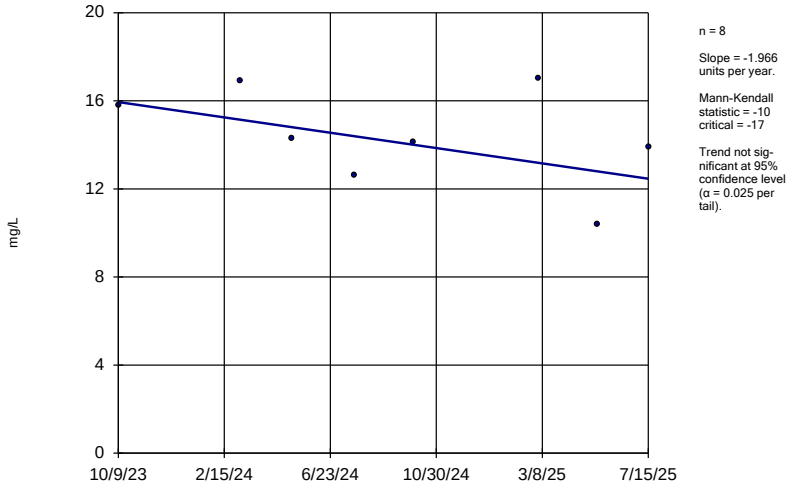
Chloride

JCW-MW-18004



n = 8

Slope = -1.966 units per year.

Mann-Kendall statistic = -10 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

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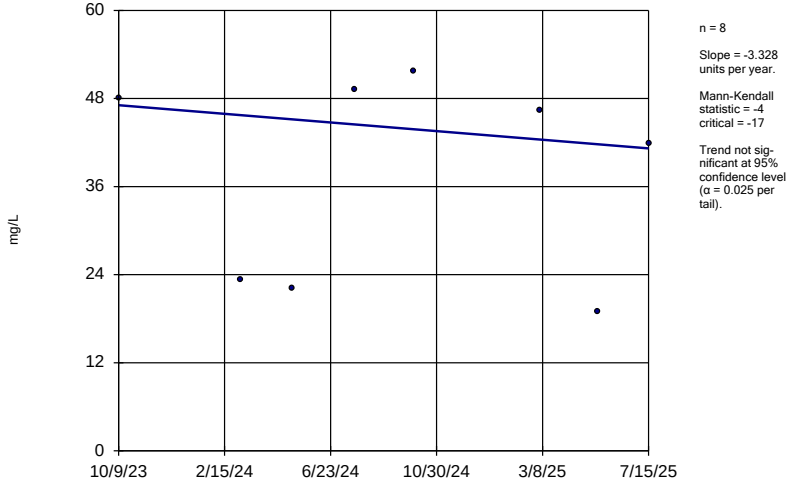
Chloride

JCW-MW-18005



n = 8

Slope = -3.328 units per year.

Mann-Kendall statistic = -4 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

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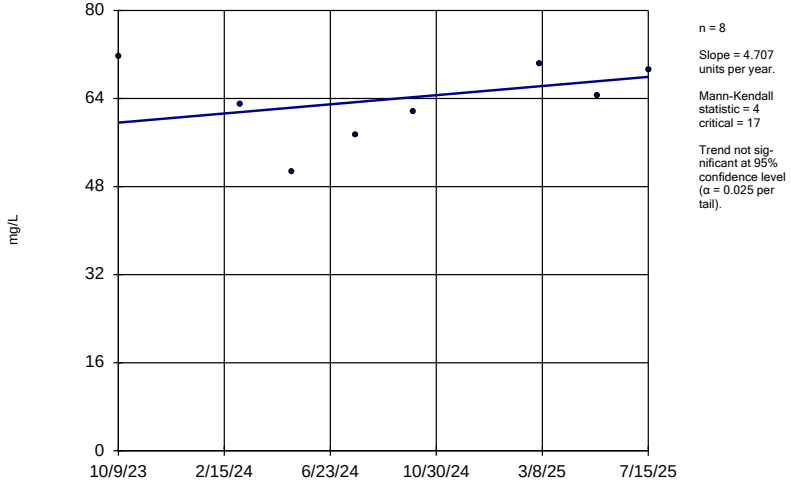
Chloride

JCW-MW-18006



n = 8

Slope = 4.707 units per year.

Mann-Kendall statistic = 4 critical = 17

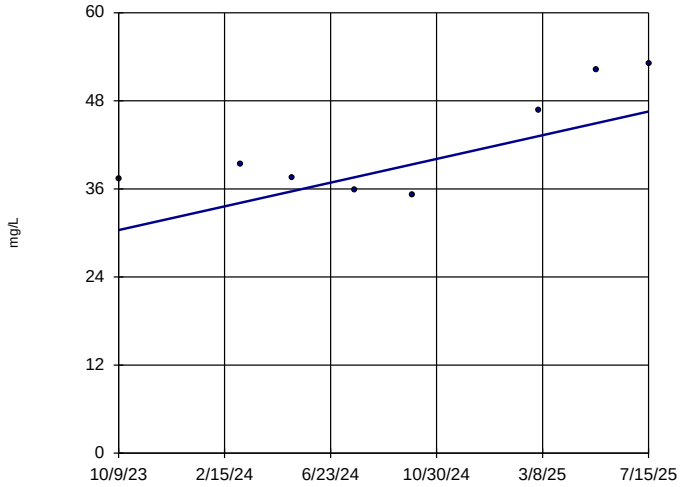
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Chloride

MW-50



n = 8

Slope = 9.143 units per year.

Mann-Kendall statistic = 12 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

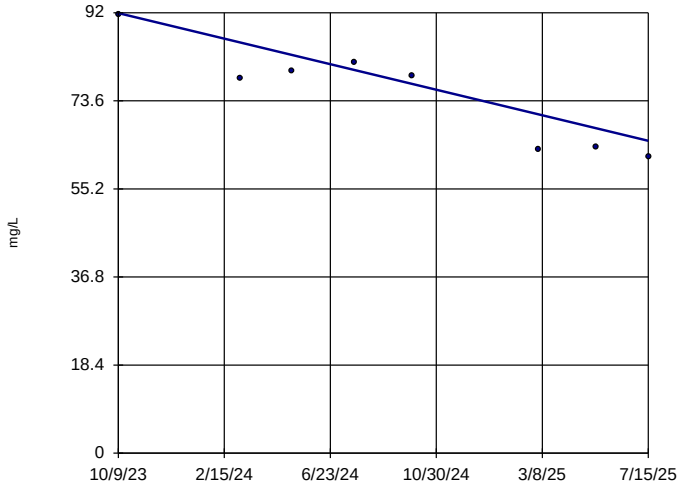
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Chloride

MW-51



n = 8

Slope = -15.09 units per year.

Mann-Kendall statistic = -18 critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

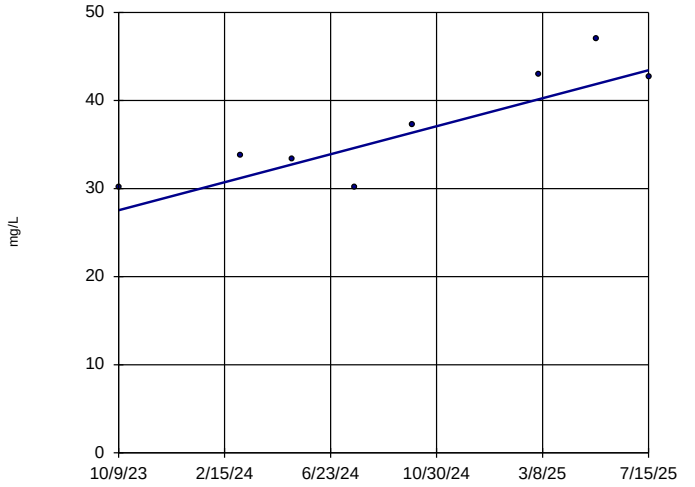
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Chloride

MW-52



n = 8

Slope = 9.002 units per year.

Mann-Kendall statistic = 16 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

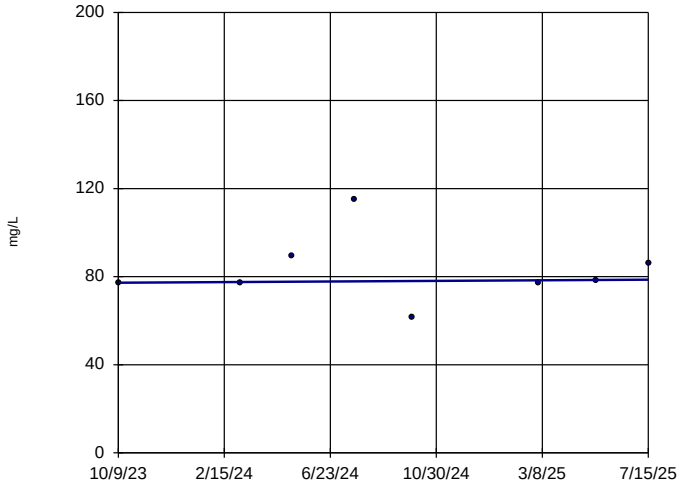
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Chloride

MW-53



n = 8

Slope = 0.8075 units per year.

Mann-Kendall statistic = 3 critical = 17

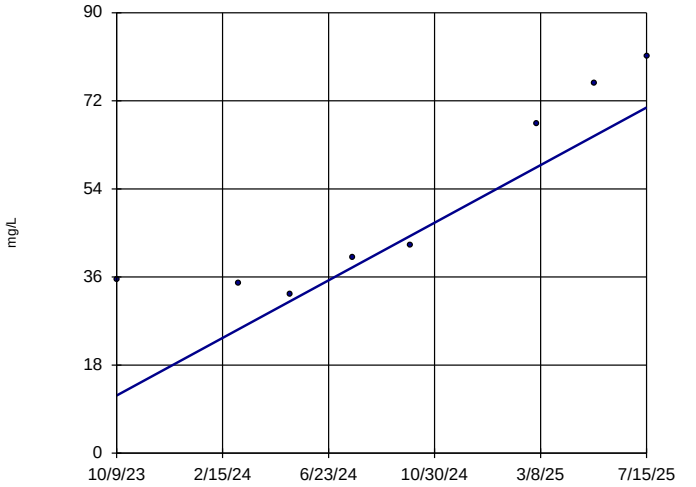
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Chloride

MW-53R



n = 8

Slope = 33.3 units per year.

Mann-Kendall statistic = 22 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

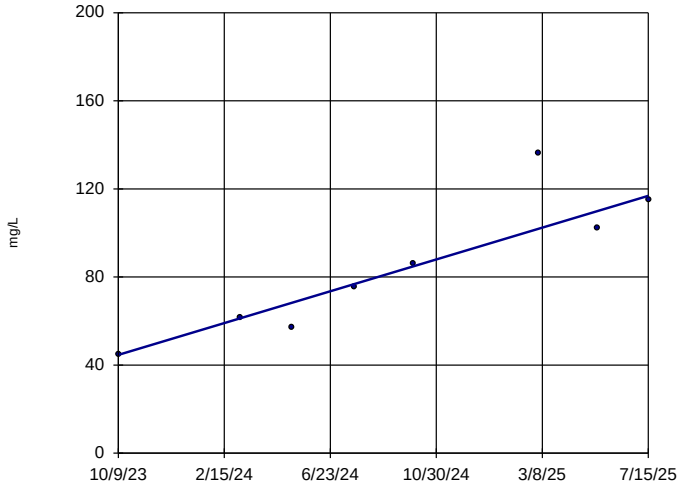
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Chloride

MW-54R



n = 8

Slope = 40.84 units per year.

Mann-Kendall statistic = 22 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

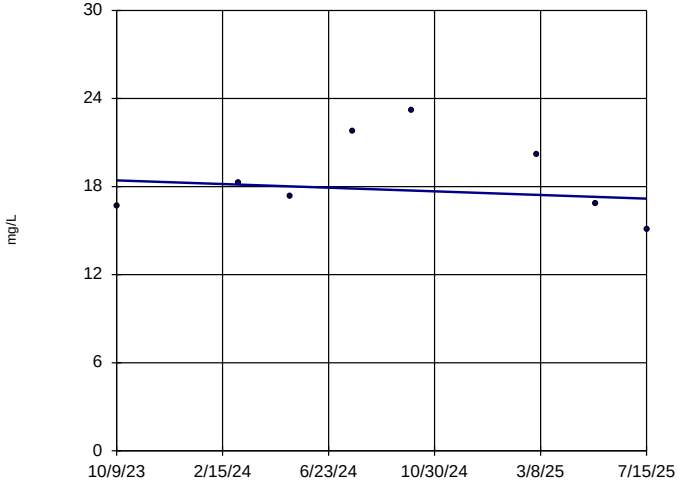
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Chloride

MW-55



n = 8

Slope = -0.6987 units per year.

Mann-Kendall statistic = -2 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

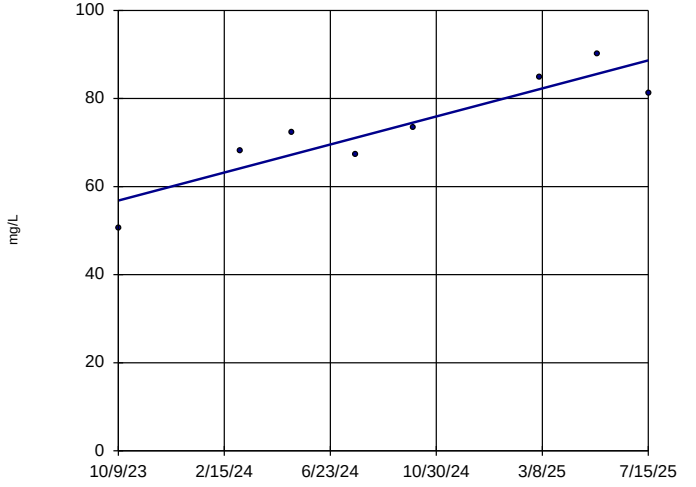
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Chloride

OW-57ROUT



n = 8

Slope = 18.01 units per year.

Mann-Kendall statistic = 20 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

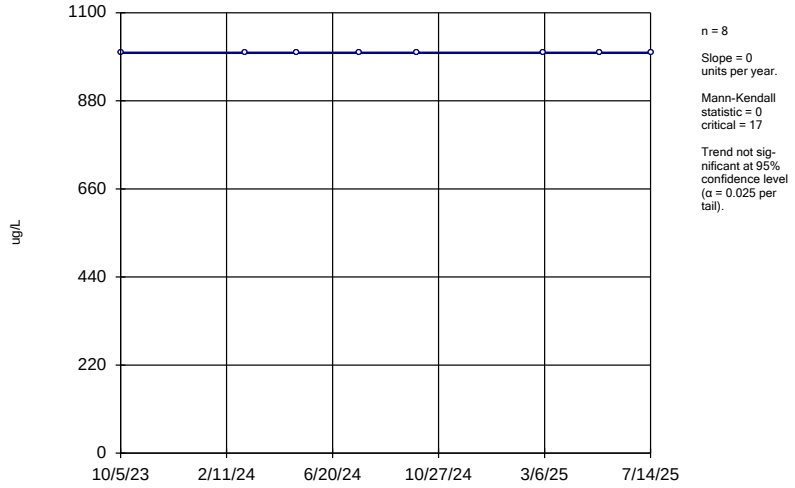
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18001



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

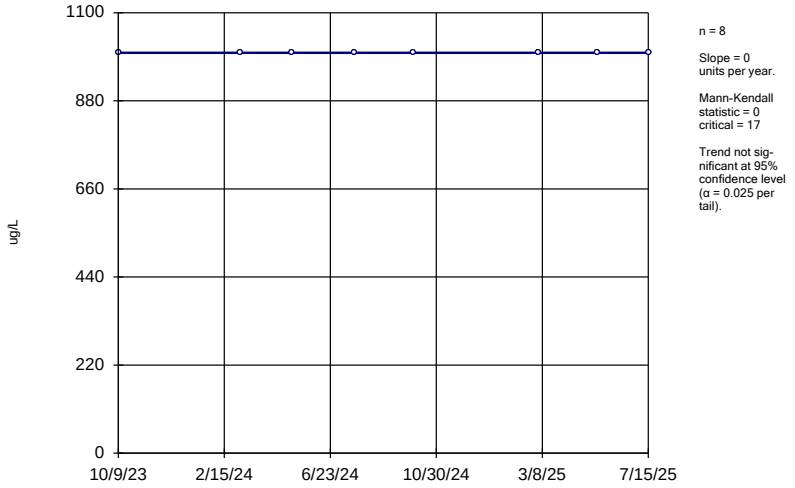
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18004



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

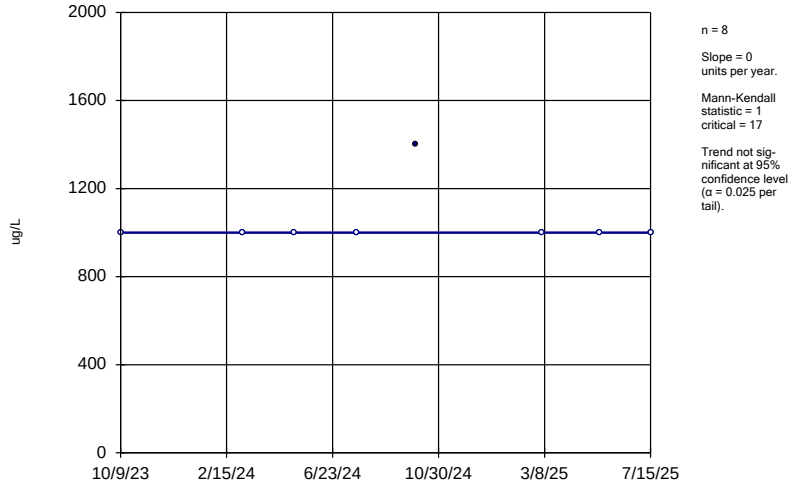
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18005



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 1 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

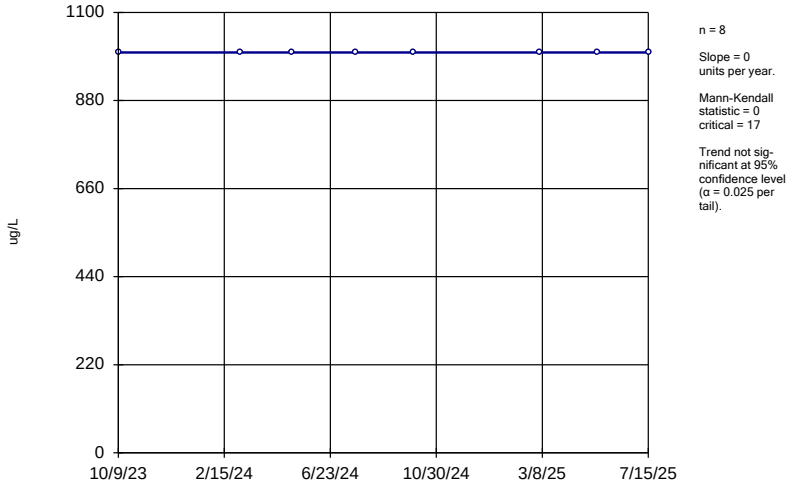
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18006



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

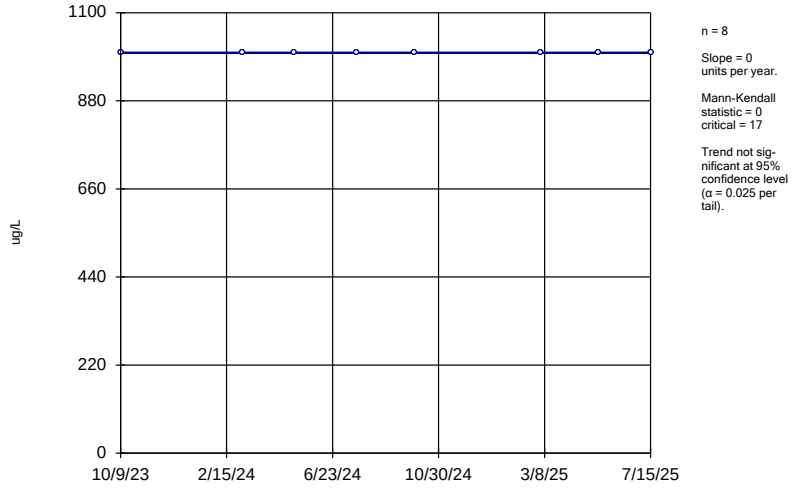
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA
Hollow symbols indicate censored values.

Fluoride

MW-50



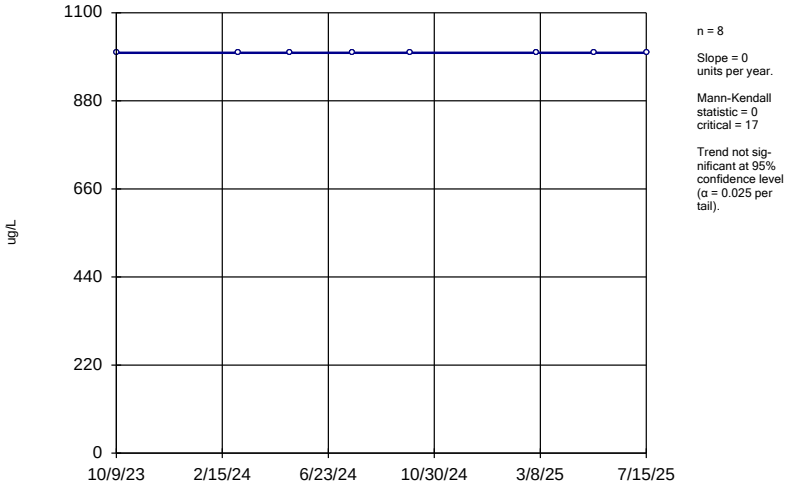
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA
Hollow symbols indicate censored values.

Fluoride

MW-51



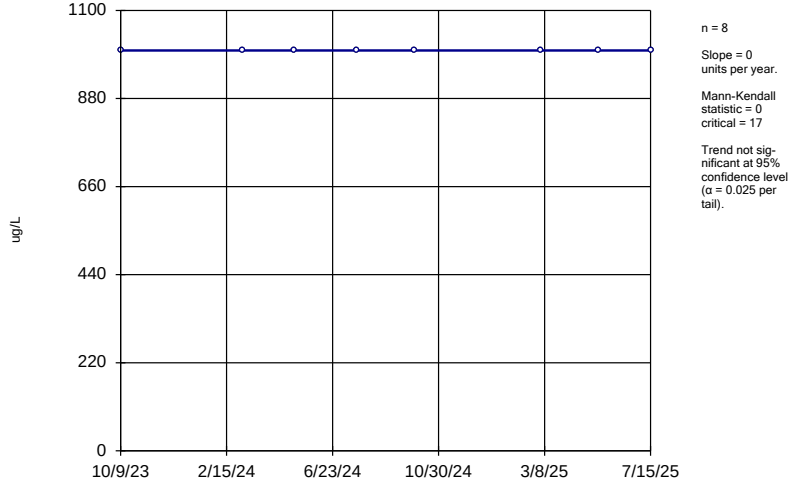
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA
Hollow symbols indicate censored values.

Fluoride

MW-52



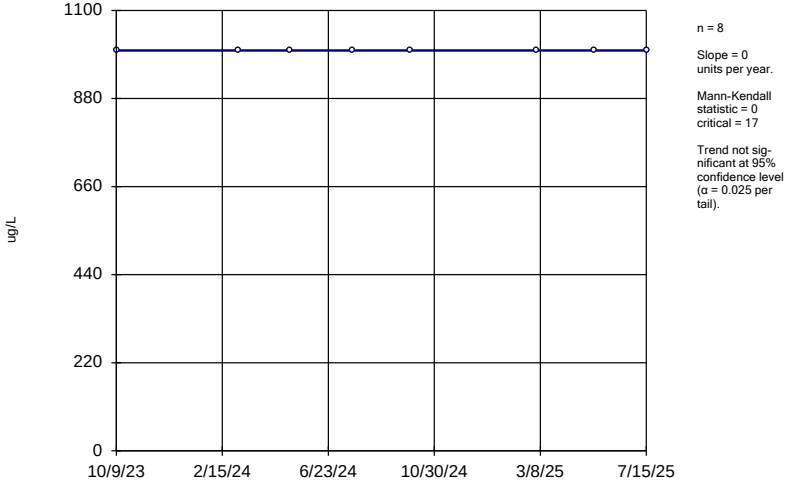
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA
Hollow symbols indicate censored values.

Fluoride

MW-53



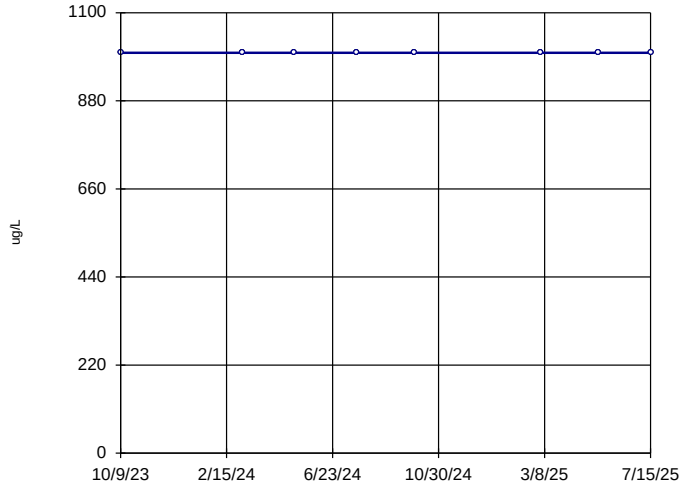
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA
Hollow symbols indicate censored values.

Fluoride

MW-53R



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

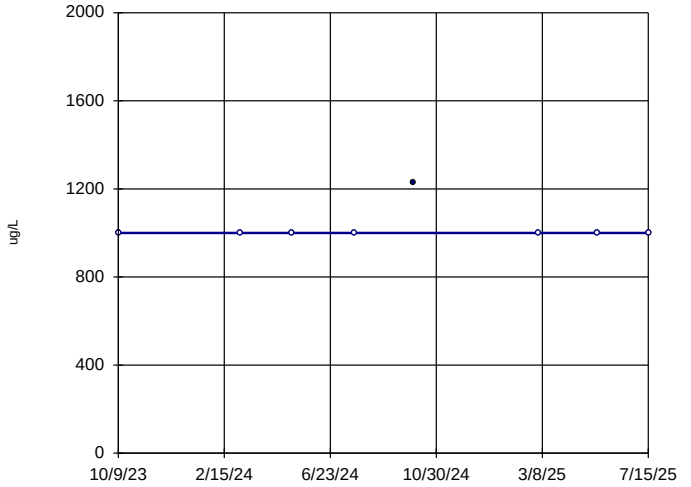
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA
Hollow symbols indicate censored values.

Fluoride

MW-54R



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 1
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

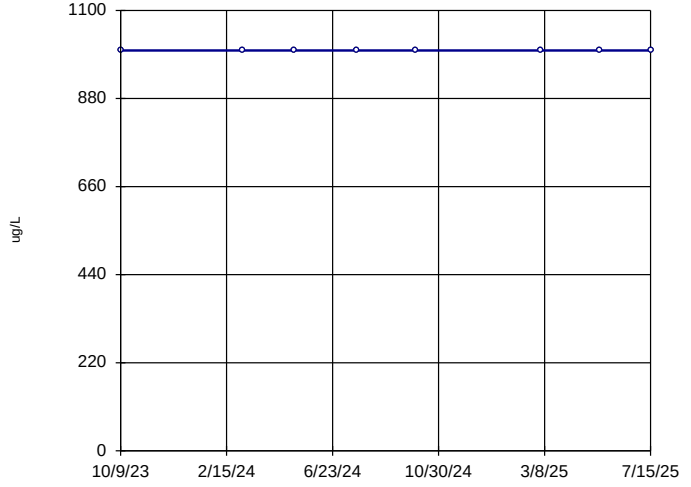
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA
Hollow symbols indicate censored values.

Fluoride

MW-55



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

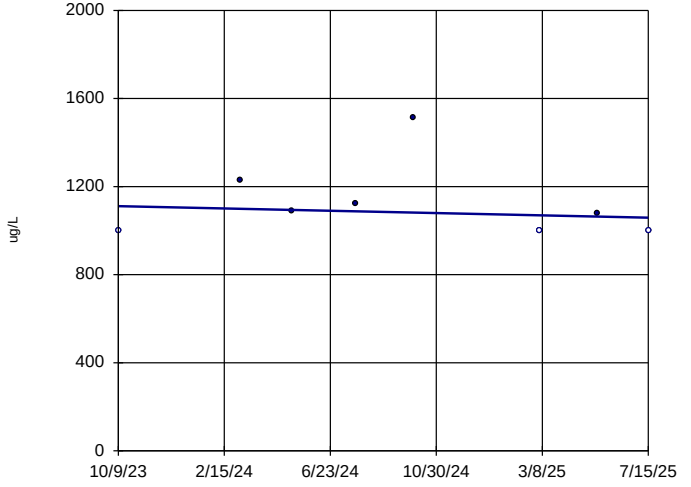
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA
Hollow symbols indicate censored values.

Fluoride

OW-57ROUT



n = 8

Slope = -29.75 units per year.

Mann-Kendall statistic = -5
critical = -17

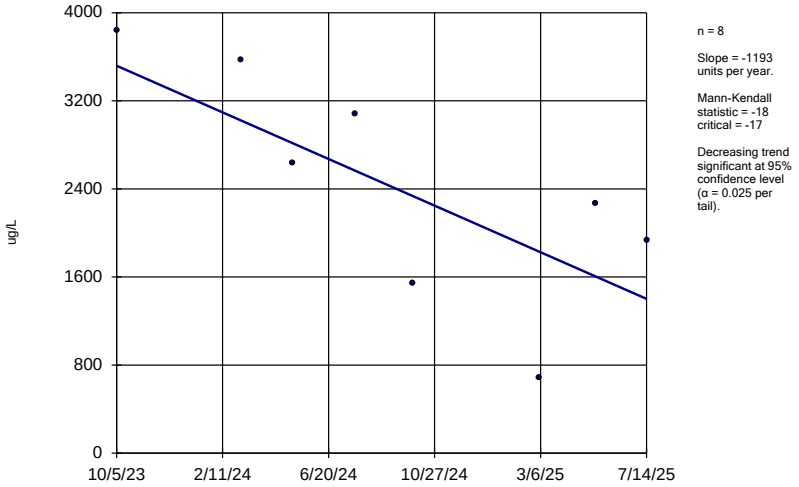
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Iron, Total

JCW-MW-18001



n = 8

Slope = -1193 units per year.

Mann-Kendall statistic = -18
critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

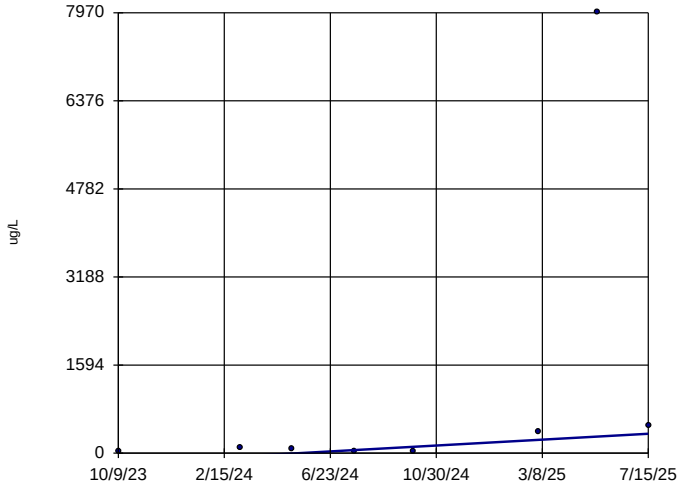
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Iron, Total

JCW-MW-18004



n = 8

Slope = 301.3 units per year.

Mann-Kendall statistic = 13
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

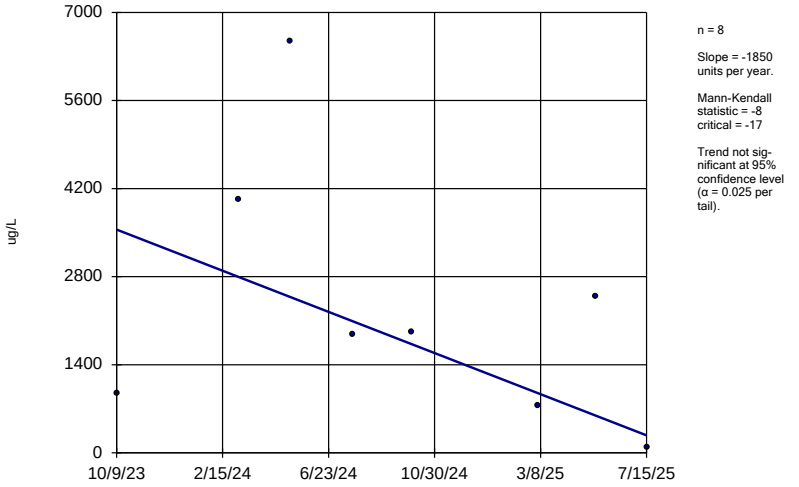
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Iron, Total

JCW-MW-18005



n = 8

Slope = -1850 units per year.

Mann-Kendall statistic = -8
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

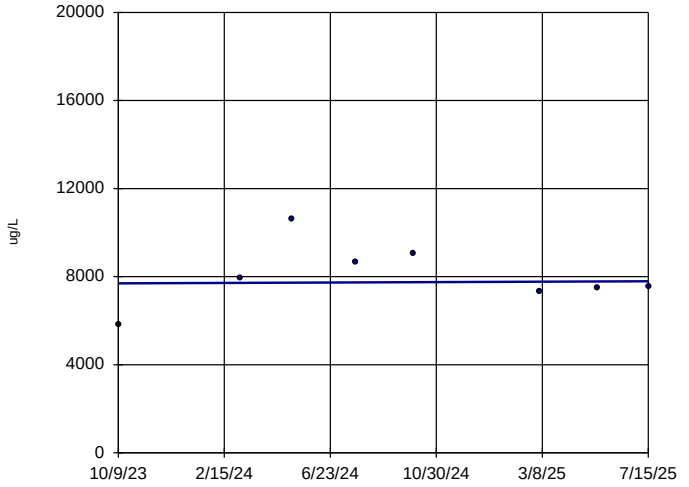
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Iron, Total

JCW-MW-18006



n = 8

Slope = 53.35 units per year.

Mann-Kendall statistic = 0
critical = 17

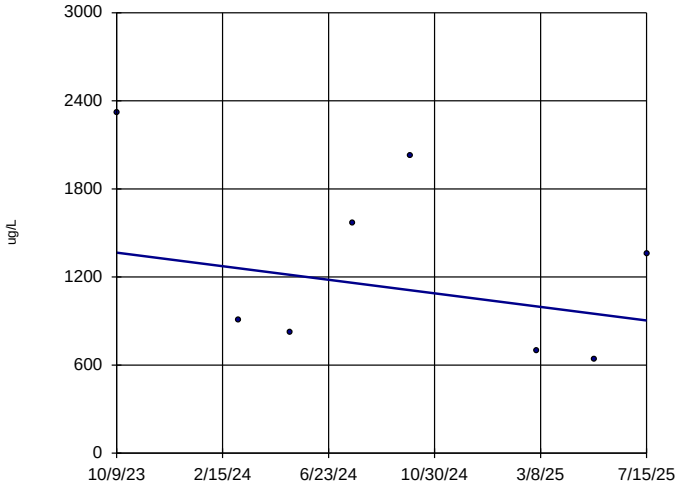
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Iron, Total

MW-50



n = 8

Slope = -261.5 units per year.

Mann-Kendall statistic = -10
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

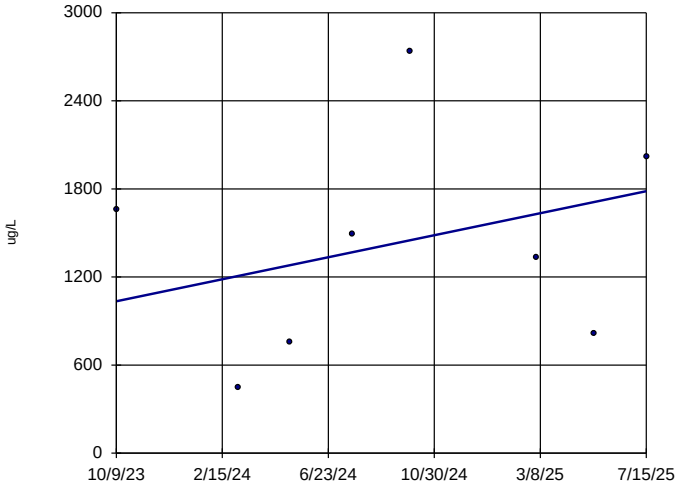
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Iron, Total

MW-51



n = 8

Slope = 424 units per year.

Mann-Kendall statistic = 6
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

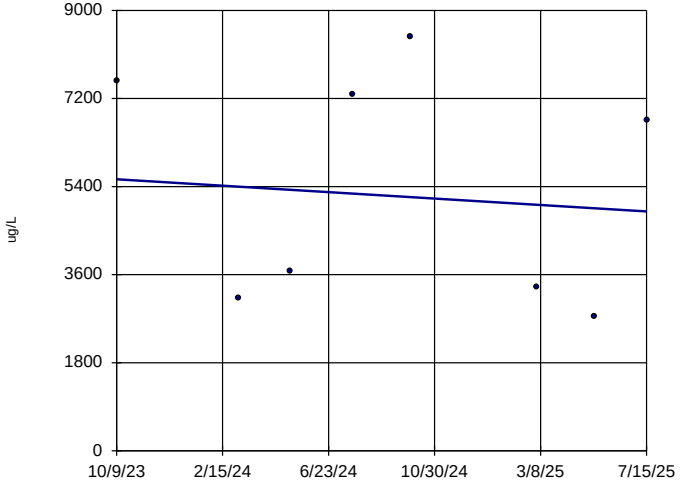
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Iron, Total

MW-52



n = 8

Slope = -371.2 units per year.

Mann-Kendall statistic = -4
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

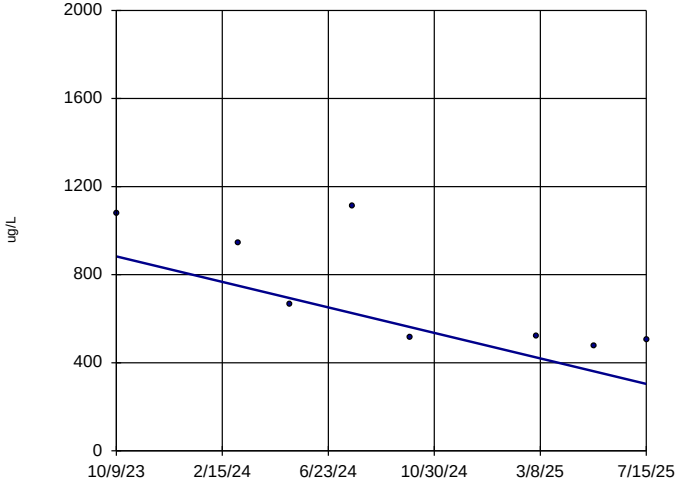
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Iron, Total

MW-53



n = 8

Slope = -327.5 units per year.

Mann-Kendall statistic = -18
critical = -17

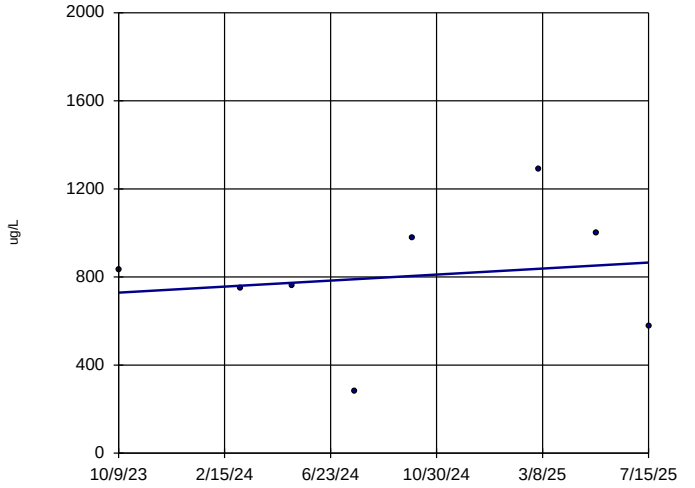
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Iron, Total

MW-53R



n = 8

Slope = 77.5 units per year.

Mann-Kendall statistic = 4 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

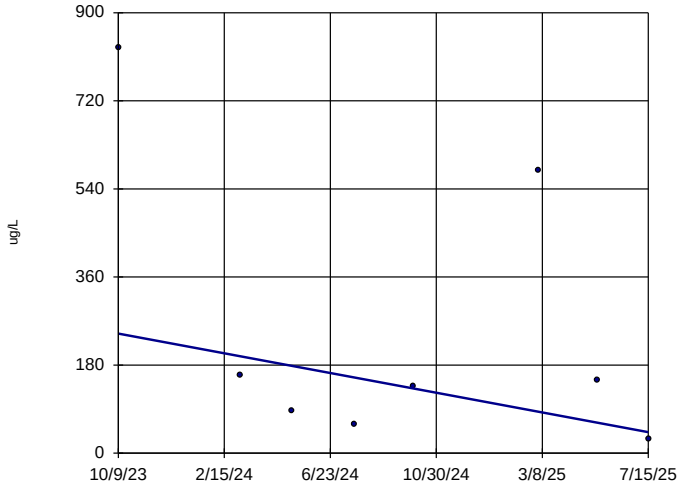
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Iron, Total

MW-54R



n = 8

Slope = -114.1 units per year.

Mann-Kendall statistic = -10 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

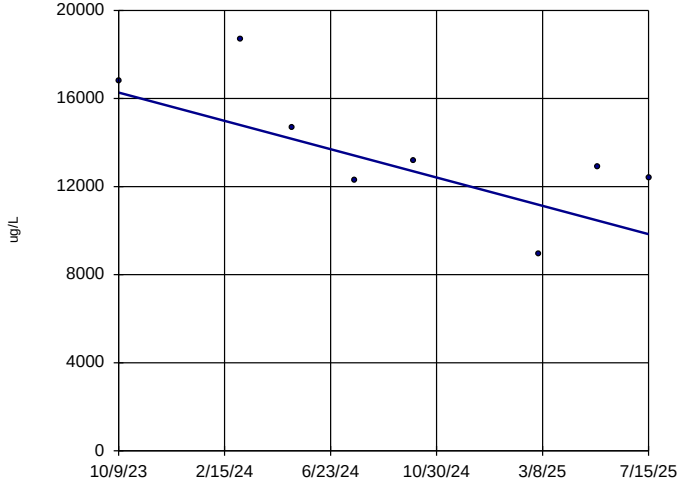
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Iron, Total

MW-55



n = 8

Slope = -3638 units per year.

Mann-Kendall statistic = -16 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

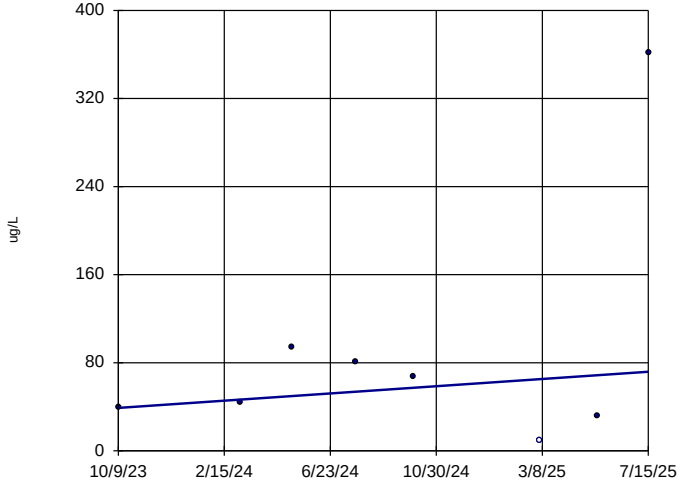
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Hollow symbols indicate censored values.

Iron, Total

OW-57ROUT



n = 8

Slope = 18.62 units per year.

Mann-Kendall statistic = 2 critical = 17

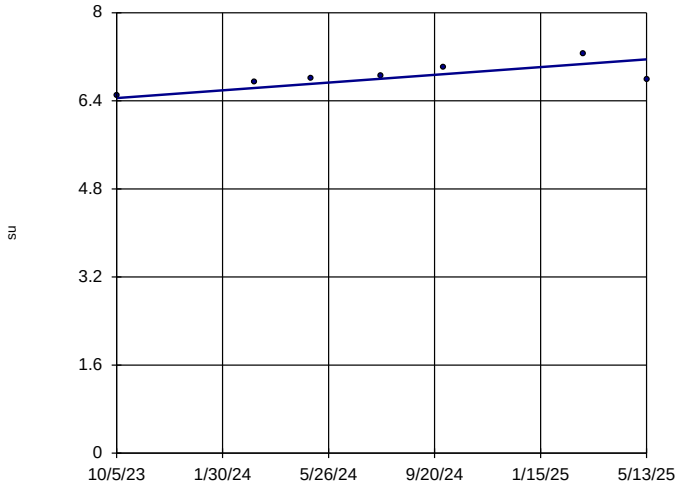
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

pH, Field

JCW-MW-18001



n = 7

Slope = 0.4375 units per year.

Mann-Kendall statistic = 13
critical = 15

Trend not significant at 95% confidence level (α = 0.025 per tail).

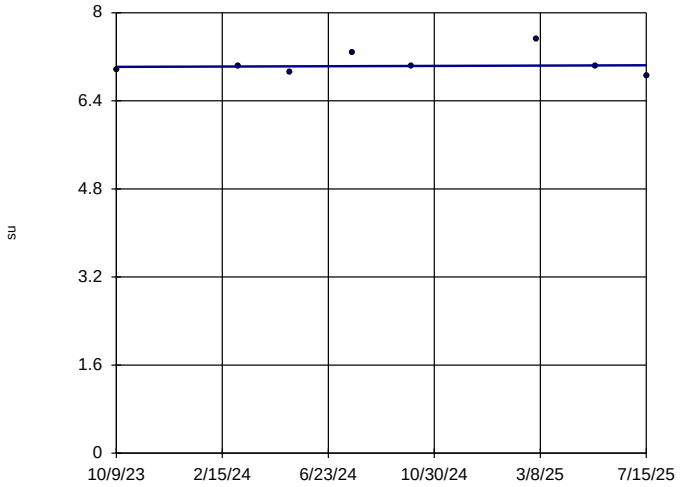
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

pH, Field

JCW-MW-18004



n = 8

Slope = 0.01629 units per year.

Mann-Kendall statistic = 1
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

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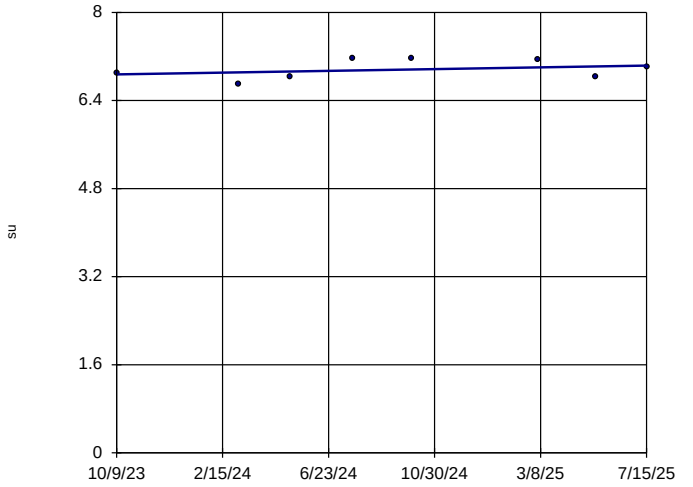
pH, Field

JCW-MW-18005



n = 8

Slope = 0.09 units per year.

Mann-Kendall statistic = 4
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

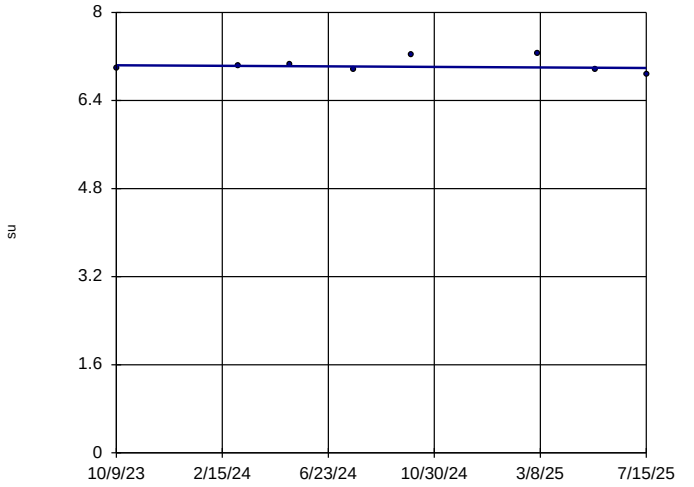
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

pH, Field

JCW-MW-18006



n = 8

Slope = -0.02834 units per year.

Mann-Kendall statistic = -3
critical = -17

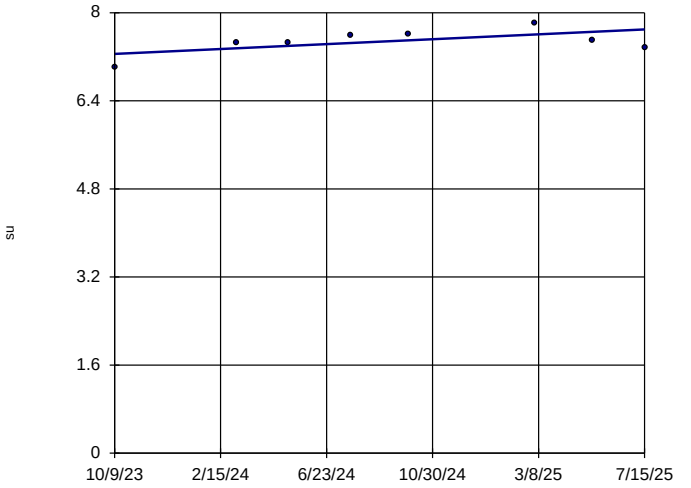
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

pH, Field

MW-50



n = 8

Slope = 0.2524 units per year.

Mann-Kendall statistic = 9 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

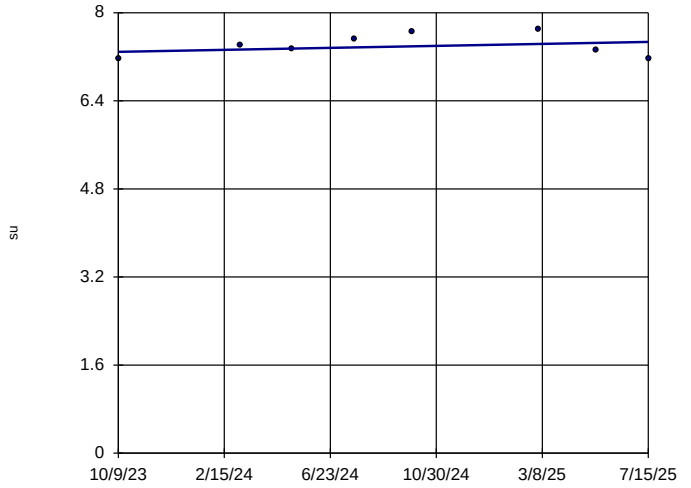
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

pH, Field

MW-51



n = 8

Slope = 0.1007 units per year.

Mann-Kendall statistic = 3 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

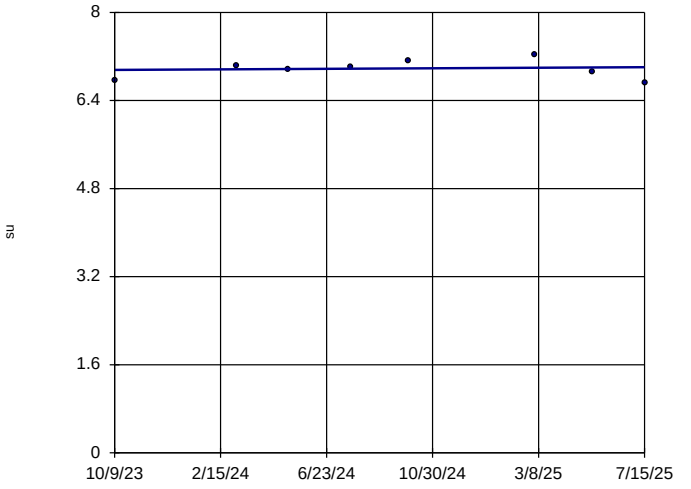
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

pH, Field

MW-52



n = 8

Slope = 0.02692 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

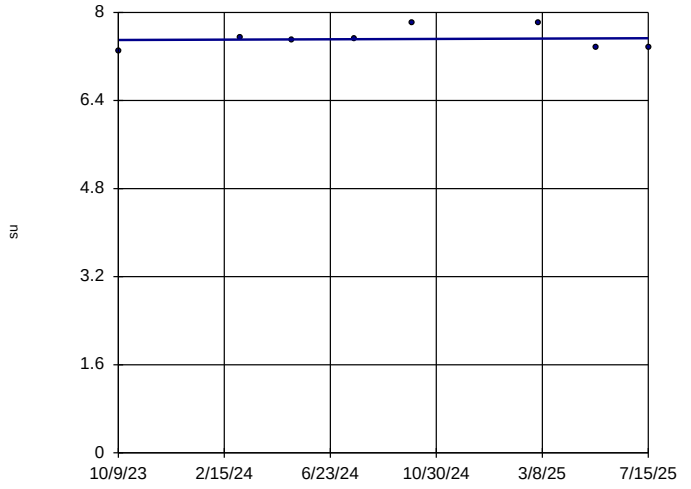
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

pH, Field

MW-53



n = 8

Slope = 0.01698 units per year.

Mann-Kendall statistic = 1 critical = 17

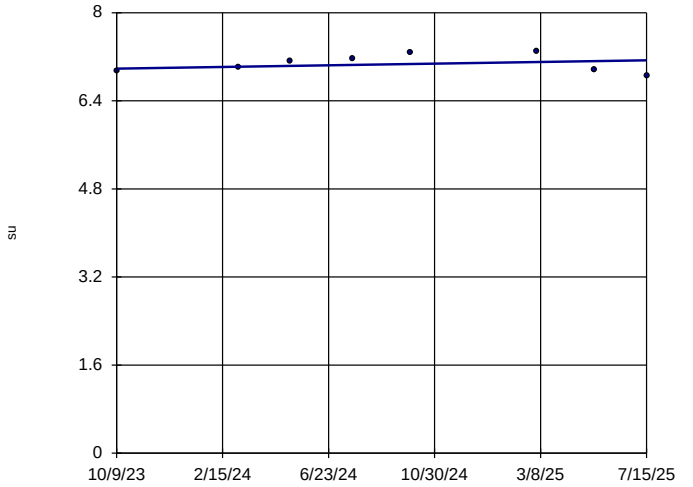
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

pH, Field

MW-53R



n = 8

Slope = 0.08536 units per year.

Mann-Kendall statistic = 4
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

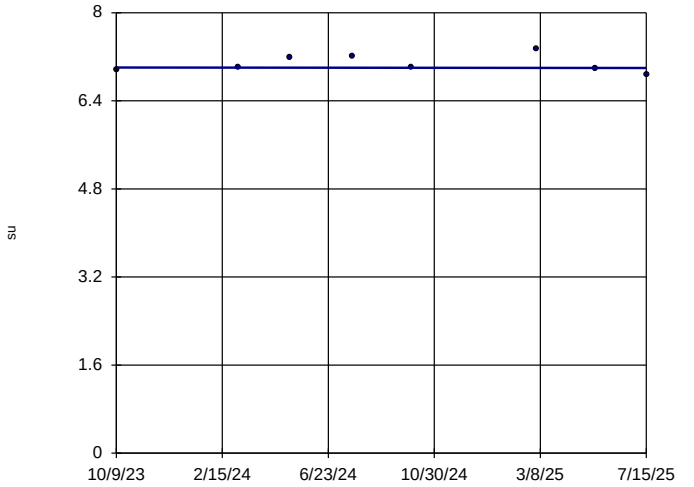
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

pH, Field

MW-54R



n = 8

Slope = -0.004195 units per year.

Mann-Kendall statistic = -1
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

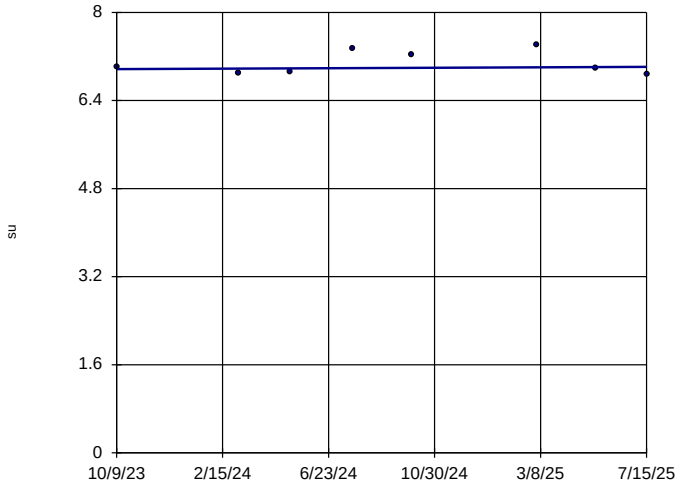
Sen's Slope Estimator Analysis Run 9/11/2025 8:57 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

pH, Field

MW-55



n = 8

Slope = 0.02225 units per year.

Mann-Kendall statistic = 0
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

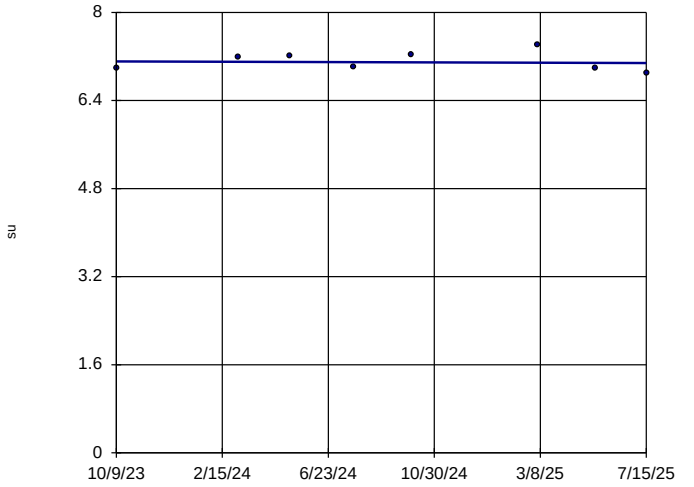
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

pH, Field

OW-57ROUT



n = 8

Slope = -0.01555 units per year.

Mann-Kendall statistic = -2
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

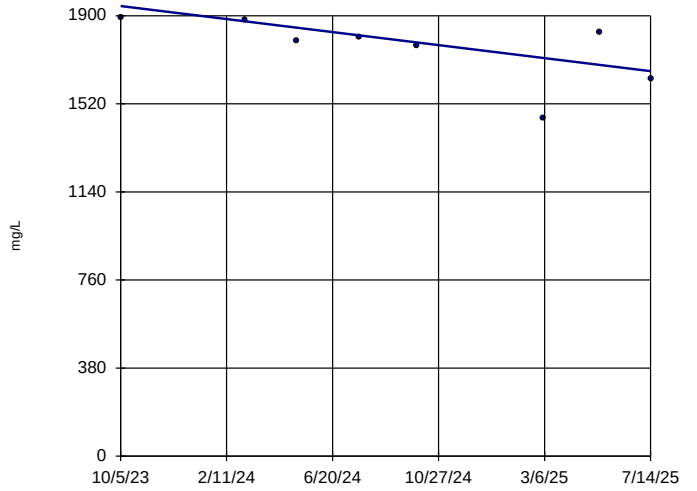
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Sulfate

JCW-MW-18001



n = 8

Slope = -158.1 units per year.

Mann-Kendall statistic = -16
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

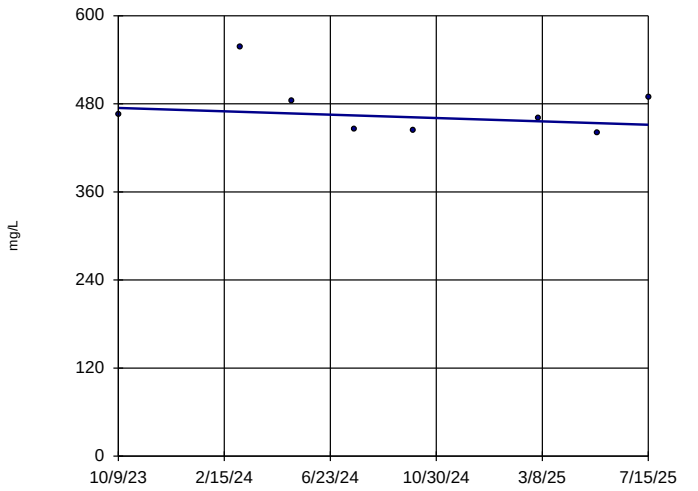
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Sulfate

JCW-MW-18004



n = 8

Slope = -12.97 units per year.

Mann-Kendall statistic = -8
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

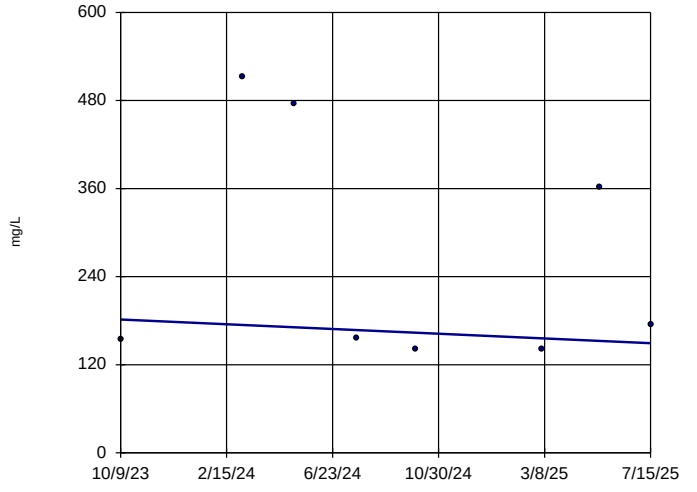
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Sulfate

JCW-MW-18005



n = 8

Slope = -18.27 units per year.

Mann-Kendall statistic = -6
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

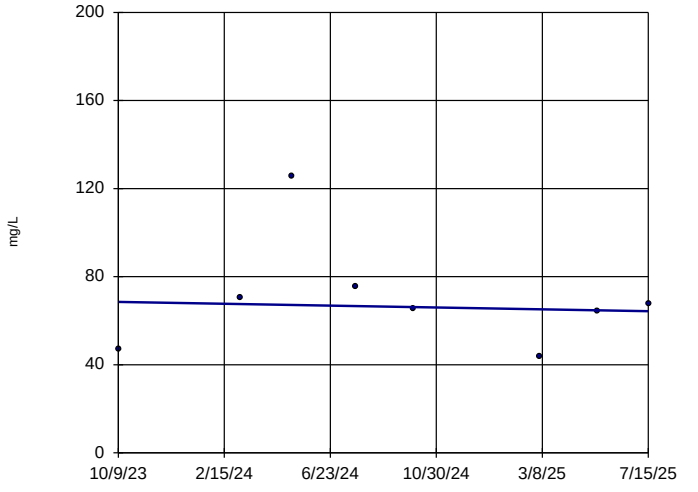
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Sulfate

JCW-MW-18006



n = 8

Slope = -2.387 units per year.

Mann-Kendall statistic = -4
critical = -17

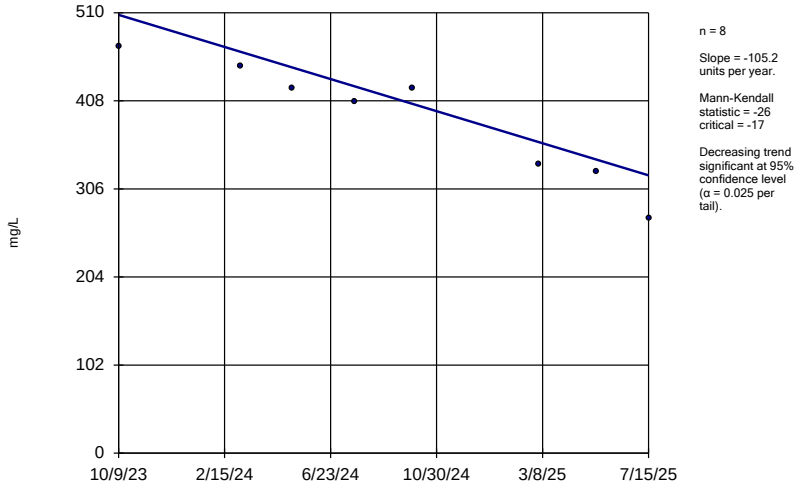
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sulfate

MW-50



n = 8

Slope = -105.2 units per year.

Mann-Kendall statistic = -26 critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

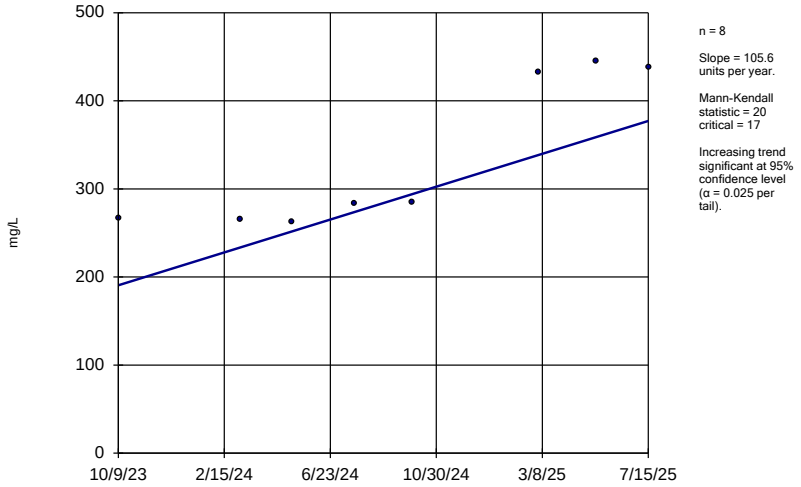
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Sulfate

MW-51



n = 8

Slope = 105.6 units per year.

Mann-Kendall statistic = 20 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

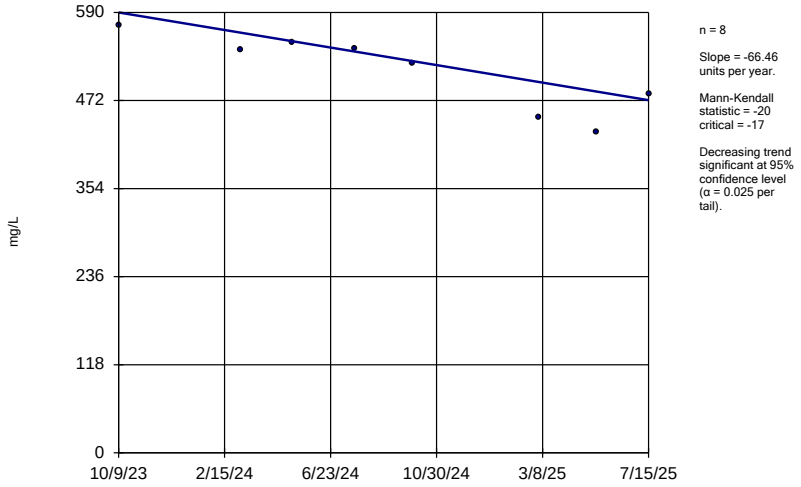
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Sulfate

MW-52



n = 8

Slope = -66.46 units per year.

Mann-Kendall statistic = -20 critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

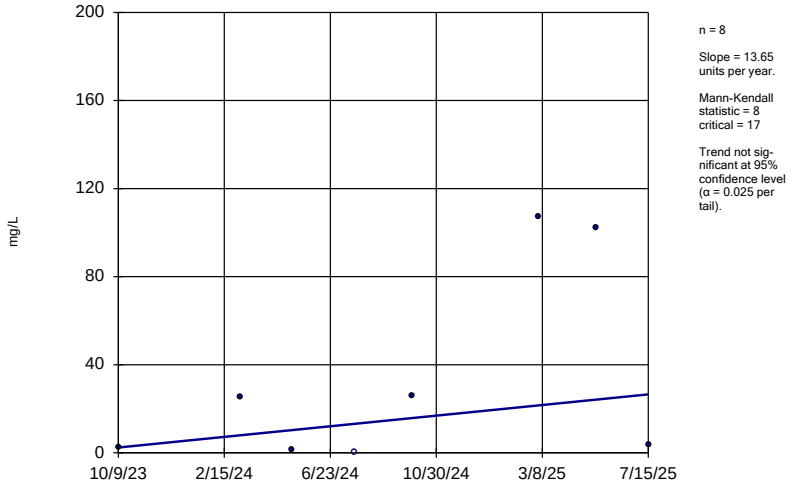
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Hollow symbols indicate censored values.

Sulfate

MW-53



n = 8

Slope = 13.65 units per year.

Mann-Kendall statistic = 8 critical = 17

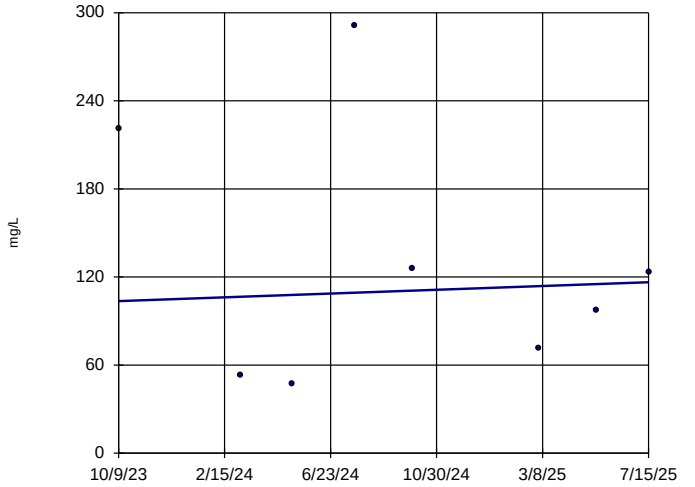
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sulfate

MW-53R



n = 8

Slope = 7.267 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

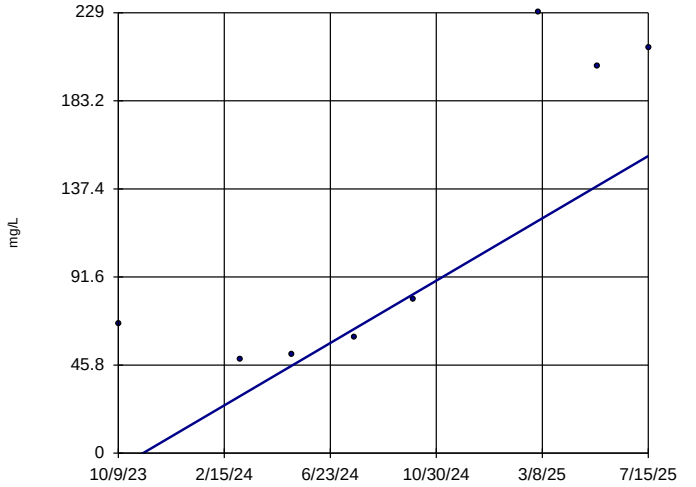
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Sulfate

MW-54R



n = 8

Slope = 91.69 units per year.

Mann-Kendall statistic = 18 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

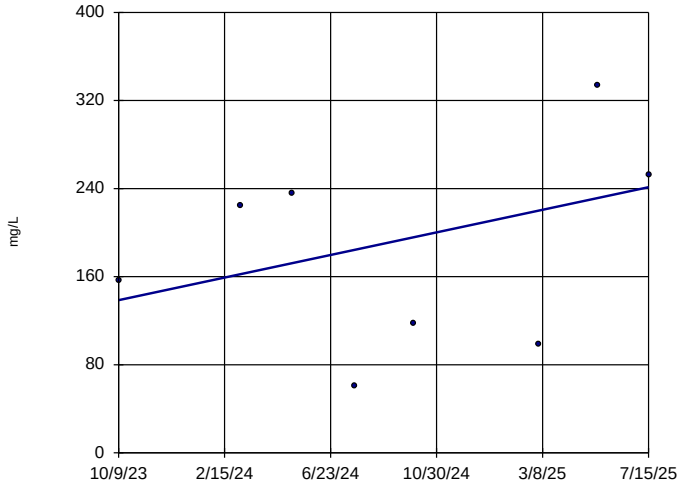
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Sulfate

MW-55



n = 8

Slope = 58.04 units per year.

Mann-Kendall statistic = 6 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

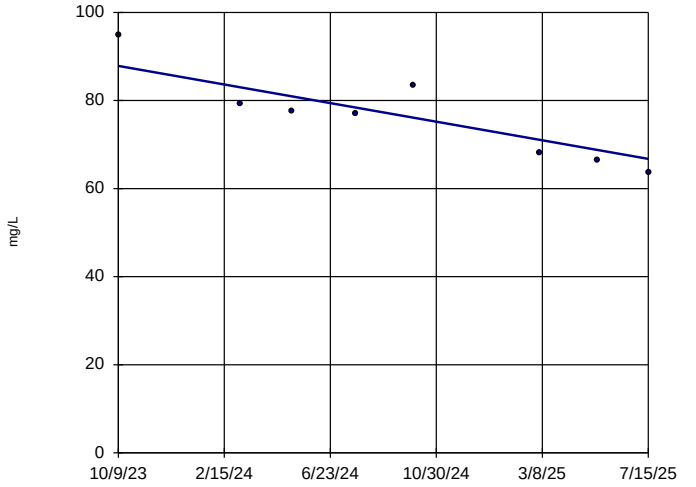
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Sulfate

OW-57ROUT



n = 8

Slope = -11.94 units per year.

Mann-Kendall statistic = -22 critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

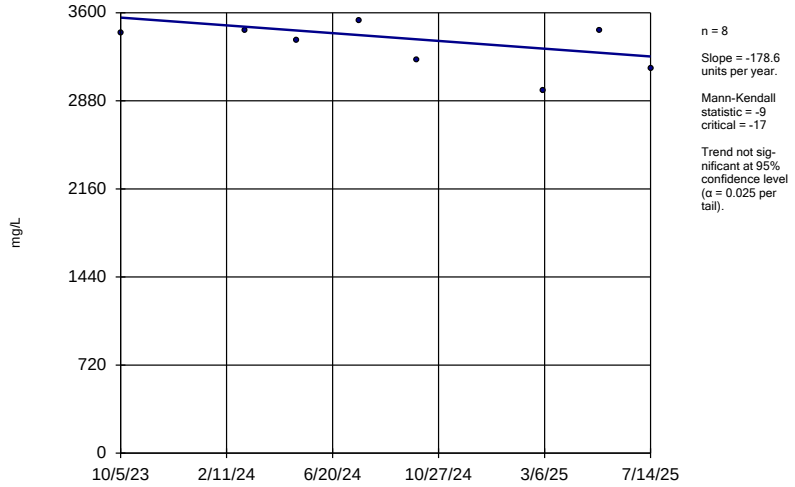
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Total Dissolved Solids

JCW-MW-18001



n = 8

Slope = -178.6 units per year.

Mann-Kendall statistic = -9 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

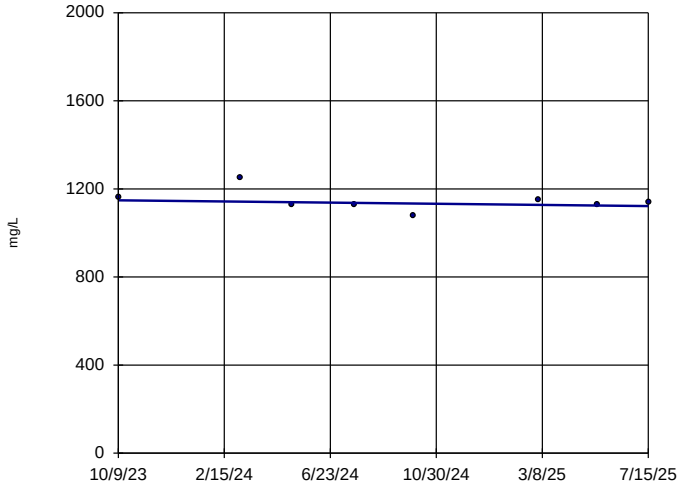
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Total Dissolved Solids

JCW-MW-18004



n = 8

Slope = -15.05 units per year.

Mann-Kendall statistic = -7 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

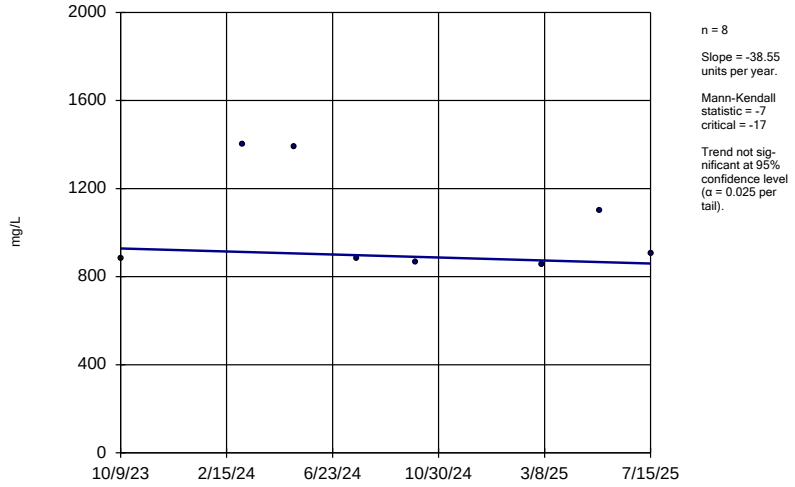
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Total Dissolved Solids

JCW-MW-18005



n = 8

Slope = -38.55 units per year.

Mann-Kendall statistic = -7 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

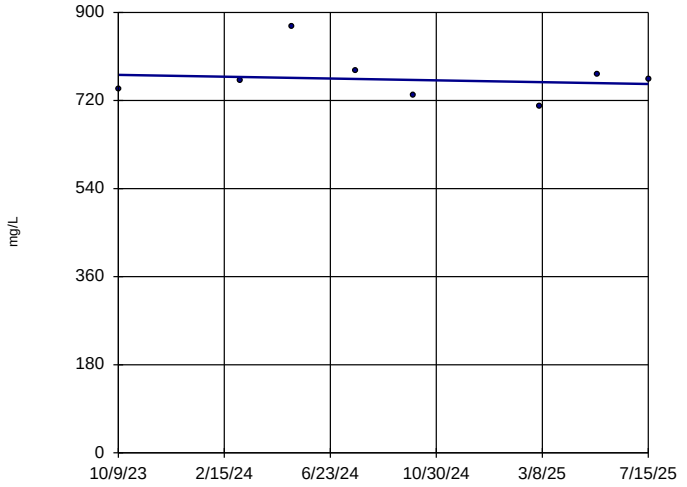
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Total Dissolved Solids

JCW-MW-18006



n = 8

Slope = -10.56 units per year.

Mann-Kendall statistic = -2 critical = -17

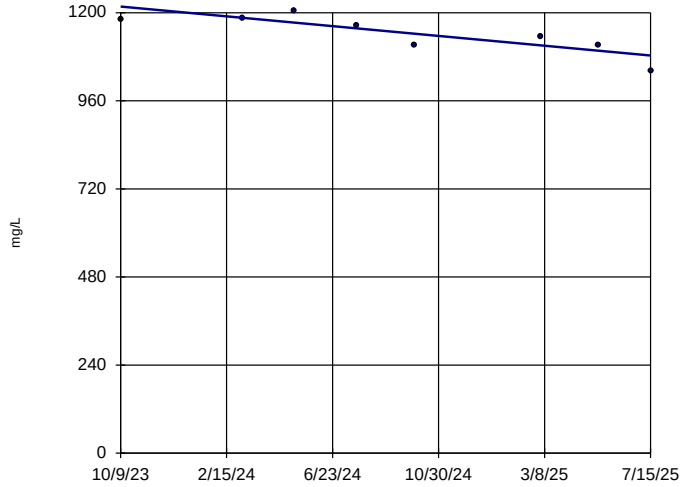
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Total Dissolved Solids

MW-50



n = 8

Slope = -75.3 units per year.

Mann-Kendall statistic = -19 critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

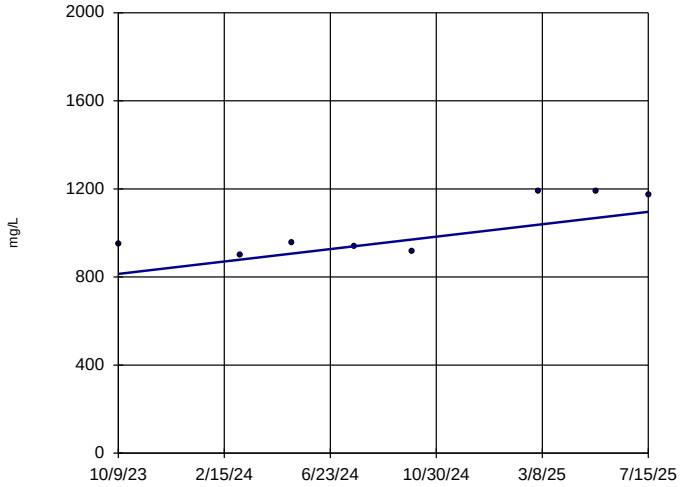
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Total Dissolved Solids

MW-51



n = 8

Slope = 159.5 units per year.

Mann-Kendall statistic = 11 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

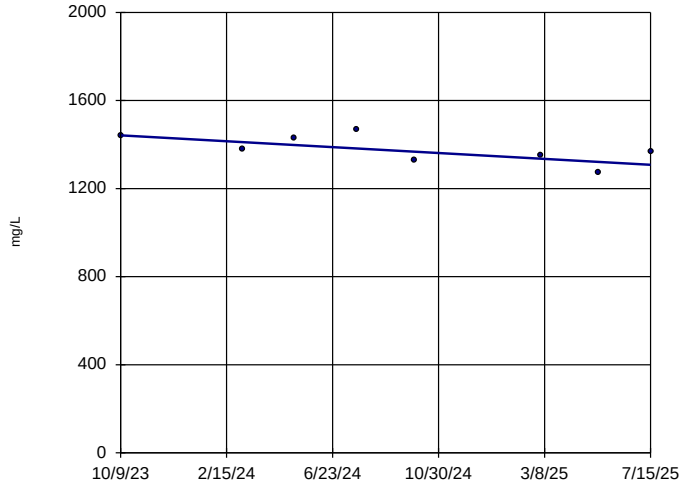
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Total Dissolved Solids

MW-52



n = 8

Slope = -75.53 units per year.

Mann-Kendall statistic = -12 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

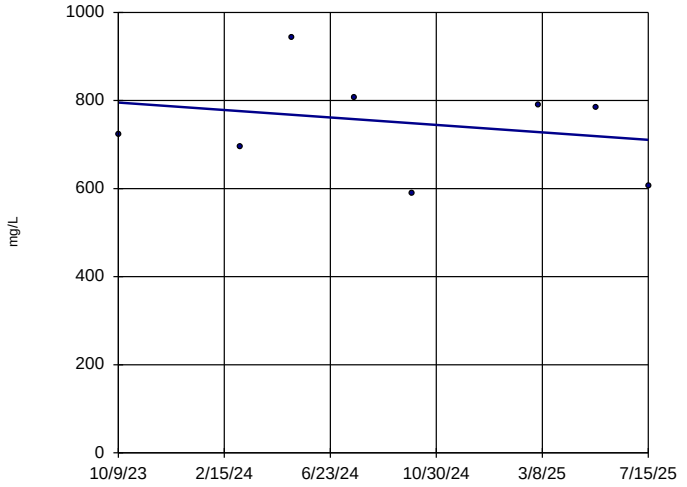
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Total Dissolved Solids

MW-53



n = 8

Slope = -47.96 units per year.

Mann-Kendall statistic = -6 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

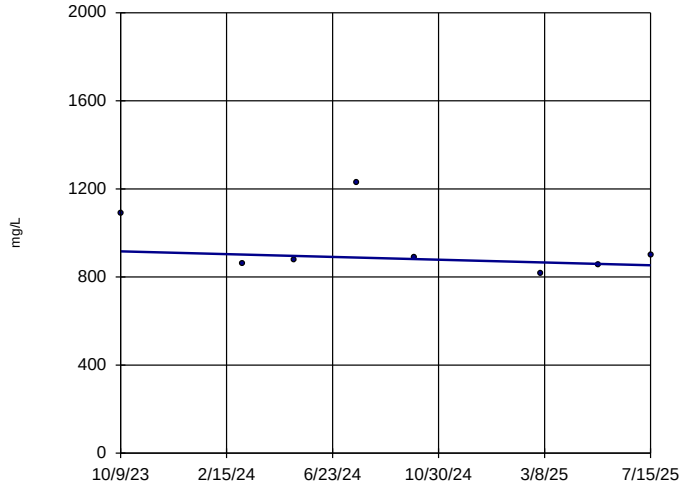
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Total Dissolved Solids

MW-53R



n = 8

Slope = -35.87 units per year.

Mann-Kendall statistic = -4 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

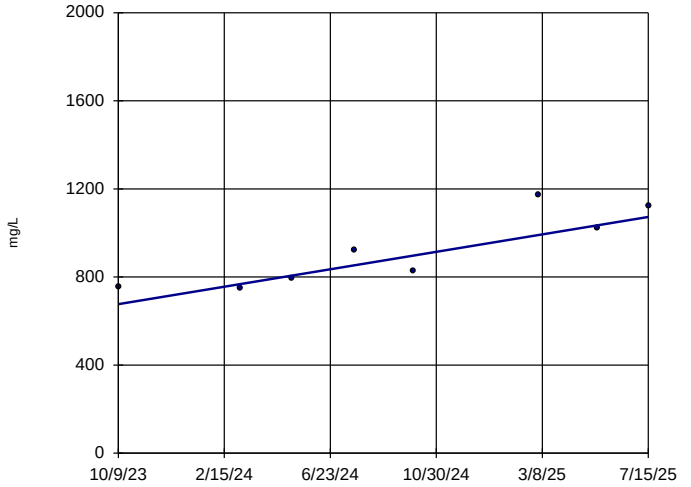
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Total Dissolved Solids

MW-54R



n = 8

Slope = 224.3 units per year.

Mann-Kendall statistic = 20 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

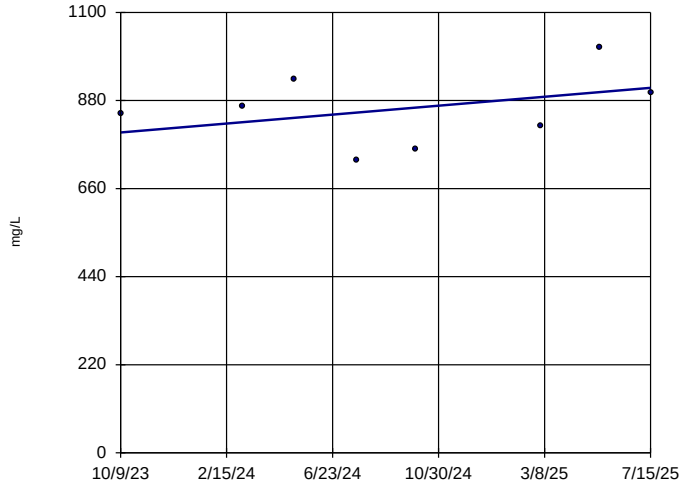
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Total Dissolved Solids

MW-55



n = 8

Slope = 63.03 units per year.

Mann-Kendall statistic = 6 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

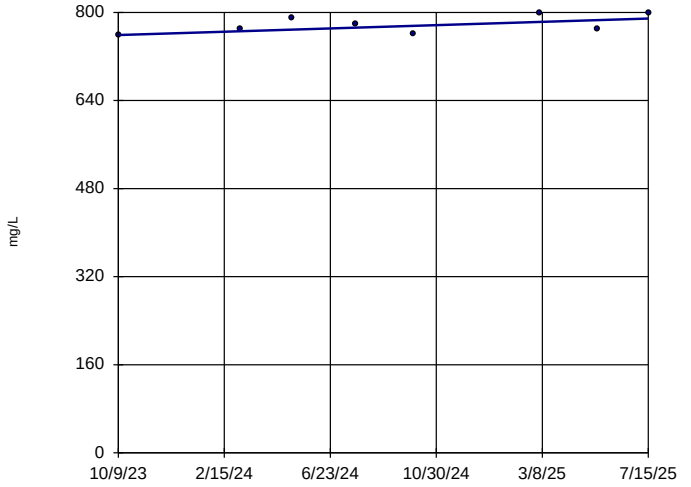
Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. EPA

Total Dissolved Solids

OW-57ROUT



n = 8

Slope = 16.95 units per year.

Mann-Kendall statistic = 13 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 9/11/2025 8:58 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Appendix D
Assessment Monitoring and GSI Statistical Evaluation

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Technical Memorandum

Date:	October 13, 2025
To:	J.R. Register, Consumers Energy
From:	Darby Litz, TRC Kristin Lowery, TRC
Project No.:	634698.0000 Phase 002, Task 002
Subject:	Assessment Monitoring and GSI Statistical Evaluation of the Third Quarter 2025 Sampling Event JC Weadock Landfill, Consumers Energy Company, Essexville, Michigan

During the statistical evaluation of the initial assessment monitoring event (May 2018) for the JC Weadock Power Plant Landfill, arsenic was present in one or more downgradient monitoring wells at statistically significant levels exceeding the Groundwater Protection Standard (GWPS). Therefore, Consumers Energy Company (Consumers Energy) initiated an Assessment of Corrective Measures (ACM) within 90 days from when the Appendix IV exceedance was determined. The ACM was completed on September 11, 2019.

Currently, Consumers Energy is continuing semiannual assessment monitoring in accordance with §257.95 of the CCR Rule[1] at the JC Weadock Power Plant Landfill and quarterly groundwater monitoring in accordance with the February 2021 Weadock Landfill Hydrogeological Monitoring Plan (HMP). In accordance with §257.95 and the HMP, the assessment monitoring data must be compared to GWPSs to determine whether or not Appendix III and Appendix IV constituents, and additional Michigan Part 115 (as amended by PA 640) Section 11511a(3) and Section 11519b(2) constituents, are detected at statistically significant levels above the GWPSs. GWPSs were established in accordance with §257.95(h) and Part 115, as detailed in the April 23, 2021 Groundwater Protection Standards technical memorandum, which was also included in the First Quarter 2021 Hydrogeological Monitoring Report[2]. In accordance with the HMP, groundwater monitoring data from the designated groundwater-surface water interface (GSI) monitoring wells must be also compared to the GSI criteria to determine whether or not the GSI monitoring constituents are detected at statistically significant levels above the GSI criteria.

The statistical evaluation of the third quarter 2025 assessment monitoring event data indicates that the following constituents are present at statistically significant levels above the GWPSs in downgradient monitoring wells at the Weadock Landfill:

[1] USEPA final rule for the regulation and management of Coal Combustion Residuals (CCR) under the Resource Conservation and Recovery Act (RCRA) published April 17, 2015, as amended per Phase One, Part One of the CCR Rule (83 FR 36435).

[2] TRC. 2021. *First Quarter 2021 Hydrogeological Monitoring Report – JC Weadock Solid Waste Disposal Area, Essexville, Michigan.* Prepared for Consumers Energy Company. April.

Constituent	GWPS	#Downgradient Wells Exceeded
Boron	560 µg/L	11 of 12
Calcium	280 mg/L	1 of 12
Sulfate	780 mg/L	1 of 12

Corrective action has been triggered as a result of data collected during the initial assessment monitoring event. Consumers Energy will continue to evaluate corrective measures per §257.96 and §257.97 and execute the self-implementing groundwater compliance schedule in conformance with §257.90 - §257.98.

The statistical evaluation found that **no constituents were present at statistically significant levels exceeding the site-specific GSI criteria**.

Statistical Evaluation Procedures

Following each quarterly sampling event, compliance well data for the Weadock Landfill are evaluated in accordance with the Assessment Monitoring Statistical Data Evaluation and GSI Data Evaluation procedures in the HMP. The assessment monitoring and GSI monitoring programs were developed to evaluate concentrations of constituents present in the uppermost aquifer relative to acceptable levels (i.e., GWPSs or GSI criteria). To evaluate whether or not a criterion exceedance is statistically significant, the difference in concentration observed at the downgradient wells during a given monitoring event compared to the applicable criterion must be large enough, after accounting for variability in the sample data, that the result is unlikely to have occurred merely by chance. Consistent with the Unified Guidance [3], the preferred method for comparisons to a fixed standard is confidence limits. Based on the number of historical observations in the representative sample population, the sample mean, the sample standard deviation, and a selected confidence level (i.e., 99 percent), upper and lower confidence limits are calculated. The population mean concentration, with 99 percent confidence, will fall between the lower and upper confidence limits.

The concentrations observed in the downgradient wells are deemed to be a statistically significant exceedance when the 99 percent lower confidence limit of the downgradient data exceeds the criterion. If the confidence interval straddles the criterion (i.e., the lower confidence level is below the criterion, but the upper confidence level is above), the statistical test result indicates that there is insufficient confidence that the measured concentrations are greater than the criterion and thus no compelling evidence that the measured concentration is a result of a release from the CCR unit versus the inherent variability of the sample data. This statistical approach is consistent with the statistical methods for assessment monitoring presented in §257.93(f) and (g). Statistical evaluation methodologies built into the CCR Rule and Part 115 and numerous other federal rules are key in determining whether or not individually measured data points represent a concentration increase over the baseline or a fixed standard (such as a GWPS in an assessment monitoring program).

[3] USEPA. 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance*. Office of Conservation and Recovery. EPA 530/R-09-007.

For each detected constituent, the concentrations for each well were first compared directly to the GWPS, as shown on Table 1, or the GSI criteria, as shown on Table 2. Parameter-well combinations that included a direct exceedance of the criteria within the most recent two years of sampling events (eight quarterly sampling events, October 2023 through July 2025) were retained for further analysis.

Groundwater data were evaluated utilizing Sanitas™ statistical software. Sanitas™ is a software tool that is commercially available for performing statistical evaluation consistent with procedures outlined in the Unified Guidance. Within the Sanitas™ statistical program, confidence limits were used to perform the statistical comparison of compliance data to a fixed standard. Parametric and non-parametric confidence intervals were calculated for each parameter with a direct exceedance using a per test[4] 99 percent confidence level, i.e., a significance level (α) of 0.01. The following narrative describes the methods employed, the results obtained and the Sanitas™ output files are included as an attachment.

The statistical data evaluation included the following steps:

- Review of data quality checklists for the data sets;
- Graphical representation of the monitoring data as time versus concentration by well/constituent pair;
- Outlier testing of individual data points that appear from the graphical representations as potential outliers;
- Evaluation of visual trends apparent in the graphical representations for statistical significance;
- Evaluation of percentage of non-detects for each well-constituent pair;
- Distribution of the data; and
- Calculation of the confidence intervals for each cumulative dataset.

The results of these evaluations are presented and discussed below.

Data from each round were evaluated for completeness, overall quality, and usability and were deemed appropriate for the purposes of the assessment and GSI monitoring programs. Initially, the results were observed visually for potential outliers. No outliers were identified in the data set, with the possible exception of JCW-MW-18004. Results for multiple metals at JCW-MW-18004 in May 2025 were notably higher than historical results, e.g. chromium, lead, vanadium. The data quality review noted potential blank contamination for boron at JCW-MW-18004 but no concerns with the remainder of the results. Field documents note that the well ran dry during purging and was slow to recharge, which may have contributed to the anomalous results. Metals results from July 2025 at JCW-MW-18004 returned to levels consistent with prior samples, although the well ran dry again. The May 2025 results for JCW-MW-18004 appear to represent a short-lived, local condition. These data have been kept in the dataset for statistical evaluation, but are qualified as anomalous.

The Sanitas™ software was then used to test compliance at the downgradient monitoring wells using the confidence interval method for the most recent eight sampling events. Non-detect data was handled in accordance with the HMP for the purposes of calculating the confidence intervals.

[4] Confidence level is assessed for each individual comparison (i.e., per well and per constituent).

The Sanitas™ software generates an output that includes graphs of the parametric or non-parametric confidence intervals for each well along with notes on data transformations, as appropriate.

Assessment Monitoring Statistical Evaluation

The assessment monitoring statistical evaluation is performed on the downgradient monitoring wells in accordance with the HMP. The downgradient monitoring wells include:

- JCW-MW-18001
- JCW-MW-18004
- JCW-MW-18005
- JCW-MW-18006
- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- OW-57R Out

The concentrations from each well were first compared directly to the GWPS, as shown on Table 1. Constituent-well combinations that included a direct exceedance of the GWPS within the past eight monitoring events were retained for further analysis (Attachment 1). Direct comparison GWPS exceedances include the following constituent well combinations:

- Boron in MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, OW-57R OUT, JCW-MW-18001, JCW-MW-18005, and JCW-MW-18006;
- Calcium in JCW-MW-18001 and JCW-MW-18005;
- Sulfate in JCW-MW-18001;
- Arsenic in MW-55, MW-51, JCW-MW-18001, and JCW-MW-18006;
- Lead in JCW-MW-18004; and
- Vanadium in JCW-MW-18004.

The purpose of assessment monitoring is to assess whether constituent concentrations in groundwater from prior operations are above a risk-based standard (i.e. GWPS). As detailed in the Alternate Source Demonstration (Fourth Quarter 2024 Hydrogeological Monitoring Report for the Weadock Landfill, TRC, January 2025), the arsenic concentrations at MW-55 are not the result of a release from the unit; therefore, comparison of these concentrations to the GWPS is not appropriate and assessment monitoring confidence intervals were not calculated.

The software outputs for the assessment monitoring data evaluation are included in Attachment 1 along with data reports showing the values used for the evaluation. The percentage of non-detect observations are also included in Attachment 1. Visual trends were apparent in multiple wells for arsenic, boron, calcium, and sulfate. These data sets were tested further in Sanitas™ utilizing Sen's Slope to estimate the average rate of change in concentration over time and utilizing the Mann-Kendall trend test to test for significance of the trend at the 98% confidence level. The trend tests show that there are no statistically significant trends (Attachment 1).

The Sanitas™ software generates an output that includes graphs of the confidence bands and parametric or non-parametric confidence intervals for each well along with notes on data transformations, as appropriate. The data distributions are as follows:

Distribution	Constituent-Well Combinations
Normal	Arsenic at JCW-MW-18006 and MW-51 Boron at JCW-MW-18005, JCW-MW-18006, MW-50, MW-51, MW-52, MW-53, MW-53R, and MW-54R Calcium at JCW-MW-18001
Lognormal	Boron at JCW-MW-18001
Normalized by power transformation	Boron at MW-55 (2^{nd} power) Sulfate at JCW-MW-18001 (2^{nd} power) Arsenic at JCW-MW-18001 (1/3 power)
Not normal (non-parametric test used)	Boron at OW-57R OUT Calcium at JCW-MW-18005 Lead at JCW-MW-18004 (non-detects) Vanadium at JCW-MW-18004 (non-detects)

The interval tests compare the lower confidence limit to the GWPS. Statistically significant exceedances of the GWPS were noted for boron at JCW-MW-18001, JCW-MW-18005, JCW-MW-18006, MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, and OW-57R OUT, calcium at JCW-MW-18001, and sulfate at JCW-MW-18001. Boron concentrations have been consistently above the GWPS since monitoring under the Weadock Landfill HMP began in first quarter 2021. Calcium at JCW-MW-18001 was a confirmed GWPS exceedance in first quarter 2023 resulting from increases in calcium concentration beginning in first quarter 2021. No trend in calcium concentrations was observed at JCW-MW-18001 as of second quarter 2024. Sulfate at JCW-MW-18001 was a confirmed GWPS exceedance in second quarter 2023 resulting from increases in sulfate concentrations. As noted in the Alternate Source Demonstration (Second Quarter 2025 Hydrogeological Monitoring Report for the Weadock Landfill, TRC, July 2025), multiple lines of evidence indicate that the increases in calcium and sulfate concentrations are not a result of a change in flux from the landfill and is instead the result of changing groundwater conditions outside the slurry wall.

Corrective action has been triggered for the site as a result of data collected during the initial May 2018 assessment monitoring event. Consumers Energy will continue to evaluate corrective measures per §257.96 and §257.97 and will continue executing the self-implementing groundwater compliance schedule in conformance with §257.90 - §257.98.

GSI Statistical Evaluation

Eight monitoring wells located along the surface water features adjacent to the Weadock Landfill are included in the GSI monitoring program to meet the requirements of Part 31:

- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- JCW-MW-18004

The concentrations from each well were first compared directly to the GSI criteria, as shown on Table 2. Constituent-well combinations that included a direct exceedance of the GSI criteria within the past eight monitoring events were retained for further analysis (Attachment 2). Direct comparison GSI exceedances include the following constituent well combination:

- Chromium at JCW-MW-18004.

The software outputs for the assessment monitoring data evaluation are included in Attachment 1 along with data reports showing the values used for the evaluation. The Sanitas™ software generates an output that includes graphs of the confidence bands and parametric or non-parametric confidence intervals for each well along with notes on data transformations, as appropriate. The data distributions are as follows:

Distribution	Constituent-Well Combinations
Not normal (non-parametric test used)	Chromium at JCW-MW-18004

The confidence interval evaluation shows that no constituents are present at statistically significant concentrations above the GSI criteria.

Attachments

Table 1 Comparison of Groundwater Sampling Results to Groundwater Protection Standards
Table 2 Comparison of Groundwater Sampling Results to GSI

Attachment 1 Assessment Monitoring Sanitas™ Output Files
Attachment 2 GSI Sanitas™ Output Files

Tables

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-50													
		Sample Date:	10/9/2023	10/9/2023	3/5/2024	3/5/2024	5/7/2024	5/7/2024	7/23/2024	7/23/2024	10/1/2024	10/1/2024	3/4/2025	3/4/2025	5/13/2025	7/15/2025
Constituent	Unit	GWPS														
Appendix III[1]				Field Dup		Field Dup		Field Dup		Field Dup		Field Dup		Field Dup		
Boron	ug/L	**560**	**2,070**	**2,060**	**2,170**	**2,140**	**2,070**	**2,020**	**2,100**	**2,180**	**2,550**	**2,450**	**2,920**	**2,950**	**2,830**	**3,200**
Calcium	mg/L	**280**	205	206	199	196	184	191	175	175	184	193	191	189	191	187
Chloride	mg/L	2,300	37.6	37.0	40.1	38.6	37.1	38.1	34.9	36.7	33.9	36.4	46.7	46.6	52.2	53.1
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	470	472	449	448	425	421	403	410	423	422	337	332	326	272
Total Dissolved Solids	mg/L	4,700	1,170	1,190	1,180	1,190	1,250	1,160	1,190	1,140	1,100	1,120	1,140	1,130	1,110	1,040
pH, Field	SU	6.5 - 8.5	7.0	--	7.5	--	7.5	--	7.6	--	7.6	--	7.8	--	7.5	7.4
Appendix IV[1]																
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	3	3	3	3	3	3	4	4	5	5	4	4	3	5
Barium	ug/L	2,000	135	136	187	179	176	180	188	192	211	215	200	198	209	200
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	59	59	69	68	61	62	62	61	56	58	66	65	68	68
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	6	6	5	5	6	6	6	6	5	5	< 5	< 5
Radium-226	pCi/L	NA	0.291	0.320	--	--	0.270	0.349	--	--	0.355	0.353	--	--	< 0.327	--
Radium-228	pCi/L	NA	1.15	1.46	--	--	1.47	1.38	--	--	< 0.773	1.41	--	--	0.893	--
Radium-226/228	pCi/L	5.0	1.44	1.78	--	--	1.20	1.03	--	--	1.10	1.77	--	--	1.08	--
Selenium	ug/L	50	< 1	2	3	3	1	2	1	2	2	2	2	2	2	3
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]																
Iron	ug/L	28,000	2,300	2,340	889	930	834	817	1,530	1,610	1,930	2,120	707	682	638	1,360
Copper	ug/L	1,000	1	1	1	1	2	2	2	3	1	< 1	2	2	2	1
Nickel	ug/L	100	< 2	2	8	8	< 2	< 2	7	8	3	3	3	5	< 2	9
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-51								
		Sample Date:	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	7/15/2025	7/15/2025
Constituent	Unit	GWPS									
Appendix III[1]											Field Dup
Boron	ug/L	**560**	**1,170**	**935**	**798**	**862**	**1,070**	**1,020**	**938**	**897**	**913**
Calcium	mg/L	**280**	132	132	128	114	134	165	161	161	158
Chloride	mg/L	2,300	91.6	78.3	79.9	81.5	78.8	63.3	64.0	62.4	61.4
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	267	266	262	283	285	432	445	437	439
Total Dissolved Solids	mg/L	4,700	952	902	958	940	916	1,190	1,190	1,150	1,190
pH, Field	SU	6.5 - 8.5	7.2	7.4	7.4	7.5	7.7	7.7	7.3	7.2	--
Appendix IV[1]											
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	18	10	13	19	**27**	12	13	19	19
Barium	ug/L	2,000	141	127	117	123	130	143	143	147	153
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	34	31	28	28	25	27	32	28	28
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	0.285	--	0.181	--	0.223	--	< 0.280	--	--
Radium-228	pCi/L	NA	1.23	--	0.863	--	1.40	--	0.92	--	--
Radium-226/228	pCi/L	5.0	1.52	--	0.681	--	1.62	--	0.999	--	--
Selenium	ug/L	50	< 1	1	< 1	1	< 1	2	2	3	4
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]											
Iron	ug/L	28,000	1,660	446	760	1,490	2,740	1,330	816	2,020	2,010
Copper	ug/L	1,000	2	1	1	1	1	1	2	1	1
Nickel	ug/L	100	< 2	< 2	3	6	4	3	< 2	8	8
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	2	2	2	2	< 2	< 2	2	2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-52								
		Sample Date:	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	5/13/2025	7/15/2025
Constituent	Unit	GWPS								Field Dup	
Appendix III[1]											
Boron	ug/L	**560**	**1,140**	**945**	**895**	**909**	**1,220**	**894**	**752**	**759**	**837**
Calcium	mg/L	**280**	234	237	236	233	251	253	229	231	244
Chloride	mg/L	2,300	30.2	33.8	33.3	30.1	37.2	43.0	46.9	47.0	42.7
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	572	540	550	542	522	449	446	415	480
Total Dissolved Solids	mg/L	4,700	1,440	1,380	1,430	1,470	1,330	1,350	1,280	1,270	1,370
pH, Field	SU	6.5 - 8.5	6.8	7.0	7.0	7.0	7.1	7.2	6.9	--	6.7
Appendix IV[1]											
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Barium	ug/L	2,000	108	94	91	88	93	77	74	76	89
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	27	27	29	29	27	30	34	33	29
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	0.444	--	0.162	--	0.149	--	< 0.315	< 0.301	--
Radium-228	pCi/L	NA	1.64	--	1.19	--	0.706	--	0.507	1.19	--
Radium-226/228	pCi/L	5.0	2.08	--	1.03	--	0.855	--	0.563	1.35	--
Selenium	ug/L	50	< 1	2	1	1	3	2	1	2	3
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]											
Iron	ug/L	28,000	7,560	3,120	3,680	7,290	8,450	3,350	2,700	2,810	6,760
Copper	ug/L	1,000	1	2	2	2	3	1	2	2	2
Nickel	ug/L	100	< 2	< 2	< 2	6	< 2	< 2	< 2	< 2	12
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-53							
		Sample Date:	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	7/15/2025
Constituent	Unit	GWPS								
Appendix III[1]										
Boron	ug/L	**560**	**5,530**	**5,740**	**6,110**	**6,960**	**6,380**	**5,010**	**4,680**	**5,600**
Calcium	mg/L	**280**	136	134	134	130	100	135	122	104
Chloride	mg/L	2,300	77.4	77.4	89.3	115	61.6	77.3	78.5	86.2
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	2.28	25.4	1.53	< 1.00	25.9	107	102	3.64
Total Dissolved Solids	mg/L	4,700	722	694	942	806	588	790	784	606
pH, Field	SU	6.5 - 8.5	7.3	7.5	7.5	7.5	7.8	7.8	7.4	7.4
Appendix IV[1]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	1	1	1	2	1	1	< 1	1
Barium	ug/L	2,000	719	654	582	581	386	578	541	411
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	42	50	50	57	40	40	44	42
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	0.679	--	0.561	--	0.572	--	0.547	--
Radium-228	pCi/L	NA	1.72	--	1.81	--	0.913	--	1.2	--
Radium-226/228	pCi/L	5.0	2.40	--	1.25	--	1.48	--	1.74	--
Selenium	ug/L	50	2	3	2	4	3	3	3	3
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]										
Iron	ug/L	28,000	1,080	947	665	1,110	518	521	475	502
Copper	ug/L	1,000	< 1	1	2	1	< 1	< 1	< 1	< 1
Nickel	ug/L	100	< 2	< 2	< 2	6	< 2	3	< 2	5
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	2	< 2	2	< 2	< 2	< 2	3
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-53R							
		Sample Date:	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	7/15/2025
Constituent	Unit	GWPS								
Appendix III[(1)]										
Boron	ug/L	**560**	**2,420**	**2,300**	**2,200**	**1,880**	**2,830**	**3,100**	**3,160**	**3,220**
Calcium	mg/L	**280**	206	173	166	189	181	159	159	170
Chloride	mg/L	2,300	35.5	34.7	32.5	40.0	42.5	67.2	75.5	81.0
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	221	53.2	47.6	291	126	71.5	97.0	123
Total Dissolved Solids	mg/L	4,700	1,090	862	880	1,230	890	814	856	900
pH, Field	SU	6.5 - 8.5	7.0	7.0	7.1	7.2	7.3	7.3	7.0	6.9
Appendix IV[(1)]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	16	9	10	8	16	15	16	14
Barium	ug/L	2,000	110	165	164	132	128	136	165	160
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	1	< 1	< 1	< 1	< 1	1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	61	56	53	62	56	54	56	54
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	0.174	--	0.155	--	0.184	--	< 0.574	--
Radium-228	pCi/L	NA	0.968	--	0.674	--	< 0.632	--	< 1.24	--
Radium-226/228	pCi/L	5.0	1.14	--	0.567	--	0.702	--	< 1.24	--
Selenium	ug/L	50	1	2	1	2	2	3	3	5
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[(2)]										
Iron	ug/L	28,000	834	752	761	280	975	1,290	998	575
Copper	ug/L	1,000	1	2	1	2	1	< 1	2	2
Nickel	ug/L	100	< 2	< 2	< 2	8	< 2	4	< 2	9
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	3
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
pCi/L - picocuries per liter.
-- - not analyzed.
GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.
Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.
All metals were analyzed as total unless otherwise specified.
(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.
(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.
(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-54R							
		Sample Date:	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/2/2024	3/4/2025	5/14/2025	7/15/2025
Constituent	Unit	GWPS								
Appendix III[(1)]										
Boron	ug/L	**560**	**5,520**	**5,940**	**5,580**	**6,930**	**8,080**	**7,610**	**6,710**	**6,920**
Calcium	mg/L	**280**	165	170	161	153	177	214	174	197
Chloride	mg/L	2,300	45.0	61.7	56.9	75.4	86.2	136	102	115
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	1,230	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	67.4	48.6	51.3	60.4	79.8	229	201	211
Total Dissolved Solids	mg/L	4,700	756	752	792	924	826	1,170	1,020	1,120
pH, Field	SU	6.5 - 8.5	7.0	7.0	7.2	7.2	7.0	7.4	7.0	6.9
Appendix IV[(1)]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	1	1	1	1	2	2	2	3
Barium	ug/L	2,000	113	97	83	90	100	96	100	113
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	1	< 1	1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	1,230	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	70	76	73	83	83	93	98	100
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	17	15	18	17	17	20	24	25
Radium-226	pCi/L	NA	0.160	--	0.180	--	0.213	--	< 0.349	--
Radium-228	pCi/L	NA	1.38	--	0.829	--	< 0.588	--	< 0.491	--
Radium-226/228	pCi/L	5.0	1.54	--	0.829	--	0.639	--	< 0.491	--
Selenium	ug/L	50	1	3	2	4	5	6	4	7
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[(2)]										
Iron	ug/L	28,000	829	159	87	59	137	579	150	29
Copper	ug/L	1,000	2	2	3	2	2	1	2	2
Nickel	ug/L	100	2	< 2	< 2	7	3	8	< 2	11
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	2	< 2	3
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
pCi/L - picocuries per liter.
-- - not analyzed.
GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.
Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.
All metals were analyzed as total unless otherwise specified.
(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.
(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.
(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-55									
		Sample Date:	10/9/2023	3/5/2024	5/8/2024	7/23/2024	10/2/2024	10/2/2024	3/4/2025	5/14/2025	5/13/2025	7/15/2025
Constituent	Unit	GWPS										
Appendix III[1]								Field Dup			Field Dup	
Boron	ug/L	**560**	**1,200**	**825**	**729**	**1,270**	**1,130**	**1,090**	**1,270**	**1,270**	**1,250**	**1,060**
Calcium	mg/L	**280**	163	166	161	117	150	156	162	190	187	172
Chloride	mg/L	2,300	16.7	18.3	17.3	21.8	23.0	23.3	20.2	16.7	16.9	15.1
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	156	224	236	60.2	117	117	98.1	334	333	252
Total Dissolved Solids	mg/L	4,700	846	866	934	730	756	758	818	984	1,040	898
pH, Field	SU	6.5 - 8.5	7.0	6.9	6.9	7.4	7.2	--	7.4	7.0	--	6.9
Appendix IV[1]												
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	**75**	**46**	**39**	**45**	**54**	**56**	13	18	17	**23**
Barium	ug/L	2,000	248	260	235	186	222	218	202	214	218	200
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	26	26	26	29	25	26	24	24	23	25
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	56	27	25	25	44	44	22	21	21	22
Radium-226	pCi/L	NA	0.406	--	0.137	--	0.274	--	--	< 0.403	--	--
Radium-228	pCi/L	NA	1.26	--	1.11	--	< 0.899	--	--	< 0.485	--	--
Radium-226/228	pCi/L	5.0	1.67	--	0.971	--	< 0.899	--	--	< 0.485	--	--
Selenium	ug/L	50	1	1	4	1	1	< 1	5	5	5	12
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]												
Iron	ug/L	28,000	16,800	18,700	14,700	12,300	12,600	13,800	8,950	13,100	12,700	12,400
Copper	ug/L	1,000	< 1	1	1	1	< 1	< 1	1	2	2	1
Nickel	ug/L	100	3	< 2	6	4	4	4	5	6	7	8
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
pCi/L - picocuries per liter.
-- - not analyzed.
GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.
Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.
All metals were analyzed as total unless otherwise specified.
(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.
(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.
(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	OW-57R OUT								
		Sample Date:	10/9/2023	3/6/2024	5/8/2024	7/24/2024	7/24/2024	10/2/2024	3/5/2025	5/14/2025	7/15/2025
Constituent	Unit	GWPS									
Appendix III[1]							Field Dup				
Boron	ug/L	**560**	**1,790**	**1,810**	**1,700**	**1,690**	**1,730**	**2,070**	**2,070**	**1,830**	**1,770**
Calcium	mg/L	**280**	120	123	119	120	120	138	130	122	138
Chloride	mg/L	2,300	50.6	68.1	72.3	65.9	68.6	73.3	84.7	90.1	81.2
Fluoride	ug/L	4,000	< 1,000	1,230	1,090	1,100	1,140	1,510	< 1,000	1,080	< 1,000
Sulfate	mg/L	**780**	94.8	79.3	77.6	75.5	78.3	83.4	68.1	66.4	63.7
Total Dissolved Solids	mg/L	4,700	758	770	790	760	796	762	798	770	800
pH, Field	SU	6.5 - 8.5	7.0	7.2	7.2	7.0	--	7.2	7.4	7.0	6.9
Appendix IV[1]											
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	1	1	2	2	2	1	1	6
Barium	ug/L	2,000	77	81	75	78	77	83	73	82	85
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	1,230	1,090	1,100	1,140	1,510	< 1,000	1,080	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	23	28	26	25	25	24	26	28	27
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	7	6	6	7	7	7	6	6	7
Radium-226	pCi/L	NA	< 0.155	--	0.115	--	--	0.163	--	< 0.295	--
Radium-228	pCi/L	NA	0.586	--	0.845	--	--	< 0.543	--	< 0.641	--
Radium-226/228	pCi/L	5.0	0.680	--	0.731	--	--	0.570	--	< 0.641	--
Selenium	ug/L	50	< 1	< 1	1	1	2	1	1	2	4
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]											
Iron	ug/L	28,000	40	44	94	77	85	67	< 20	32	362
Copper	ug/L	1,000	2	2	2	2	2	2	2	1	2
Nickel	ug/L	100	15	12	15	18	17	15	15	10	18
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	3
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18001							
		Sample Date:	10/5/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	7/14/2025
Constituent	Unit	GWPS								
Appendix III[(1)]										
Boron	ug/L	**560**	**1,620**	**1,420**	**1,330**	**1,370**	**1,310**	**1,610**	**1,540**	**1,330**
Calcium	mg/L	**280**	**562**	**557**	**537**	**526**	**474**	**405**	**509**	**479**
Chloride	mg/L	2,300	51.1	44.7	44.5	45.0	50.3	61.4	47.8	43.8
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	**1,890**	**1,880**	**1,790**	**1,810**	**1,770**	**1,460**	**1,830**	**1,630**
Total Dissolved Solids	mg/L	4,700	3,430	3,450	3,370	3,530	3,210	2,960	3,450	3,140
pH, Field	SU	6.5 - 8.5	6.5	6.8	6.8	6.9	7.0	7.3	6.8	6.7
Appendix IV[(1)]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	1	< 1	2	2	2	**30**	7	8
Barium	ug/L	2,000	48	49	46	50	66	60	45	61
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	110	106	102	107	90	90	110	98
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	< 0.139	--	0.124	--	0.158	--	< 0.390	--
Radium-228	pCi/L	NA	0.783	--	0.525	--	< 0.430	--	< 0.500	--
Radium-226/228	pCi/L	5.0	0.886	--	0.506	--	< 0.430	--	< 0.500	--
Selenium	ug/L	50	1	2	2	2	2	2	3	3
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[(2)]										
Iron	ug/L	28,000	3,840	3,570	2,630	3,080	1,540	686	2,270	1,930
Copper	ug/L	1,000	2	3	4	5	2	2	4	3
Nickel	ug/L	100	3	14	4	13	5	12	18	22
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	3	2	2	< 2	3	3	3
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	11

Notes:

ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
pCi/L - picocuries per liter.
-- - not analyzed.
GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.
Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.
All metals were analyzed as total unless otherwise specified.
(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.
(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.
(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18004							
		Sample Date:	10/9/2023	3/5/2024	5/8/2024	7/23/2024	10/2/2024	3/4/2025	5/14/2025[3]	7/15/2025
Constituent	Unit	GWPS								
Appendix III[1]										
Boron	ug/L	**560**	319	192	206	308	412	269	165	309
Calcium	mg/L	**280**	218	238	213	205	207	211	229	219
Chloride	mg/L	2,300	15.8	16.9	14.3	12.6	14.1	17.0	10.4	13.9
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	466	557	484	446	444	460	441	489
Total Dissolved Solids	mg/L	4,700	1,160	1,250	1,130	1,130	1,080	1,150	1,130	1,140
pH, Field	SU	6.5 - 8.5	7.0	7.0	6.9	7.3	7.0	7.5	7.0	6.9
Appendix IV[1]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	< 1	< 1	< 1	< 1	< 1	4	< 1
Barium	ug/L	2,000	34	26	26	29	34	27	114	29
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	1	< 1	< 1	2	< 1	19	3
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	**9**	< 1
Lithium	ug/L	180	49	43	43	50	46	26	43	44
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	< 0.155	--	0.102	--	0.120	--	< 0.505	--
Radium-228	pCi/L	NA	1.24	--	0.672	--	< 0.656	--	< 1.11	--
Radium-226/228	pCi/L	5.0	1.30	--	0.672	--	< 0.656	--	< 1.11	--
Selenium	ug/L	50	< 1	4	4	< 1	1	2	13	1
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]										
Iron	ug/L	28,000	36	98	73	41	36	398	7,970	509
Copper	ug/L	1,000	2	2	2	2	2	2	10	2
Nickel	ug/L	100	< 2	< 2	< 2	4	< 2	4	23	14
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	**23**	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	25	20

Notes:

ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
pCi/L - picocuries per liter.
-- - not analyzed.
GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.
Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.
All metals were analyzed as total unless otherwise specified.
(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.
(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.
(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18005							
		Sample Date:	10/9/2023	3/6/2024	5/8/2024	7/23/2024	10/2/2024	3/5/2025	5/14/2025	7/15/2025
Constituent	Unit	GWPS								
Appendix III[(1)]										
Boron	ug/L	**560**	**1,470**	**1,000**	**960**	**1,460**	**1,930**	**1,740**	**1,080**	**1,520**
Calcium	mg/L	**280**	159	**335**	**302**	164	162	159	248	172
Chloride	mg/L	2,300	48.1	23.3	22.1	49.2	51.8	46.4	18.9	41.9
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	1,400	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	154	512	475	156	142	141	362	175
Total Dissolved Solids	mg/L	4,700	884	1,400	1,390	884	866	854	1,100	904
pH, Field	SU	6.5 - 8.5	6.9	6.7	6.8	7.2	7.2	7.1	6.8	7.0
Appendix IV[(1)]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	1	3	4	2	2	2	6	1
Barium	ug/L	2,000	74	136	127	67	71	77	98	82
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	< 1	< 1	< 1	2	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	1,400	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	3	< 1	< 1
Lithium	ug/L	180	32	43	41	34	31	29	37	33
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	5	6	5
Radium-226	pCi/L	NA	0.221	--	0.165	--	0.169	--	< 0.328	--
Radium-228	pCi/L	NA	1.17	--	1.23	--	< 0.640	--	< 0.542	--
Radium-226/228	pCi/L	5.0	1.39	--	1.07	--	< 0.640	--	0.648	--
Selenium	ug/L	50	1	2	< 1	2	2	2	8	4
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[(2)]										
Iron	ug/L	28,000	948	4,020	6,550	1,890	1,930	750	2,490	80
Copper	ug/L	1,000	1	7	2	2	< 1	2	3	2
Nickel	ug/L	100	9	< 2	< 2	11	7	9	< 2	15
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	3	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
pCi/L - picocuries per liter.
-- - not analyzed.
GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.
Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.
All metals were analyzed as total unless otherwise specified.
(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.
(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.
(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18006												
		Sample Date:	10/9/2023	10/9/2023	3/6/2024	3/6/2024	5/8/2024	5/8/2024	7/24/2024	10/2/2024	3/5/2025	3/5/2025	5/14/2025	7/15/2025	7/15/2025
Constituent	Unit	GWPS													
Appendix III[1]				Field Dup		Field Dup		Field Dup				Field Dup			Field Dup
Boron	ug/L	**560**	**2,280**	**2,470**	**2,650**	**2,700**	**2,740**	**2,830**	**2,490**	**3,240**	**2,800**	**2,880**	**2,970**	**2,660**	**2,760**
Calcium	mg/L	**280**	117	119	137	136	148	150	123	126	122	120	125	122	121
Chloride	mg/L	2,300	72.3	71.1	61.3	64.7	49.2	52.0	57.3	61.6	70.2	70.4	64.6	68.9	69.4
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	46.9	47.6	69.7	71.6	122	129	75.5	65.4	42.4	45.3	64.3	66.4	68.5
Total Dissolved Solids	mg/L	4,700	738	748	748	776	864	878	782	732	706	712	774	754	774
pH, Field	SU	6.5 - 8.5	7.0	--	7.0	--	7.1	--	7.0	7.2	7.3	--	7.0	6.9	--
Appendix IV[1]															
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	17	18	**22**	**23**	**29**	**29**	**23**	**27**	**22**	**23**	**25**	**26**	**26**
Barium	ug/L	2,000	342	381	445	464	390	387	412	468	417	408	354	363	359
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	37	39	52	54	59	61	49	48	43	43	55	50	52
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	0.506	0.431	--	--	0.218	0.280	--	0.520	--	--	< 0.339	--	--
Radium-228	pCi/L	NA	0.783	1.39	--	--	0.919	0.528	--	0.768	--	--	0.969	--	--
Radium-226/228	pCi/L	5.0	1.29	1.82	--	--	0.919	0.528	--	1.29	--	--	1.12	--	--
Selenium	ug/L	50	< 1	1	3	3	< 1	1	2	2	2	2	< 1	4	4
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]															
Iron	ug/L	28,000	5,660	5,930	7,970	7,890	10,400	10,800	8,650	9,050	7,350	7,290	7,490	7,620	7,490
Copper	ug/L	1,000	< 1	1	2	2	1	1	1	2	< 1	< 1	2	1	< 1
Nickel	ug/L	100	< 2	3	5	9	6	6	5	4	5	5	< 2	6	6
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	2	2	4	4	3	3	3	4	3	3	3	4	4
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-50												
						Sample Date:	10/9/2023	10/9/2023	3/5/2024	3/5/2024	5/7/2024	5/7/2024	7/23/2024	7/23/2024	10/1/2024	10/1/2024	3/4/2025	3/4/2025	5/13/2025	7/15/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**			Field Dup		Field Dup		Field Dup		Field Dup		Field Dup		Field Dup		
Appendix III(1)																			
Boron	ug/L	4,000	44,000	69,000	44,000		2,070	2,060	2,170	2,140	2,070	2,020	2,100	2,180	2,550	2,450	2,920	2,950	2,830	3,200
Sulfate	mg/L	1,200[F]	NC	NC	1,200		470	472	449	448	425	421	403	410	423	422	337	332	326	272
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		7.0	--	7.5	--	7.5	--	7.6	--	7.6	--	7.8	--	7.5	7.4
Appendix IV(1)																			
Arsenic	ug/L	10	100	680	100		3	3	3	3	3	3	4	4	5	5	4	4	3	5
Chromium	ug/L	11[H]	NC	NC	**11**		< 1	< 1	1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440		59	59	69	68	61	62	62	61	56	58	66	65	68	68
Molybdenum	ug/L	120	1,320	NC	1,320		< 5	< 5	6	6	5	5	6	6	6	6	5	5	< 5	< 5
Selenium	ug/L	5.0	55	120	55		< 1	2	3	3	1	2	1	2	2	2	2	2	2	3
MI Part 115 Parameters(2)																			
Iron	ug/L	500,000[EE]	NC	NC	500,000		2,300	2,340	889	930	834	817	1,530	1,610	1,930	2,120	707	682	638	1,360
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	MW-51								
					Sample Date:	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	7/15/2025	7/15/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III(1)														Field Dup
Boron	ug/L	4,000	44,000	69,000	44,000	1,170	935	798	862	1,070	1,020	938	897	913
Sulfate	mg/L	1,200[F]	NC	NC	1,200	267	266	262	283	285	432	445	437	439
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0	7.2	7.4	7.4	7.5	7.7	7.7	7.3	7.2	--
Appendix IV(1)														
Arsenic	ug/L	10	100	680	100	18	10	13	19	27	12	13	19	19
Chromium	ug/L	11[H]	NC	NC	**11**	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440	34	31	28	28	25	27	32	28	28
Molybdenum	ug/L	120	1,320	NC	1,320	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55	< 1	1	< 1	1	< 1	2	2	3	4
MI Part 115 Parameters(2)														
Iron	ug/L	500,000[EE]	NC	NC	500,000	1,660	446	760	1,490	2,740	1,330	816	2,020	2,010
Vanadium	ug/L	27	NC	NC	27	< 2	2	2	2	2	< 2	< 2	2	2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	MW-52								
					Sample Date:	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	5/13/2025	7/15/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**								Field Dup	
Appendix III(1)														
Boron	ug/L	4,000	44,000	69,000	44,000	1,140	945	895	909	1,220	894	752	759	837
Sulfate	mg/L	1,200[F]	NC	NC	1,200	572	540	550	542	522	449	446	415	480
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0	6.8	7.0	7.0	7.0	7.1	7.2	6.9	--	6.7
Appendix IV(1)														
Arsenic	ug/L	10	100	680	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chromium	ug/L	11[H]	NC	NC	**11**	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440	27	27	29	29	27	30	34	33	29
Molybdenum	ug/L	120	1,320	NC	1,320	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55	< 1	2	1	1	3	2	1	2	3
MI Part 115 Parameters(2)														
Iron	ug/L	500,000[EE]	NC	NC	500,000	7,560	3,120	3,680	7,290	8,450	3,350	2,700	2,810	6,760
Vanadium	ug/L	27	NC	NC	27	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	MW-53							
					Sample Date:	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	7/15/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**								
Appendix III[(1)]													
Boron	ug/L	4,000	44,000	69,000	44,000	5,530	5,740	6,110	6,960	6,380	5,010	4,680	5,600
Sulfate	mg/L	1,200[F]	NC	NC	1,200	2.28	25.4	1.53	< 1.00	25.9	107	102	3.64
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0	7.3	7.5	7.5	7.5	7.8	7.8	7.4	7.4
Appendix IV[(1)]													
Arsenic	ug/L	10	100	680	100	1	1	1	2	1	1	< 1	1
Chromium	ug/L	11[H]	NC	NC	**11**	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440	42	50	50	57	40	40	44	42
Molybdenum	ug/L	120	1,320	NC	1,320	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55	2	3	2	4	3	3	3	3
MI Part 115 Parameters[(2)]													
Iron	ug/L	500,000[EE]	NC	NC	500,000	1,080	947	665	1,110	518	521	475	502
Vanadium	ug/L	27	NC	NC	27	< 2	2	< 2	2	< 2	< 2	< 2	3

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	MW-53R							
					Sample Date:	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	7/15/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**								
Appendix III[(1)]													
Boron	ug/L	4,000	44,000	69,000	44,000	2,420	2,300	2,200	1,880	2,830	3,100	3,160	3,220
Sulfate	mg/L	1,200[F]	NC	NC	1,200	221	53.2	47.6	291	126	71.5	97.0	123
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0	7.0	7.0	7.1	7.2	7.3	7.3	7.0	6.9
Appendix IV[(1)]													
Arsenic	ug/L	10	100	680	100	16	9	10	8	16	15	16	14
Chromium	ug/L	11[H]	NC	NC	**11**	< 1	1	< 1	< 1	< 1	< 1	1	< 1
Lithium	ug/L	440	NC	NC	440	61	56	53	62	56	54	56	54
Molybdenum	ug/L	120	1,320	NC	1,320	<5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55	1	2	1	2	2	3	3	5
MI Part 115 Parameters[(2)]													
Iron	ug/L	500,000[EE]	NC	NC	500,000	834	752	761	280	975	1,290	998	575
Vanadium	ug/L	27	NC	NC	27	< 2	< 2	< 2	< 2	< 2	< 2	< 2	3

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-54R						
						Sample Date:	10/9/2023	3/5/2024	5/7/2024	7/23/2024	10/2/2024	3/4/2025	5/14/2025	7/15/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III[(1)]														
Boron	ug/L	4,000	44,000	69,000	44,000		5,520	5,940	5,580	6,930	8,080	7,610	6,710	6,920
Sulfate	mg/L	1,200[F]	NC	NC	1,200		67.4	48.6	51.3	60.4	79.8	229	201	211
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		7.0	7.0	7.2	7.2	7.0	7.4	7.0	6.9
Appendix IV[(1)]														
Arsenic	ug/L	10	100	680	100		1	1	1	1	2	2	2	3
Chromium	ug/L	11[H]	NC	NC	**11**		< 1	1	< 1	1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440		70	76	73	83	83	93	98	100
Molybdenum	ug/L	120	1,320	NC	1,320		17	15	18	17	17	20	24	25
Selenium	ug/L	5.0	55	120	55		1	3	2	4	5	6	4	7
MI Part 115 Parameters[(2)]														
Iron	ug/L	500,000[EE]	NC	NC	500,000		829	159	87	59	137	579	150	29
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	< 2	2	< 2	3

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-55								
						Sample Date:	10/9/2023	3/5/2024	5/8/2024	7/23/2024	10/2/2024	10/2/2024	3/4/2025	5/14/2025	5/13/2025	7/15/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**							Field Dup				
Appendix III[(1)]																
Boron	ug/L	4,000	44,000	69,000	44,000		1,200	825	729	1,270	1,130	1,090	1,270	1,270	1,250	1,060
Sulfate	mg/L	1,200[F]	NC	NC	1,200		156	224	236	60.2	117	117	98.1	334	333	252
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		7.0	6.9	6.9	7.4	7.2	--	7.4	7.0	--	6.9
Appendix IV[(1)]																
Arsenic	ug/L	10	100	680	100		75	46	39	45	54	56	13	18	17	23
Chromium	ug/L	11[H]	NC	NC	**11**		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440		26	26	26	29	25	26	24	24	23	25
Molybdenum	ug/L	120	1,320	NC	1,320		56	27	25	25	44	44	22	21	21	22
Selenium	ug/L	5.0	55	120	55		1	1	4	1	1	< 1	5	5	5	12
MI Part 115 Parameters[(2)]																
Iron	ug/L	500,000[EE]	NC	NC	500,000		16,800	18,700	14,700	12,300	12,600	13,800	8,950	13,100	12,700	12,400
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	JCW-MW-18004						
						Sample Date:	10/9/2023	3/5/2024	5/8/2024	7/23/2024	10/2/2024	3/4/2025	5/14/2025[3]	7/15/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III[1]														
Boron	ug/L	4,000	44,000	69,000	44,000		319	192	206	308	412	269	165	309
Sulfate	mg/L	1,200[F]	NC	NC	1,200		466	557	484	446	444	460	441	489
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		7.0	7.0	6.9	7.3	7.0	7.5	7.0	6.9
Appendix IV[1]														
Arsenic	ug/L	10	100	680	100		< 1	< 1	< 1	< 1	< 1	< 1	4	< 1
Chromium	ug/L	11[H]	NC	NC	**11**		< 1	1	< 1	< 1	2	< 1	**19**	3
Lithium	ug/L	440	NC	NC	440		49	43	43	50	46	26	43	44
Molybdenum	ug/L	120	1,320	NC	1,320		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55		< 1	4	4	< 1	1	2	13	1
MI Part 115 Parameters[2]														
Iron	ug/L	500,000[EE]	NC	NC	500,000		36	98	73	41	36	398	7,970	509
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	< 2	< 2	23	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

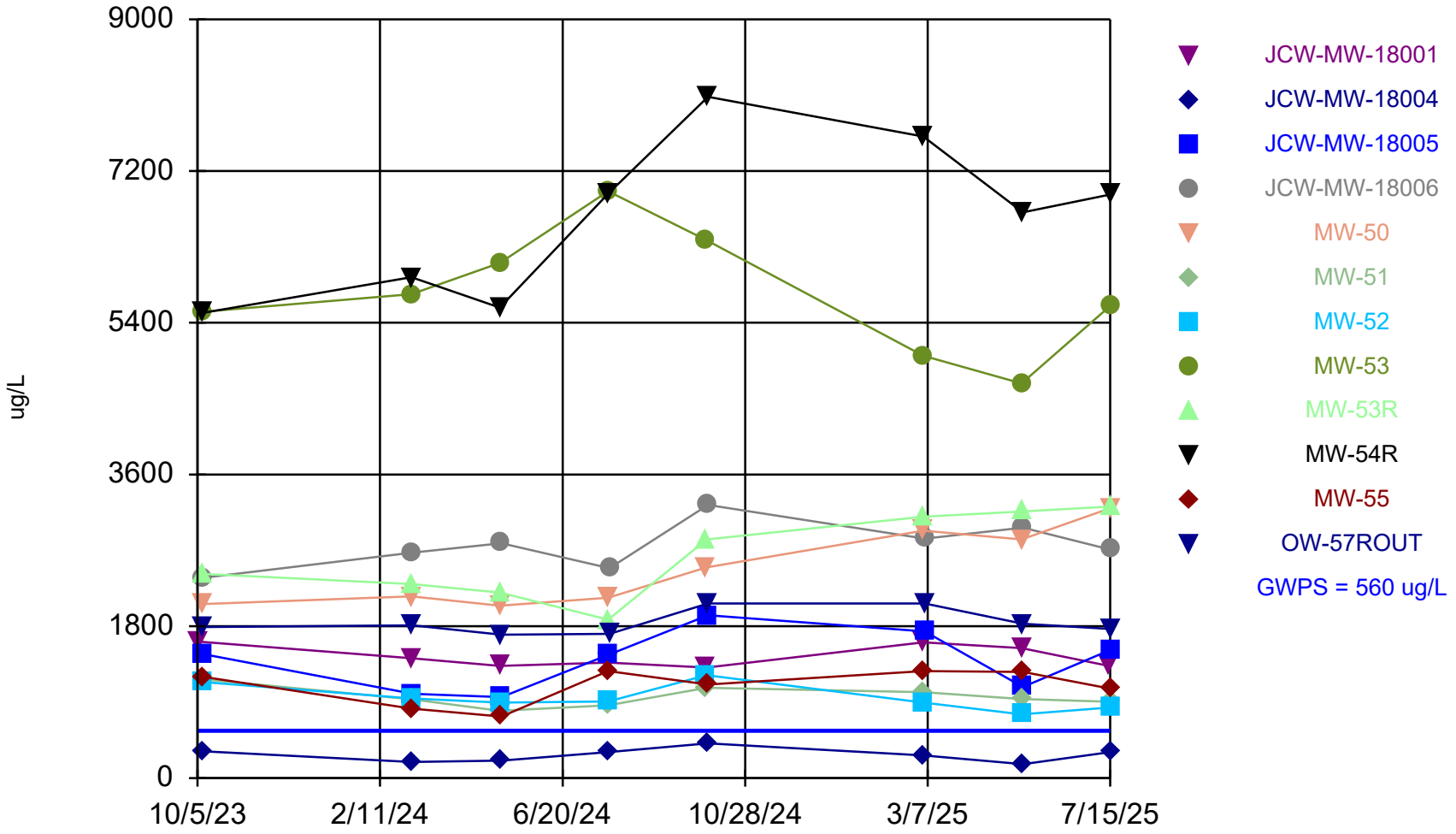
(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Attachment 1
Assessment Monitoring Sanitas™ Output Files

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron Comparison to GWPS

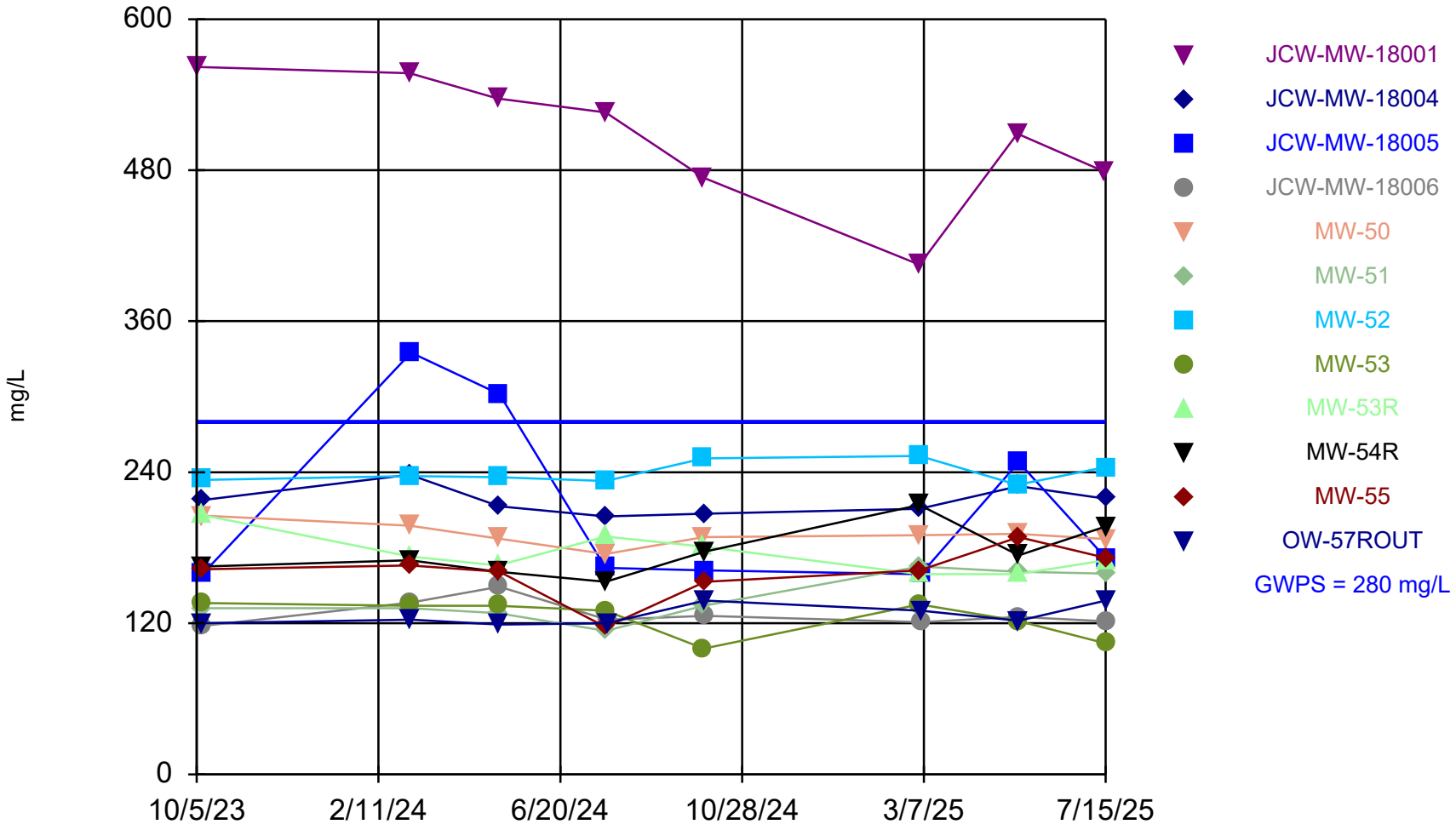


Time Series Analysis Run 9/19/2025 4:59 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Calcium Comparison to GWPS

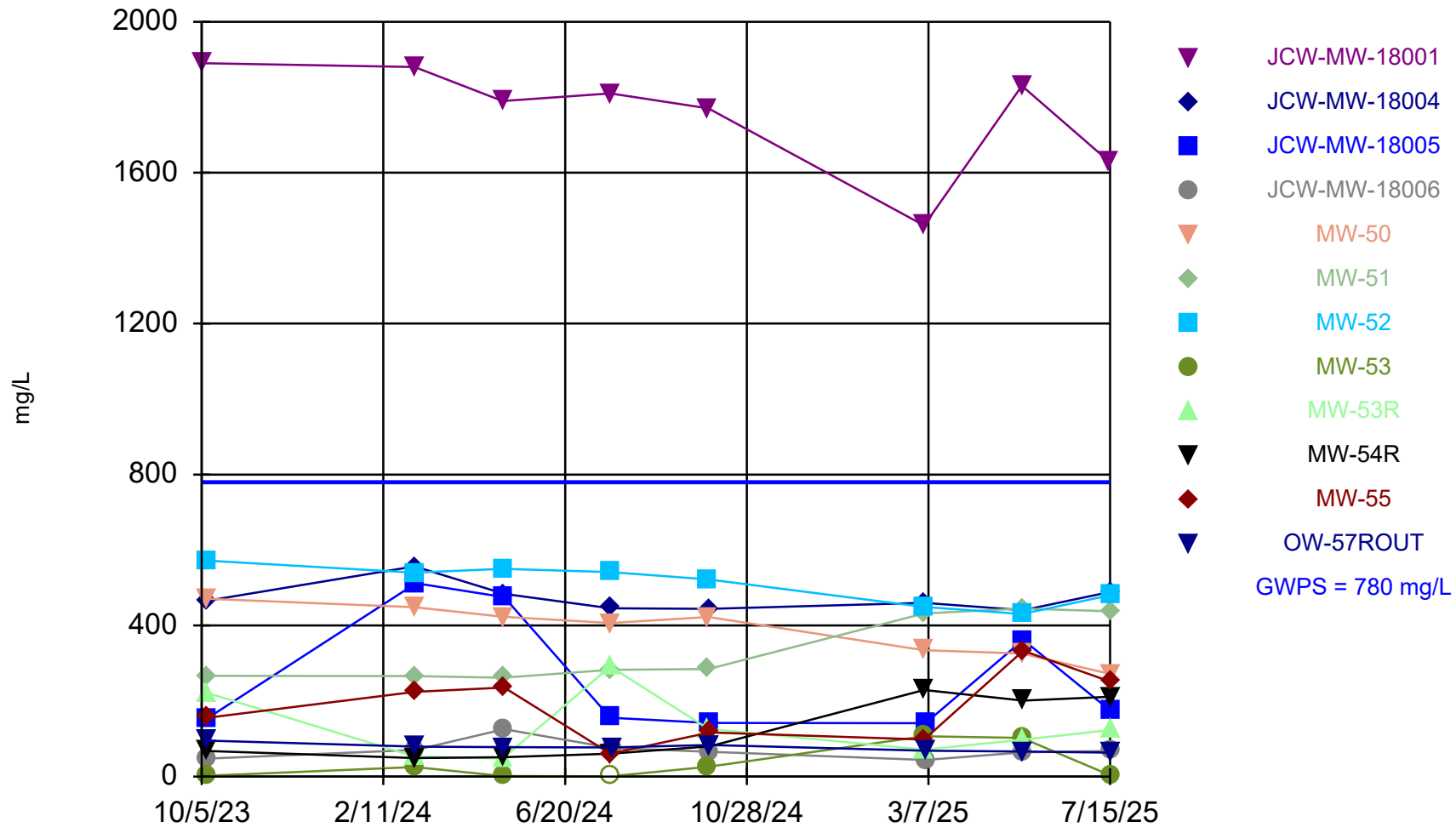


Time Series Analysis Run 9/19/2025 5:00 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Sulfate Comparison to GWPS

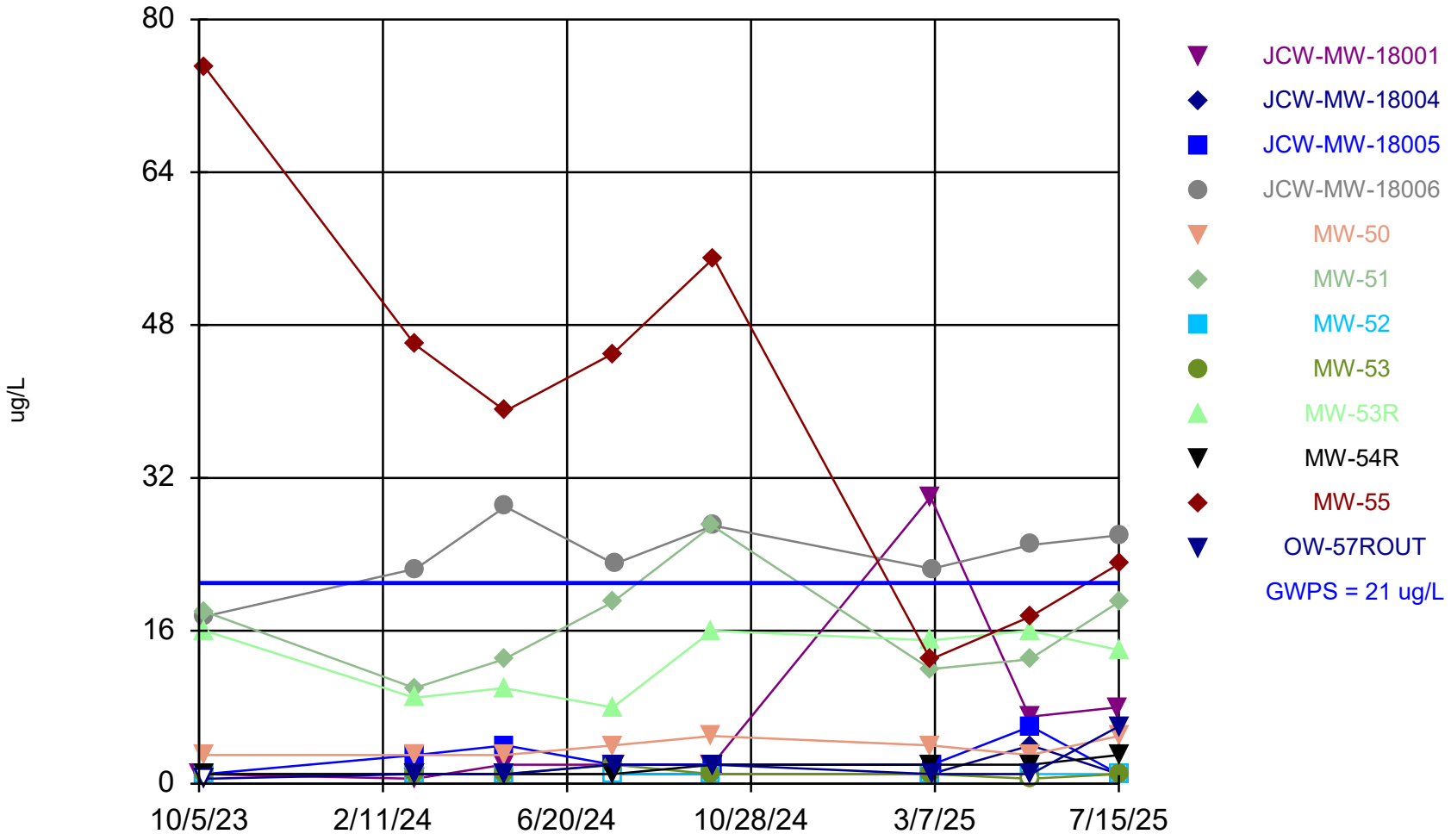


Time Series Analysis Run 9/19/2025 5:01 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Arsenic Comparison to GWPS

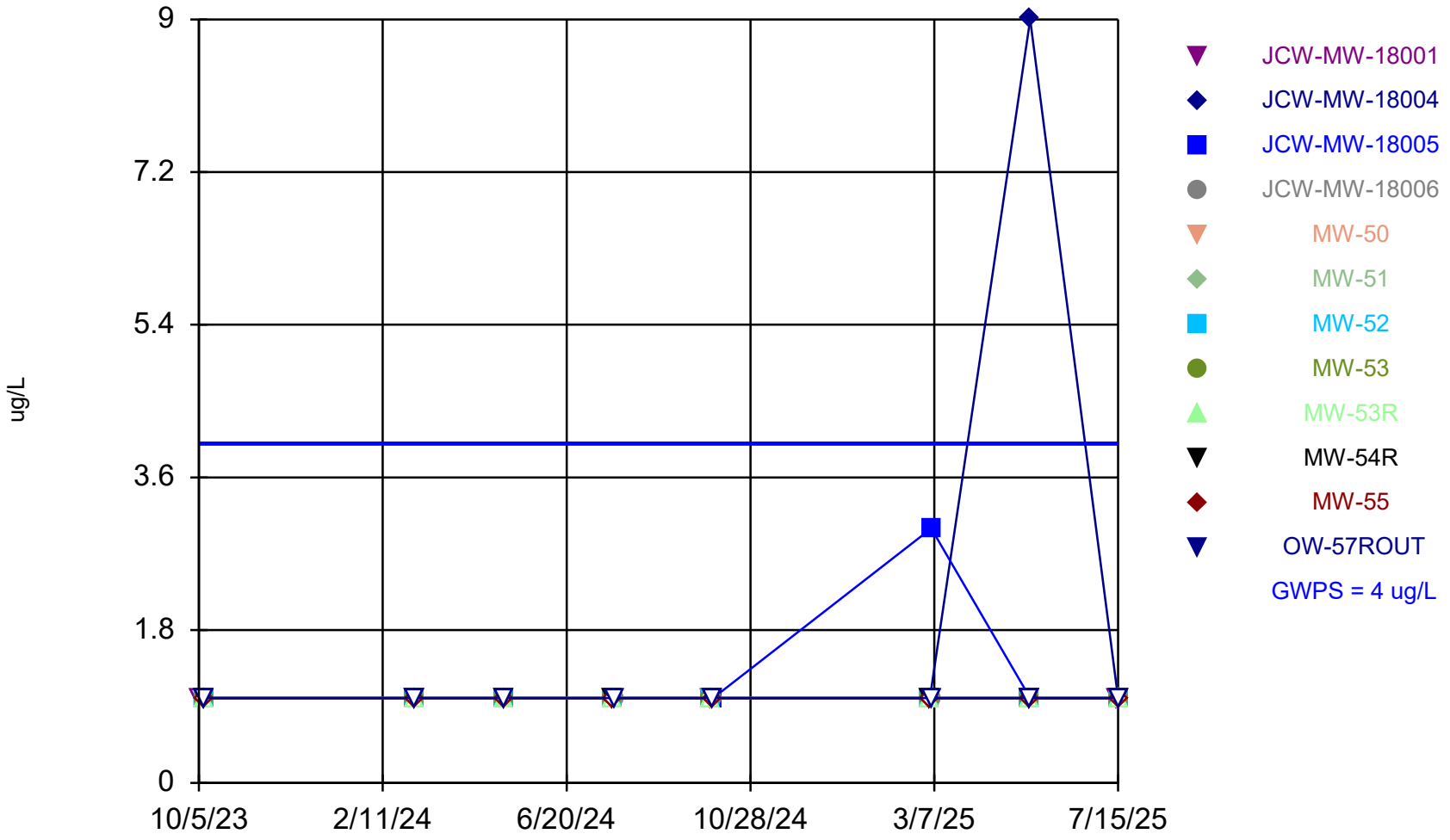


Time Series Analysis Run 9/19/2025 4:56 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Lead Comparison to GWPS

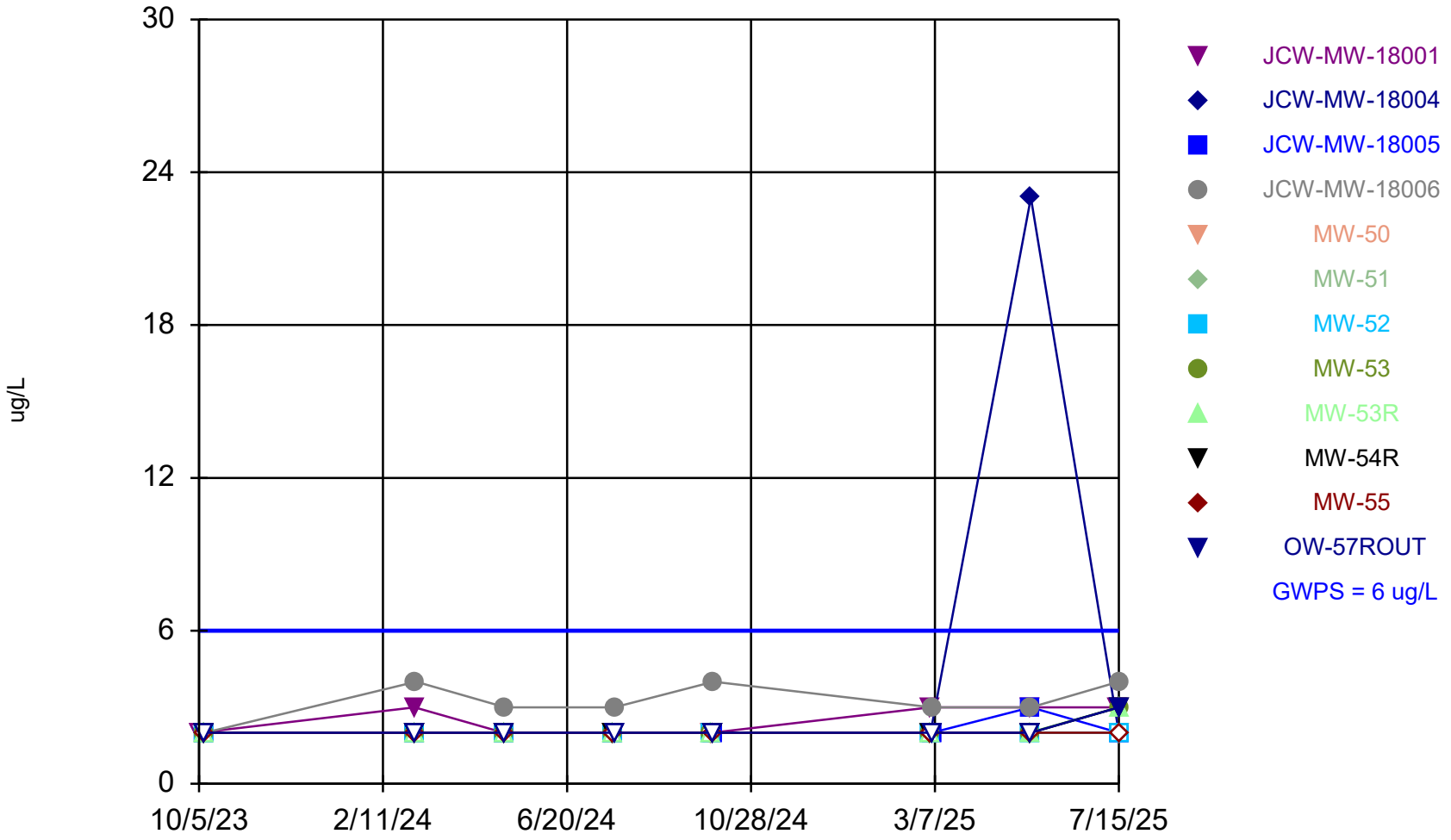


Time Series Analysis Run 9/19/2025 5:01 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Vanadium Comparison to GWPS



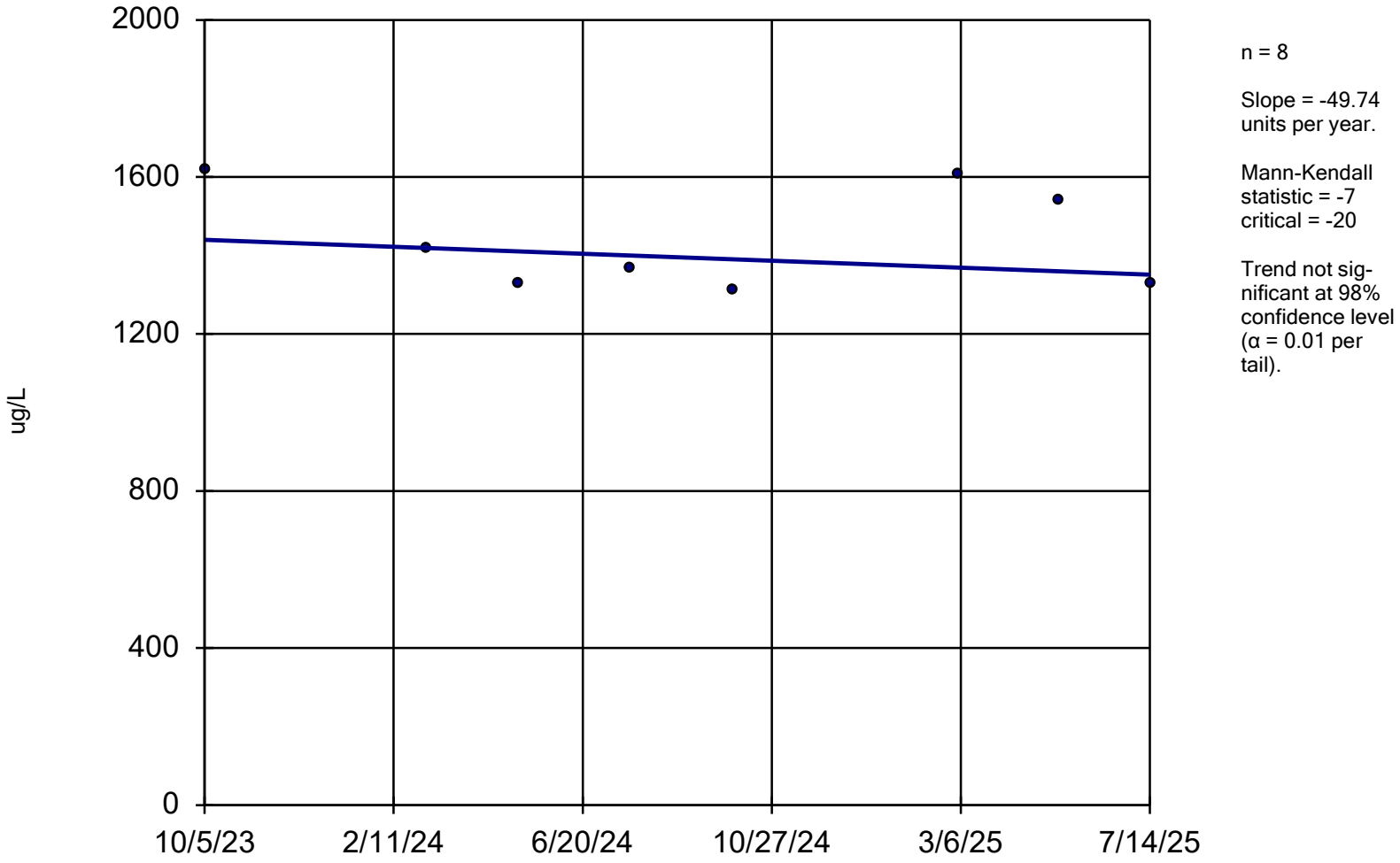
Time Series Analysis Run 9/19/2025 5:02 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

JCW-MW-18001



n = 8

Slope = -49.74 units per year.

Mann-Kendall statistic = -7
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

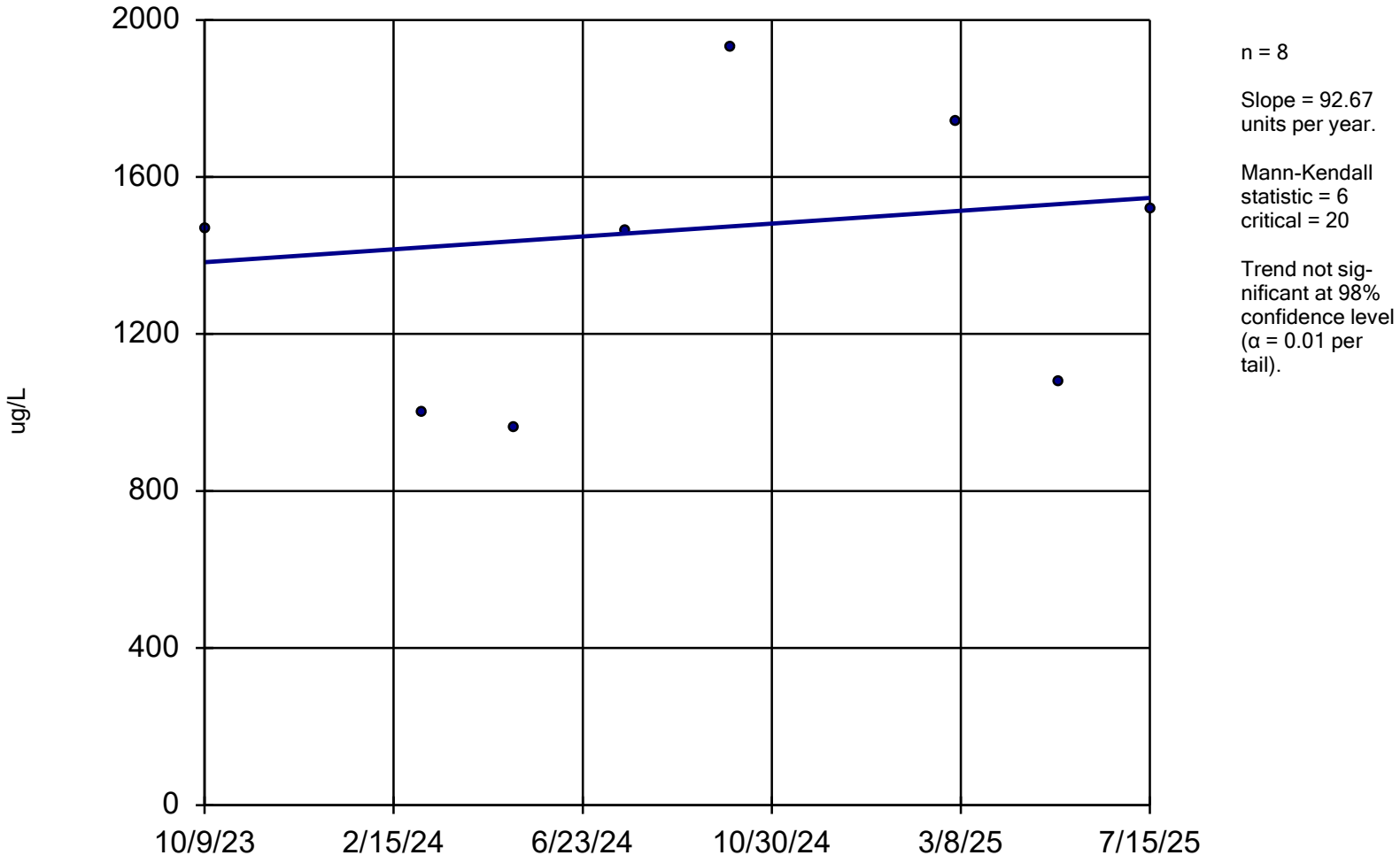
Sen's Slope Estimator Analysis Run 9/19/2025 5:04 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

JCW-MW-18005



n = 8

Slope = 92.67 units per year.

Mann-Kendall statistic = 6
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

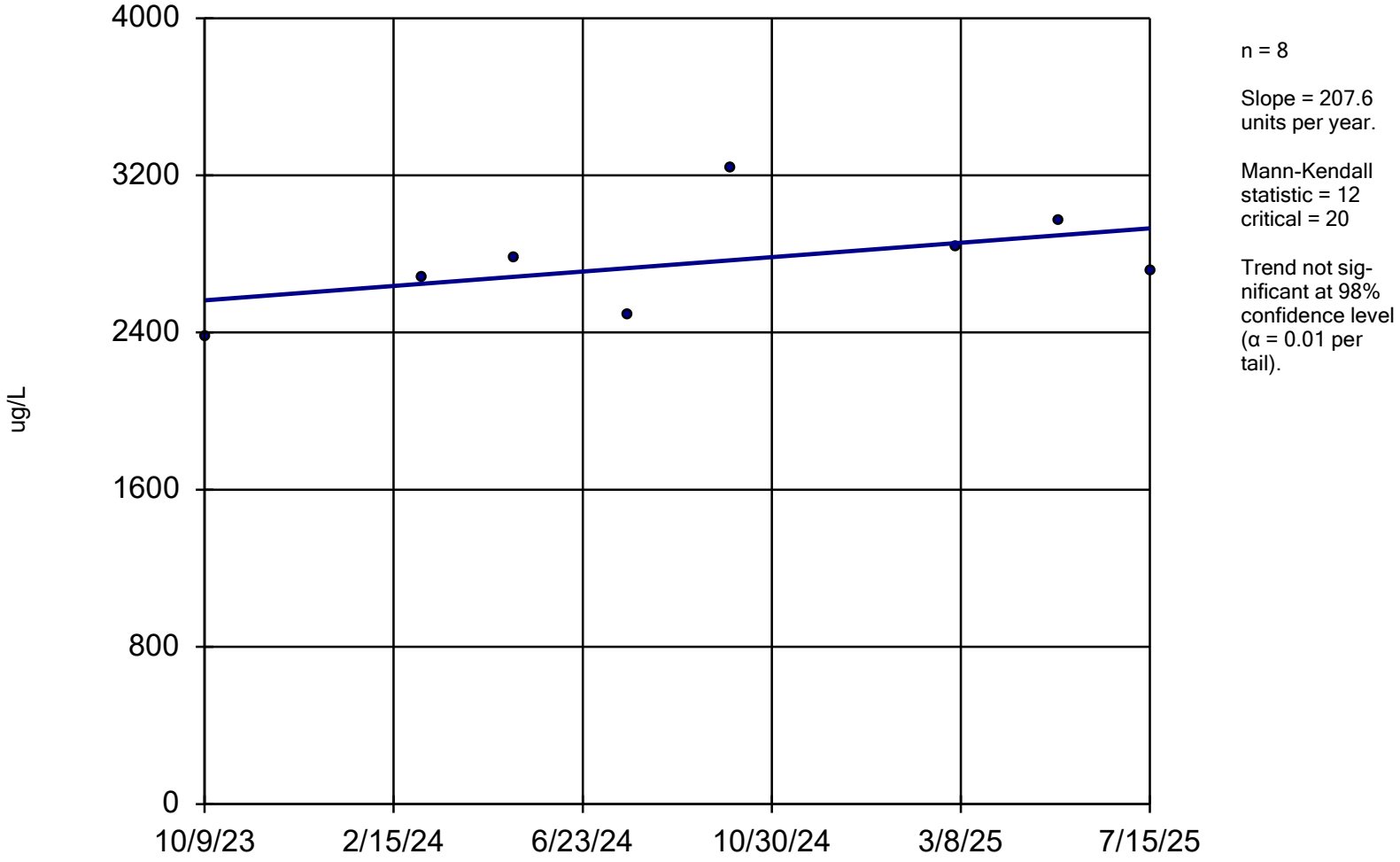
Sen's Slope Estimator Analysis Run 9/19/2025 5:04 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

JCW-MW-18006



n = 8

Slope = 207.6 units per year.

Mann-Kendall statistic = 12
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

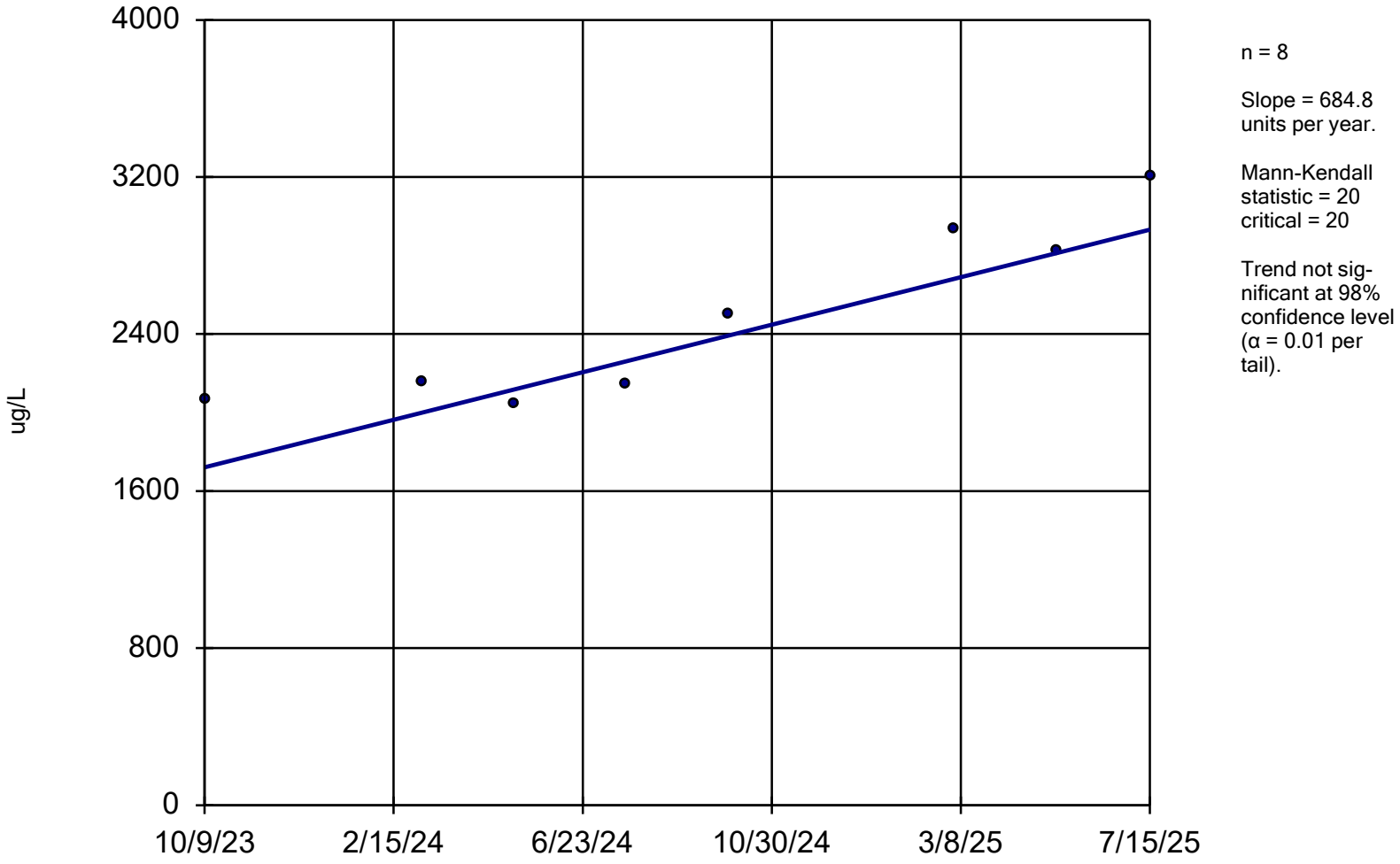
Sen's Slope Estimator Analysis Run 9/19/2025 5:05 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-50



n = 8

Slope = 684.8 units per year.

Mann-Kendall statistic = 20 critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

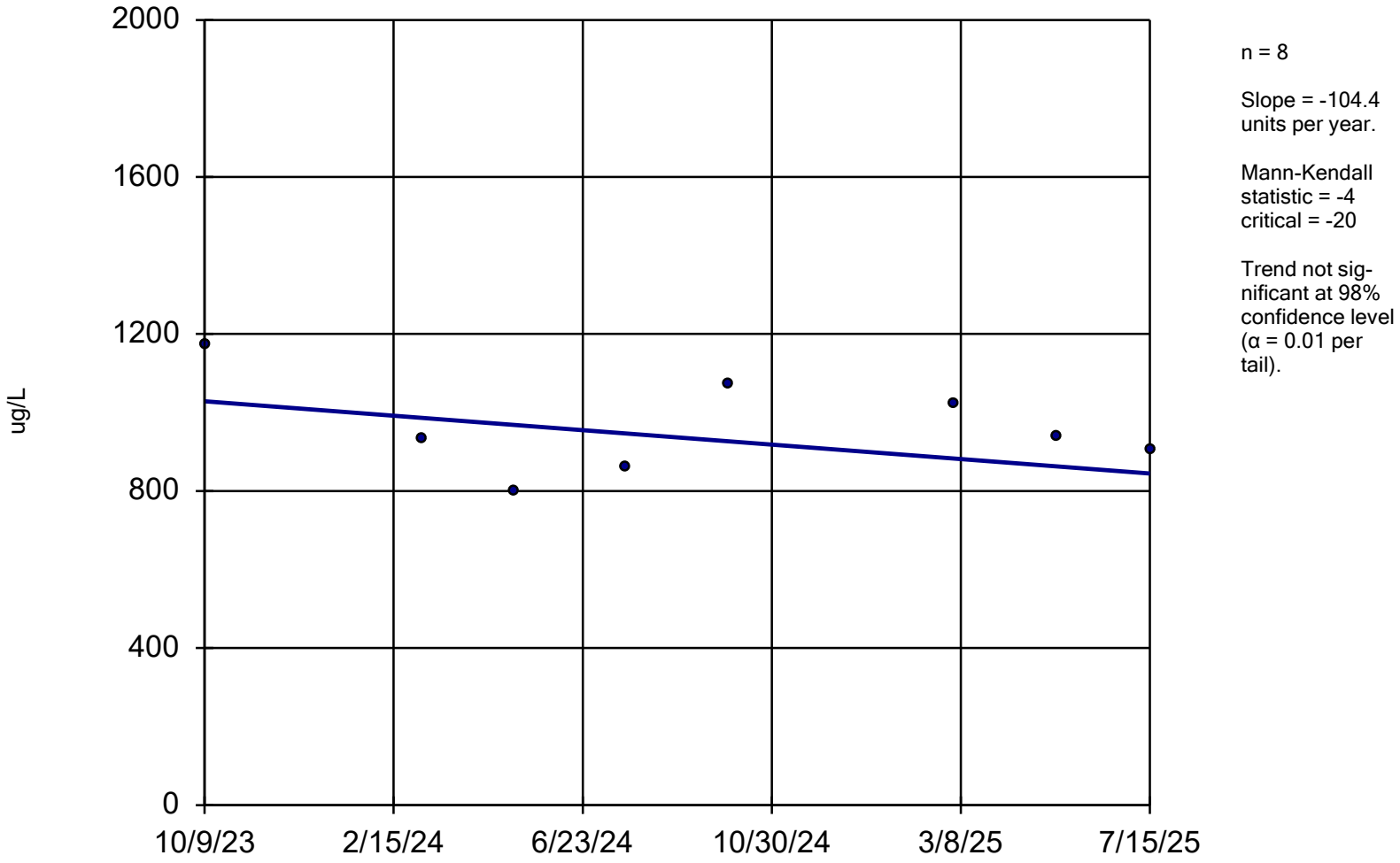
Sen's Slope Estimator Analysis Run 9/19/2025 5:05 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-51



n = 8

Slope = -104.4 units per year.

Mann-Kendall statistic = -4
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

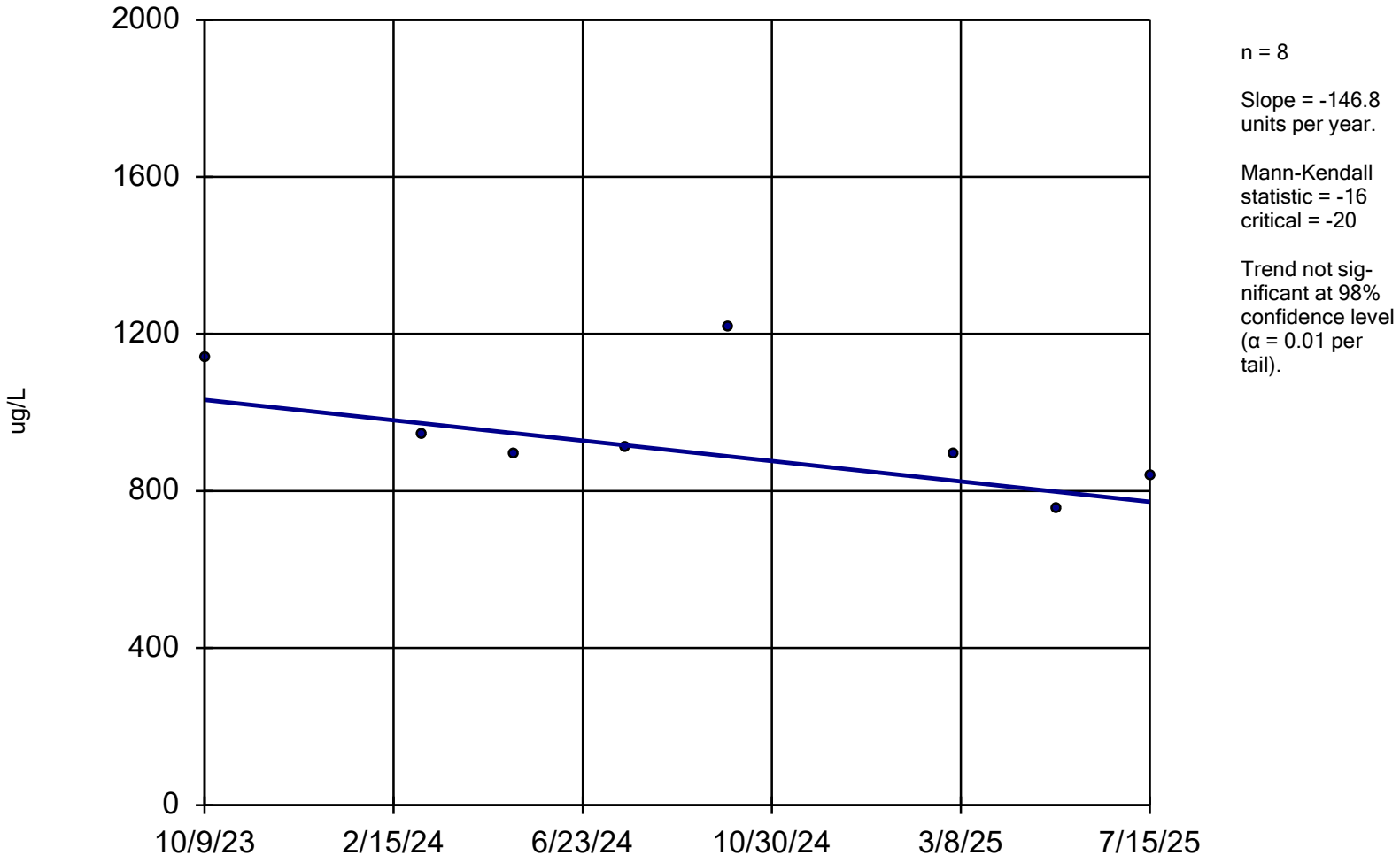
Sen's Slope Estimator Analysis Run 9/19/2025 5:05 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-52



n = 8

Slope = -146.8 units per year.

Mann-Kendall statistic = -16
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

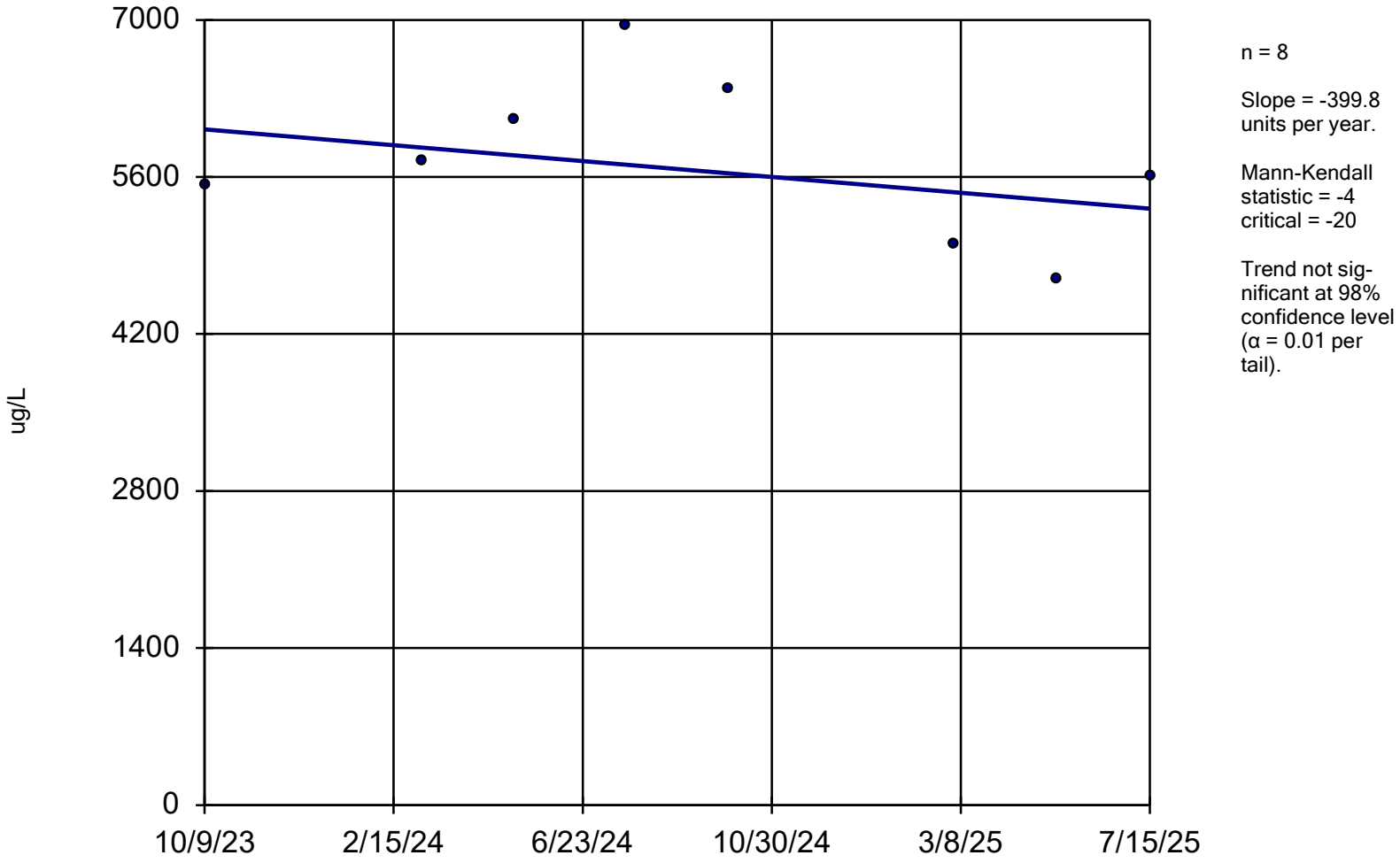
Sen's Slope Estimator Analysis Run 9/19/2025 5:05 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-53



n = 8

Slope = -399.8 units per year.

Mann-Kendall statistic = -4
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

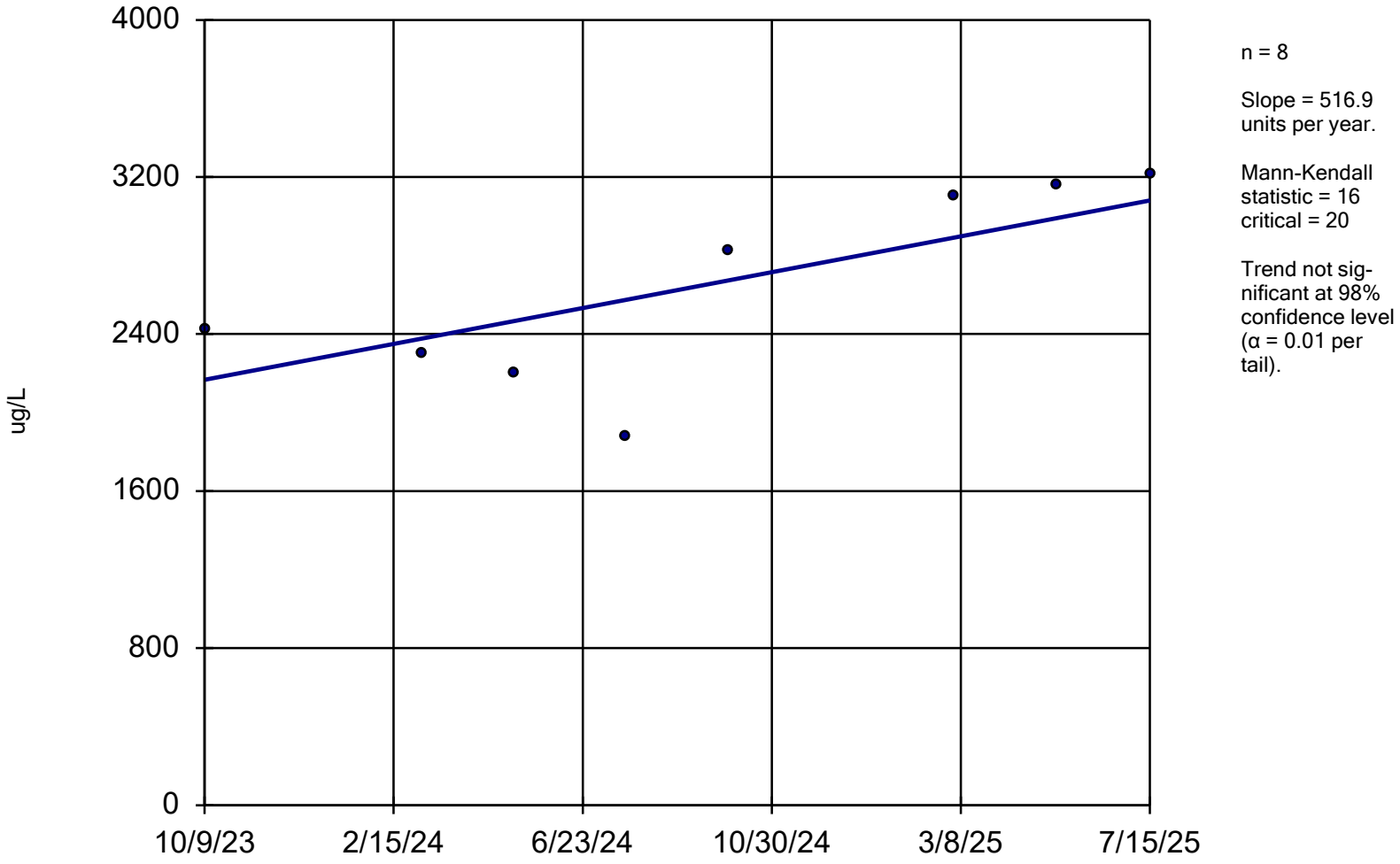
Sen's Slope Estimator Analysis Run 9/19/2025 5:05 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-53R



n = 8

Slope = 516.9 units per year.

Mann-Kendall statistic = 16
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

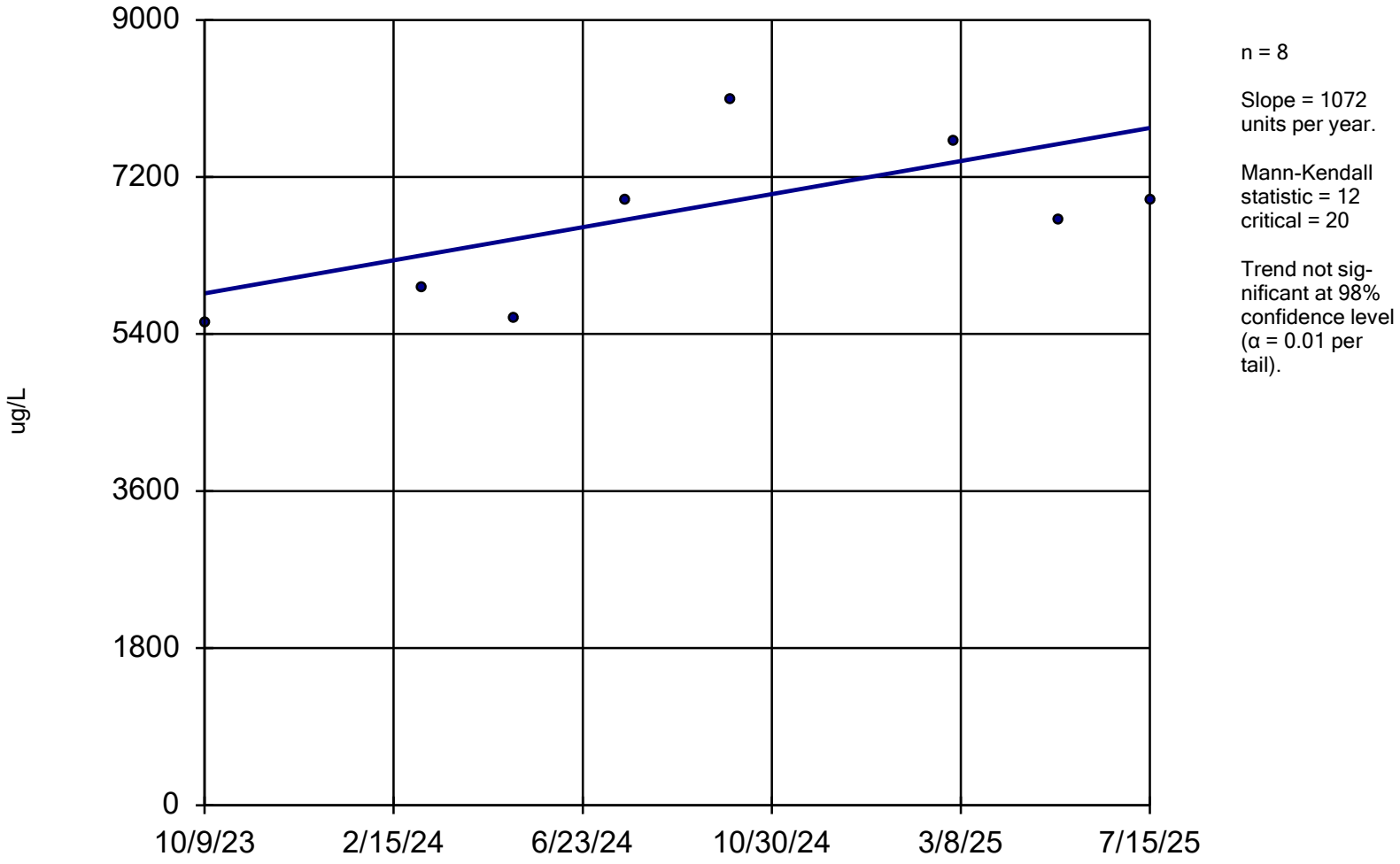
Sen's Slope Estimator Analysis Run 9/19/2025 5:05 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-54R



n = 8

Slope = 1072 units per year.

Mann-Kendall statistic = 12 critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

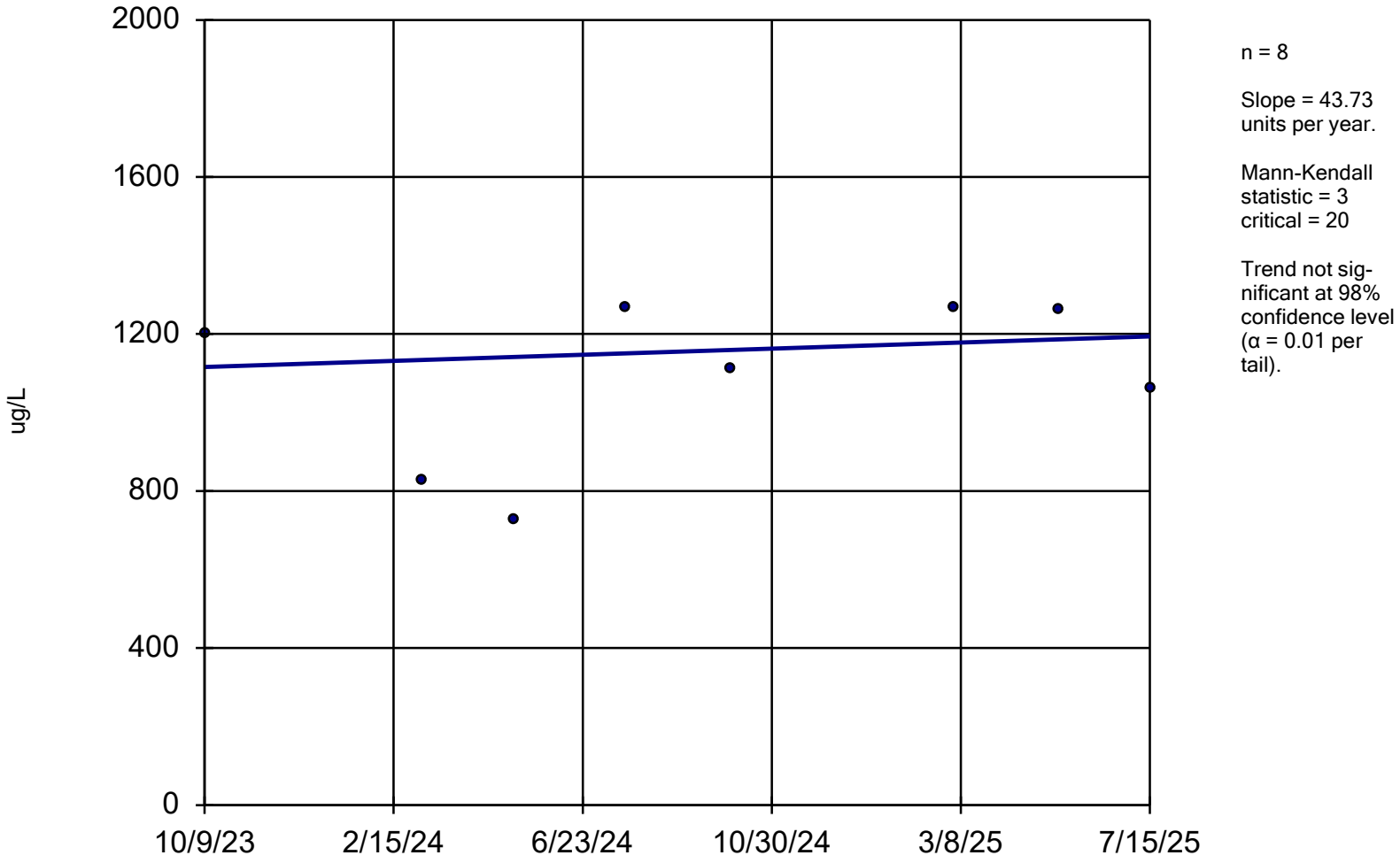
Sen's Slope Estimator Analysis Run 9/19/2025 5:05 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-55



n = 8

Slope = 43.73 units per year.

Mann-Kendall statistic = 3
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

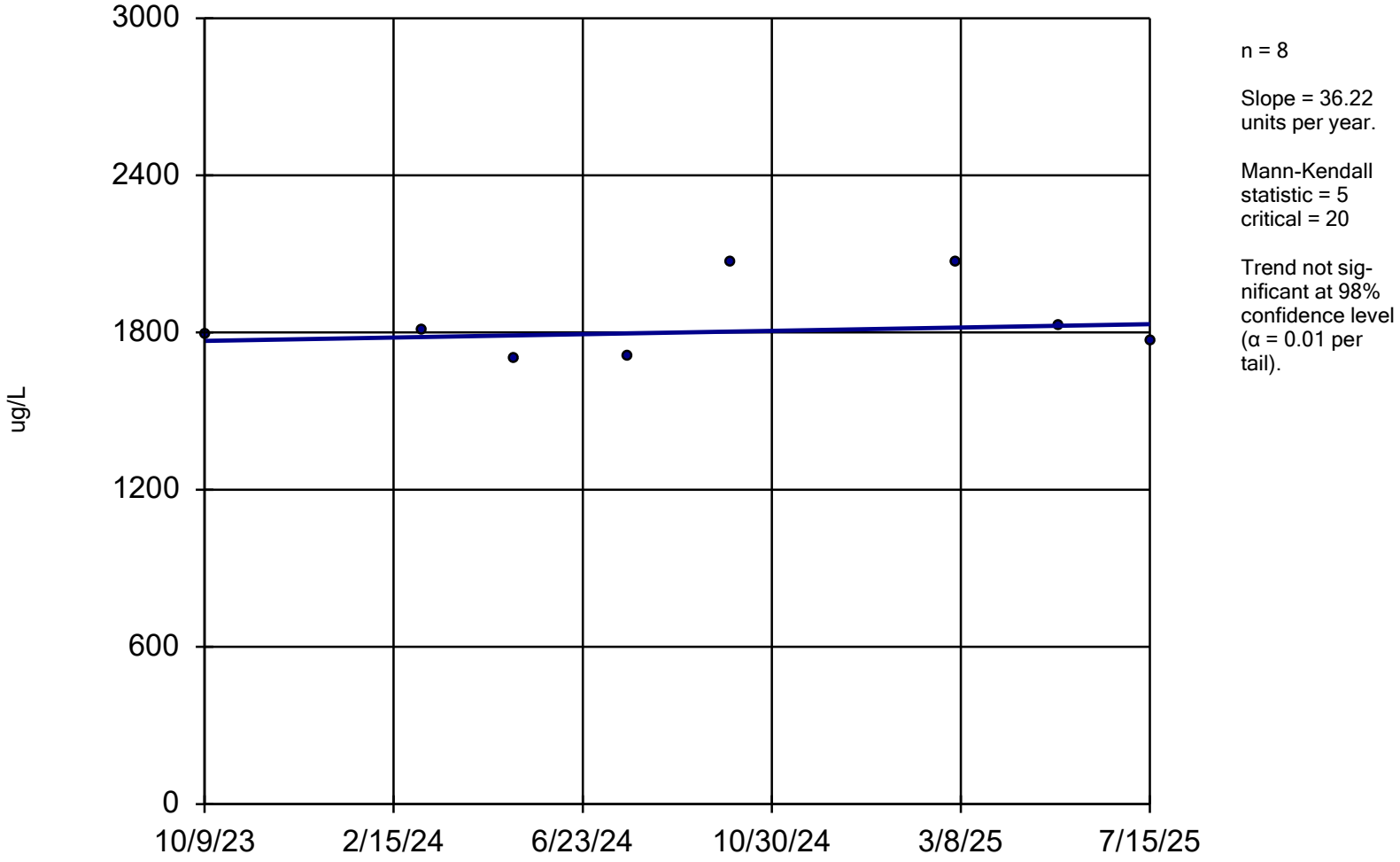
Sen's Slope Estimator Analysis Run 9/19/2025 5:05 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Boron, Total

OW-57ROUT



n = 8

Slope = 36.22 units per year.

Mann-Kendall statistic = 5
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

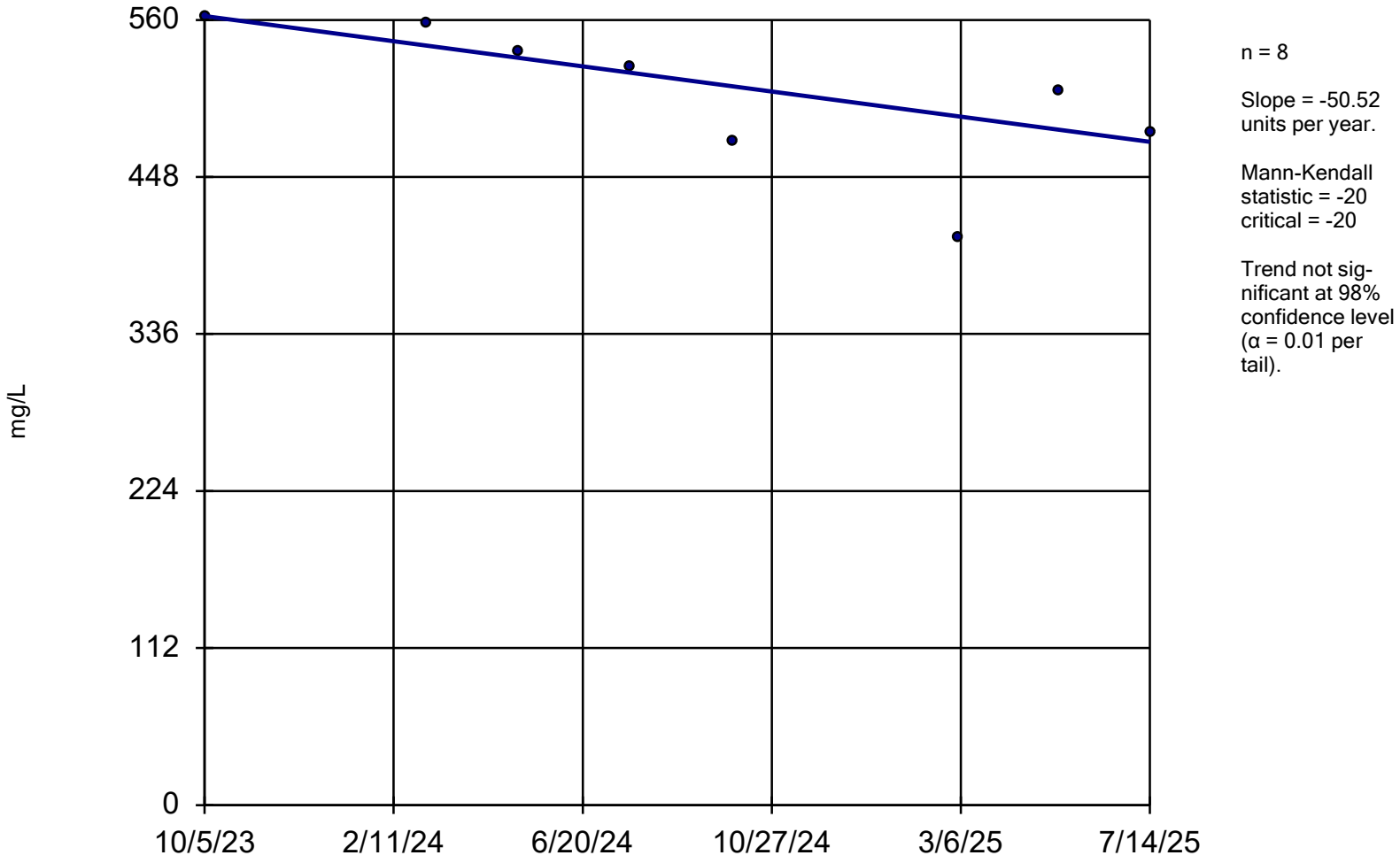
Sen's Slope Estimator Analysis Run 9/19/2025 5:05 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

JCW-MW-18001



n = 8

Slope = -50.52 units per year.

Mann-Kendall statistic = -20
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

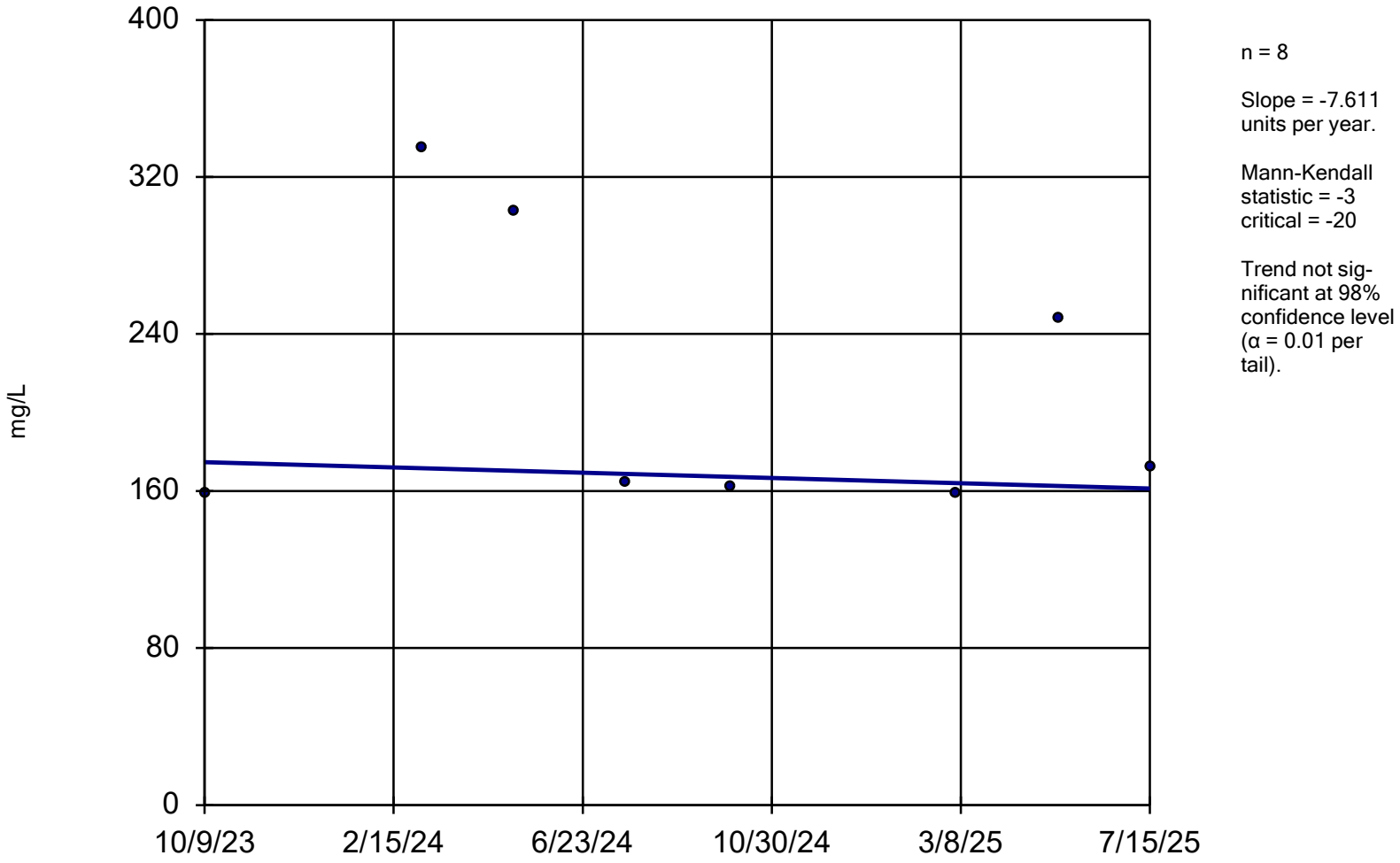
Sen's Slope Estimator Analysis Run 9/19/2025 5:05 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

JCW-MW-18005



n = 8

Slope = -7.611 units per year.

Mann-Kendall statistic = -3
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

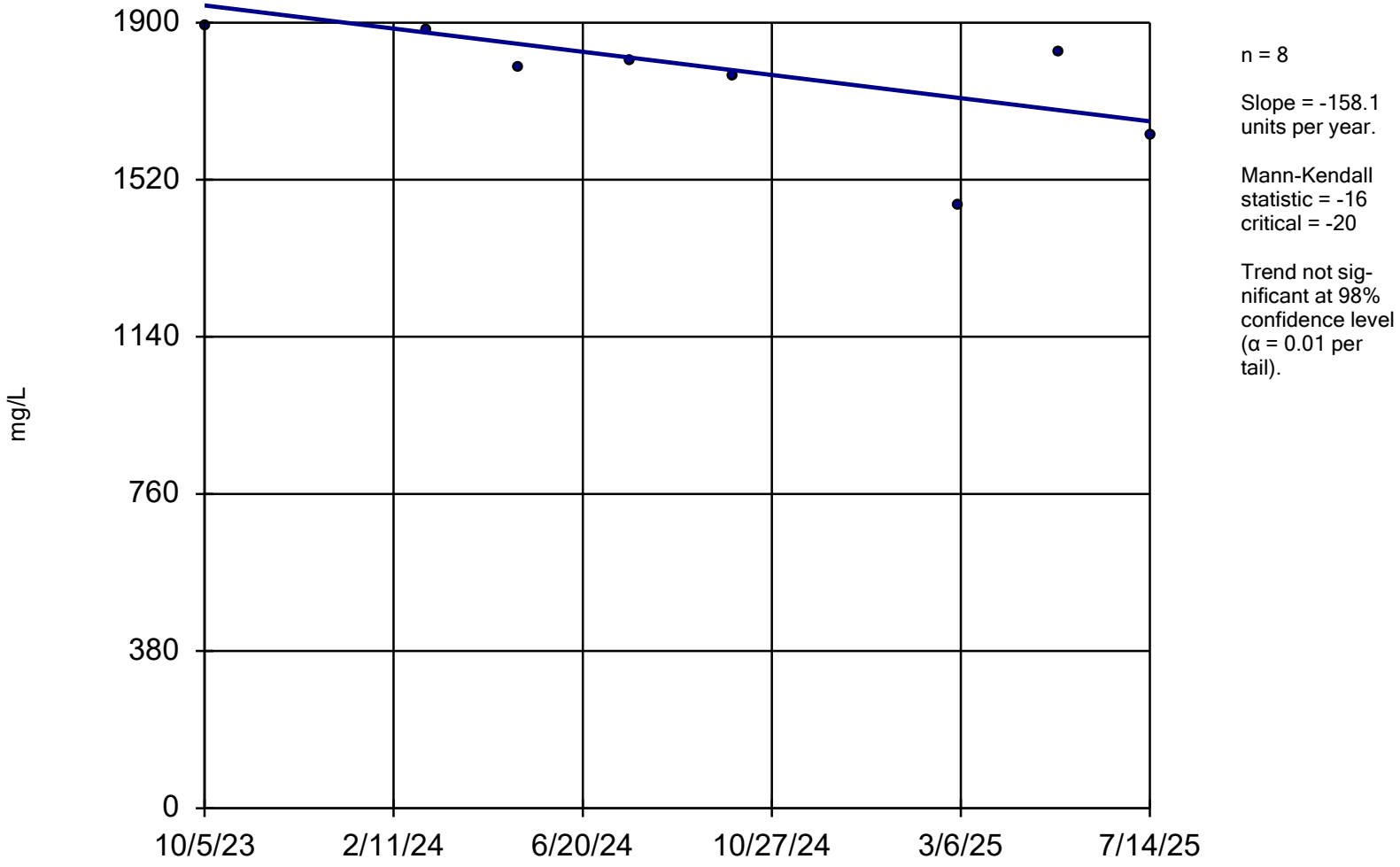
Sen's Slope Estimator Analysis Run 9/19/2025 5:05 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Sulfate

JCW-MW-18001



n = 8

Slope = -158.1 units per year.

Mann-Kendall statistic = -16
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

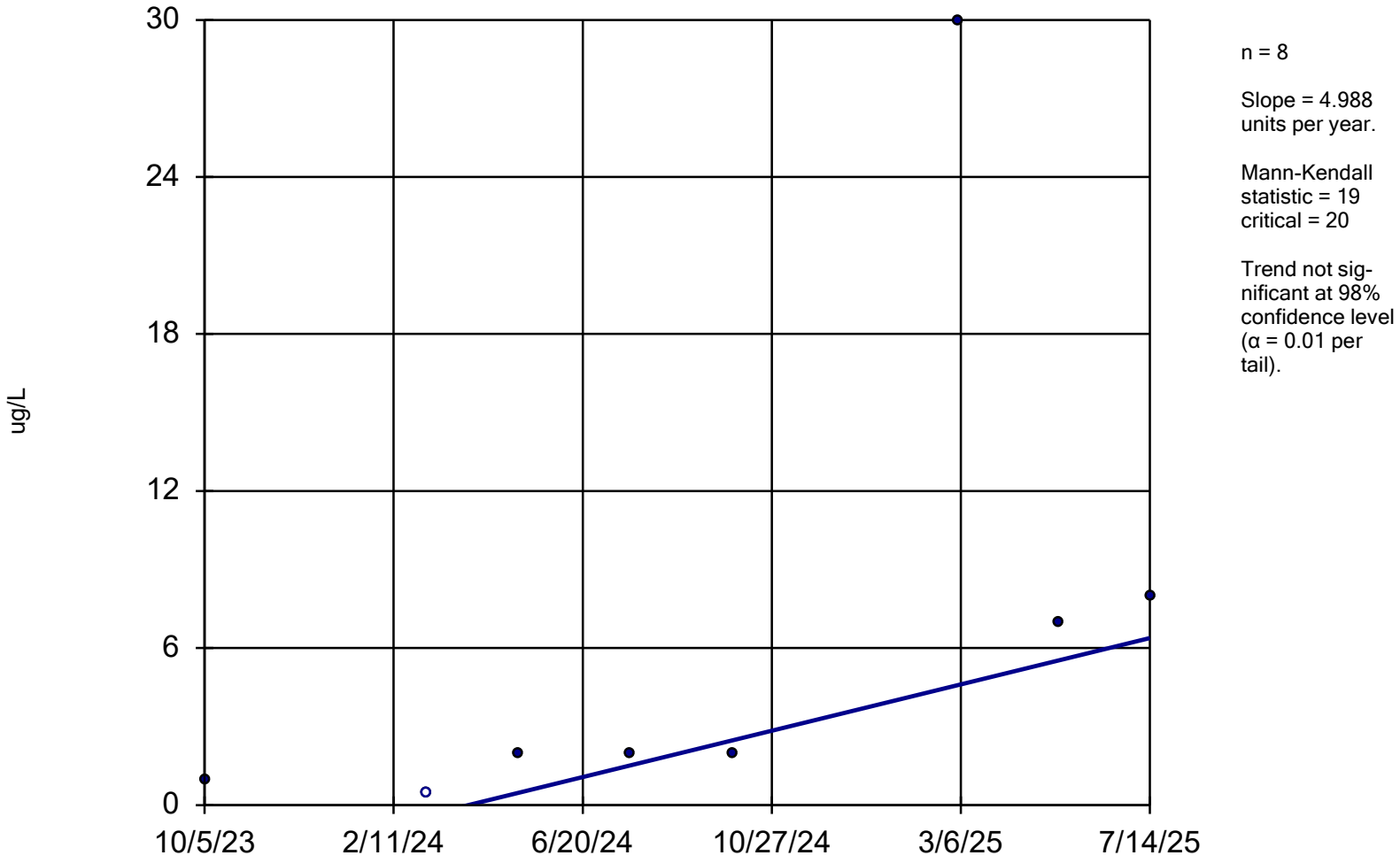
Sen's Slope Estimator Analysis Run 9/19/2025 5:05 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Arsenic, Total

JCW-MW-18001



n = 8

Slope = 4.988 units per year.

Mann-Kendall statistic = 19 critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

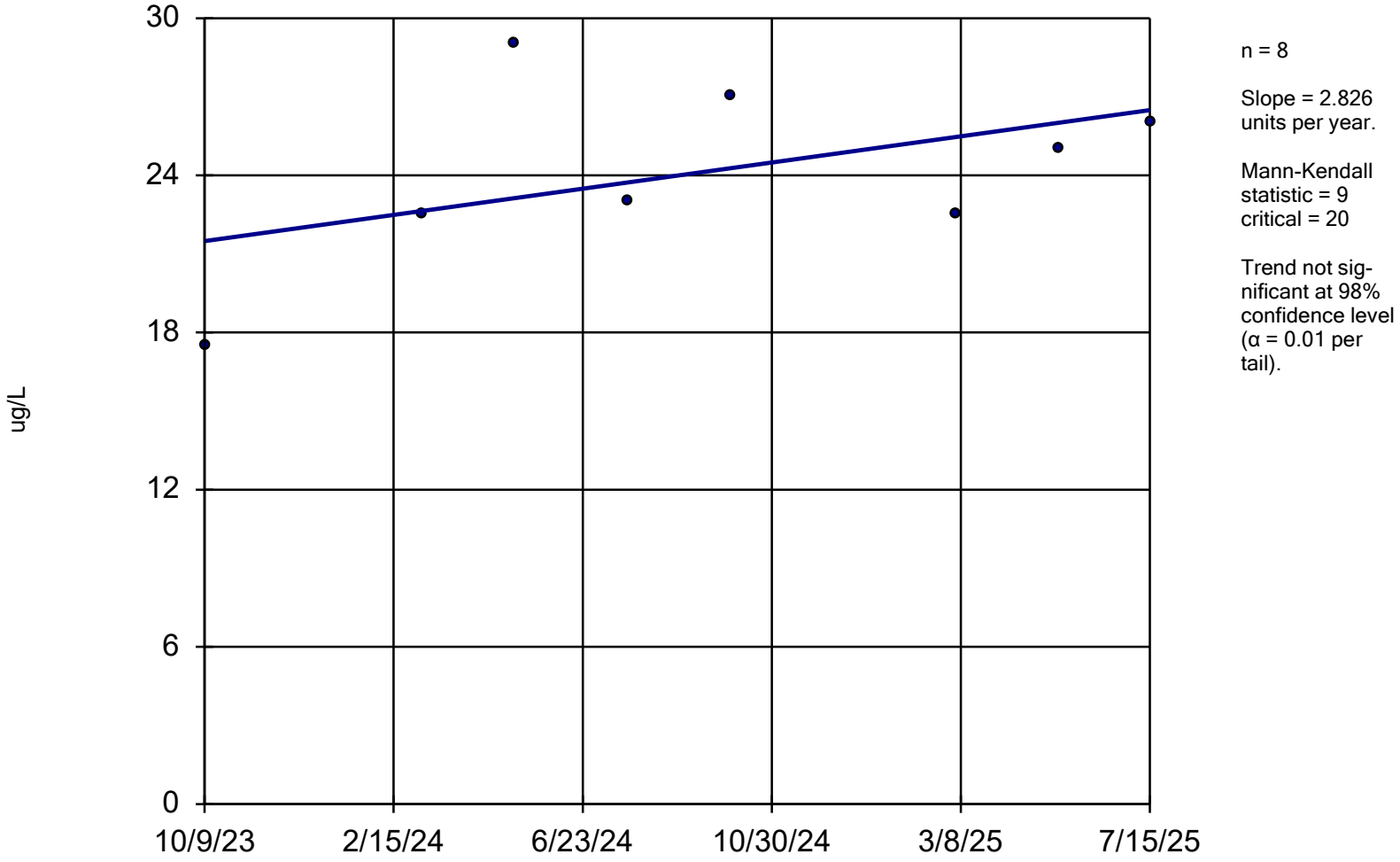
Sen's Slope Estimator Analysis Run 9/19/2025 5:04 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Arsenic, Total

JCW-MW-18006



n = 8

Slope = 2.826 units per year.

Mann-Kendall statistic = 9
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

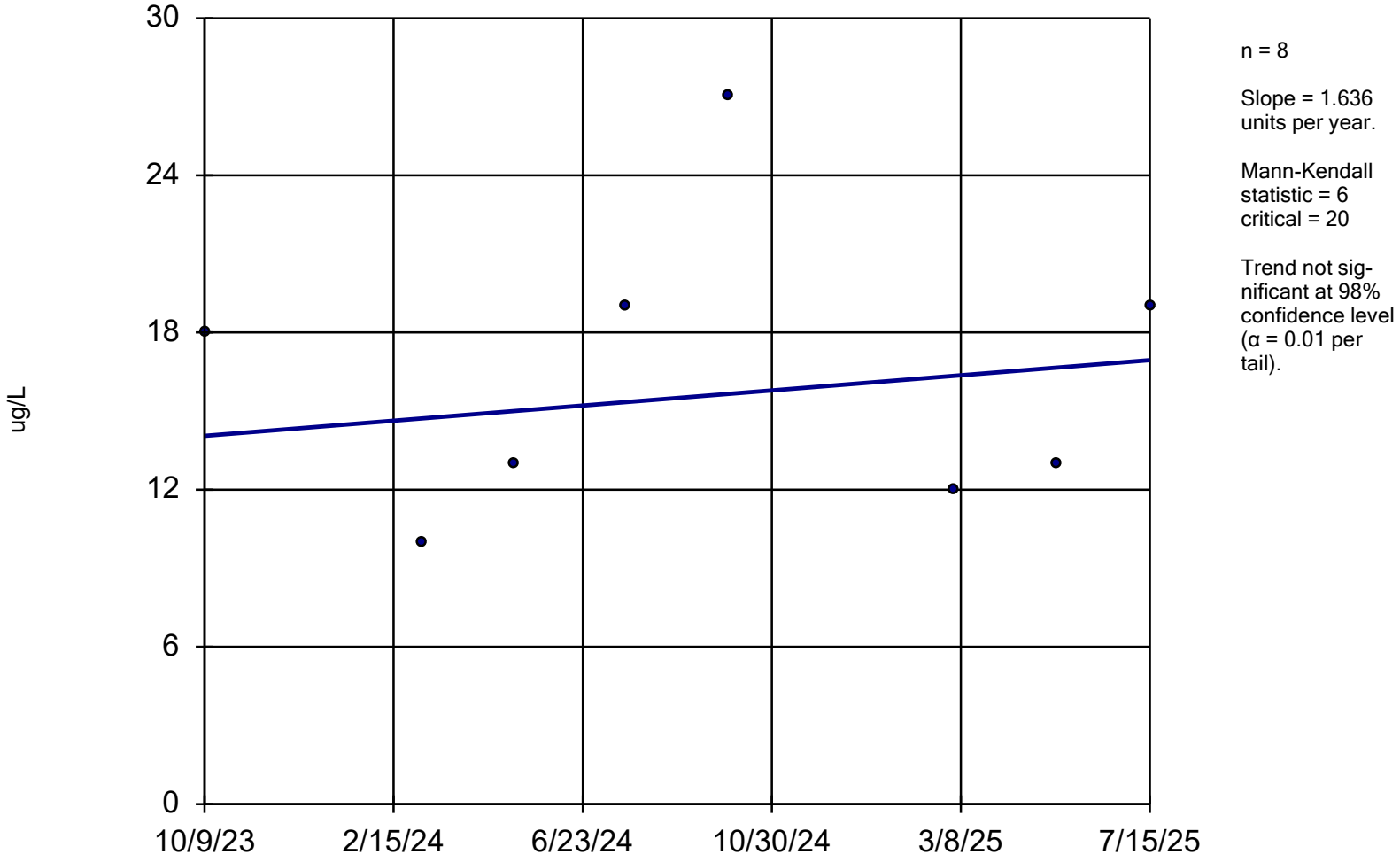
Sen's Slope Estimator Analysis Run 9/19/2025 5:04 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG

Arsenic, Total

MW-51



n = 8

Slope = 1.636 units per year.

Mann-Kendall statistic = 6
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

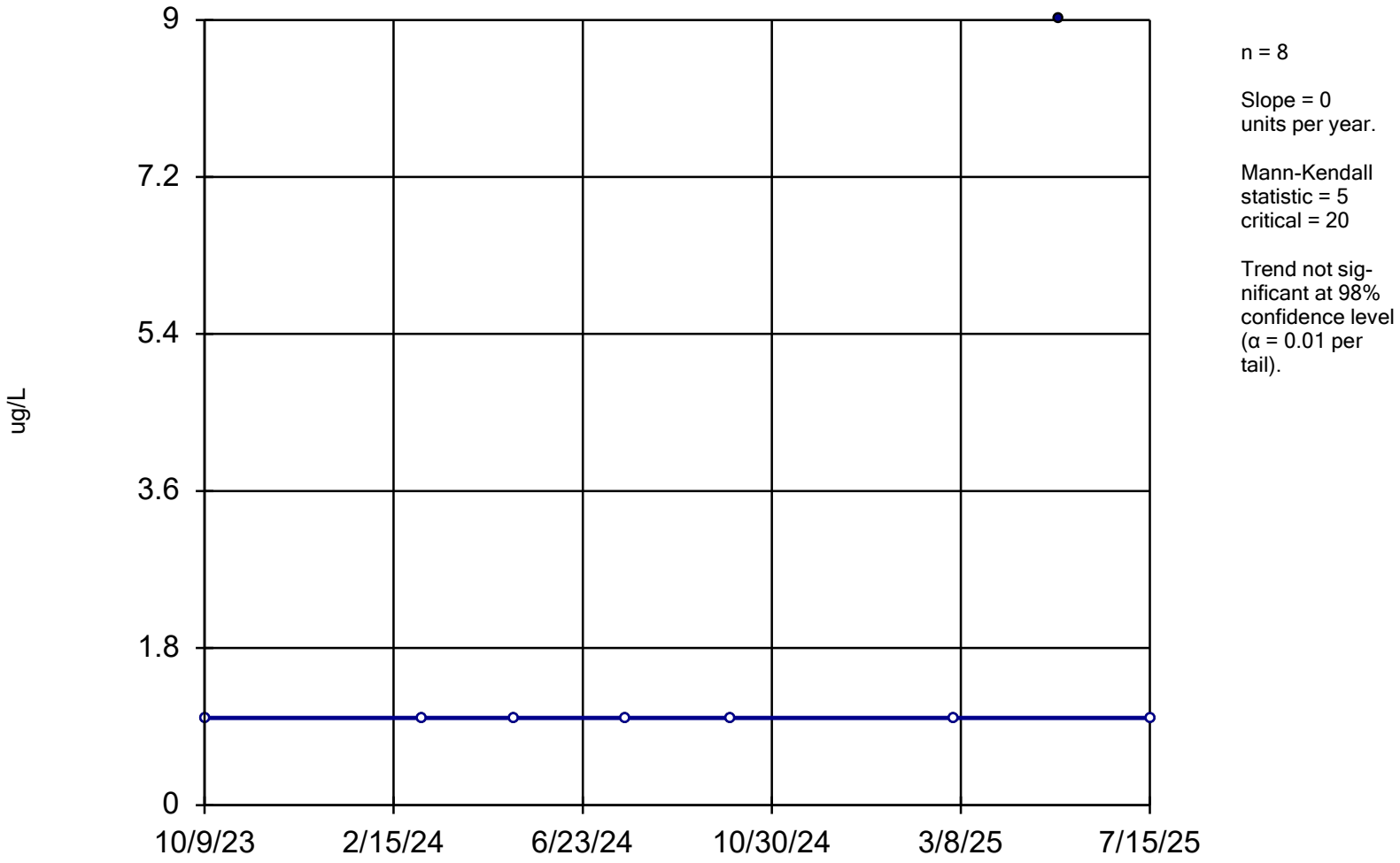
Sen's Slope Estimator Analysis Run 9/19/2025 5:04 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Lead, Total

JCW-MW-18004



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 5
critical = 20

Trend not sig-
nificant at 98%
confidence level
(α = 0.01 per
tail).

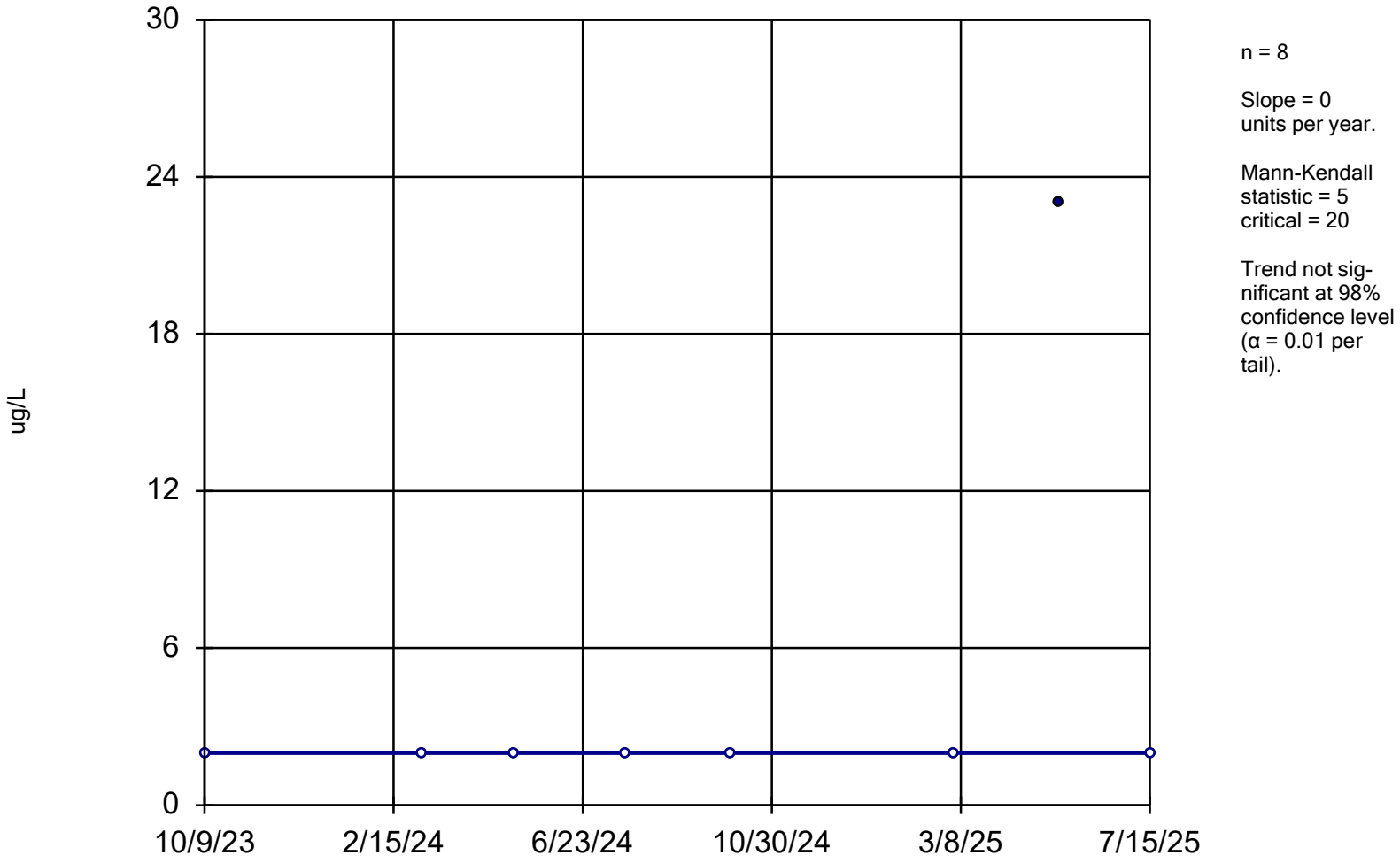
Sen's Slope Estimator Analysis Run 9/19/2025 5:05 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Vanadium, Total

JCW-MW-18004



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 5
critical = 20

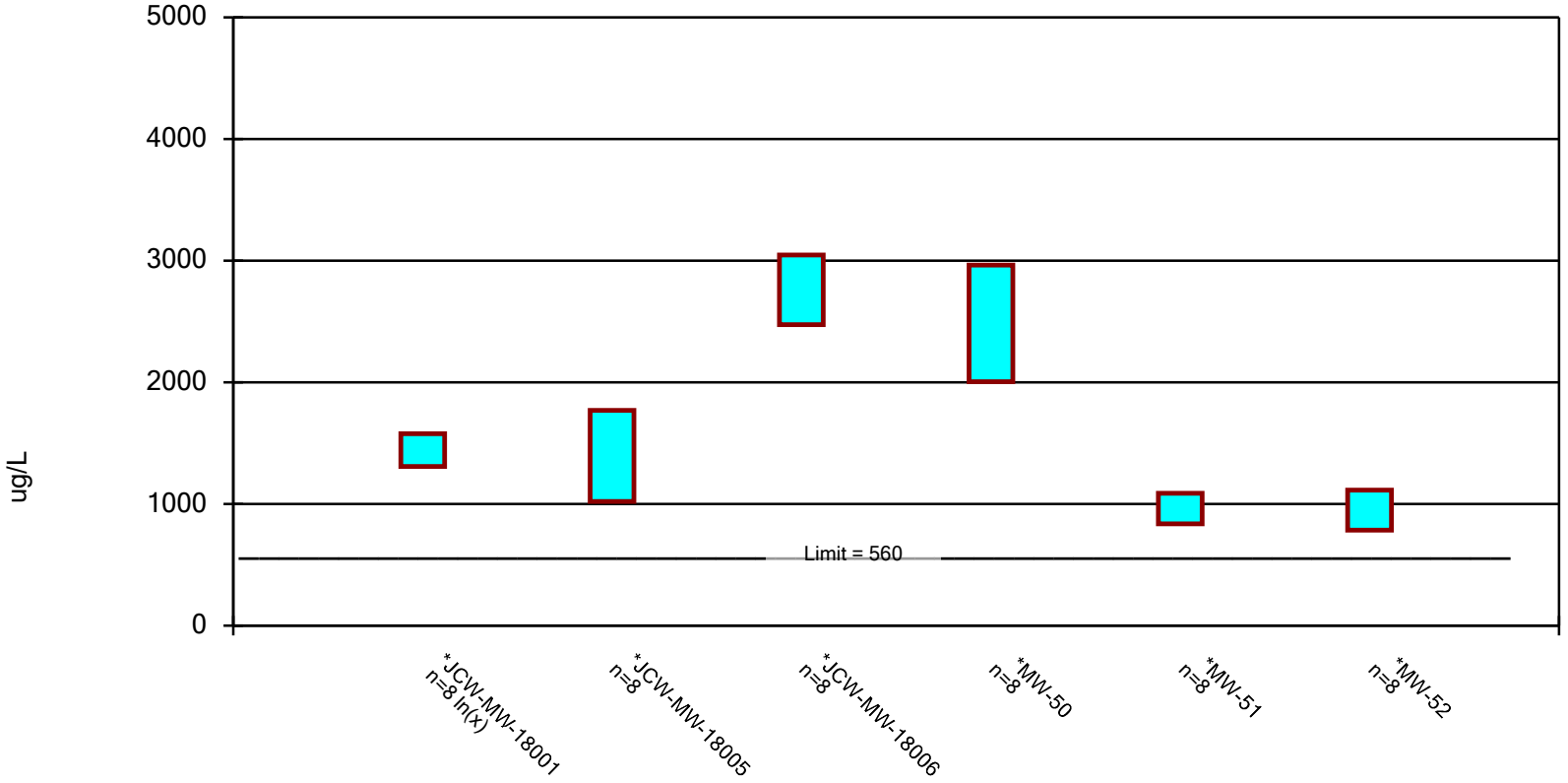
Trend not sig-
nificant at 98%
confidence level
(α = 0.01 per
tail).

Sen's Slope Estimator Analysis Run 9/19/2025 5:05 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Parametric Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Boron, Total Analysis Run 9/19/2025 5:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Confidence Interval

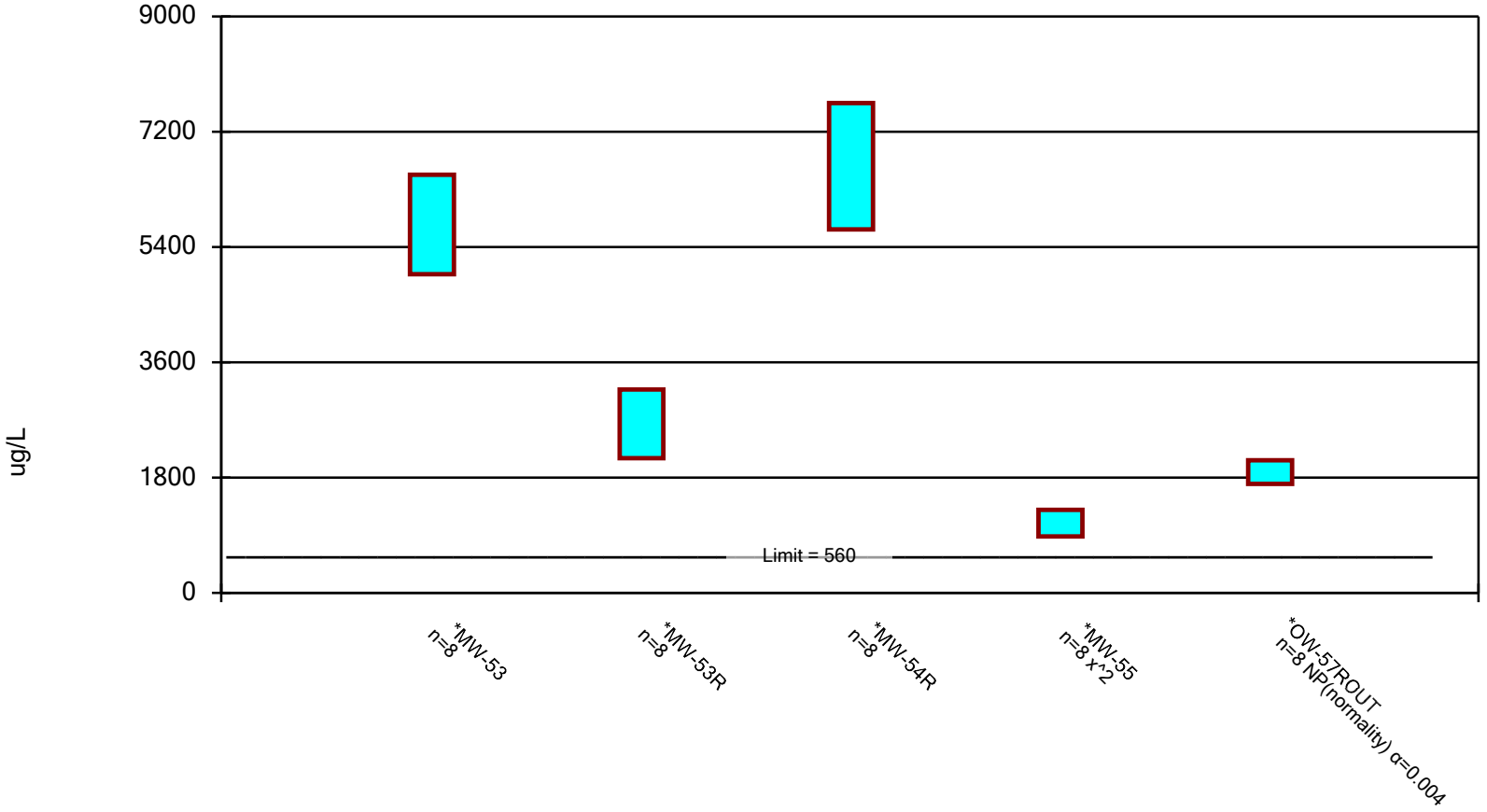
Constituent: Boron, Total (ug/L) Analysis Run 9/19/2025 5:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

	JCW-MW-18001	JCW-MW-18005	JCW-MW-18006	MW-50	MW-51	MW-52
10/5/2023	1620					
10/9/2023		1470	2375 (D)	2065 (D)	1170	1140
3/5/2024	1420			2155 (D)	935	945
3/6/2024		1000	2675 (D)			
5/7/2024	1330			2045 (D)	798	895
5/8/2024		960	2785 (D)			
7/23/2024	1370	1460		2140 (D)	862	909
7/24/2024			2490			
10/1/2024	1310			2500 (D)	1070	1220
10/2/2024		1930	3240			
3/4/2025	1610			2935 (D)	1020	894
3/5/2025		1740	2840 (D)			
5/13/2025	1540			2830	938	755.5 (D)
5/14/2025		1080	2970			
7/14/2025	1330					
7/15/2025		1520	2710 (D)	3200	905 (D)	837
Mean	1441	1395	2761	2484	962.3	949.4
Std. Dev.	129.7	353.6	270.5	452.1	119.4	154.7
Upper Lim.	1578	1770	3047	2963	1089	1113
Lower Lim.	1307	1020	2474	2005	835.7	785.5

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Boron, Total Analysis Run 9/19/2025 5:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Confidence Interval

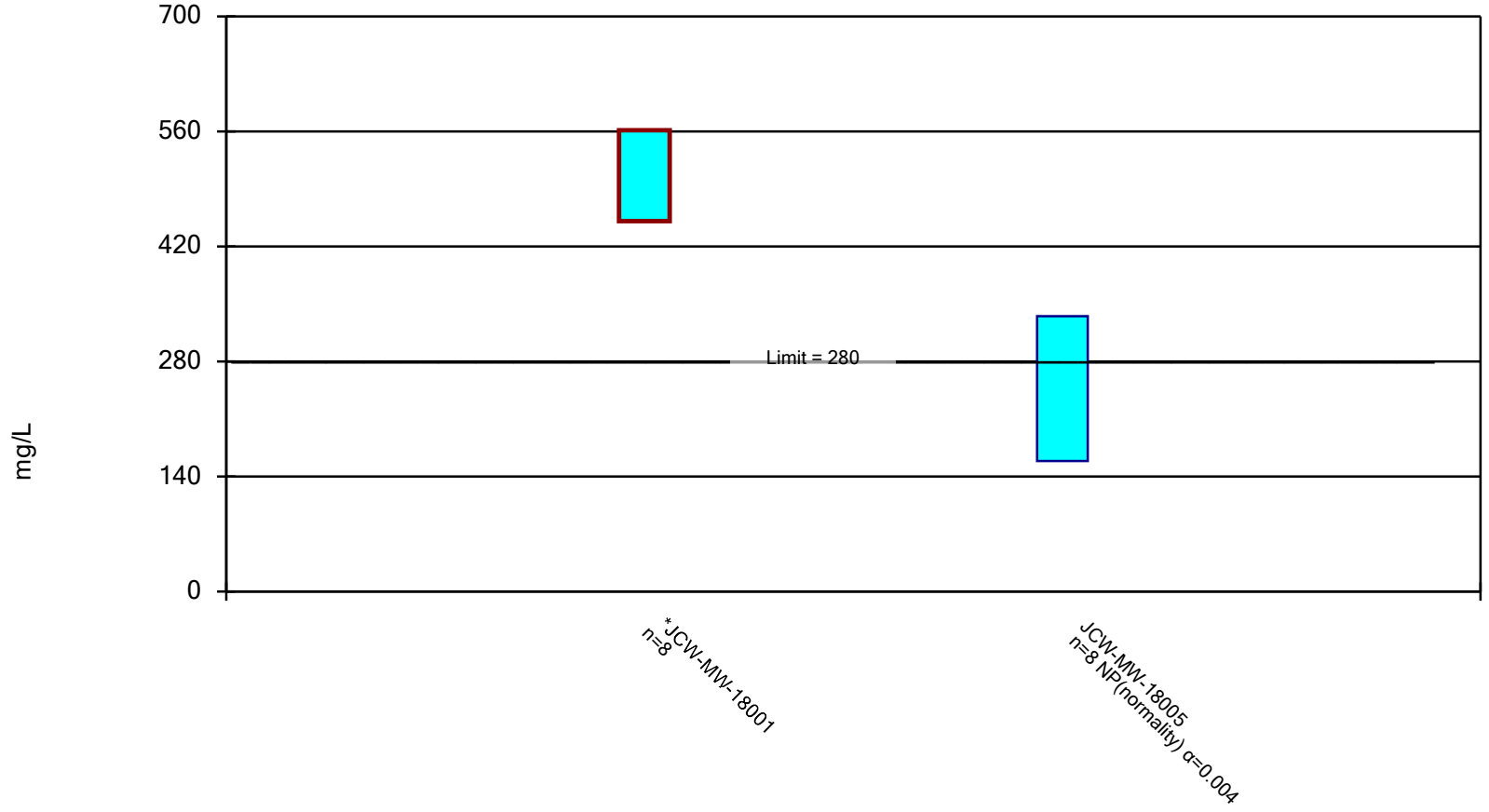
Constituent: Boron, Total (ug/L) Analysis Run 9/19/2025 5:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

	MW-53	MW-53R	MW-54R	MW-55	OW-57ROUT
10/9/2023	5530	2420	5520	1200	1790
3/5/2024	5740	2300	5940	825	
3/6/2024					1810
5/7/2024	6110	2200	5580		
5/8/2024				729	1700
7/23/2024	6960	1880	6930	1270	
7/24/2024					1710 (D)
10/1/2024	6380	2830			
10/2/2024			8080	1110 (D)	2070
3/4/2025	5010	3100	7610	1270	
3/5/2025					2070
5/13/2025	4680	3160			
5/14/2025			6710	1260 (D)	1830
7/15/2025	5600	3220	6920	1060	1770
Mean	5751	2639	6661	1091	1844
Std. Dev.	732.3	505.6	929.4	209.6	146.7
Upper Lim.	6527	3175	7646	1296	2070
Lower Lim.	4975	2103	5676	881.4	1700

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Calcium, Total Analysis Run 9/19/2025 5:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Confidence Interval

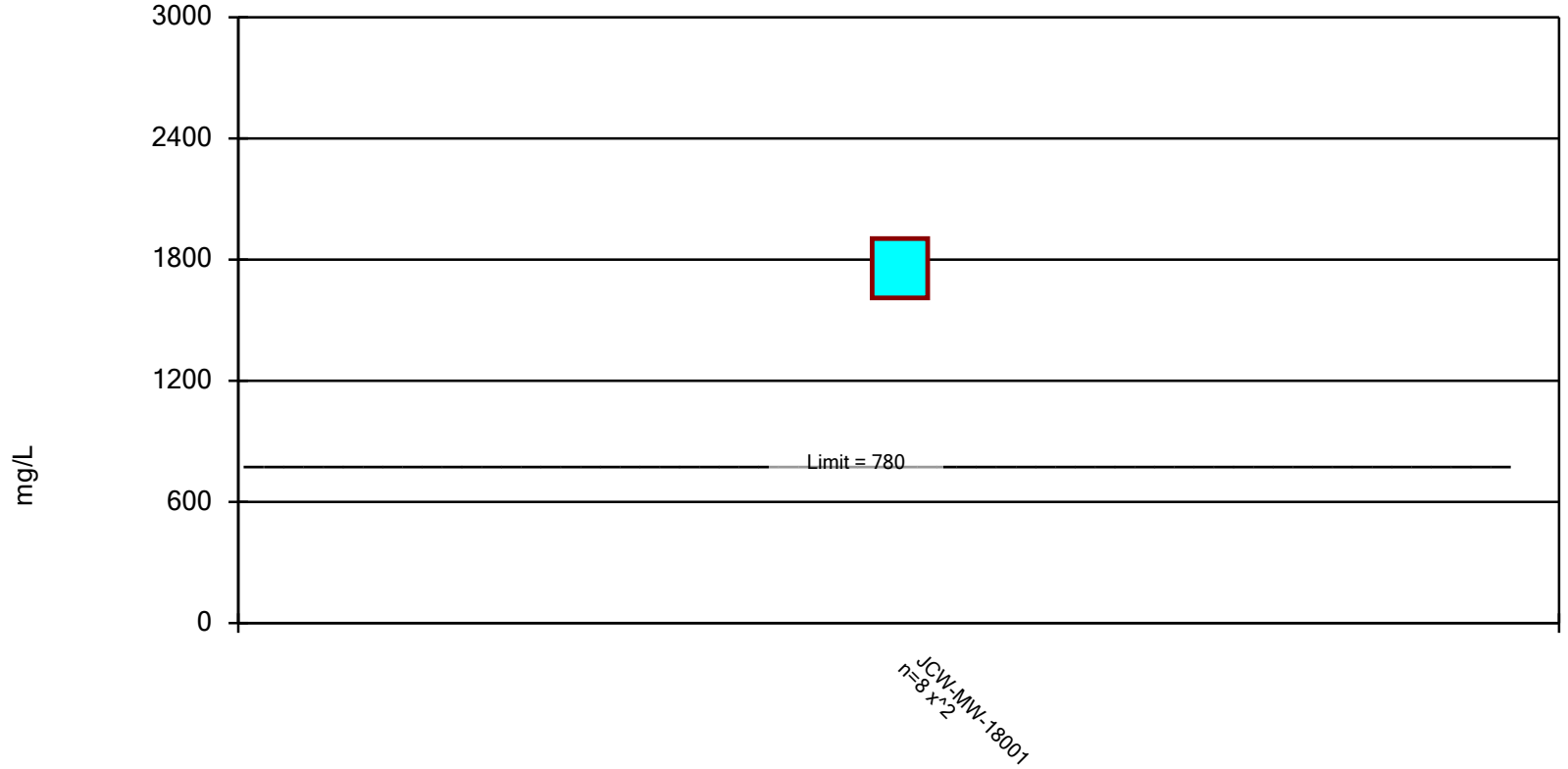
Constituent: Calcium, Total (mg/L) Analysis Run 9/19/2025 5:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

	JCW-MW-18001	JCW-MW-18005
10/5/2023	562	
10/9/2023		159
3/5/2024	557	
3/6/2024		335
5/7/2024	537	
5/8/2024		302
7/23/2024	526	164
10/1/2024	474	
10/2/2024		162
3/4/2025	405	
3/5/2025		159
5/13/2025	509	
5/14/2025		248
7/14/2025	479	
7/15/2025		172
Mean	506.1	212.6
Std. Dev.	52.18	72.25
Upper Lim.	561.4	335
Lower Lim.	450.8	159

Parametric Confidence Interval

Compliance limit is exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Sulfate Analysis Run 9/19/2025 5:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Confidence Interval

Constituent: Sulfate (mg/L) Analysis Run 9/19/2025 5:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

	JCW-MW-18001
10/5/2023	1890
3/5/2024	1880
5/7/2024	1790
7/23/2024	1810
10/1/2024	1770
3/4/2025	1460
5/13/2025	1830
7/14/2025	1630
Mean	1758
Std. Dev.	144.7
Upper Lim.	1903
Lower Lim.	1610

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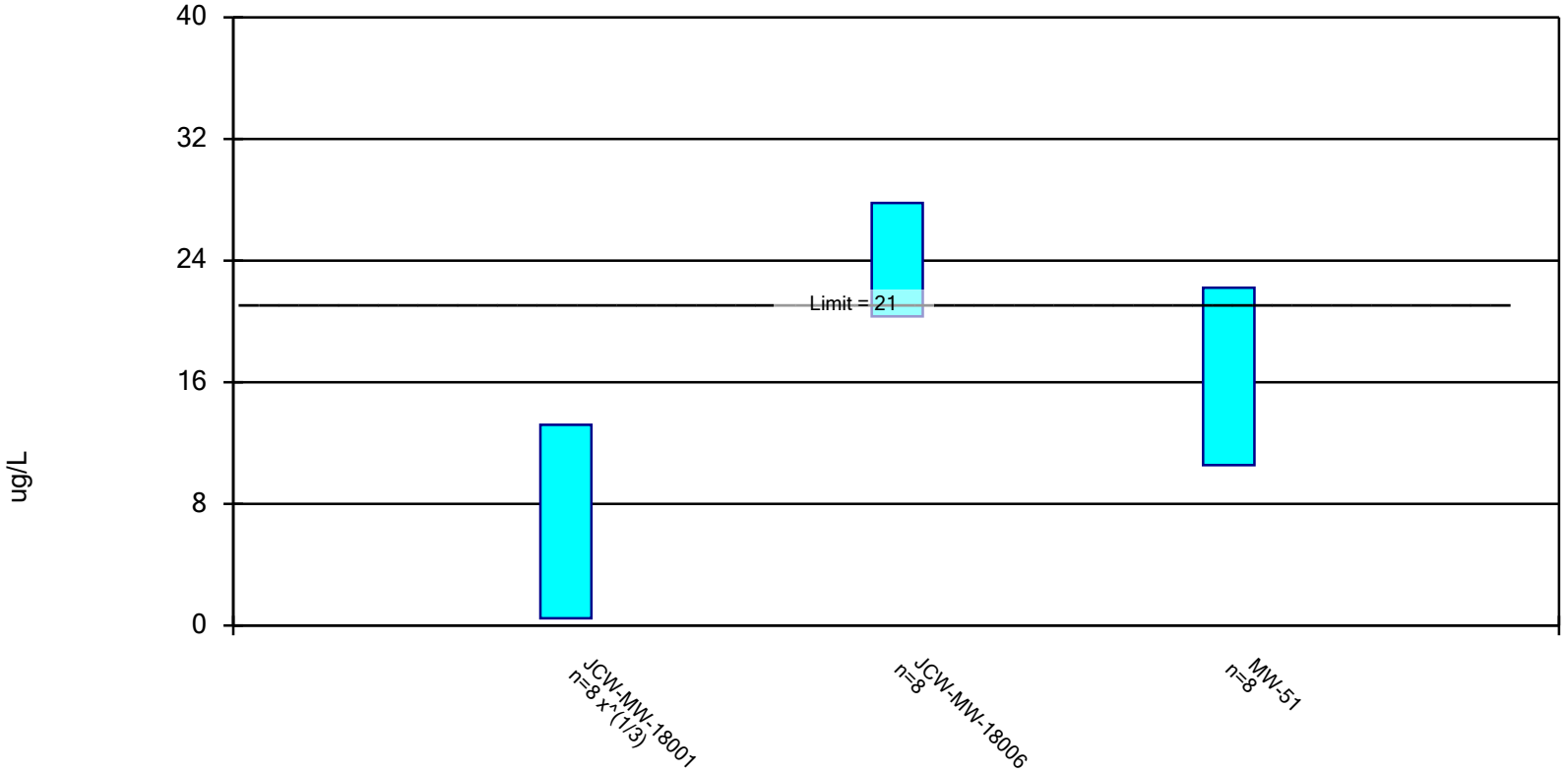
Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic, Total Analysis Run 9/23/2025 7:26 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Confidence Interval

Constituent: Arsenic, Total (ug/L) Analysis Run 9/23/2025 7:26 AM

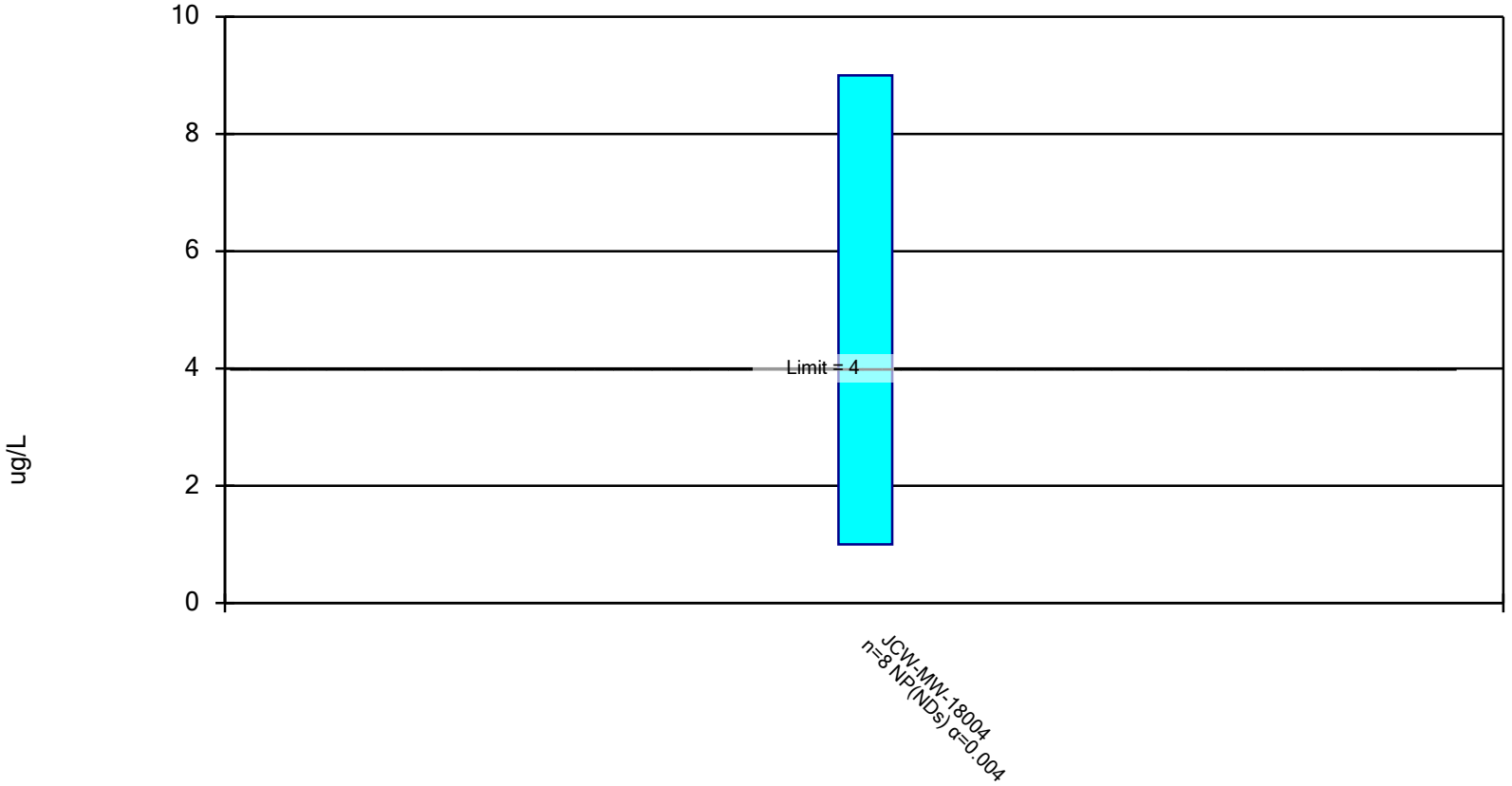
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

	JCW-MW-18001	JCW-MW-18006	MW-51
10/5/2023	1		
10/9/2023		17.5 (D)	18
3/5/2024	<1		10
3/6/2024		22.5 (D)	
5/7/2024	2		13
5/8/2024		29 (D)	
7/23/2024	2		19
7/24/2024		23	
10/1/2024	2		27
10/2/2024		27	
3/4/2025	30		12
3/5/2025		22.5 (D)	
5/13/2025	7		13
5/14/2025		25	
7/14/2025	8		
7/15/2025		26 (D)	19 (D)
Mean	6.563	24.06	16.38
Std. Dev.	9.869	3.52	5.502
Upper Lim.	13.2	27.79	22.21
Lower Lim.	0.4836	20.33	10.54

ND substitution: RL or RL/2 if <15% NDs.

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Lead, Total Analysis Run 9/19/2025 5:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Confidence Interval

Constituent: Lead, Total (ug/L) Analysis Run 9/19/2025 5:08 PM

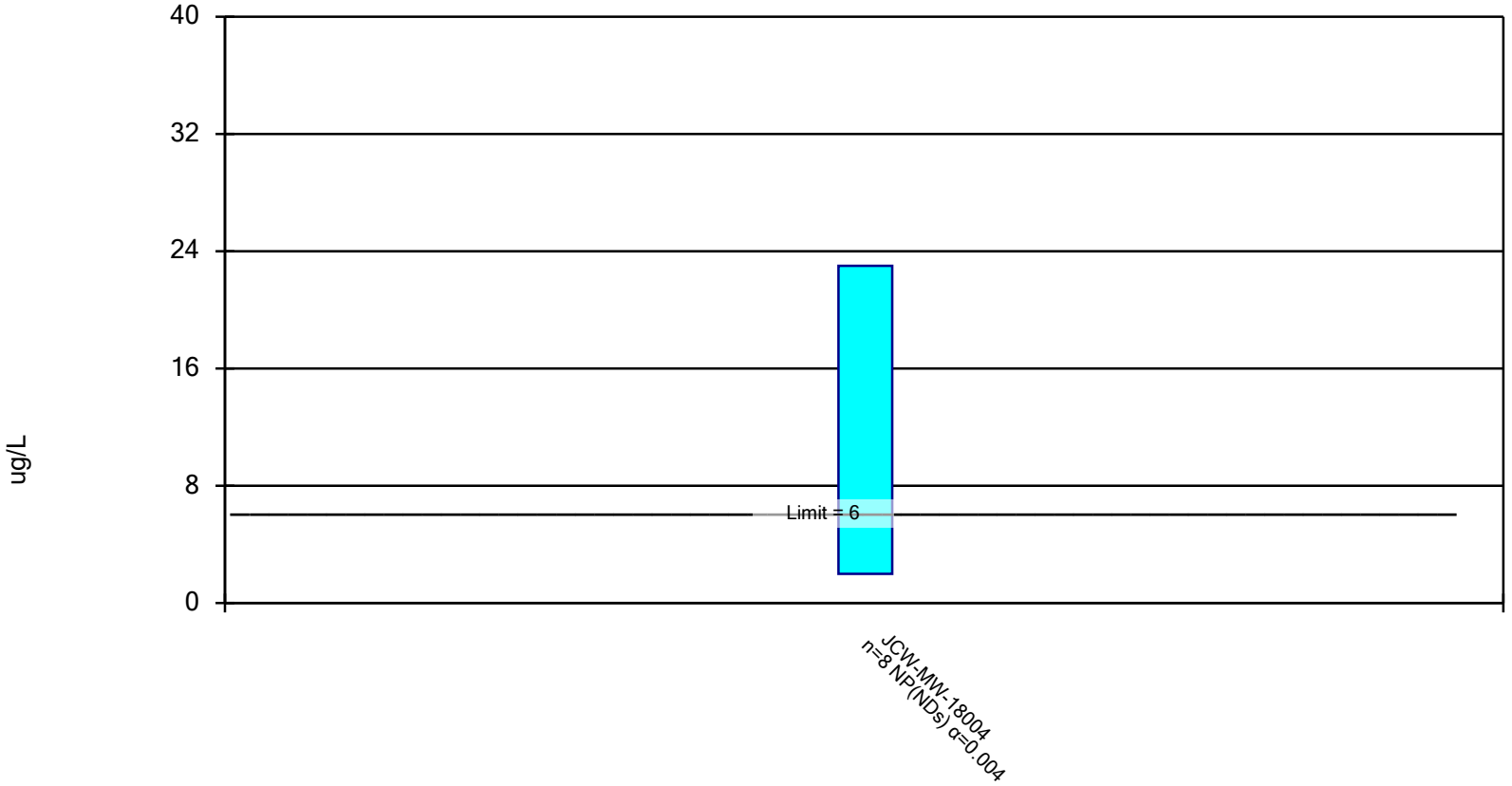
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

	JCW-MW-18004
10/9/2023	<1
3/5/2024	<1
5/8/2024	<1
7/23/2024	<1
10/2/2024	<1
3/4/2025	<1
5/14/2025	9
7/15/2025	<1
Mean	2
Std. Dev.	2.828
Upper Lim.	9
Lower Lim.	1

ND substitution: RL or RL/2 if <15% NDs.

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Vanadium, Total Analysis Run 9/19/2025 5:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Confidence Interval

Constituent: Vanadium, Total (ug/L) Analysis Run 9/19/2025 5:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

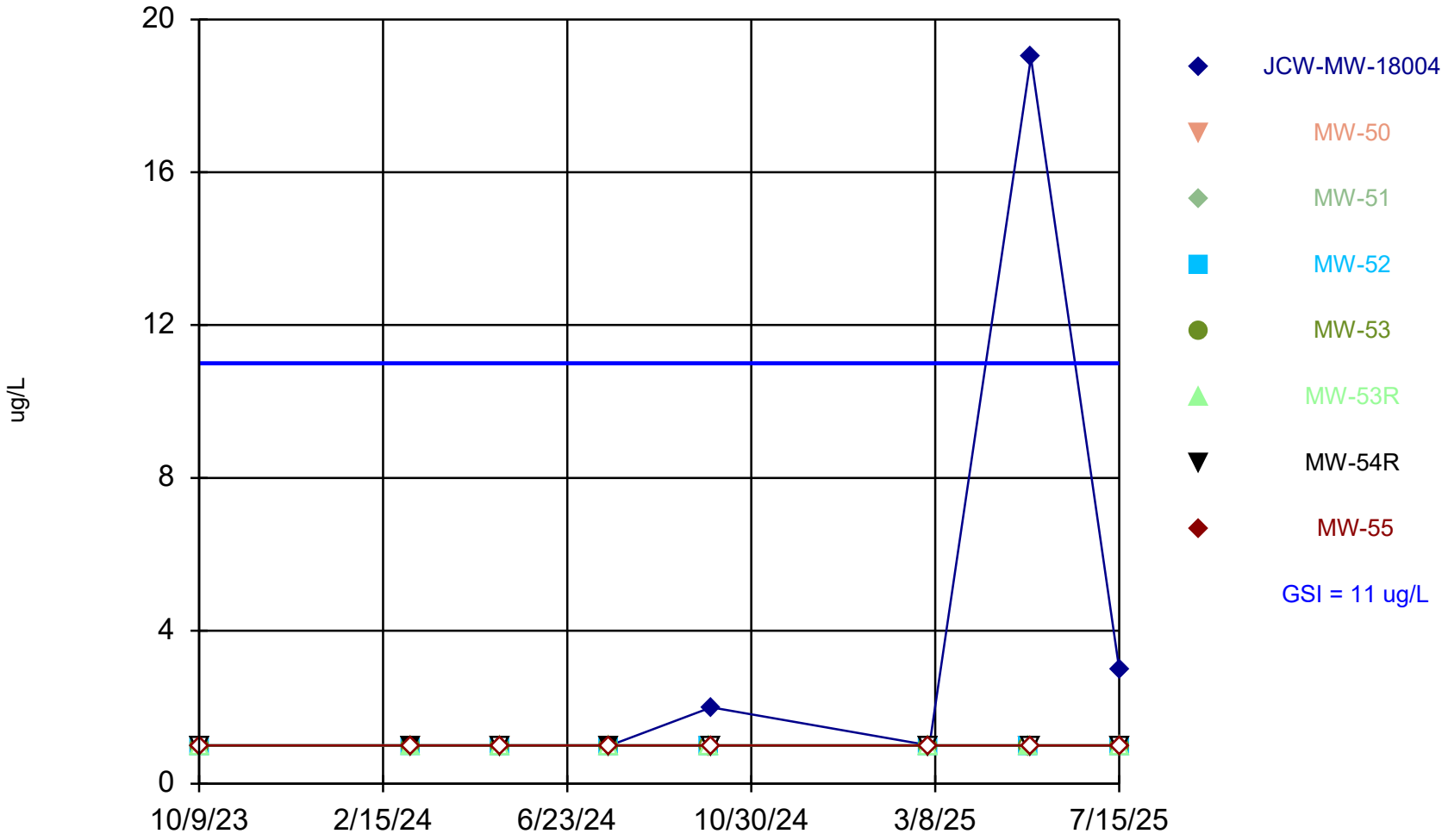
	JCW-MW-18004
10/9/2023	<2
3/5/2024	<2
5/8/2024	<2
7/23/2024	<2
10/2/2024	<2
3/4/2025	<2
5/14/2025	23
7/15/2025	<2
Mean	4.625
Std. Dev.	7.425
Upper Lim.	23
Lower Lim.	2

ND substitution: RL or RL/2 if <15% NDs.

Attachment 2
GSI Sanitas™ Output Files

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Chromium Comparison to GSI



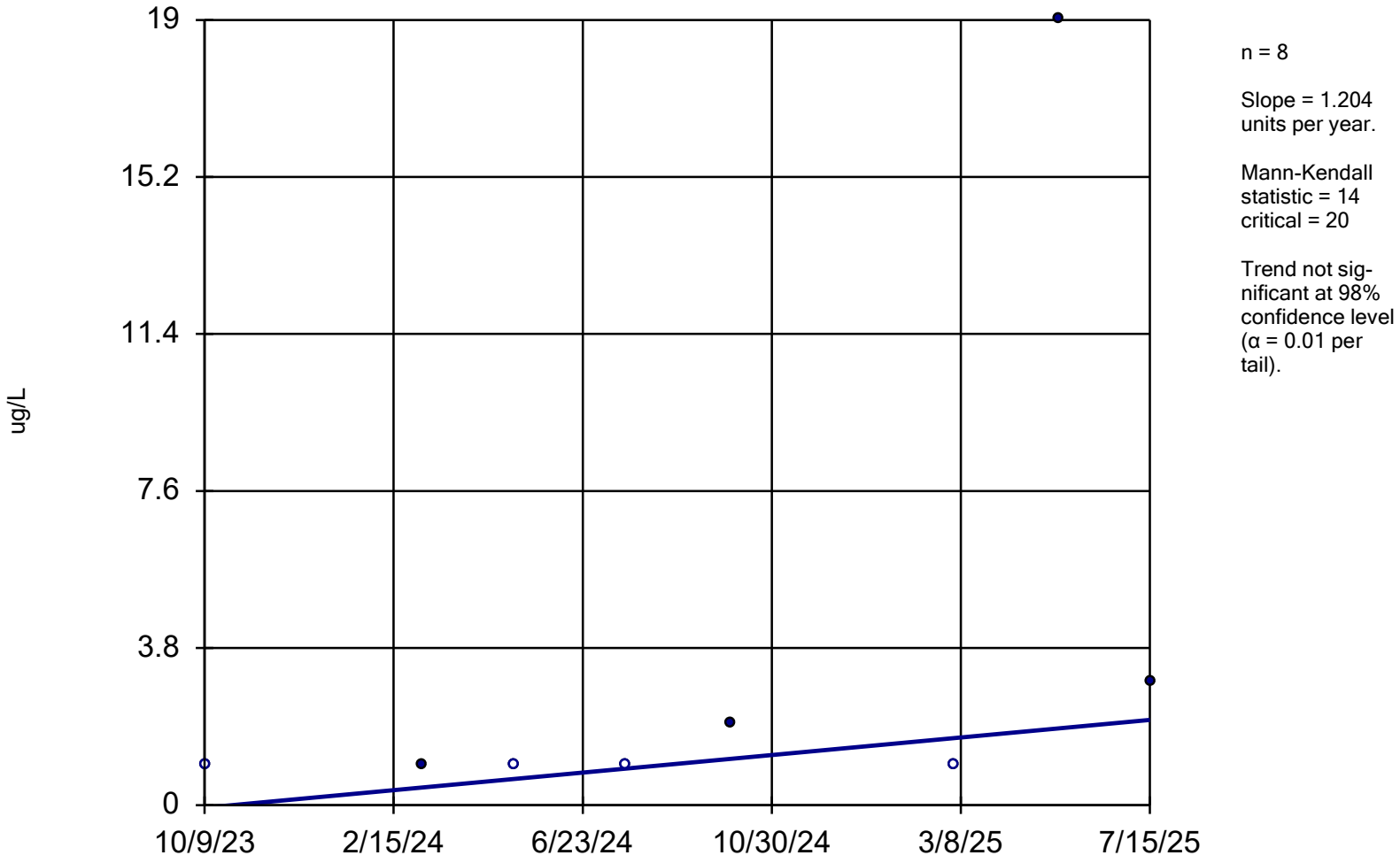
Time Series Analysis Run 9/25/2025 12:11 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Sanitas™ v.10.0.27 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Chromium, Total

JCW-MW-18004



n = 8

Slope = 1.204 units per year.

Mann-Kendall statistic = 14
critical = 20

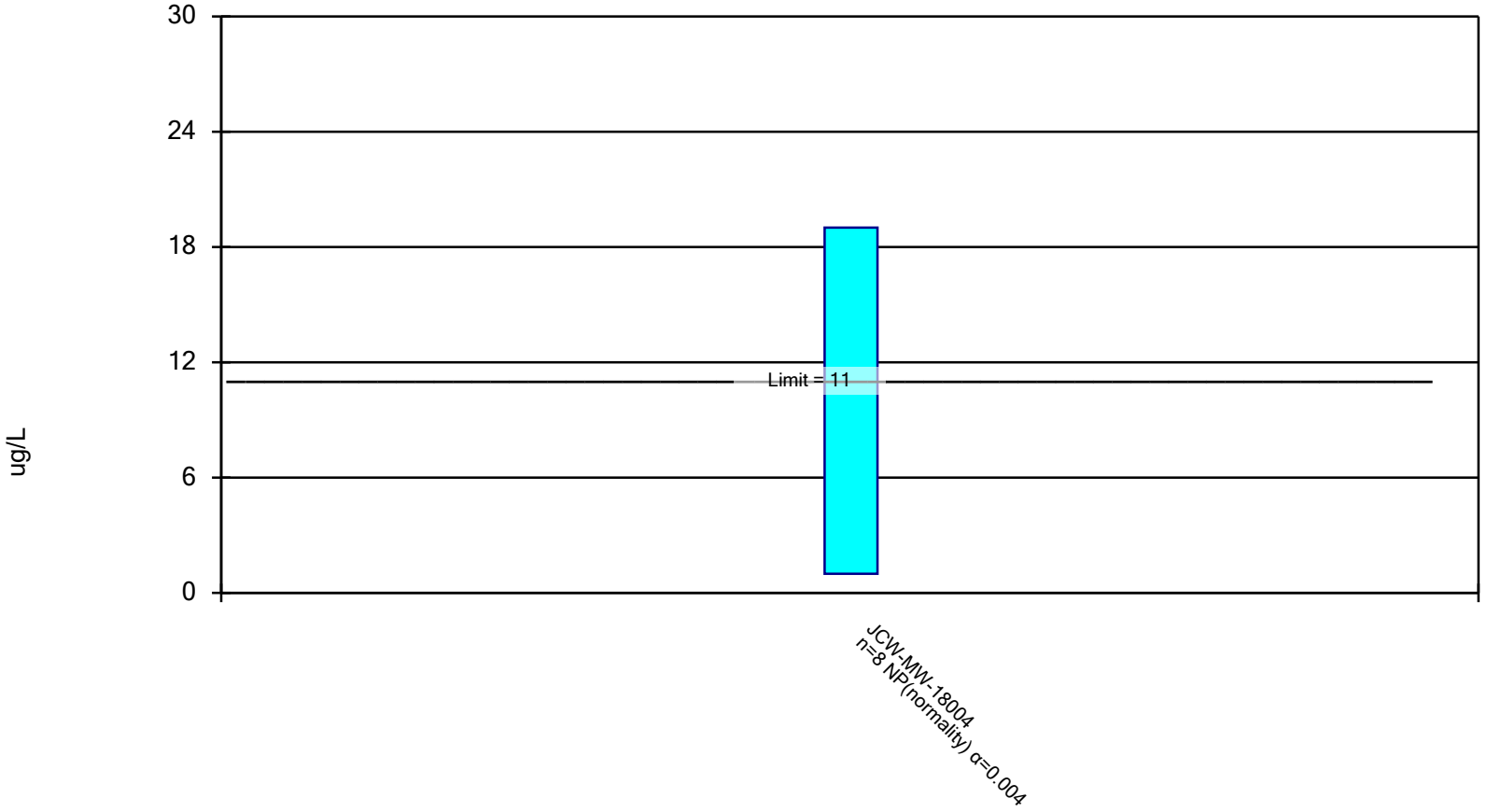
Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope Estimator Analysis Run 9/25/2025 12:12 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Chromium, Total Analysis Run 9/25/2025 12:13 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

Confidence Interval

Constituent: Chromium, Total (ug/L) Analysis Run 9/25/2025 12:13 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q3

	JCW-MW-18004
10/9/2023	<1
3/5/2024	1
5/8/2024	<1
7/23/2024	<1
10/2/2024	2
3/4/2025	<1
5/14/2025	19
7/15/2025	3
Mean	3.625
Std. Dev.	6.255
Upper Lim.	19
Lower Lim.	1

ND substitution: RL or RL/2 if <15% NDs.

Appendix E
Laboratory Analytical Report

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135 W. Trail St.
Jackson, MI 49201
phone 517-788-1251
fax 517-788-2533

To: JJFirlit, Karn/Weadock

From: EBlaj, T-258

Date: July 30, 2025

Subject: HMP GROUNDWATER MONITORING – JCW POREWATER – 2025 Q3

CC: HDRegister, P22-521

Darby Litz, Project Manager
TRC Environmental Corporation
1540 Eisenhower Place
Ann Arbor, MI 48108

Chemistry Project: 25-0478

TRC Environmental, Inc. conducted groundwater monitoring at the JCWeadock site during the week of 07/14/2025 for the 3rd Quarter requirements, as specified in the Hydrogeological Monitoring Plan for the site. The samples were received for analysis by the Chemistry department of Laboratory Services on 07/16/2025.

The report that follows presents the results of the requested analytical testing; the results apply only to the samples as received. All samples have been analyzed in accordance with the 2016 TNI Standard and the applicable A2LA accreditation scope for Laboratory Services. Any exceptions to applicable test method criteria and standard compliance are noted in the Case Narrative or flagged with applicable qualifiers in the analytical results section.

Reviewed and approved by:

Emil Blaj
Sr. Technical Analyst
Project Lead

ilac-MRA A2LA ACCREDITED Certificate #1097.04

Testing performed in accordance with the A2LA scope of accredidation specified in the listed certificate.
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CASE NARRATIVE

I. Sample Receipt

All samples were received within hold time and in good conditions; no anomalies were noted on the attached Sample Log-In Shipment Inspection Form during sample check-in. Identification of all samples included in the work order/project is provided in the sample summary section. All sample preservation and temperature upon receipt was verified by the sample custodian and confirmed to meet method requirements.

II. Methodology

Unless otherwise indicated, sample preparation and analysis was performed in accordance with the corresponding test methods from "Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100); SW-846, "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods", USEPA (latest revisions), and Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WPCF, latest edition.

III. Results/Quality Control

Analytical results for this report are presented by laboratory sample ID, container, & aliquot number. Results for the field blanks, field duplicates, and recoveries of the field matrix spike & matrix spike duplicate samples are included in the results section; all other quality control data is listed in the Quality Control Summary associated with the particular test method, as appropriate. Unless specifically noted in the case narrative, all method quality control requirements have been met. If any results are qualified, the corresponding data flags/qualifiers are listed on the last page of the results section. Any additional information on method performance, when applicable, is presented in this section of the case narrative. When data flags are not needed, the qualifiers text box on the last page is left blank, and a statement confirms that no exceptions occurred.

DEFINITIONS / QUALIFIERS

The following qualifiers and/or acronyms are used in the report, where applicable:

Acronym	Description
RL	Reporting Limit
ND	Result not detected or below Reporting Limit
NT	Non TNI Analyte
LCS	Laboratory Control Sample
LRB	Laboratory Reagent Blank (also referred to as Method Blank)
DUP	Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
TDL	Target Detection Limit
SM	Standard Methods Compendium

Qualifier	Description
*	Generic data flag, applicable description added in the corresponding notes section
B	The analyte was detected in the LRB at a level which is significant relative to sample result
D	Reporting limit elevated due to dilution
E	Estimated due to result exceeding the linear range of the analyzer
H	The maximum recommended hold time was exceeded
I	Dilution required due to matrix interference; reporting limit elevated
J	Estimated due to result found above MDL but below PQL (or RL)
K	Reporting limit raised due to matrix interference
M	The precision for duplicate analysis was not met; RPD outside acceptance criteria
N	Non-homogeneous sample made analysis questionable
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Matrix Spike or Matrix Spike Duplicate recovery outside acceptance criteria
R	Result confirmed by new sample preparation and reanalysis
X	Other notation required; comment listed in sample notes and/or case narrative

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Work Order Sample Summary

Customer Name: Karn/Weadock Complex
Work Order ID: Q3-2025 Weadock Porewater Wells
Date Received: 7/16/2025
Chemistry Project: 25-0478

Sample #	Field Sample ID	Matrix	Sample Date	Site
25-0478-01	JCW-MW-18001	Groundwater	07/14/2025 14:15	JCW Solid Waste Disposal Area, Porewater
25-0478-02	JCW-MW-18004	Groundwater	07/15/2025 13:25	JCW Solid Waste Disposal Area, Porewater
25-0478-03	JCW-MW-18005	Groundwater	07/15/2025 14:27	JCW Solid Waste Disposal Area, Porewater
25-0478-04	JCW-MW-18006	Groundwater	07/15/2025 15:05	JCW Solid Waste Disposal Area, Porewater
25-0478-05	MW-50	Groundwater	07/15/2025 10:16	JCW Solid Waste Disposal Area, Porewater
25-0478-06	MW-51	Groundwater	07/15/2025 10:54	JCW Solid Waste Disposal Area, Porewater
25-0478-07	MW-52	Groundwater	07/15/2025 11:40	JCW Solid Waste Disposal Area, Porewater
25-0478-08	MW-53	Groundwater	07/15/2025 12:27	JCW Solid Waste Disposal Area, Porewater
25-0478-09	MW-53R	Groundwater	07/15/2025 12:53	JCW Solid Waste Disposal Area, Porewater
25-0478-10	MW-54R	Groundwater	07/15/2025 14:05	JCW Solid Waste Disposal Area, Porewater
25-0478-11	MW-55	Groundwater	07/15/2025 14:10	JCW Solid Waste Disposal Area, Porewater
25-0478-12	OW-57ROUT	Groundwater	07/15/2025 15:40	JCW Solid Waste Disposal Area, Porewater
25-0478-13	DUP-JCW-LF-01	Groundwater	07/15/2025 00:00	JCW Solid Waste Disposal Area, Porewater
25-0478-14	DUP-JCW-LF-02	Groundwater	07/15/2025 00:00	JCW Solid Waste Disposal Area, Porewater
25-0478-15	JCW-MW-18001 MS	Groundwater	07/14/2025 14:15	JCW Solid Waste Disposal Area, Porewater
25-0478-16	JCW-MW-18001 MSD	Groundwater	07/14/2025 14:15	JCW Solid Waste Disposal Area, Porewater
25-0478-17	FB-01	Water	07/15/2025 14:27	JCW Solid Waste Disposal Area, Porewater
25-0478-18	EB-01	Water	07/15/2025 14:55	JCW Solid Waste Disposal Area, Porewater

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18001**
Lab Sample ID: 25-0478-01
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/14/2025
Collect Time: 02:15 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-01-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-01-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	8		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	61		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	1330		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	479000		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	3		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	1930		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	98		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	124000		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	ND		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	22		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	16800		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	3		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	260000		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	3		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	11		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-01-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	43800		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	1630000		ug/L	1000.0	07/23/2025	AB25-0723-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0478-01-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	3140		mg/L	10.0	07/17/2025	AB25-0717-04

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Analytical Report

Report Date: 07/30/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18001**
Lab Sample ID: 25-0478-01
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/14/2025
Collect Time: 02:15 PM

Alkalinity by SM 2320B

Aliquot #: 25-0478-01-C04-A01 **Analyst: DLS**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Alkalinity, Total	745000		ug/L	10000.0	07/22/2025	AB25-0722-06
Alkalinity, Bicarbonate	745000		ug/L	10000.0	07/22/2025	AB25-0722-06
Alkalinity, Carbonate	ND		ug/L	10000.0	07/22/2025	AB25-0722-06

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18004**
Lab Sample ID: 25-0478-02
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/15/2025
Collect Time: 01:25 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-02-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-02-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	29		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	309		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	219000		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	3		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	2		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	509		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	44		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	76300		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	ND		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	14		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	2570		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	1		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	29100		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	20		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-02-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	13900		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	489000		ug/L	1000.0	07/23/2025	AB25-0723-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0478-02-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1140		mg/L	10.0	07/17/2025	AB25-0717-04

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18005**
Lab Sample ID: 25-0478-03
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/15/2025
Collect Time: 02:27 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-03-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-03-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	1		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	82		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	1520		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	172000		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	2		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	80		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	33		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	57300		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	5		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	15		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	3760		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	4		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	61900		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	ND		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-03-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	41900		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	175000		ug/L	1000.0	07/23/2025	AB25-0723-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0478-03-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	904		mg/L	10.0	07/17/2025	AB25-0717-04

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18006**
Lab Sample ID: 25-0478-04
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/15/2025
Collect Time: 03:05 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-04-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-04-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	26		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	363		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	2660		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	122000		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	1		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	7620		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	50		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	39700		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	ND		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	6		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	8160		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	4		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	102000		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	4		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	ND		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-04-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	68900		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	66400		ug/L	1000.0	07/23/2025	AB25-0723-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0478-04-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	754		mg/L	10.0	07/17/2025	AB25-0717-04

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-50**
Lab Sample ID: 25-0478-05
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/15/2025
Collect Time: 10:16 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-05-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-05-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	5		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	200		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	3200		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	187000		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	1		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	1360		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	68		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	67100		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	ND		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	9		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	8410		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	3		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	63300		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	ND		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-05-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	53100		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	272000		ug/L	1000.0	07/23/2025	AB25-0723-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0478-05-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1040		mg/L	10.0	07/17/2025	AB25-0717-04

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-51**
Lab Sample ID: 25-0478-06
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/15/2025
Collect Time: 10:54 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-06-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-06-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	19		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	147		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	897		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	161000		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	1		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	2020		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	28		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	52700		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	ND		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	8		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	4740		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	3		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	141000		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	2		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	ND		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-06-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	62400		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	437000		ug/L	1000.0	07/23/2025	AB25-0723-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0478-06-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1150		mg/L	10.0	07/17/2025	AB25-0717-04

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-52**
Lab Sample ID: 25-0478-07
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/15/2025
Collect Time: 11:40 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-07-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-07-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	89		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	837		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	244000		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	2		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	6760		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	29		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	84200		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	ND		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	12		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	6430		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	3		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	49600		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	ND		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-07-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	42700		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	480000		ug/L	1000.0	07/23/2025	AB25-0723-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0478-07-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1370		mg/L	10.0	07/17/2025	AB25-0717-04

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-53**
Lab Sample ID: 25-0478-08
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/15/2025
Collect Time: 12:27 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-08-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-08-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	1		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	411		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	5600		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	104000		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	502		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	42		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	33500		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	ND		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	5		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	9570		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	3		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	71400		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	3		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	ND		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-08-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	86200		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	3640		ug/L	1000.0	07/23/2025	AB25-0723-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0478-08-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	606		mg/L	10.0	07/17/2025	AB25-0717-04

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-53R**
Lab Sample ID: 25-0478-09
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/15/2025
Collect Time: 12:53 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-09-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-09-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	14		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	160		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	3220		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	170000		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	2		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	575		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	54		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	53300		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	ND		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	9		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	5920		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	5		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	69200		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	3		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	ND		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-09-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	81000		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	123000		ug/L	1000.0	07/23/2025	AB25-0723-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0478-09-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	900		mg/L	10.0	07/17/2025	AB25-0717-04

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Analytical Report

Report Date: 07/30/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-54R**
Lab Sample ID: 25-0478-10
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/15/2025
Collect Time: 02:05 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-10-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-10-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	3		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	113		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	6920		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	197000		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	2		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	29		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	100		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	63800		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	25		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	11		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	3880		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	7		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	79600		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	3		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	ND		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-10-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	115000		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	211000		ug/L	1000.0	07/23/2025	AB25-0723-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0478-10-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1120		mg/L	10.0	07/17/2025	AB25-0717-04

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-55**
Lab Sample ID: 25-0478-11
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/15/2025
Collect Time: 02:10 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-11-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-11-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	23		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	200		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	1060		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	172000		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	1		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	12400		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	25		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	31600		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	22		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	8		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	4070		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	12		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	81400		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	ND		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-11-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	15100		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	252000		ug/L	1000.0	07/23/2025	AB25-0723-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0478-11-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	898		mg/L	10.0	07/17/2025	AB25-0717-04

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Analytical Report

Report Date: 07/30/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **OW-57ROUT**
Lab Sample ID: 25-0478-12
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/15/2025
Collect Time: 03:40 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-12-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-12-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	6		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	85		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	1770		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	138000		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	2		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	362		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	27		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	69200		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	7		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	18		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	2260		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	4		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	60400		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	3		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	ND		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-12-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	81200		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	63700		ug/L	1000.0	07/23/2025	AB25-0723-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0478-12-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	800		mg/L	10.0	07/17/2025	AB25-0717-04

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **DUP-JCW-LF-01**
Lab Sample ID: 25-0478-13
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/15/2025
Collect Time: 12:00 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-13-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-13-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	19		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	153		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	913		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	158000		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	1		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	2010		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	28		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	53300		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	ND		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	8		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	4220		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	4		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	143000		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	2		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	ND		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-13-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	61400		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	439000		ug/L	1000.0	07/23/2025	AB25-0723-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0478-13-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1190		mg/L	10.0	07/17/2025	AB25-0717-04

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **DUP-JCW-LF-02**
Lab Sample ID: 25-0478-14
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/15/2025
Collect Time: 12:00 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-14-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-14-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	26		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	359		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	2760		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	121000		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	7490		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	52		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	40400		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	ND		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	6		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	7650		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	4		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	103000		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	4		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	ND		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-14-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	69400		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	68500		ug/L	1000.0	07/23/2025	AB25-0723-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0478-14-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	774		mg/L	10.0	07/17/2025	AB25-0717-04

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18001 MS**
Lab Sample ID: 25-0478-15
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/14/2025
Collect Time: 02:15 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-15-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	98.0		%	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-15-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	106		%	1.0	07/21/2025	AB25-0721-06
Arsenic	106		%	1.0	07/21/2025	AB25-0721-06
Barium	124		%	5.0	07/21/2025	AB25-0721-06
Beryllium	88		%	1.0	07/21/2025	AB25-0721-06
Boron	89		%	20.0	07/21/2025	AB25-0721-06
Cadmium	103		%	0.2	07/21/2025	AB25-0721-06
Calcium	111		%	1000.0	07/21/2025	AB25-0721-06
Chromium	102		%	1.0	07/21/2025	AB25-0721-06
Cobalt	98		%	6.0	07/21/2025	AB25-0721-06
Copper	90		%	1.0	07/21/2025	AB25-0721-06
Iron	104		%	20.0	07/21/2025	AB25-0721-06
Lead	87		%	1.0	07/21/2025	AB25-0721-06
Lithium	90		%	10.0	07/21/2025	AB25-0721-06
Magnesium	113		%	1000.0	07/21/2025	AB25-0721-06
Molybdenum	117		%	5.0	07/21/2025	AB25-0721-06
Nickel	93		%	2.0	07/21/2025	AB25-0721-06
Potassium	104		%	100.0	07/21/2025	AB25-0721-06
Selenium	110		%	1.0	07/21/2025	AB25-0721-06
Silver	104		%	0.2	07/21/2025	AB25-0721-06
Sodium	123		%	1000.0	07/21/2025	AB25-0721-06
Thallium	91		%	2.0	07/21/2025	AB25-0721-06
Vanadium	105		%	2.0	07/21/2025	AB25-0721-06
Zinc	92		%	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-15-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	102		%	1000.0	07/23/2025	AB25-0723-01
Fluoride	90		%	1000.0	07/23/2025	AB25-0723-01
Sulfate	93		%	1000.0	07/23/2025	AB25-0723-01

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Analytical Report

Report Date: 07/30/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18001 MSD**
Lab Sample ID: 25-0478-16
Matrix: Groundwater

Laboratory Project: **25-0478**
Collect Date: 07/14/2025
Collect Time: 02:15 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-16-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	98.0		%	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-16-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	104		%	1.0	07/21/2025	AB25-0721-06
Arsenic	106		%	1.0	07/21/2025	AB25-0721-06
Barium	120		%	5.0	07/21/2025	AB25-0721-06
Beryllium	90		%	1.0	07/21/2025	AB25-0721-06
Boron	86		%	20.0	07/21/2025	AB25-0721-06
Cadmium	100		%	0.2	07/21/2025	AB25-0721-06
Calcium	106		%	1000.0	07/21/2025	AB25-0721-06
Chromium	105		%	1.0	07/21/2025	AB25-0721-06
Cobalt	106		%	6.0	07/21/2025	AB25-0721-06
Copper	93		%	1.0	07/21/2025	AB25-0721-06
Iron	114		%	20.0	07/21/2025	AB25-0721-06
Lead	88		%	1.0	07/21/2025	AB25-0721-06
Lithium	92		%	10.0	07/21/2025	AB25-0721-06
Magnesium	114		%	1000.0	07/21/2025	AB25-0721-06
Molybdenum	113		%	5.0	07/21/2025	AB25-0721-06
Nickel	99		%	2.0	07/21/2025	AB25-0721-06
Potassium	103		%	100.0	07/21/2025	AB25-0721-06
Selenium	111		%	1.0	07/21/2025	AB25-0721-06
Silver	101		%	0.2	07/21/2025	AB25-0721-06
Sodium	120		%	1000.0	07/21/2025	AB25-0721-06
Thallium	90		%	2.0	07/21/2025	AB25-0721-06
Vanadium	106		%	2.0	07/21/2025	AB25-0721-06
Zinc	96		%	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-16-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	105		%	1000.0	07/23/2025	AB25-0723-01
Fluoride	92		%	1000.0	07/23/2025	AB25-0723-01
Sulfate	88		%	1000.0	07/23/2025	AB25-0723-01

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Analytical Report

Report Date: 07/30/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **FB-01**
Lab Sample ID: 25-0478-17
Matrix: Water

Laboratory Project: **25-0478**
Collect Date: 07/15/2025
Collect Time: 02:27 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-17-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-17-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	ND		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	ND		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	ND		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	1		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	ND		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	ND		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	ND		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	ND		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	ND		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	ND		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	ND		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-17-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	ND		ug/L	1000.0	07/23/2025	AB25-0723-01

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Analytical Report

Report Date: 07/30/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **EB-01**
Lab Sample ID: 25-0478-18
Matrix: Water

Laboratory Project: **25-0478**
Collect Date: 07/15/2025
Collect Time: 02:55 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0478-18-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0478-18-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	ND		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	ND		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	ND		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	ND		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	ND		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	ND		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	ND		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	ND		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	ND		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	ND		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0478-18-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0723-01
Sulfate	ND		ug/L	1000.0	07/23/2025	AB25-0723-01

Data Qualifiers	Exception Summary
	No exceptions occurred.

General Standard Operating Procedure

TITLE: SAMPLE LOG-IN – SHIPMENT INSPECTION FORM

Project Number: 25-0478 **Inspection Date:** 7.16.25 **Inspection By:** LMO

Sample Origin/Project Name: Q3-2025 JC Weadock Pore Water Wells

Shipment Delivered By: Enter the type of shipment carrier.

Inter-Company Mail_____ FedEx ✓ UPS _____ USPS _____

Tracking Number: _____ Other/Carry In (whom) _____

Shipping Containers: Enter the type and number of shipping containers received.

Cooler ✓ Cardboard Box _____ Custom Case _____ Envelope/Mailer _____

Loose/Unpackaged Containers _____ Other _____

Condition of Shipment: Enter the as-received condition of the shipment container.

Damaged Shipment Observed: None ✓ Dented _____ Leaking _____

Other _____

Shipment Security: Enter if any of the shipping containers were opened before receipt.

Shipping Containers Received: Opened _____ Sealed ✓ N/A _____

Enclosed Documents: Enter the type of documents enclosed with the shipment.

CoC ✓ Work Request _____ Air Data Sheet_____ Other_____

Temperature of Containers: Measure the temperature of several sample containers.

As-Received Temperature Range 0.8-5.3 °C Samples Received on Ice: Yes ✓ No_____

M&TE # and Expiration 015402 / 5.27.26

Number and Type of Containers: Enter the type and total number of sample containers received.

Container Type	Water	Soil	Other	Broken	Leaking
VOA (40mL or 60mL)	2				
Quart/Liter (g / p)					
9-oz (amber glass jar)					
2-oz (amber glass)					
125 mL (plastic)	36				
24 mL vial (glass)					
250 mL (plastic)	14				
Other _____					

All sample pH meeting criteria? Yes___ No✓ N/A___ **pH paper lot #** 210224 **Exp. Date** 12.01.26

Indicate if an Exception Report (Page 2 of 2) is needed: Yes ____ No ✓

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135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q3-2025 JC Weadock Porewater Wells

PROJECT NUMBER: 25-0478

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: E. Wielgopolski, A. Whaley, A. Yaasin

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0478-01	7/14/25	1415	GW	JCW-MW-18001	5	4	1						x	x	x	x	
-02	7/15/25	1325	GW	JCW-MW-18004	3	2	1						x	x	x		
-03		1427	GW	JCW-MW-18005	3	2	1						x	x	x		
-04		~~1427~~ 1505	GW	JCW-MW-18006	3	2	1						x	x	x		
-05		1016	GW	MW-50	3	2	1						x	x	x		
-06		1054	GW	MW-51	3	2	1						x	x	x		
-07		1140	GW	MW-52	3	2	1						x	x	x		
-08		1227	GW	MW-53	3	2	1						x	x	x		
-09		1253	GW	MW-53R	3	2	1						x	x	x		
-10		1405	GW	MW-54R	3	2	1						x	x	x		
-11	~~7/14~~ 7/15	1410	GW	MW-55	3	2	1						x	x	x		
-12	7/15/25	1540	GW	OW-57ROUT	3	2	1						x	x	x		

RELINQUISHED BY: [signature] DATE/TIME: 7/15/25 1640 RECEIVED BY: Fed EX

RELINQUISHED BY: Fed EX DATE/TIME: 07-16-25 10:30 RECEIVED BY: [signature]

COMMENTS:

Received on Ice? ☑ Yes ☐ No M&TE #: 015402

Temperature: 0.8 - 5.3 °C Cal. Due Date: 05-27-26

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135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q3-2025 JC Weadock Porewater Wells

PROJECT NUMBER: 25-0478

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: SA 1 of 2

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0478-13	7/15/25		GW	DUP-JCW-LF-01	3	2	1						x	x	x		
-14	7/15/25		GW	DUP-JCW-LF-02	3	2	1						x	x	x		
-15	7/14/25	1415	GW	JCW-MW-18001 MS	2	1	1						x	x			
-16	7/14/25	1415	GW	JCW-MW-18001 MSD	2	1	1						x	x			
-17	7/15/25	1427	GW	FB-01	2	1	1						x	x			
-18	7/15/25	1455	W	EB-01	2	1	1						x	x			

RELINQUISHED BY: [signature] with [illegible] — DATE/TIME: 7/15/25 1640 — RECEIVED BY: Fed Ex

RELINQUISHED BY: Fed Ex — DATE/TIME: 07-16-25 10:30 — RECEIVED BY: [signature]

COMMENTS:

Received on Ice? ☑ Yes ☐ No — M&TE #: 015402

Temperature: 0.8-5.3 °C — Cal. Due Date: 05-27-26

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135 W. Trail St.
Jackson, MI 49201
phone 517-788-1251
fax 517-788-2533

To: JJFirlit, Karn/Weadock

From: EBlaj, T-258

Date: July 30, 2025

Subject: HMP GROUNDWATER MONITORING – JCWEADOCK ASD – 2025 Q3

CC: HDRegister, P22-521

Darby Litz, Project Manager
TRC Environmental Corporation
1540 Eisenhower Place
Ann Arbor, MI 48108

Chemistry Project: 25-0479R

TRC Environmental, Inc. conducted groundwater monitoring at the JCWeadock site during the week of 07/14/2025 for the 3rd Quarter requirements, as specified in the Hydrogeological Monitoring Plan for the site. The sample was received for analysis by the Chemistry department of Laboratory Services on 07/16/2025.

The report that follows presents the results of the requested analytical testing; the results apply only to the samples as received. All samples have been analyzed in accordance with the 2016 TNI Standard and the applicable A2LA accreditation scope for Laboratory Services. Any exceptions to applicable test method criteria and standard compliance are noted in the Case Narrative, or flagged with applicable qualifiers in the analytical results section.

Reviewed and approved by:

Emil Blaj
Sr. Technical Analyst
Project Lead

ilac-MRA A2LA ACCREDITED Certificate #1097.04

Testing performed in accordance with the A2LA scope of accredidation specified in the listed certificate.
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CASE NARRATIVE

I. Sample Receipt

All samples were received within hold time and in good conditions; no anomalies were noted on the attached Sample Log-In Shipment Inspection Form during sample check-in. Identification of all samples included in the work order/project is provided in the sample summary section. All sample preservation and temperature upon receipt was verified by the sample custodian and confirmed to meet method requirements.

II. Methodology

Unless otherwise indicated, sample preparation and analysis was performed in accordance with the corresponding test methods from "Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100); SW-846, "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods", USEPA (latest revisions), and Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WPCF, latest edition.

III. Results/Quality Control

Analytical results for this report are presented by laboratory sample ID, container, & aliquot number. Results for the field blanks, field duplicates, and recoveries of the field matrix spike & matrix spike duplicate samples are included in the results section; all other quality control data is listed in the Quality Control Summary associated with the particular test method, as appropriate. Unless specifically noted in the case narrative, all method quality control requirements have been met. If any results are qualified, the corresponding data flags/qualifiers are listed on the last page of the results section. Any additional information on method performance, when applicable, is presented in this section of the case narrative. When data flags are not needed, the qualifiers text box on the last page is left blank, and a statement confirms that no exceptions occurred.

DEFINITIONS / QUALIFIERS

The following qualifiers and/or acronyms are used in the report, where applicable:

Acronym	Description
RL	Reporting Limit
ND	Result not detected or below Reporting Limit
NT	Non TNI Analyte
LCS	Laboratory Control Sample
LRB	Laboratory Reagent Blank (also referred to as Method Blank)
DUP	Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
TDL	Target Detection Limit
SM	Standard Methods Compendium

Qualifier	Description
*	Generic data flag, applicable description added in the corresponding notes section
B	The analyte was detected in the LRB at a level which is significant relative to sample result
D	Reporting limit elevated due to dilution
E	Estimated due to result exceeding the linear range of the analyzer
H	The maximum recommended hold time was exceeded
I	Dilution required due to matrix interference; reporting limit elevated
J	Estimated due to result found above MDL but below PQL (or RL)
K	Reporting limit raised due to matrix interference
M	The precision for duplicate analysis was not met; RPD outside acceptance criteria
N	Non-homogeneous sample made analysis questionable
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Matrix Spike or Matrix Spike Duplicate recovery outside acceptance criteria
R	Result confirmed by new sample preparation and reanalysis
X	Other notation required; comment listed in sample notes and/or case narrative

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Work Order Sample Summary

Customer Name: Karn/Weadock Complex
Work Order ID: Q3-2025 Weadock ASD
Date Received: 7/16/2025
Chemistry Project: 25-0479

Sample #	Field Sample ID	Matrix	Sample Date	Site
25-0479-01	JCW-OW-18001	Groundwater	07/15/2025 08:56	JC Weadock ASD

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Analytical Report

Report Date: 07/30/25

Sample Site: **JC Weadock ASD**
Field Sample ID: **JCW-OW-18001**
Lab Sample ID: 25-0479-01
Matrix: Groundwater

Laboratory Project: **25-0479**
Collect Date: 07/15/2025
Collect Time: 08:56 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0479-01-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0479-01-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Arsenic	108		ug/L	1.0	07/21/2025	AB25-0721-06
Barium	99		ug/L	5.0	07/21/2025	AB25-0721-06
Beryllium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Boron	1950		ug/L	20.0	07/21/2025	AB25-0721-06
Cadmium	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Calcium	208000		ug/L	1000.0	07/21/2025	AB25-0721-06
Chromium	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Cobalt	ND		ug/L	6.0	07/21/2025	AB25-0721-06
Copper	1		ug/L	1.0	07/21/2025	AB25-0721-06
Iron	7620		ug/L	20.0	07/21/2025	AB25-0721-06
Lead	ND		ug/L	1.0	07/21/2025	AB25-0721-06
Lithium	58		ug/L	10.0	07/21/2025	AB25-0721-06
Magnesium	45600		ug/L	1000.0	07/21/2025	AB25-0721-06
Molybdenum	ND		ug/L	5.0	07/21/2025	AB25-0721-06
Nickel	8		ug/L	2.0	07/21/2025	AB25-0721-06
Potassium	11600		ug/L	100.0	07/21/2025	AB25-0721-06
Selenium	6		ug/L	1.0	07/21/2025	AB25-0721-06
Silver	ND		ug/L	0.2	07/21/2025	AB25-0721-06
Sodium	95400		ug/L	1000.0	07/21/2025	AB25-0721-06
Thallium	ND		ug/L	2.0	07/21/2025	AB25-0721-06
Vanadium	3		ug/L	2.0	07/21/2025	AB25-0721-06
Zinc	ND		ug/L	10.0	07/21/2025	AB25-0721-06

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0479-01-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	98500		ug/L	1000.0	07/22/2025	AB25-0722-01
Fluoride	ND		ug/L	1000.0	07/22/2025	AB25-0722-01
Sulfate	343000		ug/L	1000.0	07/22/2025	AB25-0722-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0479-01-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1230		mg/L	10.0	07/17/2025	AB25-0717-03

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Analytical Report

Report Date: 07/30/25

Sample Site: **JC Weadock ASD**
Field Sample ID: **JCW-OW-18001**
Lab Sample ID: 25-0479-01
Matrix: Groundwater

Laboratory Project: **25-0479**
Collect Date: 07/15/2025
Collect Time: 08:56 AM

Alkalinity by SM 2320B

Aliquot #: 25-0479-01-C04-A01 **Analyst: DLS**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Alkalinity, Total	426000		ug/L	10000.0	07/22/2025	AB25-0722-06
Alkalinity, Bicarbonate	426000		ug/L	10000.0	07/22/2025	AB25-0722-06
Alkalinity, Carbonate	ND		ug/L	10000.0	07/22/2025	AB25-0722-06

Data Qualifiers	Exception Summary
	No exceptions occurred.

TITLE: SAMPLE LOG-IN – SHIPMENT INSPECTION FORM

Project Number: 25-0479 **Inspection Date:** 7.14.25 **Inspection By:** LMO

Sample Origin/Project Name: Q3-2025 JC Weadock ASD

Shipment Delivered By: Enter the type of shipment carrier.

Inter-Company Mail_____ FedEx ✓ UPS _____ USPS _____

Tracking Number: 882808412812 Other/Carry In (whom) _____

Shipping Containers: Enter the type and number of shipping containers received.

Cooler ✓ Cardboard Box _____ Custom Case _____ Envelope/Mailer _____

Loose/Unpackaged Containers _____ Other _____

Condition of Shipment: Enter the as-received condition of the shipment container.

Damaged Shipment Observed: None ✓ Dented _____ Leaking _____

Other _____

Shipment Security: Enter if any of the shipping containers were opened before receipt.

Shipping Containers Received: Opened _____ Sealed ✓ N/A _____

Enclosed Documents: Enter the type of documents enclosed with the shipment.

CoC ✓ Work Request _____ Air Data Sheet_____ Other_____

Temperature of Containers: Measure the temperature of several sample containers.

As-Received Temperature Range 0.8-5.3 °C Samples Received on Ice: Yes ✓ No_____

M&TE # and Expiration 015402 / 5.27.26

Number and Type of Containers: Enter the type and total number of sample containers received.

Container Type	Water	Soil	Other	Broken	Leaking
VOA (40mL or 60mL)	2				
Quart/Liter (g / p)					
9-oz (amber glass jar)					
2-oz (amber glass)					
125 mL (plastic)	2				
24 mL vial (glass)					
250 mL (plastic)	1				
Other					

All sample pH meeting criteria? Yes✓ No___ N/A___ **pH paper lot #** 210224 **Exp. Date** 12.1.26

Indicate if an Exception Report (Page 2 of 2) is needed: Yes _____ No ✓

CHAIN OF CUSTODY

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SAMPLING SITE / CUSTOMER: Q3-2025 JC Weadock ASD

PROJECT NUMBER: 25-0479

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: E. Wiegopolski

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	HNO_3	H_2SO_4	NaOH	HCl	MeOH	Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0479-01	7/15/25	0856	GW	JCW-OW-18001	5	4	1						x	x	x	x	

RELINQUISHED BY: GW — DATE/TIME: 7/15/25 1640 — RECEIVED BY: Fed Ex

RELINQUISHED BY: Fed Ex — DATE/TIME: 07-15-25 10:30 — RECEIVED BY:

COMMENTS:

Received on Ice? ☑ Yes ☐ No — M&TE #: 015402

Temperature: 0.8-5.3 °C — Cal. Due Date: 05-27-26

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135 W. Trail St.
Jackson, MI 49201

phone 517-788-1251
fax 517-788-2533

To: JJFirlit, Karn/Weadock

From: EBlaj, T-258

Date: July 30, 2025

Subject: RCRA GROUNDWATER MONITORING – DEK-JCW BACKGROUND WELLS – 2025 Q3

CC: HDRegister, P22-521

Darby Litz, Project Manager
TRC Companies, Inc.
1540 Eisenhower Place
Ann Arbor, MI 48108

Chemistry Project: 25-0480

TRC Environmental, Inc. conducted groundwater monitoring at the Karn/Weadock Background Wells area during the week of 07/14/2025 for the 3rd Quarter requirement, as specified in the Sampling and Analysis Plan for the site. The samples were received for analysis by the Chemistry department of Laboratory Services on 07/16/2025.

The report that follows presents the results of the requested analytical testing; the results apply only to the samples as received. All samples have been analyzed in accordance with the 2016 TNI Standard and the applicable A2LA accreditation scope for Laboratory Services. Any exceptions to applicable test method criteria and standard compliance are noted in the Case Narrative or flagged with applicable qualifiers in the analytical results section.

Reviewed and approved by:

Emil Blaj
Sr. Technical Analyst
Project Lead

ilac-MRA A2LA ACCREDITED Certificate #1097.04

Testing performed in accordance with the A2LA scope of accredidation specified in the listed certificate.
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CASE NARRATIVE

I. Sample Receipt

All samples were received within hold time and in good conditions; no anomalies were noted on the attached Sample Log-In Shipment Inspection Form during sample check-in. Identification of all samples included in the work order/project is provided in the sample summary section. All sample preservation and temperature upon receipt was verified by the sample custodian and confirmed to meet method requirements.

II. Methodology

Unless otherwise indicated, sample preparation and analysis was performed in accordance with the corresponding test methods from "Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100); SW-846, "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods", USEPA (latest revisions), and Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WPCF, 22nd Edition, 2012.

III. Results/Quality Control

Analytical results for this report are presented by laboratory sample ID, container, & aliquot number. Results for the field blanks, field duplicates, and recoveries of the field matrix spike & matrix spike duplicate samples are included in the results section, when applicable; all other quality control data is listed in the Quality Control Summary associated with the particular test method, as appropriate. Unless specifically noted in the case narrative, all method quality control requirements have been met. If any results are qualified, the corresponding data flags/qualifiers are listed on the last page of the results section. Any additional information on method performance, when applicable, is presented in this section of the case narrative. When data flags are not needed, the qualifiers text box on the last page is left blank, and a statement confirms that no exceptions occurred.

DEFINITIONS / QUALIFIERS

The following qualifiers and/or acronyms are used in the report, where applicable:

Acronym	Description
RL	Reporting Limit
ND	Result not detected or below Reporting Limit
NT	Non TNI analyte
LCS	Laboratory Control Sample
LRB	Laboratory Reagent Blank (also referred to as Method Blank)
DUP	Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
TDL	Target Detection Limit
SM	Standard Methods Compendium

Qualifier	Description
*	Generic data flag, applicable description added in the corresponding notes section
B	The analyte was detected in the LRB at a level which is significant relative to sample result
D	Reporting limit elevated due to dilution
E	Estimated due to result exceeding the linear range of the analyzer
H	The maximum recommended hold time was exceeded
I	Dilution required due to matrix interference; reporting limit elevated
J	Estimated due to result found above MDL but below PQL (or RL)
K	Reporting limit raised due to matrix interference
M	The precision for duplicate analysis was not met; RPD outside acceptance criteria
N	Non-homogeneous sample made analysis questionable
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Matrix Spike or Matrix Spike Duplicate recovery outside acceptance criteria
R	Result confirmed by new sample preparation and reanalysis
X	Other notation required; comment listed in sample notes and/or case narrative

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Work Order Sample Summary

Customer Name: Karn/Weadock Complex
Work Order ID: Q3-2025 DEK-JCW Background Wells
Date Received: 7/16/2025
Chemistry Project: 25-0480

Sample #	Field Sample ID	Matrix	Sample Date	Site
25-0480-01	MW-15002	Groundwater	07/15/2025 09:30	DEK JCW Background
25-0480-02	MW-15008	Groundwater	07/15/2025 12:25	DEK JCW Background
25-0480-03	MW-15016	Groundwater	07/15/2025 10:35	DEK JCW Background
25-0480-04	MW-15019	Groundwater	07/15/2025 11:35	DEK JCW Background
25-0480-05	DUP-Background	Groundwater	07/15/2025 00:00	DEK JCW Background
25-0480-06	FB- Background	Water	07/15/2025 10:35	DEK JCW Background

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Analytical Report

Report Date: 07/30/25

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15002**
Lab Sample ID: 25-0480-01
Matrix: Groundwater

Laboratory Project: **25-0480**
Collect Date: 07/15/2025
Collect Time: 09:30 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0480-01-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0480-01-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Arsenic	17		ug/L	1.0	07/22/2025	AB25-0722-03
Barium	496		ug/L	5.0	07/22/2025	AB25-0722-03
Beryllium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Boron	152		ug/L	20.0	07/22/2025	AB25-0722-03
Cadmium	ND		ug/L	0.2	07/22/2025	AB25-0722-03
Calcium	157000		ug/L	1000.0	07/22/2025	AB25-0722-03
Chromium	1		ug/L	1.0	07/22/2025	AB25-0722-03
Cobalt	ND		ug/L	6.0	07/22/2025	AB25-0722-03
Copper	2		ug/L	1.0	07/22/2025	AB25-0722-03
Iron	14400		ug/L	20.0	07/22/2025	AB25-0722-03
Lead	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Lithium	21		ug/L	10.0	07/22/2025	AB25-0722-03
Magnesium	24000		ug/L	1000.0	07/22/2025	AB25-0722-03
Molybdenum	ND		ug/L	5.0	07/22/2025	AB25-0722-03
Nickel	8		ug/L	2.0	07/22/2025	AB25-0722-03
Potassium	4550		ug/L	100.0	07/22/2025	AB25-0722-03
Selenium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Silver	ND		ug/L	0.2	07/22/2025	AB25-0722-03
Sodium	1020000		ug/L	1000.0	07/22/2025	AB25-0722-03
Thallium	ND		ug/L	2.0	07/22/2025	AB25-0722-03
Vanadium	17		ug/L	2.0	07/22/2025	AB25-0722-03
Zinc	23		ug/L	10.0	07/22/2025	AB25-0722-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0480-01-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	1570000		ug/L	1000.0	07/22/2025	AB25-0722-01
Fluoride	ND		ug/L	1000.0	07/22/2025	AB25-0722-01
Sulfate	79600		ug/L	1000.0	07/22/2025	AB25-0722-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0480-01-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	2970		mg/L	10.0	07/17/2025	AB25-0717-03

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15008**
Lab Sample ID: 25-0480-02
Matrix: Groundwater

Laboratory Project: **25-0480**
Collect Date: 07/15/2025
Collect Time: 12:25 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0480-02-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0480-02-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Arsenic	7		ug/L	1.0	07/22/2025	AB25-0722-03
Barium	103		ug/L	5.0	07/22/2025	AB25-0722-03
Beryllium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Boron	135		ug/L	20.0	07/22/2025	AB25-0722-03
Cadmium	ND		ug/L	0.2	07/22/2025	AB25-0722-03
Calcium	118000		ug/L	1000.0	07/22/2025	AB25-0722-03
Chromium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Cobalt	ND		ug/L	6.0	07/22/2025	AB25-0722-03
Copper	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Iron	14800		ug/L	20.0	07/22/2025	AB25-0722-03
Lead	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Lithium	21		ug/L	10.0	07/22/2025	AB25-0722-03
Magnesium	19400		ug/L	1000.0	07/22/2025	AB25-0722-03
Molybdenum	ND		ug/L	5.0	07/22/2025	AB25-0722-03
Nickel	5		ug/L	2.0	07/22/2025	AB25-0722-03
Potassium	4360		ug/L	100.0	07/22/2025	AB25-0722-03
Selenium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Silver	ND		ug/L	0.2	07/22/2025	AB25-0722-03
Sodium	290000		ug/L	1000.0	07/22/2025	AB25-0722-03
Thallium	ND		ug/L	2.0	07/22/2025	AB25-0722-03
Vanadium	13		ug/L	2.0	07/22/2025	AB25-0722-03
Zinc	ND		ug/L	10.0	07/22/2025	AB25-0722-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0480-02-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	465000		ug/L	1000.0	07/25/2025	AB25-0722-01
Fluoride	ND		ug/L	1000.0	07/22/2025	AB25-0722-01
Sulfate	5050		ug/L	1000.0	07/22/2025	AB25-0722-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0480-02-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1260		mg/L	10.0	07/17/2025	AB25-0717-03

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Analytical Report

Report Date: 07/30/25

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15016**
Lab Sample ID: 25-0480-03
Matrix: Groundwater

Laboratory Project: **25-0480**
Collect Date: 07/15/2025
Collect Time: 10:35 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0480-03-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0480-03-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Arsenic	19		ug/L	1.0	07/22/2025	AB25-0722-03
Barium	263		ug/L	5.0	07/22/2025	AB25-0722-03
Beryllium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Boron	484		ug/L	20.0	07/22/2025	AB25-0722-03
Cadmium	ND		ug/L	0.2	07/22/2025	AB25-0722-03
Calcium	259000		ug/L	1000.0	07/22/2025	AB25-0722-03
Chromium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Cobalt	ND		ug/L	6.0	07/22/2025	AB25-0722-03
Copper	2		ug/L	1.0	07/22/2025	AB25-0722-03
Iron	21300		ug/L	20.0	07/22/2025	AB25-0722-03
Lead	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Lithium	45		ug/L	10.0	07/22/2025	AB25-0722-03
Magnesium	45000		ug/L	1000.0	07/22/2025	AB25-0722-03
Molybdenum	ND		ug/L	5.0	07/22/2025	AB25-0722-03
Nickel	12		ug/L	2.0	07/22/2025	AB25-0722-03
Potassium	6880		ug/L	100.0	07/22/2025	AB25-0722-03
Selenium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Silver	ND		ug/L	0.2	07/22/2025	AB25-0722-03
Sodium	129000		ug/L	1000.0	07/22/2025	AB25-0722-03
Thallium	ND		ug/L	2.0	07/22/2025	AB25-0722-03
Vanadium	3		ug/L	2.0	07/22/2025	AB25-0722-03
Zinc	ND		ug/L	10.0	07/22/2025	AB25-0722-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0480-03-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	230000		ug/L	1000.0	07/23/2025	AB25-0722-01
Fluoride	ND		ug/L	1000.0	07/22/2025	AB25-0722-01
Sulfate	184000		ug/L	1000.0	07/22/2025	AB25-0722-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0480-03-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1370		mg/L	10.0	07/17/2025	AB25-0717-03

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15019**
Lab Sample ID: 25-0480-04
Matrix: Groundwater

Laboratory Project: **25-0480**
Collect Date: 07/15/2025
Collect Time: 11:35 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0480-04-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0480-04-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Arsenic	4		ug/L	1.0	07/22/2025	AB25-0722-03
Barium	391		ug/L	5.0	07/22/2025	AB25-0722-03
Beryllium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Boron	233		ug/L	20.0	07/22/2025	AB25-0722-03
Cadmium	ND		ug/L	0.2	07/22/2025	AB25-0722-03
Calcium	169000		ug/L	1000.0	07/22/2025	AB25-0722-03
Chromium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Cobalt	ND		ug/L	6.0	07/22/2025	AB25-0722-03
Copper	1		ug/L	1.0	07/22/2025	AB25-0722-03
Iron	22400		ug/L	20.0	07/22/2025	AB25-0722-03
Lead	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Lithium	15		ug/L	10.0	07/22/2025	AB25-0722-03
Magnesium	39100		ug/L	1000.0	07/22/2025	AB25-0722-03
Molybdenum	ND		ug/L	5.0	07/22/2025	AB25-0722-03
Nickel	6		ug/L	2.0	07/22/2025	AB25-0722-03
Potassium	2550		ug/L	100.0	07/22/2025	AB25-0722-03
Selenium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Silver	ND		ug/L	0.2	07/22/2025	AB25-0722-03
Sodium	224000		ug/L	1000.0	07/22/2025	AB25-0722-03
Thallium	ND		ug/L	2.0	07/22/2025	AB25-0722-03
Vanadium	5		ug/L	2.0	07/22/2025	AB25-0722-03
Zinc	ND		ug/L	10.0	07/22/2025	AB25-0722-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0480-04-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	384000		ug/L	1000.0	07/23/2025	AB25-0722-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0722-01
Sulfate	96200		ug/L	1000.0	07/23/2025	AB25-0722-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0480-04-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1350		mg/L	10.0	07/17/2025	AB25-0717-03

Sample Site: **DEK JCW Background**
Field Sample ID: **DUP-Background**
Lab Sample ID: 25-0480-05
Matrix: Groundwater

Laboratory Project: **25-0480**
Collect Date: 07/15/2025
Collect Time: 12:00 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0480-05-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0480-05-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Arsenic	16		ug/L	1.0	07/22/2025	AB25-0722-03
Barium	496		ug/L	5.0	07/22/2025	AB25-0722-03
Beryllium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Boron	158		ug/L	20.0	07/22/2025	AB25-0722-03
Cadmium	ND		ug/L	0.2	07/22/2025	AB25-0722-03
Calcium	155000		ug/L	1000.0	07/22/2025	AB25-0722-03
Chromium	1		ug/L	1.0	07/22/2025	AB25-0722-03
Cobalt	ND		ug/L	6.0	07/22/2025	AB25-0722-03
Copper	3		ug/L	1.0	07/22/2025	AB25-0722-03
Iron	14800		ug/L	20.0	07/22/2025	AB25-0722-03
Lead	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Lithium	21		ug/L	10.0	07/22/2025	AB25-0722-03
Magnesium	24100		ug/L	1000.0	07/22/2025	AB25-0722-03
Molybdenum	ND		ug/L	5.0	07/22/2025	AB25-0722-03
Nickel	9		ug/L	2.0	07/22/2025	AB25-0722-03
Potassium	4910		ug/L	100.0	07/22/2025	AB25-0722-03
Selenium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Silver	ND		ug/L	0.2	07/22/2025	AB25-0722-03
Sodium	1050000		ug/L	1000.0	07/22/2025	AB25-0722-03
Thallium	ND		ug/L	2.0	07/22/2025	AB25-0722-03
Vanadium	17		ug/L	2.0	07/22/2025	AB25-0722-03
Zinc	23		ug/L	10.0	07/22/2025	AB25-0722-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0480-05-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	1420000		ug/L	1000.0	07/23/2025	AB25-0722-01
Fluoride	ND		ug/L	1000.0	07/23/2025	AB25-0722-01
Sulfate	65200		ug/L	1000.0	07/23/2025	AB25-0722-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0480-05-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	2950		mg/L	10.0	07/17/2025	AB25-0717-03

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Analytical Report

Report Date: 07/30/25

Sample Site: **DEK JCW Background**
Field Sample ID: **FB- Background**
Lab Sample ID: 25-0480-06
Matrix: Water

Laboratory Project: **25-0480**
Collect Date: 07/15/2025
Collect Time: 10:35 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0480-06-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	07/23/2025	AB25-0723-03

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0480-06-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Arsenic	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Barium	ND		ug/L	5.0	07/22/2025	AB25-0722-03
Beryllium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Boron	ND		ug/L	20.0	07/22/2025	AB25-0722-03
Cadmium	ND		ug/L	0.2	07/22/2025	AB25-0722-03
Calcium	ND		ug/L	1000.0	07/22/2025	AB25-0722-03
Chromium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Cobalt	ND		ug/L	6.0	07/22/2025	AB25-0722-03
Copper	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Iron	ND		ug/L	20.0	07/22/2025	AB25-0722-03
Lead	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Lithium	ND		ug/L	10.0	07/22/2025	AB25-0722-03
Magnesium	ND		ug/L	1000.0	07/22/2025	AB25-0722-03
Molybdenum	ND		ug/L	5.0	07/22/2025	AB25-0722-03
Nickel	ND		ug/L	2.0	07/22/2025	AB25-0722-03
Potassium	ND		ug/L	100.0	07/22/2025	AB25-0722-03
Selenium	ND		ug/L	1.0	07/22/2025	AB25-0722-03
Silver	ND		ug/L	0.2	07/22/2025	AB25-0722-03
Sodium	ND		ug/L	1000.0	07/22/2025	AB25-0722-03
Thallium	ND		ug/L	2.0	07/22/2025	AB25-0722-03
Vanadium	ND		ug/L	2.0	07/22/2025	AB25-0722-03
Zinc	ND		ug/L	10.0	07/22/2025	AB25-0722-03

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Analytical Report

Report Date: 07/30/25

Data Qualifiers	Exception Summary
	No exceptions occurred.

TITLE: SAMPLE LOG-IN – SHIPMENT INSPECTION FORM

Project Number: 25-0480 **Inspection Date:** 7.16.25 **Inspection By:** UMG

Sample Origin/Project Name: Q3-2025 JCW-DEK Background Wells

Shipment Delivered By: Enter the type of shipment carrier.

Inter-Company Mail_____ FedEx ✓ UPS _____ USPS _____

Tracking Number: 882808535390 Other/Carry In (whom) _____

Shipping Containers: Enter the type and number of shipping containers received.

Cooler ✓ Cardboard Box _____ Custom Case _____ Envelope/Mailer _____

Loose/Unpackaged Containers _____ Other _____

Condition of Shipment: Enter the as-received condition of the shipment container.

Damaged Shipment Observed: None ✓ Dented _____ Leaking _____

Other _____

Shipment Security: Enter if any of the shipping containers were opened before receipt.

Shipping Containers Received: Opened _____ Sealed ✓ N/A _____

Enclosed Documents: Enter the type of documents enclosed with the shipment.

CoC ✓ Work Request _____ Air Data Sheet_____ Other_____

Temperature of Containers: Measure the temperature of several sample containers.

As-Received Temperature Range 0.2 - 1.2 °C Samples Received on Ice: Yes ✓ No____

M&TE # and Expiration 015402 / 05.27.24

Number and Type of Containers: Enter the type and total number of sample containers received.

Container Type	Water	Soil	Other	Broken	Leaking
VOA (40mL or 60mL)					
Quart/Liter (g / p)					
9-oz (amber glass jar)					
2-oz (amber glass)					
125 mL (plastic)	11				
24 mL vial (glass)					
250 mL (plastic)	5				
Other					

All sample pH meeting criteria? Yes___ No___ N/A___ **pH paper lot #** 210224 **Exp. Date** 12.01.26

Indicate if an Exception Report (Page 2 of 2) is needed: Yes____ No ✓

CHAIN OF CUSTODY

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CONSUMERS ENERGY COMPANY – LABORATORY SERVICES

135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q3-2025 JCW-DEK Background Wells

PROJECT NUMBER: **25-0480**

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: Abdigani Ali Yaasin

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	REMARKS
25-0480-01	7-15-25	0930	GW	MW-15002	3	2	1						x	x	x	
-02	7-15-25	1225	GW	MW-15008	3	2	1						x	x	x	
-03	7-15-25	1035	GW	MW-15016	3	2	1						x	x	x	
-04	7-15-25	1135	GW	MW-15019	3	2	1						x	x	x	
-05	7-15-25		GW	DUP-Background	3	2	1						x	x	x	
-06	7-15-25	1035	W	FB- Background	1								x			

RELINQUISHED BY: A. Whaley — DATE/TIME: 7/15/25 1640 — RECEIVED BY: Fed Ex

RELINQUISHED BY: Fed Ex — DATE/TIME: 07-16-25 10:30 — RECEIVED BY:

COMMENTS:

Received on Ice? ☑ Yes ☐ No — M&TE #: 015402

Temperature: 0.2 - 1.2 °C — Cal. Due Date: 05-27-26

Appendix F
Field Records

TRC

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance
PROJECT NUMBER:	634698.0000.0000
PROJECT MANAGER:	Darby Litz
SITE LOCATION:	2742 Weadock Hwy Essexville, MI 48732
DATES OF FIELDWORK:	7/14/2025 TO 7/16/2025
PURPOSE OF FIELDWORK:	Third Quarter 2025 Groundwater Sampling
WORK PERFORMED BY:	E. Wielgopolski

E Wielgopolski 7/28/25
SIGNED DATE

Ashley Kopt 7/28/25
CHECKED BY DATE

TRC

GENERAL NOTES

Weadock LF

PROJECT NAME: CEC ~~Karn BAP/LI~~ 2025 GW Comp	DATE: 7/14/25	TIME ARRIVED: 0830
PROJECT NUMBER: 634698.0000.00000	AUTHOR: AY (EW) AW	TIME LEFT: 1500

WEATHER		
TEMPERATURE: 62-85 °F	WIND: 5-10 MPH	VISIBILITY: Clear

WORK / SAMPLING PERFORMED

- Remaining SWL for Weadock + BAP/LI

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
• Wasp nest at MW-20	• Returned next day with Raid, collected WL
• Key broke in lock at JCW-MW-15007	• Bolt cut lock to get WL

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM - Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	Purge to Ground

E Wilson 7/28/25
SIGNED DATE

Adam Kent 7/28/25
CHECKED BY DATE

TRC

WATER LEVEL DATA

PROJECT NAME:	CEC Karn/Weadock: 2025 GW Compliance	DATE:	7/14/25
PROJECT NUMBER:		AUTHOR:	A. Whaley, A. Kast, E. Wielgo

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
DEK-MW-18001		TOC				
DEK-MW-15002						
DEK-MW-15003						
DEK-MW-15004						
DEK-MW-15005						
DEK-MW-15006						
DEK-MW-22001	0946		11.09	24.21		
DEK-MW-22002	1049		12.74	26.93		
DEK-MW-22003	1150		12.78	25.50		
DEK-MW-22006	1238		10.34	17.14		
DEK-MW-22005	1335		9.71	20.34		
DEK-MW-22004	1422		11.25	22.48		
MW-15002	0928		7.99	16.90		
MW-15008	0845		4.98	17.43		
MW-15016	0931		5.26	7.76		
MW-15019	0851		6.42	16.89		
MW-58	0923		5.93	16.29		

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

E Wielgo 7/16/25
SIGNED DATE

CHECKED 7-17-25
CHECKED DATE

REVISED 04/2019

TRC

WATER LEVEL DATA

PROJECT NAME: CEC Weadock LF: 2025 GW Compliance	DATE: 7/14/25
PROJECT NUMBER: 634698.0000.0000	AUTHOR: A. Whaley, A. Yaasiin, E. Wie

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
JCW-MW-18001	1003	TOC	17.33	23.81	NA	NM
JCW-MW-18004	1106	TOC	13.05	14.75	NA	NM
JCW-MW-18005	1138	TOC	10.15	16.34	NA	NM
JCW-MW-18006	1200	TOC	15.26	23.70	NA	NM
JCW-OW-18001	1007	TOC	8.23	20.30	NA	NM
JCW-OW-18002	1022	TOC	10.74	19.82	NA	NM
JCW-OW-18003	1041	TOC	8.90	18.61	NA	NM
JCW-OW-18004	1104	TOC	7.68	14.85	NA	NM
JCW-OW-18006	1203	TOC	9.12	24.48	NA	NM
LH-103R	1127	TOC	22.16	33.43	NA	NM
LH-104	1112	TOC	9.11	14.12	NA	NM
* MW-20	0812	TOC	5.21	14.04	NA	NM
MW-50	1020	TOC	13.93	19.45	NA	NM
MW-51	1027	TOC	~~16.67~~	20.00	NA	NM
MW-52	1039	TOC	15.50	19.89		
MW-53	1045	TOC	14.15	18.32		
MW-53R	1053	TOC	14.80	18.80		
MW-54R	1058	TOC	14.31	17.21	NA	NM
MW-55	1119	TOC	14.49	16.39	NA	NM
MW-58	0923	TOC	5.93	10.29	NA	NM
OW-51	1030	TOC	8.95	18.26	NA	NM
OW-53	1048	TOC	7.80	17.97	NA	NM
OW-54	1101	TOC	7.70	16.50	NA	NM
OW-55	1117	TOC	7.14	18.84	NA	NM
OW-56	1143	TOC	6.91	19.28	NA	NM

Depth to water measurement is anomalous. Depth to water recorded prior to sampling (14.84) should be used. Approved DL 9/29/2025

* Jasp not in well, returned early next morning with Raid

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

E Wie 7/16/25
SIGNED DATE

A Yaasiin 7-17-25
CHECKED DATE

REVISED 04/2019

TRC

WATER LEVEL DATA

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance	DATE:	7/14/25
PROJECT NUMBER:	634698.0000.0000	AUTHOR:	A. Whaley, A. Yaasiin, E. Wié

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
OW-56R	1141	TOC	6.98	20.25	NA	NM
OW-57 IN	1147	TOC	6.01	19.63	NA	NM
OW-57R IN	1148	TOC	6.16	20.20	NA	NM
OW-57 OUT	1151	TOC	10.21	20.24	NA	NM
OW-57R OUT	1154	TOC	10.75	19.49	NA	NM
OW-61	1013	TOC	9.57	26.19	NA	NM
OW-63	Decommissioned				NA	NM
* JCW-MW-15007	0800	TOC	4.93	8.90	NA	NM
JCW-MW-15009	0954	TOC	9.75	13.03	NA	NM
JCW-MW-15010	0959	TOC	17.85	19.59	NA	NM
JCW-MW-15028	0949	TOC	8.99	25.10	NA	NM
MW-15002						
MW-15008						
MW-15016						
MW-15019						

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

E Wiffin 7/16/25
SIGNED DATE

A Yaasiin 7-16-25
CHECKED DATE

TRC

PROJECT NAME:	Weadock (KY) CEC Karn ~~BAP/LI~~ 2025 GW Compliance
PROJECT NUMBER:	634693 (AY) ~~634695~~.0000.00000
PROJECT MANAGER:	Darby Litz
SITE LOCATION:	2742 Weadock Hwy Essexville, MI 48732
DATES OF FIELDWORK:	7/14/2025 TO 7/15/2025
PURPOSE OF FIELDWORK:	Third Quarter 2025 Groundwater Sampling
WORK PERFORMED BY:	A. Yaasiin, E. Wielgopolski, A. Whaley

A Yaasiin 7-16-25
SIGNED DATE

E Wielgopolski 7/17/25
CHECKED BY DATE

REVISED 04/2019

TRC

GENERAL NOTES

Weadock (AY)

PROJECT NAME: CEC Karn ~~BAP/LI~~ 2025 GW Comp	DATE: 7-15-25	TIME ARRIVED: 0740
PROJECT NUMBER: ~~634695~~.0000.00000	AUTHOR: (AY) EW AW	TIME LEFT: 1630

634698 (AY)

WEATHER		
TEMPERATURE: 75 °F	WIND: N/A MPH	VISIBILITY: Great

WORK / SAMPLING PERFORMED

Calibrated equipment, then sampled wells MW(15002, 15016, 15019, 15008) &

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
Could not lock wells MW15016 & MW15019	MW15019 has had an issue being difficult to lock, but I had some help from Andrew locking MW-15016

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM - Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	Purge to Ground

[signature] 7-17-25
SIGNED DATE

[signature] 7/17/25
CHECKED BY DATE

TRC

EQUIPMENT SUMMARY

PROJECT NAME:	CEC Weadock LF: 2025 GW Co	SAMPLER NAME:	~~J. Jasso~~, A. Yassin
PROJECT NO.:	634698.0000.0000		

WATER LEVEL MEASUREMENTS COLLECTED WITH:

HERON DIPPER-T	TRC A2
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

PRODUCT LEVEL MEASUREMENTS COLLECTED WITH:

NA	NA
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

DEPTH TO BOTTOM OF WELL MEASUREMENTS COLLECTED WITH:

HERON DIPPER-T	TRC A2
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

PURGING METHOD

PERISTALTIC PUMP	TRC A2
NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)

SAMPLING METHOD

PERISTALTIC PUMP	TRC A2
NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)
NA	NA
NAME AND MODEL OF FILTERATION DEVICE	FILTER TYPE AND SIZE
DEDICATED POLY TUBING	☑ LOW-FLOW SAMPLING EVENT
TUBING TYPE	

PURGE WATER DISPOSAL METHOD

☑ GROUND ☐ DRUM ☐ POTW ☐ POLYTANK ☐ OTHER _____

DECONTAMINATION AND FIELD BLANK WATER SOURCE

STORE BOUGHT	LABORATORY PROVIDED
POTABLE WATER SOURCE	DI WATER SOURCE
A. Yassin 7/18/25	Ashley Host 7/18/25
SIGNED DATE	CHECKED BY DATE

REVISED 04/2019

TRC

WATER QUALITY METER CALIBRATION LOG

(AY) Weudeck

PROJECT NAME:	CEC Karn ~~BAP/LF~~ 2025 GW Compliance	MODEL: YSI DDS	SAMPLER: ~~AY~~ EW AW
PROJECT NO.:	~~634695~~.0000.00000	SERIAL #: Rental	DATE: 7-15-25

PH CALIBRATION CHECK

634698 (AY)

pH 7 (LOT #): 4GI0945 (EXP. DATE): Sept/26 POST-CAL. READING / STANDARD	pH 4 / 10 (LOT #): 4GJ1193 (EXP. DATE): OCT/26 POST-CAL. READING / STANDARD	CAL. RANGE	TIME
7.01 / 7.00	4.00 / 4.00	☑ WITHIN RANGE	0751
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 4GI0926 (EXP. DATE): SEPT/26 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
1413 / 1413	24.9	☑ WITHIN RANGE	0801
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 240200351 (EXP. DATE): 2029-04-19 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
223.4 / 223	24.7°C	☑ WITHIN RANGE	0809
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING POST-CAL. READING /SATURATED AIR	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
98.4 / 98.4	24	☑ WITHIN RANGE	0824
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): AY264 (EXP. DATE): Jan-26 POST-CAL. READING / STANDARD	CALIBRATION READING (NTU) (LOT #): AY311 (EXP. DATE): NOV-26 POST-CAL. READING / STANDARD	CAL. RANGE	TIME
100 / 100	0.00 / 0.06	☑ WITHIN RANGE	0820
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION (LOT #): (EXP. DATE):	☑ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	CALIBRATION RANGES (1)
☐ pH	pH: +/- 0.2 S.U.
☐ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS

A Yaasin — SIGNED — 7-17-25 DATE

E Wyffels - 7/17/25 — CHECKED BY — DATE

TRC (AY Weadock) WATER SAMPLE LOG

PROJECT NAME:	CEC Karn ~~BAP/LI~~ 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	~~634695~~.0000.00000 634699 (AY)	BY: ~~AY~~ EW AW DATE: 7-15-25		BY: EW	DATE: 7/17

SAMPLE ID: MW-1500 2 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0845	DATE: 7-15-25	SAMPLE	TIME: 0930	DATE: 7-15
PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER			PH: 6.74 SU	CONDUCTIVITY: 4933 umhos/cm	
			ORP: -67.0 mV	DO: 0.40 mg/L	
DEPTH TO WATER: 8.10 T/ PVC			TURBIDITY: 0.71 NTU		
DEPTH TO BOTTOM: 16.90 T/ PVC			☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME: NA ☐ LITERS ☐ GALLONS			TEMPERATURE: 15.5 °C	FERROUS Fe — mg/L	
VOLUME REMOVED: 8 ☑ LITERS ☐ GALLONS			COLOR: clear	ODOR: —	
COLOR: Orange-ish ODOR: —			FILTRATE (0.45 um) ☐ YES ☑ NO		
TURBIDITY ☐ NONE ☑ SLIGHT ☐ MODERATE ☐ VERY			FILTRATE COLOR: —	FILTRATE ODOR: —	
			QC SAMPLE: ☐ MS/MSD	☑ DUP- DUP-BACKGROUND	
DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER			COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0850	200	6.75	1633	21.3	1.76	9.09	18.0°C	8.50	INITIAL
0855	200	6.78	2079	-30.9	0.61	12.09	17.0	8.50	1
0900	200	6.90	2196	-50.8	0.50	3.39	16.6	8.52	2
0905	200	6.91	2254	-61.5	0.43	2.50	16.3	8.52	3
0910	200	6.90	2465	-66.2	0.37	3.19	15.3	8.56	4
0915	200	6.84	3386	-67.2	0.35	3.41	15.5	8.59	5
0920	200	6.75	5109	-63.3	0.67	0.95	15.0	8.59	6
0925	200	6.79	4871	-66.0	0.48	1.80	15.5	8.59	7
0930	200	6.79	4933	-67.0	0.40	0.71	15.5	8.59	8

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	A	☐ Y ☑ N	—	125 mL	PLASTIC	D	☐ Y ☐ N
2	125 mL	PLASTIC	A	☐ Y ☑ N		40 mL	VOA	E	☐ Y ☐ N
—	60 mL	VOA	A	☐ Y ☐ N		1 L	PLASTIC	B	☐ Y ☐ N
2	125 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
—	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	Fedex	DATE SHIPPED:	7-15-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:		DATE SIGNED:	7-16-25

TRC (AY Weadock 9)

WATER SAMPLE LOG

PROJECT NAME:	CEC Karn ~~BAP/LF~~ 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	~~634695~~.0000.00000 634698 (AY)	BY: AY EW AW	DATE: 7-15-25	BY: EW	DATE: 7/17

SAMPLE ID: MW-150 16 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1007	DATE: 7-15-25	SAMPLE	TIME: 1035	DATE: 7-15-25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 5.66 T/ PVC

DEPTH TO BOTTOM: 7.75 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 4 ☑ LITERS ☐ GALLONS

COLOR: clear ODOR: —

TURBIDITY ☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 6.78 SU CONDUCTIVITY: 2093 umhos/cm

ORP: -89.8 mV DO: 0.45 mg/L

TURBIDITY: 1.66 NTU

☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 19.6 °C FERROUS Fe — mg/L

COLOR: clear ODOR: —

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS: FB - Background

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1015	200	6.79	2142	-87.0	1.84	2.75	20.3	5.66	INITIAL
1020	200	6.79	2108	-84.9	0.71	1.70	19.8	5.69	1
1025	200	6.79	2097	-86.8	0.55	2.40	19.6	5.75	2
1030	200	6.79	2090	-88.6	0.48	7.33	19.4	5.77	3
1035	200	6.78	2093	-89.8	0.45	1.66	19.6	5.78	4

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☑ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N		1 L	PLASTIC	B	☐ Y ☐ N
2	125 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	Fedex	DATE SHIPPED:	7-15-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:		DATE SIGNED:	7-16-25

TRC (AY Weadock) WATER SAMPLE LOG

PROJECT NAME:	CEC Karn ~~BAP/LI~~ 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	~~634695~~ 0000.00000 634698 (AY)	BY: AY EW AW	DATE: 7-15-25	BY: EW	DATE: 7/17

SAMPLE ID: MW-15 (01) 9 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1115	DATE: 7-15-25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 6.51 T/ PVC

DEPTH TO BOTTOM: 16.88 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 4 ☑ LITERS ☐ GALLONS

COLOR: clear ODOR: —

TURBIDITY ☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1135	DATE: 7-15-25

PH: (AY) ~~7.35~~ 6.76 SU | CONDUCTIVITY: ~~2145~~ 2159 umhos/cm A.K. 9/22/25

ORP: -82.5 mV | DO: 0.5 mg/L

TURBIDITY: 1.89 NTU

☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 16.2 °C | FERROUS Fe _____ mg/L

COLOR: clear | ODOR: —

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: _____ | FILTRATE ODOR: _____

QC SAMPLE: ☐ MS/MSD ☐ DUP- _____

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1115	200	6.80	2188	-54.3	2.63	1.93	16.5	6.62	INITIAL
1120	200	6.80	2165	-73.2	1.00	1.35	15.6	~~6.64~~ 6.64 (AY)	1
1125	200	6.75	2165	-77.7	0.78	1.43	15.9	6.64	2
1130	200	6.77	2161	-80.4	0.54	1.28	16.1	6.64	3
1135	200	6.76	2159	-82.5	0.50	1.89	16.2	6.64	4

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☑ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	Fedex	DATE SHIPPED:	7-15-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:		DATE SIGNED:	7-16-25

TRC (AY) Weadock WATER SAMPLE LOG

PROJECT NAME: CEC Karn ~~BAP/LI~~ 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: ~~634695~~.0000.00000 634698 (AY)	BY: AY EW AW DATE: 7-15-25	BY: EW DATE: 7/17

SAMPLE ID: MW-15008 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1159	DATE: 7-15-25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 5.07 T/ PVC

DEPTH TO BOTTOM: 17.43 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 5 ☑ LITERS ☐ GALLONS

COLOR: clear ODOR: —

TURBIDITY: ☐ NONE ☑ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: ~~1220~~ 1225 (AY)	DATE: 7-15-25

PH: ~~6.98~~ 6.79 (AY) CONDUCTIVITY: ~~2137~~ 2156 (AY) umhos/cm

ORP: ~~-82.1~~ -89.0 mV DO: 0.33 mg/L

TURBIDITY: 2.58 (AY) NTU

☐ NONE ☑ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 16.0 °C FERROUS Fe _____ mg/L

COLOR: clear ODOR: —

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP- _____

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1200	200	6.98	1220	-60.9	2.60	4.98	17.2	5.10	INITIAL
1205	200	6.81	1843	-78.1	0.65	2.52	16.0	5.10	1
1210	200	6.82	2045	-82.4	0.44	3.06	15.6	5.10	2
1215	200	6.81	2107	-85.6	0.37	3.50	15.8	5.11	3
1220	200	6.80	2134	-87.4	0.35	2.55	16.0	5.11	4
1225	200	6.79	2156	-89.0	0.33	2.58	16.0	5.11	5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☑ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: Fedex	DATE SHIPPED: 7-15-25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: AY	DATE SIGNED: 7-16-25

CHAIN OF CUSTODY

Consumers Energy — Count on Us

CONSUMERS ENERGY COMPANY – LABORATORY SERVICES

135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q3-2025 JCW-DEK Background Wells

PROJECT NUMBER: 25-0480

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: Abdigani Ali Yassin

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	HNO_3	H_2SO_4	NaOH	HCl	MeOH	Other	Total Metals	Anions	TDS	REMARKS
25-0480-01	7-15-25	0930	GW	MW-15002	3	2	1						x	x	x	
-02	7-15-25	1225	GW	MW-15008	3	2	1						x	x	x	
-03	7-15-25	1035	GW	MW-15016	3	2	1						x	x	x	
-04	7-15-25	1135	GW	MW-15019	3	2	1						x	x	x	
-05	7-15-25		GW	DUP-Background	3	2	1						x	x	x	
-06	7-15-25	1035	W	FB- Background	1								x			

RELINQUISHED BY: Cedar Riley A. Whaley — DATE/TIME: 7/15/25 1640 — RECEIVED BY: Fed Ex

RELINQUISHED BY: Fed Ex — DATE/TIME: 07-16-25 10:30 — RECEIVED BY:

COMMENTS:

Received on Ice? ☒ Yes ☐ No — M&TE #: 015402

Temperature: 0.2 - 1.2 °C — Cal. Due Date: 05-27-26

TRC

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance
PROJECT NUMBER:	634698.0000.0000
PROJECT MANAGER:	Darby Litz
SITE LOCATION:	2742 Weadock Hwy Essexville, MI 48732
DATES OF FIELDWORK:	7/14/2025 TO 7/~~16~~15/2025
PURPOSE OF FIELDWORK:	Third Quarter 2025 Groundwater Sampling
WORK PERFORMED BY:	A. Whaley, A. Yaasiin, E. Wielgopolski

E Wielgopolski 7/16/25
SIGNED DATE

Ashley Kost 7/18/25
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME: CEC Weadock LF: 2025 GW Com	DATE: 7/14/25	TIME ARRIVED: 0830
PROJECT NUMBER: 634698.0000.0000	AUTHOR: ~~AW~~ ~~JK~~ ~~dS~~ (EW)	TIME LEFT: 1500

WEATHER		
TEMPERATURE: 62-85 °F	WIND: 5-10 MPH	VISIBILITY: Clear

WORK / SAMPLING PERFORMED

- SWL
- Sampled JCW-MW-18001

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
Wasp Nest at MW-20	Got raid, returned next morning for WL
Key broke in lock at JCW-MW-15007	Had to break lock, replaced W TRC lock

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

SIGNED 7/16/25 DATE

CHECKED BY 7-17-25 DATE

TRC

GENERAL NOTES

PROJECT NAME: CEC Weadock LF: 2025 GW Com	DATE: 7/15/25	TIME ARRIVED: 0730
PROJECT NUMBER: 634698.0000.0000	AUTHOR: ~~AW JK JJ~~ EW	TIME LEFT: 1600

WEATHER

TEMPERATURE: 65-89 °F WIND: 5-10 MPH VISIBILITY: Clear

WORK / SAMPLING PERFORMED

Calibrated meter
Sampled wells: JCW-MW-18001, JCW-MW-18004, 18006, MW-30, 51, 52, 53, 53R, 55
Killed wasps, WL for MW-20
cut lock on JCW-MW-15067

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
None	

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

E Wiffler 7/16/25
SIGNED DATE

CMyers 7-17-25
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME:	CEC Weadock LF: 2025 GW Com	DATE: 7-15-25	TIME ARRIVED: 0720
PROJECT NUMBER:	634698.0000.0000	AUTHOR: AW JK JJ AY	TIME LEFT:

WEATHER		
TEMPERATURE: ____ °F	WIND: ____ MPH	VISIBILITY: ____

WORK / SAMPLING PERFORMED

Sampled wells MW 5BR & OW 56R. Equipment already calibrated from sampling that was done earlier that day

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
N/A	N/A

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

AY 7-17-25 [redacted] 7

SIGNED DATE CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME:	CEC Weadock LF: 2025 GW Com	DATE: 7/15/2025	TIME ARRIVED: 1200
PROJECT NUMBER:	634698.0000.0000	AUTHOR: AW JK JJ	TIME LEFT: 1610

WEATHER		
TEMPERATURE: 80-89 °F	WIND: 5-10 MPH	VISIBILITY: Clear

WORK / SAMPLING PERFORMED

Sample JCW-MW-18005

collect sample after recharge at JCW-MW-18004

Drop weadock LF and Background well samples off at FedEx for priority overnight shipping to lab 16:40

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
None	NA

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

SIGNED 7/17/25 DATE

CHECKED BY 7-17-25 DATE

TRC

EQUIPMENT SUMMARY

PROJECT NAME:	CEC Weadock LF: 2025 GW Co	SAMPLER NAME:	~~J. Jasso~~, E. Wielgopolski
PROJECT NO.:	634698.0000.0000		

WATER LEVEL MEASUREMENTS COLLECTED WITH:

HERON DIPPER-T	TRC A2
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

PRODUCT LEVEL MEASUREMENTS COLLECTED WITH:

NA	NA
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

DEPTH TO BOTTOM OF WELL MEASUREMENTS COLLECTED WITH:

HERON DIPPER-T	TRC A2
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

PURGING METHOD

PERISTALTIC PUMP	TRC A2
NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)

SAMPLING METHOD

PERISTALTIC PUMP	TRC A2
NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)
NA	NA
NAME AND MODEL OF FILTERATION DEVICE	FILTER TYPE AND SIZE
DEDICATED POLY TUBING	☑ LOW-FLOW SAMPLING EVENT
TUBING TYPE	

PURGE WATER DISPOSAL METHOD

☑ GROUND ☐ DRUM ☐ POTW ☐ POLYTANK ☐ OTHER _____

DECONTAMINATION AND FIELD BLANK WATER SOURCE

STORE BOUGHT	LABORATORY PROVIDED
POTABLE WATER SOURCE	DI WATER SOURCE
S Wilfah 7/16/25	A Gerrain 7-17-25
SIGNED DATE	CHECKED BY DATE

REVISED 04/2019

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance	MODEL: YSI Pro DSS	SAMPLER: AW AY EW
PROJECT NO.:	634698.0000.0000	SERIAL #: TRC A2	DATE: 7/14/25

PH CALIBRATION CHECK

pH 7 (LOT #): 4610915 (EXP. DATE): Sep 26 — POST-CAL. READING / STANDARD	pH 4 / 10 (LOT #): 4611193 (EXP. DATE): Oct 26 — POST-CAL. READING / STANDARD	CAL. RANGE	TIME
6.99 / 6.99	4.01 / 4.01	☒ WITHIN RANGE	1753
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 4C10916 (EXP. DATE): Sep 25 — POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
1601 / 1601	33.9	☒ WITHIN RANGE	1757
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 240100351 (EXP. DATE): Apr 29 — POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
219.5 / 219.5	27.4	☒ WITHIN RANGE	1300
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING — POST-CAL. READING /SATURATED AIR	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
100% / 100%	26.4	☒ WITHIN RANGE	1303
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): DI water (EXP. DATE): — POST-CAL. READING / STANDARD	(LOT #): (EXP. DATE): — POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0.0 / 0.0	/	☒ WITHIN RANGE	1305
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION
(LOT #):
(EXP. DATE):

☑ STANDARD SOLUTION (S)
LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK

CALIBRATED PARAMETERS		CALIBRATION RANGES [1]	
☐	pH	pH:	+/- 0.2 S.U.
☐	COND	COND:	+/- 1% OF CAL. STANDARD
☐	ORP	ORP:	+/- 25 mV
☐	D.O.	D.O.:	VARIES
☐	TURB	TURB:	+/- 5% OF CAL. STANDARD
☐	_____	[1] CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER	
☐	_____		

NOTES

PROBLEMS ENCOUNTERED / CORRECTIVE ACTIONS

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
None	

E Wyffels 7/16/25
SIGNED DATE

CHECKED BY 7-17-25
CHECKED BY DATE

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance	MODEL: YSI Pro DSS	SAMPLER: AW AY (EW)
PROJECT NO.:	634698.0000.0000	SERIAL #: TRC A2	DATE: 7/15/25

PH CALIBRATION CHECK

pH 7 (LOT #): 4610915 (EXP. DATE): Sep-26 POST-CAL. READING / STANDARD	pH 4 / 10 (LOT #): 4651193 (EXP. DATE): Oct 26 POST-CAL. READING / STANDARD	CAL. RANGE	TIME
7.01 / 7.01	4.00 / 4.00	☒ WITHIN RANGE	0727
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): (EXP. DATE): POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
1360 / 1366	22.9	☐ WITHIN RANGE	0731
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): Z4D100351 (EXP. DATE): Apr-29 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
222 / 222	22.9	☒ WITHIN RANGE	0734
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING POST-CAL. READING /SATURATED AIR	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
100% / 100%	22.9	☒ WITHIN RANGE	0739
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): (EXP. DATE): DI POST-CAL. READING / STANDARD	(LOT #): (EXP. DATE): POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0.0 / 0.0	/	☐ WITHIN RANGE	0737
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION (LOT #): (EXP. DATE):	☑ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	CALIBRATION RANGES (1)
☐ pH	pH: +/- 0.2 S.U.
☐ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
None	

E Nolan 7/16/25
SIGNED DATE

AYaasiin 7-17-25
CHECKED BY DATE

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance	MODEL: YSI Pro DSS	SAMPLER: AW (AY) EW
PROJECT NO.:	634698.0000.0000	SERIAL #: TRC A2	DATE: 7-15-25

PH CALIBRATION CHECK

pH 7 (LOT #): 46I0925 (EXP. DATE): Sept/26 POST-CAL. READING / STANDARD	pH 4 / 10 (LOT #): 46J1293 (EXP. DATE): Oct/26 POST-CAL. READING / STANDARD	CAL. RANGE	TIME
7.01 / 7.00	4.00 / 4.00	☑ WITHIN RANGE	0751
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 46I0926 (EXP. DATE): Sept/26 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
1413 / 1413	24.9	☑ WITHIN RANGE	0801
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 24D10035 (EXP. DATE): 2019-04-19 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
223.4 / 223	24.7	☑ WITHIN RANGE	0809
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING POST-CAL. READING /SATURATED AIR	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
98.4 / 98.4	24	☑ WITHIN RANGE	0827
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): A4164 (EXP. DATE): Jan-26 POST-CAL. READING / STANDARD	(LOT #): A4311 (EXP. DATE): Nov-26 POST-CAL. READING / STANDARD	CAL. RANGE	TIME
100 / 100	0.00 / 0.00	☑ WITHIN RANGE	0820
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION
(LOT #):
(EXP. DATE):

☑ STANDARD SOLUTION (S)
LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK

CALIBRATED PARAMETERS		CALIBRATION RANGES (1)	
☐	pH	pH:	+/- 0.2 S.U.
☐	COND	COND:	+/- 1% OF CAL. STANDARD
☐	ORP	ORP:	+/- 25 mV
☐	D.O.	D.O.:	VARIES
☐	TURB	TURB:	+/- 5% OF CAL. STANDARD
☐	_____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER	
☐	_____		

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS

AYaasin 7-17-25
SIGNED DATE

Aaron Kost 7/18/25
CHECKED BY DATE

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance	MODEL: ~~YSI Pro DSS~~ Aqua TROLL Insitu	SAMPLER: (AW) AK EW
PROJECT NO.:	634698.0000.0000	SERIAL #: TRC A2	DATE: 7/15/25

PH CALIBRATION CHECK

pH 7 (LOT #): 4G10915 (EXP. DATE): Sep 26	pH (4) 10 (LOT #): 4G51193 (EXP. DATE):	CAL. RANGE	TIME
POST-CAL. READING / STANDARD	POST-CAL. READING / STANDARD		
7.00 / 7.00	4.00 / 4.00	☒ WITHIN RANGE	0757
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 4G10916 (EXP. DATE): Sept. 2025	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
POST-CAL. READING / STANDARD			
1413 / 1413	25	☒ WITHIN RANGE	0756
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 24J100430 (EXP. DATE): Sept, 2029	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
POST-CAL. READING / STANDARD			
229.0 / 229.0	25.16	☒ WITHIN RANGE	0803
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
POST-CAL. READING /SATURATED AIR			
100% / 100%	28.12	☒ WITHIN RANGE	0808
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): (EXP. DATE): DI	(LOT #): A4164 (EXP. DATE): June 2026	CAL. RANGE	TIME
POST-CAL. READING / STANDARD	POST-CAL. READING / STANDARD		
0.0 / 0.0	100 / 100	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION (LOT #): (EXP. DATE):

☑ STANDARD SOLUTION (S) — LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK

CALIBRATED PARAMETERS		CALIBRATION RANGES (1)	
☐	pH	pH:	+/- 0.2 S.U.
☐	COND	COND:	+/- 1% OF CAL. STANDARD
☐	ORP	ORP:	+/- 25 mV
☐	D.O.	D.O.:	VARIES
☐	TURB	TURB:	+/- 5% OF CAL. STANDARD
☐	_____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER	
☐	_____		

NOTES

None

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
None	NA

SIGNED _____ DATE 7/17/25

CHECKED BY _____ DATE 7-17-25

TRC

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER:	634698.0000.0000	BY: AW AY EW DATE: 7/14	BY: AY DATE: 7-17-25

SAMPLE ID: JCW-MW-18601 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1310	DATE: 7/14/25	SAMPLE	TIME: 1415	DATE: 7/15/25
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 6.73 SU	CONDUCTIVITY: 3596	umhos/cm
			ORP: -143.7 mV	DO: 0.94	mg/L
DEPTH TO WATER:	17.47 T/ PVC		TURBIDITY: 6.10 NTU		
DEPTH TO BOTTOM:	23.81 T/ PVC		☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME:	NA ☐ LITERS ☐ GALLONS		TEMPERATURE: 14.4 °C	FERROUS Fe —	mg/L
VOLUME REMOVED:	11.5 ☒ LITERS ☐ GALLONS		COLOR: Clear	ODOR: None	
COLOR:	cloudy ODOR: Slight		FILTRATE (0.45 um) ☐ YES	☒ NO	
TURBIDITY			FILTRATE COLOR: —	FILTRATE ODOR: —	
☐ NONE ☐ SLIGHT ☐ MODERATE	☒ VERY		QC SAMPLE: ☒ MS/MSD	☐ DUP-	
DISPOSAL METHOD:	☑ GROUND ☐ DRUM ☐ OTHER		COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1310	200	6.68	3903	-64.1	3.59	101.5	15.4	17.47	INITIAL
1315	|	6.69	3720	-15.2	1.17	6.75	13.1	17.63	1
1320	|	6.68	3748	-23.3	1.01	5.23	12.9	17.63	2
1325	|	6.68	3747	-36.0	0.99	4.39	12.9	17.63	3
1330	|	6.69	3696	-51.2	0.90	4.55	12.8	17.63	4
1335	|	6.70	3648	-66.7	0.88	5.53	12.8	17.63	5
1340	|	6.70	3624	-80.9	0.88	7.36	12.8	17.63	6
1345	300	6.71	3621	-94.3	0.87	8.56	12.6	17.63	7.5
1350	200	6.71	3596	-105.5	0.84	6.57	12.6	17.63	8.5
1355		6.73	3605	-120.4	0.91	5.47	13.8	17.63	9.5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
3	250 mL	PLASTIC	A	☐ Y ☒ N	3	125 mL	PLASTIC	D	☐ Y ☒ N
3	125 mL	PLASTIC	A	☐ Y ☒ N		40 mL	VOA	E	☐ Y ☐ N
6	60 mL	VOA	A	☐ Y ☐ N		1 L	PLASTIC	B	☐ Y ☐ N
3	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
3	125 mL	PLASTIC	C	☐ Y ☒ N					☐ Y ☐ N

SHIPPING METHOD:	Fedex	DATE SHIPPED:	7/15/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	JW	DATE SIGNED:	7/16/25

TRC

WATER SAMPLE LOG

(CONTINUED FROM PREVIOUS PAGE)

PROJECT NAME:	CEC Weadock LF: 2025 GW Cc	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: EW AY E	DATE: 7/18	BY: AY	DATE: 7-17-25

SAMPLE ID: GCW-MW-18001

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1400	100	6.73	3599 -126.8	-126.8	0.92	6.08	13.9	17.63	10.0
1405		6.73	3612	-134.1	0.94	4.58	13.9	17.63	16.5
1410		6.73	3599	-139.6	0.94	5.61	14.6	17.63	11.0
1415		6.73	3596	-143.7	0.94	6.10	14.4	17.63	11.5

SIGNATURE: E Wright

DATE SIGNED: 7/18/25

TRC

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: AW AY EW	DATE: 7/15/25	BY: AY	DATE: 7-17-25

SAMPLE ID: JCW-OW-18001 — WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0816	DATE: 7/15

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 8.36 T/ PVC

DEPTH TO BOTTOM: 20.30 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 7.5 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: yes

TURBIDITY: ☐ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 0856	DATE: 7/15

PH: 6.74 SU — CONDUCTIVITY: 1424 umhos/cm

ORP: -176.7 mV — DO: 1.10 mg/L

TURBIDITY: 7.92 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 14.0 °C — FERROUS Fe — mg/L

COLOR: Clear — ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0816	200	6.18	1602	-37.3	5.57	7.42	15.9	8.36	INITIAL
0821	"	6.54	1615	-38.5	1.52	4.33	13.5	8.56	1.0
0826	300	6.59	1548	-68.8	1.21	5.38	13.0	8.56	2.5
0831	"	6.62	1501	-101.5	1.04	6.81	12.9	8.67	4.0
0836	"	6.65	1465	-132.5	1.00	7.84	12.9	8.67	5.5
0841	100	6.70	1449	-153.9	1.13	5.96	14.1	8.52	6.0
0846	"	6.76	1445	-167.7	1.12	6.73	14.1	8.52	6.5
0851	"	6.73	1434	-173.3	1.11	7.48	14.1	8.52	7.0
0856	"	6.74	1424	-176.7	1.10	7.92	14.0	8.52	7.5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☐ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☐ N		40 mL	VOA	E	☐ Y ☐ N
2	60 mL	VOA	A	☐ Y ☐ N		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☐ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	Fedex	DATE SHIPPED:	7/15/25	AIRBILL NUMBER:	
COC NUMBER:		SIGNATURE:	SW	DATE SIGNED:	7/16/25

TRC WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: AW AY EW DATE: 7/15		BY: AY	DATE: 7-17-25

SAMPLE ID: JCW-MW-18004 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1310	DATE: 7/15

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 13.09 T/ PVC

DEPTH TO BOTTOM: 14.85 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 2.0 ☒ LITERS ☐ GALLONS

COLOR: cloudy ODOR: None

TURBIDITY ☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1325	DATE: 7/15

PH: 6.86 SU CONDUCTIVITY: 1357 umhos/cm

ORP: 107.8 mV DO: 4.62 mg/L

TURBIDITY: 107.79 NTU

☐ NONE ☐ SLIGHT ☐ MODERATE ☒ VERY

TEMPERATURE: 18.6 °C FERROUS Fe — mg/L

COLOR: Cloudy ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP- _____

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1310	200	6.94	1286	-67.5	7.72	22.63	21.4	13.09	INITIAL
1315		6.90	1274	-101.3	5.48	15.58	16.3	13.75	1
1320	100	6.83	1291	-107.2	3.94	41.29	16.5	14.4	1.5
1325		6.86	1357	-107.8	4.62	107.79	18.6		2.0
~~1330~~		Went Dry, Waited for recharge							

Final Parameters

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	7/15/25	AIRBILL NUMBER:	—
COC NUMBER:		SIGNATURE:	SW	DATE SIGNED:	7/16/25

TRC

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: AW AY EW	DATE: 7/15	BY: AY	DATE: 7-17-25

SAMPLE ID: JCW-MW-18006 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1435	DATE: 7/15	SAMPLE	TIME: 1505	DATE: 7/15
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 6.87 SU	CONDUCTIVITY: 1096 umhos/cm	
			ORP: -158.8 mV	DO: 0.98 mg/L	
DEPTH TO WATER:	15.30 T/ PVC		TURBIDITY: 4.60 NTU		
DEPTH TO BOTTOM:	24.48 T/ PVC		☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME:	NA ☐ LITERS ☐ GALLONS		TEMPERATURE: 15.4 °C	FERROUS Fe — mg/L	
VOLUME REMOVED:	6 ☒ LITERS ☐ GALLONS		COLOR: Clear	ODOR: None	
COLOR:	Clear ODOR: None		FILTRATE (0.45 um) ☐ YES ☒ NO		
TURBIDITY			FILTRATE COLOR: —	FILTRATE ODOR: —	
☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY			QC SAMPLE: ☐ MS/MSD ☒ DUP-	02	
DISPOSAL METHOD:	☑ GROUND ☐ DRUM ☐ OTHER		COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1435	200	6.89	2039	-139.0	6.02	9.77	20.7	15.30	INITIAL
1440		6.95	1027	-114.6	1.22	7.30	14.1	15.60	1
1445		6.91	1038	-125.6	1.15	5.33	15.3	15.66	2
1450		6.90	1058	-142.6	1.06	6.02	15.0	15.60	3
1455		6.89	1077	-149.1	1.02	4.97	14.8	15.60	4
1500		6.87	1090	-156.0	0.99	5.56	15.3	15.60	5
1505		6.87	1096	-158.8	0.98	4.60	15.4	15.60	6

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	A	☐ Y ☑ N		125 mL	PLASTIC	D	☐ Y ☐ N
2	125 mL	PLASTIC	A	☐ Y ☑ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N		1 L	PLASTIC	B	☐ Y ☐ N
2	125 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	7/15/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	[signature]	DATE SIGNED:	7/16/25

TRC

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: AW AY EW DATE: 7/15		BY: AY	DATE: 7-17-25

SAMPLE ID: MW-50 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0946	DATE: 7/15/25	SAMPLE	TIME: 1016	DATE: 7/15

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 13.90 T/ PVC

DEPTH TO BOTTOM: 19.45 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 6.0 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: Slight

TURBIDITY: ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.37 SU CONDUCTIVITY: 1346 umhos/cm

ORP: -226.9 mV DO: 0.95 mg/L

TURBIDITY: 3.90 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 14.2 °C FERROUS Fe — mg/L

COLOR: Clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0946	200	7.03	1382	-117.7	6.34	8.08	17.5	13.90	INITIAL
0951		7.40	1383	-173.4	1.35	3.47	13.8	14.0	1
0956		7.41	1359	-197.8	1.18	3.49	13.6	14.0	2
1001		7.39	1350	-210.7	1.04	3.50	13.5	14.0	3
1006		7.39	1345	-217.1	0.98	3.66	13.6	14.0	4
1011		7.38	1345	-222.3	0.95	3.87	14.0	14.0	5
1016		7.37	1346	-226.9	0.95	3.90	14.2	14.0	6

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☑ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N		40 mL	VOA	E	☐ Y ☐ N
2	60 mL	VOA	A	☐ Y ☑ N		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	7/15/25	AIRBILL NUMBER:	
COC NUMBER:		SIGNATURE:	EW	DATE SIGNED:	7/16/25

TRC WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: AW AY EW DATE: 7/15		BY: AY	DATE: 7-17-25

SAMPLE ID: MW-51 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: ~~1029~~ 1054	DATE: 7/15/25	SAMPLE	TIME: 1054	DATE: 7/15/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 14.84 T/ PVC

DEPTH TO BOTTOM: 20.0 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 5 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: None

TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.16 SU | CONDUCTIVITY: 1422 umhos/cm

ORP: -186.4 mV | DO: 0.93 mg/L

TURBIDITY: 9.46 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 13.1 °C | FERROUS Fe — mg/L

COLOR: Clear | ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — | FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☒ DUP- JCW-LF-01

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1029	200	7.36	1412	-118.6	5.45	7.28	17.3	14.84	INITIAL
1034	|	7.22	1408	-152.3	1.30	5.10	13.2	14.90	1
1039	|	7.18	1416	-169.5	1.08	5.02	13.1	14.90	2
1044	|	7.17	1419	-178.1	1.00	6.57	13.2	14.90	3
1049	|	7.16	1422	-184.3	0.96	8.15	13.0	14.90	4
1054	|	7.16	1422	-186.4	0.93	9.46	13.1	14.90	5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	A	☐ Y ☑ N		125 mL	PLASTIC	D	☐ Y ☐ N
2	125 mL	PLASTIC	A	☐ Y ☑ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N		1 L	PLASTIC	B	☐ Y ☐ N
2	125 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	7/15/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	JW	DATE SIGNED:	7/16/25

TRC WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: AW AY EW DATE: 7/15		BY: AY	DATE: 7-17-25

SAMPLE ID: MW-52 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1115	DATE: 7/15	SAMPLE	TIME: 1140	DATE: 7/15
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 6.71 SU	CONDUCTIVITY: 1587	umhos/cm
			ORP: -161.4 mV	DO: 0.92	mg/L
DEPTH TO WATER:	15.44 T/ PVC		TURBIDITY: 6.57 NTU		
DEPTH TO BOTTOM:	19.89 T/ PVC		☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME:	NA ☐ LITERS ☐ GALLONS		TEMPERATURE: 14.0 °C	FERROUS Fe —	mg/L
VOLUME REMOVED:	5.0 ☒ LITERS ☐ GALLONS		COLOR: Clear	ODOR: None	
COLOR:	cloudy	ODOR: Slight	FILTRATE (0.45 um) ☐ YES ☒ NO		
TURBIDITY			FILTRATE COLOR: —	FILTRATE ODOR: —	
☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY			QC SAMPLE: ☐ MS/MSD ☐ DUP-		
DISPOSAL METHOD:	☑ GROUND ☐ DRUM ☐ OTHER		COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1115	200	6.82	1577	107.0	5.38	14.05	19.6	15.44	INITIAL
1120	|	6.74	1572	-129.3	1.29	5.98	14.4	15.72	1
1125	|	6.71	1579	-143.0	1.07	8.55	14.3	15.72	2
1130	|	6.70	1585	-152.7	0.98	9.21	14.1	15.72	3
1135	|	6.70	1585	-158.5	0.93	6.00	14.0	15.72	4
1140	|	6.71	1587	-161.4	0.92	6.57	14.0	15.72	5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☑ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	7/15/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	EW	DATE SIGNED:	7/16/25

TRC

WATER SAMPLE LOG

PROJECT NAME: CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634698.0000.0000	BY: AW AY EW DATE: 7/15	BY: AY DATE: 7-17-25

SAMPLE ID: MW-53 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1157	DATE: 7/15

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 14.15 T/ PVC

DEPTH TO BOTTOM: 18.32 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 6 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: None

TURBIDITY

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1227	DATE: 7/15

PH: 7.36 SU CONDUCTIVITY: 909 umhos/cm

ORP: -196.2 mV DO: 0.92 mg/L

TURBIDITY: 6.36 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 14.2 °C FERROUS Fe — mg/L

COLOR: clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP- _____

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1157	200	7.37	958	-99.6	7.92	7.36	19.3	14.15	INITIAL
1202	|	7.43	907	-134.1	1.41	3.54	14.0	14.25	1
1207	|	7.38	907	-158.0	1.10	3.43	14.0	14.25	2
1212	|	7.36	907	-175.6	1.00	3.96	13.8	14.25	3
1217	|	7.36	907	-186.5	0.96	5.42	14.0	14.25	4
1222	|	7.35	909	-192.6	0.93	9.22	14.5	14.25	5
1227	|	7.36	909	-196.2	0.92	6.36	14.2	14.25	6

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☑ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☐ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☑ N		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: FedEx	DATE SHIPPED: 7/15/25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: EW	DATE SIGNED: 7/16/25

TRC

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED			CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: AW AY EW	DATE: 7/15		BY: AY	DATE: 7-17-25

SAMPLE ID: MW-53R | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1238	DATE: 7/15	SAMPLE	TIME: 1253	DATE: 7/15
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 6.86 SU	CONDUCTIVITY: 1222 umhos/cm	
DEPTH TO WATER:	14.90 T/ PVC		ORP: -145.0 mV	DO: 1.16 mg/L	
DEPTH TO BOTTOM:	18.80 T/ PVC		TURBIDITY: 3.82 NTU		
WELL VOLUME:	NA ☐ LITERS ☐ GALLONS		☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
VOLUME REMOVED:	3.0 ☒ LITERS ☐ GALLONS		TEMPERATURE: 13.5 °C	FERROUS Fe — mg/L	
COLOR:	Clear ODOR: None		COLOR: Clear	ODOR: No ne	
TURBIDITY	☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY		FILTRATE (0.45 um) ☐ YES ☒ NO		
DISPOSAL METHOD:	☑ GROUND ☐ DRUM ☐ OTHER		FILTRATE COLOR: —	FILTRATE ODOR: —	
			QC SAMPLE: ☐ MS/MSD	☐ DUP-	
			COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1238	200	7.62	1285	-123.4	6.90	16.84	19.2	14.90	INITIAL
1243	|	6.88	1266	-143.0	1.31	6.20	13.7	15.0	1
1248	|	6.86	1218	-143.9	1.06	4.23	13.7	15.0	2
1253	|	6.86	1222	-145.0	1.16	3.82	13.5	15.0	3
~~1258~~									

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☐ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☐ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☐ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	7/15/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	GW	DATE SIGNED:	7/16/25

TRC

WATER SAMPLE LOG

PROJECT NAME: CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634698.0000.0000	BY: AW AY EW DATE: 7-15-25	BY: A.Wing DATE: 7-16-25

SAMPLE ID: MW-54R | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1314	DATE: 7-15-25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 14.37 T/ PVC

DEPTH TO BOTTOM: 17.22 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 8.5 ☒ LITERS ☐ GALLONS

COLOR: clear ODOR: —

TURBIDITY: ☐ NONE ☑ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE AY	TIME: 1405	DATE: 7-15-25

PH: ~~1405~~ 6.88 SU CONDUCTIVITY: 1602 umhos/cm

ORP: 19.4 mV DO: 0.68 mg/L

TURBIDITY: 0.72 NTU

☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 18.7 °C FERROUS Fe — mg/L

COLOR: Clear ODOR: —

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: FILTRATE ODOR:

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1320	200	6.98	1515	82.1	5.21	4.02	16.7	14.61	INITIAL
1325	200	6.99	1488	90.1	3.76	2.29	15.9	14.67	1
1330	200	6.96	1497	91.9	2.74	3.29	16.4	14.70	2
1335	200	6.94	1527	89.8	1.83	2.42	15.9	14.70	3
1340	200	6.93	1550	83.5	1.27	1.42	15.9	14.70	4
1345	200	6.92	1559	70.4	0.93	1.72	15.9	14.71	5
1350	200	6.91	1570	56.3	0.77	4.55	16.0	14.71	6
1355	200	6.90	1573	37.9	0.71	1.20	16.3	14.71	7
1400	150	6.89	1569	23.2	0.69	0.84	18.4	14.63	~~8~~ 7.75 (AY)
1405	150	6.88	1602	19.4	0.68	0.72	18.7	14.64	~~8~~ 8.5 (AY)

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☑ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☑ N		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: Fedex	DATE SHIPPED: 7-15-25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: AY	DATE SIGNED: 7-16-25

TRC

WATER SAMPLE LOG

PROJECT NAME: CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634698.0000.0000	BY: AW AY EW DATE: 7/15	BY: AY DATE: 7-17-25

SAMPLE ID: MW-55 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1345	DATE: 7/15

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 14.53 T/ PVC

DEPTH TO BOTTOM: 16.39 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 5 ☒ LITERS ☐ GALLONS

COLOR: cloudy ODOR: Slight

TURBIDITY ☐ NONE ☐ SLIGHT ☒ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1410	DATE: 7/15

PH: 6.87 SU CONDUCTIVITY: 1140 umhos/cm

ORP: -166.9 mV DO: 1.00 mg/L

TURBIDITY: 4.36 NTU

☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 16.0 °C FERROUS Fe — mg/L

COLOR: clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1345	200	7.02	1132	-141.3	4.34	78.47	20.1	14.53	INITIAL
1350		6.95	1115	-124.0	1.32	9.95	15.8	14.60	1
1355		6.90	1128	-154.7	1.10	5.63	15.9	14.60	2
1400		6.90	1129	-160.9	1.06	6.15	16.0	14.60	3
1405		6.88	1137	-165.9	1.03	4.94	16.0	14.60	4
1410		6.87	1140	-166.9	1.00	4.36	16.0	14.60	5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☑ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: FedEx	DATE SHIPPED: 7/15/25	AIRBILL NUMBER:
COC NUMBER: —	SIGNATURE: [signature]	DATE SIGNED: 7/16/25

TRC WATER SAMPLE LOG

PROJECT NAME: CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634698.0000.0000	BY: AW AY EW DATE: 7-15-25	BY: A. Wisely DATE: 7/16/25

SAMPLE ID: OW-57 Rout | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: ~~1037~~	DATE: 7/15/25	SAMPLE	TIME: 1540	DATE: 7-15-25
PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER			PH: 6.89 SU	CONDUCTIVITY: 1322 umhos/cm	
			ORP: 16.8 mV	DO: 0.93 mg/L	
DEPTH TO WATER: 10.29 T/ PVC			TURBIDITY: 1.37 NTU		
DEPTH TO BOTTOM: 20.22 T/ PVC			☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME: NA ☐ LITERS ☐ GALLONS			TEMPERATURE: 21.6 °C	FERROUS Fe — mg/L	
VOLUME REMOVED: 8 ☐ LITERS ☐ GALLONS			COLOR: clear	ODOR: None	
COLOR: clear ODOR: —			FILTRATE (0.45 um) ☐ YES ☒ NO		
TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY			FILTRATE COLOR:	FILTRATE ODOR:	
			QC SAMPLE: ☐ MS/MSD ☐ DUP-		
DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER			COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)	
1440	200	6.95	1357	130.7	1.57	3.00	16.8	11.72	INITIAL	
1445	200	6.97	1316	116.0	0.66	2.05	16.3	13.08	1	
1450	150	6.93	1301	105.2	0.63	3.50	18.6	13.73	~~2~~ 1.75	AY
1455	150	6.93	1315	94.6	0.62	2.66	18.7	14.19	~~3~~ 2.5	AY
1500	150	6.94	1320	88.6	0.63	2.98	18.6	14.64	~~4~~ 3.25	AY
1505	150	6.94	1320	80.3	0.69	3.95	19.2	14.99	~~5~~ 4	AY
1510	150	6.94	1320	70.6	0.87	6.66	18.9	15.34	~~6~~ 4.75	AY
1515	150	6.93	1310	43.7	1.09	1.38	19.2	15.57	~~7~~ 5.5	AY
1520	100	6.92	1298	37.4	1.17	1.38	20.5	15.44	~~8~~ 6	AY
1525	100	6.90	1321	29.6	1.05	1.15	21.8	15.43	~~9~~ 6.5	AY

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED		PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____							
NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☑ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: Fedex	DATE SHIPPED: 7-15-25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: [signature]	DATE SIGNED: 7-16-25

WATER SAMPLE LOG

(CONTINUED FROM PREVIOUS PAGE)

PROJECT NAME:	CEC Karn BAP/LI: 2025 GW Co	PREPARED		CHECKED	
PROJECT NUMBER:	634695.0000.00000	BY: AY EW AV	DATE: 7-15-25	BY: A. Wind	DATE: 7/16/25

SAMPLE ID: ~~MW~~ OW-57 ROUT

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1530	100	6.89	1323	21.0	0.99	1.08	21.9	15.42	7
1535	100	6.90	1322	17.9	0.98	1.12	21.4	15.42	7.5
1540	100	6.89	1322	16.8	0.95	1.37	21.6	15.43	8

SIGNATURE: AY

DATE SIGNED: 7-16-25

TRC WATER SAMPLE LOG

Weedpatch LF

PROJECT NAME: GEC ~~Kern BAP/LF~~ 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: ~~634695~~ 0000.00000 634698	BY: AY EW (AW) DATE: 7/15/25	BY: EW DATE: 7/15/25

SAMPLE ID: JCW-MW-18005 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1412	DATE: 7/15/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 10.17 T/ PVC

DEPTH TO BOTTOM: 16.40 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 2.0 ☑ LITERS ☐ GALLONS

COLOR: Clear ODOR: ____

TURBIDITY: ☒ NONE ☒ SLIGHT ☑ MODERATE ☐ VERY (AW)

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1427	DATE: 7/15/25

PH: 7.01 SU | CONDUCTIVITY: 1273 umhos/cm

ORP: 41.6 mV | DO: 0.40 mg/L

TURBIDITY: 0.00 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 15.71 °C | FERROUS Fe — mg/L

COLOR: Clear | ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — | FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS: FB-01 1427

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1412	200	7.79	1050	78.2	.46	36.90	14.82	10.17	INITIAL
1417	100	7.08	1266	41.9	0.34	0.36	15.90	11.35	1.00
1422	↓	7.01	1270	41.9	0.41	0.00	15.64	11.48	1.5
1427	↓	7.01	1273	41.6	0.40	0.00	15.71	11.60	2.0

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N		125 mL	PLASTIC	D	☐ Y ☐ N
2	125 mL	PLASTIC	A	☐ Y ☒ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N		1 L	PLASTIC	B	☐ Y ☐ N
2	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: Fed EX	DATE SHIPPED: 7/15/25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: A. Whaley	DATE SIGNED: 7/16/25

CHAIN OF CUSTODY

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CONSUMERS ENERGY COMPANY – LABORATORY SERVICES

135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q3-2025 JC Weadock Porewater Wells

PROJECT NUMBER: 25-0478

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: E. Wielgopolski, A. Whaley, A. Yaasin

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	HNO_3	H_2SO_4	NaOH	HCl	MeOH	Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0478-01	7/14/25	1415	GW	JCW-MW-18001	5	4	1						x	x	x	x	
-02	7/15/25	1325	GW	JCW-MW-18004	3	2	1						x	x	x		
-03		1427	GW	JCW-MW-18005	3	2	1						x	x	x		
-04		~~1427~~ 1505	GW	JCW-MW-18006	3	2	1						x	x	x		
-05		1016	GW	MW-50	3	2	1						x	x	x		
-06		1054	GW	MW-51	3	2	1						x	x	x		
-07		1140	GW	MW-52	3	2	1						x	x	x		
-08		1227	GW	MW-53	3	2	1						x	x	x		
-09		1253	GW	MW-53R	3	2	1						x	x	x		
-10		1405	GW	MW-54R	3	2	1						x	x	x		
-11	~~7/14~~ 7/15	1410	GW	MW-55	3	2	1						x	x	x		
-12	7/15/25	1540	GW	OW-57ROUT	3	2	1						x	x	x		

RELINQUISHED BY: [signature] DATE/TIME: 7/15/25 1640 RECEIVED BY: Fed EX

RELINQUISHED BY: Fed EX DATE/TIME: 07-16-25 10:30 RECEIVED BY: [signature]

COMMENTS:

Received on Ice? ☑ Yes ☐ No M&TE #: 015402

Temperature: 0.8 - 5.3 °C Cal. Due Date: 05-21-26

8/19/25

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SAMPLING SITE / CUSTOMER: Q3-2025 JC Weadock Porewater Wells

PROJECT NUMBER: 25-0478

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: SA 1 of 2

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	Alkalinity					REMARKS
25-0478-13	7/15/25		GW	DUP-JCW-LF-01	3	2	1						x	x	x						
-14	7/15/25		GW	DUP-JCW-LF-02	3	2	1						x	x	x						
-15	7/14/25	1415	GW	JCW-MW-18001 MS	2	1	1						x	x							
-16	7/14/25	1415	GW	JCW-MW-18001 MSD	2	1	1						x	x							
-17	7/15/25	1427	GW	FB-01	2	1	1						x	x							
-18	7/15/25	1455	W	EB-01	2	1	1						x	x							

RELINQUISHED BY: [signature] — DATE/TIME: 7/15/25 1640 — RECEIVED BY: Fed Ex

RELINQUISHED BY: Fed Ex — DATE/TIME: 07-16-25 10:30 — RECEIVED BY: [signature]

COMMENTS:

Received on Ice? ☑ Yes ☐ No — M&TE #: 015402

Temperature: 0.3-5.3 °C — Cal. Due Date: 05-27-26

KJ 7/21/25

CHAIN OF CUSTODY

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CONSUMERS ENERGY COMPANY – LABORATORY SERVICES

135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q3-2025 JC Weadock ASD

PROJECT NUMBER: 25-0479

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: E. Wielgopolski

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0479-01	7/15/25	0856	GW	JCW-OW-18001	5	4	1						x	x	x	x	

RELINQUISHED BY: GW — DATE/TIME: 7/15/25 1640 — RECEIVED BY: Fed Ex

RELINQUISHED BY: Fed Ex — DATE/TIME: 07-15-25 10:30 — RECEIVED BY:

COMMENTS:

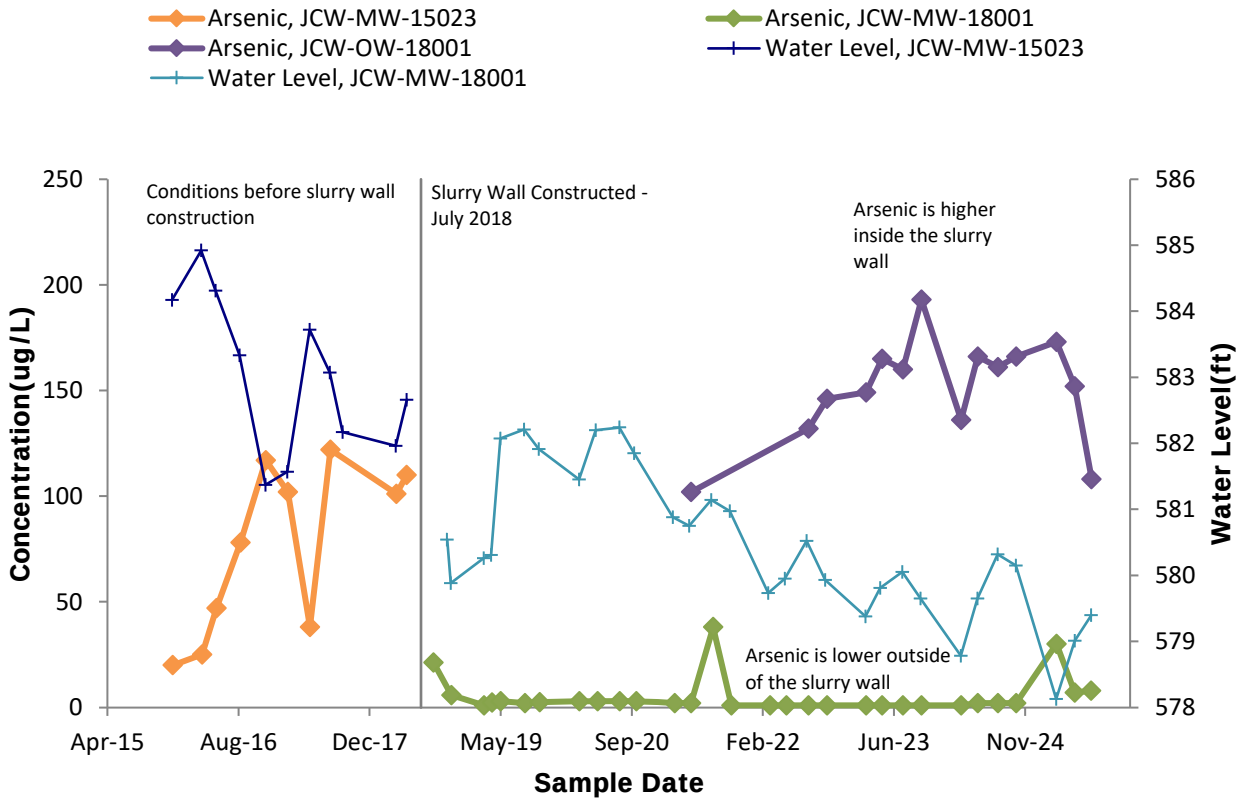
Received on Ice? ☑ Yes ☐ No — M&TE #: 015402

Temperature: 0.8-5.3 °C — Cal. Due Date: 05-27-26

28 of 28

Appendix G
Alternate Source Demonstration Supporting Information

Figure G1: Time Series Plots for JCW-MW-18001 ASD



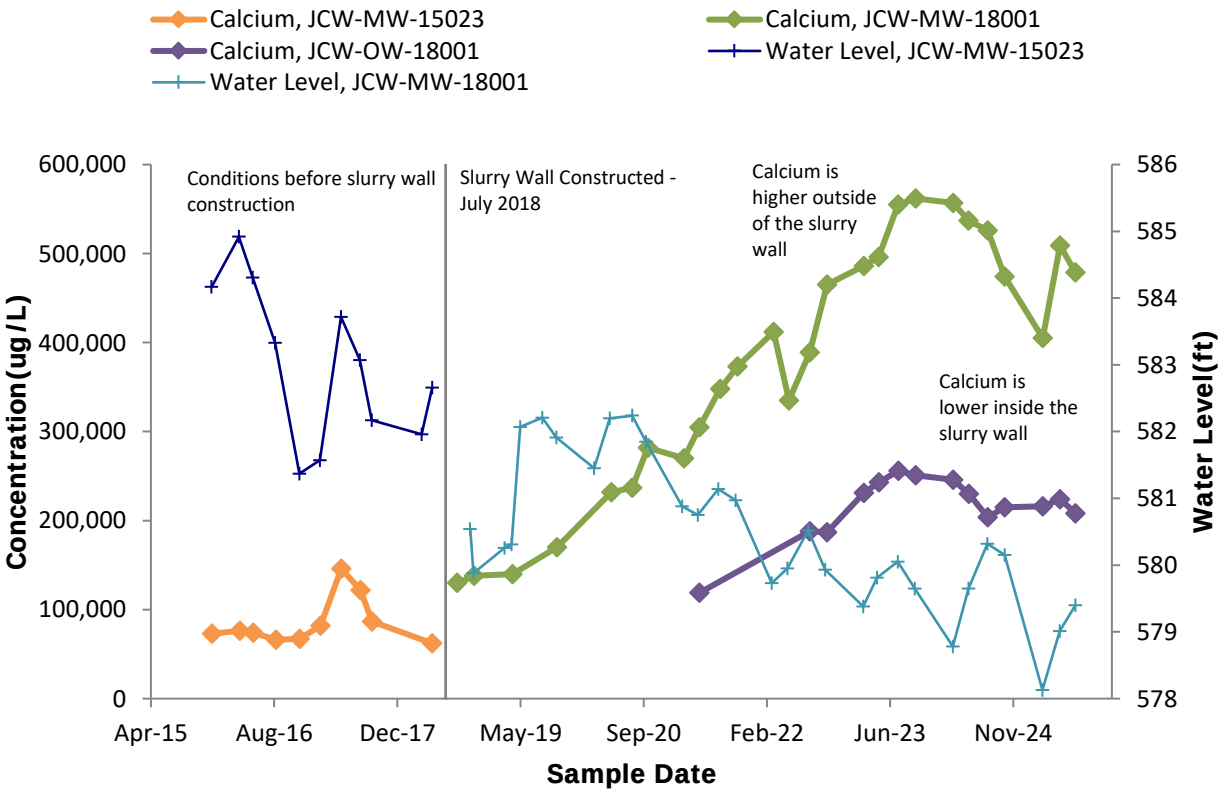
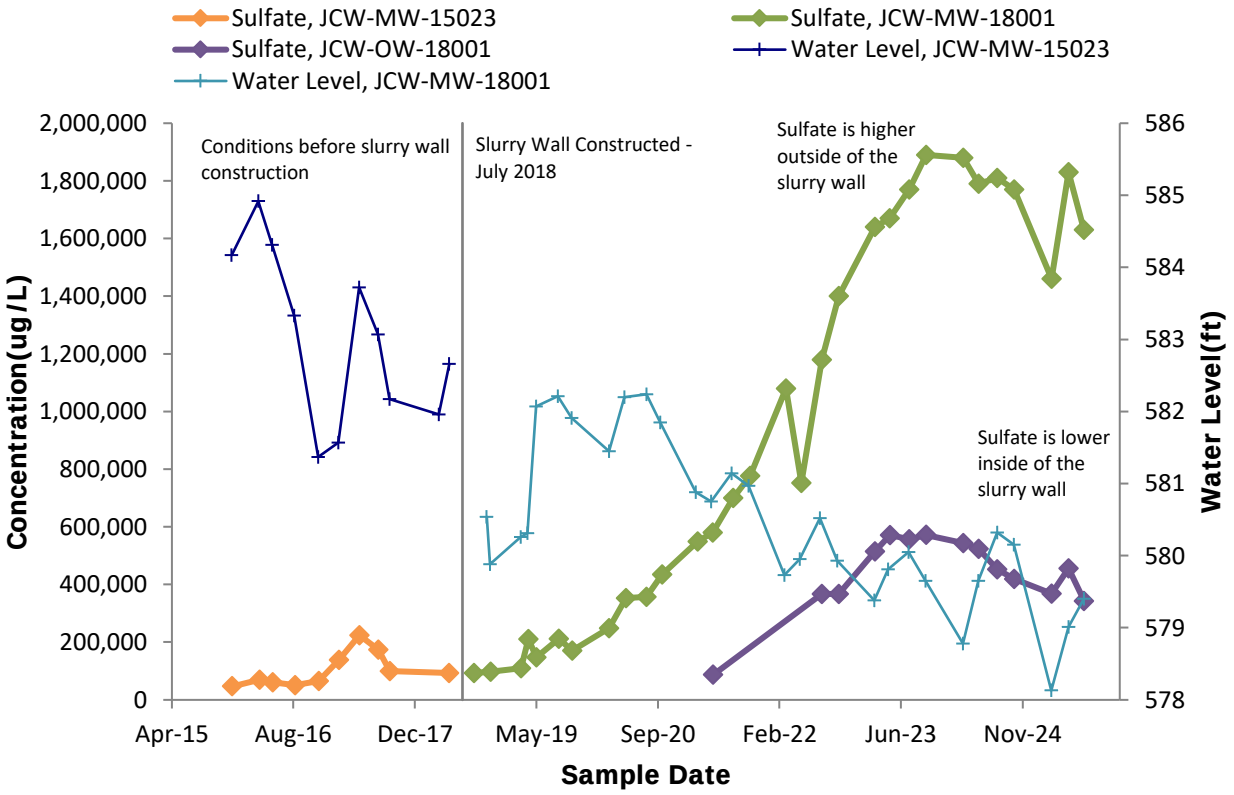


Figure G1: Time Series Plots for JCW-MW-18001 ASD



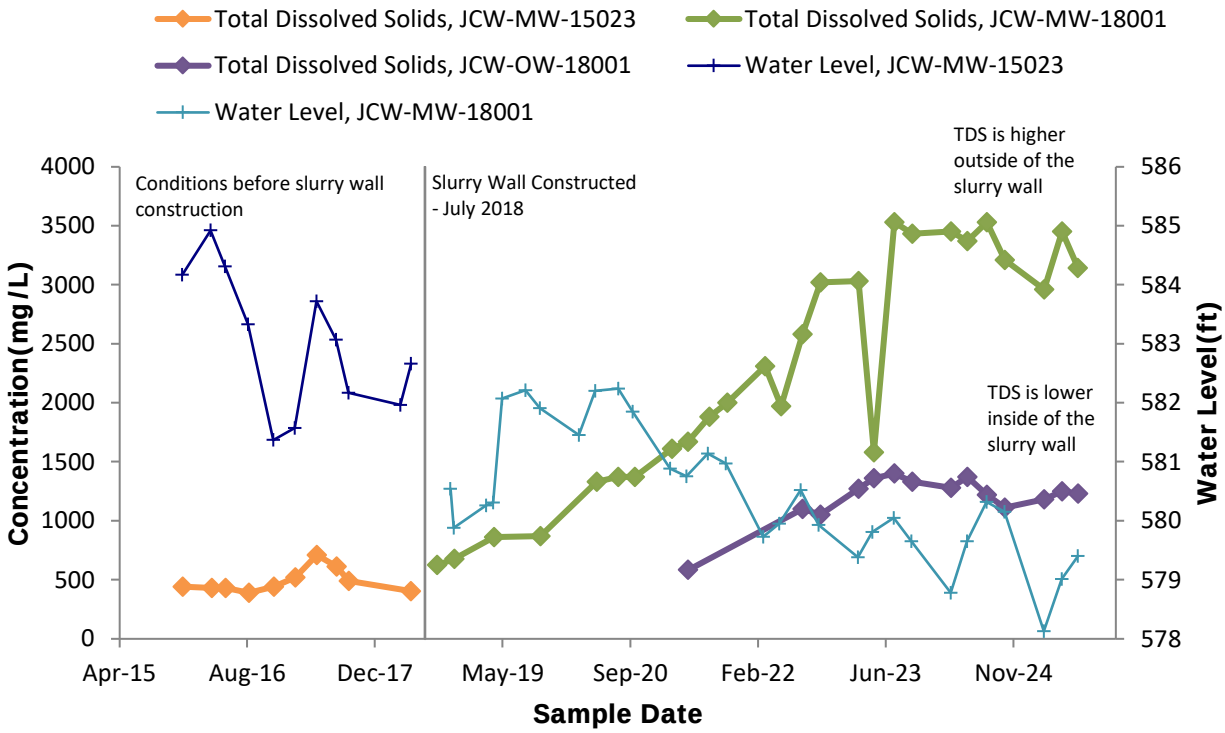
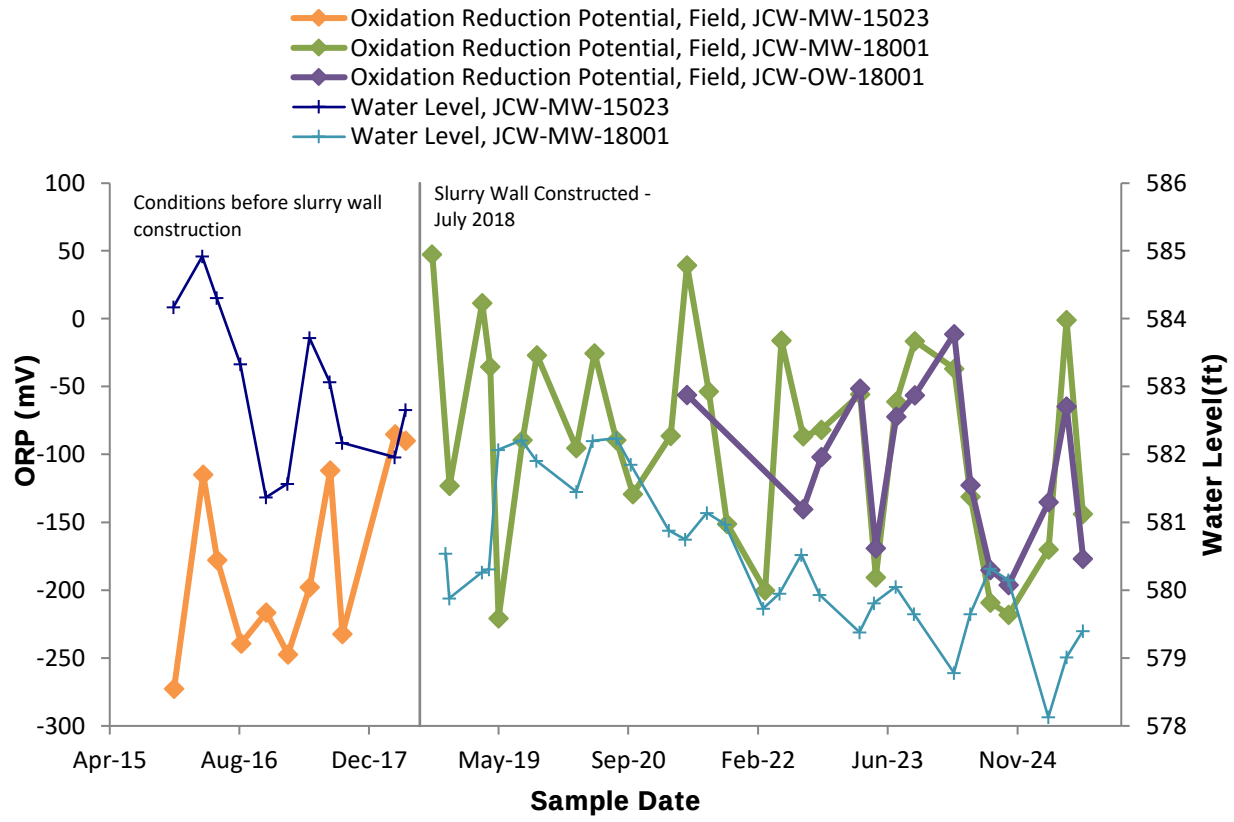


Figure G1: Time Series Plots for JCW-MW-18001 ASD



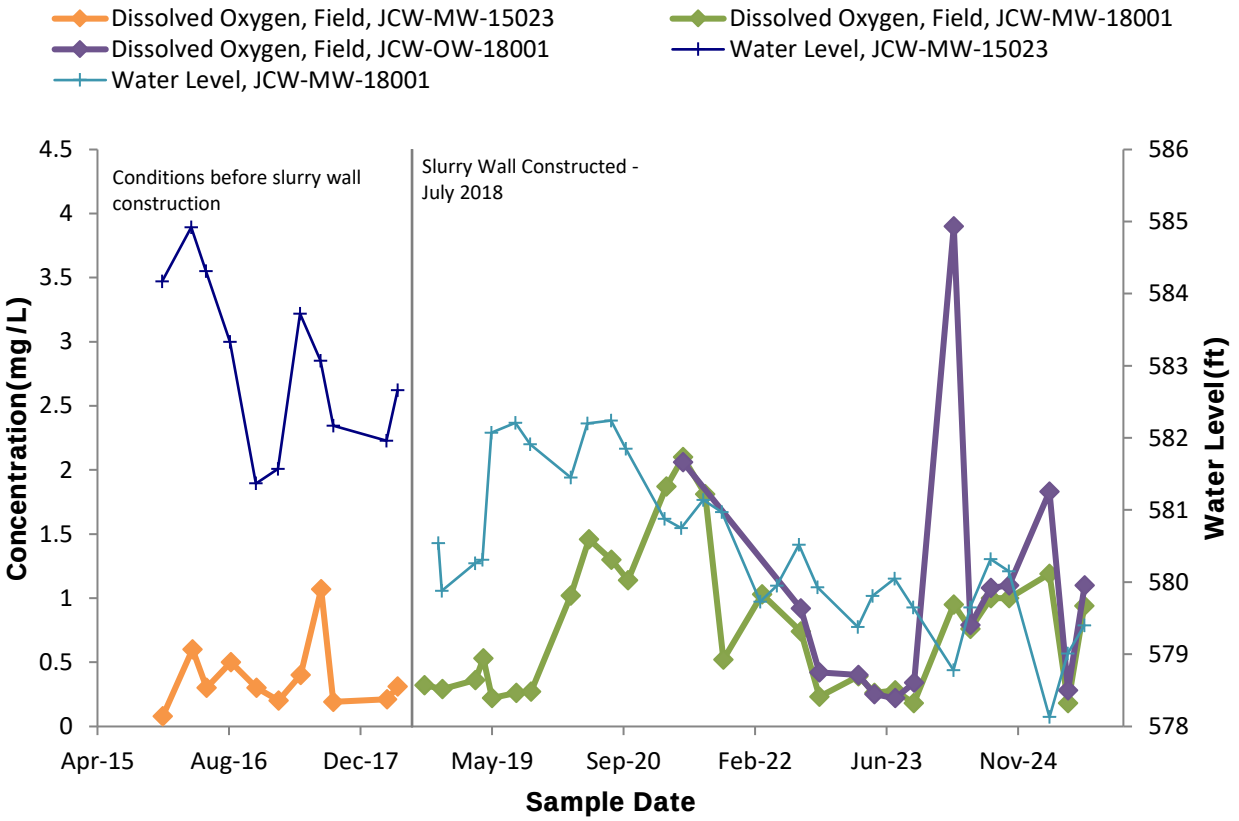
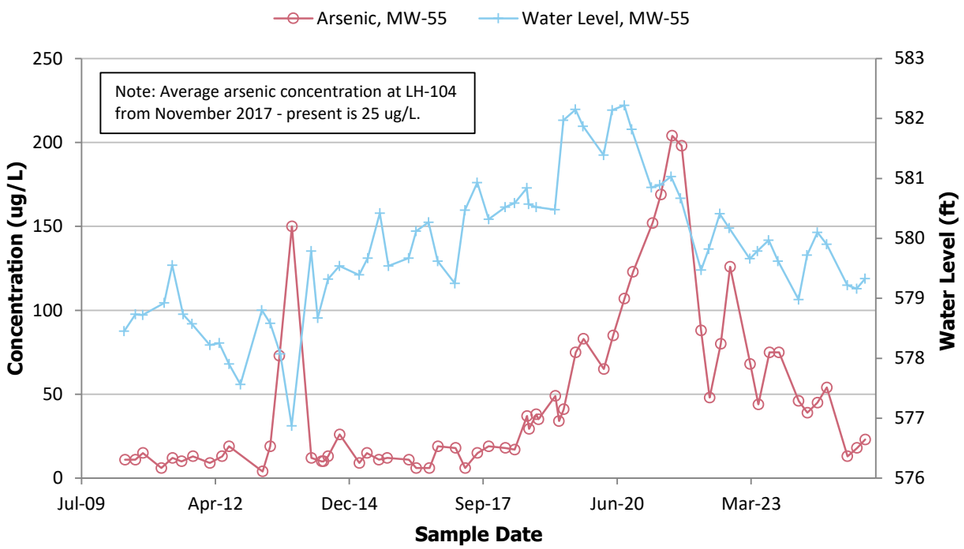
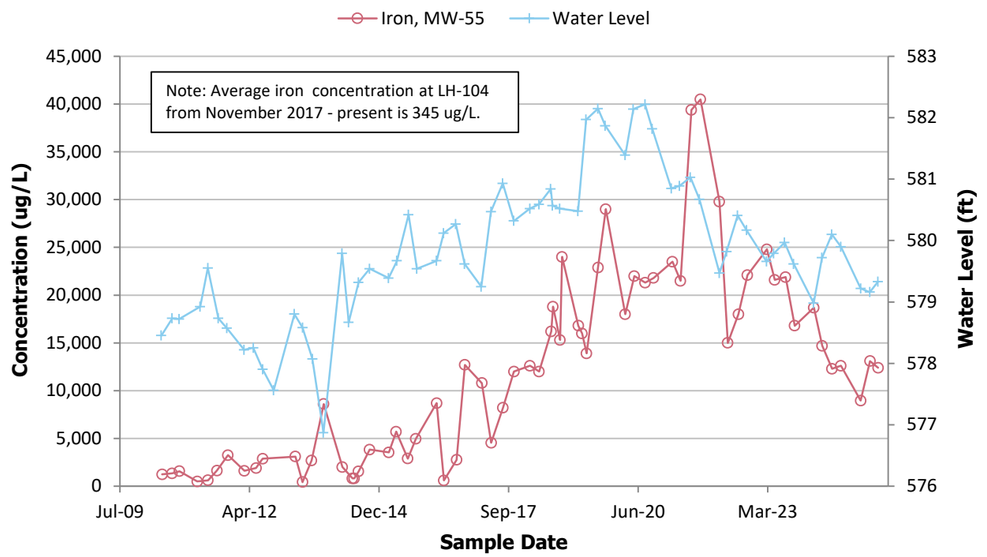
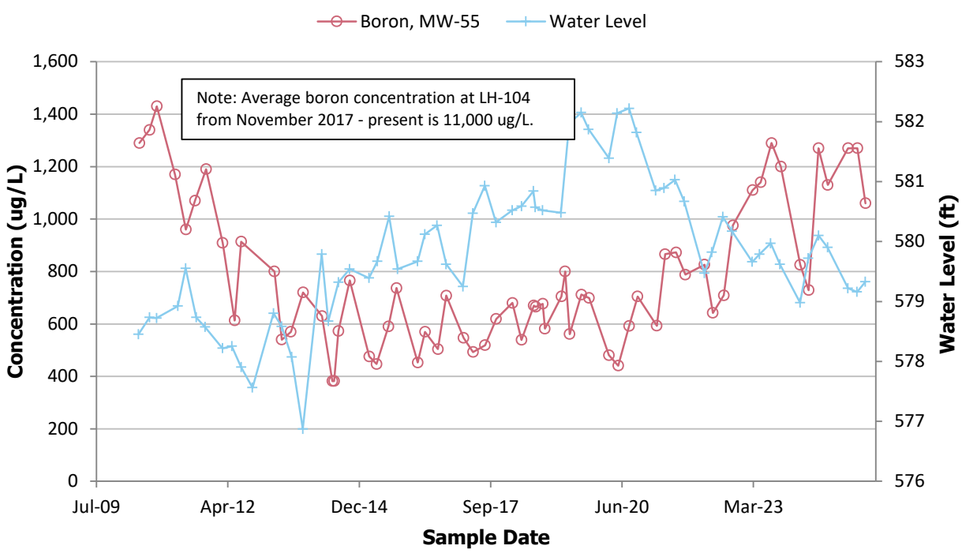
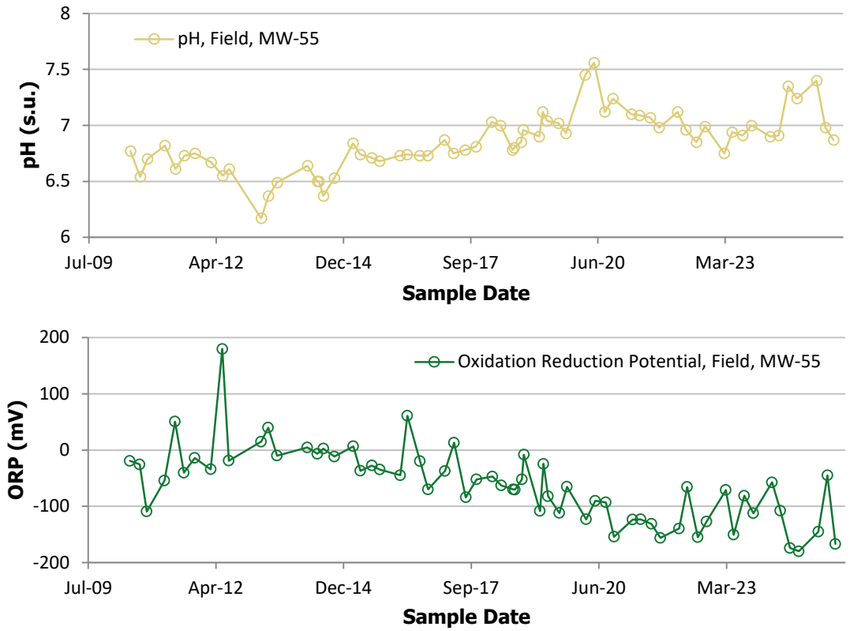


Figure G2: Time Series Plots for MW-55 ASD









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Enclosure 5

2025 Semiannual Groundwater Monitoring Report and Fourth Quarter 2025 Hydrogeological Monitoring Report, JC Weadock Solid Waste Disposal Area, Essexville, Michigan. (TRC, January 30, 2026)

2025 Semiannual Groundwater Monitoring Report and Fourth Quarter 2025 Hydrogeological Monitoring Report

JC Weadock Solid Waste Disposal Area
Essexville, Michigan

January 2026

Prepared For:

Consumers Energy
1945 W. Parnall Road
Jackson, MI 49201

Prepared By:

TRC
1540 Eisenhower Pl.
Ann Arbor, MI 48108

Darby Litz
Project Manager/Hydrogeologist

Kristin Lowery, P.E.
Project Engineer

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Appendix G Alternate Source Demonstration Supporting Information

1.0 Introduction

Consumers Energy implemented a comprehensive compliance monitoring plan documented in the *Revised Hydrogeological Monitoring Plan* (Natural Resource Technology, 2010) for the JC Weadock Solid Waste Disposal Area (Weadock Landfill) as required by Special License Condition 20.b in Solid Waste Disposal Area Operating License No. 9233 issued on October 15, 2009. Since that time, the United States Environmental Protection Agency (USEPA) published the final rule for the regulation and management of Coal Combustion Residuals (CCR) under the Resource Conservation and Recovery Act (RCRA) (the CCR Rule) (USEPA, April 2015 as amended) imposing groundwater monitoring and corrective action requirements that apply to the Weadock Landfill. Subsequently, Michigan amended Part 115 of the Natural Resources and Environmental Protection Act (NREPA) PA 451 of 1994, as amended (a.k.a., Michigan Part 115 Solid Waste Management) to provide a basis for establishing a groundwater monitoring system and initiating detection and assessment monitoring to conform requirements for any licensed coal ash impoundment or landfill after December 28, 2018, with Part 115 amendments and the CCR Rule.

On January 15, 2021, Consumers Energy submitted the *Landfill Hydrogeological Monitoring Plan, JC Weadock Power Plant, Essexville, Michigan* (Weadock Landfill HMP), which includes components for Detection Monitoring and Assessment Monitoring, as well as Groundwater Surface Water Interface (GSI) Compliance Monitoring, to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to comply with the requirements of Part 115 and the CCR Rule. The Weadock Landfill HMP (TRC, February 2021) was revised per EGLE comments, submitted, and approved by EGLE on February 19, 2021, and incorporated, by reference, in Solid Waste Disposal Area Operating License No. 9640 issued on March 11, 2021.

1.1 Statement of Adherence to Approved Hydrogeological Monitoring Plan

This Fourth Quarter 2025 JC Weadock Hydrogeological Monitoring Report (Report) has been prepared by TRC on behalf of Consumers Energy to satisfy quarterly groundwater monitoring and reporting requirements during the active life of the coal ash landfill. This Report also serves to document the semiannual assessment monitoring event completed per the CCR Rule. This Report was prepared in accordance with the items listed in Appendix A (Solid Waste Monitoring Submittal Components) of the May 15, 2015 Michigan Department of Environmental Quality (MDEQ) – Office of Waste Management and Radiological Protection, now the EGLE Materials Management Division (MMD), communication prescribing the format for solid waste disposal facility monitoring submittals as published in OWMRP-115-29, dated July 5, 2013 *Format for Solid Waste Disposal Facility Monitoring Submittals*. All references herein to the EGLE are inclusive of the MDEQ. Information contained in this report was prepared in adherence to the Weadock Landfill HMP that was approved by the EGLE on February 19, 2021. The Weadock Landfill HMP is compliant with Part 115 of PA 451 of 1994, as amended by Public Act No. 640 of 2018 (Part 115) (a.k.a., Michigan Part 115 Solid Waste Management).

1.2 Program Summary

This Report provides results and summarizes the monitoring activities completed in the fourth quarter of 2025 at the JC Weadock Solid Waste Disposal Area (*i.e.* the Weadock Landfill)

located at 2742 Weadock Highway in Essexville, Michigan (Figure 1). This JC Weadock Disposal Area is currently authorized under a permit (Groundwater Discharge Authorization GWE-0005) issued pursuant to Part 31 to discharge to the unusable aquifer directly underlying the solid waste that vents almost immediately to the Saginaw River and Saginaw Bay.

The Weadock Landfill is currently in assessment monitoring pursuant to the CCR Rule. Consumers Energy first reported the potential for statistically significant increases (SSIs) for Appendix III constituents in the *Annual Groundwater Monitoring Report JC Weadock Power Plant Bottom Ash Pond CCR Unit* (TRC, January 2018). The statistical evaluation of the Appendix III indicator parameters confirming SSIs over background were as follows:

- Boron at JCW-MW-15011, JCW-MW-15012, JCW-MW-15023; and
- Field pH at JCW-MW-15023 (high).

On April 25, 2018, Consumers Energy entered assessment monitoring upon determining that an Alternate Source Demonstration for the Appendix III constituents was not successful. After subsequent sampling for Appendix IV constituents, Consumers Energy provided notice to the Department on January 14, 2019 that arsenic was detected at statistically significant levels above the federal groundwater protection standards (GWPS) established pursuant to §257.95(h) in one monitoring well at the Weadock Landfill (JCW-MW-15023), which was located downgradient of a 1,600 linear foot vent within the slurry wall enclosing the historical fly ash disposal area. The vent was designed to direct groundwater flow beneath the landfill to the discharge channel immediately upgradient from the National Pollutant Discharge Elimination System (NPDES) external outfall to prevent water from building up within the facility. In July 2018, this vent was closed (Golder, 2018) and the engineering improvement was approved by the Department (MDEQ, 2018). As a part of the vent closure, monitoring wells JCW-MW-15011, JCW-MW-15012, and JCW-MW-15023 were decommissioned by over drilling, removing the well material, and sealing the borehole to allow for the slurry wall construction as discussed in the *2018 Annual Groundwater Monitoring Report for the JC Weadock Landfill CCR Unit* (TRC, 2019a). Consumers Energy installed an additional nine monitoring wells in August 2018 to supplement the preexisting Michigan Part 115 compliance groundwater well network and provide appropriate coverage for the collection of groundwater levels and water quality data along the perimeter of the Weadock Landfill, as discussed in the Weadock Landfill HMP. Closing the vent and completely encircling the Weadock Landfill with a soil-bentonite slurry wall has demonstrated reduced groundwater flux around the entire perimeter of the landfill.

In March 2019, Consumers Energy submitted a Response Action Plan (Consumers, 2019), which identified interim response activities taken or to be taken to control possible sources of contamination. Consumers Energy further evaluated arsenic in groundwater at the Weadock Landfill as part of the nature and extent analysis and outlined potential remedies in the *Assessment of Corrective Measures* (TRC, 2019b), which was initiated on April 14, 2019, and completed on September 11, 2019, and focused on materials management with an emphasis on improving source control through the closure plan.

Compliance monitoring is being implemented under the Weadock Landfill HMP dated February 2021 and approved by the EGLE on February 19, 2021. Groundwater data collected in accordance with the Weadock Landfill HMP are used to:

- Assess background groundwater quality for the purposes of establishing and updating GWPS (HMP Section 7.1 Background Determination)
- Perform detection monitoring to assess whether a new release has occurred during operation of the landfill (*i.e.* SSI over background) (HMP Section 7.2 Detection Monitoring)
- Perform assessment monitoring to assess whether constituent concentrations in groundwater from prior operations are above a risk-based standard (*i.e.* statistically significant level over the GWPS) (HMP Section 7.3 Assessment Monitoring)
- Assess compliance with the GSI pathway (HMP Section 7.4)

Consumers Energy also continues to execute the self-implementing groundwater compliance schedule in conformance with §257.90 - §257.98 of the CCR Rule, which includes semiannual assessment monitoring in accordance with §257.95 during the second and fourth calendar quarters. Assessment monitoring data collected in accordance with the CCR Rule is used to assess whether constituent concentrations in groundwater from prior operations are above a risk-based standard (*i.e.* statistically significant level over the Appendix IV GWPS).

1.3 Site Overview

The JC Weadock Solid Waste Disposal Area is located within the former JC Weadock Power Plant (Site), located south of the DE Karn Power Plant, east of the Saginaw River, west of Underwood Drain and Saginaw Bay, and north of Tacey Drain and agricultural land (Figure 1). In addition to the disposal area, the Site consists of the generating facility which retired eight coal-fired generating units and infrastructure and utilities that support electrical transmission. Units 1 to 6 commenced operation in 1940 and retired in 1980 and Units 7 and 8 were added in 1955 and 1958 continued to operate through April 15, 2016.

1.4 Geology/Hydrogeology

The majority of Weadock Landfill area is comprised of surficial CCR and sand fill, as described in the Weadock Landfill HMP. USGS topographic maps and aerial photographs dating back to 1950, in addition to field descriptions of subsurface soil at the Site, indicate that the Site was largely developed by reclaiming low-lands through construction of perimeter dikes and subsequent ash filling (AECOM, 2009).

The surficial fill consists of a mixture of varying percentages of ash, sand, and clay-rich fill ranging from 5 to 15 feet thick. Below the surficial fill, native alluvium and lacustrine soils are present at varying depths. Generally, there is a well graded sand unit present to depths of 10-30 feet below ground surface (ft bgs) overlying a clay till which is observed at depths ranging from 25-75 ft bgs. In general, the alluvium soils (sands) are deeper along the Saginaw River and there are shallower lacustrine deposits (clays, silts, and sands deposited in or on the shores of glacial lakes) at other areas. Along the perimeter of the landfill, there is a well-graded sand unit present at depths ranging from 10 to 20 ft bgs. The sand is variable in thickness, ranging

from <1 to ~6.5 feet, and is discontinuous along the landfill perimeter, as evidenced by the soil boring logs and slurry wall construction documentation.

The alluvium soils pinch out and are not observed in soil borings located south and east of the Weadock Landfill, along the location of the historic shoreline. The non-water-bearing region south of the Weadock Landfill extends for at least a mile south and southeast of the Site.

Beneath the surficial fill and sand unit (where present) is 70 to 80 feet of clay till. Along the southern perimeter of the landfill, some of the upper portion of the clay till is sand-rich (generally greater than 20 ft bgs). The clay till acts as a hydraulic barrier that separates the shallow groundwater from the underlying sandstone. The sandstone unit, which is part of the Saginaw Formation, is generally encountered at 80-90 ft bgs.

The Weadock Landfill is bounded by several surface water features (Figures 1 and 2): the Saginaw River to the west, a discharge channel and Saginaw Bay (Lake Huron) to the north, Underwood Drain to the east, and Tacey Drain to the south. Groundwater flow in this water bearing zone is largely controlled by the surface water elevations of Saginaw River and Saginaw Bay.

2.0 Leachate Monitoring

The leachate monitoring program consists of an annual laboratory leachate sampling program (Q1) and an annual field leachate sampling program (Q4) per the Weadock Landfill HMP. This program was instituted to maintain the facility under the applicable portions of Part 115, Rule 311 – Leaching tests to evaluate potential for groundwater contamination at unlined industrial waste landfills. Specifically, Subrule (3) states that waste that is disposed of in an industrial waste landfill shall be retested to evaluate potential for groundwater contamination annually or on a more frequent schedule as specified by the solid waste control agency.

In addition to field leachate testing conducted annually to evaluate appropriateness of monitored constituents and changes to fate and transport properties, an annual laboratory leachate analysis program was included to better understand what, if any, changes to waste placement may be occurring at the Weadock Landfill based on the addition of air emissions controls and the commingling of air emissions controls residuals (Spray Dry Absorber – SDA) over time. The Weadock Landfill HMP includes the laboratory leachate testing program, consisting of four dry-handled Coal Combustion Residual (CCR) samples commingled with SDA materials collected from each of the disposal silos dedicated to DE Karn Electrical Generating Units 1 and 2. Karn Units 1 & 2 permanently ceased operation on May 31, 2023, so additional CCR and air emissions residuals are not being generated; therefore, there are no results to report for this waste stream and the laboratory leachate monitoring is discontinued. In order for the Weadock Landfill to achieve the final grades as approved in the Revised Final Closure Plan (Golder, March 2022), the landfill continues to receive materials in the form of uncontaminated soil from documented sources, and limited contaminated soil that has been authorized for placement in the Weadock Landfill under the Beneficial Use 4 designation as other materials designated for construction at a licensed solid waste disposal facility. These results are maintained with the closure certification documentation.

Additional support for evaluating the potential for groundwater contamination at the unlined industrial waste landfill includes the field leachate monitoring program conducted during the fourth quarter of each year. This program consists of an annual sampling collection from two (2) leachate headwells; LH-103R and LH-104. This program was implemented to determine constituents in the leachate as measured under actual conditions in the field and to assess which constituents have the potential to exceed applicable criteria at the compliance well locations.

Field leachate data for the leachate headwells (2022 through 2025) are shown in Table 7. Field leachate samples were collected from LH-103R and LH-104 in the fourth quarter of 2025. Field leachate data for LH-103R and LH-104 are generally consistent with data collected in previous years. No new constituents have been identified for inclusion in the porewater and GSI monitoring programs.

3.0 Groundwater Monitoring

3.1 Monitoring Well Network

The groundwater monitoring system presented in the Weadock Landfill HMP has been established in accordance with R 299.4906 and the CCR Rule §257.91 and consists of 27 monitoring wells (four background monitoring wells, 12 downgradient monitoring wells, and 11 additional wells used for static water level measurements only) that are screened in the uppermost aquifer. The monitoring well network has been designed to provide appropriate coverage for water level and water quality data collection along the perimeter of the landfill. The monitoring well locations are shown on Figure 2. Monitoring well specifications and purpose (i.e. static water level monitoring, groundwater quality monitoring, or GSI monitoring) are included in Table 1.

The Weadock Landfill HMP groundwater monitoring system consists of the following:

- ***Background Groundwater Quality:*** Four monitoring wells located southwest of the Weadock Landfill provide data on background groundwater quality that has not been affected by the CCR unit (MW-15002, MW-15008, MW-15016, and MW-15019) and are used to establish groundwater protection standards (GWPSs) for the landfill:
  - MW-15002 – MW-15008 – MW-15016 – MW-15019
- ***Downgradient Groundwater Quality:*** The twelve downgradient monitoring wells, located on the outside of the perimeter slurry wall include:
  - JCW-MW-18001 – JCW-MW-18004 – JCW-MW-18005 – JCW-MW-18006
  - MW-50 – MW-51 – MW-52 – MW-53
  - MW-53R – MW-54R – MW-55 – OW-57R Out
- ***Groundwater-Surface Water Interface (GSI) Monitoring***: Monitoring wells located along the surface water features adjacent to the Weadock Landfill are included in the monitoring program to meet the requirements of Part 31. Locations and alignments were established in the Phase II Groundwater Discharge Evaluation, Figure: Appendix K (Natural Resource Technology, 2005) as a baseline for monitoring future results. These monitoring wells are screened across the water table of the uppermost aquifer and serve as GSI monitoring wells to determine compliance with generic GSI criteria or site-specific mixing zone-based criteria as appropriate. The eight GSI compliance monitoring wells include:
  - MW-50 – MW-51 – MW-52 – MW-53
  - MW-53R – MW-54R – MW-55 – JCW-MW-18004
- ***Static Water Level Measurement Only:*** Eleven additional monitoring wells, located on the inside of the perimeter slurry wall at paired locations with several of the downgradient monitoring wells, are used to evaluate the groundwater flux across the slurry wall:
  - JCW-OW-18001 – JCW-OW-18002 – JCW-MW-18003 – JCW-MW-18004
  - JCW-MW-18005 – JCW-MW-18006 – MW-20 – OW-51
  - OW-53 – OW-54 – OW-55 – OW-56R
  - OW-57R IN – OW-61 – OW-63

3.2 October 2025 Monitoring Event

In accordance with the Weadock Landfill HMP, TRC conducted the fourth quarter 2025 monitoring event for the Weadock Landfill by collecting water levels and groundwater samples on October 13-16, 2025. Samples that were collected during this event were submitted to Consumers Energy Laboratory Services in Jackson, Michigan for analysis of total metals and inorganic parameters. Radium analysis was performed by Eurofins Environment Testing in Earth City, Missouri. Semiannual monitoring constituents include:

Section 11511a(3)(c) – Detection Monitoring Constituents	Section 11519b(2) – Assessment Monitoring Constituents	
Boron	Antimony	Lithium
Calcium	Arsenic	Mercury
Chloride	Barium	Molybdenum
Fluoride	Beryllium	Nickel
Iron	Cadmium	Selenium
pH (field measurement)	Chromium, total	Silver
Sulfate	Cobalt	Thallium
Total Dissolved Solids (TDS)	Copper	Vanadium
	Fluoride	Zinc
	Lead	Radium 226 and 228

Select samples were also analyzed for additional constituents including magnesium, sodium, potassium, and bicarbonate, carbonate, and total alkalinity to further assess geochemistry. Analytical results from the monitoring event are included in the attached laboratory reports (Appendix E).

Static water level measurements were collected at all locations after equilibration to atmospheric pressure. The depth to water was recorded to the nearest 0.01-ft in accordance with the procedures in the Weadock Landfill HMP. Static water elevation data are included in the attached field records (Appendix F).

Groundwater purging and sampling were conducted in accordance with low-flow sampling protocol as described in the Weadock Landfill HMP. Groundwater samples were collected using a peristaltic pump. The samples were collected in vendor-provided, nitric acid pre-preserved (metals only) and unpreserved sample containers and submitted to the laboratory for analysis. Groundwater sample preparation and analyses were performed in accordance with SW-846 "Test Methods for Evaluation Solid Waste – Chemical / Physical Methods," USEPA (latest revision). TRC followed chain of custody procedures to document the sample handling sequence.

TRC also collected quality assurance/quality control (QA/QC) samples during the groundwater sampling event. The QA/QC samples consisted of three field blanks, three equipment blanks, one trip blank, three field duplicates (MW-55 [no radium], JCW-MW-18005, MW-15008), and one field matrix spike/matrix spike duplicate sample pair (JCW-MW-18001). Additional QA/QC samples were collected at the leachate monitoring locations for low-level mercury analysis: duplicate samples at LH-103R and LH-104 and a field matrix spike/matrix spike duplicate sample pair at LH-103R.

3.2.1 Data Quality Review

Data were evaluated for completeness, overall quality and usability, method-specified sample holding times, precision and accuracy, and potential sample contamination. The laboratory data were found to be complete and usable for the purposes of the Weadock Landfill HMP. The data quality reviews for the Weadock Landfill monitoring network wells are summarized in Appendix B.

3.3 Groundwater Flow Rate and Direction

Potentiometric monitoring in the unusable aquifer beneath the facility includes static water level data collected for development of water table contours and evaluation of the potential for discharge from the facility. The monitoring under this section will be conducted quarterly until closure, as approved by the Director, and semiannually during the 30-year post-closure period. Monitoring will continue until the end of post closure (30 years) or as otherwise approved by the Director.

The measurements for top of casing (TOC) and recorded depth to water (DTW) with corresponding calculated static water level (SWL) is tabulated and presented in Table 1. A potentiometric surface map is provided as Figure 3.

Groundwater elevations measured at the Site in October 2025 are generally within the range of 578 to 592 feet above mean sea level (ft NAVD88). Groundwater elevations in monitoring wells located adjacent to Saginaw Bay and adjoining surface water bodies are typically encountered at a similar or slightly higher elevation relative to surrounding surface water features measured by the NOAA gauging station. A time-series plot included in Appendix A compares the groundwater elevation at the GSI monitoring wells (MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, JCW-MW-18004, and MW-55) to the nearby NOAA staff gauge. Water levels in wells adjacent to surface water bodies (e.g. Saginaw Bay, Tacey Drain) closely mirror the surface water elevation. Such conditions would result in a minimal gradient between the well and the drain which would result in minimal mass flux to the drain (Appendix A: Table A1).

The groundwater monitoring system is structured such that there are eleven monitoring well pairs used to evaluate the hydraulic gradient and potential for water flux across the slurry wall. Static water level observations from the paired wells are shown on time series charts in Appendix A. The static water level elevations inside of the Weadock Landfill perimeter slurry wall are generally significantly different (>3 ft) than static water levels outside of the slurry wall, which demonstrates the presence of a low permeability feature between the well pairings inside and outside of the constructed slurry wall. As such, the water level elevations indicate that the

slurry wall is performing as designed. The general flow direction observed within the confinement of the slurry wall is similar to that identified in previous monitoring rounds. Due to the potential for radial flow, the downgradient wells are appropriately positioned to detect the presence of detection or assessment parameters that could potentially migrate from the Weadock Landfill. As shown on Figure 3 and in Appendix A, the static water level outside of the slurry wall is lower than the static water level inside of the wall; therefore, the potential groundwater flux across the slurry wall was calculated and included in Table A2 of Appendix A.

3.4 Groundwater Analytical Data and Relevant Screening Criteria

Groundwater analytical data are evaluated in accordance with the Weadock Landfill HMP to determine the effectiveness of landfill structural and operational enhancement measures on the quality and quantity of groundwater flow beneath the footprint of the facility (Section 3.4.1 Detection Monitoring and Section 3.4.2 Assessment Monitoring). Additionally, analytical results are evaluated in support of GSI compliance. GSI criteria only apply to the designated compliance points as specified in Section 3.4.3 below; however, analytical results and data trends in groundwater collected from all perimeter dike wells are evaluated to identify potential GSI compliance issues. Data are evaluated by using a combination of screening against relevant criteria, as well as utilizing statistical analyses.

Analytical results from the fourth quarter 2025 monitoring event are included in the attached laboratory report (Appendix E). Groundwater analytical data from the fourth quarter 2025 monitoring event are summarized in Table 3 (background monitoring wells) and Table 4 (Weadock Landfill Monitoring Wells), as well as the associated Part 201 generic GSI and site-specific mixing-zone GSI criteria.[1] Field data are summarized in Table 2.

Mixing-zone criteria for arsenic, boron, molybdenum, and selenium are provided for the Karn-Weadock complex in the mixing zone determination dated October 4, 2024 (EGLE, 2024). As such, arsenic, boron, molybdenum, and selenium are compared to site-specific mixing zone-based GSI criteria, and all other constituents are screened against generic GSI criteria. All data are screened against GSI criteria; however, compliance with GSI criteria is determined at select monitoring locations as noted in Section 3.4.3 below.

The mixing zone determination included both final acute values (FAV) and final chronic values (FCV). If a concentration of a constituent at a groundwater well exceeds the acute criteria, and the exceedances are upgradient of the GSI compliance monitoring wells, Consumers Energy must demonstrate that data from all of the GSI compliance monitoring wells are, and will be, in compliance with acute mixing zone-based GSI criteria for those parameters. Averaging of groundwater data is not allowed for comparison to generic GSI or acute mixing zone-based GSI criteria. Acute mixing zoned-based or generic GSI criteria may not be exceeded in any individual GSI compliance monitoring well. If a concentration of a constituent at a GSI compliance monitoring well exceeds the chronic criterion, compliance can be demonstrated on a mass-flux basis. The facility can choose to demonstrate compliance by evaluating the total chronic loading based upon the contribution from each compliance well with respect to the total flux

[1] Drinking water criteria are also included in Tables 3 and 4 for review purposes. There is not a complete drinking water pathway on-site. As such, the relevant compliance pathway is the GSI pathway.

observed in the mixing zone.

Table 6 provides a summary of the exceedances over the most recent four quarters in accordance with the EGLE-prescribed format; only well/constituent pairs that exceed the relevant Part 115 compliance standard – the GSI pathway standard (Section 3.4.3) within the last four quarters are included.

3.4.1 Detection Monitoring

Detection monitoring is continuing through the active life of the Weadock Landfill to monitor for new releases from landfill operations. The detection monitoring program consists of potentiometric analysis and groundwater quality analysis. The potentiometric analysis, as discussed in Section 3.3, demonstrates that the slurry wall is performing as designed.

In addition to the comparison of analytical data to relevant screening criteria (Table 4), statistical trend analyses are used to evaluate groundwater quality each quarter. Consumers Energy manages and evaluates its groundwater data using Sanitas™ Statistical Software. Consumers Energy conducts intrawell trend analyses to examine data for a given well over time to determine if changes in water quality are occurring that may be associated with the landfill and to identify potential GSI compliance issues. Specifically, the Mann-Kendall test for trend was performed at a significance level (α) of 0.025 per tail for each constituent/sampling point dataset to assess trends. Sen's Slope estimator was used to assess the magnitude of the slope and the Mann-Kendall test was used to determine if the trend was statistically significant.

Appendix C includes a table summarizing the results of the trend tests as well as the Sanitas™ output summary statistics and graphs. Data are stable (i.e., no trend) or declining for the majority of the well/constituent pairs, with the following exceptions:

- The increasing trend for boron observed at MW-50 continued in Q4 2025. A new, unconfirmed increasing trend for boron was observed at MW-53R in Q4 2025.
- The increasing trends for chloride observed at MW-53R, MW-54R, and OW-57R OUT continued in Q4 2025. New, unconfirmed increasing trends for chloride were observed at JCW-MW-18006 and MW-52 in Q4 2025.
- The increasing trends for sulfate that were initially observed at MW-51 and MW-54R in Q3 2025 were confirmed in Q4 2025.
- The increasing trend for TDS observed at MW-54R continued in Q4 2025.

Although increasing trends for detection monitoring constituents were observed, individual constituent trends provide only a *potential indication* that there may be a release coming from the monitored unit. When these indicator trends are evaluated with other co-monitored conditions and parameters at the Weadock Landfill, the increasing trends for detection monitoring constituents do not appear to be a result of a new release from operation of the landfill. The potentiometric analysis demonstrates that the slurry wall is effective in reducing the flux of groundwater from the landfill. All concentrations remain below the applicable GSI criteria, as discussed in Section 3.4.3 below.

Consumers is further evaluating possible causes of the increasing boron concentrations at several porewater compliance monitoring wells. Previous studies (NRT, 2005) documented boron at significantly elevated concentrations at the Karn-Weadock Power Generating Complex. Boron was also identified as an SSI over background levels in the 2017 *Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit* (TRC, 2018) and was one of the detection monitoring constituents that triggered the initiation of the assessment monitoring program. Statistical significance above the GWPS established for boron has been noted for these monitoring wells per the Part 115 groundwater monitoring program requirements, as discussed in Section 3.4.2.2. Continued monitoring and assessment for potential future actions is warranted at this time; however, observed concentrations of boron in each of the monitoring wells are less than the relevant Part 115 compliance standard – the GSI pathway standard (Section 3.4.3).

3.4.2 Assessment Monitoring Data Evaluation

Assessment monitoring is continuing at the Weadock Landfill in accordance with the Weadock Landfill HMP and §257.95 of the CCR Rule. The assessment monitoring data were statistically evaluated in accordance with the procedures in the Weadock Landfill HMP. The statistical evaluation details are provided in Appendix D. A summary of the confidence interval evaluation is provided in Table 5.

3.4.2.1 Establishing Groundwater Protection Standards

The GWPSs are used to assess constituent concentrations present in groundwater as a result of CCR unit operations by statistically comparing concentrations in the downgradient wells to each of the respective GWPSs for each detection and assessment monitoring constituent. The calculation of the GWPSs in accordance with the Weadock Landfill HMP is documented in the *Groundwater Protection Standards* technical memorandum included as Appendix H of the *First Quarter 2021 Hydrogeological Monitoring Report* (TRC, 2021b). The Federal CCR Rule requires establishment of GWPSs for assessment monitoring (Appendix IV) constituents only. Part 115 requires establishment of GWPSs for both detection and assessment monitoring constituents.

3.4.2.2 Data Comparison to Groundwater Protection Standards

Consistent with the *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (Unified Guidance) (USEPA, 2009) and the Weadock Landfill HMP, the preferred method for comparisons to a fixed standard are confidence limits. An exceedance of the standard occurs when the 99 percent lower confidence level of the downgradient data exceeds the GWPS.

Detection Monitoring Constituents (Part 115): The fourth quarter 2025 statistical evaluation indicates that boron at JCW-MW-18001, JCW-MW-18005, JCW-MW-18006, MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, and OW-57R OUT, calcium at JCW-MW-18001, and sulfate at JCW-MW-18001 were present at statistically significant levels above the GWPS. The GWPSs for boron, calcium, and sulfate were established based on background concentrations observed in wells unaffected by the Weadock Landfill or Weadock Bottom Ash Pond. Detection monitoring (i.e., Appendix III) constituents do not have associated health-

based criteria and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. Overall, data continue to demonstrate compliance with the applicable criteria as described in Section 3.4.3 below.

Assessment Monitoring Constituents (Part 115 and Federal CCR): The fourth quarter 2025 statistical evaluation indicates that arsenic at JCW-MW-18006 was present at statistically significant levels above the GWPS. Although arsenic has not previously been observed at statistically significant levels above the GWPS at this location, concentrations have been near or above the GWPS since the installation of JCW-MW-18006. A review of the soil boring data indicates the presence of ash in part of the profile. The presence of ash in a soil boring outside of the soil-bentonite slurry wall suggests that the arsenic concentration at JCW-MW-18006 is not indicative of a release from the landfill but rather reflects ambient conditions outside of the slurry wall.

Note that although concentrations of arsenic at MW-55 observed during individual sampling events are above the GWPS, the elevated concentrations are not a result of a release from the Weadock Landfill, as detailed in Section 3.5.

3.4.3 GSI Compliance Monitoring

The GSI monitoring program consists of the eight monitoring points located along the surface water features:

- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- JCW-MW-18004

Fourth quarter 2025 data from the GSI monitoring points are tabulated in Table 4. As described in the Weadock Landfill HMP, GSI monitoring program constituents were identified as detected constituents that have the potential to exceed the generic GSI criteria at the Weadock Landfill downgradient monitoring wells. At a minimum, these constituents include the following, identified based on prior groundwater monitoring as noted in the Weadock Landfill HMP:

- Boron
- Iron
- pH
- Sulfate
- Arsenic
- Chromium
- Lithium
- Molybdenum
- Selenium
- Vanadium

Additional constituents will be added to the GSI monitoring program as appropriate if detected above the relevant GSI criteria at the landfill monitoring wells in two consecutive events. Calcium, chloride, and total dissolved solids have been detected above the generic GSI criteria in one or more wells over two consecutive events; however, it is not appropriate to add these constituents to the GSI monitoring program for the following reasons:

- **Calcium:** Calcium has been detected above the generic GSI criterion at JCW-MW-18001. As discussed further in Section 3.5, the concentrations of calcium at JCW-MW-18001 are attributed to localized changes in geochemistry and are not indicative of a new release from

the landfill. Concentrations in all other wells remain below the generic GSI criterion, supporting that the detected concentrations are localized to JCW-MW-18001. Given that JCW-MW-18001 is not a GSI compliance monitoring location and the increase in calcium is not attributed to the landfill operation, it is not appropriate to add calcium to the GSI compliance monitoring program.

- **Chloride:** Chloride has been detected above the generic GSI criterion of 50 mg/L in several wells. Chloride is regionally elevated, as evidenced by the calculated background concentration of 2,300 mg/L, documented in the *Groundwater Protection Standards* technical memorandum included as Appendix H of the *First Quarter 2021 Hydrogeological Monitoring Report* (TRC, 2021b). Consistent with the *Groundwater-Surface Water Interface Pathway Compliance Options* (MDEQ, 2018a) resource materials, where the background concentration is greater than the risk-based GSI criterion, the background concentration may be substituted for the GSI criterion. All chloride concentrations are below the background concentration. Therefore, chloride is determined to be below the applicable level and is not included in the GSI compliance monitoring program.
- **Total Dissolved Solids:** Total dissolved solids (TDS) has been detected above the generic GSI criterion of 500 mg/L in several wells. TDS is regionally elevated, as evidenced by the calculated background concentration of 4,700 mg/L, documented in the *Groundwater Protection Standards* technical memorandum included as Appendix H of the *First Quarter 2021 Hydrogeological Monitoring Report* (TRC, 2021b). Consistent with the *Groundwater-Surface Water Interface Pathway Compliance Options* (MDEQ, 2018a) resource materials, where the background concentration is greater than the risk-based GSI criterion, the background concentration may be substituted for the GSI criterion. All TDS concentrations are below the background concentration. Therefore, TDS is determined to be below the applicable level and is not included in the GSI compliance monitoring program.

The confidence interval evaluation is provided in Appendix D. The confidence interval test compares the lower confidence limit to the GSI. Overall, data continue to demonstrate compliance with the applicable GSI criteria.

- **Boron:** The detection monitoring statistical evaluation found that boron concentrations are increasing at MW-50 and MW-53R. The assessment monitoring statistical evaluation found that boron was present at statistically significant levels above the GWPS at JCW-MW-18001, JCW-MW-18005, JCW-MW-18006, MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, and OW-57R OUT. Boron is a detection monitoring (i.e. Appendix III) constituent and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. All observations of boron are less than the recommended mixing-zone based GSI value specified in Table 1 of the *Implementation of a Mixing Zone Request, DE Karn/JC Weadock Complex* (EGLE, 2024) (Appendix D: Table 2).
- **Calcium:** The detection monitoring statistical evaluation did not find that calcium concentrations are increasing at any of the downgradient monitoring wells. The assessment monitoring statistical evaluation found that calcium was present at statistically significant levels above the GWPS at JCW-MW-18001. Consumers is asserting an ASD for the increases in calcium at JCW-MW-18001, as detailed in Section 3.5. Calcium is not identified to have the potential to exceed the generic GSI criteria at the Weadock Landfill

downgradient monitoring wells as discussed above; therefore, data are not evaluated against the GSI criteria.

- **Sulfate:** The detection monitoring statistical evaluation found that sulfate concentrations were increasing at MW-51 and MW-54R. The assessment monitoring statistical evaluation found that sulfate was present at statistically significant levels above the GWPS at JCW-MW-18001. Sulfate is a detection monitoring (i.e. Appendix III) constituent and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. JCW-MW-18001 is not a GSI compliance well; the concentrations of sulfate in the GSI compliance monitoring wells remain below the applicable GSI criterion (Final Acute Value [FAV]) (Appendix D: Table 2).
- **Total Dissolved Solids:** The detection monitoring statistical evaluation found that TDS concentrations were increasing at MW-54R. The assessment monitoring evaluation did not find that TDS was present at statistically significant levels above the GWPS at any of the downgradient monitoring wells. TDS is not identified to have the potential to exceed the generic GSI criteria at the Weadock Landfill downgradient monitoring wells as discussed above; therefore, data are not evaluated against the GSI criteria.
- **Arsenic:** The assessment monitoring statistical evaluation found that arsenic was present at statistically significant levels above the GWPS at JCW-MW-18006. The arsenic concentration at JCW-MW-18006 is not indicative of a release from the landfill and is due to conditions outside of the soil-bentonite slurry wall. JCW-MW-18006 is not a GSI compliance well; the concentrations of arsenic in the GSI compliance monitoring wells remain below the applicable GSI criterion (chronic-based mixing zone GSI criteria) (Appendix D: Table 2).

3.5 Alternate Source Demonstration

At this time, Consumers Energy is continuing to assert an Alternate Source Demonstration (ASD), for the following, as detailed below:

- Calcium and sulfate in monitoring well JCW-MW-18001; and
- Arsenic in monitoring well MW-55.

The groundwater conditions do not conclusively indicate a release from the unit for several reasons as detailed below.

3.5.1 Monitoring Well JCW-MW-18001: Calcium and Sulfate

Although confirmed increasing trends were observed at JCW-MW-18001 for calcium (through Q3 2024) and sulfate (through Q2 2024) and concentrations of calcium and sulfate are present at statistically significant levels above the GWPSs at JCW-MW-18001, these concentrations are not indicative of a new release from the landfill. Calcium and sulfate are two of several constituents that contribute to the overall TDS concentration and increasing calcium and sulfate concentrations likely contribute to an overall increase in TDS as well. TDS concentrations are not currently exhibiting a statistically significant upward trend; however, TDS concentrations have been increasing in past events and the data are discussed as part of this ASD. Increases of calcium, sulfate, and TDS concentrations at JCW-MW-18001 are attributed to changes occurring outside of the slurry wall as a result of changing water levels, rather than a change in flux from the landfill; therefore, Consumers Energy is continuing to assert an ASD for these

constituents. The following lines of evidence as well as additional time series charts included in Appendix G support this ASD:

- The potentiometric analysis demonstrates that the slurry wall is effective in reducing the flux of groundwater from the landfill (Appendix A).
- Concentration data also support that the slurry wall is effective in reducing the flux of groundwater from the landfill, based on the following observations (Appendix G1):
  - JCW-MW-18001 was installed after the 1,600 linear foot gap in the landfill perimeter slurry wall was closed, as discussed in Section 1.2. Prior to the slurry wall expansion in July 2018, monitoring well JCW-MW-15023 was located within the gap of the slurry wall and was sampled between December 2015 and May 2018 as a part of the original Federal CCR program monitoring well network. The groundwater quality data collected from JCW-MW-15023 shows that groundwater in contact with CCR managed within the landfill was high in arsenic, and low in sulfate, calcium, and TDS (Appendix G1).
  - To accommodate the July 2018 slurry wall expansion, JCW-MW-15023 was decommissioned. Once slurry wall construction was completed, JCW-MW-18001 was installed within 10-ft of the location of the former JCW-MW-15023 well, on the discharge channel side of the slurry wall. Additionally, an observation well, JCW-OW-18001, was installed on the landfill side of the slurry wall to monitor water levels to assess the effectiveness of the hydraulic control. Both JCW-MW-18001 (outside) and JCW-OW-18001 (inside) have been sampled recently to assess concentration trends.
    - Concentrations of arsenic are much higher inside of the slurry wall, within the landfill, while arsenic concentration remain low on the outside of the landfill.
    - Concentrations of calcium, sulfate, and TDS are much lower on the inside of the slurry wall and are higher outside of the slurry wall.
- These combined lines of evidence support that increasing concentrations of calcium, sulfate, and TDS are not a result of a change in flux from the landfill and instead are a result of changing groundwater conditions on the outside of the slurry wall.

3.5.2 Monitoring Well MW-55: Arsenic

Additionally, Consumers Energy is continuing to assert an ASD for arsenic at MW-55 indicating elevated levels of constituents at that location are not related to materials management of the Weadock Landfill (*2021 Annual Groundwater Monitoring and Corrective Action Report*; TRC, January 2022). The basis for this ASD is summarized below and updated time series plots in support of this ASD are included in Appendix G (Figure G2).

A targeted groundwater investigation was completed in August 2018 to further evaluate whether arsenic observed in MW-55 is potentially coming from the landfill or from another source. Data collected from the 2018 investigation as well as data collected during routine sampling events for Part 115 and Federal CCR groundwater compliance show the following:

- **Distinct Chemistry from Leachate –** The leachate chemistry from a monitoring well screened at the base of the ash fill (LH-104) is distinctly different from the groundwater chemistry near MW-55 and the temporary monitoring wells installed by TRC in the investigation area, as illustrated Appendix G of the 2019 Annual Groundwater Monitoring

and Corrective Action Report (TRC, January 2020). Additionally, concentrations of arsenic and iron are generally much lower, and concentrations of boron are much higher within the landfill (LH-104) than outside of the landfill at MW-55 (Figure G2).

- **Conservative Tracer –** Boron is a metalloid known to be present in coal ash and can be used as a conservative tracer in groundwater. The average concentration of boron in Leachate Headwell LH-104 (11,000 ug/L: November 2017 - October 2024) is significantly higher than concentrations observed at any of the other locations sampled as a part of this monitoring program and approximately an order of magnitude higher than concentration observed at MW-55 (1,040 ug/L in October 2025). Additionally, recently observed boron concentrations at MW-55 are similar to or lower than historical concentrations, which further supports that the water quality at MW-55 is not directly affected by groundwater migrating from the landfill.
- **Changes in Geochemistry Related to Water Level Changes –** Water levels observed at MW-55, as shown in Appendices A and G, increased over 4-ft between 2010 and 2020. The oxidation-reduction potential (ORP) at MW-55 has generally decreased (i.e., is more reducing) since 2010, while pH has generally increased. These changes in field indicator parameters over time as a result of changes in water levels have affected the geochemical conditions in the vicinity of MW-55, resulting in changes in the solubility of both arsenic and iron. Since 2021, water levels have been generally decreasing, resulting in a slight increase in ORP (i.e., is less reducing) and decreases in pH and concentrations of both arsenic and iron, which further illustrates the relationship between groundwater elevations, redox state, and concentration of arsenic and molybdenum in groundwater.

4.0 Conclusions and Recommendations

Detection monitoring is continuing through the active life of the Weadock Landfill to monitor for new releases from landfill operations. The detection monitoring program consists of potentiometric analysis and groundwater quality analysis. Evaluation of the fourth quarter 2025 data demonstrate that the slurry wall is functioning as designed.

The Weadock Landfill is currently in assessment monitoring pursuant to the CCR Rule, as discussed in the *2024 Annual Groundwater Monitoring and Corrective Action Report*, due to observed groundwater concentrations that are indicative of impact from past landfill operations. Evaluation of the fourth quarter 2025 data in accordance with the Weadock Landfill HMP demonstrate that boron, calcium, sulfate, and arsenic are present at concentrations above the GWPSs. The arsenic concentration above the GWPS is attributed to conditions outside of the soil-bentonite slurry wall and is not indicative of a release from the landfill. Boron, calcium, and sulfate are detection monitoring (i.e., Appendix III) constituents that do not have associated health-based criteria and there is not a complete drinking water pathway on-site. As such, the relevant Part 115 compliance pathway is the GSI pathway. The statistical evaluation in fourth quarter 2025 found that no constituents were present at statistically significant levels above applicable GSI criteria.

Therefore, Consumers Energy will continue with the detection and assessment monitoring as required by the CCR rule as well as the monitoring program relative to the implementation of the site-specific mixing zone authorization at the Weadock Landfill unit in conformance with the JC Weadock Landfill HMP. The first quarter monitoring event is scheduled for March 2026.

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Tables

Table 1

Summary of Groundwater Elevation Data

JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program

Essexville, Michigan

Well Location	Static Water Level Monitoring	Groundwater Quality Monitoring	GSI Monitoring	Leachate Analysis Program	TOC Elevation (ft)	Geologic Unit of Screen Interval	Screen Interval Elevation (ft)			October 13, 2025	
										Depth to Water (ft BTOC)	Groundwater Elevation (ft)
Background Monitoring Wells											
MW-15002	✓	✓	--	--	587.71	Sand	580.9	to	570.9	8.89	578.82
MW-15008	✓	✓	--	--	585.36	Sand with clay	578.7	to	568.7	5.93	579.43
MW-15016	✓	✓	--	--	586.49	Sand	581.2	to	578.2	6.31	580.18
MW-15019	✓	✓	--	--	586.17	Sand and Sand/Clay	579.5	to	569.5	7.47	578.70
Former Bottom Ash Pond: Downgradient Monitoring Wells											
JCW-MW-15007	✓	--	--	--	587.40	Sand	582.7	to	579.2	6.44	580.96
JCW-MW-15009	✓	--	--	--	589.64	Sand	581.9	to	576.9	10.49	579.15
JCW-MW-15010	✓	--	--	--	597.76	Sand	579.7	to	578.2	18.61	579.15
JCW-MW-15028	✓	--	--	--	589.64	Sand	567.7	to	564.7	9.96	579.68
Landfill: Downgradient Monitoring Wells (outside slurry wall)											
JCW-MW-18001	✓	✓	--	--	596.73	Sand and Sandy Clay	578.3	to	573.3	18.06	578.67
JCW-MW-18004	✓	✓	✓	--	593.04	Sandy Clay	583.9	to	578.9	13.39	579.65
JCW-MW-18005	✓	✓	--	--	590.89	Sand and Sandy Clay	580.0	to	575.0	10.55	580.34
JCW-MW-18006	✓	✓	--	--	600.72	Fly Ash and Sandy Clay	582.8	to	577.8	15.73	584.99
MW-50	✓	✓	✓	--	593.36	Sand	577.8	to	574.8	14.71	578.65
MW-51	✓	✓	✓	--	594.29	Sand and Clay	577.8	to	574.8	15.42	578.87
MW-52	✓	✓	✓	--	594.90	Sand	579.3	to	576.3	15.98	578.92
MW-53	✓	✓	✓	--	593.68	Sand and Clay	579.1	to	576.1	14.73	578.95
MW-53R	✓	✓	✓	--	594.25	Sand and Clay	580.4	to	575.4	15.55	578.70
MW-54R	✓	✓	✓	--	593.89	Clay and Sand	581.3	to	576.3	14.89	579.00
MW-55	✓	✓	✓	--	593.82	Sand	581.5	to	578.5	15.07	578.75
OW-57R OUT	✓	✓	--	--	591.00	Sandy Clay	577.0	to	572.0	10.10	580.90

Notes:

Survey data from Consumers Energy Company drawing SG-21733, Sheet 2, Rev. E (Weadock, 3/28/2022).

Elevation in feet relative to North American Vertical Datum 1988 (NAVD 88).

TOC: Top of well casing.

ft BTOC: Feet below top of well casing.

Table 1

Summary of Groundwater Elevation Data

JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program

Essexville, Michigan

Well Location	Static Water Level Monitoring	Groundwater Quality Monitoring	GSI Monitoring	Leachate Analysis Program	TOC Elevation (ft)	Geologic Unit of Screen Interval	Screen Interval Elevation (ft)			October 13, 2025	
										Depth to Water (ft BTOC)	Groundwater Elevation (ft)
Landfill: Static Water Level Only (inside slurry wall)											
JCW-OW-18001	✓	--	--	--	595.84	Fly Ash and Sand	581.1	to	576.1	8.23	587.61
JCW-OW-18002	✓	--	--	--	593.63	Sand	578.9	to	573.9	10.49	583.14
JCW-OW-18003	✓	--	--	--	593.99	Sand and Clay	580.5	to	575.5	8.54	585.45
JCW-OW-18004	✓	--	--	--	594.19	Sandy Clay	584.6	to	579.6	7.52	586.67
JCW-OW-18006	✓	--	--	--	600.61	Fly Ash and Clay with Sand	582.9	to	577.9	10.16	590.45
MW-20	✓	--	--	--	592.73	NR	~581.1	to	~578.1	8.64	584.09
MW-58	✓	--	--	--	586.25	Sand	579.7		569.7	6.97	579.28
OW-51	✓	--	--	--	593.62	Clay and Sand	578.9	to	575.9	8.99	584.63
OW-53	✓	--	--	--	593.64	Clay and Sand	579.0	to	576.0	7.74	585.90
OW-54	✓	--	--	--	594.10	Clay and Sand	580.0	to	577.0	7.28	586.82
OW-55	✓	--	--	--	594.67	Clay (or Sand and Clay)	580.9	to	577.9	6.75	587.92
OW-56R	✓	--	--	--	592.01	Ash and Sand	577.5	to	572.5	5.94	586.07
OW-57R IN	✓	--	--	--	590.86	Sandy Clay	575.7	to	570.7	5.91	584.95
OW-61	✓	--	--	--	602.15	Ash and Sand	588.0	to	585.0	10.72	591.43
Landfill: Leachate Headwells											
LH-103R	✓	--	--	✓	612.70	Fly Ash	30.2	to	33.2	22.56	590.14
LH-104	✓	--	--	✓	596.56	Fly Ash	8.0	to	11.0	9.39	587.17

Notes:

Survey data from Consumers Energy Company drawing SG-21733, Sheet 2, Rev. E (Weadock, 3/28/2022).

Elevation in feet relative to North American Vertical Datum 1988 (NAVD 88).

TOC: Top of well casing.

ft BTOC: Feet below top of well casing.

Table 2

Summary of Field Parameters

JC Weadock Solid Waste Disposal Area - Hydrogeological Monitoring Program

Essexville, Michigan

Sample Location	Sample Date	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Specific Conductivity (umhos/cm)	Temperature (°C)	Turbidity (NTU)
DE Karn & JC Weadock Background							
MW-15002	10/14/2025	0.62	-0.8	6.8	3,358	16.6	4.6
MW-15008	10/14/2025	0.80	-76.5	6.9	1,709	15.5	0.0
MW-15016	10/14/2025	1.17	-235.2	6.9	1,428	17.2	5.6
MW-15019	10/14/2025	0.55	-235	6.8	1,512	15.2	9.2
JC Weadock Solid Waste Disposal Area							
JCW-MW-18001	10/16/2025	0.69	-264	6.9	1,973	13.5	2.4
JCW-MW-18004	10/15/2025	3.51	116.5	7.0	1,200	18.2	12.1
JCW-MW-18005	10/14/2025	0.32	106.1	7.0	1,108	16.8	2.1
JCW-MW-18006	10/14/2025	0.24	23.7	7.0	972	12.8	1.9
MW-50	10/15/2025	0.13	6.4	7.3	1,252	13.8	3.1
MW-51	10/15/2025	0.11	10.2	7.2	1,292	14.3	2.9
MW-52	10/15/2025	0.11	55.2	6.8	1,439	14.2	4.1
MW-53	10/16/2025	0.51	-276.1	7.6	672	14.7	5.6
MW-53R	10/14/2025	0.20	128.1	7.0	1,160	15.5	1.9
MW-54R	10/14/2025	0.59	111.1	7.0	1,581	16.6	4.9
MW-55	10/14/2025	0.25	9.4	7.1	1,106	17.8	4.1
OW-57ROUT	10/14/2025	0.25	92.9	6.9	1,143	15.2	1.8

Notes:

mg/L - Milligrams per Liter.

mV - Millivolts.

SU - Standard Units.

umhos/cm - Micromhos per centimeter.

°C - Degrees Celsius.

NTU - Nephelometric Turbidity Unit

Table 3
Summary of Groundwater Sampling Results (Analytical)
DE Karn JC Weadock Background - Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-15002	MW-15008	MW-15016	MW-15019
						Sample Date:	10/14/2025	10/14/2025	10/14/2025	10/14/2025
Constituent	Unit	EPA MCL	MI Residential*	MI Non-Residential*	MI GSI^					
Appendix III[(1)]										
Boron	ug/L	NC	**500**	**500**	4,000	136	171	**628**	230
Calcium	mg/L	NC	NC	NC	500[EE]	221	132	305	172
Chloride	mg/L	**250****	**250[E]**	**250[E]**	**50**	**1,570**	**483**	**195**	**373**
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**250****	**250[E]**	**250[E]**	**500[EE]**	25.4	12.3	**616**	88.3
Total Dissolved Solids	mg/L	**500****	**500[E]**	**500[E]**	**500**	**3,110**	**1,430**	**1,540**	**1,340**
pH, Field	SU	6.5 - 8.5**	6.5 - 8.5[E]	6.5 - 8.5[E]	6.5 - 9.0	6.8	6.9	6.9	6.8
Appendix IV[(1)]									
Antimony	ug/L	6	6.0	6.0	2.0	< 1	< 1	< 1	< 1
Arsenic	ug/L	**10**	**10**	**10**	**10**	**13**	4	5	5
Barium	ug/L	2,000	2,000	2,000	1,200	584	107	111	318
Beryllium	ug/L	4	4.0	4.0	33	< 1	< 1	< 1	< 1
Cadmium	ug/L	5	5.0	5.0	2.5	0.3	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	100	100	11	2	< 1	< 1	< 1
Cobalt	ug/L	NC	40	100	100	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	NC	4.0	4.0	14	2	< 1	< 1	< 1
Lithium	ug/L	NC	170	350	440	18	22	76	15
Mercury	ug/L	2	2.0	2.0	0.20#	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	NC	73	210	120	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NC	NC	NC	NC	0.712	< 0.519	< 0.355	< 0.573
Radium-228	pCi/L	NC	NC	NC	NC	< 1.15	< 1.26	0.775	< 0.984
Radium-226/228	pCi/L	5	NC	NC	NC	1.70	< 1.26	< 0.736	< 0.984
Selenium	ug/L	50	50	50	5.0	< 1	< 1	1	< 1
Thallium	ug/L	2	2.0	2.0	2.0	< 2	< 2	< 2	< 2
Additional MI Part 115[(2)]									
Iron	ug/L	**300****	**300[E]**	**300[E]**	500,000[EE]	**4,650**	**10,300**	**1,660**	**19,900**
Copper	ug/L	1,000**	1,000[E]	1,000[E]	**20**	**52**	1	3	1
Nickel	ug/L	NC	100	100	120	16	7	11	9
Silver	ug/L	100**	34	98	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	NC	**4.5**	62	27	**23**	**14**	**5**	**7**
Zinc	ug/L	5,000**	2,400	5,000[E]	260	74	< 10	13	< 10

Notes:

ug/L - micrograms per liter; mg/L - milligrams per liter.

pCi/L - picocuries per liter; SU - standard units; pH is a field parameter.

MCL - Maximum Contaminant Level, EPA Drinking Water Standards and Health Advisories, April, 2012.

NC - no criteria.

* - Michigan Part 201 Generic Drinking Water Cleanup Criteria, December 30, 2013, updated October 12, 2023.

** - Secondary Maximum Contaminant Level (SMCL), EPA Secondary Drinking Water Regulations (SDWR) April, 2012.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. Chromium GSI criterion based on hexavalent chromium per footnote {H}. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}. GSI criterion for chloride is 50 mg/L when the discharge is to the Great Lakes or connecting waters per footnote {FF}

- If detected above 0.20 ug/L, further evaluation of low-level mercury may be necessary to evaluate the GSI pathway per Michigan Part 201 and MDEQ policy and procedure 09-014 dated June 20, 2012.

[E] - Criterion is the aesthetic drinking water value per footnote {E}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendment - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituent (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

BOLD value indicates an exceedance of one or more of the listed criteria.

RED value indicates an exceedance of the MCL.

All metals were analyzed as total unless otherwise specified.

Table 4
Summary of Groundwater Sampling Results (Analytical)
JC Weadock Solid Waste Disposal Area - Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	JCW-MW-18001	JCW-MW-18004	JCW-MW-18005	JCW-MW-18006	MW-50	MW-51
						Sample Date:	10/16/2025	10/15/2025	10/14/2025	10/14/2025	10/15/2025	10/15/2025
Constituent	Unit	EPA MCL	MI Residential*	MI Non-Residential*	MI GSI^							
Appendix III(1)												
Boron	ug/L	NC	**500**	**500**	**4,000**		**1,510**	318	**1,850**	**2,520**	**3,840**	**913**
Calcium	mg/L	NC	NC	NC	**500**EE		**502**	210	152	114	193	166
Chloride	mg/L	250**	250E	250E	**50**		47.7	13.8	**55**	**86.7**	**67.2**	**70.9**
Fluoride	ug/L	4,000	NC	NC	NC		< 1,000	< 1,000	1,090	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**250****	**250**E	**250**E	**500**EE		**1,650**	**396**	111	51.3	240	**476**
Total Dissolved Solids	mg/L	**500****	**500**E	**500**E	**500**		**3,200**	**1,060**	**980**	**796**	**1,080**	**1,240**
pH, Field	SU	6.5 - 8.5**	6.5 - 8.5E	6.5 - 8.5E	6.5 - 9.0		6.9	7.0	7.0	7.0	7.3	7.2
Appendix IV(1)												
Antimony	ug/L	6	6.0	6.0	2.0		< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**10**	**10**	**10**	**10**		8	2	2	**23**	6	**29**
Barium	ug/L	2,000	2,000	2,000	1,200		59	49	80	344	219	155
Beryllium	ug/L	4	4.0	4.0	33		< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5	5.0	5.0	2.5		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	100	100	11		< 1	1	< 1	< 1	< 1	< 1
Cobalt	ug/L	NC	40	100	100		< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	NC	NC	NC		< 1,000	< 1,000	1,090	< 1,000	< 1,000	< 1,000
Lead	ug/L	NC	4.0	4.0	14		< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	NC	170	350	440		103	43	32	45	72	30
Mercury	ug/L	2	2.0	2.0	0.20#		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	NC	73	210	120		< 5	< 5	6	< 5	5	< 5
Radium-226	pCi/L	NC	NC	NC	NC		< 0.367	< 0.464	< 0.472	0.398	< 0.445	< 0.545
Radium-228	pCi/L	NC	NC	NC	NC		1.12	0.984	< 0.935	1.54	1.25	< 0.807
Radium-226/228	pCi/L	5	NC	NC	NC		1.12	1.13	< 0.935	1.94	1.49	< 0.807
Selenium	ug/L	50	50	50	**5.0**		2	< 1	2	3	2	3
Thallium	ug/L	2	2.0	2.0	2.0		< 2	< 2	< 2	< 2	< 2	< 2
Additional MI Part 115(2)												
Iron	ug/L	**300****	**300**E	**300**E	500,000EE		**1,320**	**3,550**	**1,060**	**5,520**	**1,830**	**3,270**
Copper	ug/L	1,000**	1,000E	1,000E	20		3	5	2	2	1	8
Nickel	ug/L	NC	100	100	120		< 2	10	7	< 2	< 2	< 2
Silver	ug/L	100**	34	98	0.2		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	NC	4.5	62	27		2	4	< 2	4	< 2	< 2
Zinc	ug/L	5,000**	2,400	5,000E	260		< 10	13	< 10	< 10	< 10	< 10

Notes:
ug/L - micrograms per liter; mg/L - milligrams per liter.
pCi/L - picocuries per liter; SU - standard units; pH is a field parameter.
MCL - Maximum Contaminant Level, EPA Drinking Water Standards and Health Advisories, April, 2012.
NC - no criteria.
* - Michigan Part 201 Generic Drinking Water Cleanup Criteria, December 30, 2013, updated October 12, 2023.
** - Secondary Maximum Contaminant Level (SMCL), EPA Secondary Drinking Water Regulations (SDWR) April, 2012.
^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. Chromium GSI criterion based on hexavalent chromium per footnote {H}. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}. GSI criterion for chloride is 50 mg/L when the discharge is to the Great Lakes or connecting waters per footnote {FF}
# - If detected above 0.20 ug/L, further evaluation of low-level mercury may be necessary to evaluate the GSI pathway per Michigan Part 201 and MDEQ policy and procedure 09-014 dated June 20, 2012.
E - Criterion is the aesthetic drinking water value per footnote {E}.
EE - Criterion is based on the total dissolved solids GSI value per footnote {EE}.
(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.
(2) Per Michigan Part 115 Amendment - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituent (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.
BOLD value indicates an exceedance of one or more of the listed criteria.
RED value indicates an exceedance of the MCL.
All metals were analyzed as total unless otherwise specified.
Created by:
QC'd by: AY 1/5/2026

Table 4
Summary of Groundwater Sampling Results (Analytical)
JC Weadock Solid Waste Disposal Area - Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	**MW-52**	**MW-53**	**MW-53R**	**MW-54R**	**MW-55**	**OW-57ROUT**
					Sample Date:	10/15/2025	10/16/2025	10/14/2025	10/14/2025	10/14/2025	10/14/2025
Constituent	Unit	EPA MCL	MI Residential*	MI Non-Residential*	MI GSI^						
Appendix III[(1)]											
Boron	ug/L	NC	**500**	**500**	**4,000**	**843**	**6,330**	**3,580**	**7,660**	**1,040**	**1,790**
Calcium	mg/L	NC	NC	NC	**500**[EE]	260	128	167	230	175	139
Chloride	mg/L	250**	250[E]	250[E]	**50**	**53.4**	**94**	**90.4**	**178**	17.1	**97.5**
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	1,110
Sulfate	mg/L	**250****	**250**[E]	**250**[E]	**500**[EE]	**508**	30.2	118	**367**	156	66.9
Total Dissolved Solids	mg/L	**500****	**500**[E]	**500**[E]	**500**	**1,440**	**870**	**1,000**	**1,380**	**876**	**856**
pH, Field	SU	6.5 - 8.5**	6.5 - 8.5[E]	6.5 - 8.5[E]	6.5 - 9.0	6.8	7.6	7.0	7.0	7.1	6.9
Appendix IV[(1)]											
Antimony	ug/L	6	6.0	6.0	2.0	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**10**	**10**	**10**	**10**	< 1	< 1	**17**	2	**41**	2
Barium	ug/L	2,000	2,000	2,000	1,200	89	481	149	134	238	88
Beryllium	ug/L	4	4.0	4.0	33	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5	5.0	5.0	2.5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	100	100	11	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	NC	40	100	100	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	NC	NC	NC	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	1,110
Lead	ug/L	NC	4.0	4.0	14	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	NC	170	350	440	31	49	57	111	29	29
Mercury	ug/L	2	2.0	2.0	0.20#	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	NC	73	210	120	< 5	< 5	< 5	23	39	7
Radium-226	pCi/L	NC	NC	NC	NC	< 0.435	< 0.407	< 0.364	0.445	0.316	< 0.324
Radium-228	pCi/L	NC	NC	NC	NC	1.09	1.22	1.02	< 0.881	< 0.652	< 0.632
Radium-226/228	pCi/L	5	NC	NC	NC	1.33	1.56	1.29	1.23	< 0.652	< 0.632
Selenium	ug/L	50	50	50	**5.0**	2	2	3	**6**	1	2
Thallium	ug/L	2	2.0	2.0	2.0	< 2	< 2	< 2	< 2	< 2	< 2
Additional MI Part 115[(2)]											
Iron	ug/L	**300****	**300**[E]	**300**[E]	500,000[EE]	**7,910**	**395**	**652**	165	**14,300**	74
Copper	ug/L	1,000**	1,000[E]	1,000[E]	20	2	2	4	2	1	3
Nickel	ug/L	NC	100	100	120	< 2	< 2	< 2	40	3	10
Silver	ug/L	100**	34	98	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	NC	4.5	62	27	< 2	3	3	4	< 2	2
Zinc	ug/L	5,000**	2,400	5,000[E]	260	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
ug/L - micrograms per liter; mg/L - milligrams per liter.
pCi/L - picocuries per liter; SU - standard units; pH is a field parameter.
MCL - Maximum Contaminant Level, EPA Drinking Water Standards and Health Advisories, April, 2012.
NC - no criteria.
* - Michigan Part 201 Generic Drinking Water Cleanup Criteria, December 30, 2013, updated October 12, 2023.
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# - If detected above 0.20 ug/L, further evaluation of low-level mercury may be necessary to evaluate the GSI pathway per Michigan Part 201 and MDEQ policy and procedure 09-014 dated June 20, 2012.
[E] - Criterion is the aesthetic drinking water value per footnote {E}.
[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.
(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.
(2) Per Michigan Part 115 Amendment - Public Act No. 640 of 2018 Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituent (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.
BOLD value indicates an exceedance of one or more of the listed criteria.
RED value indicates an exceedance of the MCL.
All metals were analyzed as total unless otherwise specified.
Created by:
QC'd by: AY 1/5/2026

Table 5

Summary of Confidence Interval Evaluation: Fourth Quarter 2025

JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program

Essexville, Michigan

Assessment Monitoring Statistical Evaluation

Constituent	Units	GWPS	JCW-MW-18001		JCW-MW-18004		JCW-MW-18005		JCW-MW-18006		MW-50		MW-51		MW-52		MW-53		MW-53R		MW-54R		MW-55		OW-57R OUT	
			LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL	LCL	UCL
Boron[1]	ug/L	560	**1,300**	1,500	--	--	**1,000**	1,900	**2,500**	3,000	**2,500**	4,400	**840**	1,000	**780**	1,000	**5,100**	6,600	**2,200**	4,200	**6,000**	7,800	**850**	1,300	**1,700**	2,100
Calcium	mg/L	280	**450**	550	--	--	150	340	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/L	780	**1,600**	1,900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	ug/L	21	0.57	15	--	--	--	--	**22**	27	--	--	10	25	--	--	--	--	--	--	--	--	--[2]	--[2]	--	--
Lead	ug/L	4	--	--	1.0	9.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	ug/L	6	--	--	2.0	23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

GSI Statistical Evaluation

Constituent	Units	GSI	JCW-MW-18004	
			LCL	UCL
Chromium	ug/L	11	1.0	19

Notes:

ug/L - micrograms per Liter

mg/L - milligrams per Liter

-- - Not Applicable; well/parameter pair did not directly exceed the applicable criterion and was not included in further analysis.

GWPS - Groundwater Protection Standard as established in TRC's Technical Memorandum dated April 23, 2021

GSI - Groundwater Surface Water Interface Criteria; GSI criteria is the generic Michigan Part 201 GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

UCL - Upper Confidence Limit (α = 0.01) of the downgradient data set.

LCL - Lower Confidence Limit (α = 0.01) of the downgradient data set.

1,300	Indicates a statistically significant exceedance of the GWPS (detection monitoring constituent). An exceedance occurs when the LCL is greater than the criterion.
1,300	Indicates a statistically significant exceedance of the GWPS (assessment monitoring constituent). An exceedance occurs when the LCL is greater than the criterion.

(1) Boron concentrations were confirmed as a statistically significant increase (SSI) over background levels and triggered assessment monitoring (2017 Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit, TRC, 2018).

(2) The concentrations of arsenic at MW-55 are not a result of a release from the unit, as detailed in the Alternate Source Demonstration (2025 Semiannual Groundwater Monitoring Report and Fourth Quarter 2025 Hydrogeological Monitoring Report, TRC, January 2026); therefore, confidence intervals were not calculated for comparison to GWPS.

Table 6

EGLE Exceedance Summary Table

JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program

Essexville, Michigan

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
SUMMARY OF STATISTICAL EXCEEDANCES

Data is in	**(X) ug/L**	**or**
	( ) mg/L	
unless otherwise stated		

Facility: JC Weadock – WDS# 395457

Well #	Location	Parameter	Part 201 GRCC	Statistical Limit (or 'CC' for Control Charts)	4 Qtr. 2025 (**bold** >201)	3 Qtr. 2025 (**bold** >201)	2 Qtr. 2025 (**bold** >201)	1 Qtr. 2025 (**bold** >201)

No Exceedances at Compliance Locations

Table 7

Leachate Headwell Results

JC Weadock Solid Waste Disposal Area - Hydrogeological Monitoring Program

Essexville, Michigan

Parameter	Reporting Limit	Units	2025 Field Leachate		2024 Field Leachate		2023 Field Leachate		2022 Field Leachate		
			LH-103R	LH-104	LH-103R	LH-104	LH-103R	LH-104	LH-103R	LH-104	LH-103R[(1)]
			10/13/2025		10/1/2024		10/4/2023		10/5/2022		3/10/2022
Indicator Parameters											
Alkalinity, Bicarbonate	10,000	ug/L	1,280,000	441,000	1,150,000	648,000	899,000	338,000	1,100,000	547,000	1,200,000
Dissolved Oxygen	0.1	mg/L	0.44	0.62	1.10	1.62	1.60	0.50	0.10	1.95	1.16
O.R.P.	1	mV	-332.2	-258.3	-254.0	-220.0	-167.0	-89.3	-114	-86	-121.6
pH	0.05	S.U.	6.96	7.68	7.52	7.83	7.04	7.46	6.75	7.35	6.95
Specific Conductance	1	uS/cm	2,790	1,411	4,055	1,594	3,113.5	1,089	2,095	1,489	2,498
Metals											
Antimony	1	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1	< 1
Arsenic	1	ug/L	18	48	48	64	21	44	41	16	87
Barium	5	ug/L	249	151	111	194	180	181	369	225	589
Beryllium	1	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Boron	20	ug/L	6,350	11,100	6,450	13,000	6,270	12,100	8,040	10,800	8,240
Cadmium	0.2	ug/L	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	1	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1
Cobalt	15	ug/L	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Copper	1	ug/L	2	2	2	1	2	1	< 1	< 1	2
Iron	20	ug/L	1,150	1,210	511	1,280	8,110	817	12,300	196	17,800
Lead	1	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	10	ug/L	123	75	78	69	97	63	139	45	188
Mercury (low-level)	0.5	ng/L	0.69	< 0.5	0.50	0.52	1.01	< 0.5	< 0.5	0.54	2.25
Molybdenum	5	ug/L	< 5	100	11	52	88	128	< 5	67	12
Nickel	2	ug/L	14	4	6	6	5	4	7	6	18
Selenium	1	ug/L	8	5	15	5	4	2	< 1	< 1	21
Silver	0.2	ug/L	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Sodium	1,000	ug/L	482,000	75,900	706,000	71,600	583,000	62,000	111,000	77,900	156,000
Sulfate	1,000	ug/L	585,000	478,000	946,000	302,000	984,000	352,000	36,400	202,000	94,800
Thallium	2	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Vanadium	2	ug/L	9	3	8	3	5	< 2	4	16	5
Zinc	10	ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

mg/L = milligrams per liter

ug/L = micrograms per liter

ng/L = nanograms per liter

mV = millivolts

S.U. = standard units

uS/cm = microSiemens per centimeter

O.R.P. = oxidation-reduction potential

Figures

0 1,500 3,000

FEET

1:36,000 1" = 3,000'

BASE MAP: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.

PROJECT:

CONSUMERS ENERGY COMPANY
DE KARN AND JC WEADOCK POWER PLANTS
ESSEXVILLE, MICHIGAN

TITLE:

SITE LOCATION MAP

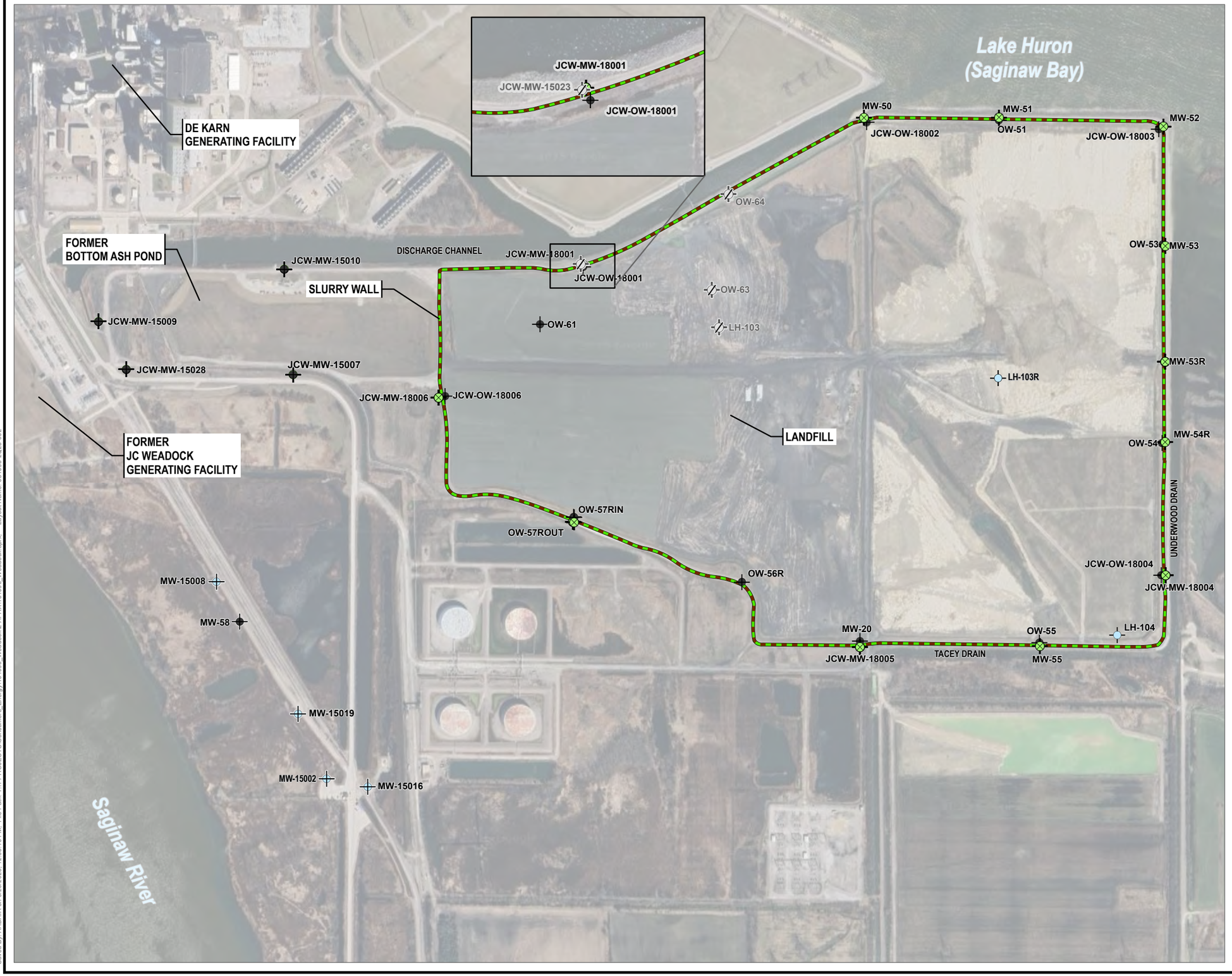
DRAWN BY:	A. ADAIR	PROJ. NO.:	634698.0000
CHECKED BY:	K. LOWERY		
APPROVED BY:	D. LITZ		**FIGURE 1**
DATE:	JANUARY 2026		

TRC

1540 EISENHOWER PLACE
ANN ARBOR, MI 48108-3284
PHONE: 734.971.7080

FILE: 464096_WEADOCK

COORDINATE SYSTEM: NAD 1983 STATEPLANE MICHIGAN SOUTH FIPS 2113 FEET; MAP ROTATION: 0
-- SAVED BY: AADAIR ON 6/26/2025, 12:03:10 PM; -- FILE PATH: T:\1-PROJECTS\CONSUMERS_ENERGY\464096_WEADOCK\2-APRX\464096_WEADOCK.APRX; -- LAYOUT NAME: 634698-2025-001



LEGEND

- BACKGROUND MONITORING WELL
- JCW BOTTOM ASH POND MONITORING WELL
- JCW LANDFILL HMP WELL
- MONITORING WELL (STATIC WATER LEVEL ONLY)
- LEACHATE HEADWELL
- DECOMMISSIONED WELL
- SLURRY WALL (APPROXIMATE)

NOTES

1. BASE MAP GOOGLE EARTH PRO AND PARTNERS, (4/5/2024).
2. SURVEY DATA FROM CONSUMERS ENERGY COMPANY DRAWING SG-21733, SHEET 2, REV. E (WEADOCK, 3/28/2022).

1:7,200
1" = 600'
0 600 1,200 FEET

PROJECT:
CONSUMERS ENERGY COMPANY
JC WEADOCK POWER PLANT
ESSEXVILLE, MICHIGAN

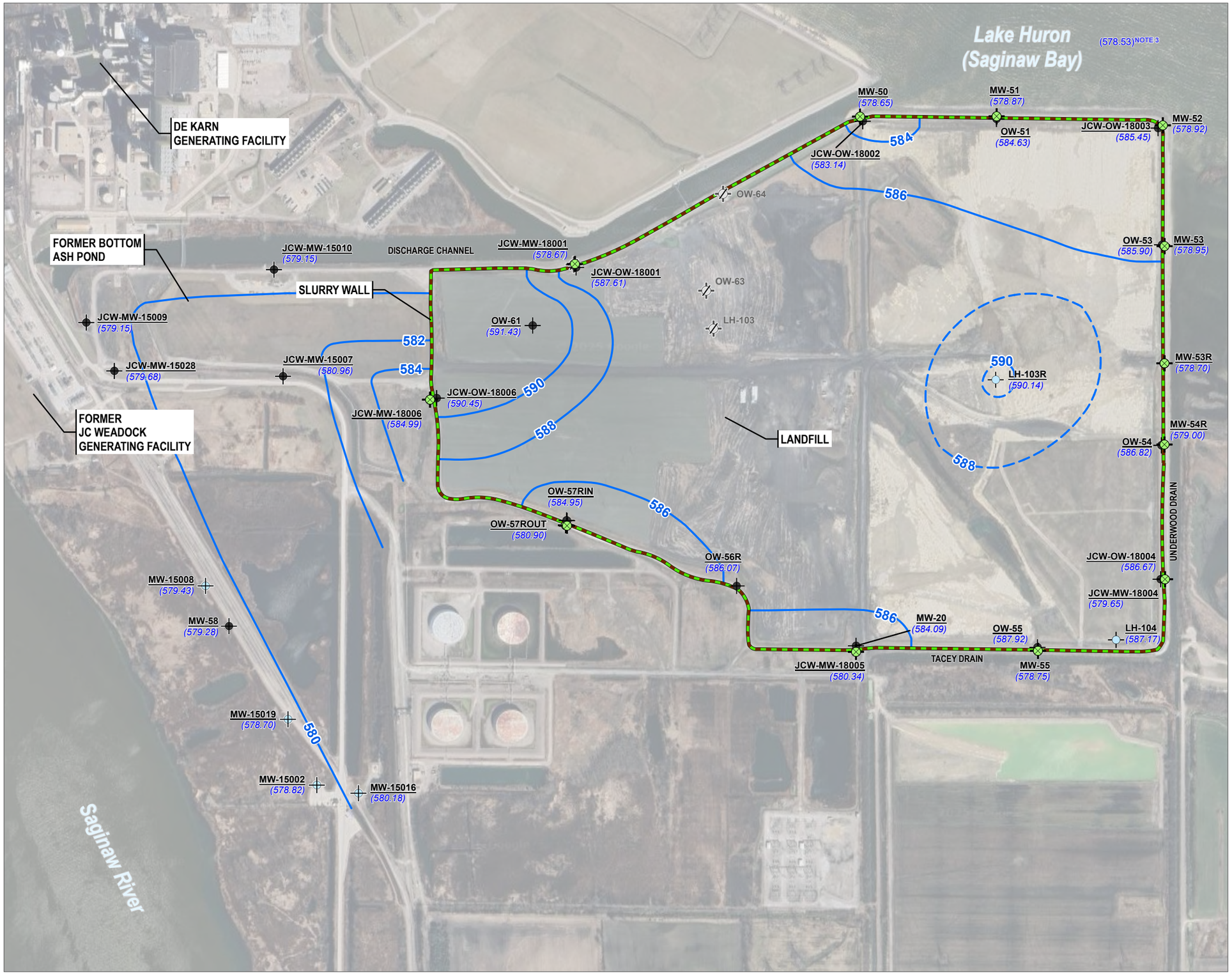
TITLE:
SITE MAP

DRAWN BY:	A. ADAIR	PROJ. NO.:	634698.0000
CHECKED BY:	K. LOWERY		**FIGURE 2**
APPROVED BY:	D. LITZ		
DATE:	JANUARY 2026		

TRC
1540 EISENHOWER PLACE
ANN ARBOR, MI 48108-3284
PHONE: 734.971.7080

FILE: 464096_Weadock.aprx

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl. Map Rotation: 0
Saved By AADAIR on 6/26/2025 - 12:55:46 PM - File Path: T:\PROJECTS\Consumers_Energy\464096_Weadock\23-APR\MXD\464096_Weadock.aprx - Layout Name: 634698-2025-002



LEGEND

- BACKGROUND MONITORING WELL
- JCW BOTTOM ASH POND MONITORING WELL
- JCW LANDFILL HMP WELL
- MONITORING WELL (STATIC WATER LEVEL ONLY)
- LEACHATE HEADWELL
- DECOMMISSIONED WELL
- SLURRY WALL (APPROXIMATE)
- GROUNDWATER ELEVATION CONTOUR (2' INTERVAL, DASHED WHERE INFERRED)
- (579.18) GROUNDWATER ELEVATION (FEET)
- (NU) NOT USED TO DEVELOP CONTOURS

NOTES

1. BASE MAP GOOGLE EARTH PRO AND PARTNERS, (4/5/2024).
2. SURVEY DATA FROM CONSUMERS ENERGY COMPANY DRAWING SG-21733, SHEET 2, REV. E (WEADOCK, 3/28/2022).
3. NOAA/NATIONAL OCEANIC SERVICE GREAT LAKES GAUGING STATION, ESSEXVILLE, MI (ID: 9075035).
4. GROUNDWATER ELEVATIONS DISPLAYED IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.
5. GROUNDWATER ELEVATIONS DETERMINED BY WATER LEVEL MEASUREMENTS COLLECTED ON OCTOBER 13, 2025.

1:7,200
1" = 600'
0 600 1,200 FEET

PROJECT: CONSUMERS ENERGY COMPANY
JC WEADOCK POWER PLANT
ESSEXVILLE, MICHIGAN

TITLE: POTENTIOMETRIC SURFACE MAP
OCTOBER 2025

DRAWN BY:	A. CORDAS	PROJ. NO.:	634698.0000
CHECKED BY:	A. WHALEY		FIGURE 3
APPROVED BY:	D. LITZ		
DATE:	JANUARY 2026		

TRC
1540 EISENHOWER PLACE
ANN ARBOR, MI 48108-3284
PHONE: 734.971.7080

FILE: 673374_Weadock_AA.aprx

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl; Map Rotation: 0
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Appendix A
Static Water Level Evaluation

Table A1

Static Water Levels for Select Perimeter Dike Monitoring Wells and NOAA Staff Gauge

JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program

Essexville, Michigan

Well Location	Date Measured	Groundwater Water Elevation (GWE) (ft)	Saginaw Bay Surface Water Elevation (SWE) (ft)	Elevation Difference (GWE-SWE)[(1)]
MW-50	10/13/2025	578.65	578.53	0.12
MW-51	10/13/2025	578.87		0.34
MW-52	10/13/2025	578.92		0.39
MW-53	10/13/2025	578.95		0.42
MW-53R	10/13/2025	578.70		0.17
MW-54R	10/13/2025	579.00		0.47
MW-55	10/13/2025	578.75		0.22
JCW-MW-18004	10/13/2025	579.65		1.12
Average:		**578.94**		

Notes:

Elevation in feet above North American Vertical Datum 1988 (NAVD 88)

TOC: top of well casing

ft BTOC: feet below top of well casing

(1) Positive elevation difference indicates flow toward the surface water body.

Table A2
Slurry Wall Gradient and Flux
JC Weadock Solid Waste Disposal Area – Hydrogeological Monitoring Program
Essexville, Michigan

Monitoring Well Pair **Discharge Channel**	SWL Obs Well (ft NAVD 88)	SWL MW (ft NAVD 88)	x_{wells} (ft)	i (ft/ft)	Saturated Thickness (ft)	Mean Thickness (ft)	Section Length (ft)	K (cm/sec)	i (ft/ft)	Area (ft^2)	Flow ft^3/day	Flow Gal/day	Flow Gal/yr
JCW-OW-18001	587.61		22.4	4.00E-01	2.00	2.88	1,010	2.30E-08	0.40	2,904	7.57E-02	0.57	207
JCW-MW-18001		578.67			3.75								
JCW-OW-18002	583.14		28.9	1.56E-01	4.00	4.17	970		0.16	4,045	4.10E-02	0.31	112
MW-50		578.65			4.34								

Monitoring Well Pair **Adjacent Zone**	SWL Obs Well (ft NAVD 88)	SWL MW (ft NAVD 88)	x_{wells} (ft)	i (ft/ft)	Saturated Thickness (ft)	Mean Thickness (ft)	Section Length (ft)	K (cm/sec)	i (ft/ft)	Area (ft^2)	Flow ft^3/day	Flow Gal/day	Flow Gal/yr
OW-51	584.63		14.4	4.01E-01	4.00	3.79	1,850	2.30E-08	0.40	7,002	1.83E-01	1.37	499
MW-51		578.87			3.57								
JCW-OW-18003	585.45		33.9	1.93E-01	3.50	3.32	740		0.19	2,453	3.09E-02	0.23	84
MW-52		578.92			3.13								
OW-53	585.90		20.1	3.45E-01	1.25	1.18	730		0.35	861	1.94E-02	0.14	53
MW-53		578.95			1.11								

Monitoring Well Pair **Non-Adjacent Zone**	SWL Obs Well (ft NAVD 88)	SWL MW (ft NAVD 88)	x_{wells} (ft)	i (ft/ft)	Saturated Thickness (ft)	Mean Thickness (ft)	Section Length (ft)	K (cm/sec)	i (ft/ft)	Area (ft^2)	Flow ft^3/day	Flow Gal/day	Flow Gal/yr
OW-54	586.82		21.2	3.68E-01	2.00	2.25	510	2.30E-08	0.37	1,148	2.76E-02	0.21	75
MW-54R		579.00			2.50								
JCW-OW-18004	586.67		26.6	2.64E-01	8.00	3.88	820		0.26	3,178	5.47E-02	0.41	149
JCW-MW-18004		579.65			-0.25								
OW-55	587.92		24	3.83E-01	2.00	1.38	1,220		0.38	1,678	4.19E-02	0.31	114
MW-55		578.75			0.75								
MW-20	584.09		40.9	9.16E-02	1.50	1.38	1,120		0.09	1,540	9.20E-03	0.07	25
JCW-MW-18005		580.34			1.25								

Calculated Groundwater Discharge from JC Weadock (gal per day)	**=**	**3.61**
(cubic ft per day)	**=**	**0.48**
(cubic ft per min)		**3.4E-04**
Calculated Groundwater Discharge from JC Weadock (gal per yr)	**=**	**1,319**
(cubic ft per yr)	**=**	**176**
Calculated Groundwater Discharge from JC Weadock (gal per year per linear foot of dike)	**=**	**0.14**
(cubic feet per year per linear foot of dike)	**=**	**1.82E-02**

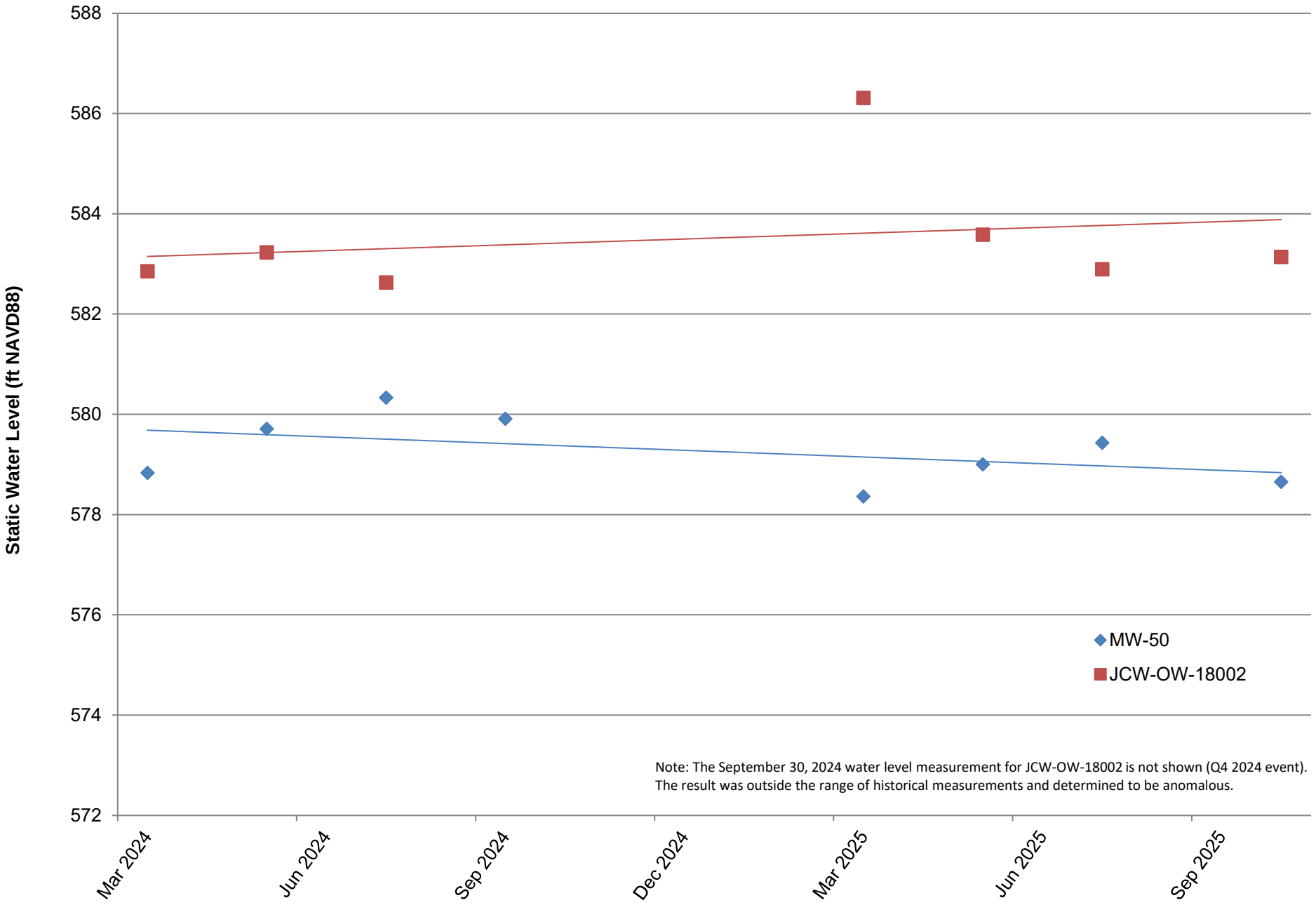
Notes:

Water level data collected on October 13, 2025 are shown by yellow cells: 578.67

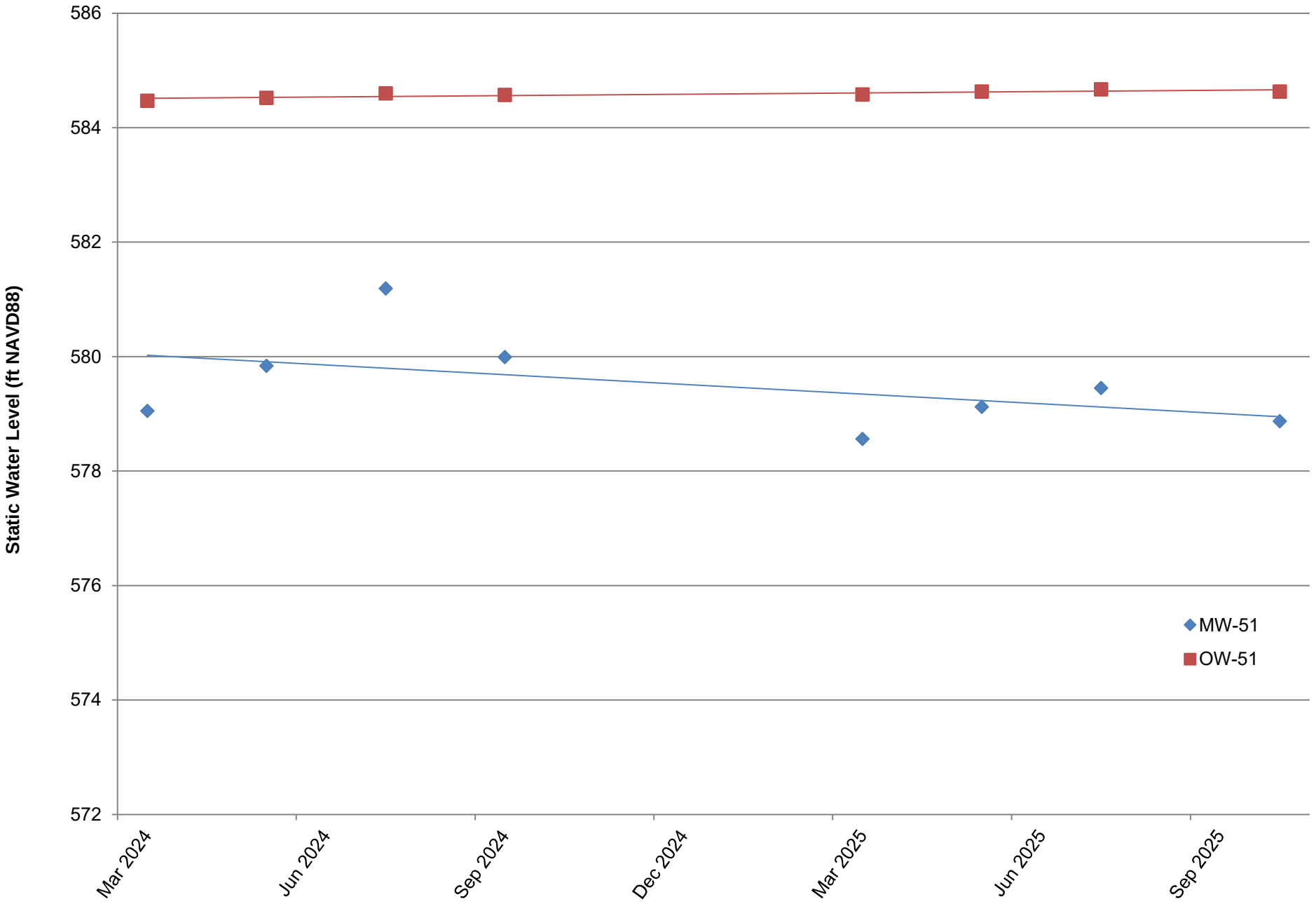
1. Monitoring Well Zones based on Phase II Evaluation, Appendix K Groundwater Discharge Calculations, September 30, 2005. Representative wells based on the Landfill Hydrogeological Monitoring Plan, February 2021.
2. Saturated thickness will be the thickness of the sand unit when the observed SWL is above the top of the sand unit, or the measured saturated thickness of the sand unit if the SWL is below the top of the sand unit.
3. Hydraulic conductivity taken as harmonic mean of laboratory tests done on in-place slurry wall from NTH Certified Quality Assurance Report, Appendix E, April 24, 2009
4. Arithmetic average used to develop geometric properties of each section/zone (e.g. discharge channel, adjacent, and non-adjacent)
5. If Obs well SWL < MW SWL calculated flow will be zero.

SWL = Static Water Level; Obs Well = Observation Well; MW= Monitoring Well; ft NAVD 88 = feet above North American Vertical Datum 1988
ft/ft = feet per foot; cm/sec = centimeters per second; ft^2 = square feet; ft^3/day = cubic feet per day; Gal/day = gallons per day; Gal/yr = gallons per year
i = hydraulic gradient; K = hydraulic conductivity; x_{wells} = distance between well pairs

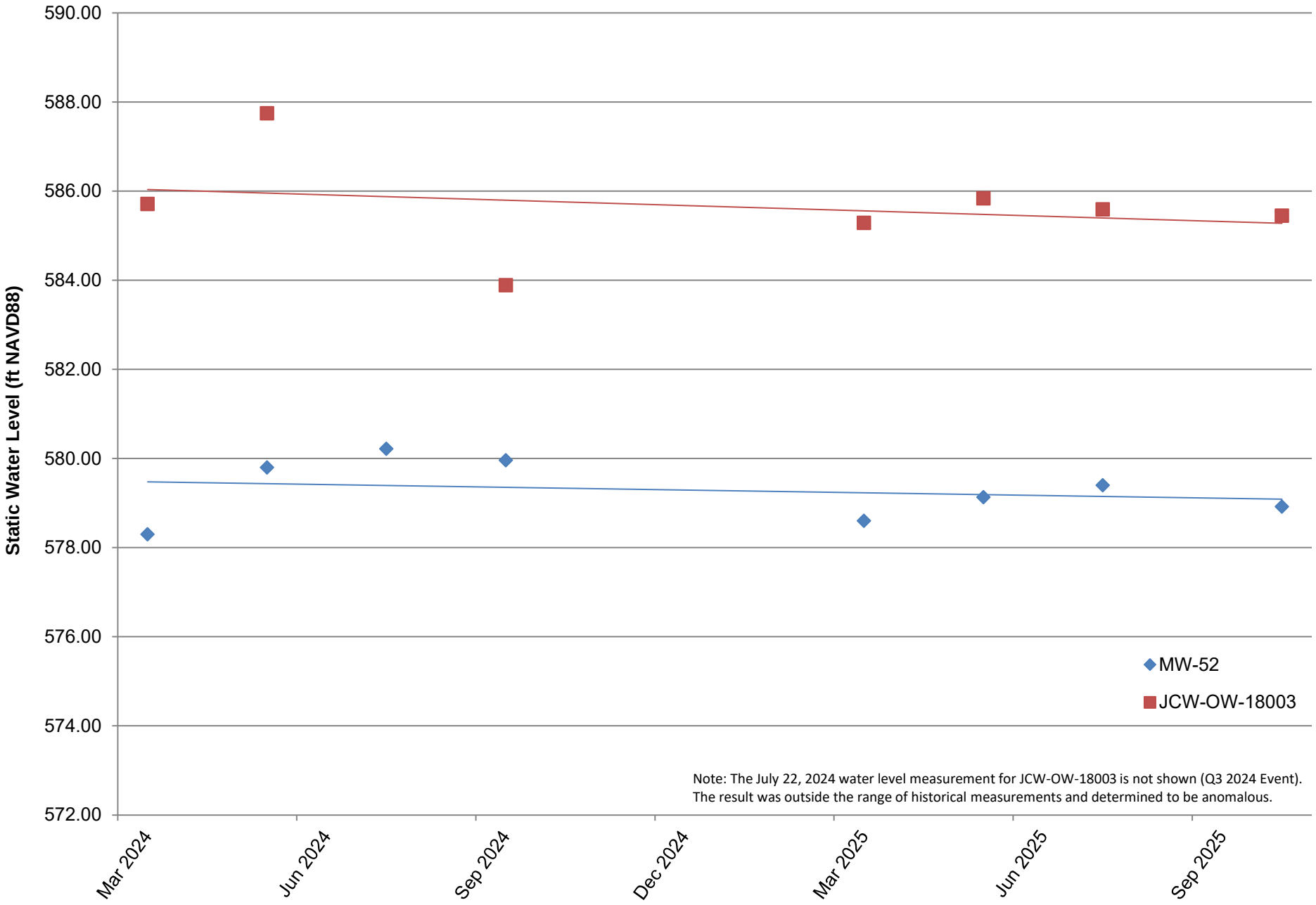
Appendix A
Static Water Level for MW-50 and JCW-OW-18002



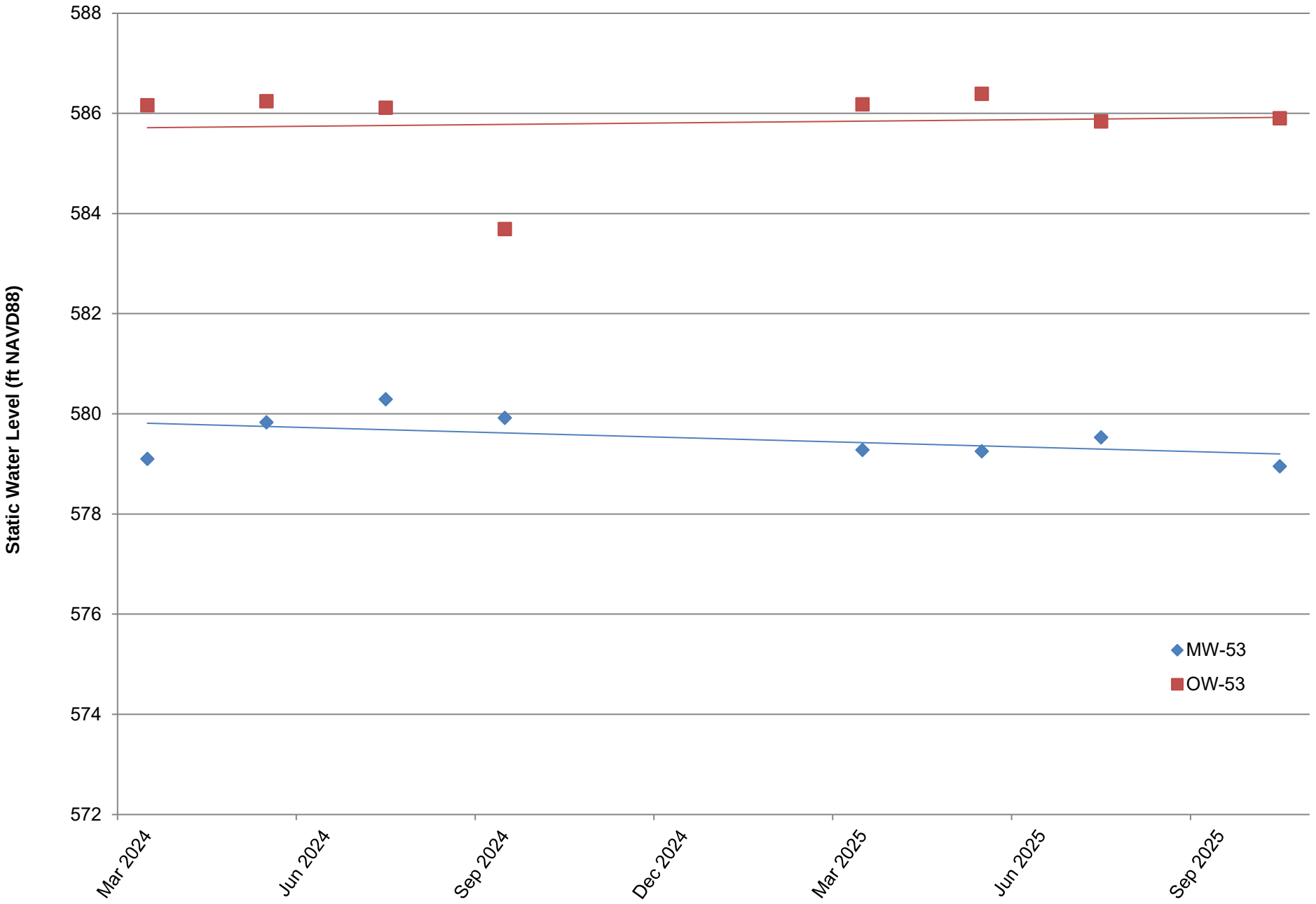
Appendix A
Static Water Level for MW-51 and OW-51



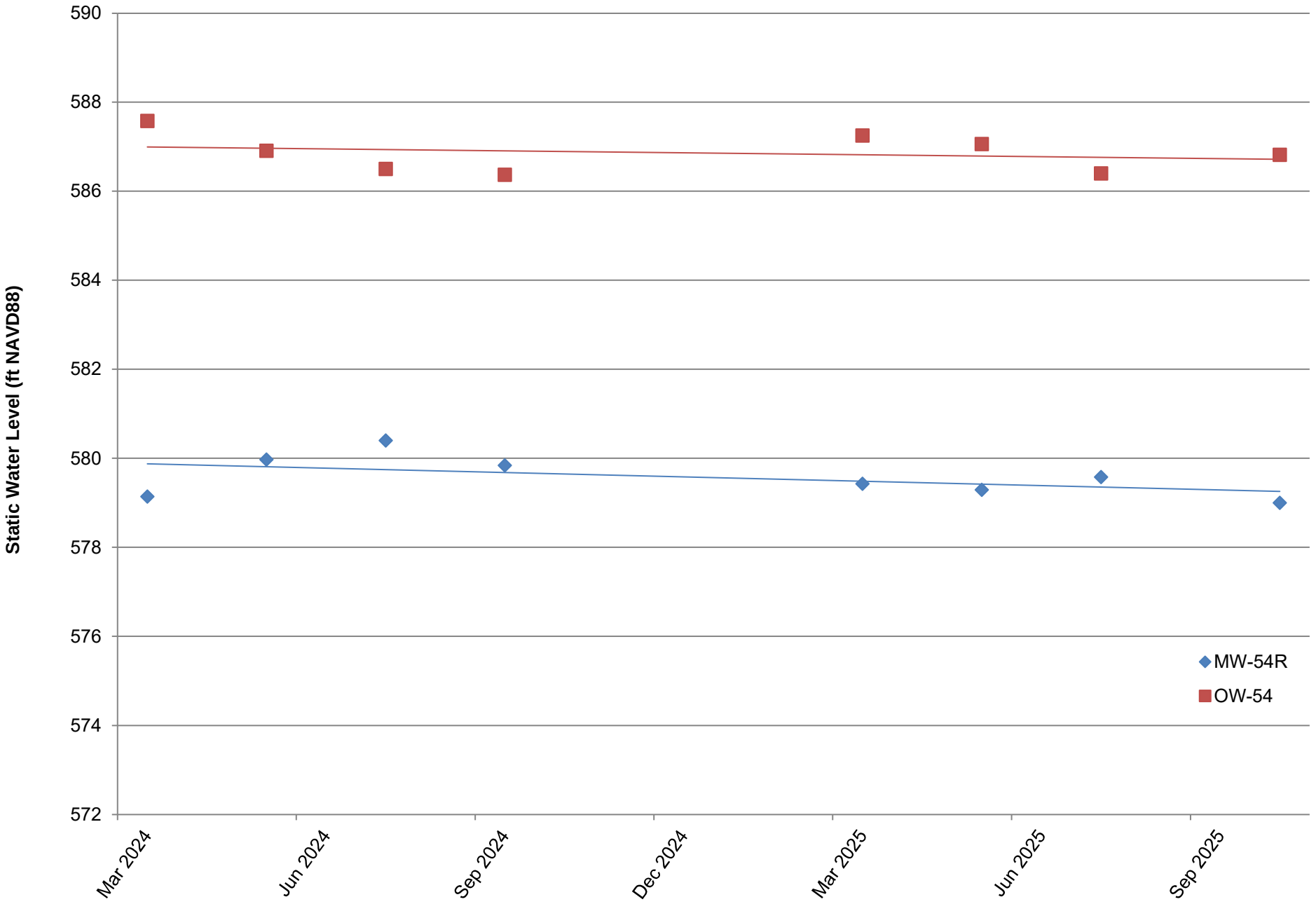
Appendix A
Static Water Level for MW-52 and JCW-OW-18003



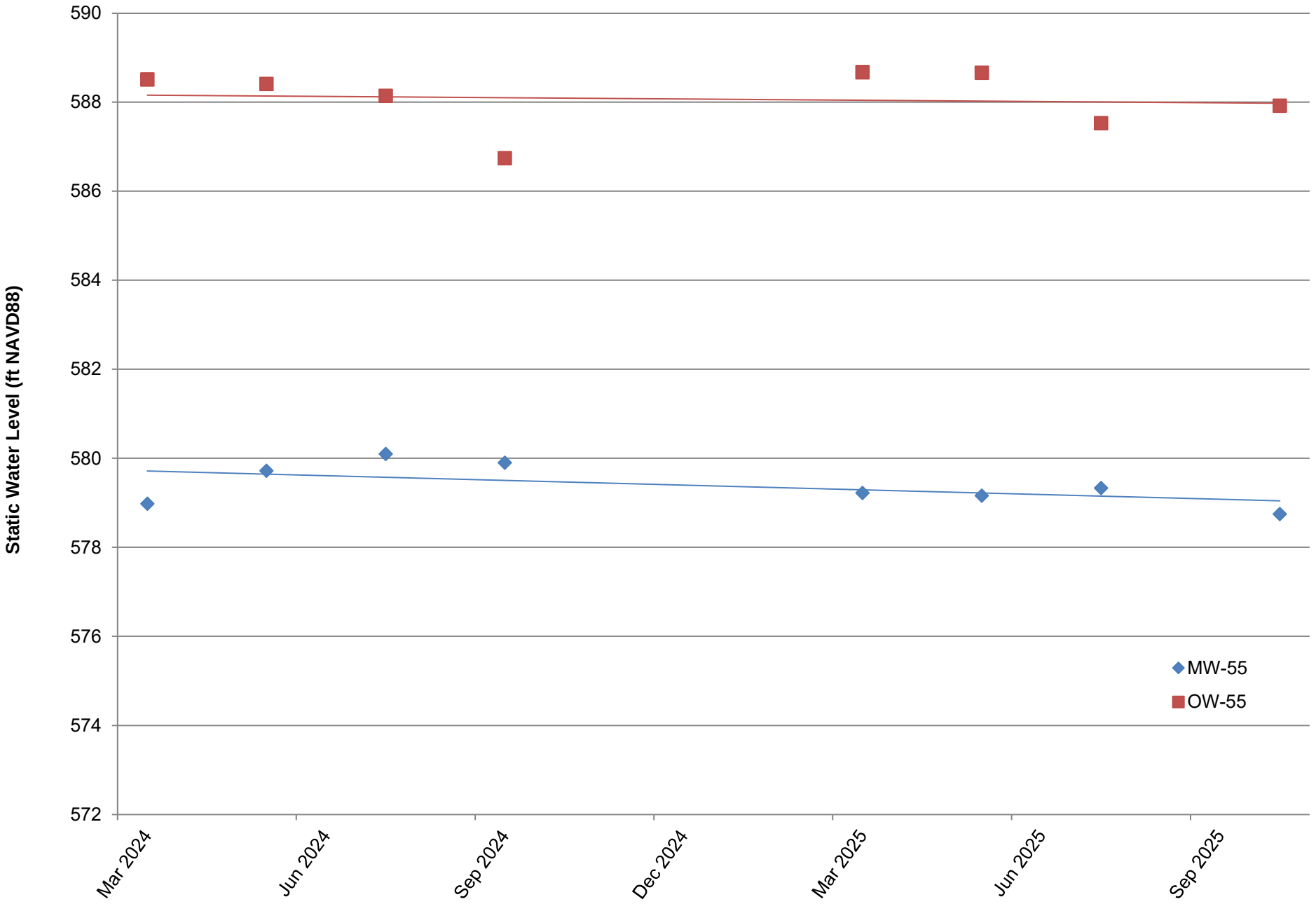
Appendix A
Static Water Level for MW-53 and OW-53



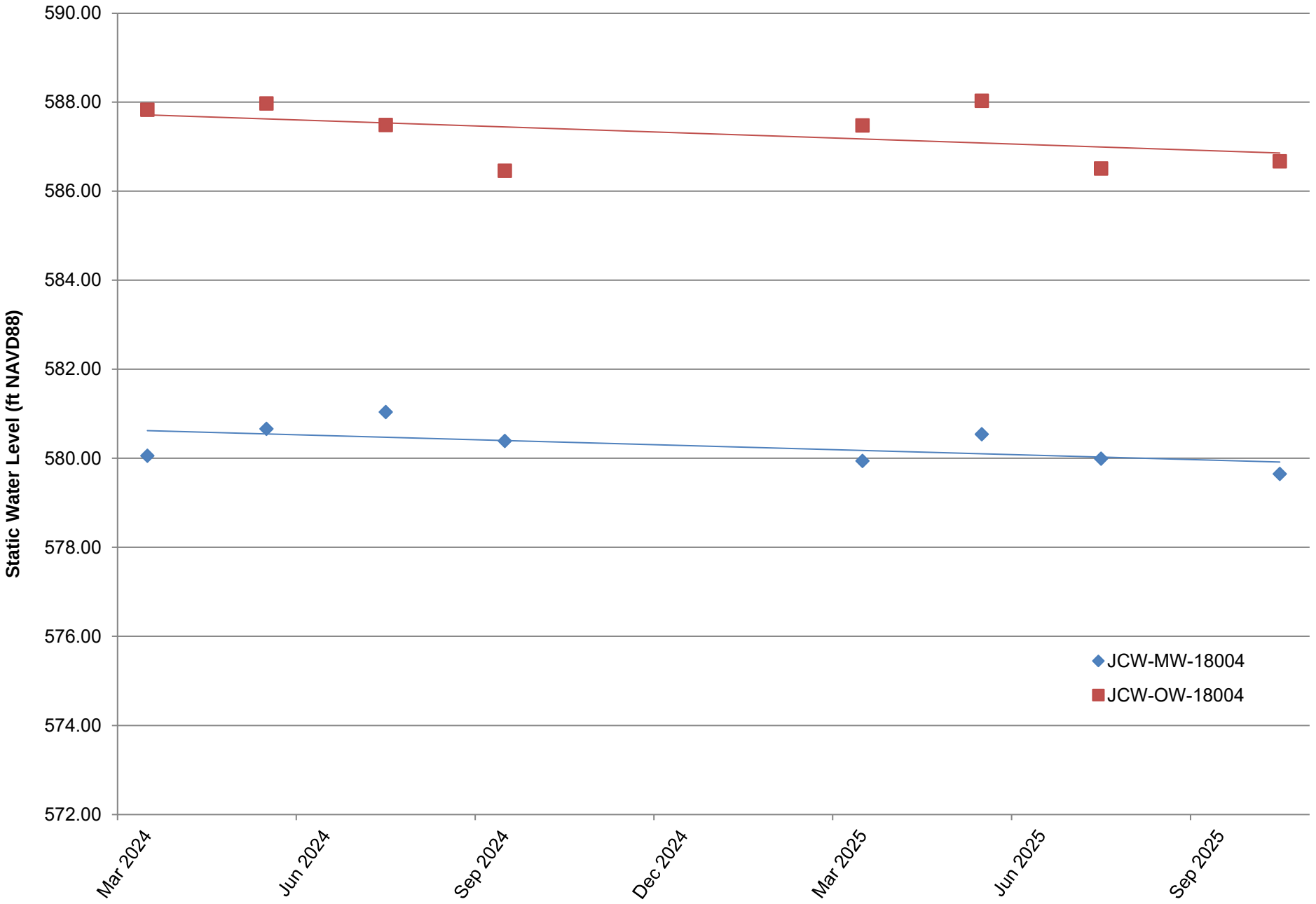
Appendix A
Static Water Level for MW-54R and OW-54



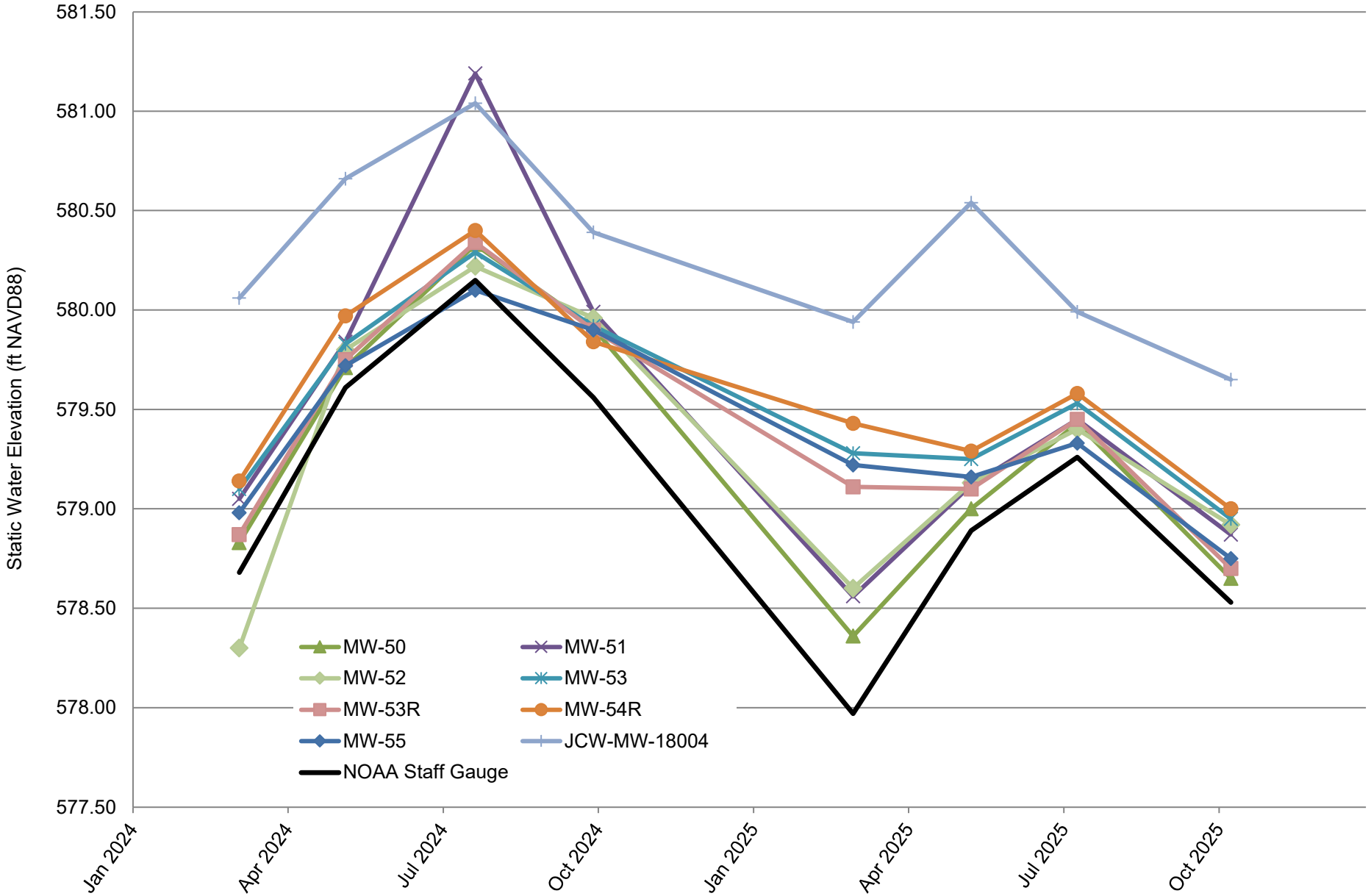
Appendix A
Static Water Level for MW-55 and OW-55



Appendix A
Static Water Level for JCW-MW-18004 and JCW-OW-18004



Appendix A
Static Water Elevations for Select Perimeter Dike Monitoring Wells and NOAA Staff Gauge



Appendix B
Data Quality Review

Laboratory Data Quality Review
Groundwater Monitoring Event October 2025
JC Weadock/DE Karn Background

Groundwater samples were collected by TRC for the October 2025 sampling event. Samples were analyzed for total metals, anions, and total dissolved solids by Consumers Energy (CE) Laboratory Services in Jackson, Michigan. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 25-0757.

During the October 2025 sampling event, a groundwater sample was collected from each of the following wells:

- MW-15002
- MW-15008
- MW-15016
- MW-15019

Each sample was analyzed for the following constituents:

Analyte Group	Method
Anions (Fluoride, Chloride, Sulfate)	USEPA 300.0
Total Dissolved Solids (TDS)	Standard Method (SM) 2540C
Total Metals	SW-846 6020B/7470A

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;

- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

It should be noted that results for method blanks and LCSs were not provided for review by CE Laboratory Services. Therefore, potential contamination arising from laboratory sample preparation and/or analytical procedures and the accuracy of the analytical method using a clean matrix could not be evaluated for the metals, anions, and TDS analyses.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed Appendix III and IV constituents and Part 115 metals will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, the findings below may be used to support the removal of outliers.

QA/QC Sample Summary

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. No issues were noted.
- The preservation was assumed to be acceptable based on case narrative and COC preservation information; the cooler temperatures were between 0-6°C and acid was used for sample preservation, as applicable.
- The preparation times and dates for all analyses were provided in the electronic data deliverable (EDD) for this data set. All preparation and analysis holding time requirements were met.
- One field blank (FB-Background) was collected; an equipment blank was not collected with this data set. Target analytes were not detected in the field blank sample.
- Laboratory duplicate and MS/MSD analyses were not performed on a sample from this data set.
- Samples MW-15008/DUP-Background were submitted as the field duplicate pair with this data set; all criteria were met.
- The RLs met the project requirements and were deemed suitable for data use.

- Dilution factors for all analyses were provided in the EDD; all dilution factors were listed as 1-fold.

Laboratory Data Quality Review
Groundwater Monitoring Event October 2025
JC Weadock/Karn DEK Background

Groundwater samples were collected by TRC for the October 2025 sampling event. Samples were analyzed for radium by Eurofins - St. Louis in Earth City, Missouri. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 240-235609-1.

During the October 2025 sampling event, a groundwater sample was collected from each of the following wells:

- MW-15002
- MW-15008
- MW-15016
- MW-15019

Each sample was analyzed for the following constituents:

Analyte Group	Method
Radium (Ra-226, Ra-228, Combined Ra-226 & Ra-228)	EPA 903.0, EPA 904.0

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the Department of Energy Evaluation of Radiochemical Data Usability (USDOE, 1997). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks, equipment blanks, and field blanks, where applicable. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Percent recoveries for carriers, where applicable, for radiochemistry only. Carriers are used to assess the chemical yield for the preparation and/or instrument efficiency;

- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed constituents will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, the findings below may be used to support the removal of outliers.

QA/QC Sample Summary

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. No issues were noted.
- The cooler temperatures were between 0-6°C and samples were preserved with acid, as applicable, except as noted below.
  - Samples were not received on ice by Eurofins St. Louis in Earth City, Missouri. There is no impact on the data usability due to this issue since thermal preservation is not required for radium samples.
- Sample preparation and analysis holding time requirements were met.
- There was one equipment blank (EQ-Background) submitted with this dataset. No target analytes were detected in the sample.
- Target analytes were not detected in the method blanks.
- LCS recoveries for all target analytes were within laboratory control limits.
- MS/MSD analyses were not performed on the samples from this data set.
- Laboratory duplicate analyses were performed on sample EB-Background for radium-226 and radium-228. All criteria were met.
- Samples MW-15002/DUP-Background were submitted as the field duplicate pair with this data set; all criteria were met.
- Carrier recoveries were within 30-110%.

- The RLs met the project requirements and were deemed suitable for data use, with the following note:
  - According to the case narrative, the detection goal was not met for the radium-228 analyses of samples MW-15002, MW-15008, and DUP-Background due to a reduced sample volume used in preparation which was attributed to the presence of matrix interferences; therefore, the reported Minimum Detectable Concentrations (MDCs) in these samples were greater than the RLs for radium-228. These results were flagged with a “G” by the laboratory. However, there is no adverse impact on the data usability due to this issue since the MDCs and RLs for combined radium-226 and radium-228 were below the project action levels in these samples.
- All dilution factors were listed as 1-fold for the samples in this data set.

Laboratory Data Quality Review
Groundwater Monitoring Event October 2025
JC Weadock Landfill

Porewater samples were collected by TRC for the October 2025 sampling event. Samples were analyzed for total metals, anions, total dissolved solids, and/or alkalinity by Consumers Energy (CE) Laboratory Services in Jackson, Michigan. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 25-0754.

During the October 2025 sampling event, a porewater sample was collected from each of the following wells:

- JCW-MW-18001
- JCW-MW-18004
- JCW-MW-18005
- JCW-MW-18006
- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- OW-57ROUT

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
Anions (Fluoride, Chloride, Sulfate)	USEPA 300.0
Total Dissolved Solids (TDS)	Standard Method (SM) 2540C
Total Metals	SW-846 6020B/7470A
Alkalinity (Bicarbonate, Carbonate, and Total)	SM 2320B

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;

- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

It should be noted that results for method blanks and LCSs were not provided for review by CE Laboratory Services. Therefore, potential contamination arising from laboratory sample preparation and/or analytical procedures and the accuracy of the analytical method using a clean matrix could not be evaluated for the metals, anions, TDS, and alkalinity analyses.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed Appendix III and IV constituents, optional Piper Diagram analyses, and Part 115 constituents will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, findings below may be used to support the removal of outliers.

QA/QC Sample Summary

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. No issues were noted.
- The preservation was assumed to be acceptable based on case narrative and COC preservation information; the cooler temperatures were between 0-6°C and acid was used for sample preservation, as applicable.
- The preparation times and dates for all analyses were provided in the electronic data deliverable (EDD) for this data set. All preparation and analysis holding time requirements were met.

- One field blank (FB-01) and one equipment blank (EB-01) were collected. Target analytes were not detected in these blank samples.
- MS and MSD analyses were performed on sample JCW-MW-18001 for total metals and anions. The recoveries were within the acceptance limits. Relative percent differences were not provided by the laboratory and therefore were not evaluated; further, MS/MSD concentrations were not provided by the laboratory. However, since all recoveries were within the acceptance limits, there is no impact on data usability due to this issue.
- Laboratory duplicate analyses were not performed on a sample from this data set.
- Samples JCW-MW-18005/DUP-JCW-LF-01 and MW-55/DUP-JCW-LF-02 were submitted as the field duplicate pairs with this data set; all criteria were met.
- The RLs met the project requirements and were deemed suitable for data use.
- Dilution factors for all analyses were provided in the EDD; all dilution factors were listed as 1-fold.

Laboratory Data Quality Review
Groundwater Monitoring Event October 2025
JC Weadock Landfill

Groundwater samples were collected by TRC for the October 2025 sampling event. Samples were analyzed for radium by Eurofins - St. Louis in Earth City, Missouri. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 240-235611-1.

During the October 2025 sampling event, a groundwater sample was collected from each of the following wells:

- JCW-MW-18001
- JCW-MW-18004
- JCW-MW-18005
- JCW-MW-18006
- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- OW-57ROUT

Each sample was analyzed for the following constituents:

Analyte Group	Method
Radium (Ra-226, Ra-228, Combined Ra-226 & Ra-228)	EPA 903.0, EPA 904.0

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the Department of Energy Evaluation of Radiochemical Data Usability (USDOE, 1997). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks, equipment blanks, and field blanks, where applicable. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;

- Percent recoveries for carriers, where applicable, for radiochemistry only. Carriers are used to assess the chemical yield for the preparation and/or instrument efficiency;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed constituents will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, findings below may be used to support the removal of outliers.

QA/QC Sample Summary

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. The following issues were noted.
  - The laboratory noted that the collection time on the sample bottle for sample MW-55 did not match the COC. The laboratory logged in the collection time for sample MW-55 based on the time listed on the COC; review of the field documentation indicates that the time recorded on the COC was incorrect. The sample time was corrected upon upload to the project database.
  - The laboratory noted that one of the two bottles received for sample JCW-MW-18004 was only partially full. There is no impact on the data usability due to this issue as sufficient volume for analysis was provided.
- The cooler temperatures were between 0-6°C and samples were preserved with acid, as applicable, except as noted below.
  - Samples were not received on ice by Eurofins St. Louis in Earth City, Missouri. There is no impact on the data usability due to this issue since thermal preservation is not required for radium samples.
- Sample preparation and analysis holding time requirements were met.

- One equipment blank (EB-1) was collected with this data set. Target analytes were not detected in this blank sample.
- Target analytes were not detected in the method blanks.
- LCS recoveries for all target analytes were within laboratory control limits.
- MS/MSD and laboratory duplicate analyses were not performed on the samples from this data set.
- Samples JCW-MW-18005/DUP-01 were submitted as the field duplicate pair with this data set; all criteria were met.
- Carrier recoveries were within 30-110%.
- The RLs met the project requirements and were deemed suitable for data use.
- All dilution factors were listed as 1-fold for the samples in this data set.

Laboratory Data Quality Review
Groundwater Monitoring Event October 2025
JC Weadock Alternate Source Demonstration

A porewater sample was collected by TRC for the October 2025 sampling event. The sample was analyzed for total metals, anions, total dissolved solids, and alkalinity by Consumers Energy (CE) Laboratory Services in Jackson, Michigan. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 25-0755.

During the October 2025 sampling event, a porewater sample was collected from the following well:

- JCW-OW-18001

The sample was analyzed for the following constituents:

Analyte Group	Method
Anions (Fluoride, Chloride, Sulfate)	USEPA 300.0
Total Dissolved Solids (TDS)	Standard Method (SM) 2540C
Total Metals	SW-846 6020B/7470A
Alkalinity (Bicarbonate, Carbonate, and Total)	SM 2320B

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;

- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

It should be noted that results for method blanks and LCSs were not provided for review by CE Laboratory Services. Therefore, potential contamination arising from laboratory sample preparation and/or analytical procedures and the accuracy of the analytical method using a clean matrix could not be evaluated for the metals, anions, TDS, and alkalinity analyses.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed Appendix III and IV constituents, optional Piper Diagram analyses, Part 115 constituents will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, findings below may be used to support the removal of outliers.

QA/QC Sample Summary

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. No issues were noted.
- The preservation was assumed to be acceptable based on case narrative and COC preservation information; the cooler temperature was between 0-6°C and acid was used for sample preservation, as applicable.
- The preparation times and dates for all analyses were provided in the electronic data deliverable (EDD) for this data set. All preparation and analysis holding time requirements were met.
- There were no equipment blanks or field blanks collected with this data set.
- MS and MSD analyses were not performed on the sample from this data set.
- Laboratory duplicate analyses were not performed on the sample from this data set.
- Field duplicate pairs were not submitted with this data set
- The RLs met the project requirements and were deemed suitable for data use.

- Dilution factors for all analyses were provided in the EDD; all dilution factors were listed as 1-fold.

Laboratory Data Quality Review
Groundwater Monitoring Event October 2025
JC Weadock Leachate

Field leachate samples were collected by TRC for the October 2025 sampling event. The samples were analyzed for total metals, low-level mercury, anions, total dissolved solids, and alkalinity by Consumers Energy (CE) Laboratory Services in Jackson, Michigan. The laboratory analytical results were reported in laboratory sample delivery group (SDG) 25-0756.

During the October 2025 sampling event, a field leachate sample was collected from each of the following wells:

- LH-103R
- LH-104

Each sample was analyzed for the following constituents:

Analyte Group	Method
Anions (Fluoride, Chloride, Sulfate)	EPA 300.0
Total Dissolved Solids (TDS)	SM 2540C
Total Metals	SW-846 6020B/7470A
Low-Level Mercury	EPA 1631E
Alkalinity (Bicarbonate, Carbonate, and Total)	SM 2320B

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Chain-of-custody (COC) and data completeness;
- Sample receipt, as noted in the cover page or case narrative
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy of the analytical method using a clean matrix;

- Percent recoveries for matrix spike (MS) and matrix spike duplicates (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

It should be noted that results for method blanks and LCSs were not provided for review by CE Laboratory Services. Therefore, potential contamination arising from laboratory sample preparation and/or analytical procedures and the accuracy of the analytical method using a clean matrix could not be evaluated for the metals, anions, TDS, and alkalinity analyses.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation, are noted below.

- The reviewed Appendix III and IV constituents, optional Piper Diagram analyses, Part 115 constituents, and low-level mercury will be utilized for the purposes of a hydrogeological monitoring program (HMP).
- Data are usable for the purposes of the HMP.
- When the data are evaluated through a statistical program, findings below may be used to support the removal of outliers.

QA/QC Sample Summary

- Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. The following issue was noted.
  - The laboratory misidentified the trip blank sample as TB-01 rather than TB-02 as listed on the COC. The laboratory was not contacted to correct this issue.
- The preservation was assumed to be acceptable based on case narrative and COC preservation information; the cooler temperatures were between 0-6°C and acid was used for sample preservation, as applicable, with the following exception.
  - The low-level mercury samples were not delivered to the laboratory on ice. There is no impact on data usability since thermal preservation is not required for low-level mercury.

- The preparation times and dates for all analyses were provided in the electronic data deliverable (EDD) for this data set. All preparation and analysis holding time requirements were met.
- One field blank (FB-02), one equipment blank (EB-02), and one trip blank (TB-01) were collected. Low-level mercury was not detected in these blank samples.
- MS and MSD analyses were performed on sample LH-103R for low-level mercury. The recoveries were within the acceptance limits, except as noted below. Relative percent differences were not provided by the laboratory and therefore were not evaluated; further, MS/MSD concentrations were not provided by the laboratory.
  - Low-level mercury (137%) recovered above the acceptance criteria (71-125%) in the MS performed on sample LH-103R. Therefore, the positive results for low-level mercury should be considered potentially biased high in samples LH-103R and LH-103R Dup, as summarized in the attached table, Attachment A. There is no impact on data usability for nondetect results for low-level mercury.
- Laboratory duplicate analyses were not performed on a sample from this data set.
- Samples LH-103R/LH-103R Dup and LH-104/LH-104 Dup were submitted as the field duplicate pairs with this data set; all criteria were met.
- The RLs met the project requirements and were deemed suitable for data use.
- Dilution factors for all analyses were provided in the EDD in this data set; all dilution factors were listed as 1-fold.

Attachment A

Summary of Data Non-Conformances for Groundwater Analytical Data

JC Weadock Leachate Wells

Essexville, Michigan

Samples	Collection Date	Analyte	Non-Conformance/Issue
LH-103R	10/13/2025	Low-Level Mercury	High recovery in matrix spike (MS); potential high bias exists for the listed results. Results are within the range of previously observed concentrations and are deemed usable for the purposes of the HMP.
LH-103R Dup	10/13/2025		

Appendix C
Detection Monitoring Statistical Trend Tests

Appendix C
Detection Monitoring Statistical Summary for JC Weadock Facility
Fourth Quarter 2025
Data from March 2024 to October 2025

Porewater Monitoring Points						
Constituent	**JCW-MW-18001**	**JCW-MW-18004**	**JCW-MW-18005**	**JCW-MW-18006**	**MW-50**	**MW-51**
Boron[(1)]	O	O	O	O	↑	O
Calcium	O	O	O	↓*	O	O
Chloride	O	O	O	↑*	O	O
Fluoride	O*	O*	O*	O*	O*	O*
Iron	O	O	O	O	O	O
pH/Corrosivity[(1)]	O	O	O	O	O	O
Sulfate	O	O	O	O	↓	↑
Total Dissolved Solids	O	O	O	O	↓	O

Notes:

O* = Non-detect (70%)

O = No trend

↑ = Upward trend, continuous

↑* = Upward trend, new

↑ = Upward trend, confirmed

↓ = Downward trend, continuous

↓* = Downward trend, new

(1) Boron concentrations and pH levels were confirmed as statistically significant increases (SSIs) over background levels and triggered assessment monitoring (2017 Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit, TRC, 2018).

Appendix C
Detection Monitoring Statistical Summary for JC Weadock Facility
Fourth Quarter 2025
Data from March 2024 to October 2025

Porewater Monitoring Points						
Constituent	**MW-52**	**MW-53**	**MW-53R**	**MW-54R**	**MW-55**	**OW-57R OUT**
Boron[(1)]	O	O	↑*	O	O	O
Calcium	O	O	O	O	O	O
Chloride	↑*	O	↑	↑	O	↑
Fluoride	O*	O*	O*	O*	O*	O
Iron	O	↓	O	O	O	O
pH/Corrosivity[(1)]	O	O	O	O	O	O
Sulfate	O	O	O	↑	O	↓
Total Dissolved Solids	O	O	O	↑	O	O

Notes:

O* = Non-detect (70%)

O = No trend

↑ = Upward trend, continuous

↑* = Upward trend, new

↑ = Upward trend, confirmed

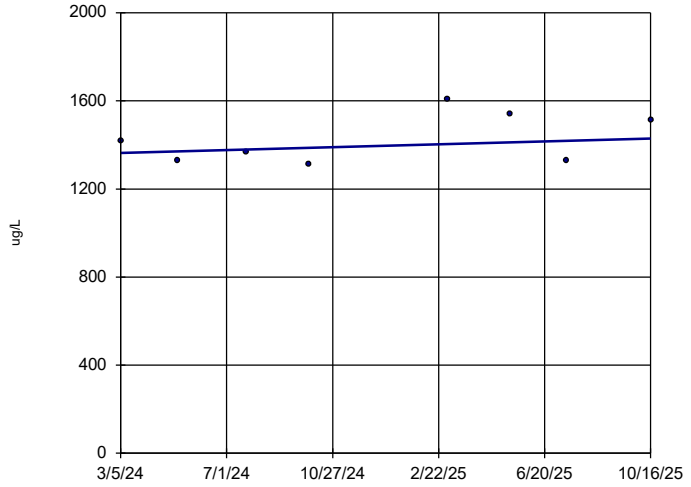
↓ = Downward trend, continuous

↓* = Downward trend, new

(1) Boron concentrations and pH levels were confirmed as statistically significant increases (SSIs) over background levels and triggered assessment monitoring (2017 Annual Groundwater Monitoring Report – JC Weadock Power Plant, Landfill CCR Unit, TRC, 2018).

Boron, Total

JCW-MW-18001



n = 8

Slope = 40.6 units per year.

Mann-Kendall statistic = 3 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

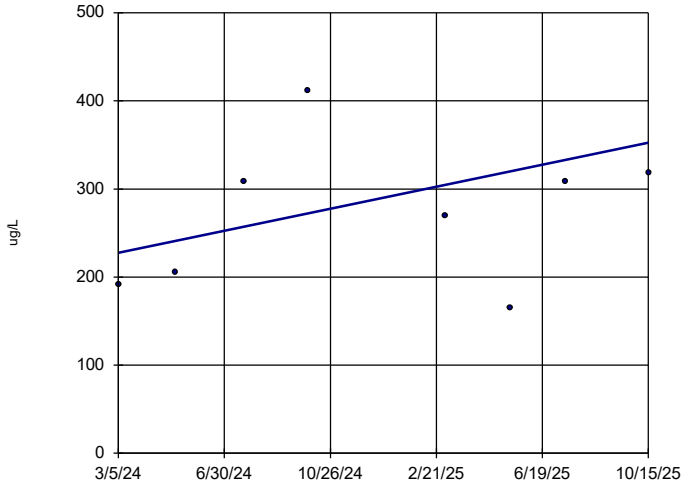
Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Boron, Total

JCW-MW-18004



n = 8

Slope = 77.54 units per year.

Mann-Kendall statistic = 10 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

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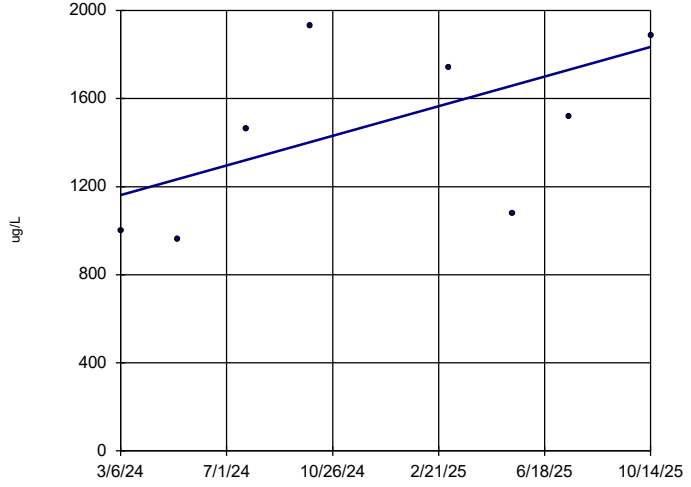
Boron, Total

JCW-MW-18005



n = 8

Slope = 418.4 units per year.

Mann-Kendall statistic = 12 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

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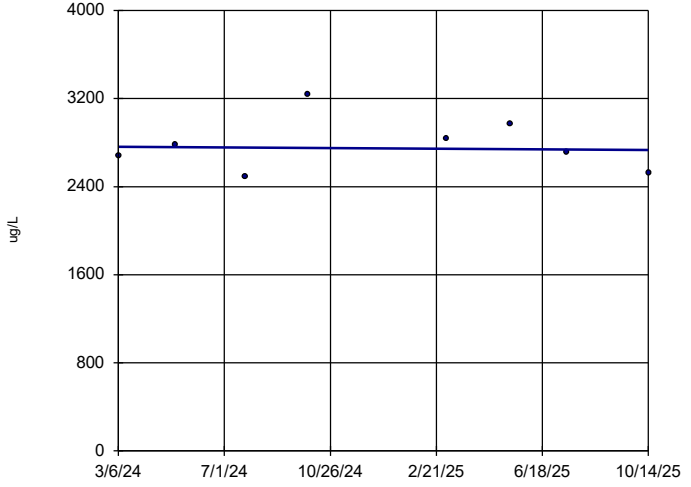
Boron, Total

JCW-MW-18006



n = 8

Slope = -19.36 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

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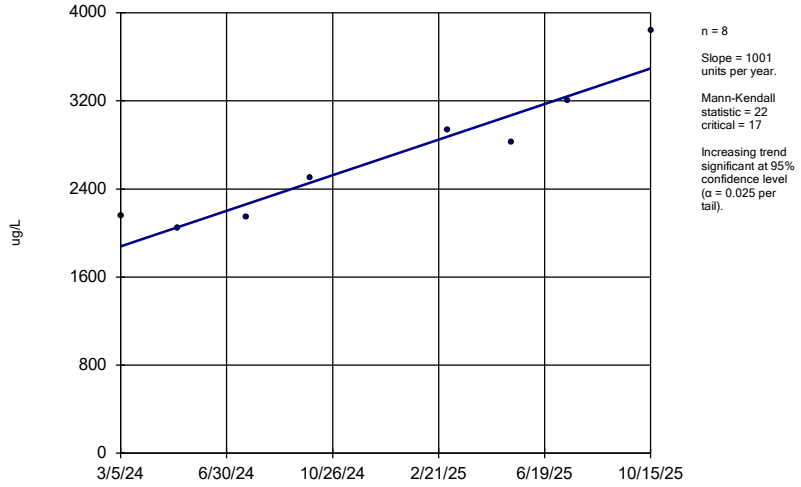
Boron, Total

MW-50



n = 8

Slope = 1001 units per year.

Mann-Kendall statistic = 22
critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

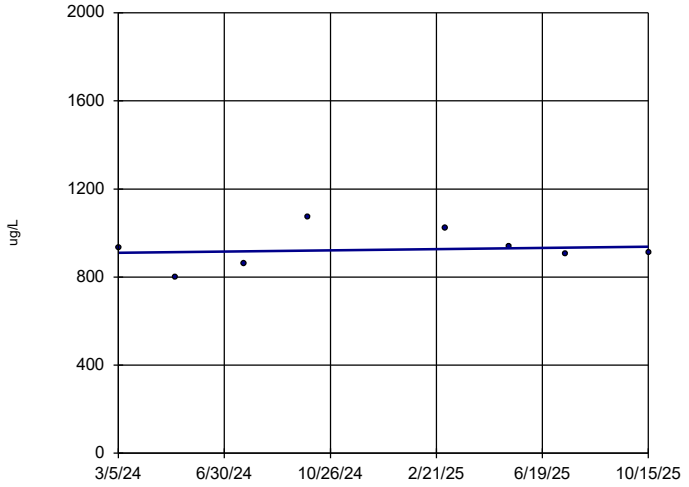
Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-51



n = 8

Slope = 17.13 units per year.

Mann-Kendall statistic = 2
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

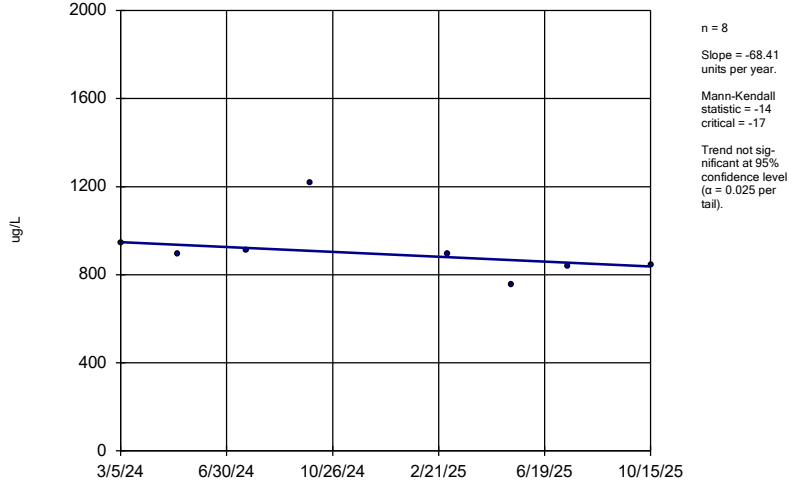
Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-52



n = 8

Slope = -68.41 units per year.

Mann-Kendall statistic = -14
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

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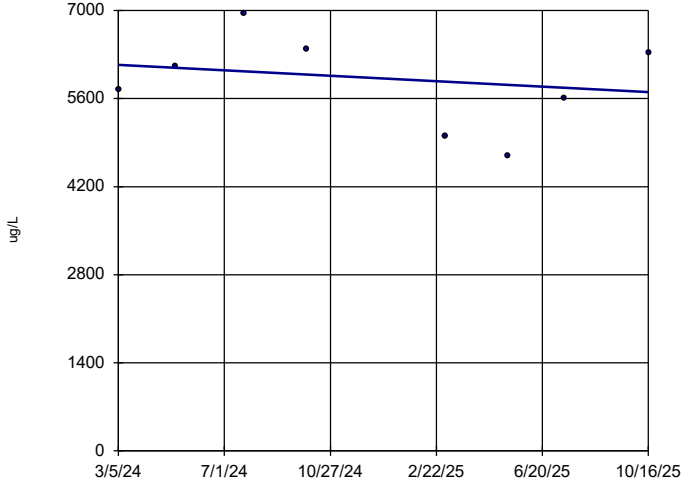
Boron, Total

MW-53



n = 8

Slope = -265.9 units per year.

Mann-Kendall statistic = -4
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

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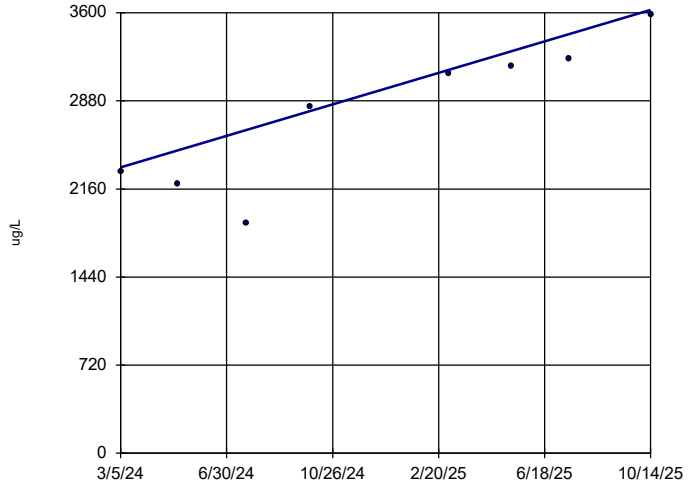
Boron, Total

MW-53R



n = 8

Slope = 798.4 units per year.

Mann-Kendall statistic = 22 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

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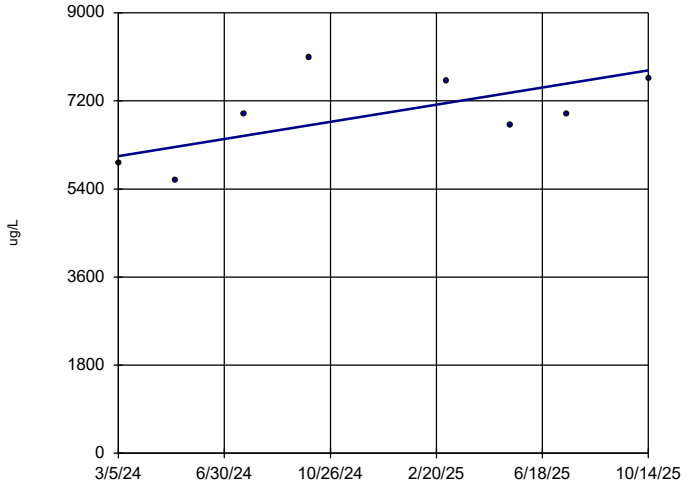
Boron, Total

MW-54R



n = 8

Slope = 1088 units per year.

Mann-Kendall statistic = 10 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

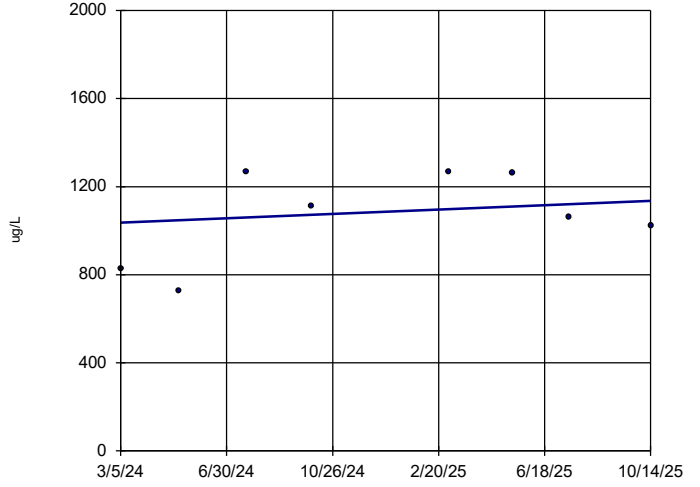
Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-55



n = 8

Slope = 62.07 units per year.

Mann-Kendall statistic = 1 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

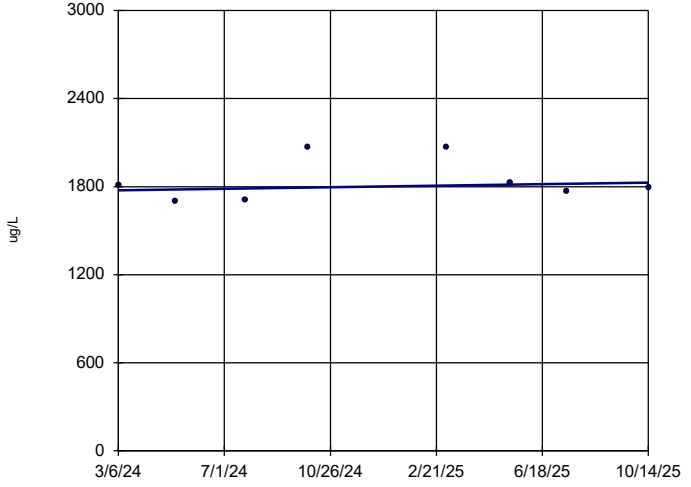
Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Boron, Total

OW-57ROUT



n = 8

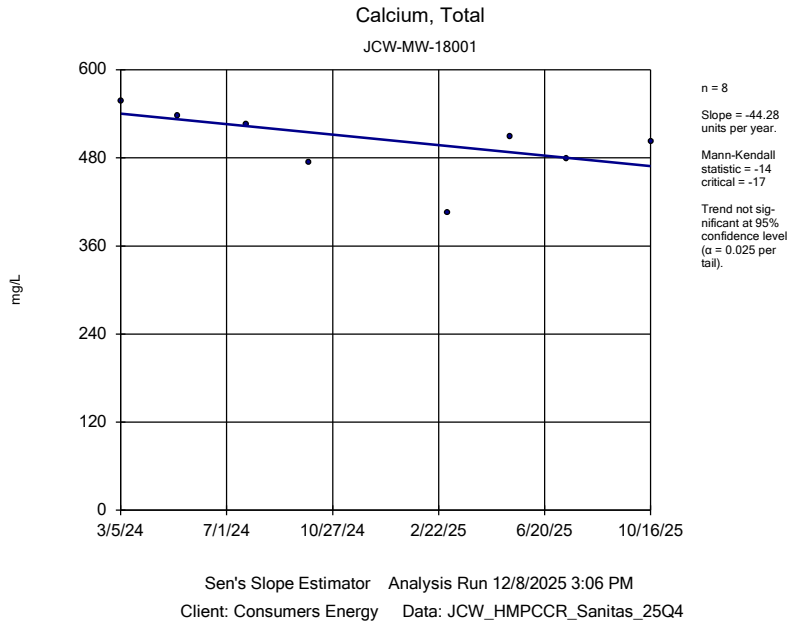
Slope = 32.11 units per year.

Mann-Kendall statistic = 3 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4



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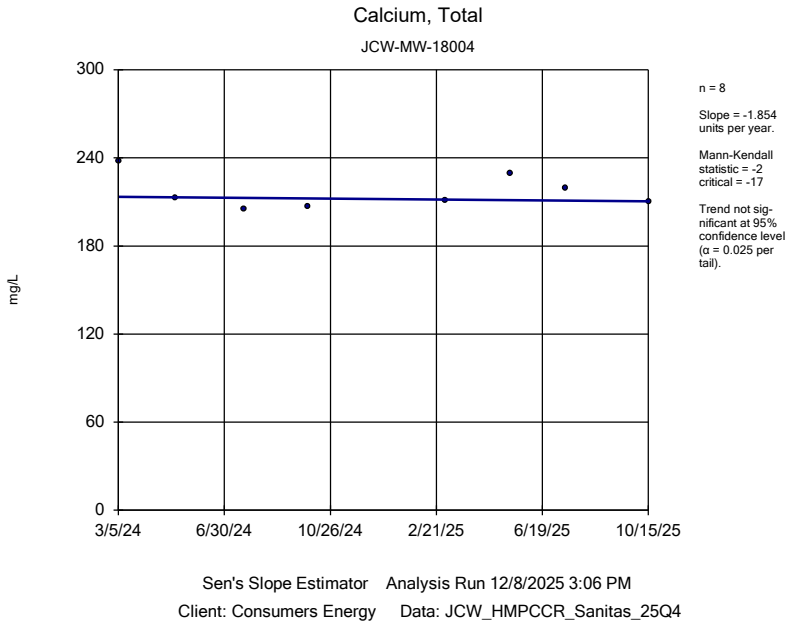

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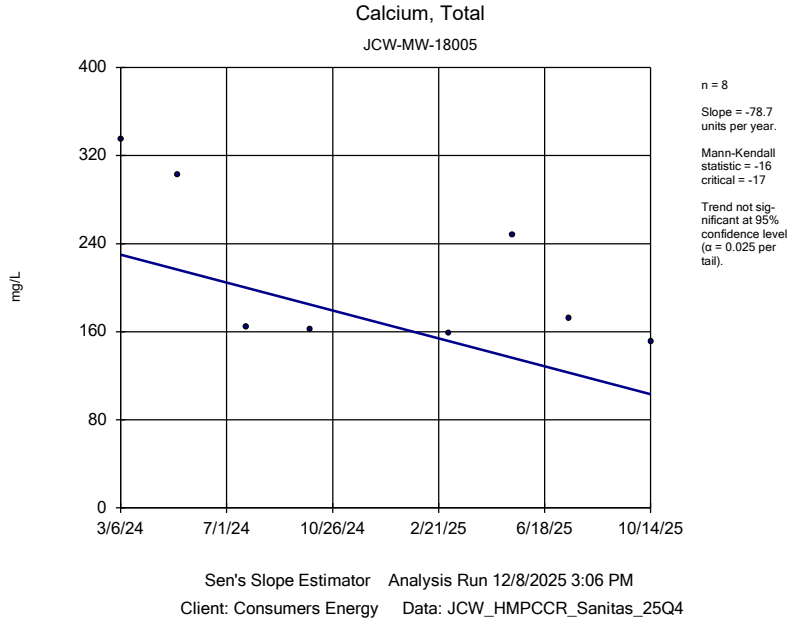
Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG



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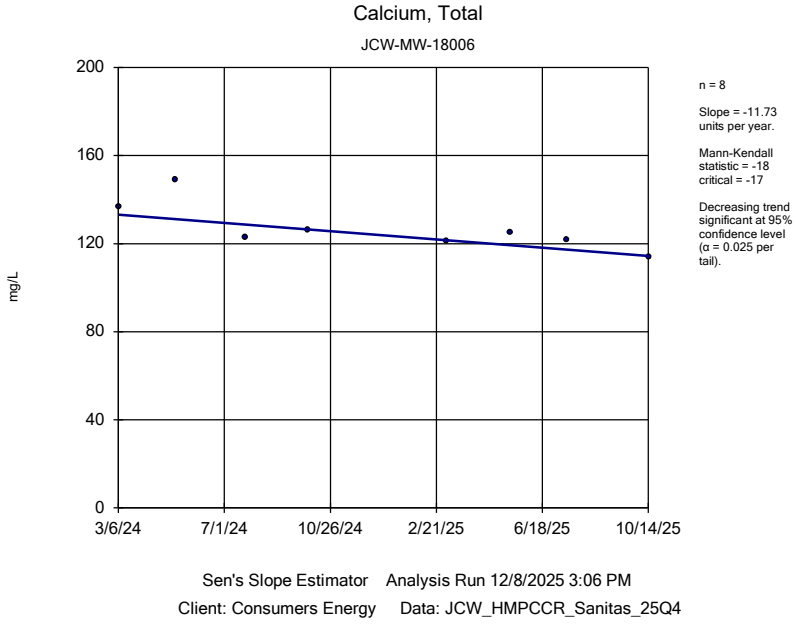


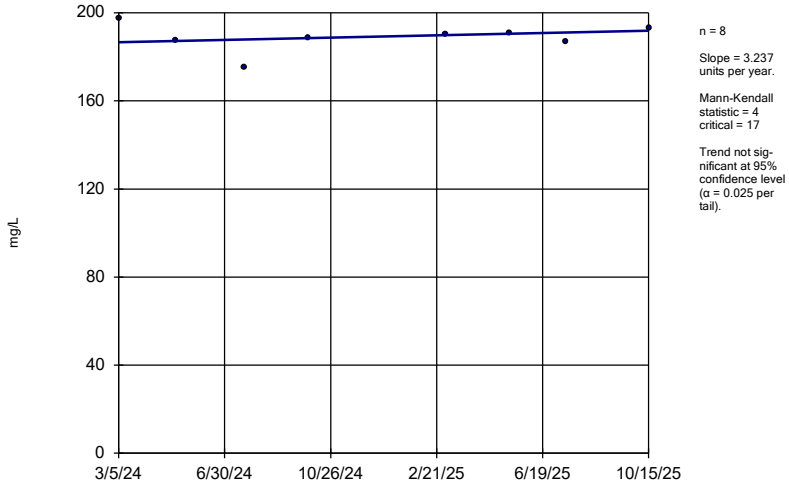
Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-50



n = 8

Slope = 3.237 units per year.

Mann-Kendall statistic = 4
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

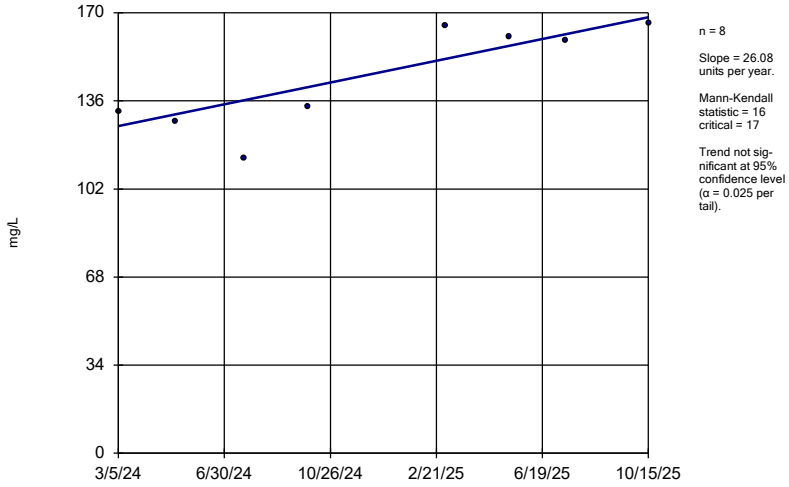
Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-51



n = 8

Slope = 26.08 units per year.

Mann-Kendall statistic = 16
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

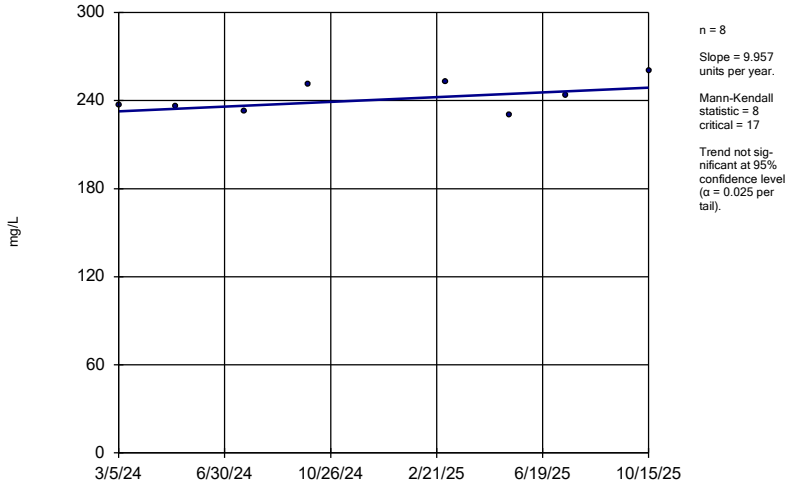
Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-52



n = 8

Slope = 9.957 units per year.

Mann-Kendall statistic = 8
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

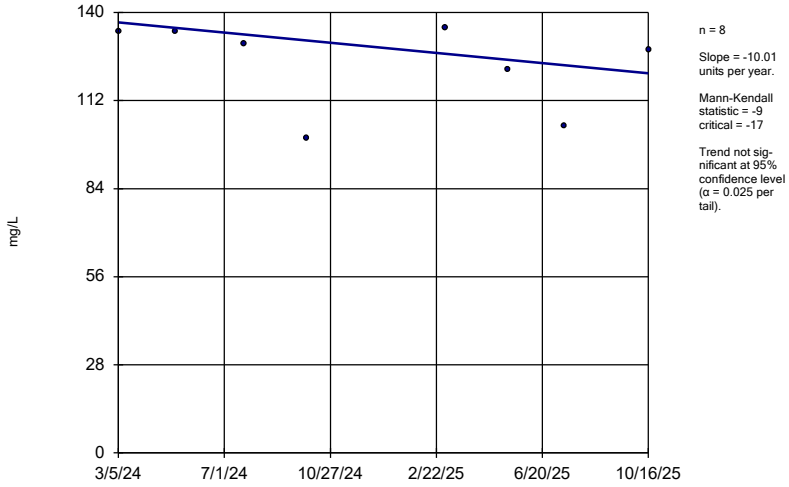
Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-53



n = 8

Slope = -10.01 units per year.

Mann-Kendall statistic = -9
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

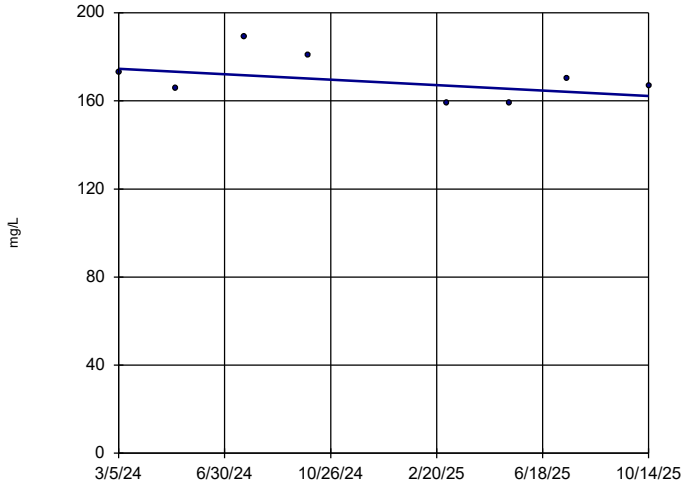
Sen's Slope Estimator Analysis Run 12/8/2025 3:06 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-53R



n = 8

Slope = -7.688 units per year.

Mann-Kendall statistic = -7
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

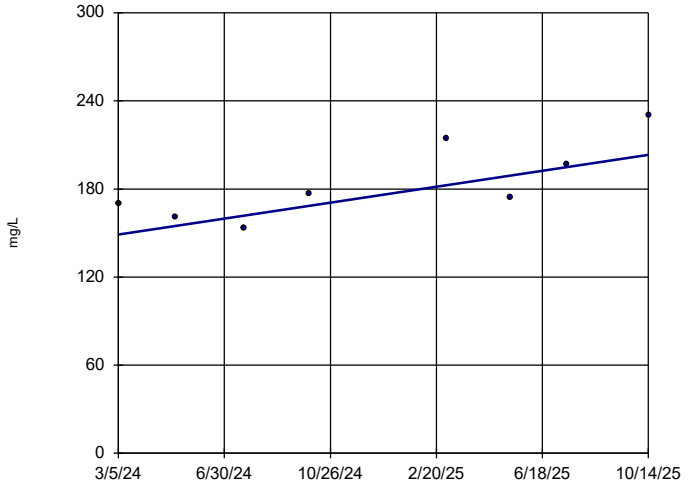
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-54R



n = 8

Slope = 33.76 units per year.

Mann-Kendall statistic = 16
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

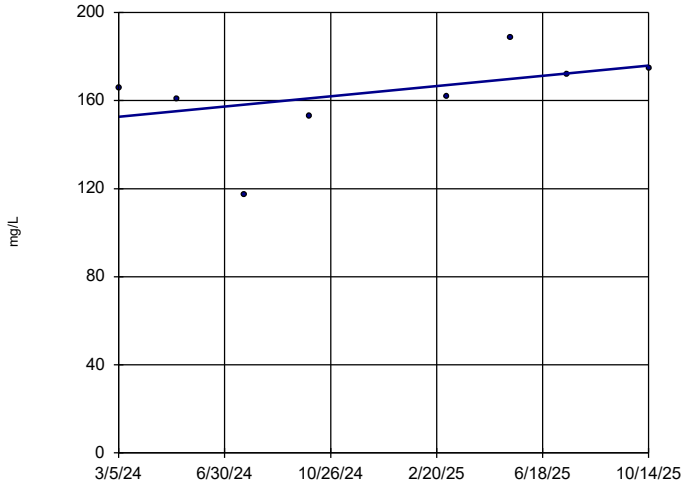
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

MW-55



n = 8

Slope = 14.45 units per year.

Mann-Kendall statistic = 12
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

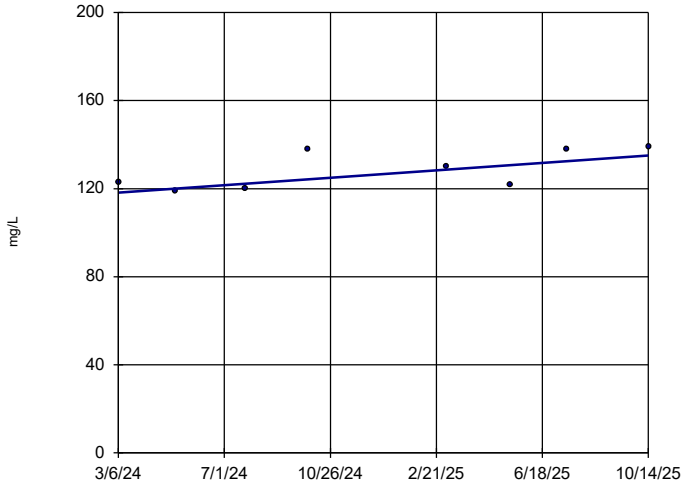
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

OW-57ROUT



n = 8

Slope = 10.49 units per year.

Mann-Kendall statistic = 15
critical = 17

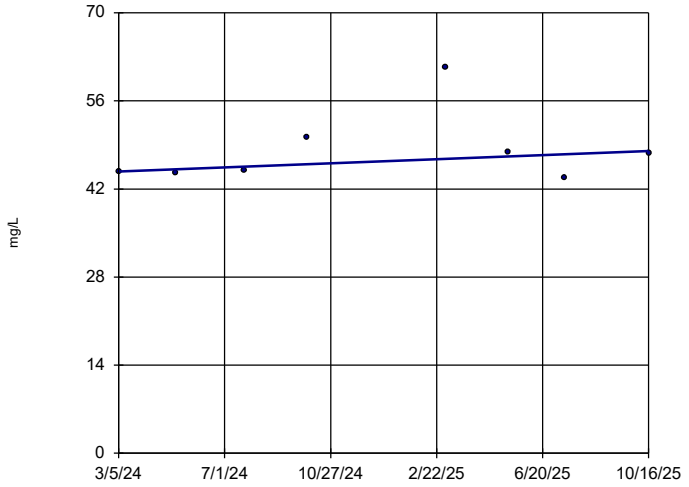
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Chloride

JCW-MW-18001



n = 8

Slope = 2.023 units per year.

Mann-Kendall statistic = 4
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

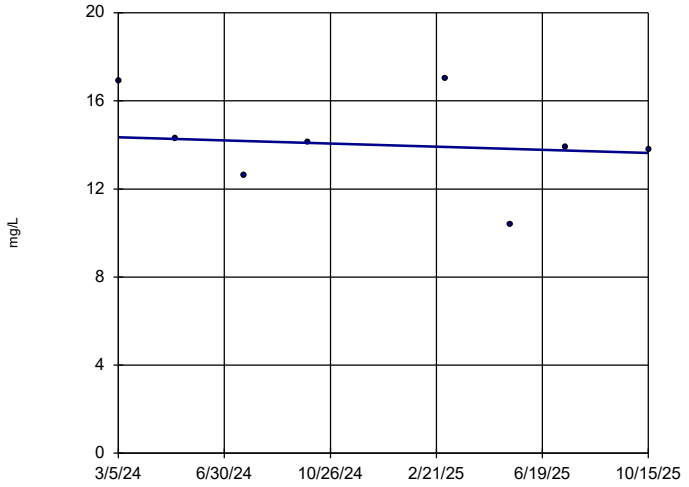
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Chloride

JCW-MW-18004



n = 8

Slope = -0.4467 units per year.

Mann-Kendall statistic = -10
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

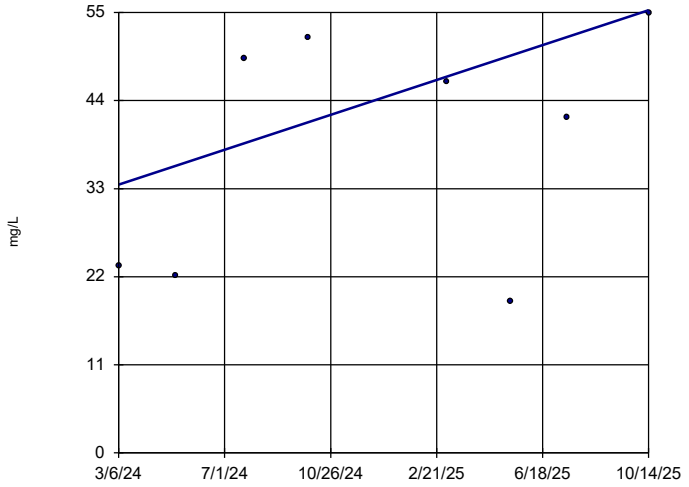
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Chloride

JCW-MW-18005



n = 8

Slope = 13.53 units per year.

Mann-Kendall statistic = 6
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

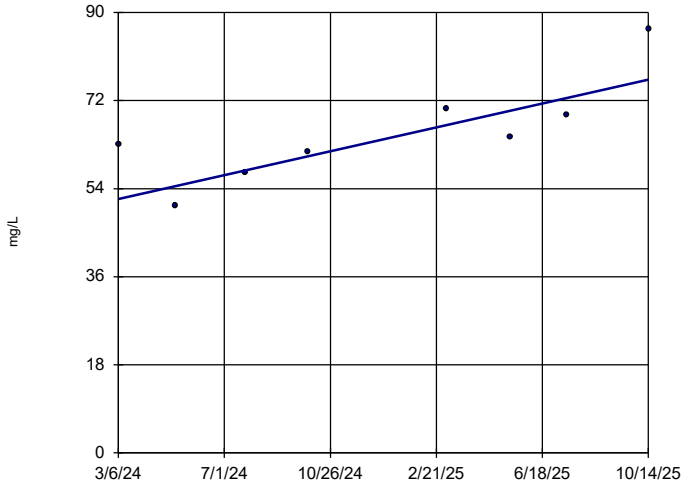
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Chloride

JCW-MW-18006



n = 8

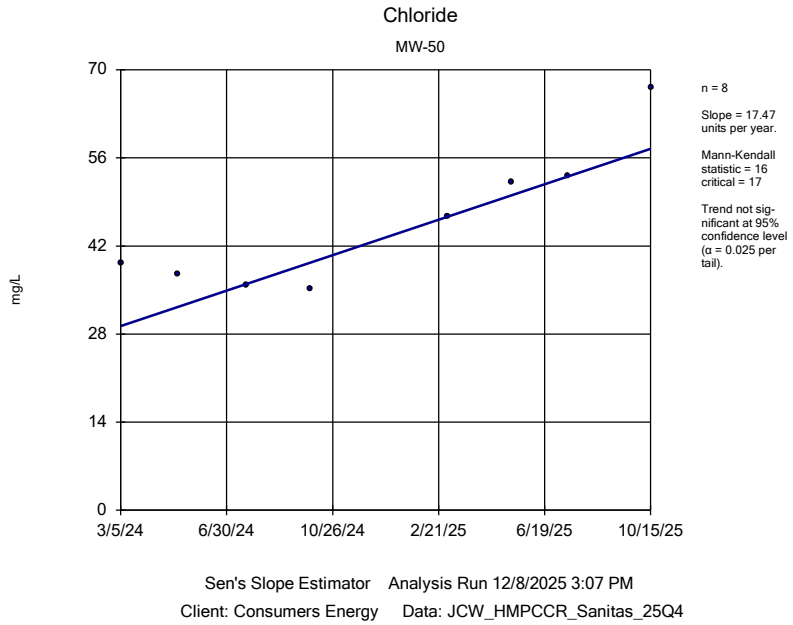
Slope = 15.19 units per year.

Mann-Kendall statistic = 18
critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

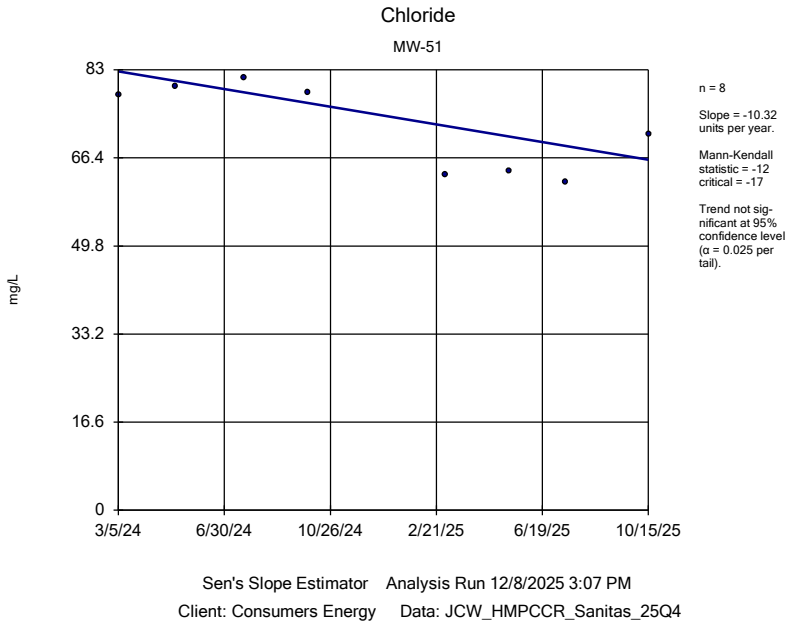
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4



Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG



Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM
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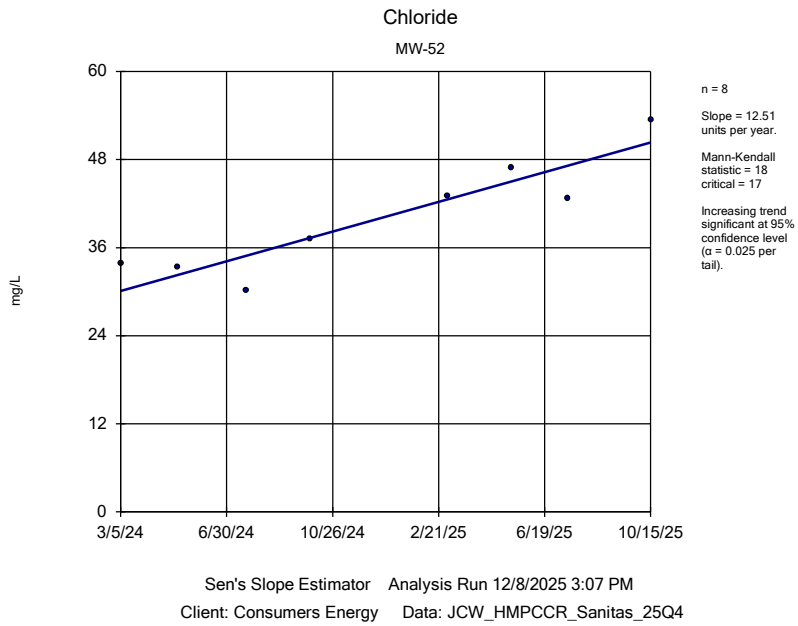
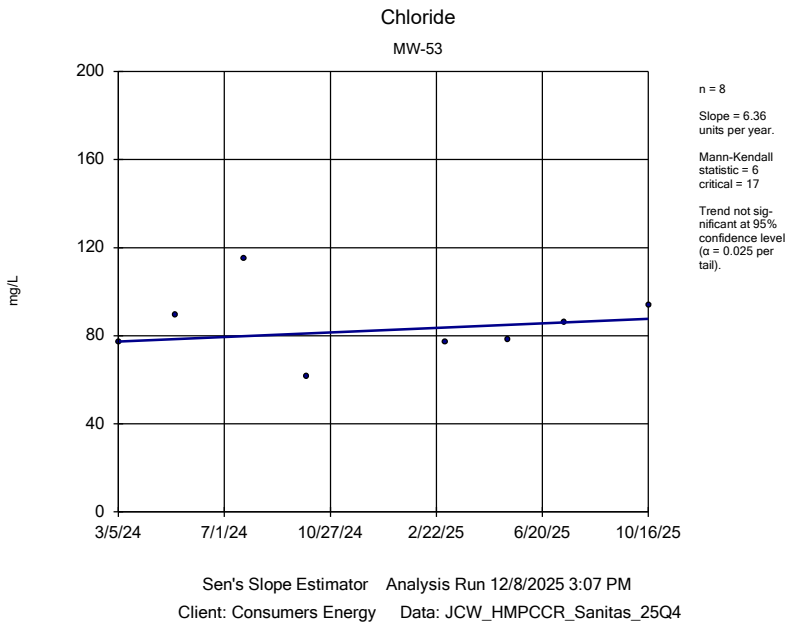
Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG



Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

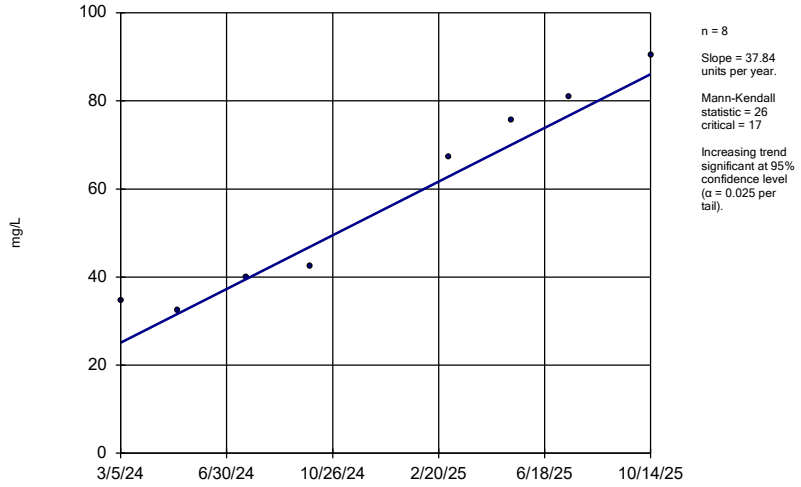


Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Chloride

MW-53R



n = 8

Slope = 37.84 units per year.

Mann-Kendall statistic = 26 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

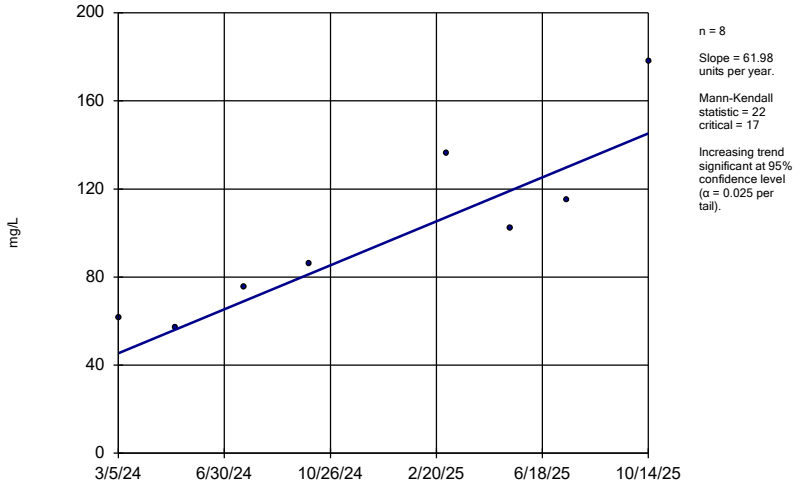
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Chloride

MW-54R



n = 8

Slope = 61.98 units per year.

Mann-Kendall statistic = 22 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

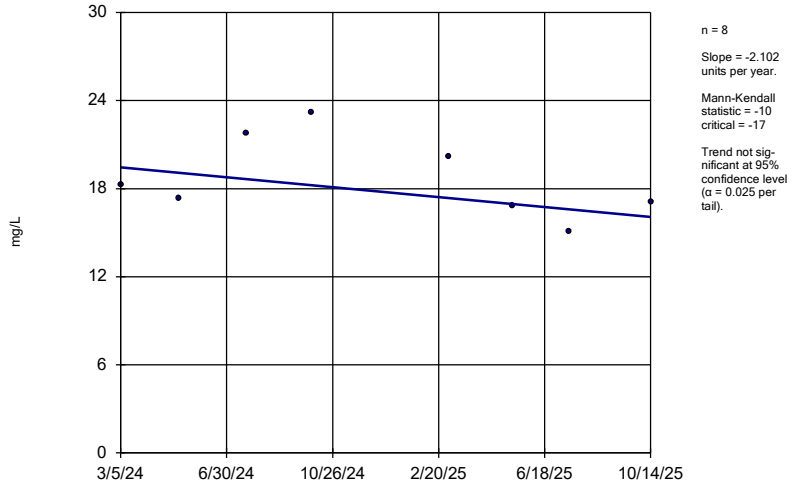
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Chloride

MW-55



n = 8

Slope = -2.102 units per year.

Mann-Kendall statistic = -10 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

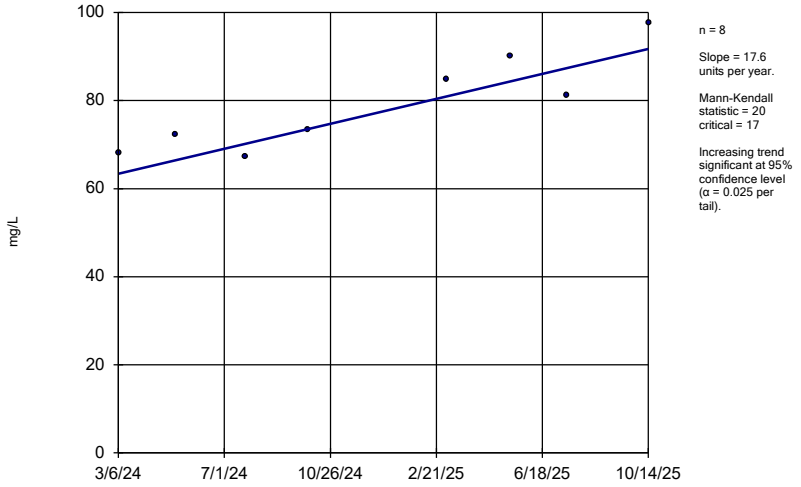
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Chloride

OW-57ROUT



n = 8

Slope = 17.6 units per year.

Mann-Kendall statistic = 20 critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

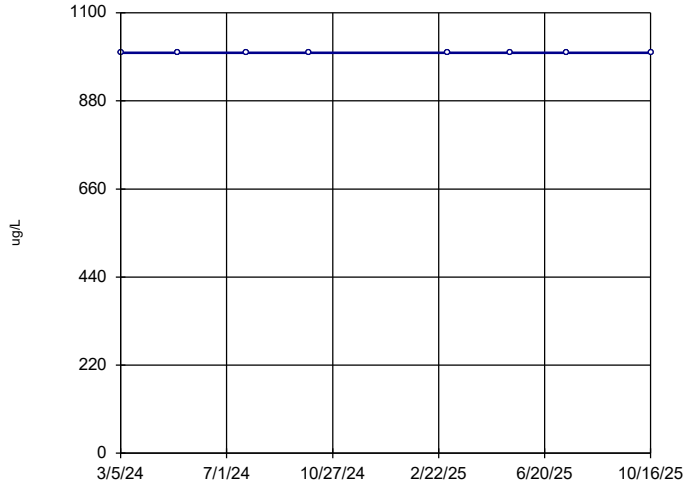
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18001

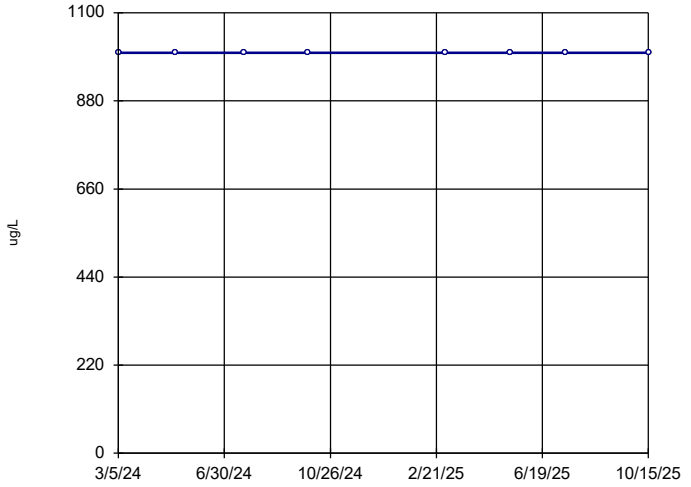


Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18004

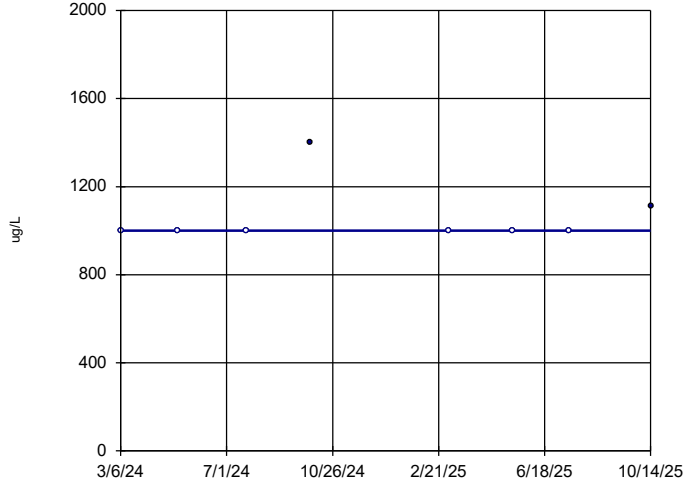


Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18005

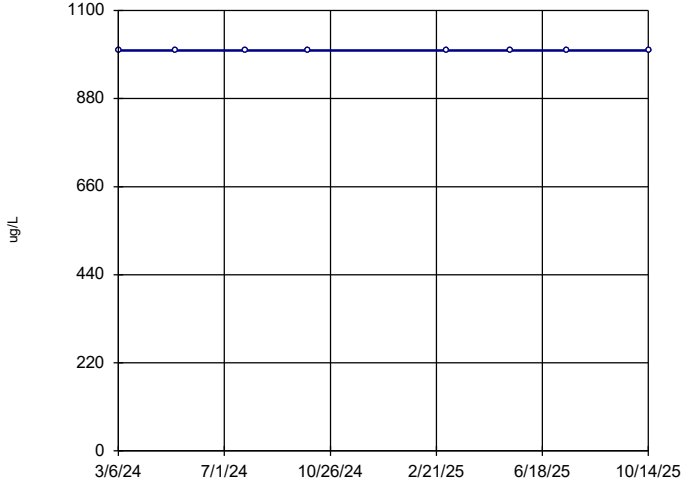


Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

JCW-MW-18006

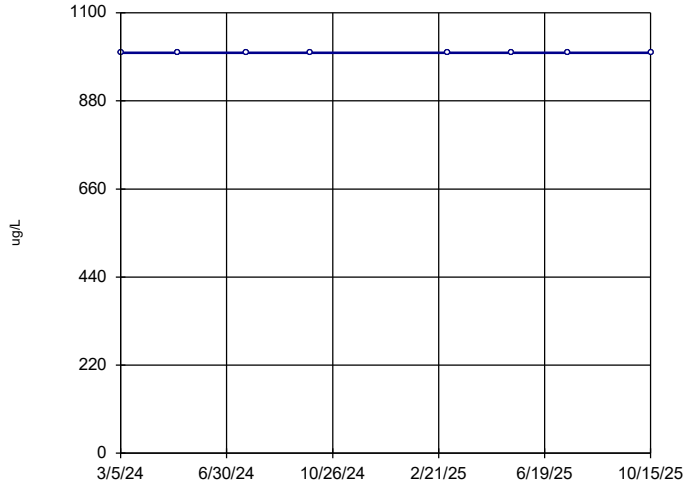


Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-50



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

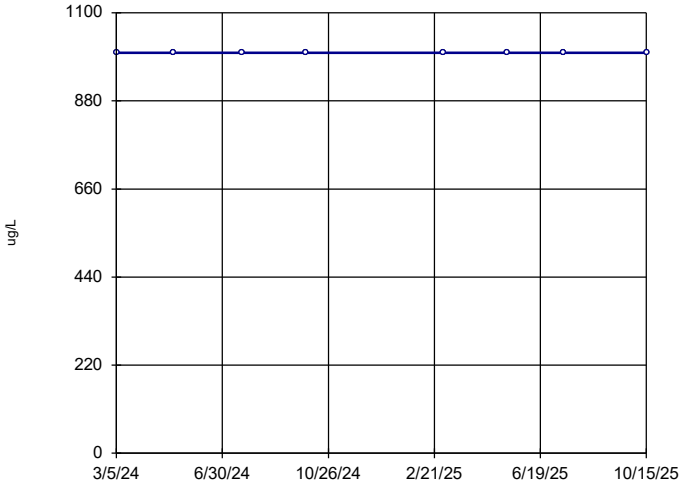
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-51



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

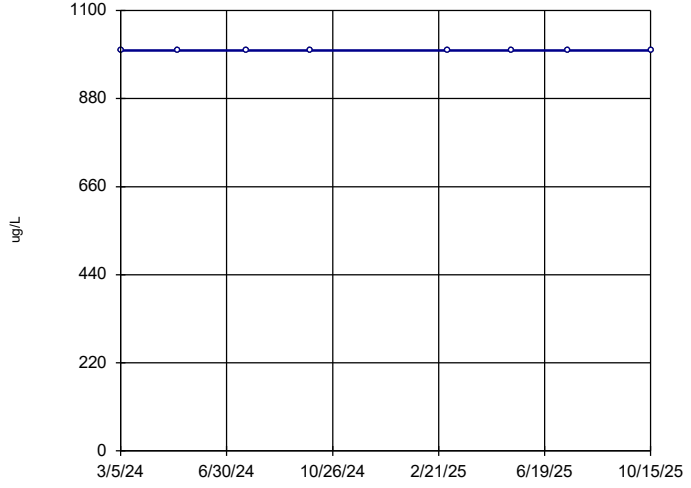
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-52



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

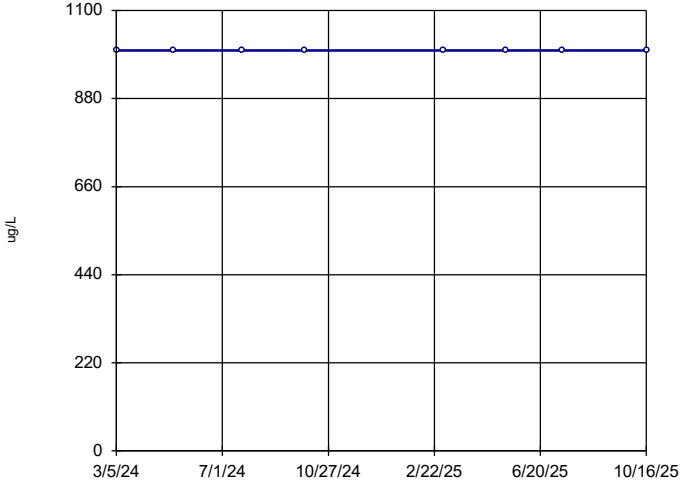
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-53



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

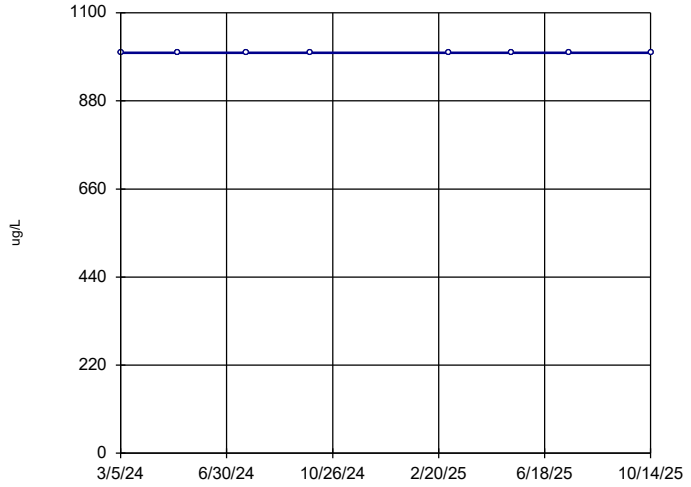
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-53R



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

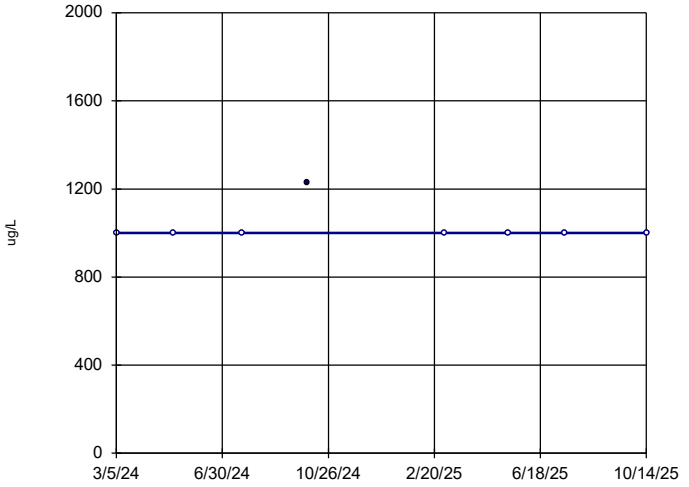
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-54R



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = -1 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

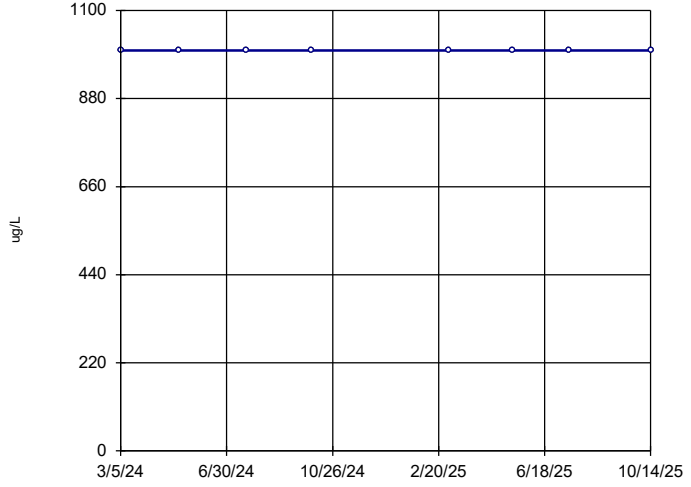
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

MW-55



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

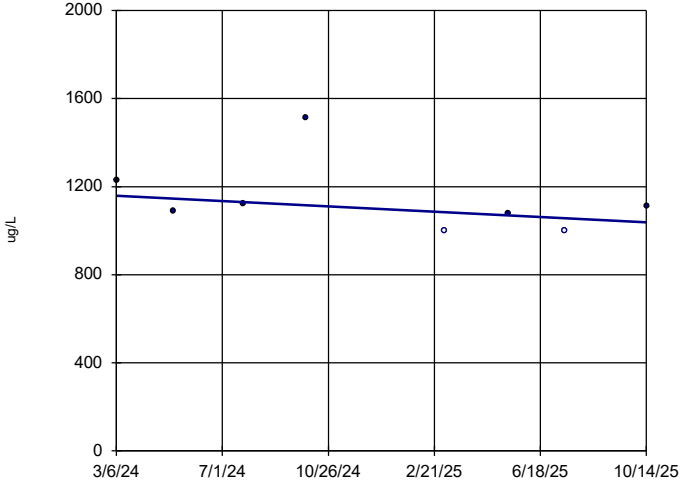
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Fluoride

OW-57ROUT



n = 8

Slope = -75.24 units per year.

Mann-Kendall statistic = -9 critical = -17

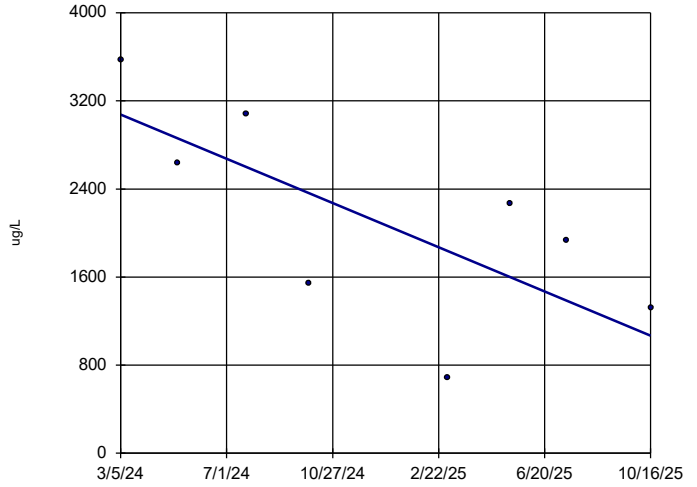
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Iron, Total

JCW-MW-18001



n = 8

Slope = -1242 units per year.

Mann-Kendall statistic = -16 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

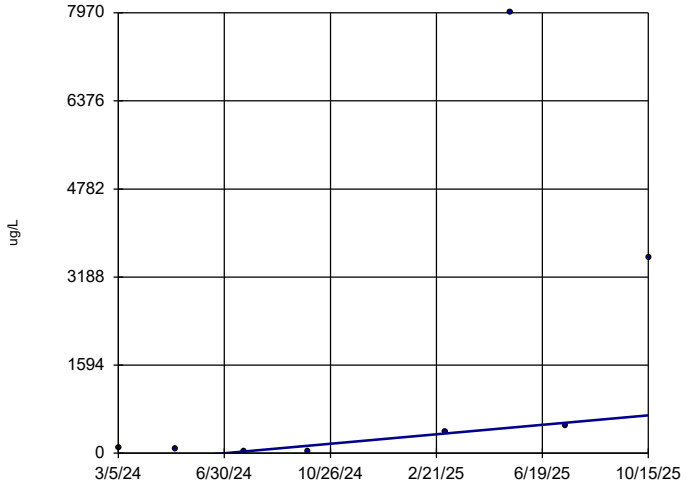
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Iron, Total

JCW-MW-18004



n = 8

Slope = 530.1 units per year.

Mann-Kendall statistic = 12 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

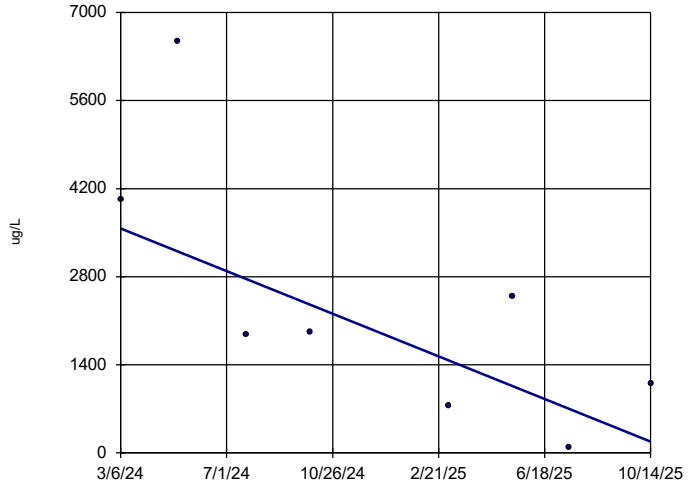
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Iron, Total

JCW-MW-18005



n = 8

Slope = -2107 units per year.

Mann-Kendall statistic = -14 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

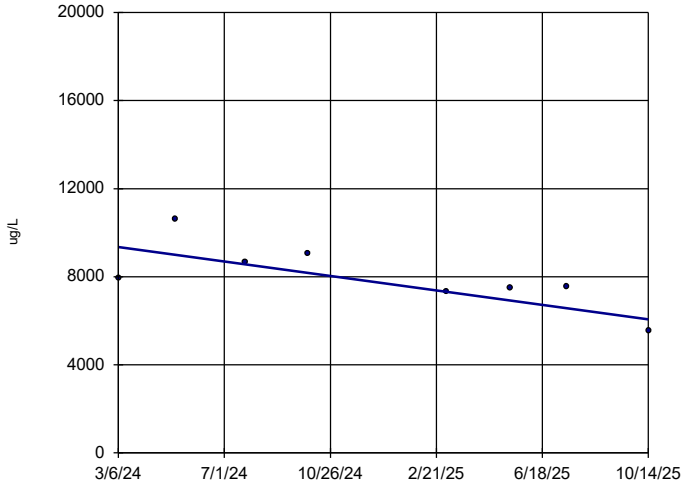
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Iron, Total

JCW-MW-18006



n = 8

Slope = -2038 units per year.

Mann-Kendall statistic = -14 critical = -17

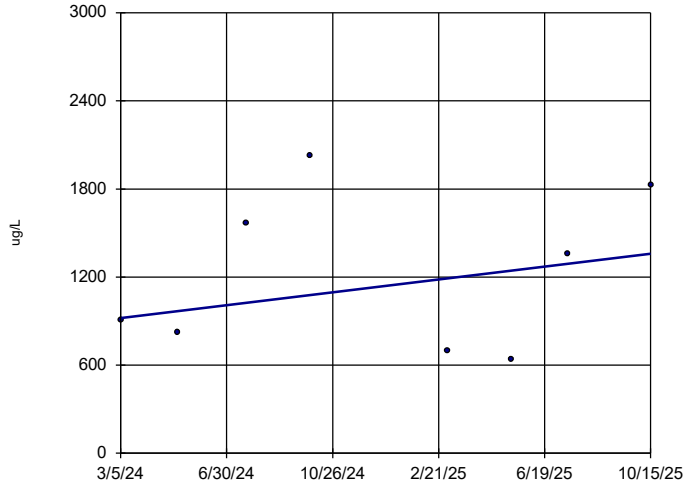
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Iron, Total

MW-50



n = 8

Slope = 271.1 units per year.

Mann-Kendall statistic = 2 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

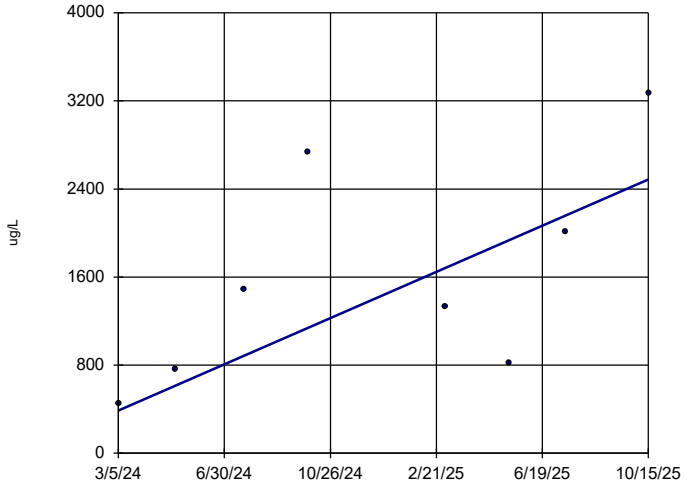
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-51



n = 8

Slope = 1300 units per year.

Mann-Kendall statistic = 16 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

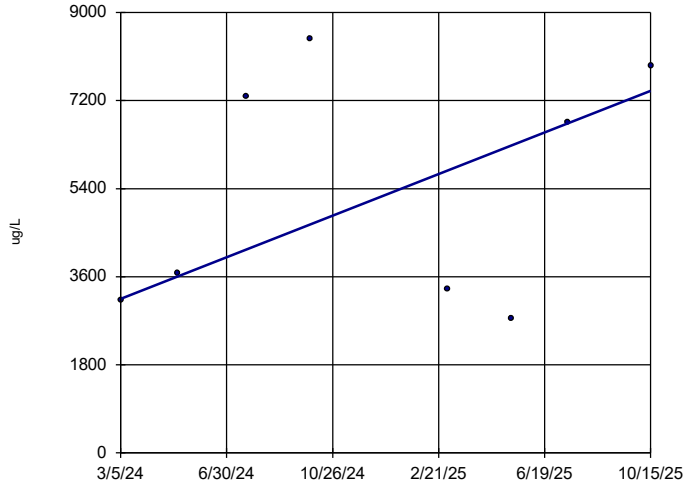
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-52



n = 8

Slope = 2632 units per year.

Mann-Kendall statistic = 6 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

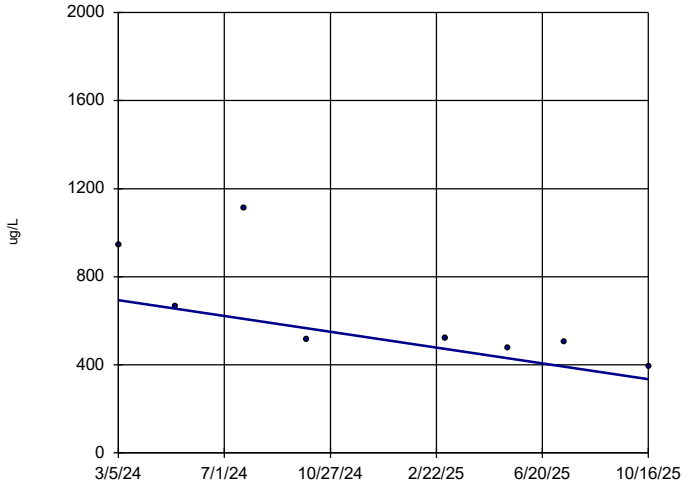
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-53



n = 8

Slope = -221.7 units per year.

Mann-Kendall statistic = -20 critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

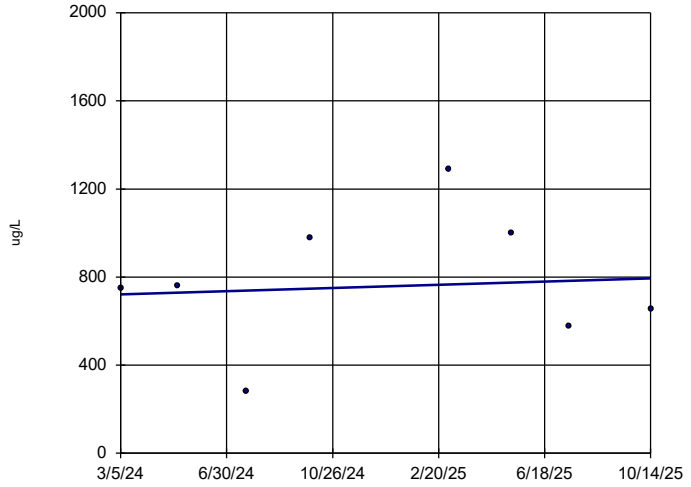
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-53R



n = 8

Slope = 44.81 units per year.

Mann-Kendall statistic = 2 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

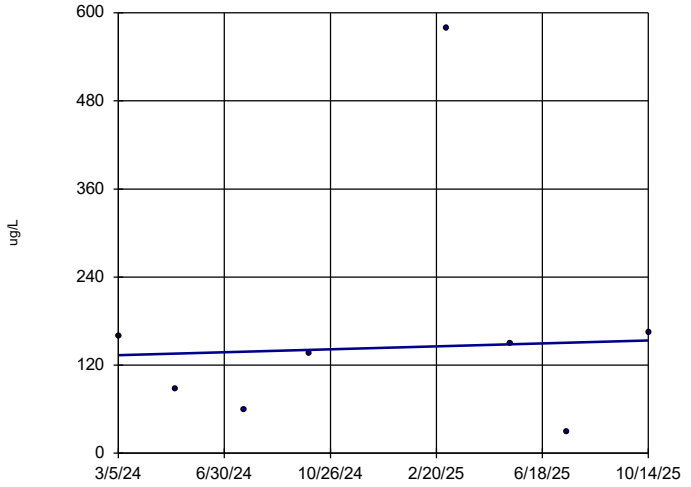
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-54R



n = 8

Slope = 12.45 units per year.

Mann-Kendall statistic = 2 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

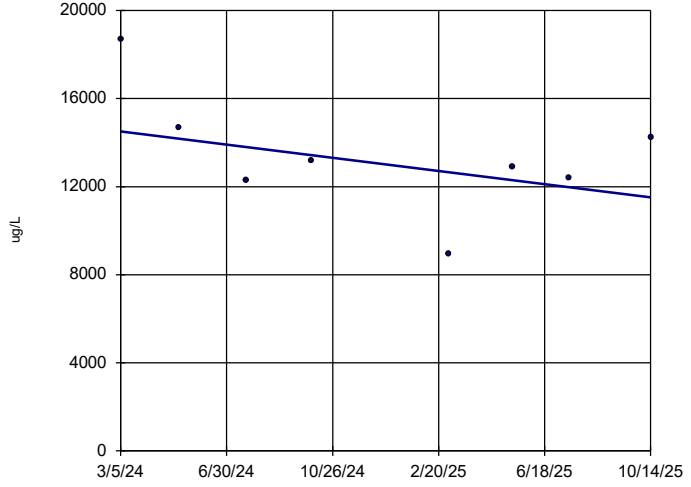
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Iron, Total

MW-55



n = 8

Slope = -1855 units per year.

Mann-Kendall statistic = -8 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

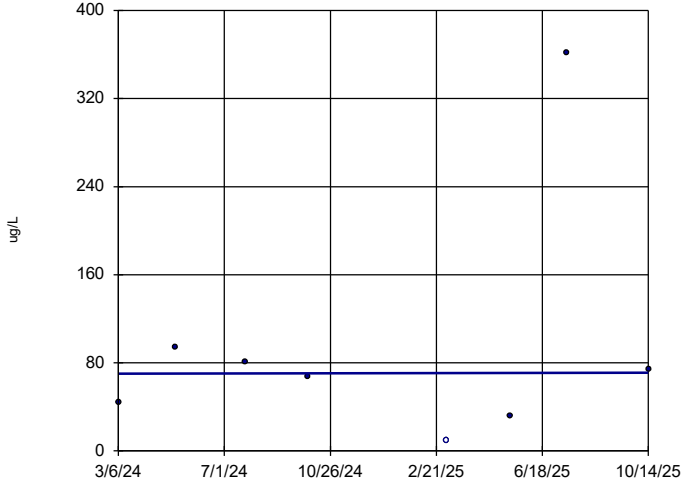
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Hollow symbols indicate censored values.

Iron, Total

OW-57ROUT



n = 8

Slope = 0.5307 units per year.

Mann-Kendall statistic = 0 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

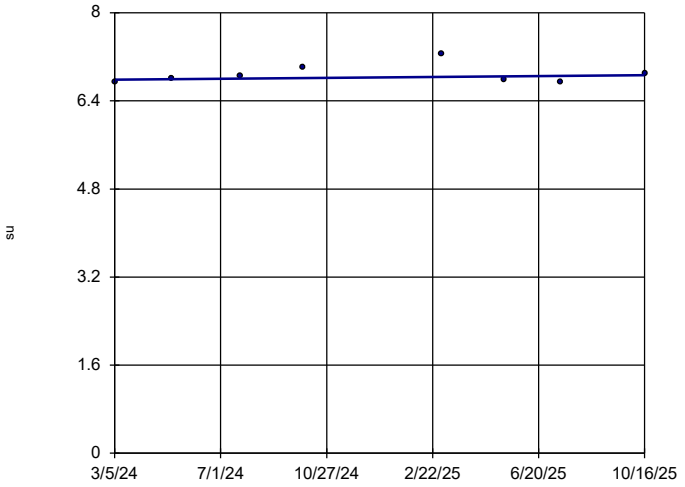
Sen's Slope Estimator Analysis Run 12/8/2025 3:07 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

pH, Field

JCW-MW-18001



n = 8

Slope = 0.04799 units per year.

Mann-Kendall statistic = 4 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

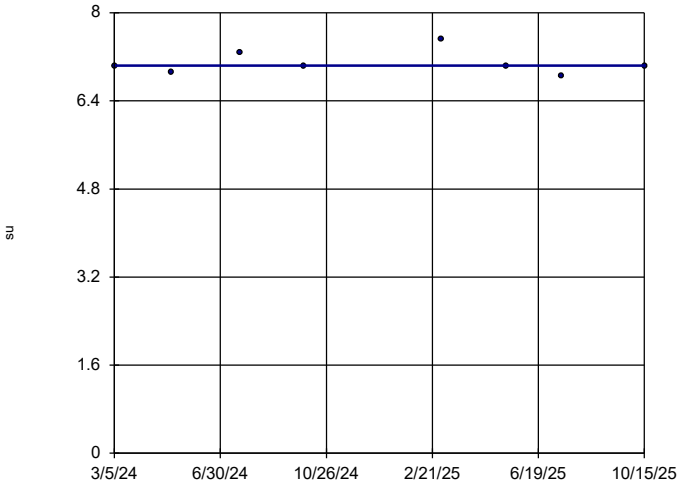
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

pH, Field

JCW-MW-18004



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = -1 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

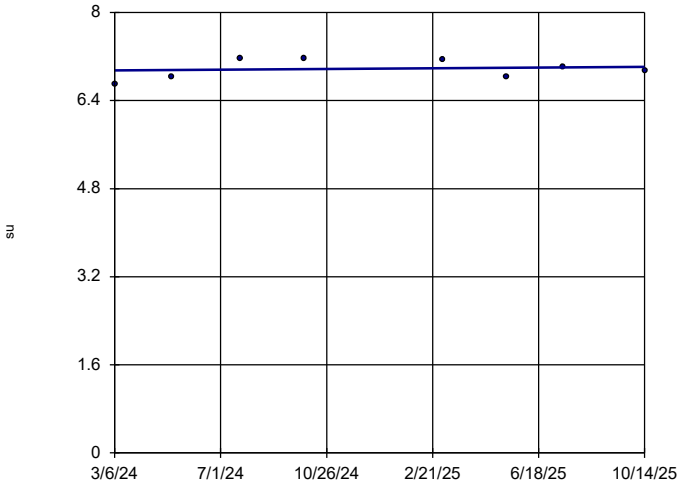
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

pH, Field

JCW-MW-18005



n = 8

Slope = 0.03831 units per year.

Mann-Kendall statistic = 2 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

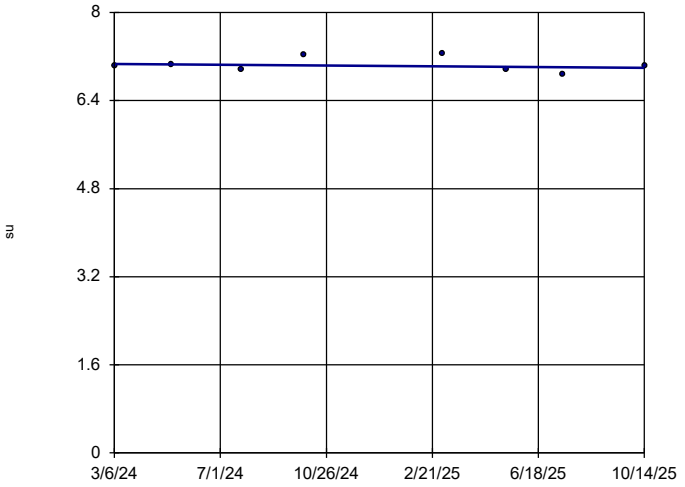
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

pH, Field

JCW-MW-18006



n = 8

Slope = -0.04409 units per year.

Mann-Kendall statistic = -5 critical = -17

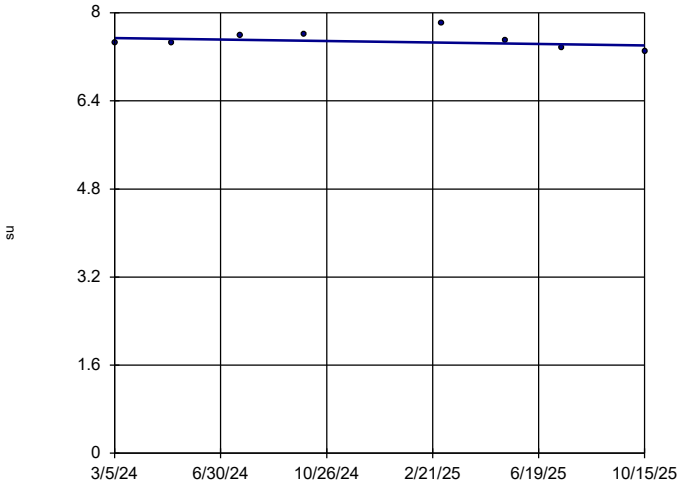
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

pH, Field

MW-50



n = 8

Slope = -0.08322 units per year.

Mann-Kendall statistic = -5 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

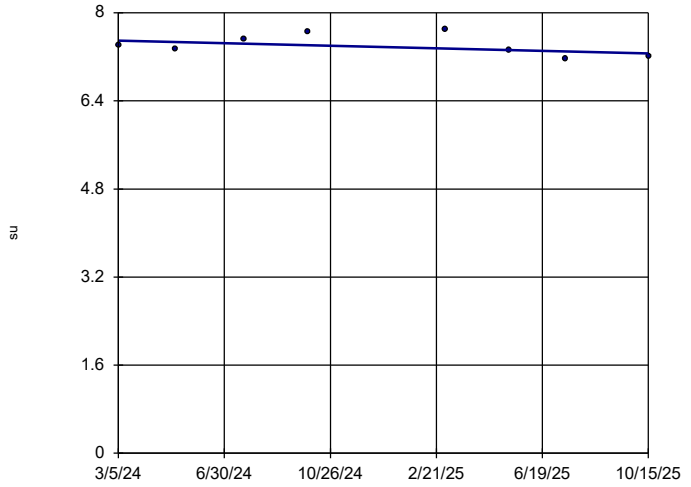
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-51



n = 8

Slope = -0.145 units per year.

Mann-Kendall statistic = -8 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

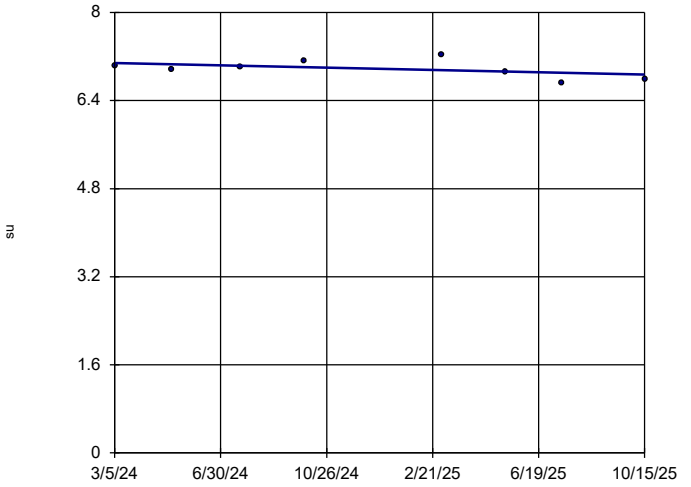
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-52



n = 8

Slope = -0.1302 units per year.

Mann-Kendall statistic = -10 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

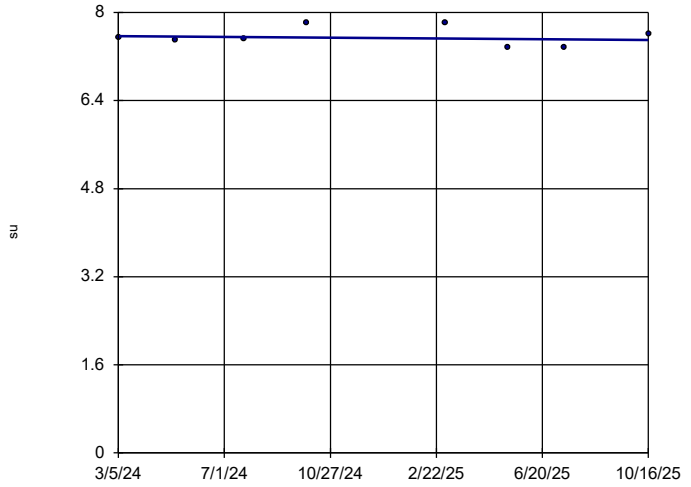
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-53



n = 8

Slope = -0.042 units per year.

Mann-Kendall statistic = -3 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

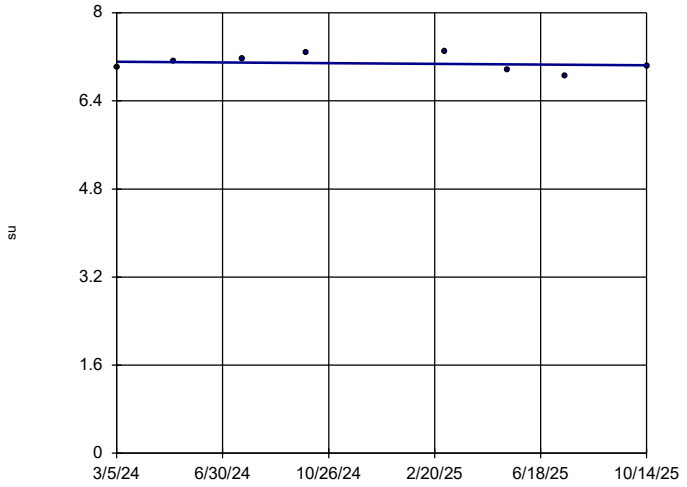
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-53R



n = 8

Slope = -0.04042 units per year.

Mann-Kendall statistic = -2 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

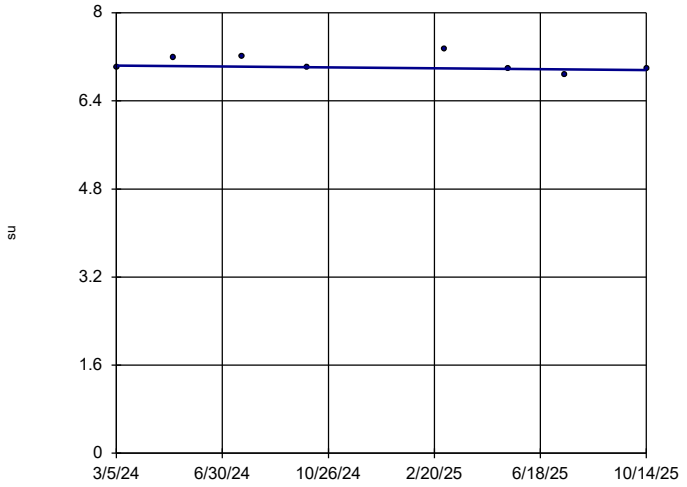
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-54R



n = 8

Slope = -0.05221 units per year.

Mann-Kendall statistic = -10 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

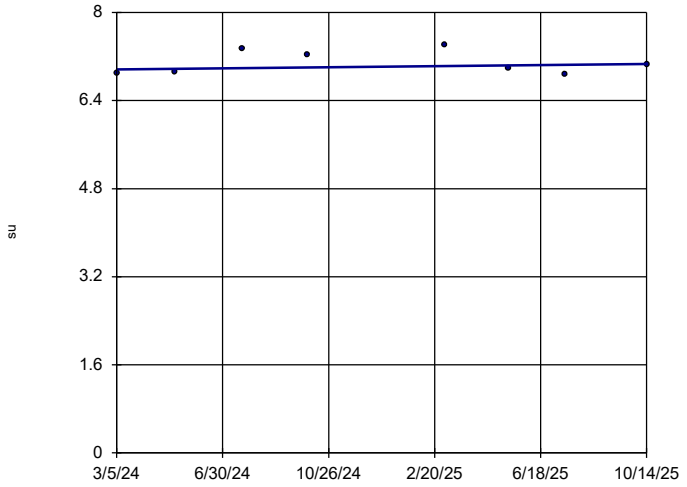
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

pH, Field

MW-55



n = 8

Slope = 0.06208 units per year.

Mann-Kendall statistic = 2 critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

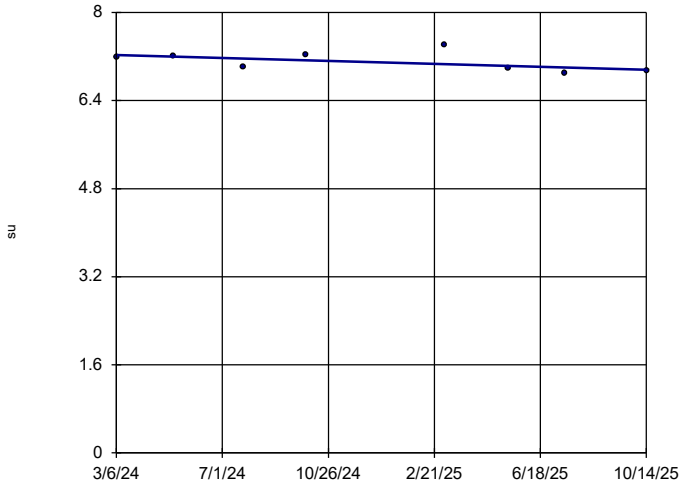
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

pH, Field

OW-57ROUT



n = 8

Slope = -0.166 units per year.

Mann-Kendall statistic = -10 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

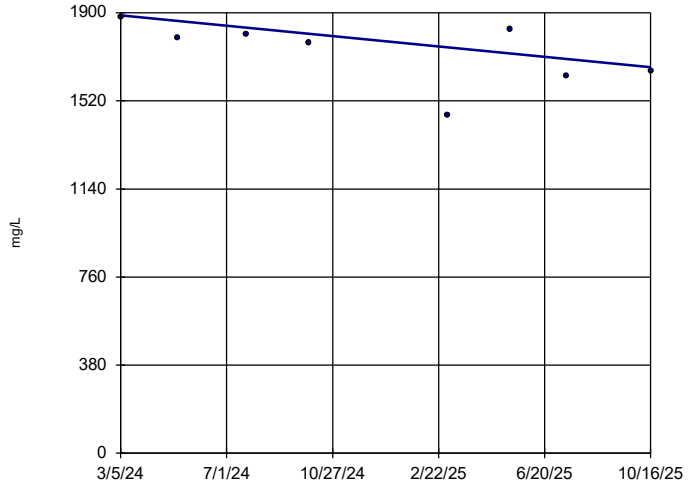
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Sulfate

JCW-MW-18001



n = 8

Slope = -138.6 units per year.

Mann-Kendall statistic = -12
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

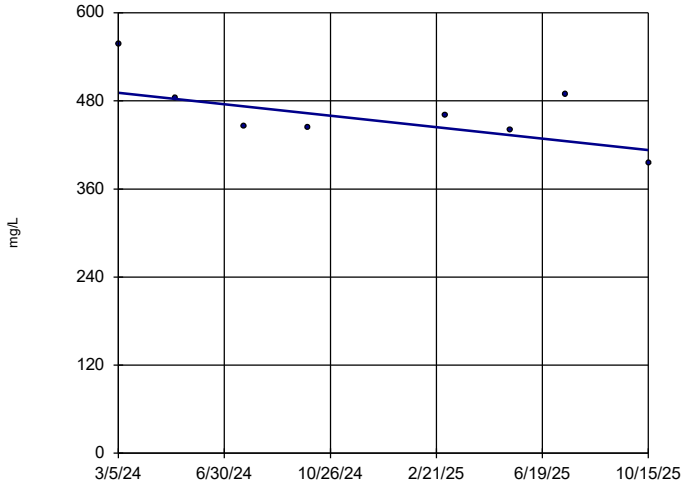
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Sulfate

JCW-MW-18004



n = 8

Slope = -48.14 units per year.

Mann-Kendall statistic = -14
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

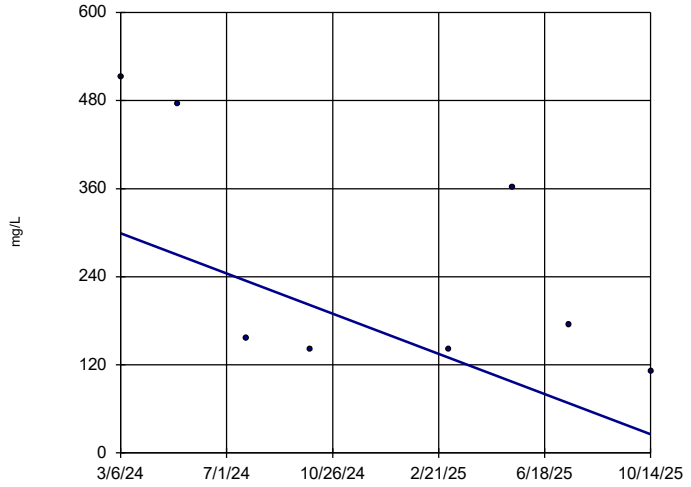
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Sulfate

JCW-MW-18005



n = 8

Slope = -170.3 units per year.

Mann-Kendall statistic = -16
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

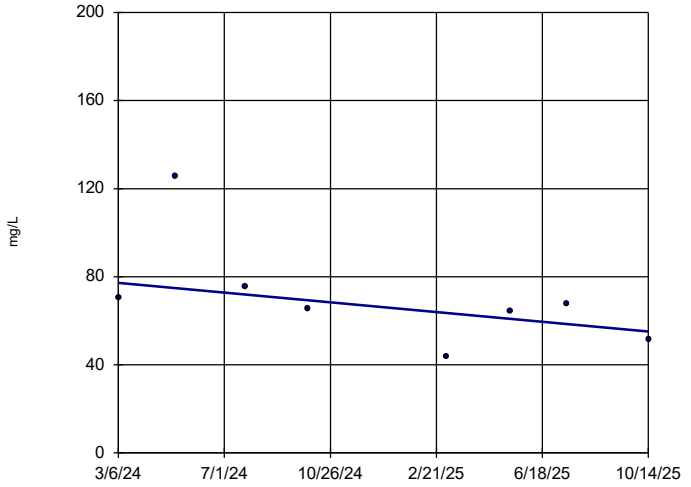
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Sulfate

JCW-MW-18006



n = 8

Slope = -13.78 units per year.

Mann-Kendall statistic = -14
critical = -17

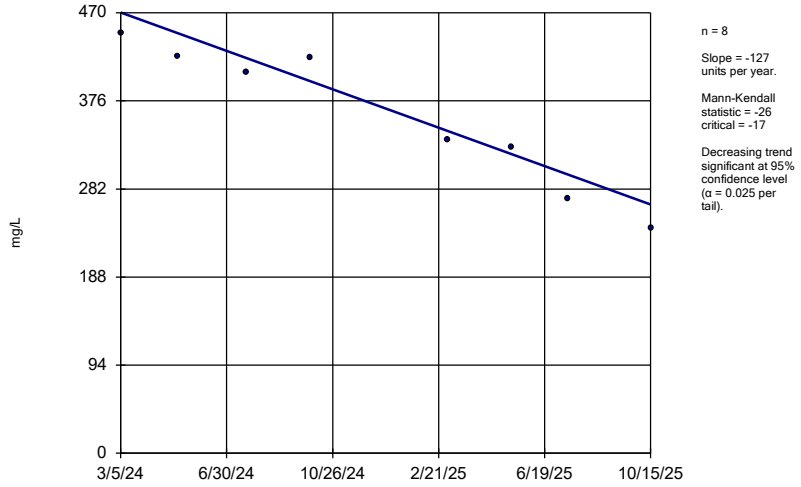
Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sulfate

MW-50



n = 8

Slope = -127 units per year.

Mann-Kendall statistic = -26
critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

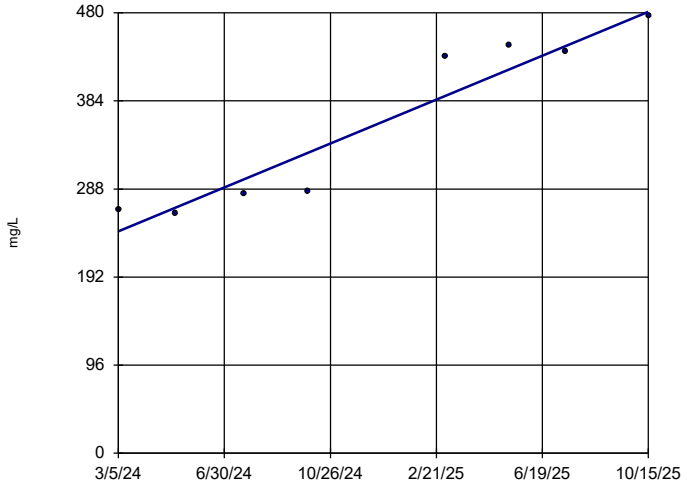
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Sulfate

MW-51



n = 8

Slope = 148.3 units per year.

Mann-Kendall statistic = 24
critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

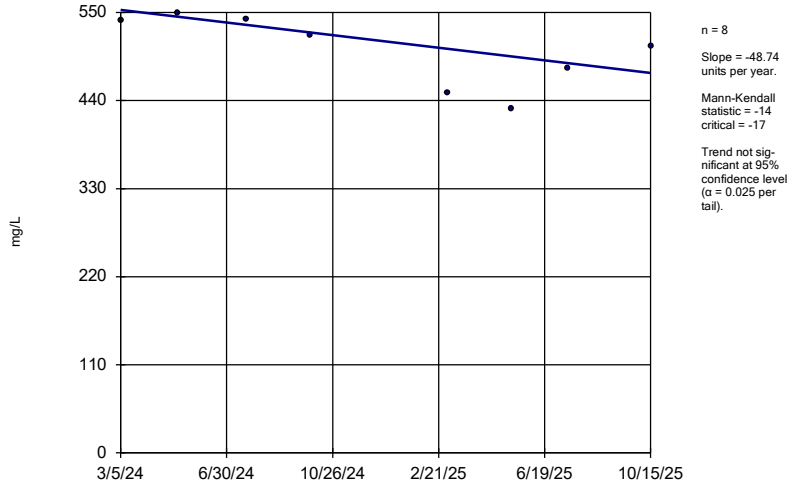
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Sulfate

MW-52



n = 8

Slope = -48.74 units per year.

Mann-Kendall statistic = -14
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

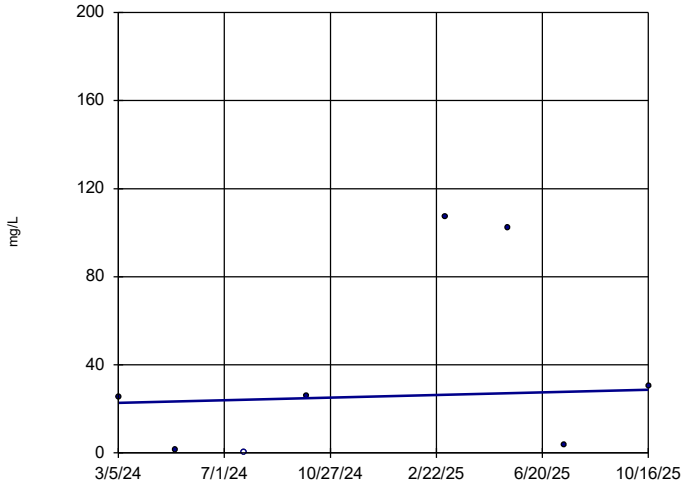
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Hollow symbols indicate censored values.

Sulfate

MW-53



n = 8

Slope = 3.67 units per year.

Mann-Kendall statistic = 8
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

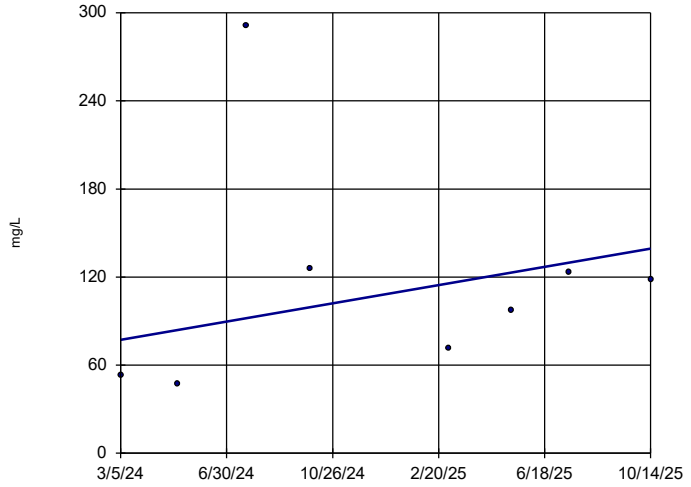
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Sulfate

MW-53R



n = 8

Slope = 38.53 units per year.

Mann-Kendall statistic = 6
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

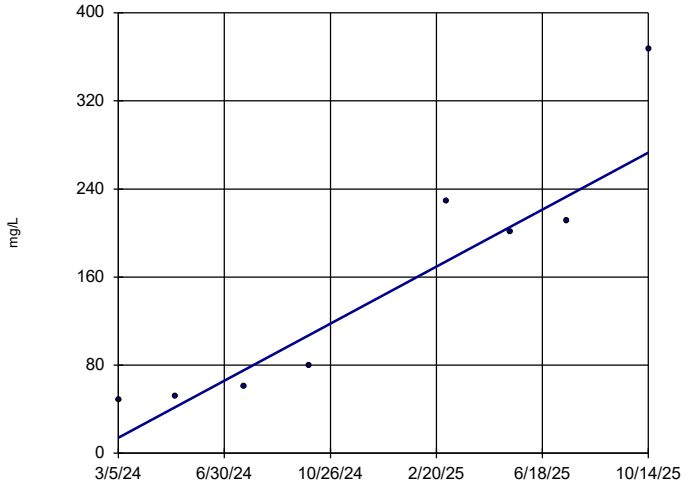
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Sulfate

MW-54R



n = 8

Slope = 160.7 units per year.

Mann-Kendall statistic = 24
critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

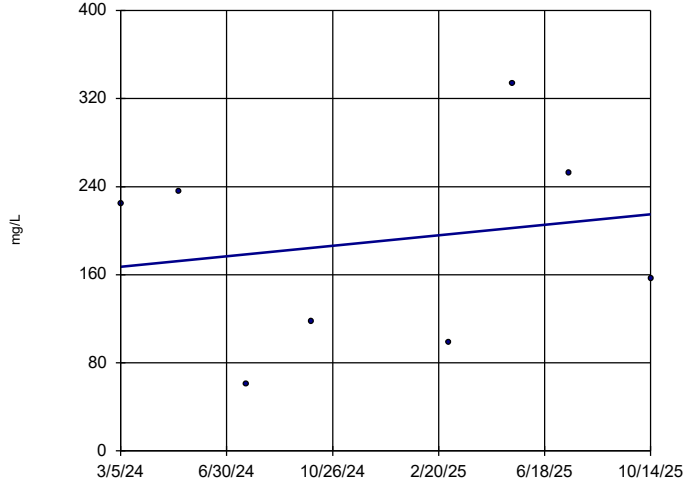
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Sulfate

MW-55



n = 8

Slope = 29.65 units per year.

Mann-Kendall statistic = 4
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

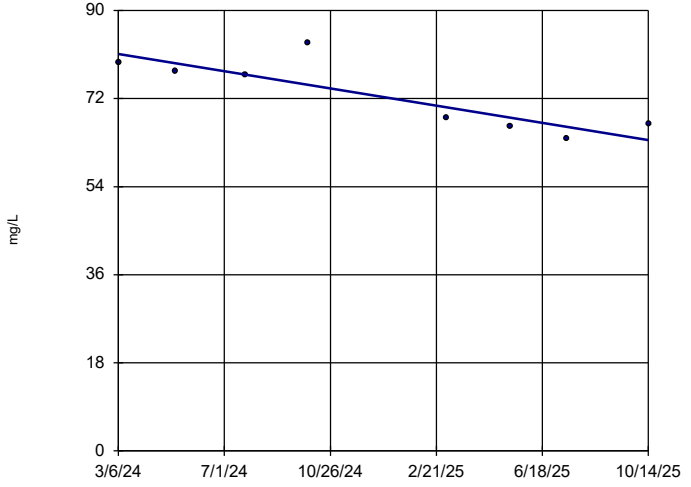
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Sulfate

OW-57ROUT



n = 8

Slope = -10.93 units per year.

Mann-Kendall statistic = -18
critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

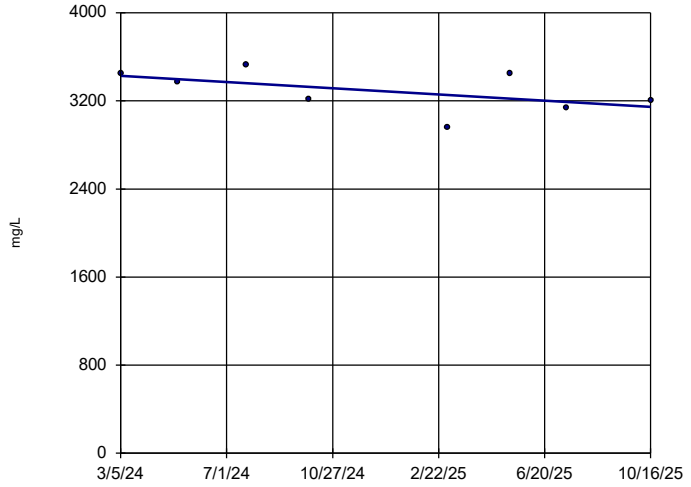
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

JCW-MW-18001



n = 8

Slope = -174.3 units per year.

Mann-Kendall statistic = -11
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

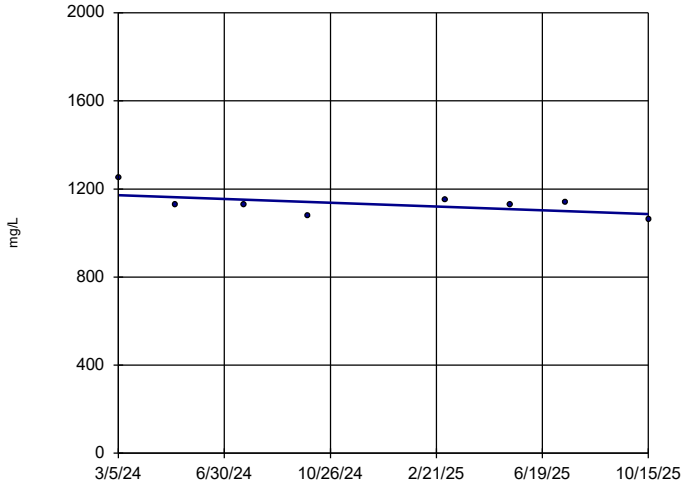
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

JCW-MW-18004



n = 8

Slope = -52.79 units per year.

Mann-Kendall statistic = -9
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

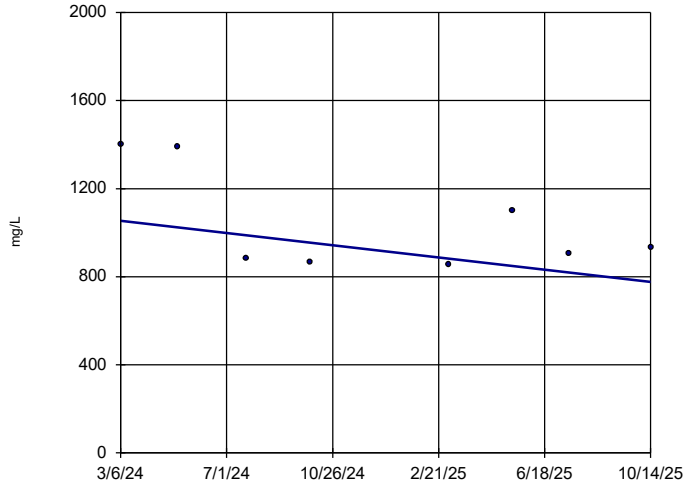
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

JCW-MW-18005



n = 8

Slope = -172.4 units per year.

Mann-Kendall statistic = -8
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

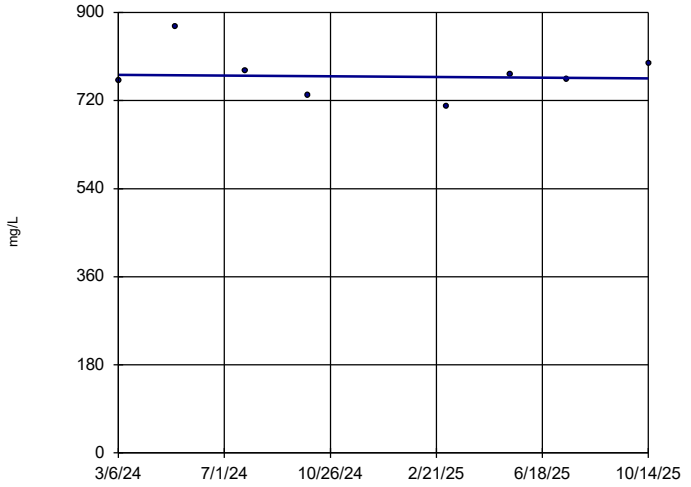
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

JCW-MW-18006



n = 8

Slope = -4.23 units per year.

Mann-Kendall statistic = 0
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

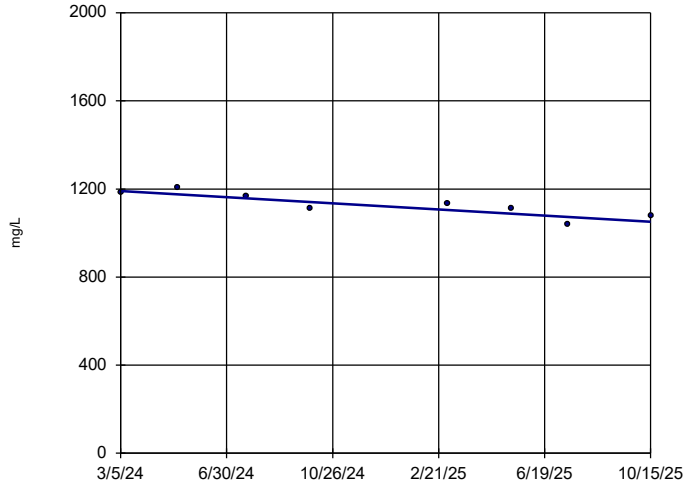
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-50



n = 8

Slope = -85.81 units per year.

Mann-Kendall statistic = -21
critical = -17

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

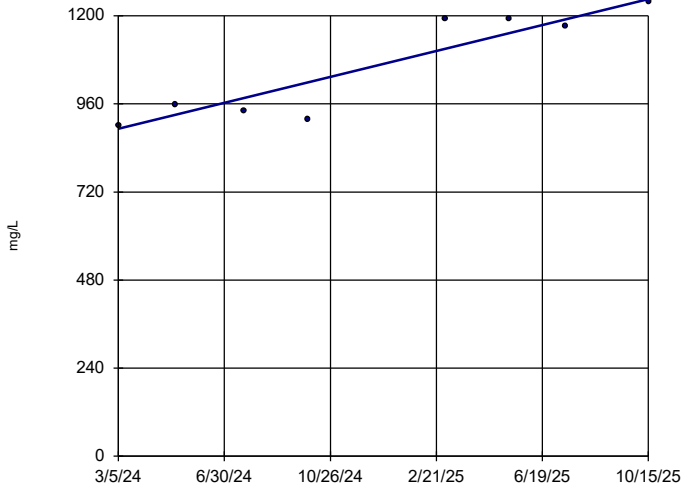
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-51



n = 8

Slope = 218.9 units per year.

Mann-Kendall statistic = 17
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

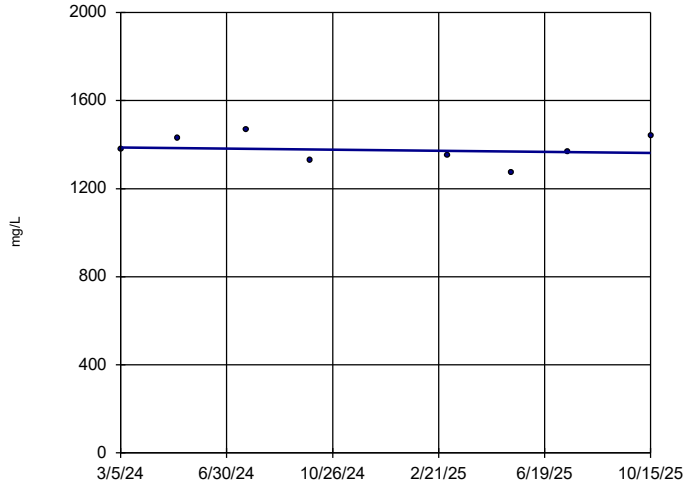
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-52



n = 8

Slope = -15.87 units per year.

Mann-Kendall statistic = -2
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

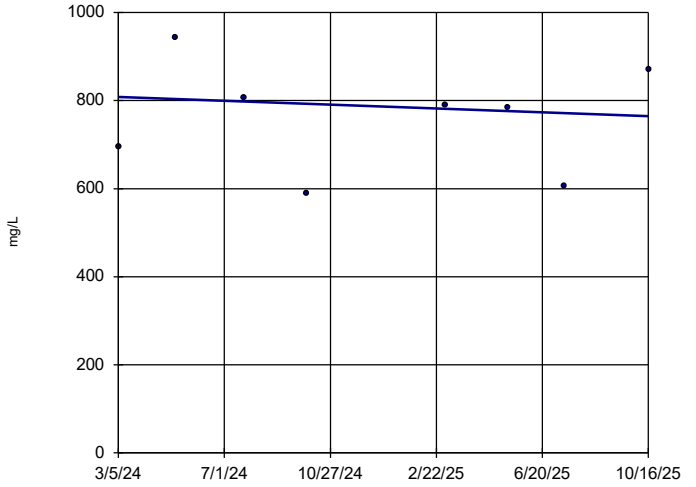
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-53



n = 8

Slope = -26.69 units per year.

Mann-Kendall statistic = -2
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

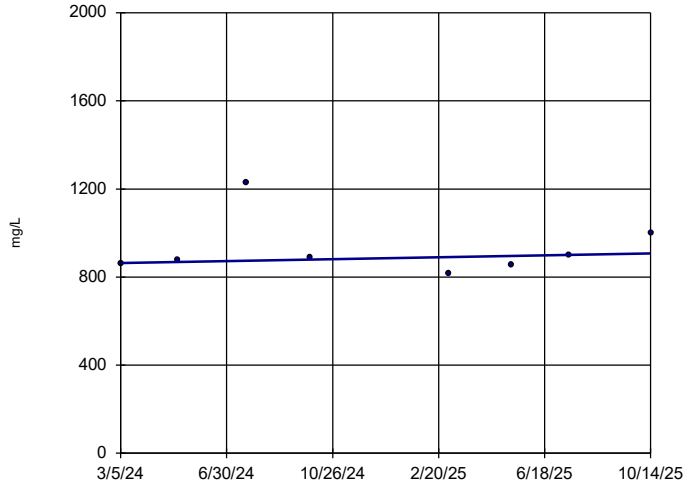
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-53R



n = 8

Slope = 26.37 units per year.

Mann-Kendall statistic = 6
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

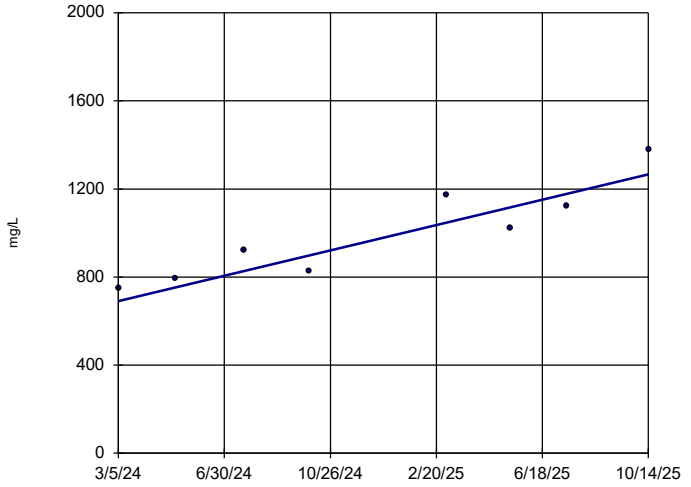
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-54R



n = 8

Slope = 356.9 units per year.

Mann-Kendall statistic = 22
critical = 17

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

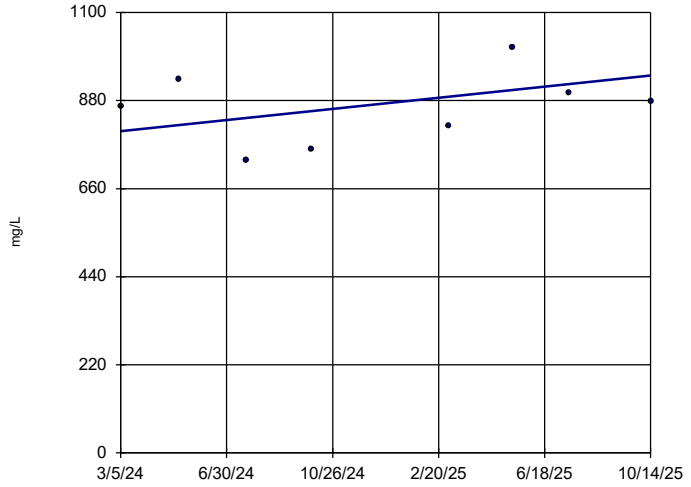
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

MW-55



n = 8

Slope = 86.44 units per year.

Mann-Kendall statistic = 6
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

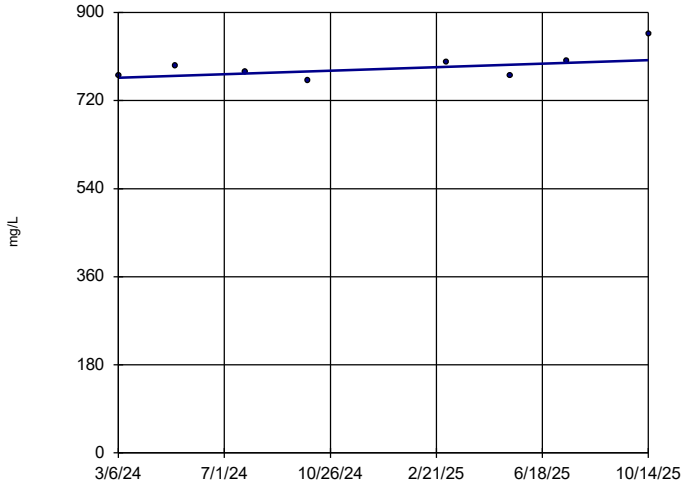
Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Total Dissolved Solids

OW-57ROUT



n = 8

Slope = 22.32 units per year.

Mann-Kendall statistic = 13
critical = 17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:08 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Appendix D
Assessment Monitoring and GSI Statistical Evaluation

1540 Eisenhower Pl.
Ann Arbor, MI 48108

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Technical Memorandum

Date:	January 30, 2026
To:	J.R. Register, Consumers Energy
From:	Darby Litz, TRC Kristin Lowery, TRC
Project No.:	634698.0000 Phase 002, Task 002
Subject:	Assessment Monitoring and GSI Statistical Evaluation of the Fourth Quarter 2025 Sampling Event JC Weadock Landfill, Consumers Energy Company, Essexville, Michigan

Currently, Consumers Energy is continuing semiannual assessment monitoring in accordance with §257.95 of the CCR Rule[1] at the JC Weadock Power Plant Landfill and quarterly groundwater monitoring in accordance with the February 2021 Weadock Landfill Hydrogeological Monitoring Plan (HMP). In accordance with §257.95 and the HMP, the assessment monitoring data must be compared to GWPSs to determine whether or not Appendix III and Appendix IV constituents, and additional Michigan Part 115 (as amended by PA 640) Section 11511a(3) and Section 11519b(2) constituents, are detected at statistically significant levels above the GWPSs. GWPSs were established in accordance with §257.95(h) and Part 115, as detailed in the April 23, 2021 Groundwater Protection Standards technical memorandum, which was also included in the First Quarter 2021 Hydrogeological Monitoring Report[2]. In accordance with the HMP, groundwater monitoring data from the designated groundwater-surface water interface (GSI) monitoring wells must be also compared to the GSI criteria to determine whether or not the GSI monitoring constituents are detected at statistically significant levels above the GSI criteria.

The statistical evaluation of the fourth quarter 2025 assessment monitoring event data indicates that the following constituents are present at statistically significant levels above the GWPSs in downgradient monitoring wells at the Weadock Landfill:

Constituent	GWPS	#Downgradient Wells Exceeded
Boron	560 µg/L	11 of 12
Calcium	280 mg/L	1 of 12
Sulfate	780 mg/L	1 of 12
Arsenic	21 µg/L	1 of 12

[1] USEPA final rule for the regulation and management of Coal Combustion Residuals (CCR) under the Resource Conservation and Recovery Act (RCRA) published April 17, 2015, as amended per Phase One, Part One of the CCR Rule (83 FR 36435).

[2] TRC. 2021. *First Quarter 2021 Hydrogeological Monitoring Report – JC Weadock Solid Waste Disposal Area, Essexville, Michigan.* Prepared for Consumers Energy Company. April.

The statistical evaluation found that **no constituents were present at statistically significant levels exceeding the site-specific GSI criteria**.

Statistical Evaluation Procedures

Following each quarterly sampling event, compliance well data for the Weadock Landfill are evaluated in accordance with the Assessment Monitoring Statistical Data Evaluation and GSI Data Evaluation procedures in the HMP. The assessment monitoring and GSI monitoring programs were developed to evaluate concentrations of constituents present in the uppermost aquifer relative to acceptable levels (i.e., GWPSs or GSI criteria). To evaluate whether or not a criterion exceedance is statistically significant, the difference in concentration observed at the downgradient wells during a given monitoring event compared to the applicable criterion must be large enough, after accounting for variability in the sample data, that the result is unlikely to have occurred merely by chance. Consistent with the Unified Guidance [3], the preferred method for comparisons to a fixed standard is confidence limits. Based on the number of historical observations in the representative sample population, the sample mean, the sample standard deviation, and a selected confidence level (i.e., 99 percent), upper and lower confidence limits are calculated. The population mean concentration, with 99 percent confidence, will fall between the lower and upper confidence limits.

The concentrations observed in the downgradient wells are deemed to be a statistically significant exceedance when the 99 percent lower confidence limit of the downgradient data exceeds the criterion. If the confidence interval straddles the criterion (i.e., the lower confidence level is below the criterion, but the upper confidence level is above), the statistical test result indicates that there is insufficient confidence that the measured concentrations are greater than the criterion and thus no compelling evidence that the measured concentration is a result of a release from the CCR unit versus the inherent variability of the sample data. This statistical approach is consistent with the statistical methods for assessment monitoring presented in §257.93(f) and (g). Statistical evaluation methodologies built into the CCR Rule and Part 115 and numerous other federal rules are key in determining whether or not individually measured data points represent a concentration increase over the baseline or a fixed standard (such as a GWPS in an assessment monitoring program).

For each detected constituent, the concentrations for each well were first compared directly to the GWPS, as shown on Table 1, or the GSI criteria, as shown on Table 2. Parameter-well combinations that included a direct exceedance of the criteria within the most recent two years of sampling events (eight quarterly sampling events, March 2024 through October 2025) were retained for further analysis.

Groundwater data were evaluated utilizing Sanitas™ statistical software. Sanitas™ is a software tool that is commercially available for performing statistical evaluation consistent with procedures outlined in the Unified Guidance. Within the Sanitas™ statistical program, confidence limits were used to perform the statistical comparison of compliance data to a fixed standard. Parametric and non-parametric confidence intervals were calculated for each parameter with a direct exceedance using a per test[4] 99 percent confidence level, i.e., a significance level (α) of 0.01. The following narrative describes the methods employed, the results obtained and the Sanitas™ output files are included as an attachment.

[3] USEPA. 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance*. Office of Conservation and Recovery. EPA 530/R-09-007.
[4] Confidence level is assessed for each individual comparison (i.e., per well and per constituent).

The statistical data evaluation included the following steps:

- Review of data quality checklists for the data sets;
- Graphical representation of the monitoring data as time versus concentration by well/constituent pair;
- Outlier testing of individual data points that appear from the graphical representations as potential outliers;
- Evaluation of visual trends apparent in the graphical representations for statistical significance;
- Evaluation of percentage of non-detects for each well-constituent pair;
- Distribution of the data; and
- Calculation of the confidence intervals for each cumulative dataset.

The results of these evaluations are presented and discussed below.

Data from each round were evaluated for completeness, overall quality, and usability and were deemed appropriate for the purposes of the assessment and GSI monitoring programs. Initially, the results were observed visually for potential outliers. No outliers were identified in the data set, with the possible exception of JCW-MW-18004. Results for multiple metals at JCW-MW-18004 in May 2025 were notably higher than historical results, e.g. chromium, lead, vanadium. The data quality review noted potential blank contamination for boron at JCW-MW-18004 but no concerns with the remainder of the results. Field documents note that the well ran dry during purging and was slow to recharge, which may have contributed to the anomalous results. Metals results from July 2025 at JCW-MW-18004 returned to levels consistent with prior samples, although the well ran dry again. The May 2025 results for JCW-MW-18004 appear to represent a short-lived, local condition. These data have been kept in the dataset for statistical evaluation, but are qualified as anomalous.

The Sanitas™ software was then used to test compliance at the downgradient monitoring wells using the confidence interval method for the most recent eight sampling events. Non-detect data was handled in accordance with the HMP for the purposes of calculating the confidence intervals.

The Sanitas™ software generates an output that includes graphs of the parametric or non-parametric confidence intervals for each well along with notes on data transformations, as appropriate.

Assessment Monitoring Statistical Evaluation

The assessment monitoring statistical evaluation is performed on the downgradient monitoring wells in accordance with the HMP. The downgradient monitoring wells include:

- JCW-MW-18001
- JCW-MW-18004
- JCW-MW-18005
- JCW-MW-18006
- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- OW-57R Out

The concentrations from each well were first compared directly to the GWPS, as shown on Table 1. Constituent-well combinations that included a direct exceedance of the GWPS within the past eight monitoring events were retained for further analysis (Attachment 1). Direct comparison GWPS

exceedances include the following constituent well combinations:

- Boron in MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, OW-57R OUT, JCW-MW-18001, JCW-MW-18005, and JCW-MW-18006;
- Calcium in JCW-MW-18001 and JCW-MW-18005;
- Sulfate in JCW-MW-18001;
- Arsenic in MW-55, MW-51, JCW-MW-18001, and JCW-MW-18006;
- Lead in JCW-MW-18004; and
- Vanadium in JCW-MW-18004.

The purpose of assessment monitoring is to assess whether constituent concentrations in groundwater from prior operations are above a risk-based standard (i.e. GWPS). As detailed in the Alternate Source Demonstration (Fourth Quarter 2025 Hydrogeological Monitoring Report for the Weadock Landfill, TRC, January 2026), the arsenic concentrations at MW-55 are not the result of a release from the unit; therefore, comparison of these concentrations to the GWPS is not appropriate and assessment monitoring confidence intervals were not calculated.

The software outputs for the assessment monitoring data evaluation are included in Attachment 1 along with data reports showing the values used for the evaluation. The percentage of non-detect observations are also included in Attachment 1. Visual trends were apparent in multiple wells for arsenic, boron, calcium, and sulfate. These data sets were tested further in Sanitas™ utilizing Sen's Slope to estimate the average rate of change in concentration over time and utilizing the Mann-Kendall trend test to test for significance of the trend at the 98% confidence level. The trend tests show that the trends for boron at MW-50 and MW-53R are statistically significant (Attachment 1). The trends are causing the confidence intervals to widen. Calculating a confidence interval around a trending data set incorporates not only variability present naturally in the underlying dataset, but also incorporates variability due to the trend itself. Based on the observed trends, confidence bands were selected as a more appropriate assessment for boron at MW-50 and MW-53R. Confidence bands are selected by the Unified Guidance as the appropriate method for calculating confidence intervals on trending data. A confidence band calculates upper and lower confidence limits at each point along the trend to reduce variability and create a narrower confidence interval.

The Sanitas™ software generates an output that includes graphs of the confidence bands and parametric or non-parametric confidence intervals for each well along with notes on data transformations, as appropriate. The data distributions are as follows:

Distribution	Constituent-Well Combinations
Confidence Bands (Sen's Slope trend)	Boron at MW-50 and MW-53R
Normal	Boron at JCW-MW-18001, JCW-MW-18005, JCW-MW-18006, MW-51, MW-53, MW-54R, and MW-55 Calcium at JCW-MW-18001 Sulfate at JCW-MW-18001 Arsenic at JCW-MW-18006 and MW-51

Distribution	Constituent-Well Combinations
Lognormal	Boron at MW-52
Normalized by power transformation	Arsenic at JCW-MW-18001 (square root)
Not normal (non-parametric test used)	Boron at OW-57R OUT Calcium at JCW-MW-18005 Lead at JCW-MW-18004 (non-detects) Vanadium at JCW-MW-18004 (non-detects)

The interval tests compare the lower confidence limit to the GWPS. Statistically significant exceedances of the GWPS were noted for boron at JCW-MW-18001, JCW-MW-18005, JCW-MW-18006, MW-50, MW-51, MW-52, MW-53, MW-53R, MW-54R, MW-55, and OW-57R OUT, calcium at JCW-MW-18001, sulfate at JCW-MW-18001, and arsenic at JCW-MW-18006. Boron concentrations have been consistently above the GWPS since monitoring under the Weadock Landfill HMP began in first quarter 2021. Calcium at JCW-MW-18001 was a confirmed GWPS exceedance in first quarter 2023 resulting from increases in calcium concentration beginning in first quarter 2021. No trend in calcium concentrations was observed at JCW-MW-18001 as of second quarter 2024. Sulfate at JCW-MW-18001 was a confirmed GWPS exceedance in second quarter 2023 resulting from increases in sulfate concentrations. As noted in the Alternate Source Demonstration (Second Quarter 2025 Hydrogeological Monitoring Report for the Weadock Landfill, TRC, July 2025), multiple lines of evidence indicate that the increases in calcium and sulfate concentrations are not a result of a change in flux from the landfill and is instead the result of changing groundwater conditions outside the slurry wall. Arsenic at JCW-MW-18006 is an initial statistically significant GWPS exceedance in fourth quarter 2025, although historical concentrations have directly exceeded the GWPS since 2018.

GSI Statistical Evaluation

Eight monitoring wells located along the surface water features adjacent to the Weadock Landfill are included in the GSI monitoring program to meet the requirements of Part 31:

- MW-50
- MW-51
- MW-52
- MW-53
- MW-53R
- MW-54R
- MW-55
- JCW-MW-18004

The concentrations from each well were first compared directly to the GSI criteria, as shown on Table 2. Constituent-well combinations that included a direct exceedance of the GSI criteria within the past eight monitoring events were retained for further analysis (Attachment 2). Direct comparison GSI exceedances include the following constituent well combination:

- Chromium at JCW-MW-18004.

The software outputs for the assessment monitoring data evaluation are included in Attachment 2 along with data reports showing the values used for the evaluation. The Sanitas™ software generates an output that includes graphs of the confidence bands and parametric or non-parametric confidence intervals for each well along with notes on data transformations, as appropriate. The data distributions are as follows:

Distribution	Constituent-Well Combinations
Not normal (non-parametric test used)	Chromium at JCW-MW-18004

The confidence interval evaluation shows that no constituents are present at statistically significant concentrations above the GSI criteria.

Attachments

Table 1 Comparison of Groundwater Sampling Results to Groundwater Protection Standards
Table 2 Comparison of Groundwater Sampling Results to GSI

Attachment 1 Assessment Monitoring Sanitas™ Output Files
Attachment 2 GSI Sanitas™ Output Files

Tables

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-50												
		Sample Date:	3/5/2024	3/5/2024	5/7/2024	5/7/2024	7/23/2024	7/23/2024	10/1/2024	10/1/2024	3/4/2025	3/4/2025	5/13/2025	7/15/2025	10/15/2025
Constituent	Unit	GWPS													
Appendix III[1]				Field Dup		Field Dup		Field Dup		Field Dup		Field Dup			
Boron	ug/L	**560**	**2,170**	**2,140**	**2,070**	**2,020**	**2,100**	**2,180**	**2,550**	**2,450**	**2,920**	**2,950**	**2,830**	**3,200**	**3,840**
Calcium	mg/L	**280**	199	196	184	191	175	175	184	193	191	189	191	187	193
Chloride	mg/L	2,300	40.1	38.6	37.1	38.1	34.9	36.7	33.9	36.4	46.7	46.6	52.2	53.1	67.2
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	449	448	425	421	403	410	423	422	337	332	326	272	240
Total Dissolved Solids	mg/L	4,700	1,180	1,190	1,250	1,160	1,190	1,140	1,100	1,120	1,140	1,130	1,110	1,040	1,080
pH, Field	SU	6.5 - 8.5	7.5	--	7.5	--	7.6	--	7.6	--	7.8	--	7.5	7.4	7.3
Appendix IV[1]															
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	3	3	3	3	4	4	5	5	4	4	3	5	6
Barium	ug/L	2,000	187	179	176	180	188	192	211	215	200	198	209	200	219
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	69	68	61	62	62	61	56	58	66	65	68	68	72
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	6	6	5	5	6	6	6	6	5	5	< 5	< 5	5
Radium-226	pCi/L	NA	--	--	0.270	0.349	--	--	0.355	0.353	--	--	< 0.327	--	< 0.445
Radium-228	pCi/L	NA	--	--	1.47	1.38	--	--	< 0.773	1.41	--	--	0.893	--	1.25
Radium-226/228	pCi/L	5.0	--	--	1.20	1.03	--	--	1.10	1.77	--	--	1.08	--	1.49
Selenium	ug/L	50	3	3	1	2	1	2	2	2	2	2	2	3	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]															
Iron	ug/L	28,000	889	930	834	817	1,530	1,610	1,930	2,120	707	682	638	1,360	1,830
Copper	ug/L	1,000	1	1	2	2	2	3	1	< 1	2	2	2	1	1
Nickel	ug/L	100	8	8	< 2	< 2	7	8	3	3	3	5	< 2	9	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018, Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-51								
		Sample Date:	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	7/15/2025	7/15/2025	10/15/2025
Constituent	Unit	GWPS								Field Dup	
Appendix III[1]											
Boron	ug/L	**560**	**935**	**798**	**862**	**1,070**	**1,020**	**938**	**897**	**913**	**913**
Calcium	mg/L	**280**	132	128	114	134	165	161	161	158	166
Chloride	mg/L	2,300	78.3	79.9	81.5	78.8	63.3	64.0	62.4	61.4	70.9
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	266	262	283	285	432	445	437	439	476
Total Dissolved Solids	mg/L	4,700	902	958	940	916	1,190	1,190	1,150	1,190	1,240
pH, Field	SU	6.5 - 8.5	7.4	7.4	7.5	7.7	7.7	7.3	7.2	--	7.2
Appendix IV[1]											
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	10	13	19	**27**	12	13	19	19	**29**
Barium	ug/L	2,000	127	117	123	130	143	143	147	153	155
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	31	28	28	25	27	32	28	28	30
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	--	0.181	--	0.223	--	< 0.280	--	--	< 0.545
Radium-228	pCi/L	NA	--	0.863	--	1.40	--	0.921	--	--	< 0.807
Radium-226/228	pCi/L	5.0	--	0.681	--	1.62	--	0.999	--	--	< 0.807
Selenium	ug/L	50	1	< 1	1	< 1	2	2	3	4	3
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]											
Iron	ug/L	28,000	446	760	1,490	2,740	1,330	816	2,020	2,010	3,270
Copper	ug/L	1,000	1	1	1	1	1	2	1	1	8
Nickel	ug/L	100	< 2	3	6	4	3	< 2	8	8	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	2	2	2	2	< 2	< 2	2	2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018, Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-52								
		Sample Date:	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	5/13/2025	7/15/2025	10/15/2025
Constituent	Unit	GWPS									
Appendix III[1]									Field Dup		
Boron	ug/L	**560**	**945**	**895**	**909**	**1,220**	**894**	**752**	**759**	**837**	**843**
Calcium	mg/L	**280**	237	236	233	251	253	229	231	244	260
Chloride	mg/L	2,300	33.8	33.3	30.1	37.2	43.0	46.9	47.0	42.7	53.4
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	540	550	542	522	449	446	415	480	508
Total Dissolved Solids	mg/L	4,700	1,380	1,430	1,470	1,330	1,350	1,280	1,270	1,370	1,440
pH, Field	SU	6.5 - 8.5	7.0	7.0	7.0	7.1	7.2	6.9	--	6.7	6.8
Appendix IV[1]											
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Barium	ug/L	2,000	94	91	88	93	77	74	76	89	89
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	27	29	29	27	30	34	33	29	31
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	--	0.162	--	0.149	--	< 0.315	< 0.301	--	< 0.435
Radium-228	pCi/L	NA	--	1.19	--	0.706	--	0.507	1.19	--	1.09
Radium-226/228	pCi/L	5.0	--	1.03	--	0.855	--	0.563	1.35	--	1.33
Selenium	ug/L	50	2	1	1	3	2	1	2	3	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]											
Iron	ug/L	28,000	3,120	3,680	7,290	8,450	3,350	2,700	2,810	6,760	7,910
Copper	ug/L	1,000	2	2	2	3	1	2	2	2	2
Nickel	ug/L	100	< 2	< 2	6	< 2	< 2	< 2	< 2	12	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

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(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018, Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-53							
		Sample Date:	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	7/15/2025	10/16/2025
Constituent	Unit	GWPS								
Appendix III[1]										
Boron	ug/L	**560**	**5,740**	**6,110**	**6,960**	**6,380**	**5,010**	**4,680**	**5,600**	**6,330**
Calcium	mg/L	**280**	134	134	130	100	135	122	104	128
Chloride	mg/L	2,300	77.4	89.3	115	61.6	77.3	78.5	86.2	94.0
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	25.4	1.53	< 1.00	25.9	107	102	3.64	30.2
Total Dissolved Solids	mg/L	4,700	694	942	806	588	790	784	606	870
pH, Field	SU	6.5 - 8.5	7.5	7.5	7.5	7.8	7.8	7.4	7.4	7.6
Appendix IV[1]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	1	1	2	1	1	< 1	1	< 1
Barium	ug/L	2,000	654	582	581	386	578	541	411	481
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	50	50	57	40	40	44	42	49
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	--	0.561	--	0.572	--	0.547	--	< 0.407
Radium-228	pCi/L	NA	--	1.81	--	0.913	--	1.20	--	1.22
Radium-226/228	pCi/L	5.0	--	1.25	--	1.48	--	1.74	--	1.56
Selenium	ug/L	50	3	2	4	3	3	3	3	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]										
Iron	ug/L	28,000	947	665	1,110	518	521	475	502	395
Copper	ug/L	1,000	1	2	1	< 1	< 1	< 1	< 1	2
Nickel	ug/L	100	< 2	< 2	6	< 2	3	< 2	5	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	2	< 2	2	< 2	< 2	< 2	3	3
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

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(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018, Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-53R							
		Sample Date:	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	7/15/2025	10/14/2025
Constituent	Unit	GWPS								
Appendix III[1]										
Boron	ug/L	**560**	**2,300**	**2,200**	**1,880**	**2,830**	**3,100**	**3,160**	**3,220**	**3,580**
Calcium	mg/L	**280**	173	166	189	181	159	159	170	167
Chloride	mg/L	2,300	34.7	32.5	40.0	42.5	67.2	75.5	81.0	90.4
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	53.2	47.6	291	126	71.5	97.0	123	118
Total Dissolved Solids	mg/L	4,700	862	880	1,230	890	814	856	900	1,000
pH, Field	SU	6.5 - 8.5	7.0	7.1	7.2	7.3	7.3	7.0	6.9	7.0
Appendix IV[1]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	9	10	8	16	15	16	14	17
Barium	ug/L	2,000	165	164	132	128	136	165	160	149
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	1	< 1	< 1	< 1	< 1	1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	56	53	62	56	54	56	54	57
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	--	0.155	--	0.184	--	< 0.574	--	< 0.364
Radium-228	pCi/L	NA	--	0.674	--	< 0.632	--	< 1.24	--	1.02
Radium-226/228	pCi/L	5.0	--	0.567	--	0.702	--	< 1.24	--	1.29
Selenium	ug/L	50	2	1	2	2	3	3	5	3
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]										
Iron	ug/L	28,000	752	761	280	975	1,290	998	575	652
Copper	ug/L	1,000	2	1	2	1	< 1	2	2	4
Nickel	ug/L	100	< 2	< 2	8	< 2	4	< 2	9	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	3	3
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018, Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-54R							
		Sample Date:	3/5/2024	5/7/2024	7/23/2024	10/2/2024	3/4/2025	5/14/2025	7/15/2025	10/14/2025
Constituent	Unit	GWPS								
Appendix III[1]										
Boron	ug/L	**560**	**5,940**	**5,580**	**6,930**	**8,080**	**7,610**	**6,710**	**6,920**	**7,660**
Calcium	mg/L	**280**	170	161	153	177	214	174	197	230
Chloride	mg/L	2,300	61.7	56.9	75.4	86.2	136	102	115	178
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	1,230	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	48.6	51.3	60.4	79.8	229	201	211	367
Total Dissolved Solids	mg/L	4,700	752	792	924	826	1,170	1,020	1,120	1,380
pH, Field	SU	6.5 - 8.5	7.0	7.2	7.2	7.0	7.4	7.0	6.9	7.0
Appendix IV[1]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	1	1	1	2	2	2	3	2
Barium	ug/L	2,000	97	83	90	100	96	100	113	134
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	1	< 1	1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	1,230	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	76	73	83	83	93	98	100	111
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	15	18	17	17	20	24	25	23
Radium-226	pCi/L	NA	--	0.180	--	0.213	--	< 0.349	--	0.445
Radium-228	pCi/L	NA	--	0.829	--	< 0.588	--	< 0.491	--	< 0.881
Radium-226/228	pCi/L	5.0	--	0.829	--	0.639	--	< 0.491	--	1.23
Selenium	ug/L	50	3	2	4	5	6	4	7	6
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]										
Iron	ug/L	28,000	159	87	59	137	579	150	29	165
Copper	ug/L	1,000	2	3	2	2	1	2	2	2
Nickel	ug/L	100	< 2	< 2	7	3	8	< 2	11	40
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	2	< 2	3	4
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018, Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	MW-55										
		Sample Date:	3/5/2024	5/8/2024	7/23/2024	10/2/2024	10/2/2024	3/4/2025	5/14/2025	5/13/2025	7/15/2025	10/14/2025	10/14/2025
Constituent	Unit	GWPS					Field Dup			Field Dup			Field Dup
Appendix III[1]													
Boron	ug/L	**560**	**825**	**729**	**1,270**	**1,130**	**1,090**	**1,270**	**1,270**	**1,250**	**1,060**	**1,040**	**1,010**
Calcium	mg/L	**280**	166	161	117	150	156	162	190	187	172	175	174
Chloride	mg/L	2,300	18.3	17.3	21.8	23.0	23.3	20.2	16.7	16.9	15.1	17.1	17.1
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	224	236	60.2	117	117	98.1	334	333	252	156	158
Total Dissolved Solids	mg/L	4,700	866	934	730	756	758	818	984	1,040	898	876	878
pH, Field	SU	6.5 - 8.5	6.9	6.9	7.4	7.2	--	7.4	7.0	--	6.9	7.1	--
Appendix IV[1]													
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	**46**	**39**	**45**	**54**	**56**	13	18	17	**23**	**41**	**39**
Barium	ug/L	2,000	260	235	186	222	218	202	214	218	200	238	231
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	26	26	29	25	26	24	24	23	25	29	27
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	27	25	25	44	44	22	21	21	22	39	38
Radium-226	pCi/L	NA	--	0.137	--	0.274	--	--	< 0.403	--	--	0.316	--
Radium-228	pCi/L	NA	--	1.11	--	< 0.899	--	--	< 0.485	--	--	< 0.652	--
Radium-226/228	pCi/L	5.0	--	0.971	--	< 0.899	--	--	< 0.485	--	--	< 0.652	--
Selenium	ug/L	50	1	4	1	1	< 1	5	5	5	12	1	< 1
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]													
Iron	ug/L	28,000	18,700	14,700	12,300	12,600	13,800	8,950	13,100	12,700	12,400	14,300	14,200
Copper	ug/L	1,000	1	1	1	< 1	< 1	1	2	2	1	1	1
Nickel	ug/L	100	< 2	6	4	4	4	5	6	7	8	3	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

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(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018, Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	OW-57R OUT								
		Sample Date:	3/6/2024	5/8/2024	7/24/2024	7/24/2024	10/2/2024	3/5/2025	5/14/2025	7/15/2025	10/14/2025
Constituent	Unit	GWPS									
Appendix III[(1)]						Field Dup					
Boron	ug/L	**560**	**1,810**	**1,700**	**1,690**	**1,730**	**2,070**	**2,070**	**1,830**	**1,770**	**1,790**
Calcium	mg/L	**280**	123	119	120	120	138	130	122	138	139
Chloride	mg/L	2,300	68.1	72.3	65.9	68.6	73.3	84.7	90.1	81.2	97.5
Fluoride	ug/L	4,000	1,230	1,090	1,100	1,140	1,510	< 1,000	1,080	< 1,000	1,110
Sulfate	mg/L	**780**	79.3	77.6	75.5	78.3	83.4	68.1	66.4	63.7	66.9
Total Dissolved Solids	mg/L	4,700	770	790	760	796	762	798	770	800	856
pH, Field	SU	6.5 - 8.5	7.2	7.2	7.0	--	7.2	7.4	7.0	6.9	6.9
Appendix IV[(1)]											
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	1	1	2	2	2	1	1	6	2
Barium	ug/L	2,000	81	75	78	77	83	73	82	85	88
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	1,230	1,090	1,100	1,140	1,510	< 1,000	1,080	< 1,000	1,110
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	28	26	25	25	24	26	28	27	29
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	6	6	7	7	7	6	6	7	7
Radium-226	pCi/L	NA	--	0.115	--	--	0.163	--	< 0.295	--	< 0.324
Radium-228	pCi/L	NA	--	0.845	--	--	< 0.543	--	< 0.641	--	< 0.632
Radium-226/228	pCi/L	5.0	--	0.731	--	--	0.570	--	< 0.641	--	< 0.632
Selenium	ug/L	50	< 1	1	1	2	1	1	2	4	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[(2)]											
Iron	ug/L	28,000	44	94	77	85	67	< 20	32	362	74
Copper	ug/L	1,000	2	2	2	2	2	2	1	2	3
Nickel	ug/L	100	12	15	18	17	15	15	10	18	10
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	3	2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

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(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018, Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18001							
		Sample Date:	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	7/14/2025	10/16/2025
Constituent	Unit	GWPS								
Appendix III[1]										
Boron	ug/L	**560**	**1,420**	**1,330**	**1,370**	**1,310**	**1,610**	**1,540**	**1,330**	**1,510**
Calcium	mg/L	**280**	**557**	**537**	**526**	**474**	**405**	**509**	**479**	**502**
Chloride	mg/L	2,300	44.7	44.5	45.0	50.3	61.4	47.8	43.8	47.7
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	**1,880**	**1,790**	**1,810**	**1,770**	**1,460**	**1,830**	**1,630**	**1,650**
Total Dissolved Solids	mg/L	4,700	3,450	3,370	3,530	3,210	2,960	3,450	3,140	3,200
pH, Field	SU	6.5 - 8.5	6.8	6.8	6.9	7.0	7.3	6.8	6.7	6.9
Appendix IV[1]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	2	2	2	**30**	7	8	8
Barium	ug/L	2,000	49	46	50	66	60	45	61	59
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	106	102	107	90	90	110	98	103
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	--	0.124	--	0.158	--	< 0.390	--	< 0.367
Radium-228	pCi/L	NA	--	0.525	--	< 0.430	--	< 0.500	--	1.12
Radium-226/228	pCi/L	5.0	--	0.506	--	< 0.430	--	< 0.500	--	1.12
Selenium	ug/L	50	2	2	2	2	2	3	3	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]										
Iron	ug/L	28,000	3,570	2,630	3,080	1,540	686	2,270	1,930	1,320
Copper	ug/L	1,000	3	4	5	2	2	4	3	3
Nickel	ug/L	100	14	4	13	5	12	18	22	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	3	2	2	< 2	3	3	3	2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	11	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

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(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18004							
		Sample Date:	3/5/2024	5/8/2024	7/23/2024	10/2/2024	3/4/2025	5/14/2025[3]	7/15/2025	10/15/2025
Constituent	Unit	GWPS								
Appendix III[1]										
Boron	ug/L	**560**	192	206	308	412	269	165	309	318
Calcium	mg/L	**280**	238	213	205	207	211	229	219	210
Chloride	mg/L	2,300	16.9	14.3	12.6	14.1	17.0	10.4	13.9	13.8
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	557	484	446	444	460	441	489	396
Total Dissolved Solids	mg/L	4,700	1,250	1,130	1,130	1,080	1,150	1,130	1,140	1,060
pH, Field	SU	6.5 - 8.5	7.0	6.9	7.3	7.0	7.5	7.0	6.9	7.0
Appendix IV[1]										
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	< 1	< 1	< 1	< 1	< 1	4	< 1	2
Barium	ug/L	2,000	26	26	29	34	27	114	29	49
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	1	< 1	< 1	2	< 1	19	3	1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	**9**	< 1	< 1
Lithium	ug/L	180	43	43	50	46	26	43	44	43
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	--	0.102	--	0.120	--	< 0.505	--	< 0.464
Radium-228	pCi/L	NA	--	0.672	--	< 0.656	--	< 1.11	--	0.984
Radium-226/228	pCi/L	5.0	--	0.672	--	< 0.656	--	< 1.11	--	1.13
Selenium	ug/L	50	4	4	< 1	1	2	13	1	< 1
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]										
Iron	ug/L	28,000	98	73	41	36	398	7,970	509	3,550
Copper	ug/L	1,000	2	2	2	2	2	10	2	5
Nickel	ug/L	100	< 2	< 2	4	< 2	4	23	14	10
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	**23**	< 2	4
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	25	20	13

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018, Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18005								
		Sample Date:	3/6/2024	5/8/2024	7/23/2024	10/2/2024	3/5/2025	5/14/2025	7/15/2025	10/14/2025	10/14/2025
Constituent	Unit	GWPS									
Appendix III[1]											Field Dup
Boron	ug/L	**560**	**1,000**	**960**	**1,460**	**1,930**	**1,740**	**1,080**	**1,520**	**1,850**	**1,920**
Calcium	mg/L	**280**	**335**	**302**	164	162	159	248	172	152	150
Chloride	mg/L	2,300	23.3	22.1	49.2	51.8	46.4	18.9	41.9	55.0	54.7
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	1,400	< 1,000	< 1,000	< 1,000	1,090	1,130
Sulfate	mg/L	**780**	512	475	156	142	141	362	175	111	111
Total Dissolved Solids	mg/L	4,700	1,400	1,390	884	866	854	1,100	904	980	888
pH, Field	SU	6.5 - 8.5	6.7	6.8	7.2	7.2	7.1	6.8	7.0	7.0	--
Appendix IV[1]											
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	3	4	2	2	2	6	1	2	2
Barium	ug/L	2,000	136	127	67	71	77	98	82	80	81
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	< 1	< 1	2	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	1,400	< 1,000	< 1,000	< 1,000	1,090	1,130
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	3	< 1	< 1	< 1	< 1
Lithium	ug/L	180	43	41	34	31	29	37	33	32	32
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	5	6	5	6	6
Radium-226	pCi/L	NA	--	0.165	--	0.169	--	< 0.328	--	< 0.472	< 0.318
Radium-228	pCi/L	NA	--	1.23	--	< 0.640	--	< 0.542	--	< 0.935	< 0.679
Radium-226/228	pCi/L	5.0	--	1.07	--	< 0.640	--	0.648	--	< 0.935	< 0.679
Selenium	ug/L	50	2	< 1	2	2	2	8	4	2	2
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]											
Iron	ug/L	28,000	4,020	6,550	1,890	1,930	750	2,490	80	1,060	1,140
Copper	ug/L	1,000	7	2	2	< 1	2	3	2	2	1
Nickel	ug/L	100	< 2	< 2	11	7	9	< 2	15	7	7
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	< 2	< 2	< 2	< 2	< 2	3	< 2	< 2	< 2
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018, Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 1
Comparison of Groundwater Sampling Results to Groundwater Protection Standards
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

		Sample Location:	JCW-MW-18006											
		Sample Date:	3/6/2024	3/6/2024	5/8/2024	5/8/2024	7/24/2024	10/2/2024	3/5/2025	3/5/2025	5/14/2025	7/15/2025	7/15/2025	10/14/2025
Constituent	Unit	GWPS												
Appendix III[1]				Field Dup		Field Dup				Field Dup			Field Dup	
Boron	ug/L	**560**	**2,650**	**2,700**	**2,740**	**2,830**	**2,490**	**3,240**	**2,800**	**2,880**	**2,970**	**2,660**	**2,760**	**2,520**
Calcium	mg/L	**280**	137	136	148	150	123	126	122	120	125	122	121	114
Chloride	mg/L	2,300	61.3	64.7	49.2	52.0	57.3	61.6	70.2	70.4	64.6	68.9	69.4	86.7
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Sulfate	mg/L	**780**	69.7	71.6	122	129	75.5	65.4	42.4	45.3	64.3	66.4	68.5	51.3
Total Dissolved Solids	mg/L	4,700	748	776	864	878	782	732	706	712	774	754	774	796
pH, Field	SU	6.5 - 8.5	7.0	--	7.1	--	7.0	7.2	7.3	--	7.0	6.9	--	7.0
Appendix IV[1]														
Antimony	ug/L	6.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Arsenic	ug/L	**21**	**22**	**23**	**29**	**29**	**23**	**27**	**22**	**23**	**25**	**26**	**26**	**23**
Barium	ug/L	2,000	445	464	390	387	412	468	417	408	354	363	359	344
Beryllium	ug/L	4.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	ug/L	5.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	ug/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cobalt	ug/L	15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Fluoride	ug/L	4,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000
Lead	ug/L	**4.0**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	180	52	54	59	61	49	48	43	43	55	50	52	45
Mercury	ug/L	2.0	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum	ug/L	73	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Radium-226	pCi/L	NA	--	--	0.218	0.280	--	0.520	--	--	< 0.339	--	--	0.398
Radium-228	pCi/L	NA	--	--	0.919	0.528	--	0.768	--	--	0.969	--	--	1.54
Radium-226/228	pCi/L	5.0	--	--	0.919	0.528	--	1.29	--	--	1.12	--	--	1.94
Selenium	ug/L	50	3	3	< 1	1	2	2	2	2	< 1	4	4	3
Thallium	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
MI Part 115 Parameters[2]														
Iron	ug/L	28,000	7,970	7,890	10,400	10,800	8,650	9,050	7,350	7,290	7,490	7,620	7,490	5,520
Copper	ug/L	1,000	2	2	1	1	1	2	< 1	< 1	2	1	< 1	2
Nickel	ug/L	100	5	9	6	6	5	4	5	5	< 2	6	6	< 2
Silver	ug/L	34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Vanadium	ug/L	**6.0**	4	4	3	3	3	4	3	3	3	4	4	4
Zinc	ug/L	2,400	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

pCi/L - picocuries per liter.

-- - not analyzed.

GWPS - Groundwater Protection Standard. GWPS is the higher of the MCL/RSL, applicable Michigan Part 201 criteria, and UTL as established in TRC's Technical Memorandum dated April 23, 2021.

Bold value indicates an exceedance of the GWPS. Data from downgradient monitoring wells are screened against the GWPS for evaluation purposes only. Confidence intervals will be used to determine compliance per the CCR rules and the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018, Section 11511a(3)(c) and 11519b(2) additional detection monitoring constituents (iron) and assessment monitoring constituents (copper, nickel, silver, vanadium, and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-50											
						Sample Date:	3/5/2024	3/5/2024	5/7/2024	5/7/2024	7/23/2024	7/23/2024	10/1/2024	10/1/2024	3/4/2025	3/4/2025	5/13/2025	7/15/2025	10/15/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**														
Appendix III[(1)]								Field Dup		Field Dup		Field Dup		Field Dup		Field Dup			
Boron	ug/L	4,000	44,000	69,000	44,000		2,170	2,140	2,070	2,020	2,100	2,180	2,550	2,450	2,920	2,950	2,830	3,200	3,840
Sulfate	mg/L	1,200[F]	NC	NC	1,200		449	448	425	421	403	410	423	422	337	332	326	272	240
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		7.5	--	7.5	--	7.6	--	7.6	--	7.8	--	7.5	7.4	7.3
Appendix IV[(1)]																			
Arsenic	ug/L	10	100	680	100		3	3	3	3	4	4	5	5	4	4	3	5	6
Chromium	ug/L	11[H]	NC	NC	**11**		1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440		69	68	61	62	62	61	56	58	66	65	68	68	72
Molybdenum	ug/L	120	1,320	NC	1,320		6	6	5	5	6	6	6	6	5	5	< 5	< 5	5
Selenium	ug/L	5.0	55	120	55		3	3	1	2	1	2	2	2	2	2	2	3	2
MI Part 115 Parameters[(2)]																			
Iron	ug/L	500,000[EE]	NC	NC	500,000		889	930	834	817	1,530	1,610	1,930	2,120	707	682	638	1,360	1,830
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	MW-51								
					Sample Date:	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	7/15/2025	7/15/2025	10/15/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**								Field Dup	
Appendix III(1)														
Boron	ug/L	4,000	44,000	69,000	44,000	935	798	862	1,070	1,020	938	897	913	913
Sulfate	mg/L	1,200[F]	NC	NC	1,200	266	262	283	285	432	445	437	439	476
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0	7.4	7.4	7.5	7.7	7.7	7.3	7.2	--	7.2
Appendix IV(1)														
Arsenic	ug/L	10	100	680	100	10	13	19	27	12	13	19	19	29
Chromium	ug/L	11[H]	NC	NC	**11**	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440	31	28	28	25	27	32	28	28	30
Molybdenum	ug/L	120	1,320	NC	1,320	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55	1	< 1	1	< 1	2	2	3	4	3
MI Part 115 Parameters(2)														
Iron	ug/L	500,000[EE]	NC	NC	500,000	446	760	1,490	2,740	1,330	816	2,020	2,010	3,270
Vanadium	ug/L	27	NC	NC	27	2	2	2	2	< 2	< 2	2	2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

Sample Location:						MW-52								
Sample Date:						3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	5/13/2025	7/15/2025	10/15/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III(1)												Field Dup		
Boron	ug/L	4,000	44,000	69,000	44,000	945	895	909	1,220	894	752	759	837	843
Sulfate	mg/L	1,200[F]	NC	NC	1,200	540	550	542	522	449	446	415	480	508
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0	7.0	7.0	7.0	7.1	7.2	6.9	--	6.7	6.8
Appendix IV(1)														
Arsenic	ug/L	10	100	680	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chromium	ug/L	11[H]	NC	NC	**11**	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440	27	29	29	27	30	34	33	29	31
Molybdenum	ug/L	120	1,320	NC	1,320	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55	2	1	1	3	2	1	2	3	2
MI Part 115 Parameters(2)														
Iron	ug/L	500,000[EE]	NC	NC	500,000	3,120	3,680	7,290	8,450	3,350	2,700	2,810	6,760	7,910
Vanadium	ug/L	27	NC	NC	27	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-53						
						Sample Date:	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	7/15/2025	10/16/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III(1)														
Boron	ug/L	4,000	44,000	69,000	44,000		5,740	6,110	6,960	6,380	5,010	4,680	5,600	6,330
Sulfate	mg/L	1,200[F]	NC	NC	1,200		25.4	1.53	< 1.00	25.9	107	102	3.64	30.2
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		7.5	7.5	7.5	7.8	7.8	7.4	7.4	7.6
Appendix IV(1)														
Arsenic	ug/L	10	100	680	100		1	1	2	1	1	< 1	1	< 1
Chromium	ug/L	11[H]	NC	NC	**11**		1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440		50	50	57	40	40	44	42	49
Molybdenum	ug/L	120	1,320	NC	1,320		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55		3	2	4	3	3	3	3	2
MI Part 115 Parameters(2)														
Iron	ug/L	500,000[EE]	NC	NC	500,000		947	665	1,110	518	521	475	502	395
Vanadium	ug/L	27	NC	NC	27		2	< 2	2	< 2	< 2	< 2	3	3

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	MW-53R							
					Sample Date:	3/5/2024	5/7/2024	7/23/2024	10/1/2024	3/4/2025	5/13/2025	7/15/2025	10/14/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**								
Appendix III[(1)]													
Boron	ug/L	4,000	44,000	69,000	44,000	2,300	2,200	1,880	2,830	3,100	3,160	3,220	3,580
Sulfate	mg/L	1,200[F]	NC	NC	1,200	53.2	47.6	291	126	71.5	97.0	123	118
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0	7.0	7.1	7.2	7.3	7.3	7.0	6.9	7.0
Appendix IV[(1)]													
Arsenic	ug/L	10	100	680	100	9	10	8	16	15	16	14	17
Chromium	ug/L	11[H]	NC	NC	**11**	1	< 1	< 1	< 1	< 1	1	< 1	< 1
Lithium	ug/L	440	NC	NC	440	56	53	62	56	54	56	54	57
Molybdenum	ug/L	120	1,320	NC	1,320	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55	2	1	2	2	3	3	5	3
MI Part 115 Parameters[(2)]													
Iron	ug/L	500,000[EE]	NC	NC	500,000	752	761	280	975	1,290	998	575	652
Vanadium	ug/L	27	NC	NC	27	< 2	< 2	< 2	< 2	< 2	< 2	3	3

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	MW-54R						
						Sample Date:	3/5/2024	5/7/2024	7/23/2024	10/2/2024	3/4/2025	5/14/2025	7/15/2025	10/14/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III(1)														
Boron	ug/L	4,000	44,000	69,000	44,000		5,940	5,580	6,930	8,080	7,610	6,710	6,920	7,660
Sulfate	mg/L	1,200[F]	NC	NC	1,200		48.6	51.3	60.4	79.8	229	201	211	367
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		7.0	7.2	7.2	7.0	7.4	7.0	6.9	7.0
Appendix IV(1)														
Arsenic	ug/L	10	100	680	100		1	1	1	2	2	2	3	2
Chromium	ug/L	11[H]	NC	NC	**11**		1	< 1	1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440		76	73	83	83	93	98	100	111
Molybdenum	ug/L	120	1,320	NC	1,320		15	18	17	17	20	24	25	23
Selenium	ug/L	5.0	55	120	55		3	2	4	5	6	4	7	6
MI Part 115 Parameters(2)														
Iron	ug/L	500,000[EE]	NC	NC	500,000		159	87	59	137	579	150	29	165
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	2	< 2	3	4

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

					Sample Location:	MW-55										
					Sample Date:	3/5/2024	5/8/2024	7/23/2024	10/2/2024	10/2/2024	3/4/2025	5/14/2025	5/13/2025	7/15/2025	10/14/2025	10/14/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**											
Appendix III[(1)]										Field Dup						Field Dup
Boron	ug/L	4,000	44,000	69,000	44,000	825	729	1,270	1,130	1,090	1,270	1,270	1,250	1,060	1,040	1,010
Sulfate	mg/L	1,200[F]	NC	NC	1,200	224	236	60.2	117	117	98.1	334	333	252	156	158
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0	6.9	6.9	7.4	7.2	--	7.4	7.0	--	6.9	7.1	--
Appendix IV[(1)]																
Arsenic	ug/L	10	100	680	100	46	39	45	54	56	13	18	17	23	41	39
Chromium	ug/L	11[H]	NC	NC	**11**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Lithium	ug/L	440	NC	NC	440	26	26	29	25	26	24	24	23	25	29	27
Molybdenum	ug/L	120	1,320	NC	1,320	27	25	25	44	44	22	21	21	22	39	38
Selenium	ug/L	5.0	55	120	55	1	4	1	1	< 1	5	5	5	12	1	< 1
MI Part 115 Parameters[(2)]																
Iron	ug/L	500,000[EE]	NC	NC	500,000	18,700	14,700	12,300	12,600	13,800	8,950	13,100	12,700	12,400	14,300	14,200
Vanadium	ug/L	27	NC	NC	27	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Table 2
Comparison of Groundwater Sampling Results to GSI
JC Weadock Landfill – Hydrogeological Monitoring Program
Essexville, Michigan

						Sample Location:	JCW-MW-18004						
						Sample Date:	3/5/2024	5/8/2024	7/23/2024	10/2/2024	3/4/2025	5/14/2025[3]	7/15/2025	10/15/2025
Constituent	Unit	Generic GSI^	Chronic-Based Mixing Zone GSI Criteria*	Acute-Based Mixing Zone GSI Criteria*	GSI**									
Appendix III[1]														
Boron	ug/L	4,000	44,000	69,000	44,000		192	206	308	412	269	165	309	318
Sulfate	mg/L	1,200[F]	NC	NC	1,200		557	484	446	444	460	441	489	396
pH, Field	SU	6.5-9.0	NC	NC	6.5-9.0		7.0	6.9	7.3	7.0	7.5	7.0	6.9	7.0
Appendix IV[1]														
Arsenic	ug/L	10	100	680	100		< 1	< 1	< 1	< 1	< 1	4	< 1	2
Chromium	ug/L	11[H]	NC	NC	**11**		1	< 1	< 1	2	< 1	**19**	3	1
Lithium	ug/L	440	NC	NC	440		43	43	50	46	26	43	44	43
Molybdenum	ug/L	120	1,320	NC	1,320		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Selenium	ug/L	5.0	55	120	55		4	4	< 1	1	2	13	1	< 1
MI Part 115 Parameters[2]														
Iron	ug/L	500,000[EE]	NC	NC	500,000		98	73	41	36	398	7,970	509	3550
Vanadium	ug/L	27	NC	NC	27		< 2	< 2	< 2	< 2	< 2	23	< 2	4

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

NC - no criteria.

-- - not analyzed.

^ - Michigan Part 201 Groundwater Surface Water Interface (GSI) Criteria. Hardness-dependent criteria calculated using hardness of 258 mg CaCO3/L (average of SW-01 [Lake Huron] and SW-02 [Saginaw River] collected in April 2018) per footnote {G} of Michigan Part 201 criteria tables. GSI criterion is protective for surface water used as a drinking water source as described in footnote {X}.

* Mixing Zone GSI Criteria from Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approval letter dated October 4, 2024.

** GSI criteria is the generic GSI criteria or the Chronic-Based Mixing Zone criteria, if applicable.

[F] - Criterion is the Final Acute Value (FAV) .

[H] - Chromium GSI criterion based on hexavalent chromium per footnote {H}.

[EE] - Criterion is based on the total dissolved solids GSI value per footnote {EE}.

Bold value indicates an exceedance of the GSI. Data from downgradient monitoring wells are screened against the GSI for evaluation purposes only. Confidence intervals will be used to determine compliance per the HMP.

All metals were analyzed as total unless otherwise specified.

(1) 40 CFR Part 257 Appendix III Detection Monitoring Constituents and Appendix IV Assessment Monitoring Constituents.

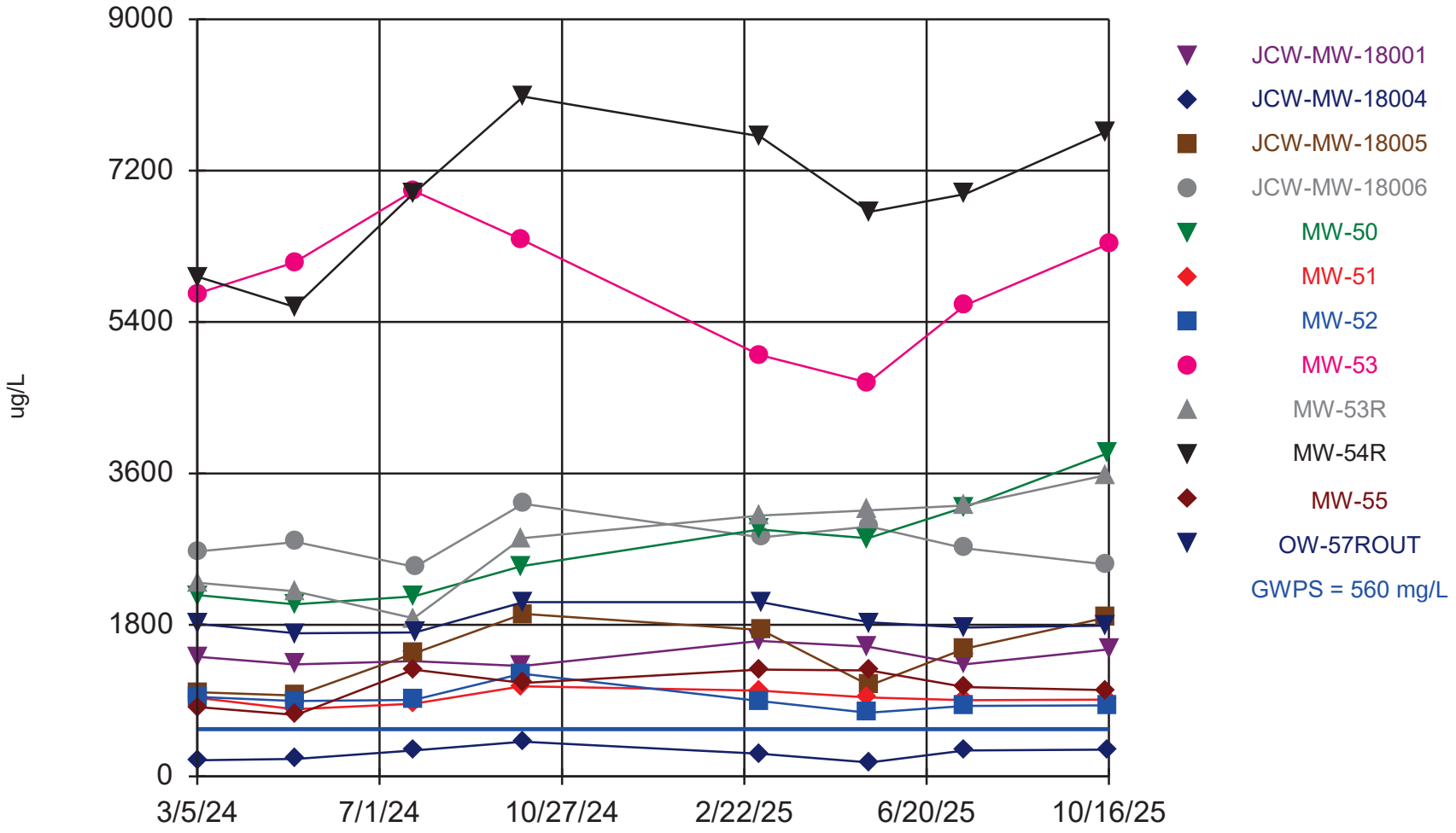
(2) Per Michigan Part 115 Amendments - Public Act No. 640 of 2018 Section 11519b(2) additional assessment monitoring constituents (vanadium and zinc) are reported.

(3) Radium sample collected 5/15/2025.

Attachment 1
Assessment Monitoring Sanitas™ Output Files

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

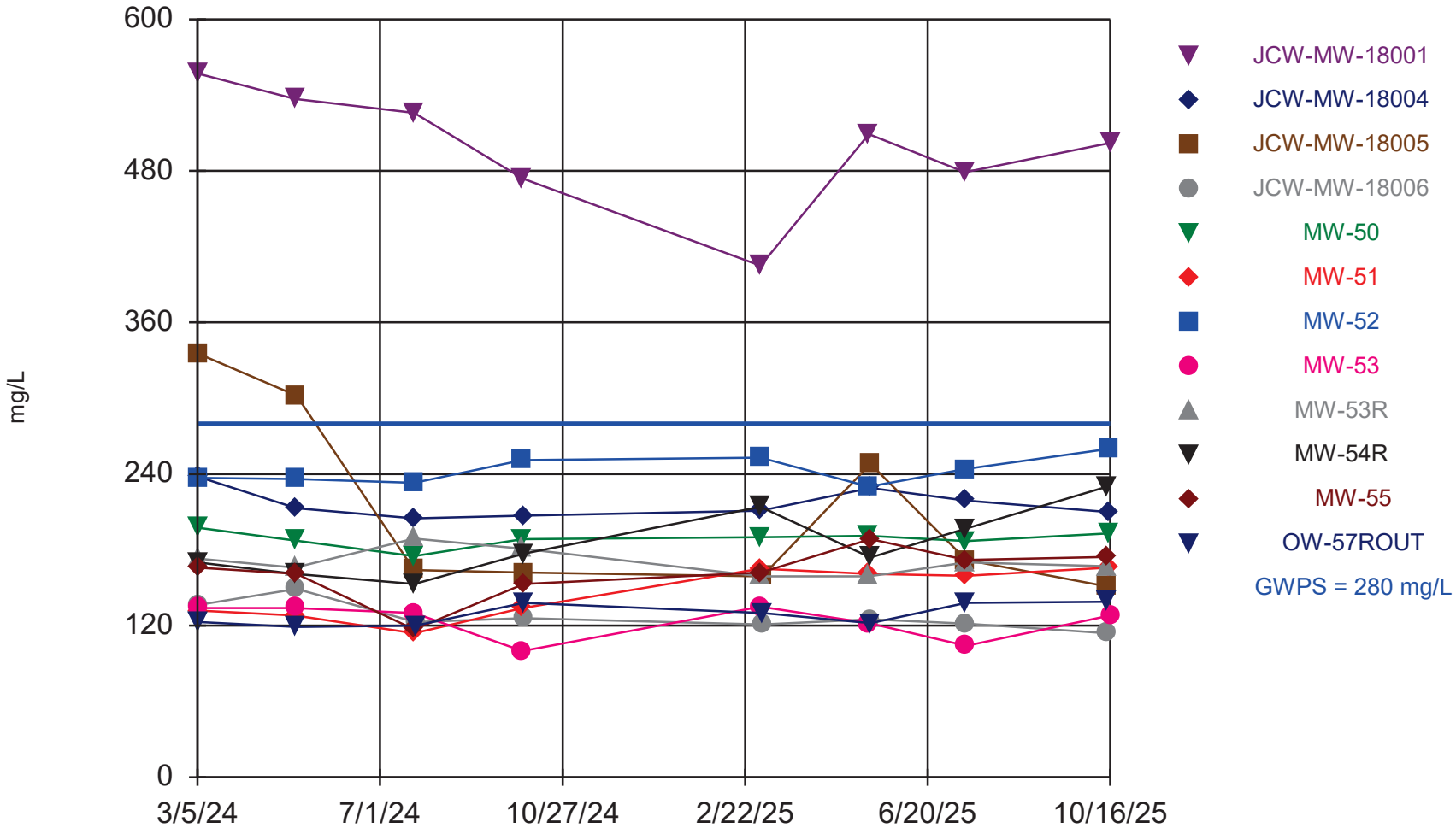
Boron Comparison to GWPS



Time Series Analysis Run 12/8/2025 3:28 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Calcium Comparison to GWPS

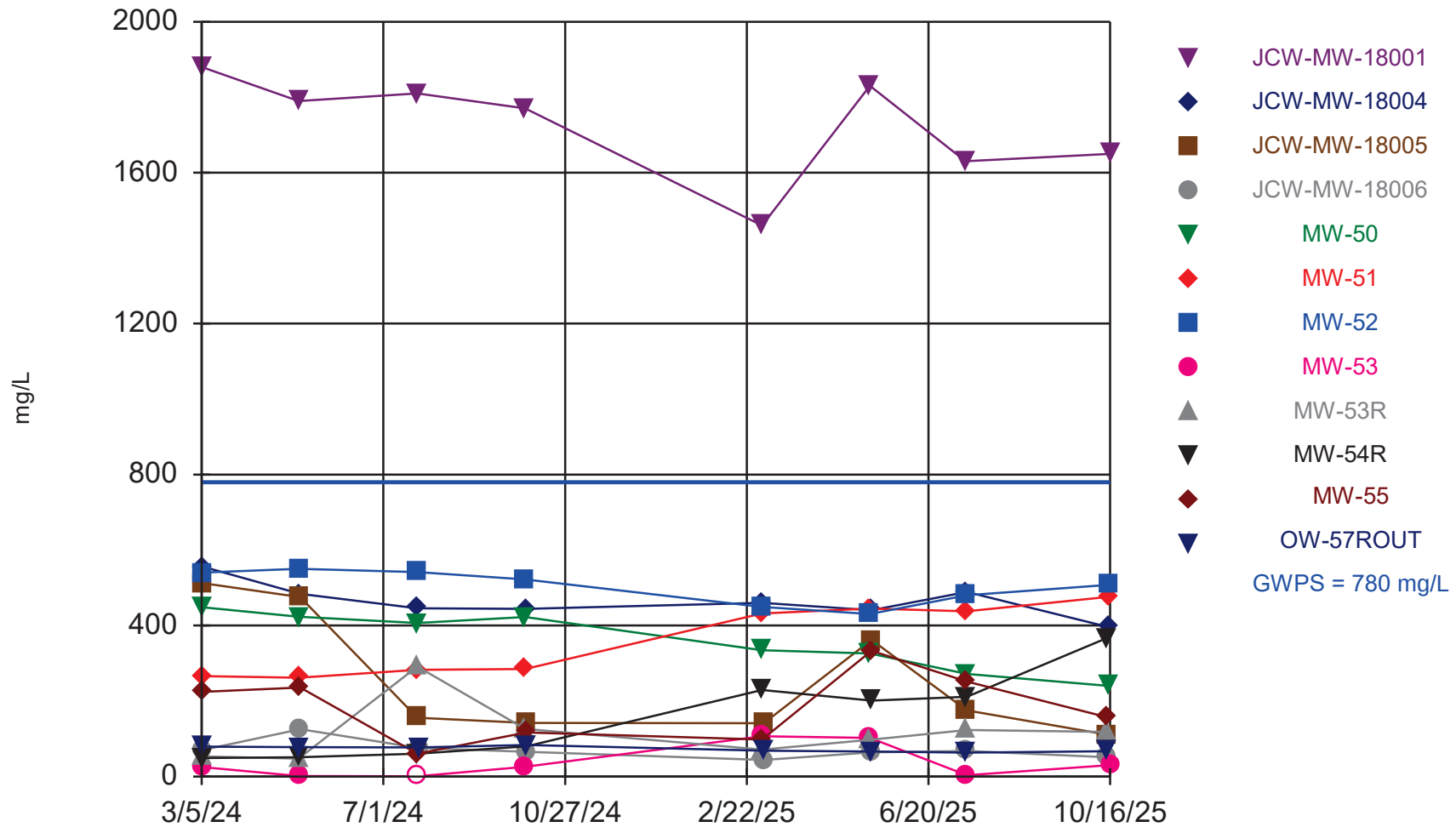


Time Series Analysis Run 12/8/2025 3:29 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Sulfate Comparison to GWPS

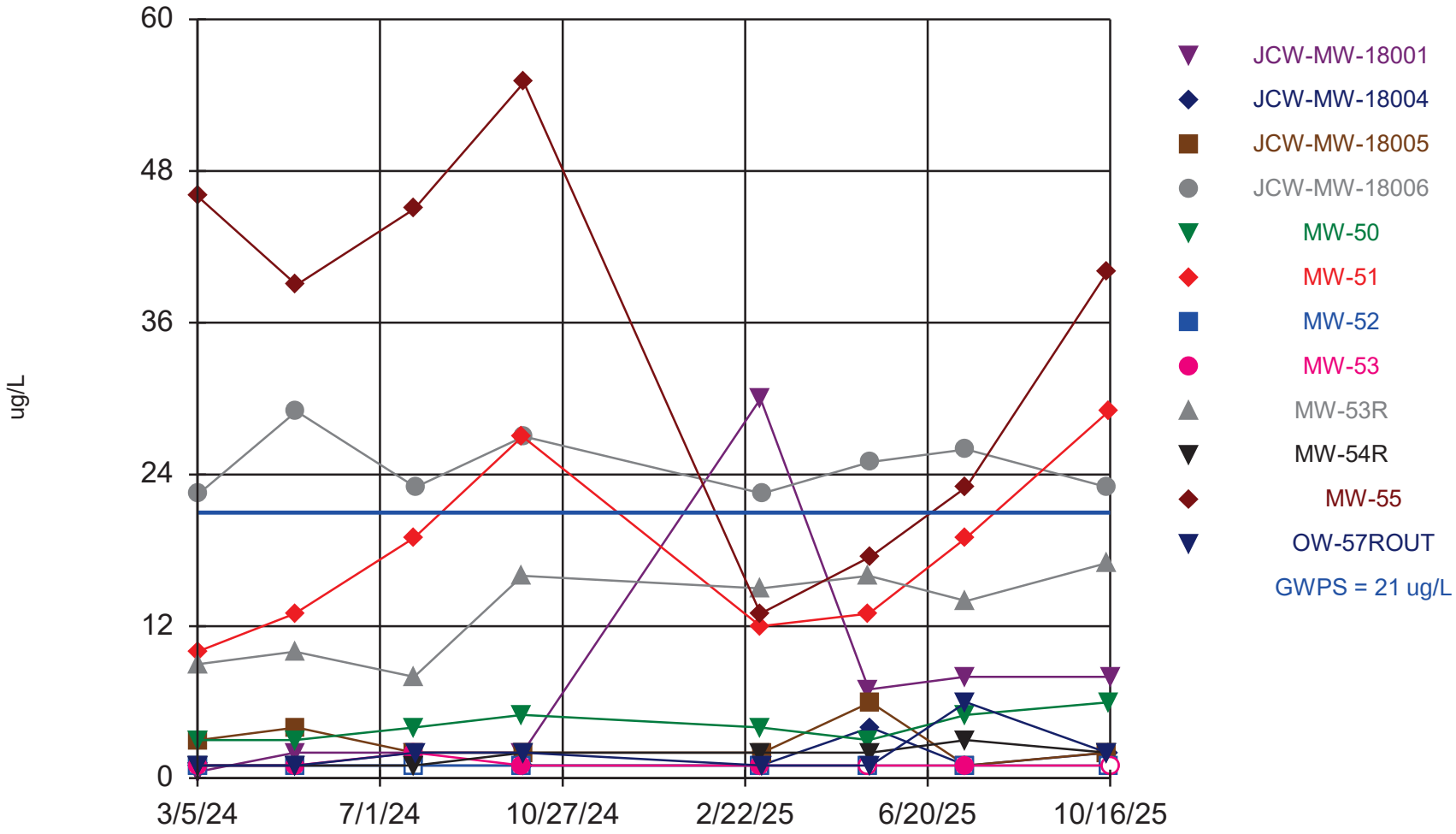


Time Series Analysis Run 12/8/2025 3:30 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Arsenic Comparison to GWPS

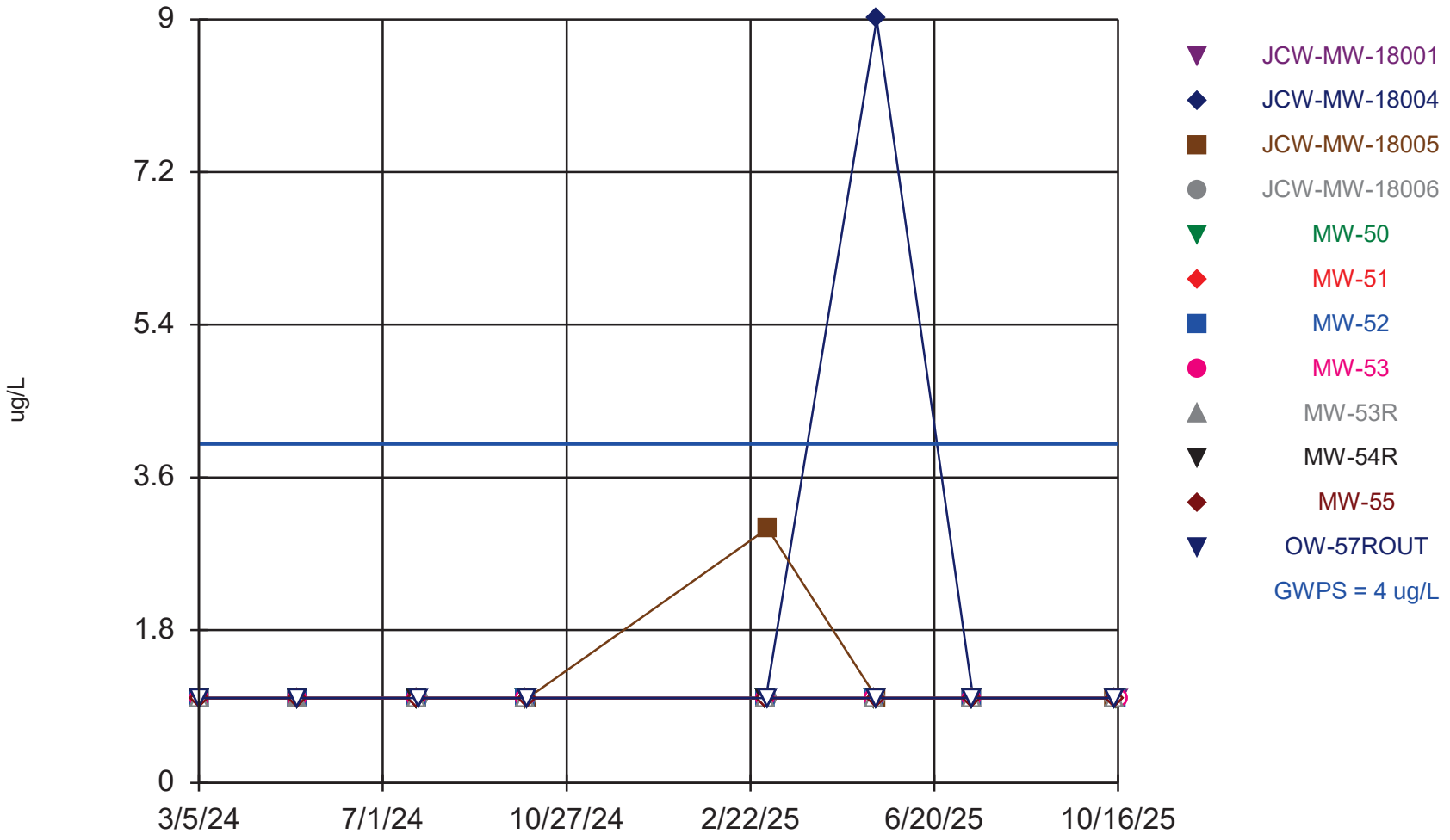


Time Series Analysis Run 12/8/2025 3:31 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Lead Comparison to GWPS



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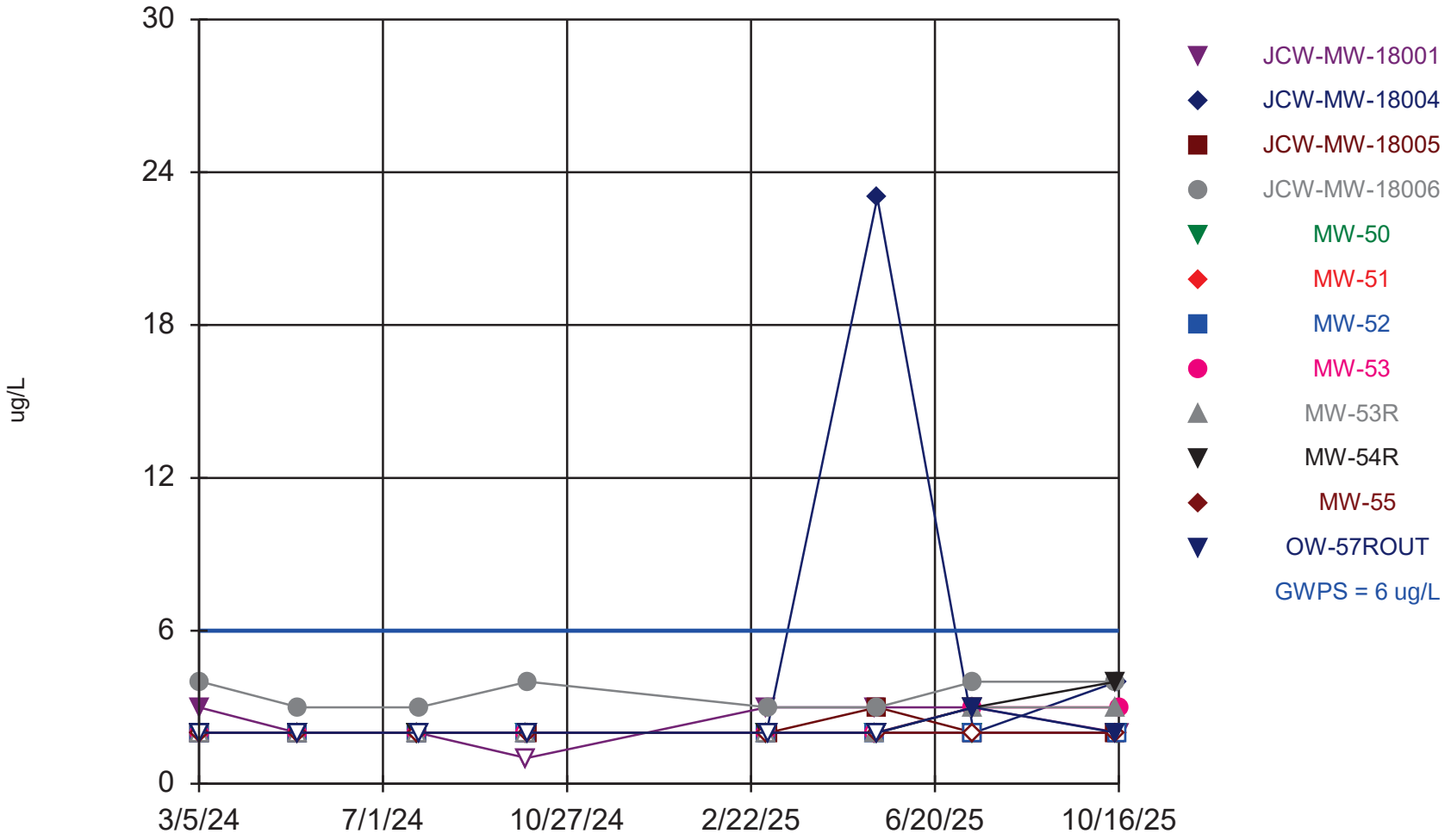
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Vanadium Comparison to GWPS

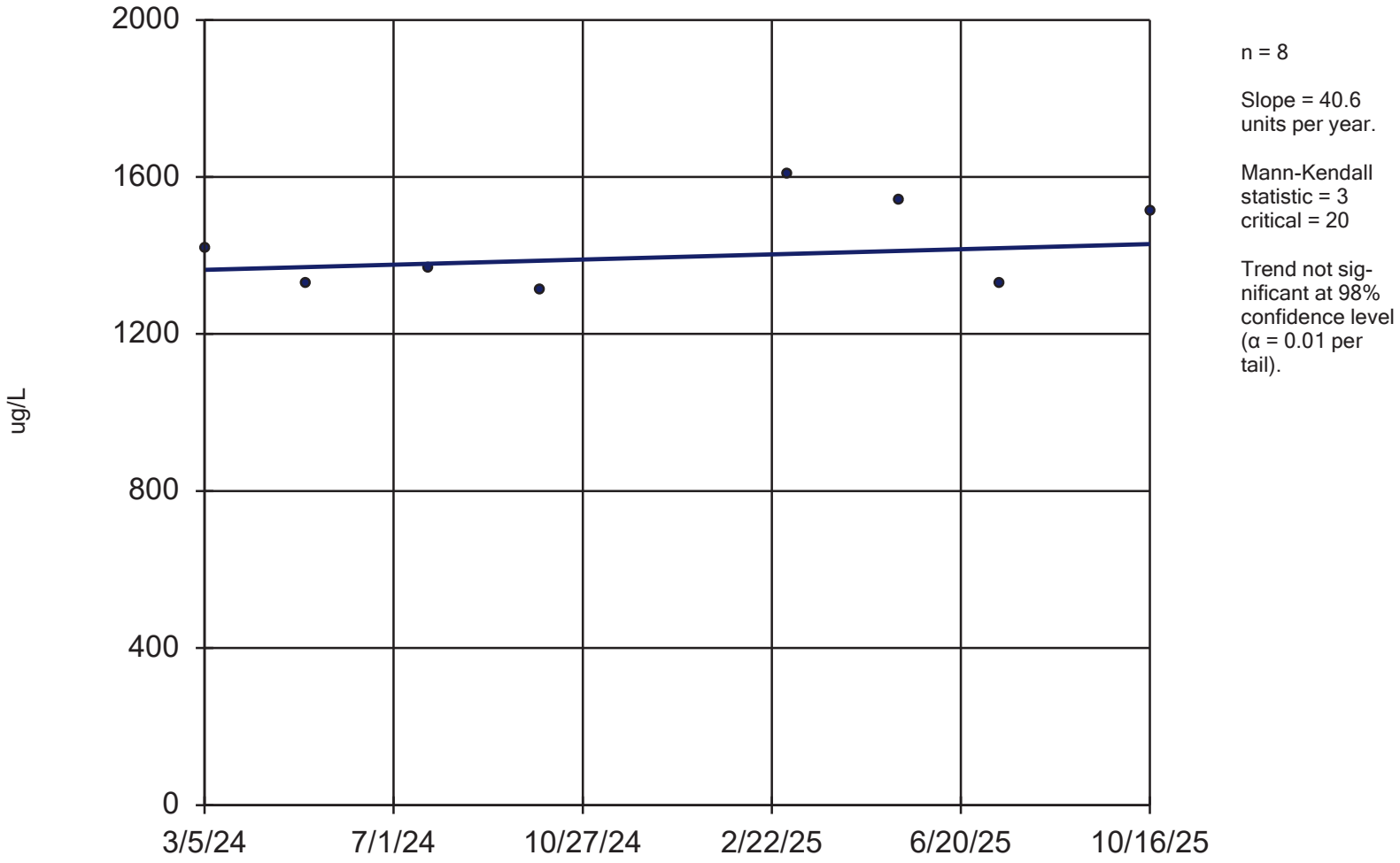


Time Series Analysis Run 12/8/2025 3:34 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Boron, Total

JCW-MW-18001



n = 8

Slope = 40.6 units per year.

Mann-Kendall statistic = 3 critical = 20

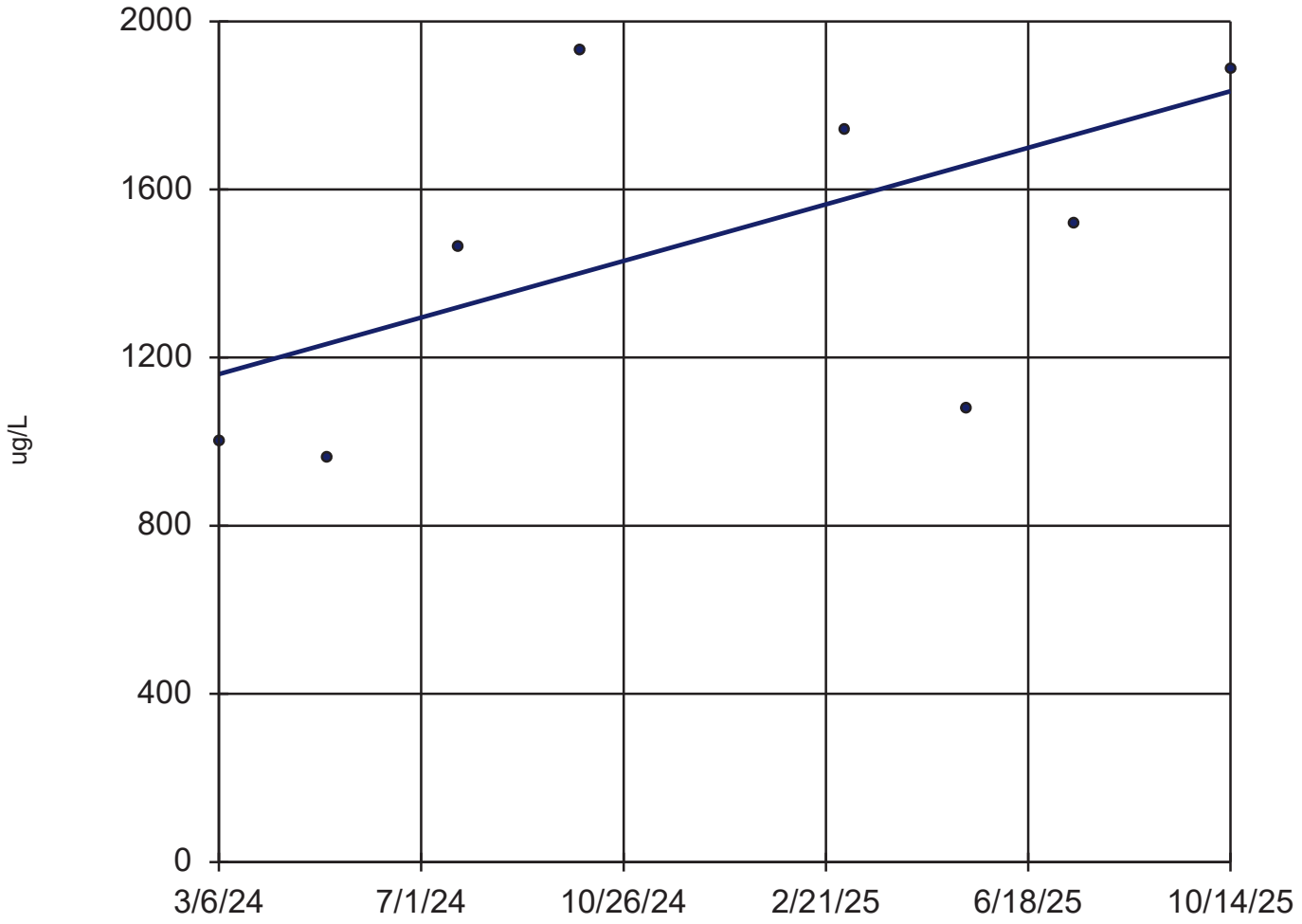
Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:37 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Boron, Total

JCW-MW-18005



n = 8

Slope = 418.4 units per year.

Mann-Kendall statistic = 12
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

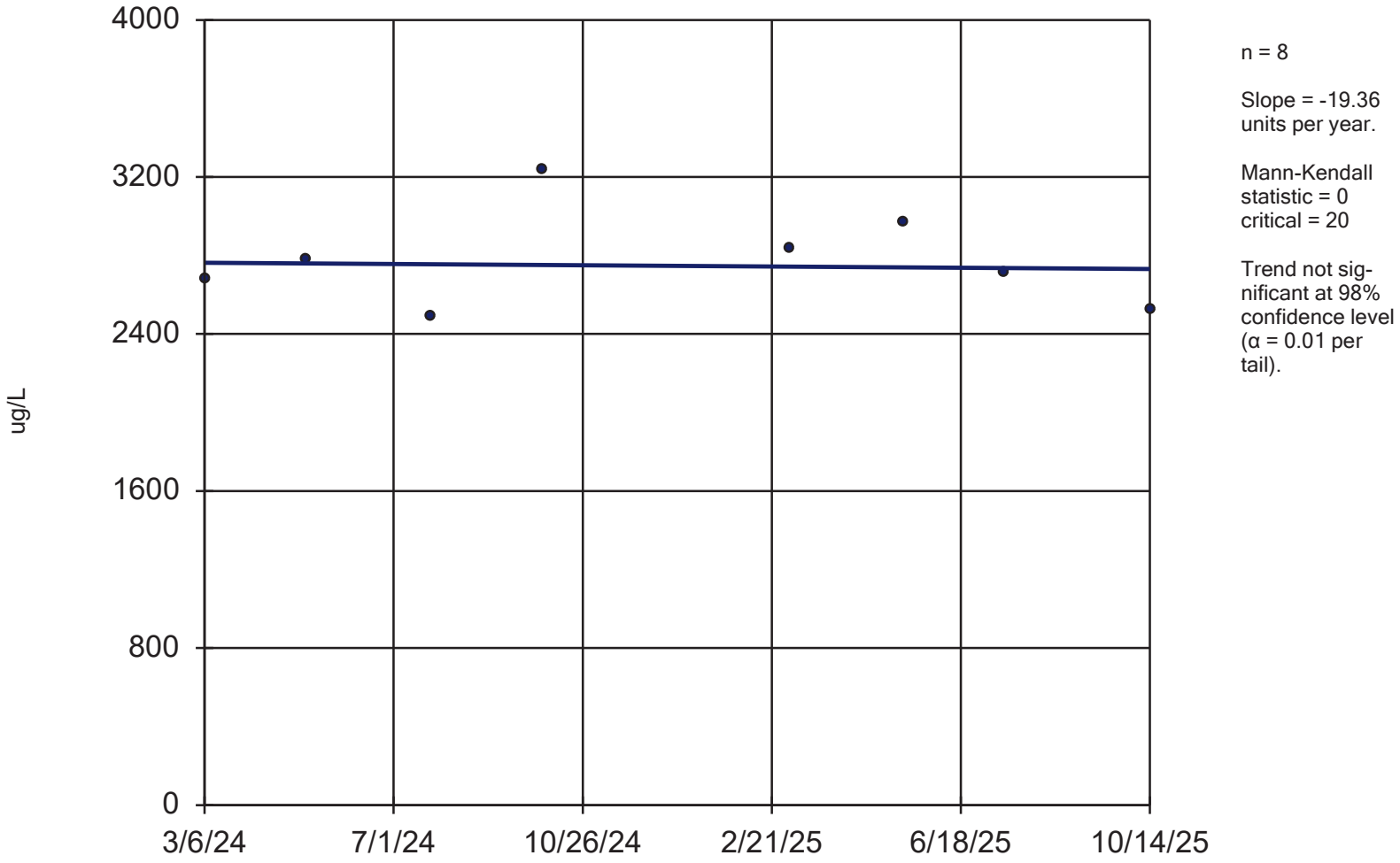
Sen's Slope Estimator Analysis Run 12/8/2025 3:37 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Boron, Total

JCW-MW-18006



n = 8

Slope = -19.36 units per year.

Mann-Kendall statistic = 0
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

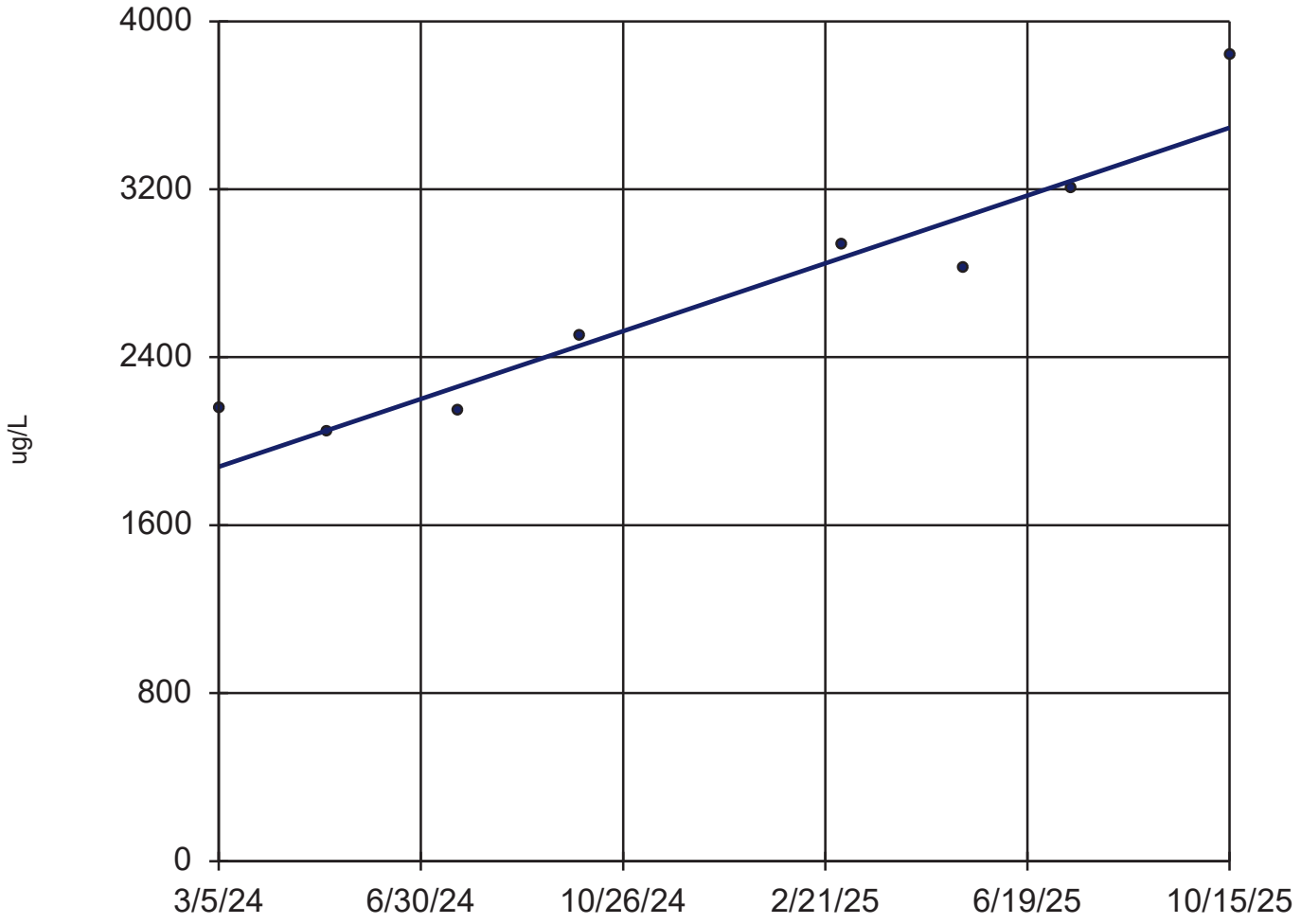
Sen's Slope Estimator Analysis Run 12/8/2025 3:37 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-50



n = 8

Slope = 1001 units per year.

Mann-Kendall statistic = 22 critical = 20

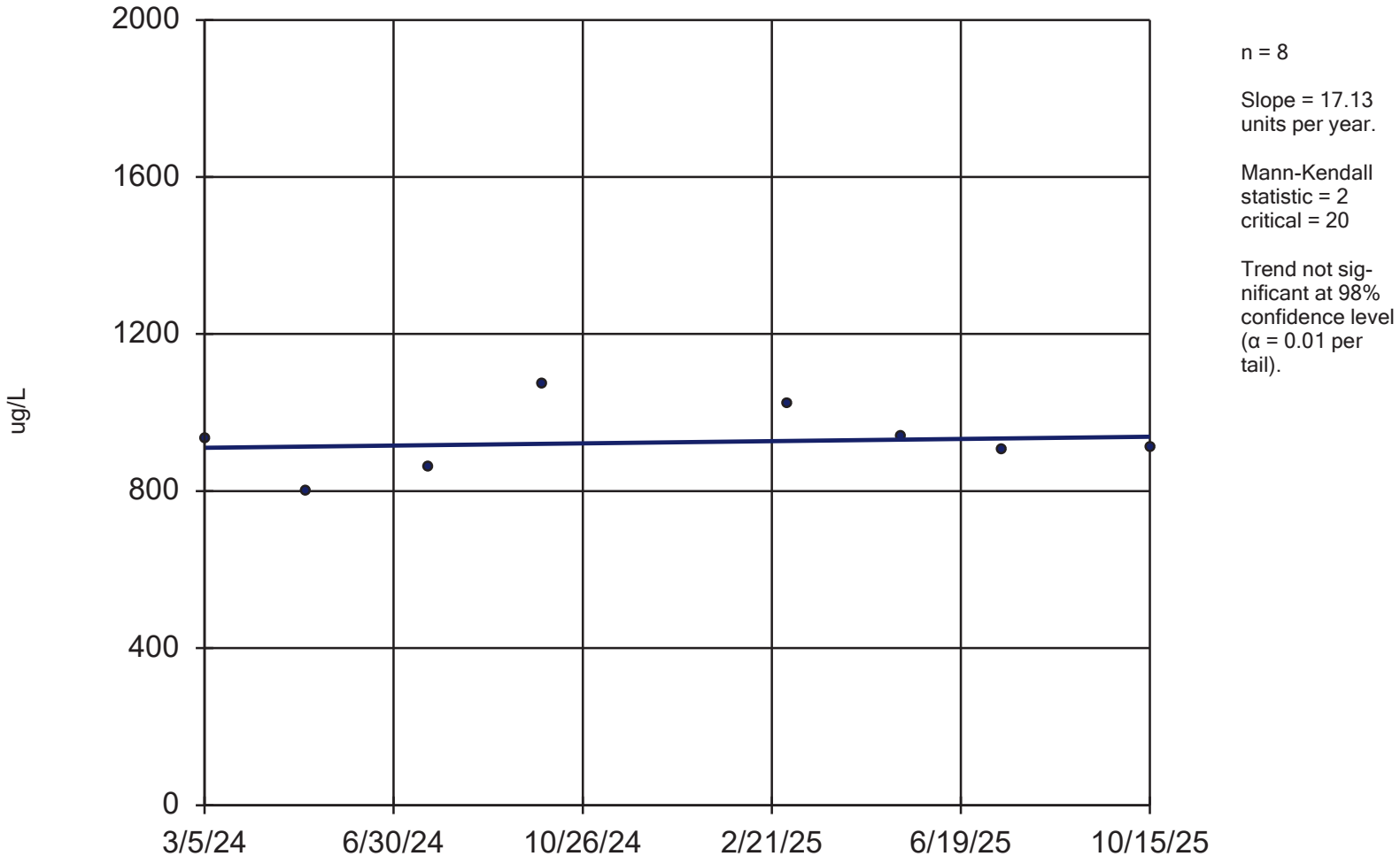
Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:37 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Boron, Total

MW-51



n = 8

Slope = 17.13 units per year.

Mann-Kendall statistic = 2
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

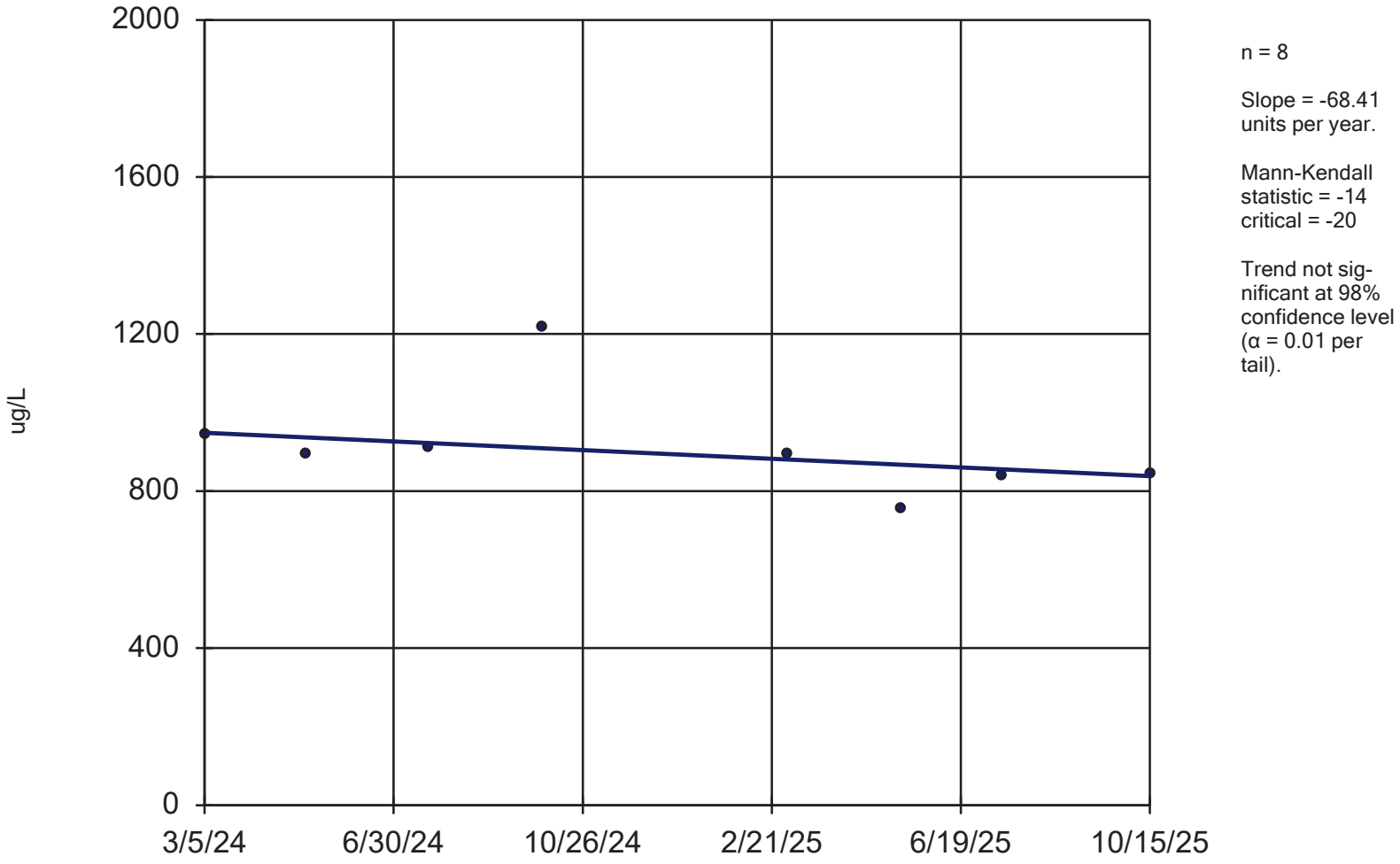
Sen's Slope Estimator Analysis Run 12/8/2025 3:37 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-52



n = 8

Slope = -68.41 units per year.

Mann-Kendall statistic = -14
critical = -20

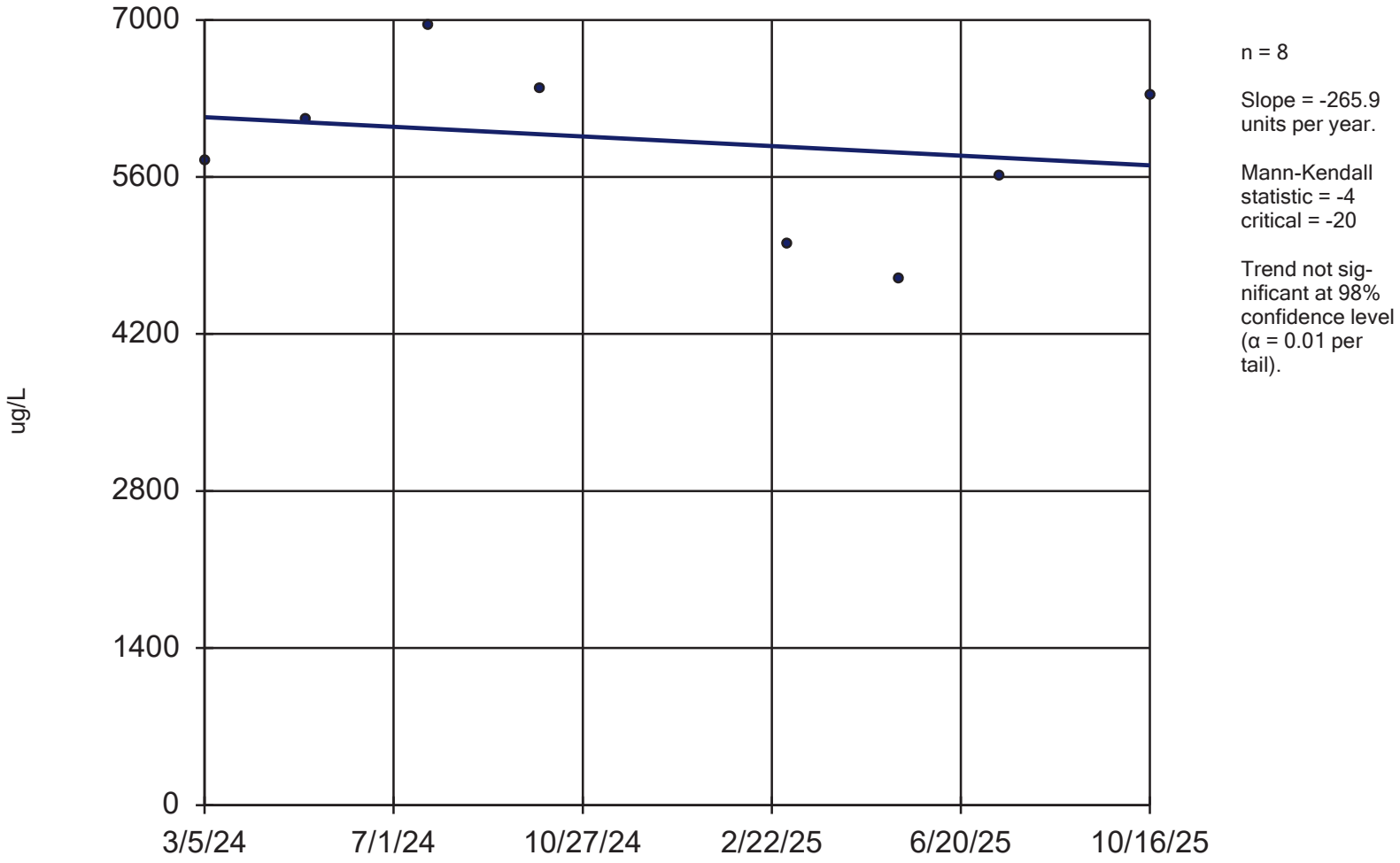
Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:37 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Boron, Total

MW-53



n = 8

Slope = -265.9 units per year.

Mann-Kendall statistic = -4
critical = -20

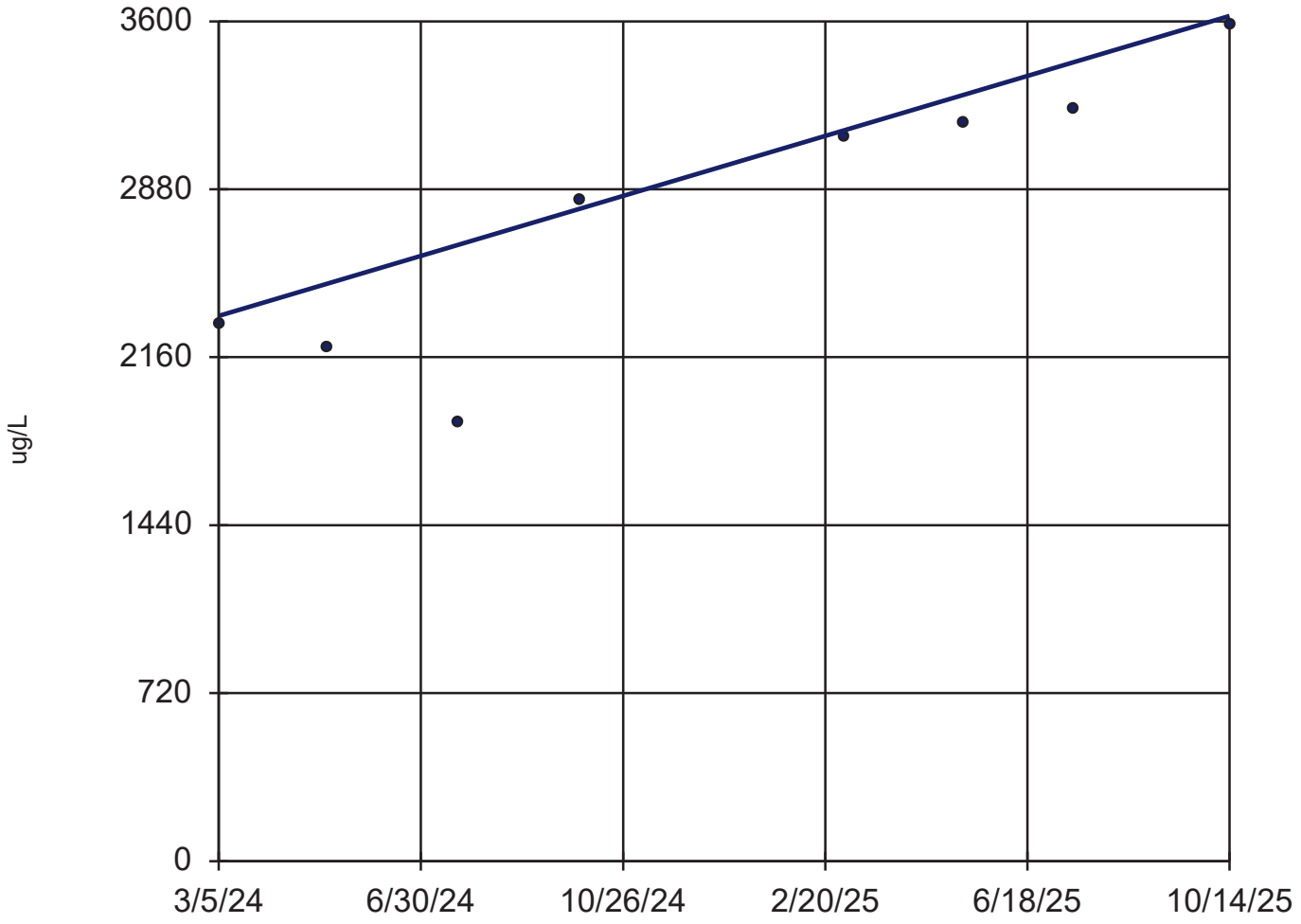
Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:37 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Boron, Total

MW-53R



n = 8

Slope = 798.4 units per year.

Mann-Kendall statistic = 22
critical = 20

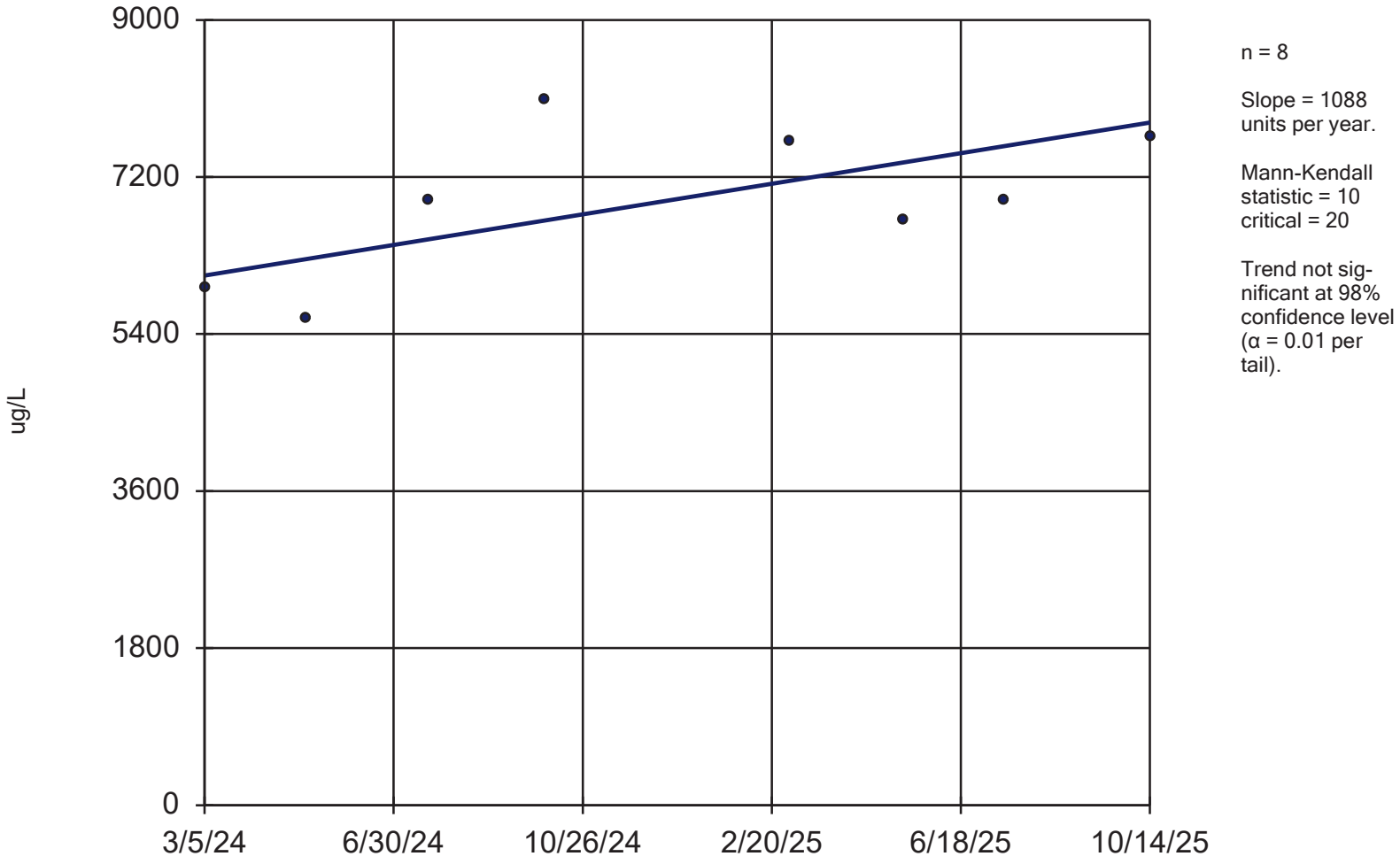
Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:38 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Boron, Total

MW-54R



n = 8

Slope = 1088 units per year.

Mann-Kendall statistic = 10 critical = 20

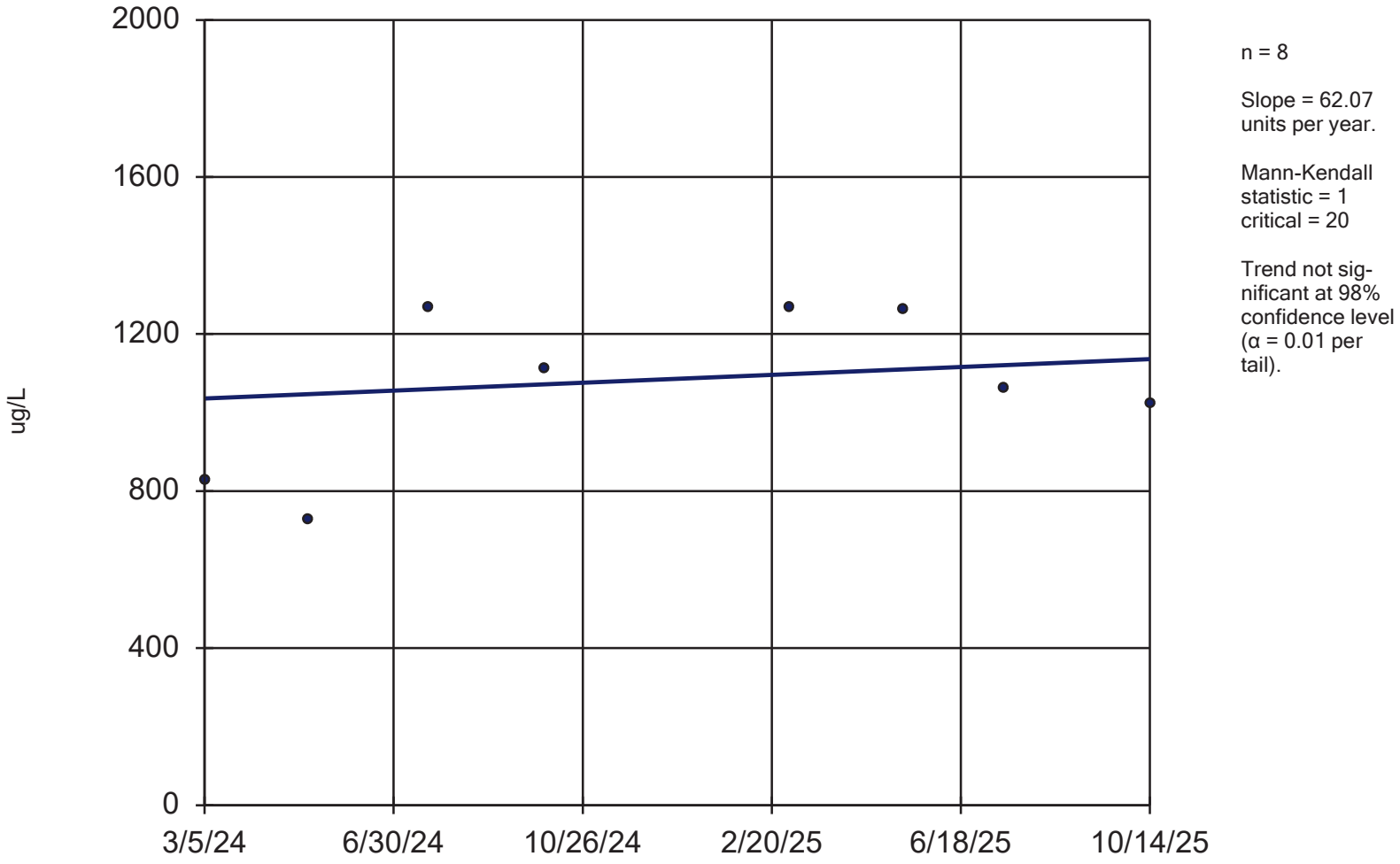
Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:38 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Boron, Total

MW-55



n = 8

Slope = 62.07 units per year.

Mann-Kendall statistic = 1
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:38 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

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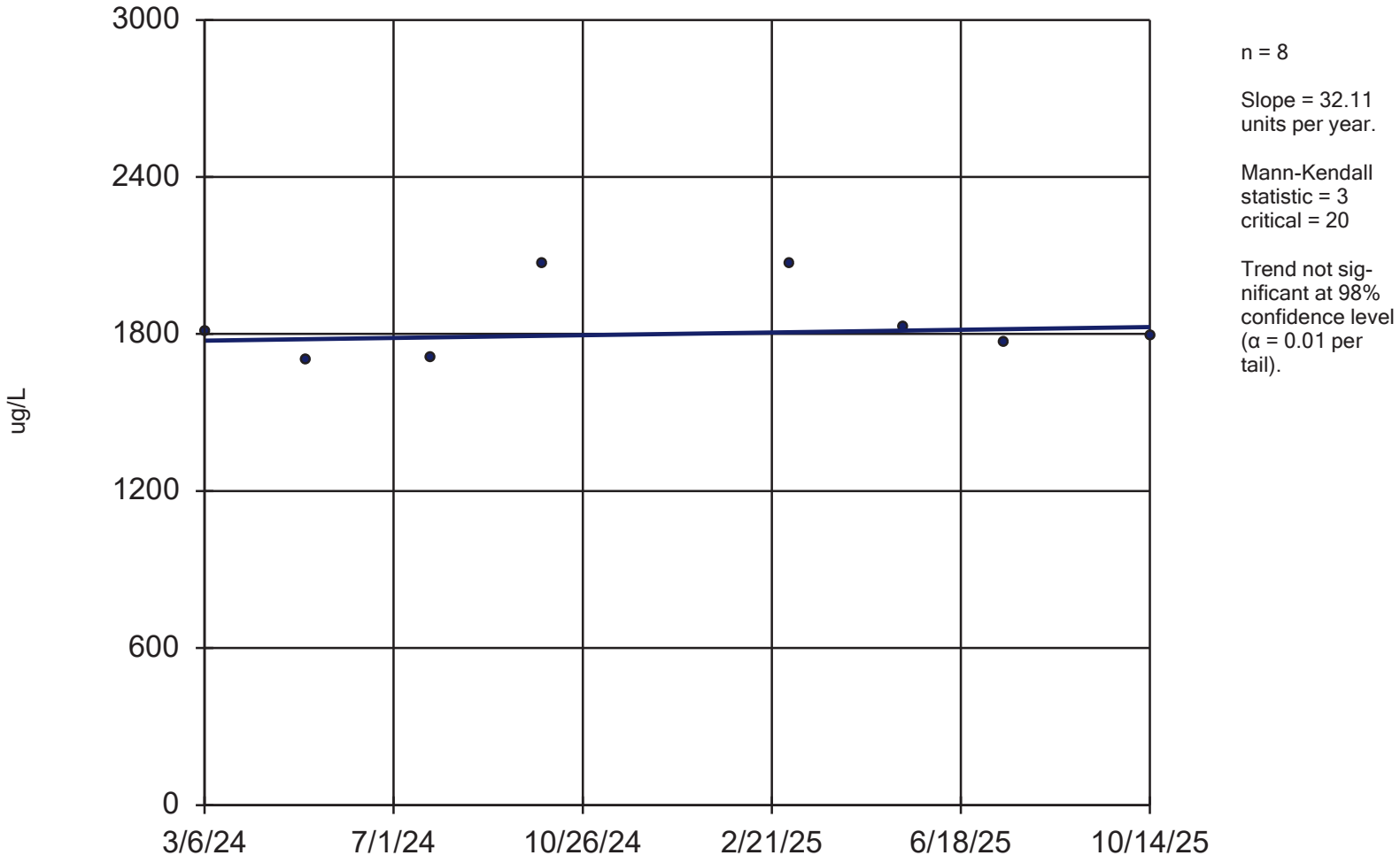
Boron, Total

OW-57ROUT



n = 8

Slope = 32.11 units per year.

Mann-Kendall statistic = 3
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:38 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

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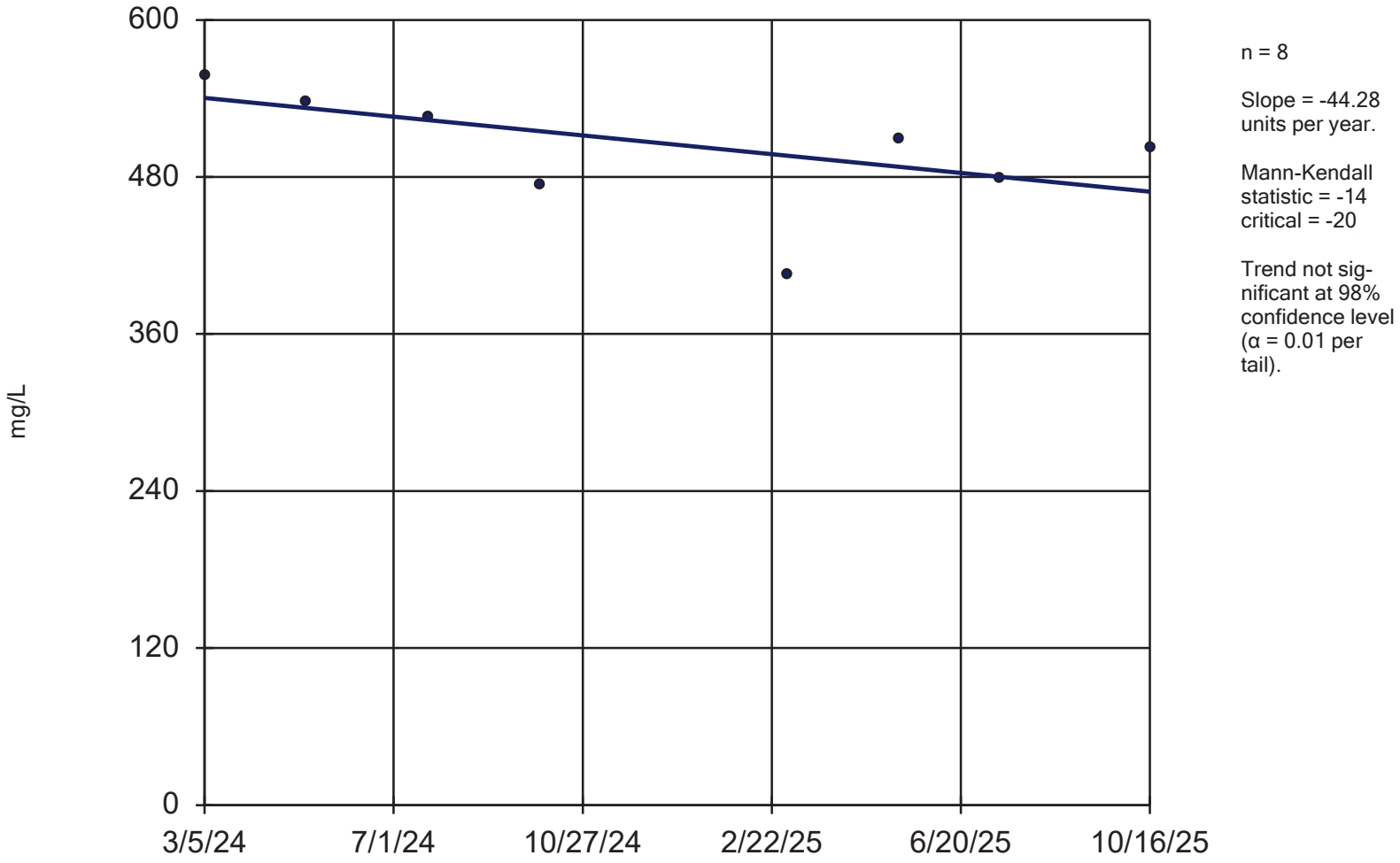
Calcium, Total

JCW-MW-18001



n = 8

Slope = -44.28 units per year.

Mann-Kendall statistic = -14
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

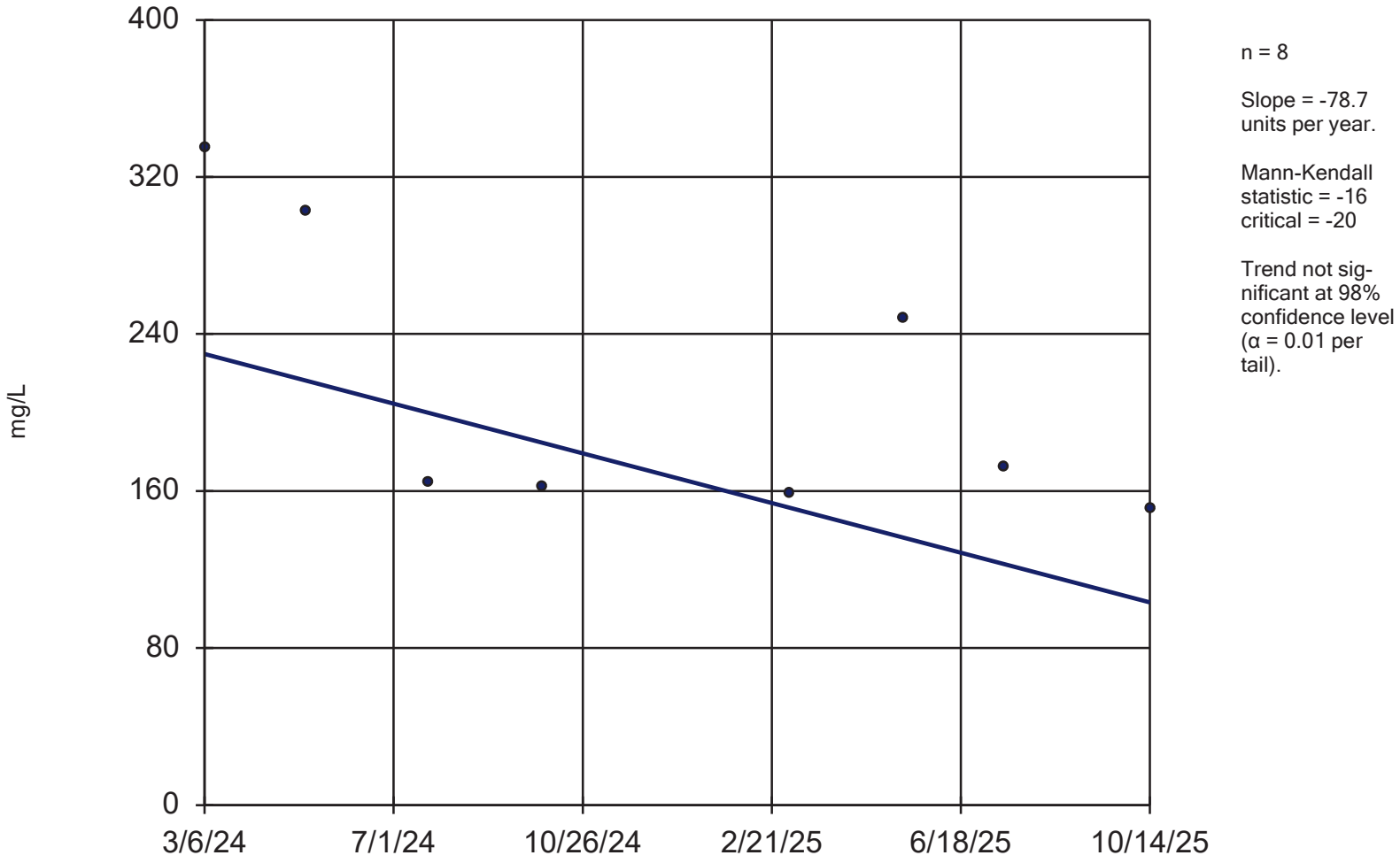
Sen's Slope Estimator Analysis Run 12/8/2025 3:38 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Calcium, Total

JCW-MW-18005



n = 8

Slope = -78.7 units per year.

Mann-Kendall statistic = -16
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

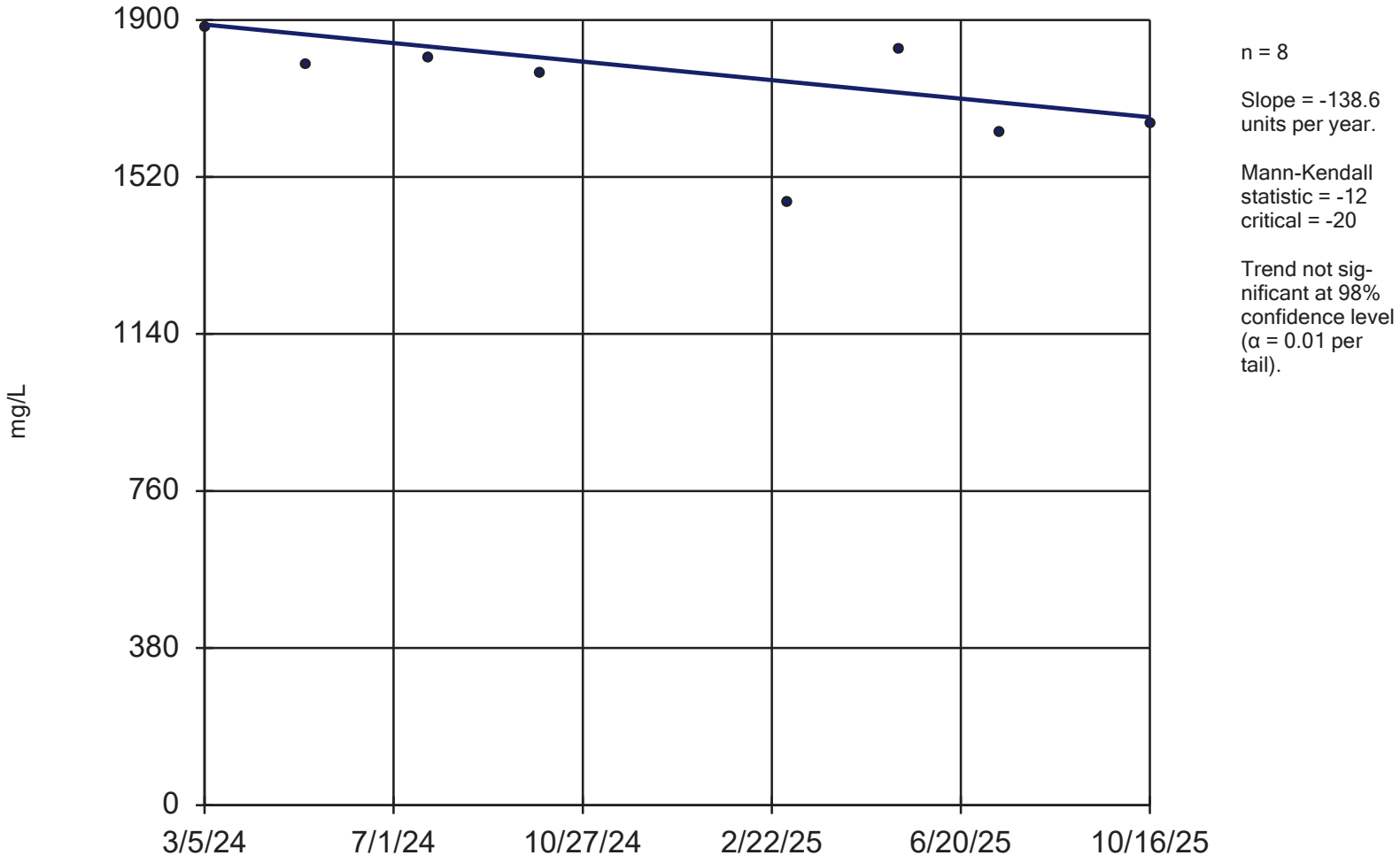
Sen's Slope Estimator Analysis Run 12/8/2025 3:38 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Sulfate

JCW-MW-18001



n = 8

Slope = -138.6 units per year.

Mann-Kendall statistic = -12
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).

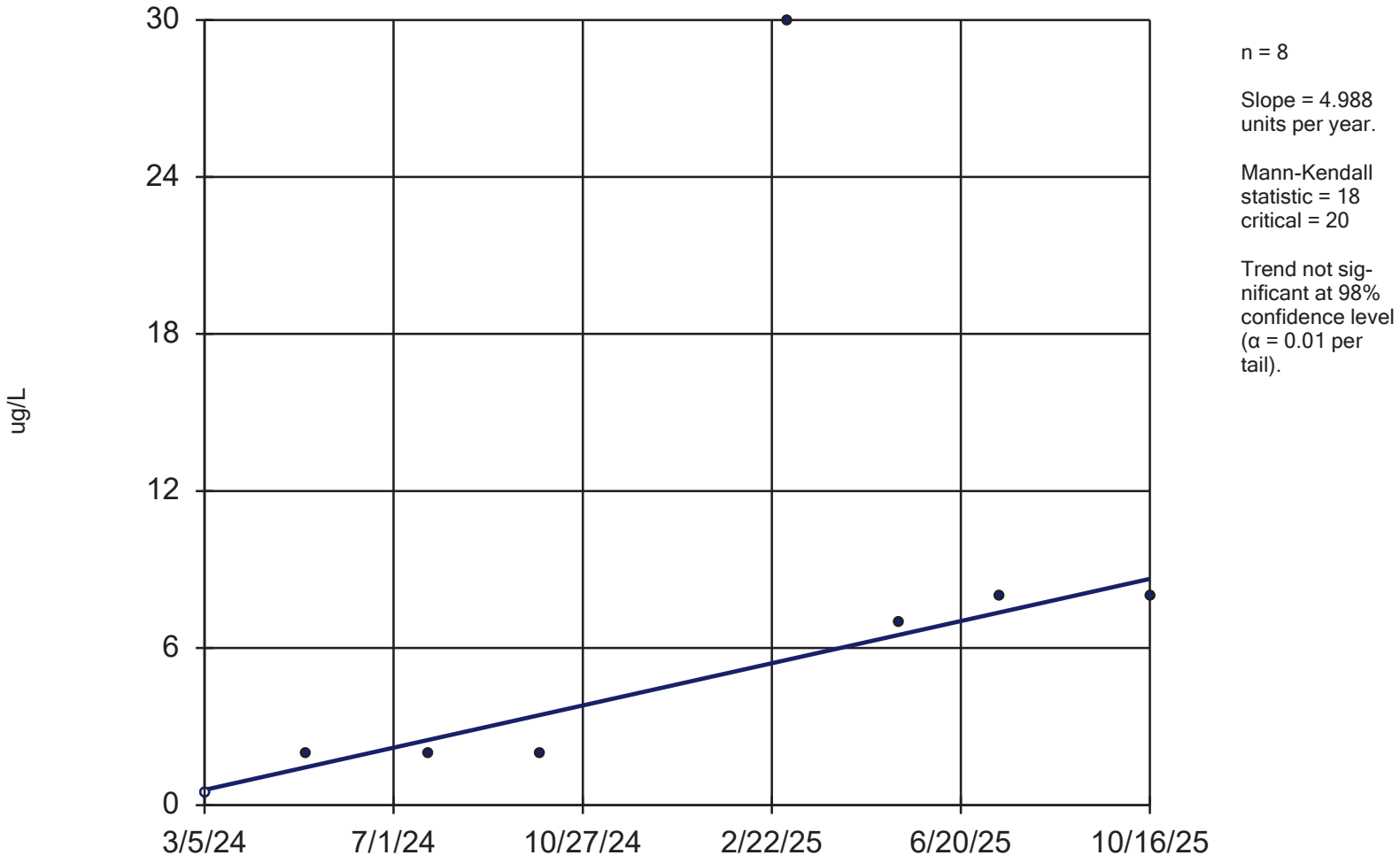
Sen's Slope Estimator Analysis Run 12/8/2025 3:38 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Arsenic, Total

JCW-MW-18001



n = 8

Slope = 4.988 units per year.

Mann-Kendall statistic = 18
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

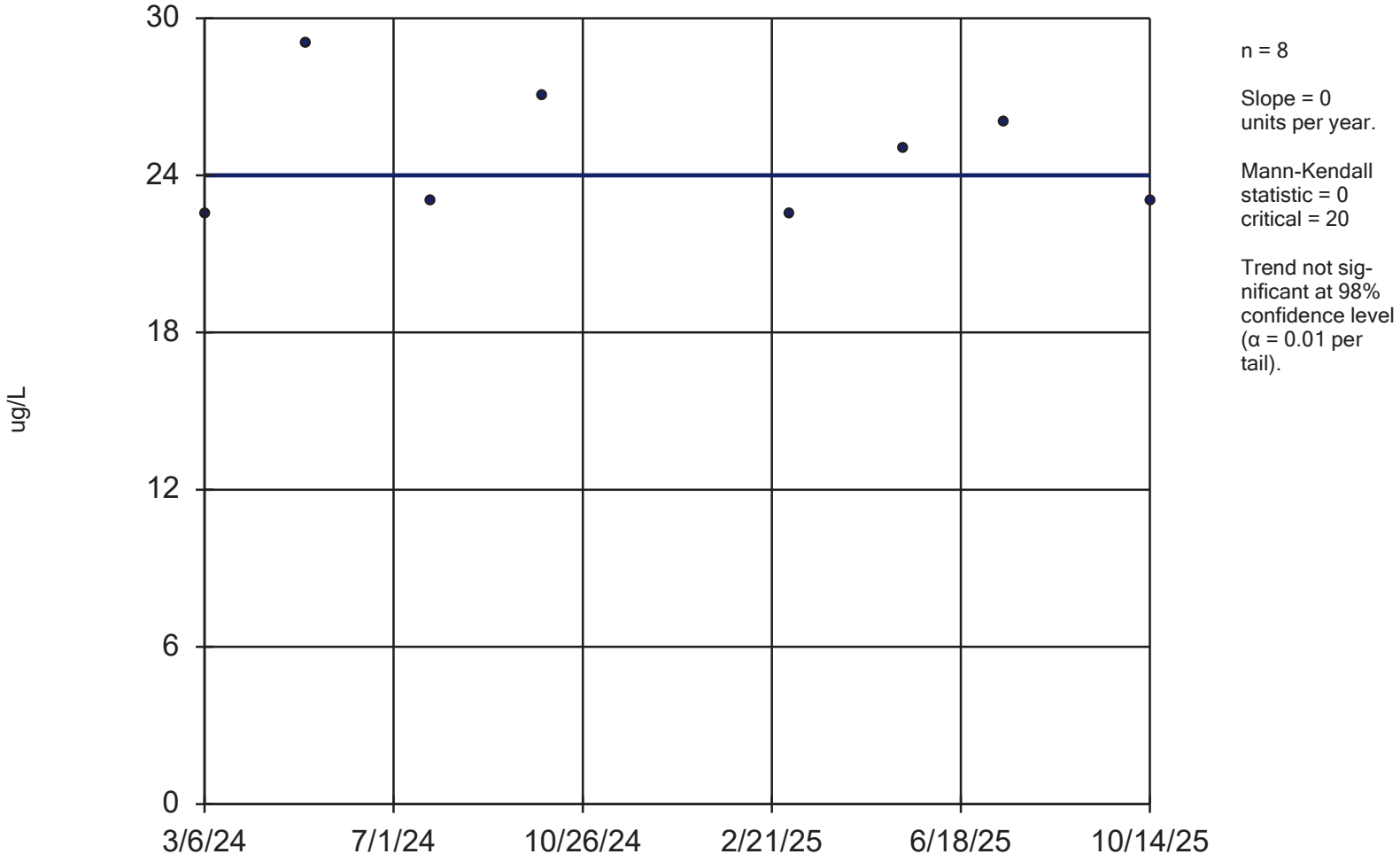
Sen's Slope Estimator Analysis Run 12/8/2025 3:37 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Arsenic, Total

JCW-MW-18006



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

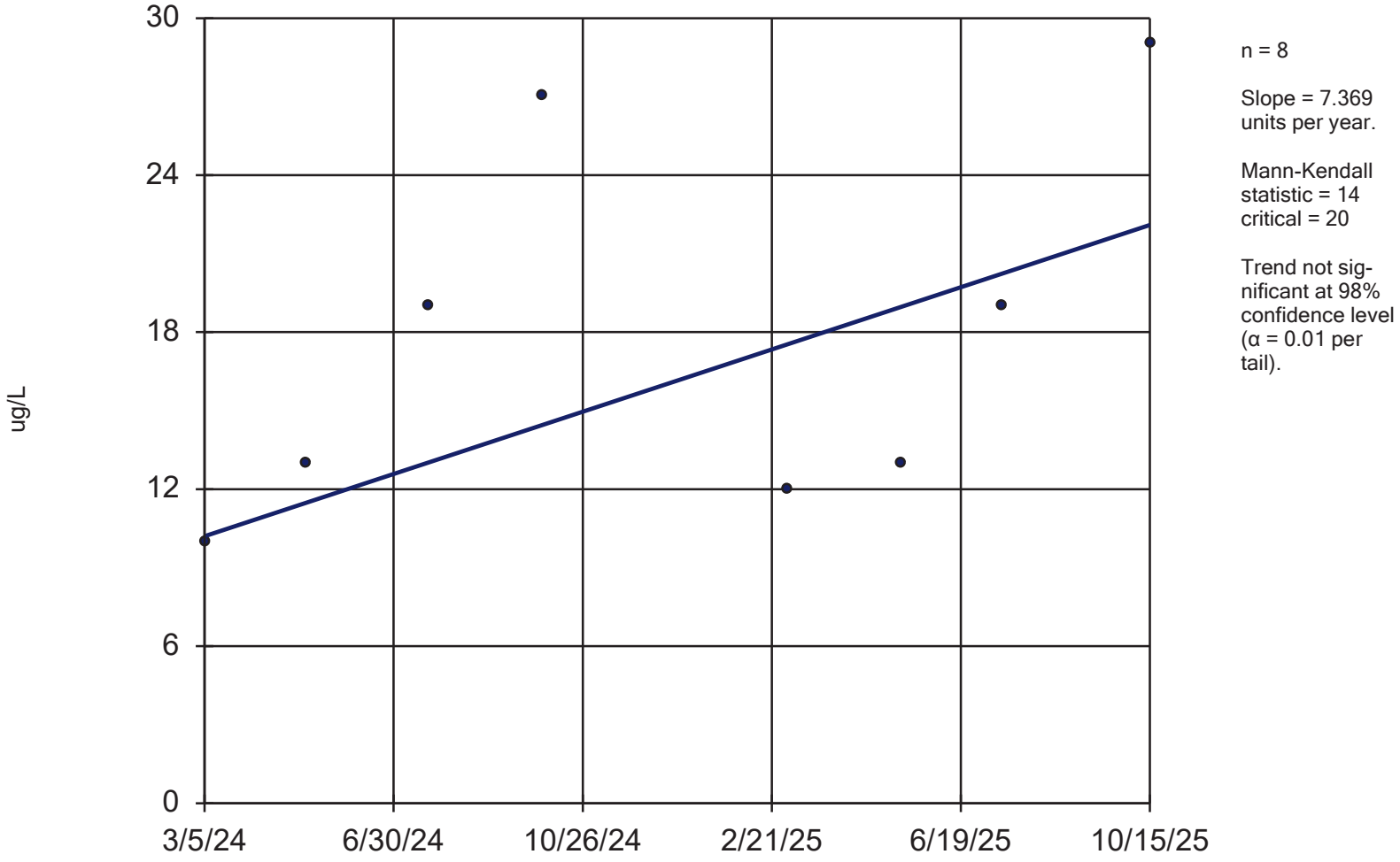
Trend not sig-
nificant at 98%
confidence level
(α = 0.01 per
tail).

Sen's Slope Estimator Analysis Run 12/8/2025 3:37 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Arsenic, Total

MW-51



n = 8

Slope = 7.369 units per year.

Mann-Kendall statistic = 14
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).

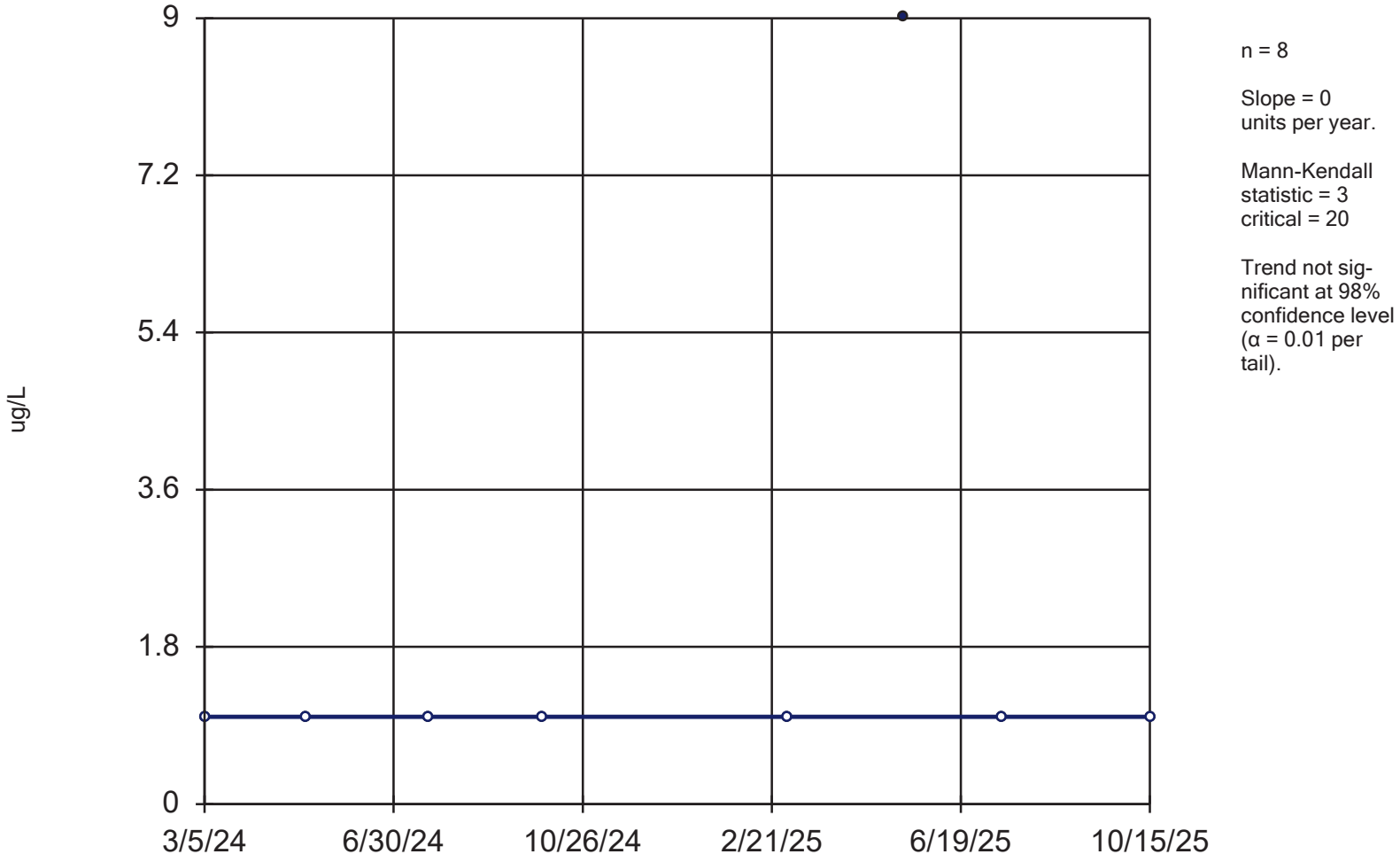
Sen's Slope Estimator Analysis Run 12/8/2025 3:37 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Lead, Total

JCW-MW-18004



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 3
critical = 20

Trend not sig-
nificant at 98%
confidence level
(α = 0.01 per
tail).

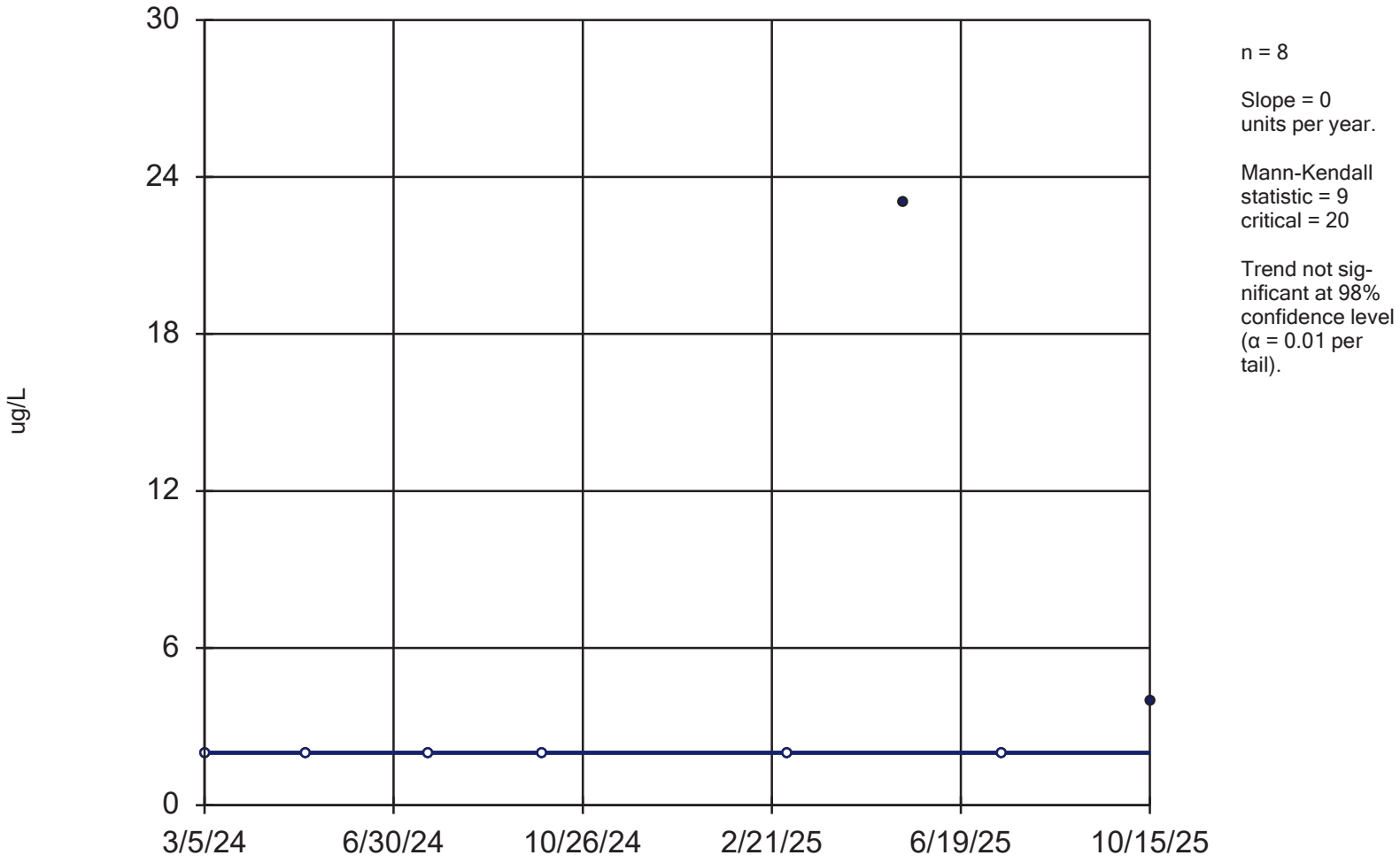
Sen's Slope Estimator Analysis Run 12/8/2025 3:38 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Vanadium, Total

JCW-MW-18004



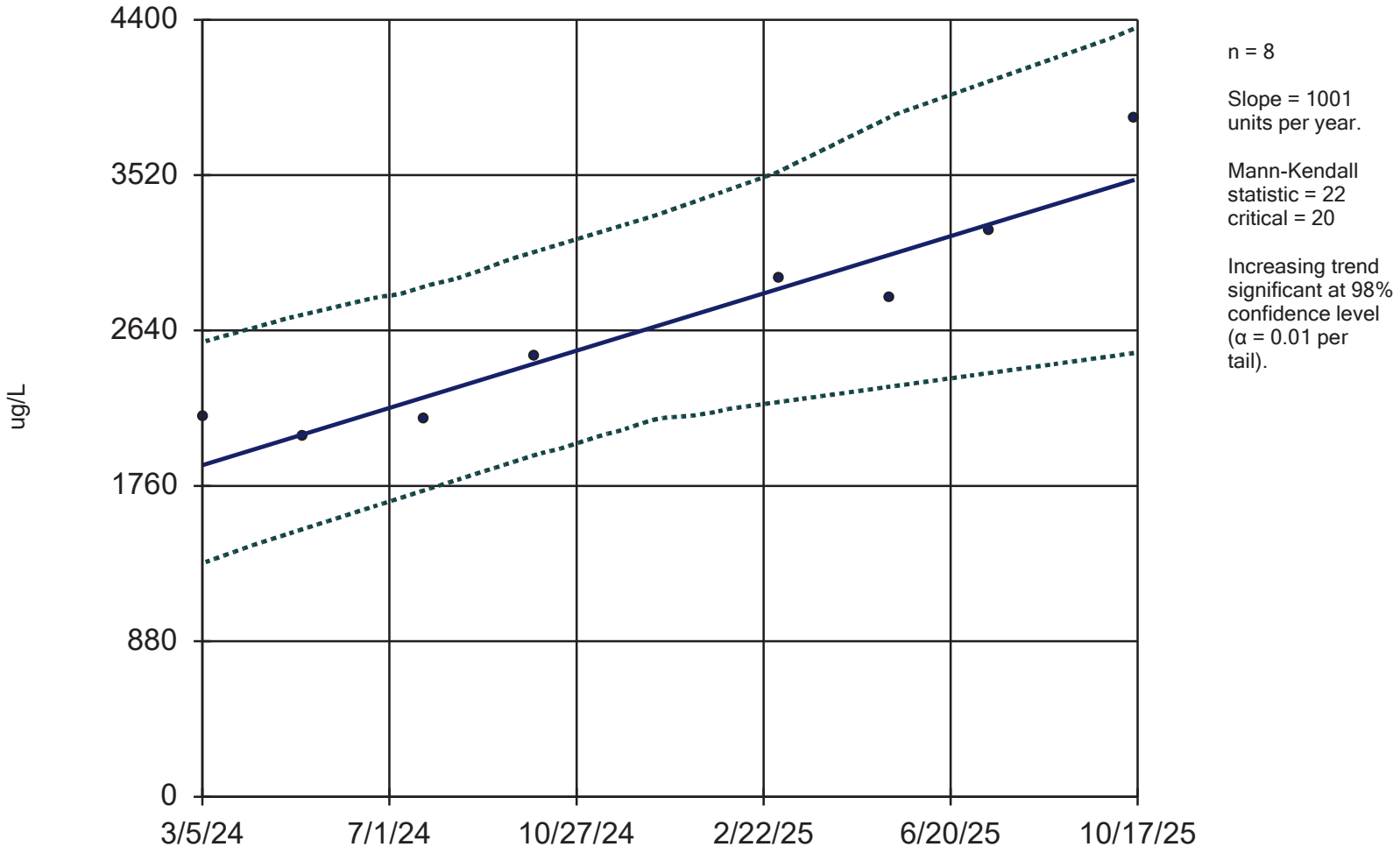
Sen's Slope Estimator Analysis Run 12/8/2025 3:38 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-50



n = 8

Slope = 1001 units per year.

Mann-Kendall statistic = 22
critical = 20

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope and 98% Confidence Band Analysis Run 12/8/2025 3:46 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sen's Slope Estimator

Constituent: Boron, Total (ug/L) Analysis Run 12/8/2025 3:47 PM

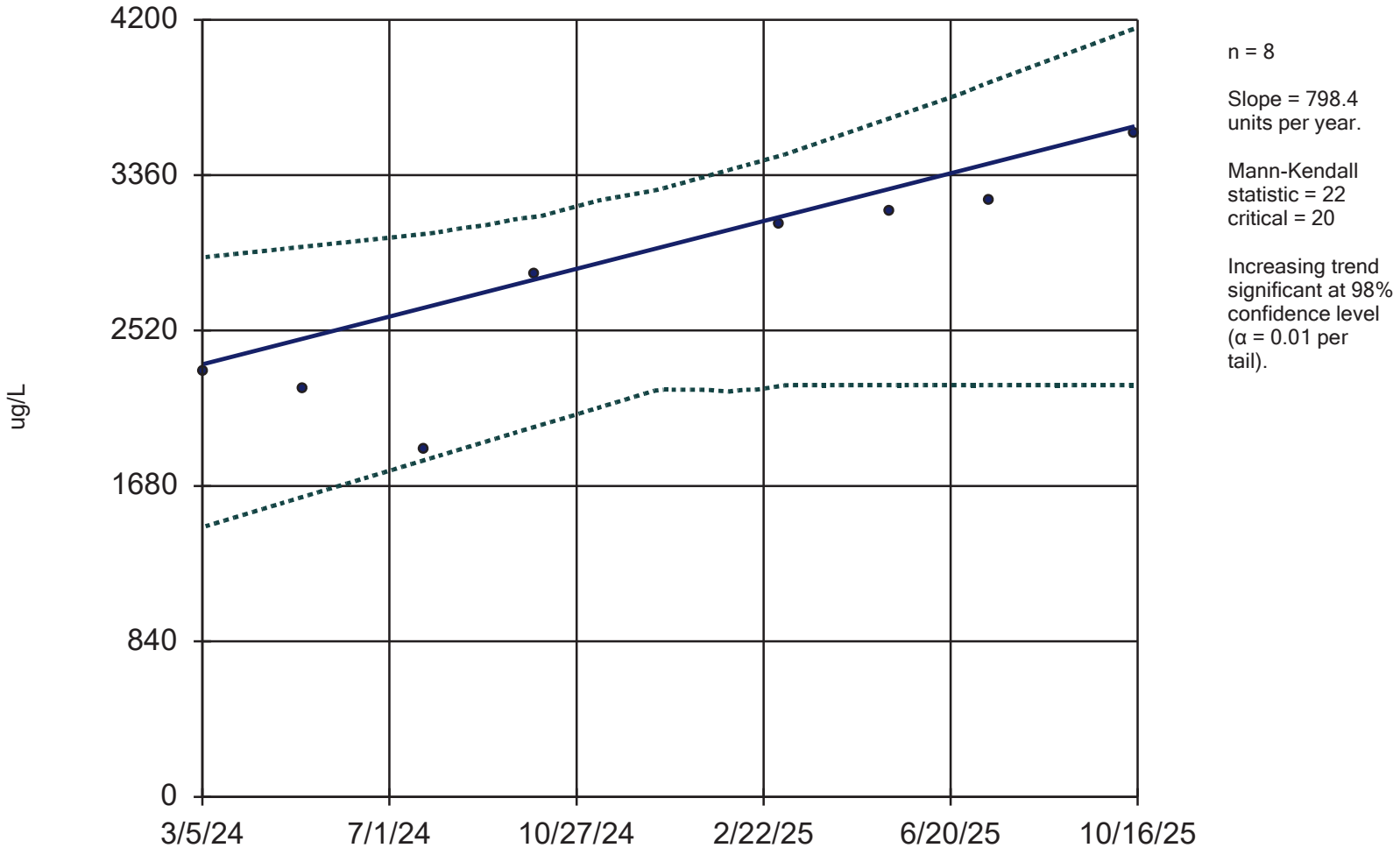
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

	MW-50	LCL	UCL
3/5/2024	2155 (D)	1321	2575
5/7/2024	2045 (D)	1514	2729
7/23/2024	2140 (D)	1734	2888
10/1/2024	2500 (D)	1935	3086
3/4/2025	2935 (D)	2235	3539
5/13/2025	2830	2321	3847
7/15/2025	3200	2399	4051
10/15/2025	3840	2513	4350

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG

Boron, Total

MW-53R



n = 8

Slope = 798.4 units per year.

Mann-Kendall statistic = 22
critical = 20

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope and 98% Confidence Band Analysis Run 12/8/2025 3:46 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sen's Slope Estimator

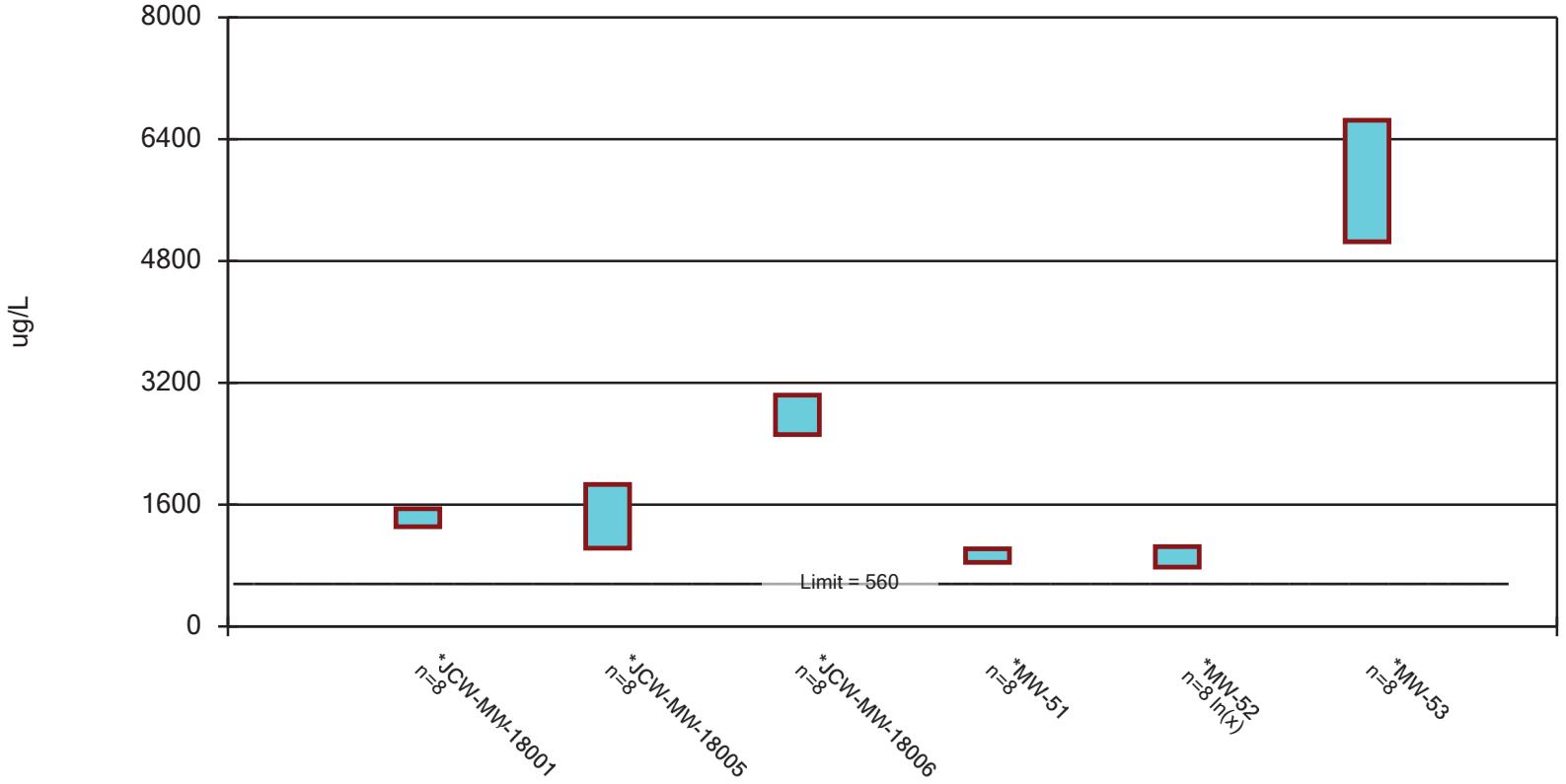
Constituent: Boron, Total (ug/L) Analysis Run 12/8/2025 3:47 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

	MW-53R	LCL	UCL
3/5/2024	2300	1457	2915
5/7/2024	2200	1620	2972
7/23/2024	1880	1820	3042
10/1/2024	2830	2001	3135
3/4/2025	3100	2220	3464
5/13/2025	3160	2225	3668
7/15/2025	3220	2225	3863
10/14/2025	3580	2225	4152

Parametric Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Boron, Total Analysis Run 12/8/2025 3:45 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Confidence Interval

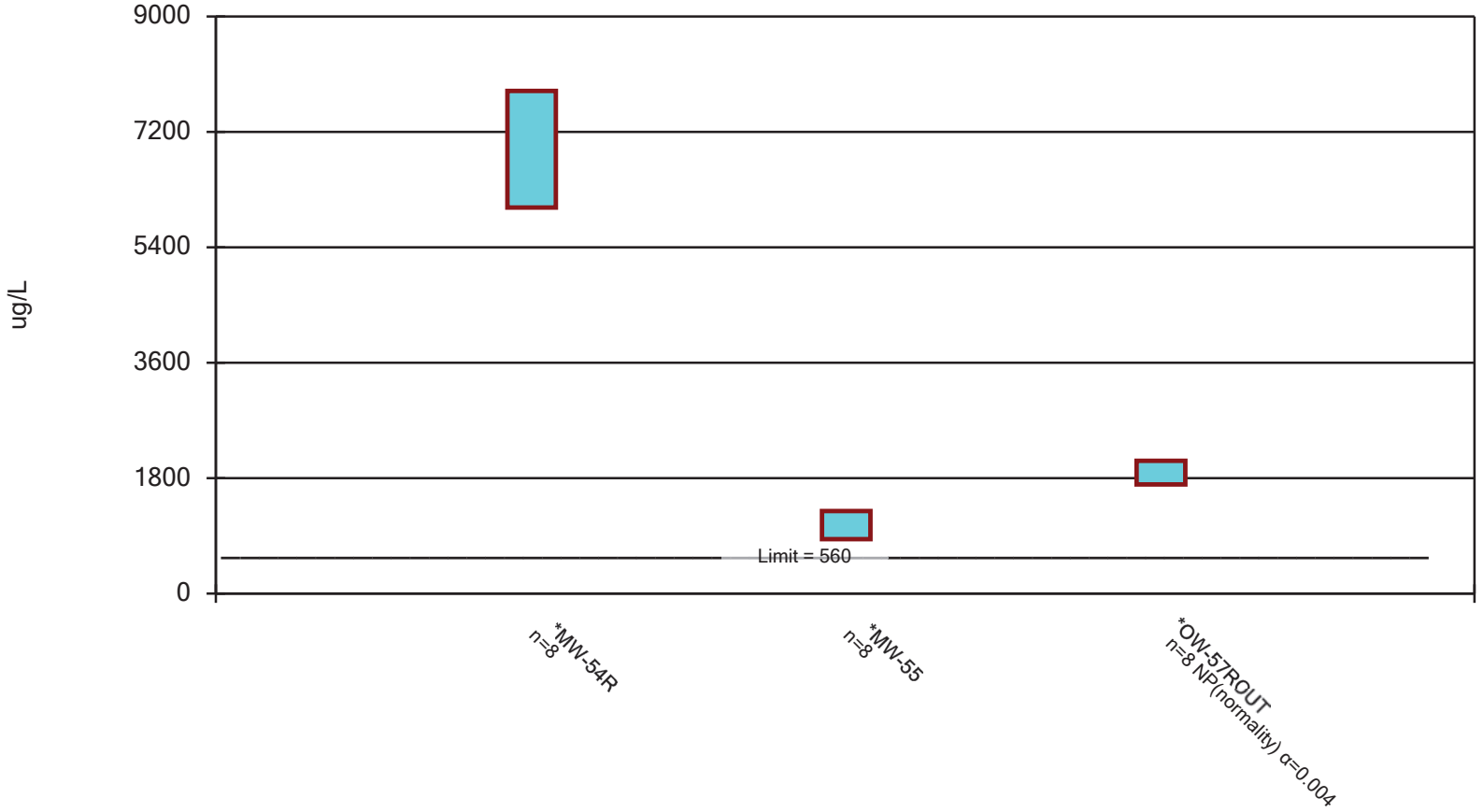
Constituent: Boron, Total (ug/L) Analysis Run 12/8/2025 3:46 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

	JCW-MW-18001	JCW-MW-18005	JCW-MW-18006	MW-51	MW-52	MW-53
3/5/2024	1420			935	945	5740
3/6/2024		1000	2675 (D)			
5/7/2024	1330			798	895	6110
5/8/2024		960	2785 (D)			
7/23/2024	1370	1460		862	909	6960
7/24/2024			2490			
10/1/2024	1310			1070	1220	6380
10/2/2024		1930	3240			
3/4/2025	1610			1020	894	5010
3/5/2025		1740	2840 (D)			
5/13/2025	1540			938	755.5 (D)	4680
5/14/2025		1080	2970			
7/14/2025	1330					
7/15/2025		1520	2710 (D)	905 (D)	837	5600
10/14/2025		1885 (D)	2520			
10/15/2025				913	843	
10/16/2025	1510					6330
Mean	1428	1447	2779	930.1	912.3	5851
Std. Dev.	112.7	394.3	244.6	85.15	137	752.1
Upper Lim.	1547	1865	3038	1020	1048	6648
Lower Lim.	1308	1029	2519	839.9	780.4	5054

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Boron, Total Analysis Run 12/8/2025 3:45 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Confidence Interval

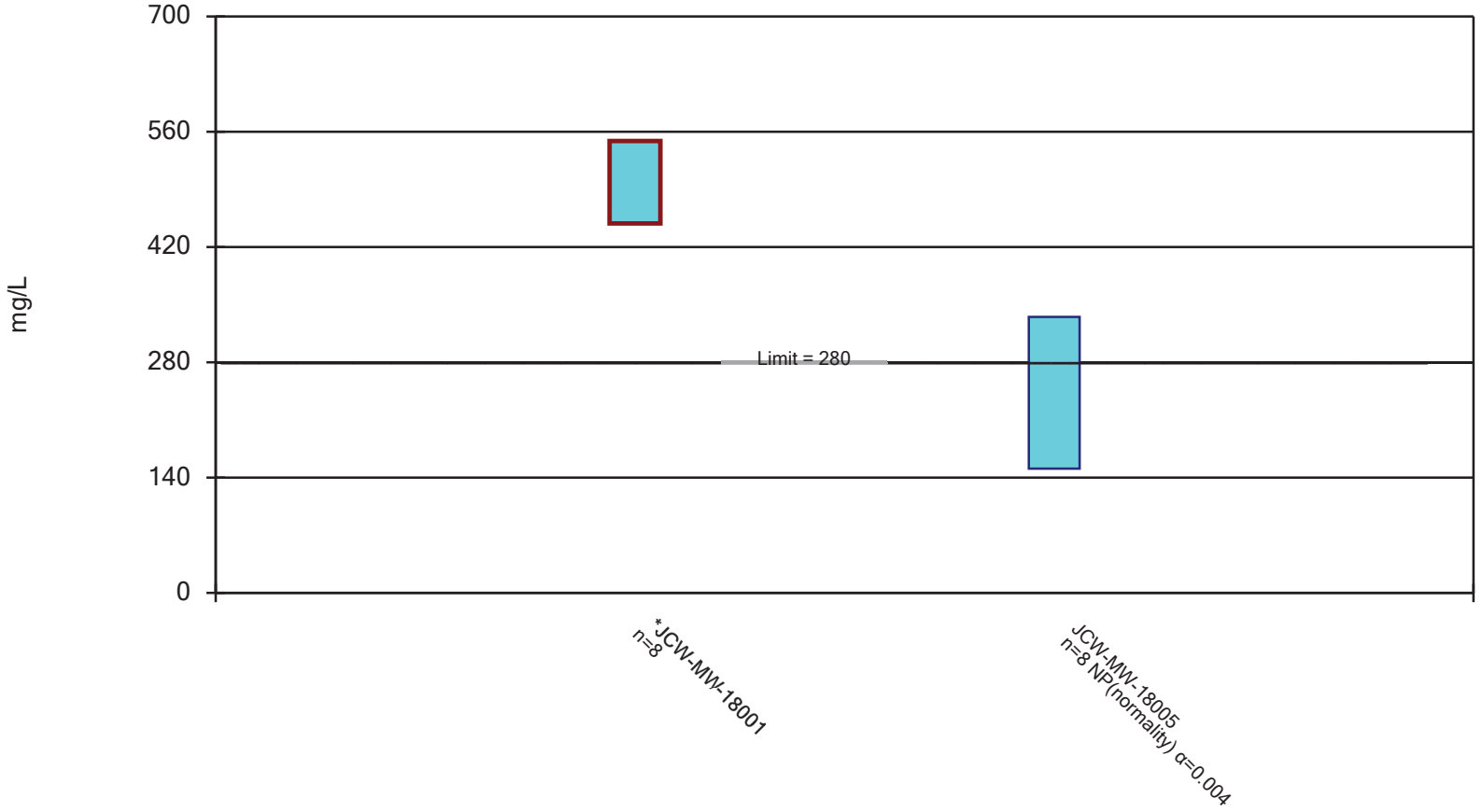
Constituent: Boron, Total (ug/L) Analysis Run 12/8/2025 3:46 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

	MW-54R	MW-55	OW-57ROUT
3/5/2024	5940	825	
3/6/2024			1810
5/7/2024	5580		
5/8/2024		729	1700
7/23/2024	6930	1270	
7/24/2024			1710 (D)
10/2/2024	8080	1110 (D)	2070
3/4/2025	7610	1270	
3/5/2025			2070
5/14/2025	6710	1260 (D)	1830
7/15/2025	6920	1060	1770
10/14/2025	7660	1025 (D)	1790
Mean	6929	1069	1844
Std. Dev.	859.3	205.7	146.7
Upper Lim.	7840	1287	2070
Lower Lim.	6018	850.6	1700

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Calcium, Total Analysis Run 12/8/2025 3:45 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Confidence Interval

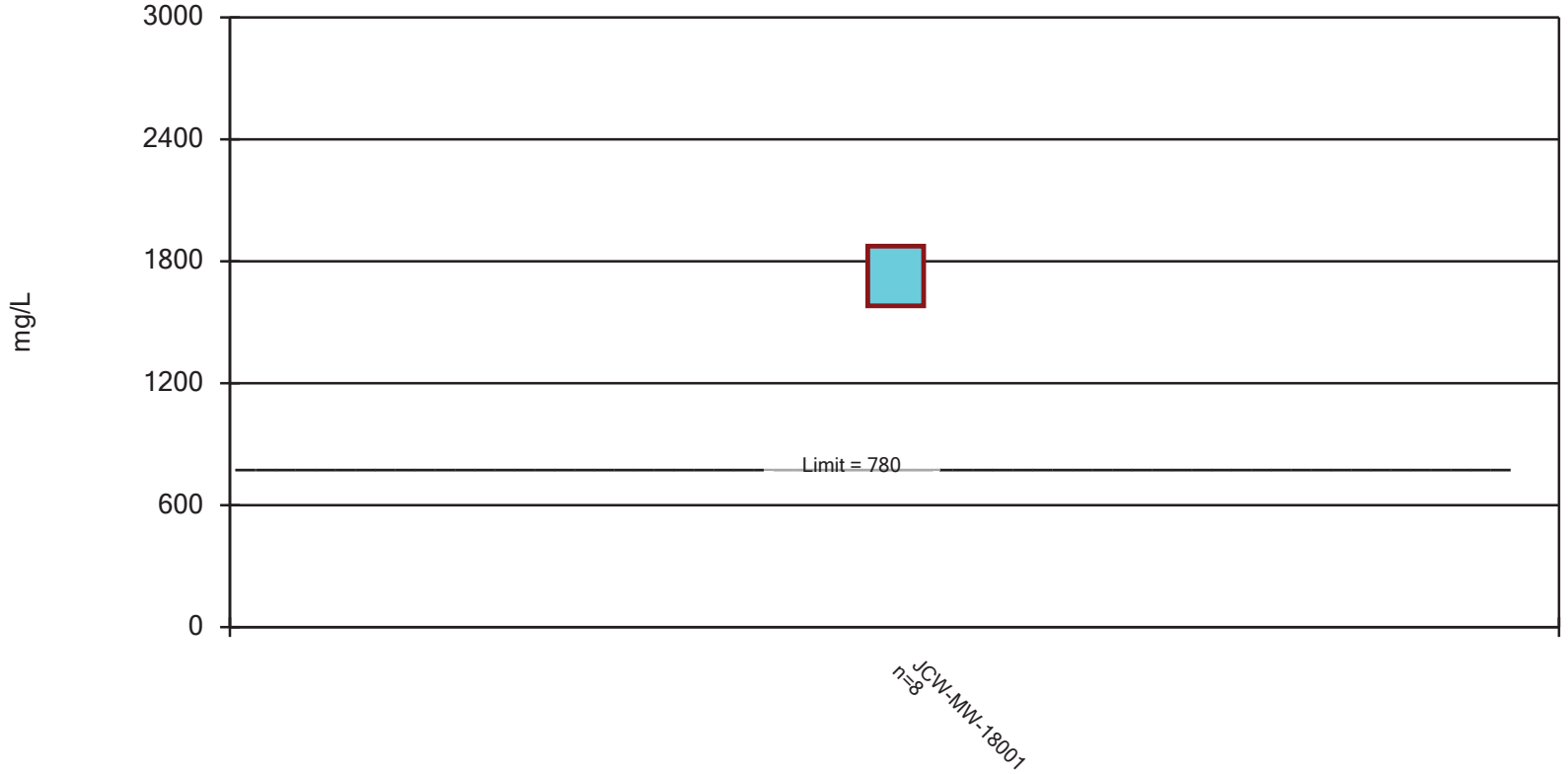
Constituent: Calcium, Total (mg/L) Analysis Run 12/8/2025 3:46 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

	JCW-MW-18001	JCW-MW-18005
3/5/2024	557	
3/6/2024		335
5/7/2024	537	
5/8/2024		302
7/23/2024	526	164
10/1/2024	474	
10/2/2024		162
3/4/2025	405	
3/5/2025		159
5/13/2025	509	
5/14/2025		248
7/14/2025	479	
7/15/2025		172
10/14/2025		151 (D)
10/16/2025	502	
Mean	498.6	211.6
Std. Dev.	47.07	73.15
Upper Lim.	548.5	335
Lower Lim.	448.7	151

Parametric Confidence Interval

Compliance limit is exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Sulfate Analysis Run 12/8/2025 3:45 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Confidence Interval

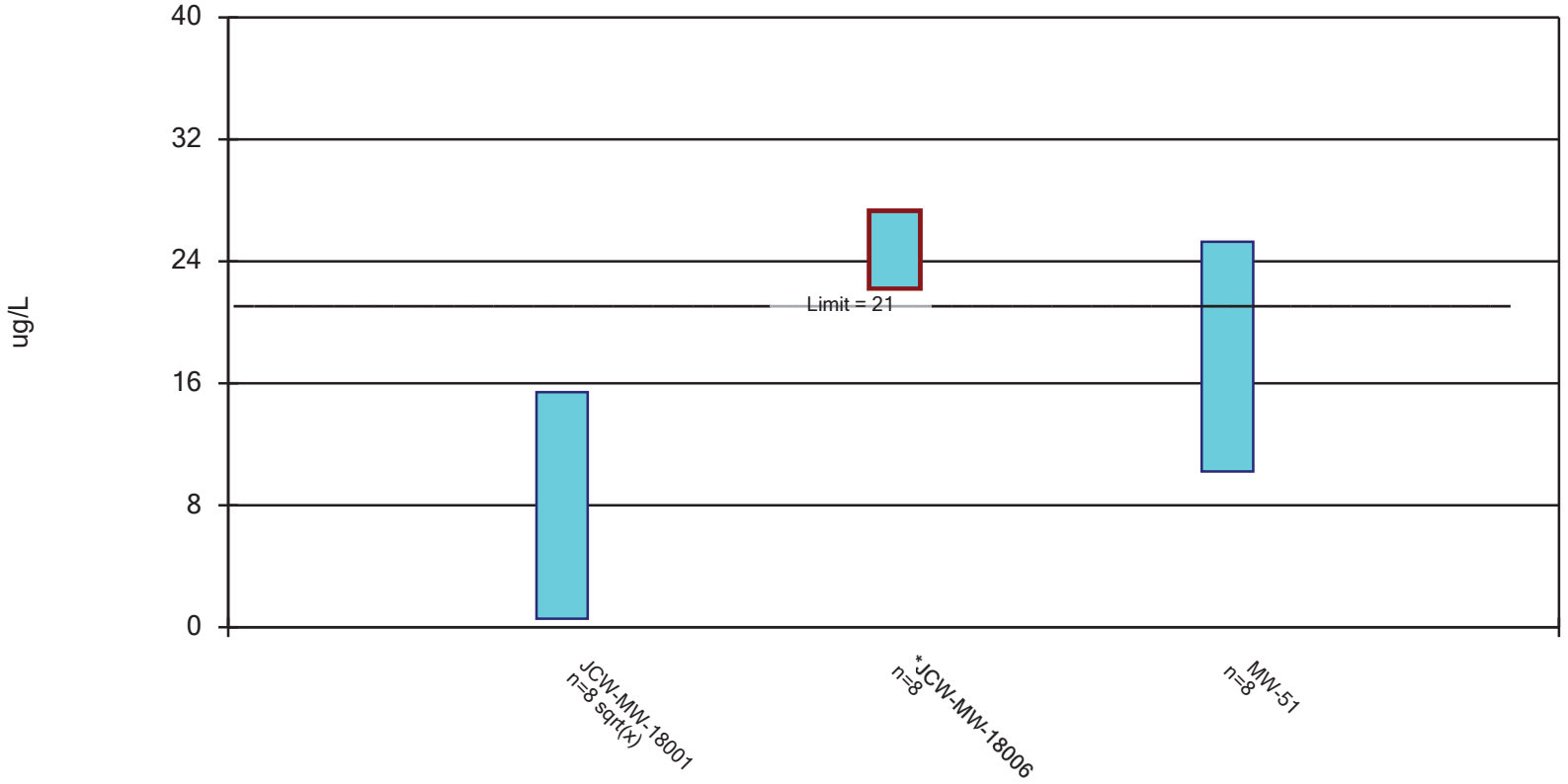
Constituent: Sulfate (mg/L) Analysis Run 12/8/2025 3:46 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

	JCW-MW-18001
3/5/2024	1880
5/7/2024	1790
7/23/2024	1810
10/1/2024	1770
3/4/2025	1460
5/13/2025	1830
7/14/2025	1630
10/16/2025	1650
Mean	1728
Std. Dev.	138
Upper Lim.	1874
Lower Lim.	1581

Parametric Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic, Total Analysis Run 12/8/2025 3:44 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Confidence Interval

Constituent: Arsenic, Total (ug/L) Analysis Run 12/8/2025 3:46 PM

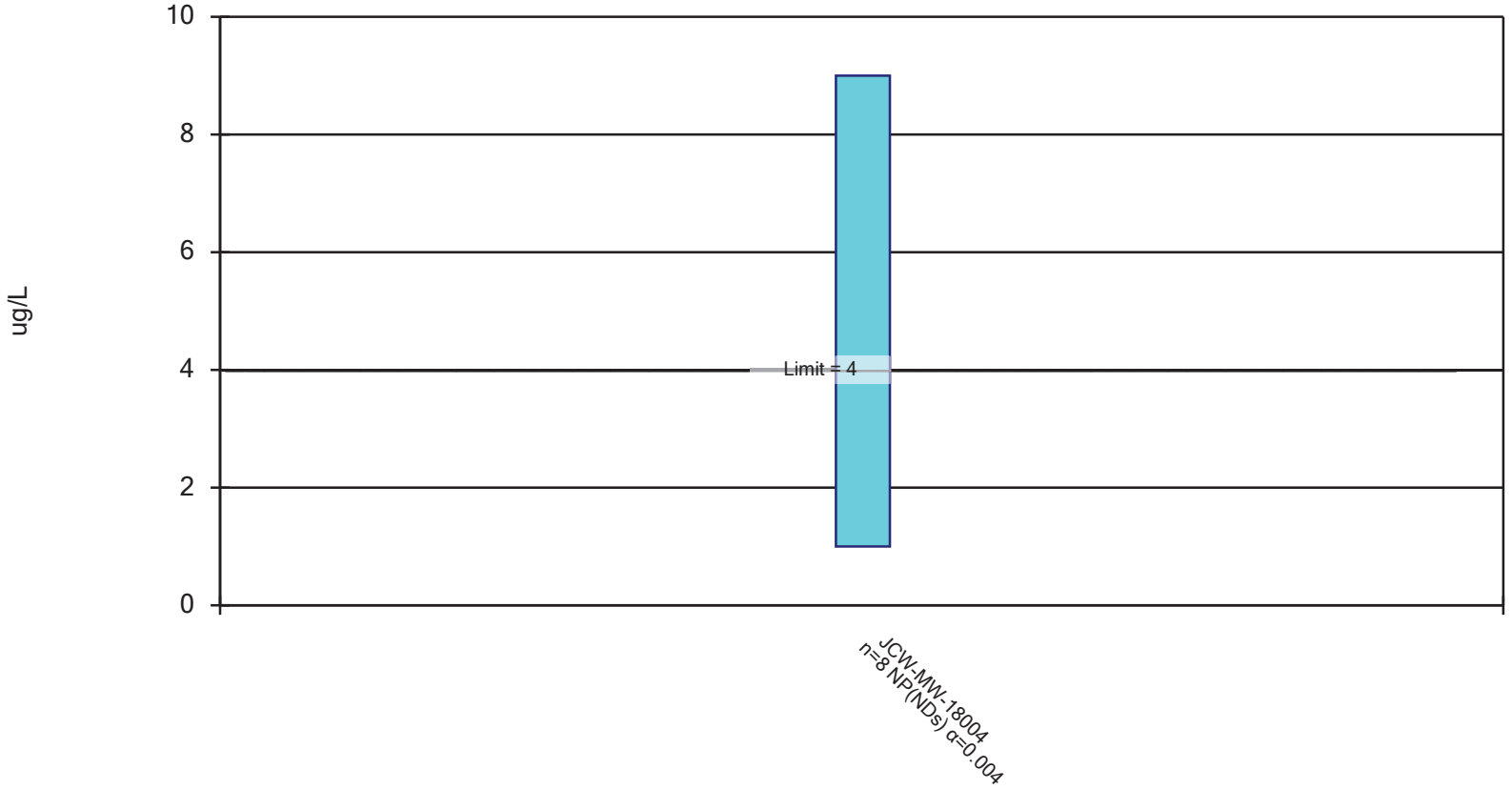
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

	JCW-MW-18001	JCW-MW-18006	MW-51
3/5/2024	<1		10
3/6/2024		22.5 (D)	
5/7/2024	2		13
5/8/2024		29 (D)	
7/23/2024	2		19
7/24/2024		23	
10/1/2024	2		27
10/2/2024		27	
3/4/2025	30		12
3/5/2025		22.5 (D)	
5/13/2025	7		13
5/14/2025		25	
7/14/2025	8		
7/15/2025		26 (D)	19 (D)
10/14/2025		23	
10/15/2025			29
10/16/2025	8		
Mean	7.438	24.75	17.75
Std. Dev.	9.612	2.42	7.106
Upper Lim.	15.41	27.32	25.28
Lower Lim.	0.572	22.18	10.22

ND substitution: RL or RL/2 if <15% NDs.

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Lead, Total Analysis Run 12/8/2025 3:45 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Confidence Interval

Constituent: Lead, Total (ug/L) Analysis Run 12/8/2025 3:46 PM

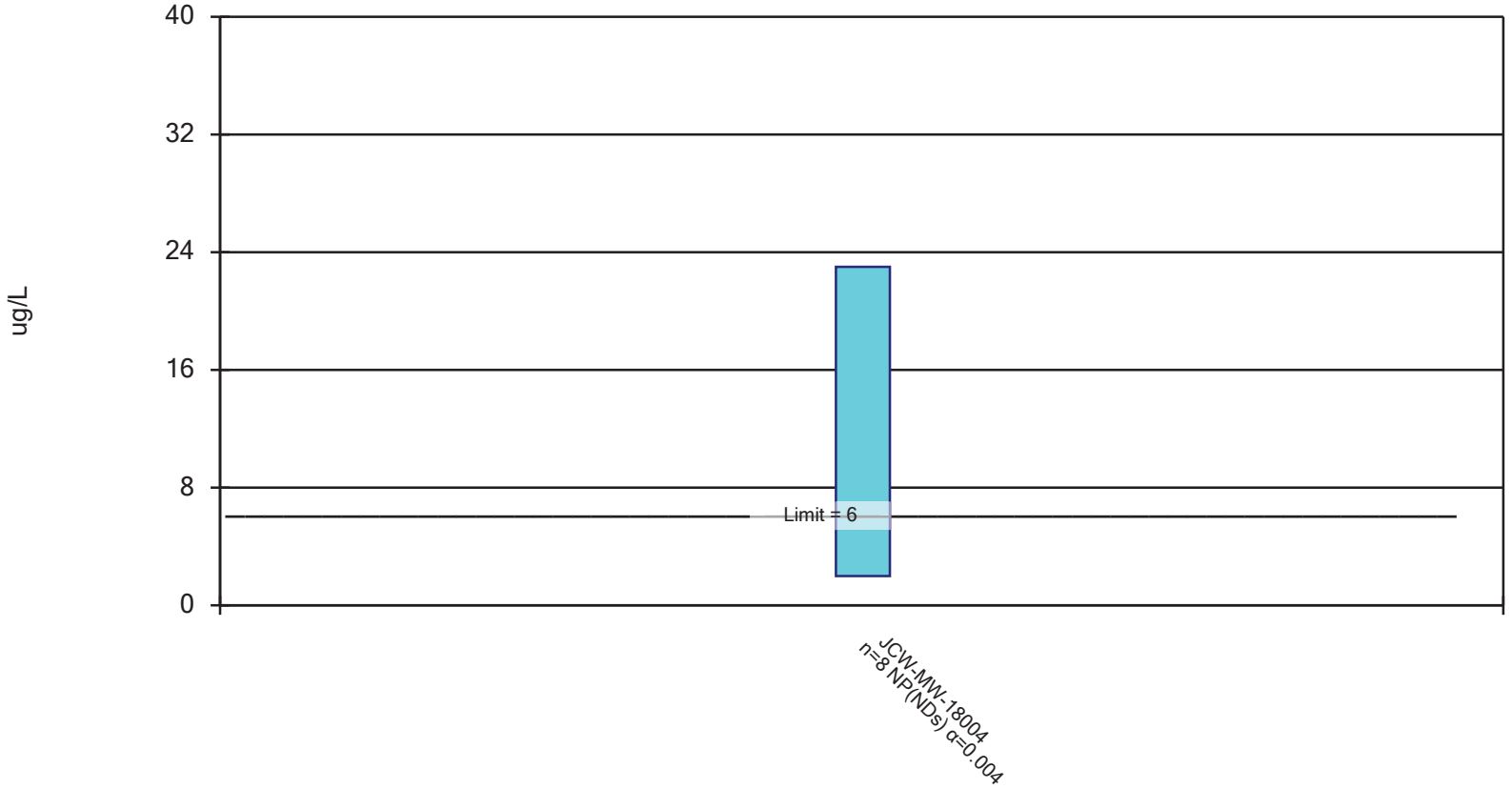
Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

	JCW-MW-18004
3/5/2024	<1
5/8/2024	<1
7/23/2024	<1
10/2/2024	<1
3/4/2025	<1
5/14/2025	9
7/15/2025	<1
10/15/2025	<1
Mean	2
Std. Dev.	2.828
Upper Lim.	9
Lower Lim.	1

ND substitution: RL or RL/2 if <15% NDs.

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Vanadium, Total Analysis Run 12/8/2025 3:45 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Confidence Interval

Constituent: Vanadium, Total (ug/L) Analysis Run 12/8/2025 3:46 PM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

	JCW-MW-18004
3/5/2024	<2
5/8/2024	<2
7/23/2024	<2
10/2/2024	<2
3/4/2025	<2
5/14/2025	23
7/15/2025	<2
10/15/2025	4
Mean	4.875
Std. Dev.	7.357
Upper Lim.	23
Lower Lim.	2

ND substitution: RL or RL/2 if <15% NDs.

Attachment 2
GSI Sanitas™ Output Files

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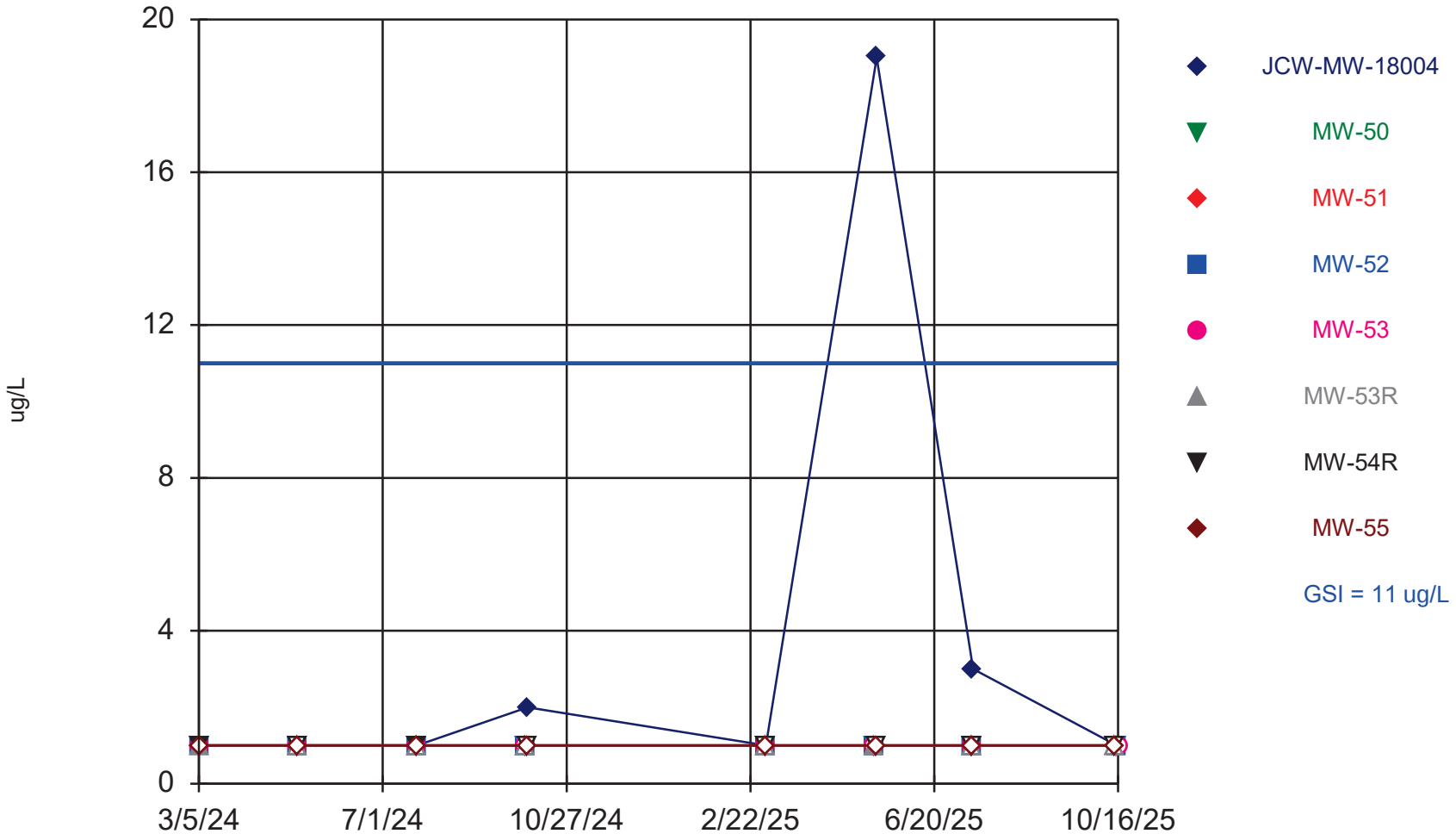
Hollow symbols indicate censored values.

Chromium Comparison to GSI Criterion



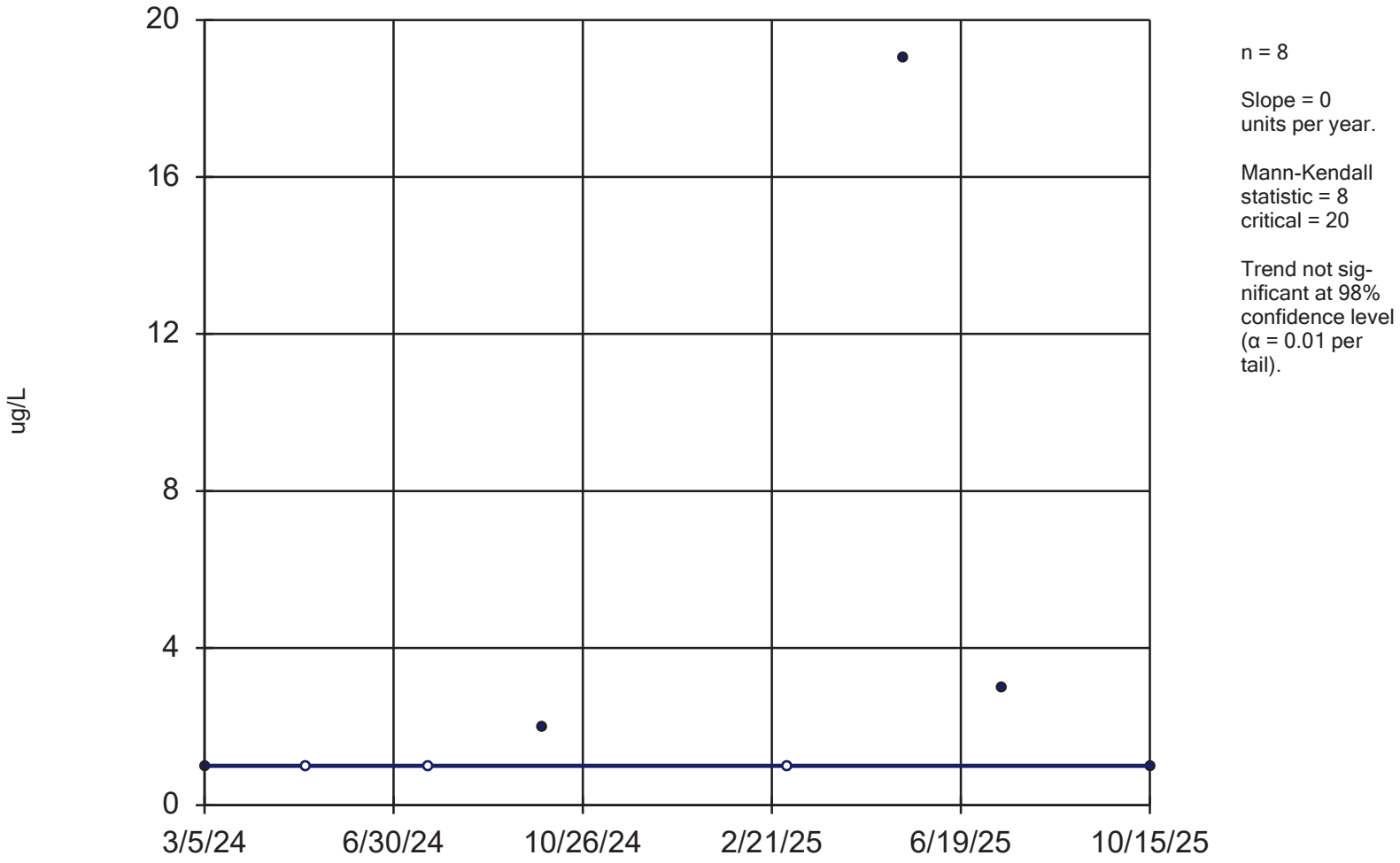
Time Series Analysis Run 12/9/2025 11:02 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Sanitas™ v.10.1.02 Sanitas software licensed to Consumers Energy. UG
Hollow symbols indicate censored values.

Chromium, Total

JCW-MW-18004



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 8
critical = 20

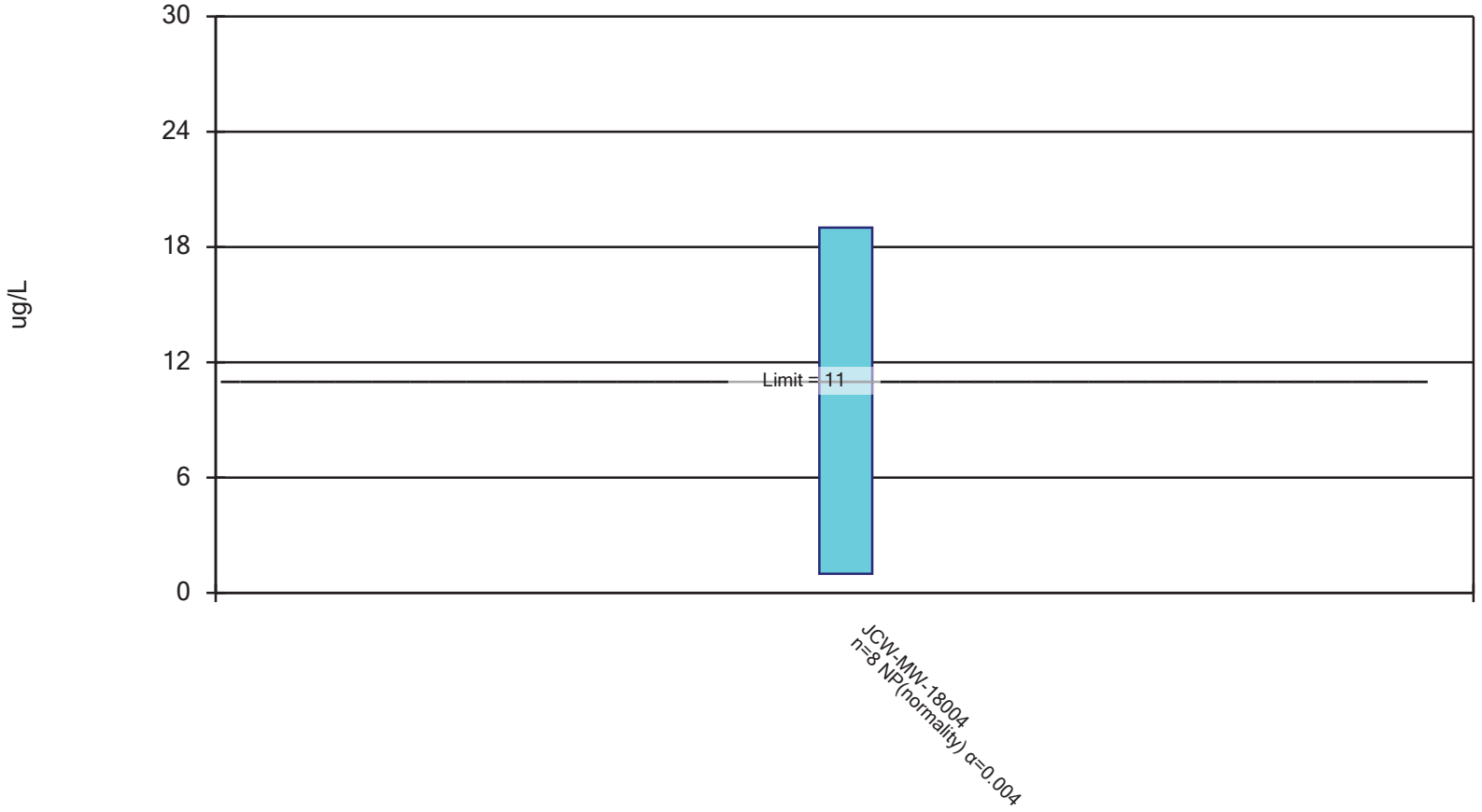
Trend not sig-
nificant at 98%
confidence level
(α = 0.01 per
tail).

Sen's Slope Estimator Analysis Run 12/9/2025 11:03 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Chromium, Total Analysis Run 12/9/2025 11:04 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

Confidence Interval

Constituent: Chromium, Total (ug/L) Analysis Run 12/9/2025 11:04 AM

Client: Consumers Energy Data: JCW_HMPCCR_Sanitas_25Q4

	JCW-MW-18004
3/5/2024	1
5/8/2024	<1
7/23/2024	<1
10/2/2024	2
3/4/2025	<1
5/14/2025	19
7/15/2025	3
10/15/2025	1
Mean	3.625
Std. Dev.	6.255
Upper Lim.	19
Lower Lim.	1

ND substitution: RL or RL/2 if <15% NDs.

Appendix E
Laboratory Analytical Report

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135 W. Trail St.
Jackson, MI 49201
phone 517-788-1251
fax 517-788-2533

To: JJFirlit, Karn/Weadock

From: EBlaj, T-258

Date: October 31, 2025

Subject: RCRA GROUNDWATER MONITORING – DEK-JCW BACKGROUND WELLS – 2025 Q4

CC: HDRegister, P22-521

Darby Litz, Project Manager
TRC Companies, Inc.
1540 Eisenhower Place
Ann Arbor, MI 48108

Chemistry Project: 25-0757

TRC Environmental, Inc. conducted groundwater monitoring at the Karn/Weadock Background Wells area during the week of 10/13/2025 for the 4th Quarter requirement, as specified in the Sampling and Analysis Plan for the site. The samples were received for analysis by the Chemistry department of Laboratory Services on 10/15/2025.

The report that follows presents the results of the requested analytical testing; the results apply only to the samples as received. All samples have been analyzed in accordance with the 2016 TNI Standard and the applicable A2LA accreditation scope for Laboratory Services. Any exceptions to applicable test method criteria and standard compliance are noted in the Case Narrative or flagged with applicable qualifiers in the analytical results section.

Reviewed and approved by:

Emil Blaj
Sr. Technical Analyst
Project Lead

ilac-MRA A2LA ACCREDITED Certificate #1097.04

Testing performed in accordance with the A2LA scope of accredidation specified in the listed certificate.
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CASE NARRATIVE

I. Sample Receipt

All samples were received within hold time and in good conditions; no anomalies were noted on the attached Sample Log-In Shipment Inspection Form during sample check-in. Identification of all samples included in the work order/project is provided in the sample summary section. All sample preservation and temperature upon receipt was verified by the sample custodian and confirmed to meet method requirements.

II. Methodology

Unless otherwise indicated, sample preparation and analysis was performed in accordance with the corresponding test methods from "Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100); SW-846, "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods", USEPA (latest revisions), and Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WPCF, 22nd Edition, 2012.

III. Results/Quality Control

Analytical results for this report are presented by laboratory sample ID, container, & aliquot number. Results for the field blanks, field duplicates, and recoveries of the field matrix spike & matrix spike duplicate samples are included in the results section, when applicable; all other quality control data is listed in the Quality Control Summary associated with the particular test method, as appropriate. Unless specifically noted in the case narrative, all method quality control requirements have been met. If any results are qualified, the corresponding data flags/qualifiers are listed on the last page of the results section. Any additional information on method performance, when applicable, is presented in this section of the case narrative. When data flags are not needed, the qualifiers text box on the last page is left blank, and a statement confirms that no exceptions occurred.

DEFINITIONS / QUALIFIERS

The following qualifiers and/or acronyms are used in the report, where applicable:

Acronym	Description
RL	Reporting Limit
ND	Result not detected or below Reporting Limit
NT	Non TNI analyte
LCS	Laboratory Control Sample
LRB	Laboratory Reagent Blank (also referred to as Method Blank)
DUP	Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
TDL	Target Detection Limit
SM	Standard Methods Compendium

Qualifier	Description
*	Generic data flag, applicable description added in the corresponding notes section
B	The analyte was detected in the LRB at a level which is significant relative to sample result
D	Reporting limit elevated due to dilution
E	Estimated due to result exceeding the linear range of the analyzer
H	The maximum recommended hold time was exceeded
I	Dilution required due to matrix interference; reporting limit elevated
J	Estimated due to result found above MDL but below PQL (or RL)
K	Reporting limit raised due to matrix interference
M	The precision for duplicate analysis was not met; RPD outside acceptance criteria
N	Non-homogeneous sample made analysis questionable
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Matrix Spike or Matrix Spike Duplicate recovery outside acceptance criteria
R	Result confirmed by new sample preparation and reanalysis
X	Other notation required; comment listed in sample notes and/or case narrative

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Work Order Sample Summary

Customer Name: Karn/Weadock Complex
Work Order ID: Q4-2025 DEK-JCW Background Wells
Date Received: 10/15/2025
Chemistry Project: 25-0757

Sample #	Field Sample ID	Matrix	Sample Date	Site
25-0757-01	MW-15002	Groundwater	10/14/2025 15:07	DEK JCW Background
25-0757-02	MW-15008	Groundwater	10/14/2025 13:40	DEK JCW Background
25-0757-03	MW-15016	Groundwater	10/14/2025 15:33	DEK JCW Background
25-0757-04	MW-15019	Groundwater	10/14/2025 14:38	DEK JCW Background
25-0757-05	DUP-Background	Groundwater	10/14/2025 00:00	DEK JCW Background
25-0757-06	FB- Background	Water	10/14/2025 15:07	DEK JCW Background

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Analytical Report

Report Date: 10/31/25

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15002**
Lab Sample ID: 25-0757-01
Matrix: Groundwater

Laboratory Project: **25-0757**
Collect Date: 10/14/2025
Collect Time: 03:07 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0757-01-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/23/2025	AB25-1022-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0757-01-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Arsenic	13		ug/L	1.0	10/28/2025	AB25-1029-01
Barium	584		ug/L	5.0	10/28/2025	AB25-1029-01
Beryllium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Boron	136		ug/L	20.0	10/28/2025	AB25-1029-01
Cadmium	0.3		ug/L	0.2	10/28/2025	AB25-1029-01
Calcium	221000		ug/L	1000.0	10/28/2025	AB25-1029-01
Chromium	2		ug/L	1.0	10/28/2025	AB25-1029-01
Cobalt	ND		ug/L	6.0	10/28/2025	AB25-1029-01
Copper	52		ug/L	1.0	10/28/2025	AB25-1029-01
Iron	4650		ug/L	20.0	10/28/2025	AB25-1029-01
Lead	2		ug/L	1.0	10/28/2025	AB25-1029-01
Lithium	18		ug/L	10.0	10/28/2025	AB25-1029-01
Molybdenum	ND		ug/L	5.0	10/28/2025	AB25-1029-01
Nickel	16		ug/L	2.0	10/28/2025	AB25-1029-01
Selenium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Silver	ND		ug/L	0.2	10/28/2025	AB25-1029-01
Thallium	ND		ug/L	2.0	10/28/2025	AB25-1029-01
Vanadium	23		ug/L	2.0	10/28/2025	AB25-1029-01
Zinc	74		ug/L	10.0	10/28/2025	AB25-1029-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0757-01-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	1570000		ug/L	1000.0	10/24/2025	AB25-1024-05
Fluoride	ND		ug/L	1000.0	10/24/2025	AB25-1024-05
Sulfate	25400		ug/L	1000.0	10/24/2025	AB25-1024-05

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0757-01-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	3110		mg/L	10.0	10/15/2025	AB25-1015-08

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Analytical Report

Report Date: 10/31/25

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15008**
Lab Sample ID: 25-0757-02
Matrix: Groundwater

Laboratory Project: **25-0757**
Collect Date: 10/14/2025
Collect Time: 01:40 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0757-02-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/23/2025	AB25-1022-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0757-02-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Arsenic	4		ug/L	1.0	10/28/2025	AB25-1029-01
Barium	107		ug/L	5.0	10/28/2025	AB25-1029-01
Beryllium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Boron	171		ug/L	20.0	10/28/2025	AB25-1029-01
Cadmium	ND		ug/L	0.2	10/28/2025	AB25-1029-01
Calcium	132000		ug/L	1000.0	10/28/2025	AB25-1029-01
Chromium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Cobalt	ND		ug/L	6.0	10/28/2025	AB25-1029-01
Copper	1		ug/L	1.0	10/28/2025	AB25-1029-01
Iron	10300		ug/L	20.0	10/28/2025	AB25-1029-01
Lead	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Lithium	22		ug/L	10.0	10/28/2025	AB25-1029-01
Molybdenum	ND		ug/L	5.0	10/28/2025	AB25-1029-01
Nickel	7		ug/L	2.0	10/28/2025	AB25-1029-01
Selenium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Silver	ND		ug/L	0.2	10/28/2025	AB25-1029-01
Thallium	ND		ug/L	2.0	10/28/2025	AB25-1029-01
Vanadium	14		ug/L	2.0	10/28/2025	AB25-1029-01
Zinc	ND		ug/L	10.0	10/28/2025	AB25-1029-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0757-02-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	483000		ug/L	1000.0	10/24/2025	AB25-1024-05
Fluoride	ND		ug/L	1000.0	10/24/2025	AB25-1024-05
Sulfate	12300		ug/L	1000.0	10/24/2025	AB25-1024-05

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0757-02-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1430		mg/L	10.0	10/15/2025	AB25-1015-08

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Analytical Report

Report Date: 10/31/25

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15016**
Lab Sample ID: 25-0757-03
Matrix: Groundwater

Laboratory Project: **25-0757**
Collect Date: 10/14/2025
Collect Time: 03:33 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0757-03-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/23/2025	AB25-1022-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0757-03-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Arsenic	5		ug/L	1.0	10/28/2025	AB25-1029-01
Barium	111		ug/L	5.0	10/28/2025	AB25-1029-01
Beryllium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Boron	628		ug/L	20.0	10/28/2025	AB25-1029-01
Cadmium	ND		ug/L	0.2	10/28/2025	AB25-1029-01
Calcium	305000		ug/L	1000.0	10/28/2025	AB25-1029-01
Chromium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Cobalt	ND		ug/L	6.0	10/28/2025	AB25-1029-01
Copper	3		ug/L	1.0	10/28/2025	AB25-1029-01
Iron	1660		ug/L	20.0	10/28/2025	AB25-1029-01
Lead	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Lithium	76		ug/L	10.0	10/28/2025	AB25-1029-01
Molybdenum	ND		ug/L	5.0	10/28/2025	AB25-1029-01
Nickel	11		ug/L	2.0	10/28/2025	AB25-1029-01
Selenium	1		ug/L	1.0	10/28/2025	AB25-1029-01
Silver	ND		ug/L	0.2	10/28/2025	AB25-1029-01
Thallium	ND		ug/L	2.0	10/28/2025	AB25-1029-01
Vanadium	5		ug/L	2.0	10/28/2025	AB25-1029-01
Zinc	13		ug/L	10.0	10/28/2025	AB25-1029-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0757-03-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	195000		ug/L	1000.0	10/24/2025	AB25-1024-05
Fluoride	ND		ug/L	1000.0	10/24/2025	AB25-1024-05
Sulfate	616000		ug/L	1000.0	10/24/2025	AB25-1024-05

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0757-03-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1540		mg/L	10.0	10/15/2025	AB25-1015-08

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Analytical Report

Report Date: 10/31/25

Sample Site: **DEK JCW Background**
Field Sample ID: **MW-15019**
Lab Sample ID: 25-0757-04
Matrix: Groundwater

Laboratory Project: **25-0757**
Collect Date: 10/14/2025
Collect Time: 02:38 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0757-04-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/23/2025	AB25-1022-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0757-04-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Arsenic	5		ug/L	1.0	10/28/2025	AB25-1029-01
Barium	318		ug/L	5.0	10/28/2025	AB25-1029-01
Beryllium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Boron	230		ug/L	20.0	10/28/2025	AB25-1029-01
Cadmium	ND		ug/L	0.2	10/28/2025	AB25-1029-01
Calcium	172000		ug/L	1000.0	10/28/2025	AB25-1029-01
Chromium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Cobalt	ND		ug/L	6.0	10/28/2025	AB25-1029-01
Copper	1		ug/L	1.0	10/28/2025	AB25-1029-01
Iron	19900		ug/L	20.0	10/28/2025	AB25-1029-01
Lead	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Lithium	15		ug/L	10.0	10/28/2025	AB25-1029-01
Molybdenum	ND		ug/L	5.0	10/28/2025	AB25-1029-01
Nickel	9		ug/L	2.0	10/28/2025	AB25-1029-01
Selenium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Silver	ND		ug/L	0.2	10/28/2025	AB25-1029-01
Thallium	ND		ug/L	2.0	10/28/2025	AB25-1029-01
Vanadium	7		ug/L	2.0	10/28/2025	AB25-1029-01
Zinc	ND		ug/L	10.0	10/28/2025	AB25-1029-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0757-04-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	373000		ug/L	1000.0	10/24/2025	AB25-1024-05
Fluoride	ND		ug/L	1000.0	10/24/2025	AB25-1024-05
Sulfate	88300		ug/L	1000.0	10/24/2025	AB25-1024-05

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0757-04-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1340		mg/L	10.0	10/15/2025	AB25-1015-08

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Analytical Report

Report Date: 10/31/25

Sample Site: **DEK JCW Background**
Field Sample ID: **DUP-Background**
Lab Sample ID: 25-0757-05
Matrix: Groundwater

Laboratory Project: **25-0757**
Collect Date: 10/14/2025
Collect Time: 12:00 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0757-05-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/23/2025	AB25-1022-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0757-05-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Arsenic	4		ug/L	1.0	10/28/2025	AB25-1029-01
Barium	106		ug/L	5.0	10/28/2025	AB25-1029-01
Beryllium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Boron	171		ug/L	20.0	10/28/2025	AB25-1029-01
Cadmium	ND		ug/L	0.2	10/28/2025	AB25-1029-01
Calcium	136000		ug/L	1000.0	10/28/2025	AB25-1029-01
Chromium	1		ug/L	1.0	10/28/2025	AB25-1029-01
Cobalt	ND		ug/L	6.0	10/28/2025	AB25-1029-01
Copper	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Iron	10200		ug/L	20.0	10/28/2025	AB25-1029-01
Lead	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Lithium	23		ug/L	10.0	10/28/2025	AB25-1029-01
Molybdenum	ND		ug/L	5.0	10/28/2025	AB25-1029-01
Nickel	7		ug/L	2.0	10/28/2025	AB25-1029-01
Selenium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Silver	ND		ug/L	0.2	10/28/2025	AB25-1029-01
Thallium	ND		ug/L	2.0	10/28/2025	AB25-1029-01
Vanadium	13		ug/L	2.0	10/28/2025	AB25-1029-01
Zinc	ND		ug/L	10.0	10/28/2025	AB25-1029-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0757-05-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	484000		ug/L	1000.0	10/24/2025	AB25-1024-05
Fluoride	ND		ug/L	1000.0	10/24/2025	AB25-1024-05
Sulfate	12300		ug/L	1000.0	10/24/2025	AB25-1024-05

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0757-05-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1360		mg/L	10.0	10/15/2025	AB25-1015-08

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Analytical Report

Report Date: 10/31/25

Sample Site: **DEK JCW Background**
Field Sample ID: **FB- Background**
Lab Sample ID: 25-0757-06
Matrix: Water

Laboratory Project: **25-0757**
Collect Date: 10/14/2025
Collect Time: 03:07 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0757-06-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/23/2025	AB25-1022-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0757-06-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Arsenic	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Barium	ND		ug/L	5.0	10/28/2025	AB25-1029-01
Beryllium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Boron	ND		ug/L	20.0	10/28/2025	AB25-1029-01
Cadmium	ND		ug/L	0.2	10/28/2025	AB25-1029-01
Calcium	ND		ug/L	1000.0	10/28/2025	AB25-1029-01
Chromium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Cobalt	ND		ug/L	6.0	10/28/2025	AB25-1029-01
Copper	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Iron	ND		ug/L	20.0	10/28/2025	AB25-1029-01
Lead	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Lithium	ND		ug/L	10.0	10/28/2025	AB25-1029-01
Molybdenum	ND		ug/L	5.0	10/28/2025	AB25-1029-01
Nickel	ND		ug/L	2.0	10/28/2025	AB25-1029-01
Selenium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Silver	ND		ug/L	0.2	10/28/2025	AB25-1029-01
Thallium	ND		ug/L	2.0	10/28/2025	AB25-1029-01
Vanadium	ND		ug/L	2.0	10/28/2025	AB25-1029-01
Zinc	ND		ug/L	10.0	10/28/2025	AB25-1029-01

Data Qualifiers	Exception Summary
	No exceptions occurred.

TITLE: SAMPLE LOG-IN – SHIPMENT INSPECTION FORM

Project Number: 25-0757 **Inspection Date:** 10.15.25 **Inspection By:** Lmo

Sample Origin/Project Name: Q4-2025 JCW-DEK Background Wells

Shipment Delivered By: Enter the type of shipment carrier.

Inter-Company Mail_____ FedEx ✓ UPS _____ USPS _____

Tracking Number: 8851-7792-2460 Other/Carry In (whom) _____

Shipping Containers: Enter the type and number of shipping containers received.

Cooler ✓ Cardboard Box _____ Custom Case _____ Envelope/Mailer _____

Loose/Unpackaged Containers _____ Other _____

Condition of Shipment: Enter the as-received condition of the shipment container.

Damaged Shipment Observed: None ✓ Dented _____ Leaking _____

Other _____

Shipment Security: Enter if any of the shipping containers were opened before receipt.

Shipping Containers Received: Opened _____ Sealed ✓ N/A _____

Enclosed Documents: Enter the type of documents enclosed with the shipment.

CoC ✓ Work Request _____ Air Data Sheet_____ Other_____

Temperature of Containers: Measure the temperature of several sample containers.

As-Received Temperature Range 0.2-1.2 °C Samples Received on Ice: Yes ✓ No____

M&TE # and Expiration 015402 / 5.27.26

Number and Type of Containers: Enter the type and total number of sample containers received.

Container Type	Water	Soil	Other	Broken	Leaking
VOA (40mL or 60mL)					
Quart/Liter (g / p)					
9-oz (amber glass jar)					
2-oz (amber glass)					
125 mL (plastic)	11				
24 mL vial (glass)					
250 mL (plastic)	5				
Other _____					

All sample pH meeting criteria? Yes___ No___ N/A___ **pH paper lot #** 210224 **Exp. Date** 12.01.24

Indicate if an Exception Report (Page 2 of 2) is needed: Yes ____ No ✓

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SAMPLING SITE / CUSTOMER: Q4-2025 JCW-DEK Background Wells

PROJECT NUMBER: 25-0757

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: A. Whaley E. Wiedopski

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit

email:

phone:

COPY TO: Harold Register; TRC

MATRIX CODES:
GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT:
☐ NPDES
☒ TNI
☐ ISO 17025
☐ 10 CFR 50 APP. B
☐ INTERNAL INFO
☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	REMARKS
25-0757-01	10/14/25	1507	GW	MW-15002	3	2	1						x	x	x	
-02		1340	GW	MW-15008	3	2	1						x	x	x	
-03		1533	GW	MW-15016	3	2	1						x	x	x	
-04		1438	GW	MW-15019	3	2	1						x	x	x	
-05		—	GW	DUP-Background	3	2	1						x	x	x	
-06		1507	W	FB- Background	1								x			

RELINQUISHED BY: (TRC) — DATE/TIME: 10/14/25 1700 — RECEIVED BY: FedEX

RELINQUISHED BY: Fed Ex — DATE/TIME: 10/15/25 1015 — RECEIVED BY:

COMMENTS:

Received on Ice? ☑ Yes ☐ No — M&TE #: 015402

Temperature: 0.2 - 1.2°C — Cal. Due Date: 05-27-26

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Darby Litz
TRC Environmental Corporation.
1540 Eisenhower Place
Ann Arbor, Michigan 48108-7080

Generated 11/19/2025 12:08:18 PM

JOB DESCRIPTION

Karn/Weadock CCR Background Well

JOB NUMBER

240-235609-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

my EOL

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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11/19/2025 12:08:18 PM

Authorized for release by
Kris Brooks, Manager of Project Management
Kris.Brooks@et.eurofinsus.com
(330)966-9790

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Definitions/Glossary

Client: TRC Environmental Corporation. Job ID: 240-235609-1
Project/Site: Karn/Weadock CCR Background Well

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

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

Job ID: 240-235609-1 Eurofins Cleveland

Job Narrative
240-235609-1

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 10/18/2025 8:00 AM. 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 1.0°C, 1.3°C, 1.5°C and 1.8°C.

Gas Flow Proportional Counter
Method 904.0: Radium 228 Batch 742105

The detection goal was not met for the following sample due to a reduced sample volume used in prep attributed to the presence of matrix interferences. MW-15002 (240-235609-1), MW-15008 (240-235609-2) and DUP-Background (240-235609-5)

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.

Method Summary

Client: TRC Environmental Corporation.
Job ID: 240-235609-1
Project/Site: Karn/Weadock CCR Background Well

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep STD	Preparation, Precipitate Separation (Standard In-Growth)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

Sample Summary

Client: TRC Environmental Corporation. Job ID: 240-235609-1
Project/Site: Karn/Weadock CCR Background Well

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
240-235609-1	MW-15002	Water	10/14/25 15:07	10/18/25 08:00	Michigan
240-235609-2	MW-15008	Water	10/14/25 13:40	10/18/25 08:00	Michigan
240-235609-3	MW-15016	Water	10/14/25 15:33	10/18/25 08:00	Michigan
240-235609-4	MW-15019	Water	10/14/25 14:38	10/18/25 08:00	Michigan
240-235609-5	DUP-Background	Water	10/14/25 00:00	10/18/25 08:00	Michigan
240-235609-6	EB-Background	Water	10/14/25 15:35	10/18/25 08:00	Michigan

Client Sample ID: MW-15002 — Lab Sample ID: 240-235609-1

Date Collected: 10/14/25 15:07 — **Matrix: Water**
Date Received: 10/18/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.712**		0.382	0.388	1.00	0.473	pCi/L	10/24/25 08:25	11/18/25 17:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.1*		*30 - 110*	*10/24/25 08:25*	*11/18/25 17:58*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.989	U G	0.743	0.748	1.00	1.15	pCi/L	10/24/25 11:08	11/18/25 12:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.1*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:29*	*1*
Y Carrier	*80.4*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:29*	*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	**1.70**		0.835	0.843	5.00	1.15	pCi/L		11/19/25 06:54	1

Client Sample ID: MW-15008 — Lab Sample ID: 240-235609-2

Date Collected: 10/14/25 13:40 — **Matrix: Water**
Date Received: 10/18/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0479	U	0.240	0.240	1.00	0.519	pCi/L	10/24/25 08:25	11/18/25 17:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.1*		*30 - 110*	*10/24/25 08:25*	*11/18/25 17:59*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.22	U G	0.827	0.834	1.00	1.26	pCi/L	10/24/25 11:08	11/18/25 12:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.1*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*1*
Y Carrier	*78.5*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*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	1.17	U	0.861	0.868	5.00	1.26	pCi/L		11/19/25 06:54	1

Client: TRC Environmental Corporation.
Job ID: 240-235609-1
Project/Site: Karn/Weadock CCR Background Well

Client Sample ID: MW-15016
Lab Sample ID: 240-235609-3
Date Collected: 10/14/25 15:33
Matrix: Water
Date Received: 10/18/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0559	U	0.155	0.155	1.00	0.355	pCi/L	10/24/25 08:25	11/18/25 17:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.9*		*30 - 110*	*10/24/25 08:25*	*11/18/25 17:59*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.775**		0.500	0.505	1.00	0.736	pCi/L	10/24/25 11:08	11/18/25 12:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.9*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*1*
Y Carrier	*78.9*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*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	0.720	U	0.523	0.528	5.00	0.736	pCi/L		11/19/25 06:54	1

Client: TRC Environmental Corporation.
Job ID: 240-235609-1
Project/Site: Karn/Weadock CCR Background Well

Client Sample ID: MW-15019
Lab Sample ID: 240-235609-4
Date Collected: 10/14/25 14:38
Matrix: Water
Date Received: 10/18/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.155	U	0.322	0.322	1.00	0.573	pCi/L	10/24/25 08:25	11/18/25 17:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.9*		*30 - 110*	*10/24/25 08:25*	*11/18/25 17:59*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.827	U	0.639	0.644	1.00	0.984	pCi/L	10/24/25 11:08	11/18/25 12:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.9*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*1*
Y Carrier	*81.1*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*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	0.982	U	0.716	0.720	5.00	0.984	pCi/L		11/19/25 06:54	1

Client: TRC Environmental Corporation.
Job ID: 240-235609-1
Project/Site: Karn/Weadock CCR Background Well

Client Sample ID: DUP-Background
Lab Sample ID: 240-235609-5

Date Collected: 10/14/25 00:00
Matrix: Water

Date Received: 10/18/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.434	U	0.379	0.381	1.00	0.570	pCi/L	10/24/25 08:25	11/18/25 17:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*63.2*		*30 - 110*	*10/24/25 08:25*	*11/18/25 17:59*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.719	U G	0.770	0.773	1.00	1.25	pCi/L	10/24/25 11:08	11/18/25 12:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*63.2*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*1*
Y Carrier	*82.2*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*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	1.15	U	0.858	0.862	5.00	1.25	pCi/L		11/19/25 06:54	1

Client Sample ID: EB-Background **Lab Sample ID: 240-235609-6**
Date Collected: 10/14/25 15:35 **Matrix: Water**
Date Received: 10/18/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0851	U	0.196	0.196	1.00	0.358	pCi/L	10/24/25 08:25	11/18/25 17:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*30 - 110*	*10/24/25 08:25*	*11/18/25 17:59*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.442	U	0.444	0.446	1.00	0.716	pCi/L	10/24/25 11:08	11/18/25 12:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*1*
Y Carrier	*85.6*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*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	0.527	U	0.485	0.487	5.00	0.716	pCi/L		11/19/25 06:54	1

Tracer/Carrier Summary

Client: TRC Environmental Corporation. Job ID: 240-235609-1
Project/Site: Karn/Weadock CCR Background Well

Method: 903.0 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
240-235609-1	MW-15002	76.1
240-235609-2	MW-15008	74.1
240-235609-3	MW-15016	78.9
240-235609-4	MW-15019	76.9
240-235609-5	DUP-Background	63.2
240-235609-6	EB-Background	80.3
240-235609-6 DU	EB-Background	76.1
LCS 160-742085/2-A	Lab Control Sample	79.5
MB 160-742085/1-A	Method Blank	81.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
240-235609-1	MW-15002	76.1	80.4
240-235609-2	MW-15008	74.1	78.5
240-235609-3	MW-15016	78.9	78.9
240-235609-4	MW-15019	76.9	81.1
240-235609-5	DUP-Background	63.2	82.2
240-235609-6	EB-Background	80.3	85.6
240-235609-6 DU	EB-Background	76.1	73.3
LCS 160-742105/2-A	Lab Control Sample	79.5	82.6
MB 160-742105/1-A	Method Blank	81.5	80.7

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-742085/1-A
Matrix: Water
Analysis Batch: 745772

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 742085

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.1330	U	0.127	0.128	1.00	0.350	pCi/L	10/24/25 08:25	11/18/25 17:50	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.5*		*30 - 110*	*10/24/25 08:25*	*11/18/25 17:50*	*1*

Lab Sample ID: LCS 160-742085/2-A
Matrix: Water
Analysis Batch: 745772

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 742085

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			9.57	8.503		1.20	1.00	0.280	pCi/L	89	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*79.5*		*30 - 110*

Lab Sample ID: 240-235609-6 DU
Matrix: Water
Analysis Batch: 745773

Client Sample ID: EB-Background
Prep Type: Total/NA
Prep Batch: 742085

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.0851	U		0.06735	U	0.179	1.00	0.337	pCi/L			0.05	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*76.1*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-742105/1-A
Matrix: Water
Analysis Batch: 745771

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 742105

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3308	U	0.480	0.481	1.00	0.808	pCi/L	10/24/25 11:08	11/18/25 12:30	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.5*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*1*
Y Carrier	*80.7*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-742105/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 745771 **Prep Batch: 742105**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			7.92	9.139		1.39	1.00	0.756	pCi/L	115	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*79.5*		*30 - 110*
Y Carrier	*82.6*		*30 - 110*

Lab Sample ID: 240-235609-6 DU **Client Sample ID: EB-Background**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 745771 **Prep Batch: 742105**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.442	U		0.1361	U G	0.624	1.00	1.11	pCi/L			0.29	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*76.1*		*30 - 110*
Y Carrier	*73.3*		*30 - 110*

QC Association Summary

Client: TRC Environmental Corporation.
Job ID: 240-235609-1
Project/Site: Karn/Weadock CCR Background Well

Rad

Prep Batch: 742085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-235609-1	MW-15002	Total/NA	Water	PrecSep STD	
240-235609-2	MW-15008	Total/NA	Water	PrecSep STD	
240-235609-3	MW-15016	Total/NA	Water	PrecSep STD	
240-235609-4	MW-15019	Total/NA	Water	PrecSep STD	
240-235609-5	DUP-Background	Total/NA	Water	PrecSep STD	
240-235609-6	EB-Background	Total/NA	Water	PrecSep STD	
MB 160-742085/1-A	Method Blank	Total/NA	Water	PrecSep STD	
LCS 160-742085/2-A	Lab Control Sample	Total/NA	Water	PrecSep STD	
240-235609-6 DU	EB-Background	Total/NA	Water	PrecSep STD	

Prep Batch: 742105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-235609-1	MW-15002	Total/NA	Water	PrecSep_0	
240-235609-2	MW-15008	Total/NA	Water	PrecSep_0	
240-235609-3	MW-15016	Total/NA	Water	PrecSep_0	
240-235609-4	MW-15019	Total/NA	Water	PrecSep_0	
240-235609-5	DUP-Background	Total/NA	Water	PrecSep_0	
240-235609-6	EB-Background	Total/NA	Water	PrecSep_0	
MB 160-742105/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-742105/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
240-235609-6 DU	EB-Background	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: TRC Environmental Corporation. Job ID: 240-235609-1
Project/Site: Karn/Weadock CCR Background Well

Client Sample ID: MW-15002 Lab Sample ID: 240-235609-1

Date Collected: 10/14/25 15:07 **Matrix: Water**
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			742085	JTR	EET SL	10/24/25 08:25
Total/NA	Analysis	903.0		1	745773	SWS	EET SL	11/18/25 17:58
Total/NA	Prep	PrecSep_0			742105	JTR	EET SL	10/24/25 11:08
Total/NA	Analysis	904.0		1	745771	SWS	EET SL	11/18/25 12:29
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 06:54

Client Sample ID: MW-15008 Lab Sample ID: 240-235609-2

Date Collected: 10/14/25 13:40 **Matrix: Water**
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			742085	JTR	EET SL	10/24/25 08:25
Total/NA	Analysis	903.0		1	745773	SWS	EET SL	11/18/25 17:59
Total/NA	Prep	PrecSep_0			742105	JTR	EET SL	10/24/25 11:08
Total/NA	Analysis	904.0		1	745771	SWS	EET SL	11/18/25 12:30
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 06:54

Client Sample ID: MW-15016 Lab Sample ID: 240-235609-3

Date Collected: 10/14/25 15:33 **Matrix: Water**
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			742085	JTR	EET SL	10/24/25 08:25
Total/NA	Analysis	903.0		1	745773	SWS	EET SL	11/18/25 17:59
Total/NA	Prep	PrecSep_0			742105	JTR	EET SL	10/24/25 11:08
Total/NA	Analysis	904.0		1	745771	SWS	EET SL	11/18/25 12:30
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 06:54

Client Sample ID: MW-15019 Lab Sample ID: 240-235609-4

Date Collected: 10/14/25 14:38 **Matrix: Water**
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			742085	JTR	EET SL	10/24/25 08:25
Total/NA	Analysis	903.0		1	745773	SWS	EET SL	11/18/25 17:59
Total/NA	Prep	PrecSep_0			742105	JTR	EET SL	10/24/25 11:08
Total/NA	Analysis	904.0		1	745771	SWS	EET SL	11/18/25 12:30
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 06:54

Lab Chronicle

Client: TRC Environmental Corporation. Job ID: 240-235609-1
Project/Site: Karn/Weadock CCR Background Well

Client Sample ID: DUP-Background — Lab Sample ID: 240-235609-5

Date Collected: 10/14/25 00:00 — **Matrix: Water**
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			742085	JTR	EET SL	10/24/25 08:25
Total/NA	Analysis	903.0		1	745773	SWS	EET SL	11/18/25 17:59
Total/NA	Prep	PrecSep_0			742105	JTR	EET SL	10/24/25 11:08
Total/NA	Analysis	904.0		1	745771	SWS	EET SL	11/18/25 12:30
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 06:54

Client Sample ID: EB-Background — Lab Sample ID: 240-235609-6

Date Collected: 10/14/25 15:35 — **Matrix: Water**
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			742085	JTR	EET SL	10/24/25 08:25
Total/NA	Analysis	903.0		1	745773	SWS	EET SL	11/18/25 17:59
Total/NA	Prep	PrecSep_0			742105	JTR	EET SL	10/24/25 11:08
Total/NA	Analysis	904.0		1	745771	SWS	EET SL	11/18/25 12:30
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 06:54

Laboratory References:

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

Accreditation/Certification Summary

Client: TRC Environmental Corporation. Job ID: 240-235609-1
Project/Site: Karn/Weadock CCR Background Well

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-27
ANAB	Dept. of Defense ELAP	L2305	04-06-27
ANAB	Dept. of Energy	L2305.01	04-06-27
ANAB	ISO/IEC 17025	L2305	04-06-27
Arizona	State	AZ0813	12-08-25
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	07-01-26
Connecticut	State	PH-0241	03-31-27
Florida	NELAP	E87689	06-30-26
HI - RadChem Recognition	State	n/a	06-30-26
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-25 *
Kentucky (DW)	State	KY90125	12-31-25
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana (All)	NELAP	106151	06-30-26
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	10-01-26
Massachusetts	State	M-MO054	06-30-26
MI - RadChem Recognition	State	9005	06-30-26
Missouri	State	780	06-30-28
Nevada	State	MO00054	07-31-26
New Jersey	NELAP	MO002	06-30-26
New Mexico	State	MO00054	06-30-26
New York	NELAP	11616	03-31-26
North Carolina (DW)	State	29700	06-30-26
North Dakota	State	R-207	06-30-25 *
Oklahoma	NELAP	9997	12-31-25
Oregon	NELAP	4157	09-01-26
Pennsylvania	NELAP	68-00540	02-28-26
South Carolina	State	85002	06-30-26
Texas	NELAP	T104704193	07-31-26
US Fish & Wildlife	US Federal Programs	058448	07-31-26
USDA	US Federal Programs	525-23-138-94730	05-18-26
Utah	NELAP	MO00054	07-31-26
Virginia	NELAP	460230	06-14-26
Washington	State	C592	08-31-26
West Virginia DEP	State	381	11-30-26

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

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

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MICHIGAN 19

Client Information	Sampler: E. Wielgopolski; A. Mikaley	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-137757-33282.1
Client Contact: Jacob Krenz	Phone: 989-273-2016	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin: Mi	Page: Page 1 of 1
Company: TRC Environmental Corporation.	PWSID:	Analysis Requested		Job #:
Address: 1540 Eisenhower Place	Due Date Requested:			Preservation Codes: D - HNO3
City: Ann Arbor	TAT Requested (days): Standard			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 734-971-7080(Tel) 734-971-9022(Fax)	PO #: 228027			
Email: JKrenz@trocompanies.com	WO #:			Other:
Project Name: Karn/Weadock CCR Background Well	Project #: 24024154			
Site:	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air, DW=Drinking Water)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0, Ra226Ra228_GFPC	904.0 - Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D		
MW-15002	10/14/25	1507	G	Water	N	N	X	X		
MW-15008		1340	G	Water	N	N	X	X		
MW-15016		1533	G	Water	N	N	X	X		
MW-15019		1438	G	Water	N	N	X	X		
DUP-Background		~	G	Water	N	N	X	X		
EB-Backgroud		1535	G	Water	N	N	X	X		
				Water						

240-235609 COC

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	E Wielgopolski	10/16/25	TRC	Sample Fridge	10/16/25	TRC
2	A Mikaley	10/17/25 0922	TRC		10/17/25 0922	EEFTA
3		10/17/25 0923	EEFTA		10/18/25 0820	EC

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

Eurofins – Cleveland Sample Receipt Form/Narrative Login # _____
Barberton Facility

Client TRC Env. Site Name _____ Cooler unpacked by: LS

Cooler Received on 10/18/25 Opened on 10/18/25

FedEx: 1st Grd Exp UPS FAS (Waypoint) Client Drop Off Eurofins Courier Other

Receipt After-hours Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # 15 Foam Box Client Cooler Box Other _____

Packing material used Bubble Wrap Foam (Plastic Bag) None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN # _____ (CF _____ °C) Observed Cooler Temp _____ °C Corrected Cooler Temp _____ °C

2.	Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes) No
	Were the seals on the outside of the cooler(s) signed & dated?	(Yes) No NA
	-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes (No)
	-Were tamper/custody seals intact and uncompromised?	(Yes) No NA
3	Shippers' packing slip attached to the cooler(s)?	Yes (No)
4	Did custody papers accompany the sample(s)?	(Yes) No
5	Were the custody papers relinquished & signed in the appropriate place?	(Yes) No
6	Was/were the person(s) who collected the samples clearly identified on the COC?	(Yes) No
7	Did all bottles arrive in good condition (Unbroken)?	(Yes) No
8	Could all bottle labels (ID/Date/Time) be reconciled with the COC?	(Yes) No
9	For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?	(Yes) No
10	Were correct bottle(s) used for the test(s) indicated?	(Yes) No
11	Sufficient quantity received to perform indicated analyses?	(Yes) No
12	Are these work share samples and all listed on the COC?	Yes (No)
	If yes, Questions 13-17 have been checked at the originating laboratory	
13	Were all preserved sample(s) at the correct pH upon receipt?	(Yes) No NA pH Strip Lot# HC567196
14	Were VOAs on the COC?	Yes (No)
15	Were air bubbles >6 mm in any VOA vials? ● ← Larger than this	Yes No (NA)
16	Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes (No)
17	Was a LL Hg or Me Hg trip blank present? _____	Yes (No)

Tests that are not checked for pH by Receiving

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Labeled by:

Labels Verified by:

_____

_____

_____

_____

19 SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired

Sample(s) _____ were received in a broken container

Sample(s) _____ were received with bubble >6 mm in diameter (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory

Time preserved _____ Preservative(s) added/Lot number(s) _____

VOA Sample Preservation - Date/Time VOAs Frozen _____

Login # _____

Eurofins - Cleveland Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
(EC) Client Box Other	IR GUN #: 13	0.9	1.5	(Wet Ice) Blue Ice Dry Ice Water None
(EC) Client Box Other	IR GUN #:	1.2	1.8	(Wet Ice) Blue Ice Dry Ice Water None
(EC) Client Box Other	IR GUN #:	0.7	1.3	(Wet Ice) Blue Ice Dry Ice Water None
(EC) Client Box Other	IR GUN #:	0.4	1.0	(Wet Ice) Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice

10/18/2025

Login Container Summary Report

240-235609

11/19/2025

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
MW 15002	240-235609 A-1	Plastic 1 liter - Nitric Acid	<2			
MW-15002	240-235609-B 1	Plastic 1 liter - Nitric Acid	<2			
MW-15008	240-235609-A-2	Plastic 1 liter - Nitric Acid	<2			
MW-15008	240-235609-B-2	Plastic 1 liter - Nitric Acid	<2			
MW 15016	240-235609-A-3	Plastic 1 liter - Nitric Acid	<2			
MW-15016	240-235609-B-3	Plastic 1 liter - Nitric Acid	<2			
MW-15019	240-235609-A-4	Plastic 1 liter - Nitric Acid	<2			
MW-15019	240-235609-B-4	Plastic 1 liter - Nitric Acid	<2			
DUP-Background	240-235609-A-5	Plastic 1 liter - Nitric Acid	<2			
DUP-Background	240-235609-B-5	Plastic 1 liter - Nitric Acid	<2			
EB-Background	240-235609-A-6	Plastic 1 liter - Nitric Acid	<2			
EB-Background	240-235609 B-6	Plastic 1 liter - Nitric Acid	<2			

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Brooks, Kris M	Carrier Tracking No(s): N/A	COC No: 240-209715.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin: Michigan	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): N/A		Job #: 240-235609-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/18/2025			
City: Earth City	TAT Requested (days): N/A			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Karn/Weadock CCR Background Well	Project #: 24024154			
Site: N/A	SSOW#: N/A			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_STDRadium 226	904.0/PrecSep_0Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-15002 (240-235609-1)	10/14/25	15:07 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-15008 (240-235609-2)	10/14/25	13:40 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-15016 (240-235609-3)	10/14/25	15:33 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-15019 (240-235609-4)	10/14/25	14:38 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
DUP-Background (240-235609-5)	10/14/25	Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
EB-Background (240-235609-6)	10/14/25	15:35 Eastern	G	Water			X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.

Analysis Requested

Preservation Codes: -

Other: N/A

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

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Martin	10/20/25 1400	EUR		10:30 OCT 21 2025	
Relinquished by:	Date/Time:	Company	Received by: Cheyenne Forrest	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Cooler Temperature(s) °C and Other Remarks:

Ver: 10/10/2024

11/19/2025

Login Sample Receipt Checklist

Client: TRC Environmental Corporation.

Job Number: 240-235609-1

Login Number: 235609
List Number: 2
Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis
List Creation: 10/21/25 01:42 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	

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135 W. Trail St.
Jackson, MI 49201
phone 517-788-1251
fax 517-788-2533

To: JJFirlit, Karn/Weadock

From: EBlaj, T-258

Date: October 31, 2025

Subject: HMP GROUNDWATER MONITORING – JCW POREWATER – 2025 Q4

CC: HDRegister, P22-521

Darby Litz, Project Manager
TRC Environmental Corporation
1540 Eisenhower Place
Ann Arbor, MI 48108

Chemistry Project: 25-0754

TRC Environmental, Inc. conducted groundwater monitoring at the JCWeadock site during the week of 10/13/2025 for the 4th Quarter requirements, as specified in the Hydrogeological Monitoring Plan for the site. The samples were received for analysis by the Chemistry department of Laboratory Services on 10/17/2025.

The report that follows presents the results of the requested analytical testing; the results apply only to the samples as received. All samples have been analyzed in accordance with the 2016 TNI Standard and the applicable A2LA accreditation scope for Laboratory Services. Any exceptions to applicable test method criteria and standard compliance are noted in the Case Narrative or flagged with applicable qualifiers in the analytical results section.

Reviewed and approved by:

Emil Blaj
Sr. Technical Analyst
Project Lead

ilac-MRA A2LA ACCREDITED Certificate #1097.04

Testing performed in accordance with the A2LA scope of accredidation specified in the listed certificate.
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CASE NARRATIVE

I. Sample Receipt

All samples were received within hold time and in good conditions; no anomalies were noted on the attached Sample Log-In Shipment Inspection Form during sample check-in. Identification of all samples included in the work order/project is provided in the sample summary section. All sample preservation and temperature upon receipt was verified by the sample custodian and confirmed to meet method requirements.

II. Methodology

Unless otherwise indicated, sample preparation and analysis was performed in accordance with the corresponding test methods from "Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100); SW-846, "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods", USEPA (latest revisions), and Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WPCF, latest edition.

III. Results/Quality Control

Analytical results for this report are presented by laboratory sample ID, container, & aliquot number. Results for the field blanks, field duplicates, and recoveries of the field matrix spike & matrix spike duplicate samples are included in the results section; all other quality control data is listed in the Quality Control Summary associated with the particular test method, as appropriate. Unless specifically noted in the case narrative, all method quality control requirements have been met. If any results are qualified, the corresponding data flags/qualifiers are listed on the last page of the results section. Any additional information on method performance, when applicable, is presented in this section of the case narrative. When data flags are not needed, the qualifiers text box on the last page is left blank, and a statement confirms that no exceptions occurred.

DEFINITIONS / QUALIFIERS

The following qualifiers and/or acronyms are used in the report, where applicable:

Acronym	Description
RL	Reporting Limit
ND	Result not detected or below Reporting Limit
NT	Non TNI Analyte
LCS	Laboratory Control Sample
LRB	Laboratory Reagent Blank (also referred to as Method Blank)
DUP	Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
TDL	Target Detection Limit
SM	Standard Methods Compendium

Qualifier	Description
*	Generic data flag, applicable description added in the corresponding notes section
B	The analyte was detected in the LRB at a level which is significant relative to sample result
D	Reporting limit elevated due to dilution
E	Estimated due to result exceeding the linear range of the analyzer
H	The maximum recommended hold time was exceeded
I	Dilution required due to matrix interference; reporting limit elevated
J	Estimated due to result found above MDL but below PQL (or RL)
K	Reporting limit raised due to matrix interference
M	The precision for duplicate analysis was not met; RPD outside acceptance criteria
N	Non-homogeneous sample made analysis questionable
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Matrix Spike or Matrix Spike Duplicate recovery outside acceptance criteria
R	Result confirmed by new sample preparation and reanalysis
X	Other notation required; comment listed in sample notes and/or case narrative

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Work Order Sample Summary

Customer Name: Karn/Weadock Complex
Work Order ID: Q4-2025 Weadock Porewater Wells
Date Received: 10/17/2025
Chemistry Project: 25-0754

Sample #	Field Sample ID	Matrix	Sample Date	Site
25-0754-01	JCW-MW-18001	Groundwater	10/16/2025 09:00	JCW Solid Waste Disposal Area, Porewater
25-0754-02	JCW-MW-18004	Groundwater	10/15/2025 15:01	JCW Solid Waste Disposal Area, Porewater
25-0754-03	JCW-MW-18005	Groundwater	10/14/2025 12:20	JCW Solid Waste Disposal Area, Porewater
25-0754-04	JCW-MW-18006	Groundwater	10/14/2025 09:18	JCW Solid Waste Disposal Area, Porewater
25-0754-05	MW-50	Groundwater	10/15/2025 09:20	JCW Solid Waste Disposal Area, Porewater
25-0754-06	MW-51	Groundwater	10/15/2025 10:08	JCW Solid Waste Disposal Area, Porewater
25-0754-07	MW-52	Groundwater	10/15/2025 11:01	JCW Solid Waste Disposal Area, Porewater
25-0754-08	MW-53	Groundwater	10/16/2025 10:34	JCW Solid Waste Disposal Area, Porewater
25-0754-09	MW-53R	Groundwater	10/14/2025 16:02	JCW Solid Waste Disposal Area, Porewater
25-0754-10	MW-54R	Groundwater	10/14/2025 15:20	JCW Solid Waste Disposal Area, Porewater
25-0754-11	MW-55	Groundwater	10/14/2025 13:45	JCW Solid Waste Disposal Area, Porewater
25-0754-12	OW-57ROUT	Groundwater	10/14/2025 10:13	JCW Solid Waste Disposal Area, Porewater
25-0754-13	DUP-JCW-LF-01	Groundwater	10/14/2025 00:00	JCW Solid Waste Disposal Area, Porewater
25-0754-14	DUP-JCW-LF-02	Groundwater	10/14/2025 00:00	JCW Solid Waste Disposal Area, Porewater
25-0754-15	JCW-MW-18001 MS	Groundwater	10/16/2025 09:00	JCW Solid Waste Disposal Area, Porewater
25-0754-16	JCW-MW-18001 MSD	Groundwater	10/16/2025 09:00	JCW Solid Waste Disposal Area, Porewater
25-0754-17	FB-01	Water	10/14/2025 10:29	JCW Solid Waste Disposal Area, Porewater
25-0754-18	EB-01	Water	10/14/2025 10:33	JCW Solid Waste Disposal Area, Porewater

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Analytical Report

Report Date: 10/31/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18001**
Lab Sample ID: 25-0754-01
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/16/2025
Collect Time: 09:00 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-01-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-01-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	8		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	59		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	1510		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	502000		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	3		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	1320		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	103		ug/L	10.0	10/21/2025	AB25-1021-03
Magnesium	124000		ug/L	1000.0	10/21/2025	AB25-1021-03
Molybdenum	ND		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Potassium	18600		ug/L	100.0	10/21/2025	AB25-1021-03
Selenium	2		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Sodium	262000		ug/L	1000.0	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	2		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-01-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	47700		ug/L	1000.0	10/23/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/23/2025	AB25-1023-01
Sulfate	1650000		ug/L	1000.0	10/23/2025	AB25-1023-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0754-01-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	3200		mg/L	10.0	10/20/2025	AB25-1020-03

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Analytical Report

Report Date: 10/31/25

Sample Site:	**JCW Solid Waste Disposal Area, Porewater (395457)**	Laboratory Project:	**25-0754**
Field Sample ID:	**JCW-MW-18001**	Collect Date:	10/16/2025
Lab Sample ID:	25-0754-01	Collect Time:	09:00 AM
Matrix:	Groundwater		

Alkalinity by SM 2320B

Aliquot #: 25-0754-01-C04-A01 **Analyst: DLS**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Alkalinity, Total	725000		ug/L	10000.0	10/22/2025	AB25-1022-01
Alkalinity, Bicarbonate	725000		ug/L	10000.0	10/22/2025	AB25-1022-01
Alkalinity, Carbonate	ND		ug/L	10000.0	10/22/2025	AB25-1022-01

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18004**
Lab Sample ID: 25-0754-02
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/15/2025
Collect Time: 03:01 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-02-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-02-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	2		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	49		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	318		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	210000		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	1		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	5		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	3550		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	43		ug/L	10.0	10/21/2025	AB25-1021-03
Molybdenum	ND		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	10		ug/L	2.0	10/21/2025	AB25-1021-03
Selenium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	4		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	13		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-02-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	13800		ug/L	1000.0	10/23/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/23/2025	AB25-1023-01
Sulfate	396000		ug/L	1000.0	10/23/2025	AB25-1023-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0754-02-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1060		mg/L	10.0	10/20/2025	AB25-1020-03

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18005**
Lab Sample ID: 25-0754-03
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/14/2025
Collect Time: 12:20 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-03-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-03-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	2		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	80		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	1850		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	152000		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	2		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	1060		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	32		ug/L	10.0	10/21/2025	AB25-1021-03
Molybdenum	6		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	7		ug/L	2.0	10/21/2025	AB25-1021-03
Selenium	2		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-03-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	55000		ug/L	1000.0	10/23/2025	AB25-1023-01
Fluoride	1090		ug/L	1000.0	10/23/2025	AB25-1023-01
Sulfate	111000		ug/L	1000.0	10/23/2025	AB25-1023-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0754-03-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	980		mg/L	10.0	10/20/2025	AB25-1020-03

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18006**
Lab Sample ID: 25-0754-04
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/14/2025
Collect Time: 09:18 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-04-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-04-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	23		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	344		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	2520		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	114000		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	2		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	5520		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	45		ug/L	10.0	10/21/2025	AB25-1021-03
Molybdenum	ND		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Selenium	3		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	4		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-04-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	86700		ug/L	1000.0	10/23/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/23/2025	AB25-1023-01
Sulfate	51300		ug/L	1000.0	10/23/2025	AB25-1023-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0754-04-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	796		mg/L	10.0	10/20/2025	AB25-1020-03

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Analytical Report

Report Date: 10/31/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-50**
Lab Sample ID: 25-0754-05
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/15/2025
Collect Time: 09:20 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-05-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-05-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	6		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	219		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	3840		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	193000		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	1		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	1830		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	72		ug/L	10.0	10/21/2025	AB25-1021-03
Molybdenum	5		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Selenium	2		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-05-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	67200		ug/L	1000.0	10/23/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/23/2025	AB25-1023-01
Sulfate	240000		ug/L	1000.0	10/23/2025	AB25-1023-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0754-05-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1080		mg/L	10.0	10/20/2025	AB25-1020-03

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-51**
Lab Sample ID: 25-0754-06
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/15/2025
Collect Time: 10:08 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-06-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-06-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	29		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	155		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	913		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	166000		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	8		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	3270		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	30		ug/L	10.0	10/21/2025	AB25-1021-03
Molybdenum	ND		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Selenium	3		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-06-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	70900		ug/L	1000.0	10/23/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/23/2025	AB25-1023-01
Sulfate	476000		ug/L	1000.0	10/23/2025	AB25-1023-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0754-06-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1240		mg/L	10.0	10/20/2025	AB25-1020-03

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-52**
Lab Sample ID: 25-0754-07
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/15/2025
Collect Time: 11:01 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-07-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-07-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	89		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	843		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	260000		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	2		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	7910		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	31		ug/L	10.0	10/21/2025	AB25-1021-03
Molybdenum	ND		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Selenium	2		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-07-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	53400		ug/L	1000.0	10/23/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/23/2025	AB25-1023-01
Sulfate	508000		ug/L	1000.0	10/23/2025	AB25-1023-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0754-07-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1440		mg/L	10.0	10/20/2025	AB25-1020-03

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-53**
Lab Sample ID: 25-0754-08
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/16/2025
Collect Time: 10:34 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-08-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-08-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	481		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	6330		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	128000		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	2		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	395		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	49		ug/L	10.0	10/21/2025	AB25-1021-03
Molybdenum	ND		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Selenium	2		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	3		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-08-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	94000		ug/L	1000.0	10/23/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/23/2025	AB25-1023-01
Sulfate	30200		ug/L	1000.0	10/23/2025	AB25-1023-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0754-08-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	870		mg/L	10.0	10/20/2025	AB25-1020-03

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-53R**
Lab Sample ID: 25-0754-09
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/14/2025
Collect Time: 04:02 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-09-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-09-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	17		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	149		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	3580		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	167000		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	4		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	652		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	57		ug/L	10.0	10/21/2025	AB25-1021-03
Molybdenum	ND		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Selenium	3		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	3		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-09-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	90400		ug/L	1000.0	10/24/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/24/2025	AB25-1023-01
Sulfate	118000		ug/L	1000.0	10/24/2025	AB25-1023-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0754-09-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1000		mg/L	10.0	10/20/2025	AB25-1020-03

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Analytical Report

Report Date: 10/31/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-54R**
Lab Sample ID: 25-0754-10
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/14/2025
Collect Time: 03:20 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-10-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-10-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	2		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	134		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	7660		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	230000		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	2		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	165		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	111		ug/L	10.0	10/21/2025	AB25-1021-03
Molybdenum	23		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	40		ug/L	2.0	10/21/2025	AB25-1021-03
Selenium	6		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	4		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-10-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	178000		ug/L	1000.0	10/24/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/24/2025	AB25-1023-01
Sulfate	367000		ug/L	1000.0	10/24/2025	AB25-1023-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0754-10-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1380		mg/L	10.0	10/20/2025	AB25-1020-03

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **MW-55**
Lab Sample ID: 25-0754-11
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/14/2025
Collect Time: 01:45 PM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-11-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-11-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	41		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	238		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	1040		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	175000		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	1		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	14300		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	29		ug/L	10.0	10/21/2025	AB25-1021-03
Molybdenum	39		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	3		ug/L	2.0	10/21/2025	AB25-1021-03
Selenium	1		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-11-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	17100		ug/L	1000.0	10/24/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/24/2025	AB25-1023-01
Sulfate	156000		ug/L	1000.0	10/24/2025	AB25-1023-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0754-11-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	876		mg/L	10.0	10/20/2025	AB25-1020-03

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **OW-57ROUT**
Lab Sample ID: 25-0754-12
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/14/2025
Collect Time: 10:13 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-12-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-12-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	2		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	88		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	1790		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	139000		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	3		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	74		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	29		ug/L	10.0	10/21/2025	AB25-1021-03
Molybdenum	7		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	10		ug/L	2.0	10/21/2025	AB25-1021-03
Selenium	2		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	2		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-12-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	97500		ug/L	1000.0	10/24/2025	AB25-1023-01
Fluoride	1110		ug/L	1000.0	10/24/2025	AB25-1023-01
Sulfate	66900		ug/L	1000.0	10/24/2025	AB25-1023-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0754-12-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	856		mg/L	10.0	10/20/2025	AB25-1020-03

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **DUP-JCW-LF-01**
Lab Sample ID: 25-0754-13
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/14/2025
Collect Time: 12:00 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-13-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-13-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	2		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	81		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	1920		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	150000		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	1		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	1140		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	32		ug/L	10.0	10/21/2025	AB25-1021-03
Molybdenum	6		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	7		ug/L	2.0	10/21/2025	AB25-1021-03
Selenium	2		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-13-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	54700		ug/L	1000.0	10/24/2025	AB25-1023-01
Fluoride	1130		ug/L	1000.0	10/24/2025	AB25-1023-01
Sulfate	111000		ug/L	1000.0	10/24/2025	AB25-1023-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0754-13-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	888		mg/L	10.0	10/20/2025	AB25-1020-03

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **DUP-JCW-LF-02**
Lab Sample ID: 25-0754-14
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/14/2025
Collect Time: 12:00 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-14-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-14-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	39		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	231		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	1010		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	174000		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	1		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	14200		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	27		ug/L	10.0	10/21/2025	AB25-1021-03
Molybdenum	38		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Selenium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-14-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	17100		ug/L	1000.0	10/24/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/24/2025	AB25-1023-01
Sulfate	158000		ug/L	1000.0	10/24/2025	AB25-1023-01

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0754-14-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	878		mg/L	10.0	10/20/2025	AB25-1020-03

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18001 MS**
Lab Sample ID: 25-0754-15
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/16/2025
Collect Time: 09:00 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-15-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	98.0		%	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-15-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	109		%	1.0	10/21/2025	AB25-1021-03
Arsenic	95		%	1.0	10/21/2025	AB25-1021-03
Barium	104		%	5.0	10/21/2025	AB25-1021-03
Beryllium	88		%	1.0	10/21/2025	AB25-1021-03
Boron	102		%	20.0	10/21/2025	AB25-1021-03
Cadmium	105		%	0.2	10/21/2025	AB25-1021-03
Calcium	98.5		%	1000.0	10/21/2025	AB25-1021-03
Chromium	92		%	1.0	10/21/2025	AB25-1021-03
Cobalt	89		%	6.0	10/21/2025	AB25-1021-03
Copper	82		%	1.0	10/21/2025	AB25-1021-03
Iron	108		%	20.0	10/21/2025	AB25-1021-03
Lead	97		%	1.0	10/21/2025	AB25-1021-03
Lithium	88		%	10.0	10/21/2025	AB25-1021-03
Magnesium	108		%	1000.0	10/21/2025	AB25-1021-03
Molybdenum	117		%	5.0	10/21/2025	AB25-1021-03
Nickel	84		%	2.0	10/21/2025	AB25-1021-03
Potassium	106		%	100.0	10/21/2025	AB25-1021-03
Selenium	95		%	1.0	10/21/2025	AB25-1021-03
Silver	89.3		%	0.2	10/21/2025	AB25-1021-03
Sodium	105		%	1000.0	10/21/2025	AB25-1021-03
Thallium	102		%	2.0	10/21/2025	AB25-1021-03
Vanadium	96		%	2.0	10/21/2025	AB25-1021-03
Zinc	85		%	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-15-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	109		%	1000.0	10/24/2025	AB25-1023-01
Fluoride	98		%	1000.0	10/24/2025	AB25-1023-01
Sulfate	114		%	1000.0	10/24/2025	AB25-1023-01

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **JCW-MW-18001 MSD**
Lab Sample ID: 25-0754-16
Matrix: Groundwater

Laboratory Project: **25-0754**
Collect Date: 10/16/2025
Collect Time: 09:00 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-16-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	99.0		%	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-16-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	110		%	1.0	10/21/2025	AB25-1021-03
Arsenic	97		%	1.0	10/21/2025	AB25-1021-03
Barium	102		%	5.0	10/21/2025	AB25-1021-03
Beryllium	88		%	1.0	10/21/2025	AB25-1021-03
Boron	103		%	20.0	10/21/2025	AB25-1021-03
Cadmium	106		%	0.2	10/21/2025	AB25-1021-03
Calcium	102		%	1000.0	10/21/2025	AB25-1021-03
Chromium	93		%	1.0	10/21/2025	AB25-1021-03
Cobalt	90		%	6.0	10/21/2025	AB25-1021-03
Copper	82		%	1.0	10/21/2025	AB25-1021-03
Iron	107		%	20.0	10/21/2025	AB25-1021-03
Lead	98		%	1.0	10/21/2025	AB25-1021-03
Lithium	88		%	10.0	10/21/2025	AB25-1021-03
Magnesium	108		%	1000.0	10/21/2025	AB25-1021-03
Molybdenum	118		%	5.0	10/21/2025	AB25-1021-03
Nickel	85		%	2.0	10/21/2025	AB25-1021-03
Potassium	107		%	100.0	10/21/2025	AB25-1021-03
Selenium	94		%	1.0	10/21/2025	AB25-1021-03
Silver	89.7		%	0.2	10/21/2025	AB25-1021-03
Sodium	105		%	1000.0	10/21/2025	AB25-1021-03
Thallium	101		%	2.0	10/21/2025	AB25-1021-03
Vanadium	97		%	2.0	10/21/2025	AB25-1021-03
Zinc	87		%	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-16-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	111		%	1000.0	10/24/2025	AB25-1023-01
Fluoride	99		%	1000.0	10/24/2025	AB25-1023-01
Sulfate	114		%	1000.0	10/24/2025	AB25-1023-01

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **FB-01**
Lab Sample ID: 25-0754-17
Matrix: Water

Laboratory Project: **25-0754**
Collect Date: 10/14/2025
Collect Time: 10:29 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-17-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/21/2025	AB25-1020-09

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-17-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	ND		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	ND		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	ND		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	ND		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	ND		ug/L	10.0	10/21/2025	AB25-1021-03
Magnesium	ND		ug/L	1000.0	10/21/2025	AB25-1021-03
Molybdenum	ND		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Potassium	ND		ug/L	100.0	10/21/2025	AB25-1021-03
Selenium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Sodium	ND		ug/L	1000.0	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-17-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	ND		ug/L	1000.0	10/24/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/24/2025	AB25-1023-01
Sulfate	ND		ug/L	1000.0	10/24/2025	AB25-1023-01

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Analytical Report

Report Date: 10/31/25

Sample Site: **JCW Solid Waste Disposal Area, Porewater (395457)**
Field Sample ID: **EB-01**
Lab Sample ID: 25-0754-18
Matrix: Water

Laboratory Project: **25-0754**
Collect Date: 10/14/2025
Collect Time: 10:33 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0754-18-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/23/2025	AB25-1022-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0754-18-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	ND		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	ND		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	ND		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	ND		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	ND		ug/L	10.0	10/21/2025	AB25-1021-03
Magnesium	ND		ug/L	1000.0	10/21/2025	AB25-1021-03
Molybdenum	ND		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Potassium	ND		ug/L	100.0	10/21/2025	AB25-1021-03
Selenium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Sodium	ND		ug/L	1000.0	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0754-18-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	ND		ug/L	1000.0	10/24/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/24/2025	AB25-1023-01
Sulfate	ND		ug/L	1000.0	10/24/2025	AB25-1023-01

Data Qualifiers	Exception Summary
	No exceptions occurred.

General Standard Operating Procedure

TITLE: SAMPLE LOG-IN – SHIPMENT INSPECTION FORM

Project Number: 25-0754 **Inspection Date:** 10.17.25 **Inspection By:** UMO

Sample Origin/Project Name: Q4-2025 JC Weadock Porewater Wells

Shipment Delivered By: Enter the type of shipment carrier.

Inter-Company Mail_____ FedEx _____ UPS _____ USPS _____

Tracking Number: 8852-4014-3500 Other/Carry In (whom) _____

Shipping Containers: Enter the type and number of shipping containers received.

Cooler ✓ Cardboard Box _____ Custom Case _____ Envelope/Mailer _____

Loose/Unpackaged Containers _____ Other _____

Condition of Shipment: Enter the as-received condition of the shipment container.

Damaged Shipment Observed: None ✓ Dented _____ Leaking _____

Other _____

Shipment Security: Enter if any of the shipping containers were opened before receipt.

Shipping Containers Received: Opened _____ Sealed ✓ N/A _____

Enclosed Documents: Enter the type of documents enclosed with the shipment.

CoC ✓ Work Request _____ Air Data Sheet_____ Other_____

Temperature of Containers: Measure the temperature of several sample containers.

As-Received Temperature Range 1.2-2.4 °C Samples Received on Ice: Yes ✓ No_____

M&TE # and Expiration 015402 / 5.27.26

Number and Type of Containers: Enter the type and total number of sample containers received.

Container Type	Water	Soil	Other	Broken	Leaking
VOA (40mL or 60mL)	2				
Quart/Liter (g / p)					
9-oz (amber glass jar)					
2-oz (amber glass)					
125 mL (plastic)	36				
24 mL vial (glass)					
250 mL (plastic)	14				
Other					

All sample pH meeting criteria? Yes ✓ No___ N/A___ **pH paper lot #** 210224 **Exp. Date** 12.1.26

Indicate if an Exception Report (Page 2 of 2) is needed: Yes _____ No ✓

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SAMPLING SITE / CUSTOMER: Q4-2025 JC Weadock Porewater Wells

PROJECT NUMBER: 25-0754

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: A. Host, E. Wielgopolski

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☑ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: jlit2@trccompanies.com — phone: 989-273-2016

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	Alkalinity					REMARKS
25-0754-01	10/16/25	0900	GW	JCW-MW-18001	5	4	1						x	x	x	x					
-02	10/15/25	1501	GW	JCW-MW-18004	3	2	1						x	x	x						
-03	10/14/25	1220	GW	JCW-MW-18005	3	2	1						x	x	x						
-04	10/14/25	0918	GW	JCW-MW-18006	3	2	1						x	x	x						
-05	10/15/25	0920	GW	MW-50	3	2	1						x	x	x						
-06	10/15/25	1008	GW	MW-51	3	2	1						x	x	x						
-07	10/15/25	1101	GW	MW-52	3	2	1						x	x	x						
-08	10/16/25	1034	GW	MW-53	3	2	1						x	x	x						
-09	10/14/25	1602	GW	MW-53R	3	2	1						x	x	x						
-10	10/14/25	1520	GW	MW-54R	3	2	1						x	x	x						
-11	10/14/25	1345	GW	MW-55	3	2	1						x	x	x						
-12	10/14/25	1013	GW	OW-57ROUT	3	2	1						x	x	x						

RELINQUISHED BY: [signature] DATE/TIME: 10/15/25 1616 RECEIVED BY: [signature]

RELINQUISHED BY: [signature] via Fed Ex DATE/TIME: 10/16/25 10-17-25 0950 RECEIVED BY: 10/16 25 1500 Fed Ex 10-17-25 0950

COMMENTS:

Received on Ice? ☑ Yes ☐ No M&TE #: 015402

Temperature: 1.2-2.4 °C Cal. Due Date: 05-27-26

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SAMPLING SITE / CUSTOMER: Q4-2025 JC Weadock Porewater Wells	PROJECT NUMBER: 25-0754	SAP CC or WO#:	
SAMPLING TEAM: E. Wielgopolski	TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☒ STANDARD ☒ OTHER	REQUESTER: Harold Register	
SEND REPORT TO: Joseph Firlit	email:	phone:	
COPY TO: Harold Register; TRC			

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	HNO_3	H_2SO_4	NaOH	HCl	MeOH	Other	ANALYSIS REQUESTED: Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0754-13	10/14/25	—	GW	DUP-JCW-LF-01	3	2	1						x	x	x		
-14	10/14/25	—	GW	DUP-JCW-LF-02	3	2	1						x	x	x		
-15	10/16/25	0900	GW	JCW-MW-18001 MS	2	1	1						x	x			
-16	10/16/25	0900	GW	JCW-MW-18001 MSD	2	1	1						x	x			
-17	10/14/25	1029	GW	FB-01	2	1	1						x	x			
-18	10/14/25	1033	W	EB-01	2	1	1						x	x			

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER

RELINQUISHED BY: E Wielgopolski	DATE/TIME: 10/16/25	RECEIVED BY: Fed Ex
RELINQUISHED BY: Fed Ex	DATE/TIME: 10-17-25 0950	RECEIVED BY:

COMMENTS:

Received on Ice? ☒ Yes ☐ No M&TE #: 015402

Temperature: 1.2-2.4 °C Cal. Due Date: 05-27-24

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Darby Litz
TRC Environmental Corporation.
1540 Eisenhower Place
Ann Arbor, Michigan 48108-7080

Generated 11/19/2025 12:13:01 PM

JOB DESCRIPTION

Karn/Weadock CCR JCW Landfill

JOB NUMBER

240-235611-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

my EOL

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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Authorized for release by
Kris Brooks, Manager of Project Management
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Definitions/Glossary

Client: TRC Environmental Corporation. Job ID: 240-235611-1
Project/Site: Karn/Weadock CCR JCW Landfill

Qualifiers

Rad

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

Glossary

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

Job ID: 240-235611-1 Eurofins Cleveland

Job Narrative
240-235611-1

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 10/18/2025 8:00 AM. 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 1.0°C, 1.3°C, 1.5°C and 1.8°C.

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

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

Method Summary

Client: TRC Environmental Corporation.
Job ID: 240-235611-1
Project/Site: Karn/Weadock CCR JCW Landfill

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep STD	Preparation, Precipitate Separation (Standard In-Growth)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

Sample Summary

Client: TRC Environmental Corporation.
Job ID: 240-235611-1
Project/Site: Karn/Weadock CCR JCW Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
240-235611-1	JCW-MW-18001	Water	10/16/25 09:00	10/18/25 08:00	Michigan
240-235611-2	JCW-MW-18004	Water	10/15/25 15:01	10/18/25 08:00	Michigan
240-235611-3	JCW-MW-18005	Water	10/14/25 12:20	10/18/25 08:00	Michigan
240-235611-4	JCW-MW-18006	Water	10/14/25 09:18	10/18/25 08:00	Michigan
240-235611-5	MW-50	Water	10/15/25 09:20	10/18/25 08:00	Michigan
240-235611-6	MW-51	Water	10/15/25 10:08	10/18/25 08:00	Michigan
240-235611-7	MW-52	Water	10/15/25 11:01	10/18/25 08:00	Michigan
240-235611-8	MW-53	Water	10/16/25 10:34	10/18/25 08:00	Michigan
240-235611-9	MW-53R	Water	10/14/25 16:02	10/18/25 08:00	Michigan
240-235611-10	MW-54R	Water	10/14/25 15:20	10/18/25 08:00	Michigan
240-235611-11	MW-55	Water	10/14/25 10:13	10/18/25 08:00	Michigan
240-235611-12	OW-57ROUT	Water	10/14/25 10:13	10/18/25 08:00	Michigan
240-235611-13	DUP-01	Water	10/14/25 00:00	10/18/25 08:00	Michigan
240-235611-14	EB-01	Water	10/14/25 10:40	10/18/25 08:00	Michigan

Client Sample ID: JCW-MW-18001
Lab Sample ID: 240-235611-1

Date Collected: 10/16/25 09:00
Matrix: Water

Date Received: 10/18/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00512	U	0.178	0.178	1.00	0.367	pCi/L	10/24/25 08:25	11/18/25 17:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.9*		*30 - 110*	*10/24/25 08:25*	*11/18/25 17:59*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.12**		0.628	0.636	1.00	0.912	pCi/L	10/24/25 11:08	11/18/25 12:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.9*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*1*
Y Carrier	*76.3*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*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**		0.653	0.660	5.00	0.912	pCi/L		11/19/25 06:54	1

Client Sample ID: JCW-MW-18004
Lab Sample ID: 240-235611-2

Date Collected: 10/15/25 15:01
Matrix: Water

Date Received: 10/18/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.146	U	0.265	0.266	1.00	0.464	pCi/L	10/24/25 08:25	11/18/25 17:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.8*		*30 - 110*	*10/24/25 08:25*	*11/18/25 17:59*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.984**		0.536	0.543	1.00	0.771	pCi/L	10/24/25 11:08	11/18/25 12:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.8*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*1*
Y Carrier	*81.5*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*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	**1.13**		0.598	0.605	5.00	0.771	pCi/L		11/19/25 10:48	1

Client: TRC Environmental Corporation.
Job ID: 240-235611-1
Project/Site: Karn/Weadock CCR JCW Landfill

Client Sample ID: JCW-MW-18005
Lab Sample ID: 240-235611-3

Date Collected: 10/14/25 12:20
Matrix: Water

Date Received: 10/18/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.366	U	0.311	0.313	1.00	0.472	pCi/L	10/24/25 08:25	11/18/25 18:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*72.4*		*30 - 110*	*10/24/25 08:25*	*11/18/25 18:00*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0780	U	0.517	0.517	1.00	0.935	pCi/L	10/24/25 11:08	11/18/25 12:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*72.4*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*1*
Y Carrier	*78.9*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*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	0.444	U	0.603	0.604	5.00	0.935	pCi/L		11/19/25 10:48	1

Client: TRC Environmental Corporation.
Job ID: 240-235611-1
Project/Site: Karn/Weadock CCR JCW Landfill

Client Sample ID: JCW-MW-18006
Lab Sample ID: 240-235611-4

Date Collected: 10/14/25 09:18
Matrix: Water

Date Received: 10/18/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.398		0.267	0.269	1.00	0.368	pCi/L	10/24/25 08:25	11/18/25 18:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.2*		*30 - 110*	*10/24/25 08:25*	*11/18/25 18:00*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.54		0.674	0.689	1.00	0.939	pCi/L	10/24/25 11:08	11/18/25 12:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.2*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*1*
Y Carrier	*80.7*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:30*	*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	1.94		0.725	0.740	5.00	0.939	pCi/L		11/19/25 10:48	1

Client Sample ID: MW-50
Date Collected: 10/15/25 09:20
Date Received: 10/18/25 08:00

Lab Sample ID: 240-235611-5
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.241	U	0.274	0.275	1.00	0.445	pCi/L	10/24/25 08:25	11/18/25 18:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*69.5*		*30 - 110*	*10/24/25 08:25*	*11/18/25 18:00*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.25**		0.638	0.649	1.00	0.915	pCi/L	10/24/25 11:08	11/18/25 12:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*69.5*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:31*	*1*
Y Carrier	*79.3*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:31*	*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	**1.49**		0.694	0.705	5.00	0.915	pCi/L		11/19/25 10:48	1

Client: TRC Environmental Corporation.
Job ID: 240-235611-1
Project/Site: Karn/Weadock CCR JCW Landfill

Client Sample ID: MW-51
Lab Sample ID: 240-235611-6
Date Collected: 10/15/25 10:08
Matrix: Water
Date Received: 10/18/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.221	U	0.321	0.322	1.00	0.545	pCi/L	10/24/25 08:25	11/18/25 18:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.2*		*30 - 110*	*10/24/25 08:25*	*11/18/25 18:00*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.136	U	0.450	0.450	1.00	0.807	pCi/L	10/24/25 11:08	11/18/25 12:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.2*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:31*	*1*
Y Carrier	*73.3*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:31*	*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	0.357	U	0.553	0.553	5.00	0.807	pCi/L		11/19/25 10:48	1

Client Sample ID: MW-52
Date Collected: 10/15/25 11:01
Date Received: 10/18/25 08:00

Lab Sample ID: 240-235611-7
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.234	U	0.267	0.268	1.00	0.435	pCi/L	10/24/25 08:25	11/18/25 17:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.8*		*30 - 110*	*10/24/25 08:25*	*11/18/25 17:57*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.09**		0.517	0.526	1.00	0.693	pCi/L	10/24/25 11:08	11/18/25 12:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.8*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:31*	*1*
Y Carrier	*80.0*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:31*	*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	**1.33**		0.582	0.590	5.00	0.693	pCi/L		11/19/25 10:48	1

Client Sample ID: MW-53
Date Collected: 10/16/25 10:34
Date Received: 10/18/25 08:00

Lab Sample ID: 240-235611-8
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.341	U	0.272	0.274	1.00	0.407	pCi/L	10/24/25 08:25	11/18/25 17:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.8*		*30 - 110*	*10/24/25 08:25*	*11/18/25 17:57*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.22**		0.517	0.529	1.00	0.680	pCi/L	10/24/25 11:08	11/18/25 12:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.8*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:31*	*1*
Y Carrier	*81.1*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:31*	*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	**1.56**		0.584	0.596	5.00	0.680	pCi/L		11/19/25 10:48	1

Client: TRC Environmental Corporation.
Job ID: 240-235611-1
Project/Site: Karn/Weadock CCR JCW Landfill

Client Sample ID: MW-53R
Lab Sample ID: 240-235611-9
Date Collected: 10/14/25 16:02
Matrix: Water
Date Received: 10/18/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.268	U	0.240	0.241	1.00	0.364	pCi/L	10/24/25 08:25	11/18/25 17:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.1*		*30 - 110*	*10/24/25 08:25*	*11/18/25 17:57*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.02**		0.517	0.525	1.00	0.721	pCi/L	10/24/25 11:08	11/18/25 12:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.1*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:31*	*1*
Y Carrier	*81.1*		*30 - 110*	*10/24/25 11:08*	*11/18/25 12:31*	*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	**1.29**		0.570	0.578	5.00	0.721	pCi/L		11/19/25 10:48	1

Client Sample ID: MW-54R
Date Collected: 10/14/25 15:20
Date Received: 10/18/25 08:00

Lab Sample ID: 240-235611-10
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.445**		0.299	0.302	1.00	0.421	pCi/L	10/23/25 08:39	11/18/25 17:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.7*		*30 - 110*	*10/23/25 08:39*	*11/18/25 17:47*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.786	U	0.574	0.578	1.00	0.881	pCi/L	10/23/25 08:43	11/18/25 12:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.7*		*30 - 110*	*10/23/25 08:43*	*11/18/25 12:27*	*1*
Y Carrier	*74.8*		*30 - 110*	*10/23/25 08:43*	*11/18/25 12:27*	*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	**1.23**		0.647	0.652	5.00	0.881	pCi/L		11/19/25 10:48	1

Client: TRC Environmental Corporation.
Job ID: 240-235611-1
Project/Site: Karn/Weadock CCR JCW Landfill

Client Sample ID: MW-55
Lab Sample ID: 240-235611-11
Date Collected: 10/14/25 10:13
Matrix: Water
Date Received: 10/18/25 08:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.316**		0.221	0.223	1.00	0.304	pCi/L	10/23/25 08:39	11/18/25 17:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.3*		*30 - 110*	*10/23/25 08:39*	*11/18/25 17:47*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.133	U	0.368	0.368	1.00	0.652	pCi/L	10/23/25 08:43	11/18/25 12:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.3*		*30 - 110*	*10/23/25 08:43*	*11/18/25 12:28*	*1*
Y Carrier	*78.9*		*30 - 110*	*10/23/25 08:43*	*11/18/25 12:28*	*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	0.449	U	0.429	0.430	5.00	0.652	pCi/L		11/19/25 10:48	1

Client: TRC Environmental Corporation.
Project/Site: Karn/Weadock CCR JCW Landfill

Job ID: 240-235611-1

Client Sample ID: OW-57ROUT
Date Collected: 10/14/25 10:13
Date Received: 10/18/25 08:00

Lab Sample ID: 240-235611-12
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.273	U	0.221	0.222	1.00	0.324	pCi/L	10/23/25 08:39	11/18/25 17:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.2*		*30 - 110*	*10/23/25 08:39*	*11/18/25 17:47*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.127	U	0.354	0.355	1.00	0.632	pCi/L	10/23/25 08:43	11/18/25 12:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.2*		*30 - 110*	*10/23/25 08:43*	*11/18/25 12:28*	*1*
Y Carrier	*77.0*		*30 - 110*	*10/23/25 08:43*	*11/18/25 12:28*	*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	0.399	U	0.417	0.419	5.00	0.632	pCi/L		11/19/25 10:48	1

Client Sample ID: DUP-01
Date Collected: 10/14/25 00:00
Date Received: 10/18/25 08:00

Lab Sample ID: 240-235611-13
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.255	U	0.216	0.217	1.00	0.318	pCi/L	10/23/25 08:39	11/18/25 17:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.2*		*30 - 110*	*10/23/25 08:39*	*11/18/25 17:47*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.245	U	0.398	0.398	1.00	0.679	pCi/L	10/23/25 08:43	11/18/25 12:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.2*		*30 - 110*	*10/23/25 08:43*	*11/18/25 12:28*	*1*
Y Carrier	*78.9*		*30 - 110*	*10/23/25 08:43*	*11/18/25 12:28*	*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	0.500	U	0.453	0.453	5.00	0.679	pCi/L		11/19/25 10:48	1

Client Sample ID: EB-01

Date Collected: 10/14/25 10:40
Date Received: 10/18/25 08:00

Lab Sample ID: 240-235611-14

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.109	U	0.182	0.182	1.00	0.319	pCi/L	10/23/25 08:39	11/18/25 17:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.5*		*30 - 110*	*10/23/25 08:39*	*11/18/25 17:48*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.356	U	0.410	0.412	1.00	0.674	pCi/L	10/23/25 08:43	11/18/25 12:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.5*		*30 - 110*	*10/23/25 08:43*	*11/18/25 12:28*	*1*
Y Carrier	*76.6*		*30 - 110*	*10/23/25 08:43*	*11/18/25 12:28*	*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	0.465	U	0.449	0.450	5.00	0.674	pCi/L		11/19/25 10:48	1

Tracer/Carrier Summary

Client: TRC Environmental Corporation.
Job ID: 240-235611-1
Project/Site: Karn/Weadock CCR JCW Landfill

Method: 903.0 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
240-235611-1	JCW-MW-18001	74.9
240-235611-2	JCW-MW-18004	81.8
240-235611-3	JCW-MW-18005	72.4
240-235611-4	JCW-MW-18006	77.2
240-235611-5	MW-50	69.5
240-235611-6	MW-51	71.2
240-235611-7	MW-52	73.8
240-235611-8	MW-53	77.8
240-235611-9	MW-53R	76.1
240-235611-10	MW-54R	70.7
240-235611-11	MW-55	84.3
240-235611-12	OW-57ROUT	81.2
240-235611-13	DUP-01	77.2
240-235611-14	EB-01	83.5
LCS 160-741931/2-A	Lab Control Sample	79.8
LCS 160-742085/2-A	Lab Control Sample	79.5
MB 160-741931/1-A	Method Blank	84.6
MB 160-742085/1-A	Method Blank	81.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
240-235611-1	JCW-MW-18001	74.9	76.3
240-235611-2	JCW-MW-18004	81.8	81.5
240-235611-3	JCW-MW-18005	72.4	78.9
240-235611-4	JCW-MW-18006	77.2	80.7
240-235611-5	MW-50	69.5	79.3
240-235611-6	MW-51	71.2	73.3
240-235611-7	MW-52	73.8	80.0
240-235611-8	MW-53	77.8	81.1
240-235611-9	MW-53R	76.1	81.1
240-235611-10	MW-54R	70.7	74.8
240-235611-11	MW-55	84.3	78.9
240-235611-12	OW-57ROUT	81.2	77.0
240-235611-13	DUP-01	77.2	78.9
240-235611-14	EB-01	83.5	76.6
LCS 160-741932/2-A	Lab Control Sample	79.8	73.3
LCS 160-742105/2-A	Lab Control Sample	79.5	82.6
MB 160-741932/1-A	Method Blank	84.6	79.6
MB 160-742105/1-A	Method Blank	81.5	80.7

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-741931/1-A
Matrix: Water
Analysis Batch: 745772

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 741931

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.1227	U	0.128	0.129	1.00	0.339	pCi/L	10/23/25 08:39	11/18/25 17:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.6*		*30 - 110*	*10/23/25 08:39*	*11/18/25 17:46*	*1*

Lab Sample ID: LCS 160-741931/2-A
Matrix: Water
Analysis Batch: 745772

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 741931

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			9.57	8.766		1.23	1.00	0.456	pCi/L	92	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*79.8*		*30 - 110*

Lab Sample ID: MB 160-742085/1-A
Matrix: Water
Analysis Batch: 745772

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 742085

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.1330	U	0.127	0.128	1.00	0.350	pCi/L	10/24/25 08:25	11/18/25 17:50	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.5*		*30 - 110*	*10/24/25 08:25*	*11/18/25 17:50*	*1*

Lab Sample ID: LCS 160-742085/2-A
Matrix: Water
Analysis Batch: 745772

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 742085

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			9.57	8.503		1.20	1.00	0.280	pCi/L	89	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*79.5*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-741932/1-A
Matrix: Water
Analysis Batch: 745774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 741932

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.005079	U	0.361	0.361	1.00	0.669	pCi/L	10/23/25 08:43	11/18/25 12:26	1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	84.6		30 - 110	10/23/25 08:43	11/18/25 12:26	1
Y Carrier	79.6		30 - 110	10/23/25 08:43	11/18/25 12:26	1

Lab Sample ID: LCS 160-741932/2-A
Matrix: Water
Analysis Batch: 745774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 741932

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			7.92	7.143		1.19	1.00	0.700	pCi/L	90	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	79.8		30 - 110
Y Carrier	73.3		30 - 110

Lab Sample ID: MB 160-742105/1-A
Matrix: Water
Analysis Batch: 745771

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 742105

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3308	U	0.480	0.481	1.00	0.808	pCi/L	10/24/25 11:08	11/18/25 12:30	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	81.5		30 - 110	10/24/25 11:08	11/18/25 12:30	1
Y Carrier	80.7		30 - 110	10/24/25 11:08	11/18/25 12:30	1

Lab Sample ID: LCS 160-742105/2-A
Matrix: Water
Analysis Batch: 745771

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 742105

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			7.92	9.139		1.39	1.00	0.756	pCi/L	115	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	79.5		30 - 110
Y Carrier	82.6		30 - 110

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Prep Batch: 741931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-235611-10	MW-54R	Total/NA	Water	PrecSep STD	
240-235611-11	MW-55	Total/NA	Water	PrecSep STD	
240-235611-12	OW-57ROUT	Total/NA	Water	PrecSep STD	
240-235611-13	DUP-01	Total/NA	Water	PrecSep STD	
240-235611-14	EB-01	Total/NA	Water	PrecSep STD	
MB 160-741931/1-A	Method Blank	Total/NA	Water	PrecSep STD	
LCS 160-741931/2-A	Lab Control Sample	Total/NA	Water	PrecSep STD	

Prep Batch: 741932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-235611-10	MW-54R	Total/NA	Water	PrecSep_0	
240-235611-11	MW-55	Total/NA	Water	PrecSep_0	
240-235611-12	OW-57ROUT	Total/NA	Water	PrecSep_0	
240-235611-13	DUP-01	Total/NA	Water	PrecSep_0	
240-235611-14	EB-01	Total/NA	Water	PrecSep_0	
MB 160-741932/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-741932/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 742085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-235611-1	JCW-MW-18001	Total/NA	Water	PrecSep STD	
240-235611-2	JCW-MW-18004	Total/NA	Water	PrecSep STD	
240-235611-3	JCW-MW-18005	Total/NA	Water	PrecSep STD	
240-235611-4	JCW-MW-18006	Total/NA	Water	PrecSep STD	
240-235611-5	MW-50	Total/NA	Water	PrecSep STD	
240-235611-6	MW-51	Total/NA	Water	PrecSep STD	
240-235611-7	MW-52	Total/NA	Water	PrecSep STD	
240-235611-8	MW-53	Total/NA	Water	PrecSep STD	
240-235611-9	MW-53R	Total/NA	Water	PrecSep STD	
MB 160-742085/1-A	Method Blank	Total/NA	Water	PrecSep STD	
LCS 160-742085/2-A	Lab Control Sample	Total/NA	Water	PrecSep STD	

Prep Batch: 742105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-235611-1	JCW-MW-18001	Total/NA	Water	PrecSep_0	
240-235611-2	JCW-MW-18004	Total/NA	Water	PrecSep_0	
240-235611-3	JCW-MW-18005	Total/NA	Water	PrecSep_0	
240-235611-4	JCW-MW-18006	Total/NA	Water	PrecSep_0	
240-235611-5	MW-50	Total/NA	Water	PrecSep_0	
240-235611-6	MW-51	Total/NA	Water	PrecSep_0	
240-235611-7	MW-52	Total/NA	Water	PrecSep_0	
240-235611-8	MW-53	Total/NA	Water	PrecSep_0	
240-235611-9	MW-53R	Total/NA	Water	PrecSep_0	
MB 160-742105/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-742105/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: TRC Environmental Corporation.
Job ID: 240-235611-1
Project/Site: Karn/Weadock CCR JCW Landfill

Client Sample ID: JCW-MW-18001
Lab Sample ID: 240-235611-1
Date Collected: 10/16/25 09:00
Matrix: Water
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			742085	JTR	EET SL	10/24/25 08:25
Total/NA	Analysis	903.0		1	745773	SWS	EET SL	11/18/25 17:59
Total/NA	Prep	PrecSep_0			742105	JTR	EET SL	10/24/25 11:08
Total/NA	Analysis	904.0		1	745771	SWS	EET SL	11/18/25 12:30
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 06:54

Client Sample ID: JCW-MW-18004
Lab Sample ID: 240-235611-2
Date Collected: 10/15/25 15:01
Matrix: Water
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			742085	JTR	EET SL	10/24/25 08:25
Total/NA	Analysis	903.0		1	745773	SWS	EET SL	11/18/25 17:59
Total/NA	Prep	PrecSep_0			742105	JTR	EET SL	10/24/25 11:08
Total/NA	Analysis	904.0		1	745771	SWS	EET SL	11/18/25 12:30
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 10:48

Client Sample ID: JCW-MW-18005
Lab Sample ID: 240-235611-3
Date Collected: 10/14/25 12:20
Matrix: Water
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			742085	JTR	EET SL	10/24/25 08:25
Total/NA	Analysis	903.0		1	745773	SWS	EET SL	11/18/25 18:00
Total/NA	Prep	PrecSep_0			742105	JTR	EET SL	10/24/25 11:08
Total/NA	Analysis	904.0		1	745771	SWS	EET SL	11/18/25 12:30
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 10:48

Client Sample ID: JCW-MW-18006
Lab Sample ID: 240-235611-4
Date Collected: 10/14/25 09:18
Matrix: Water
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			742085	JTR	EET SL	10/24/25 08:25
Total/NA	Analysis	903.0		1	745773	SWS	EET SL	11/18/25 18:00
Total/NA	Prep	PrecSep_0			742105	JTR	EET SL	10/24/25 11:08
Total/NA	Analysis	904.0		1	745771	SWS	EET SL	11/18/25 12:30
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 10:48

Lab Chronicle

Client: TRC Environmental Corporation.
Job ID: 240-235611-1
Project/Site: Karn/Weadock CCR JCW Landfill

Client Sample ID: MW-50
Lab Sample ID: 240-235611-5
Date Collected: 10/15/25 09:20
Matrix: Water
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			742085	JTR	EET SL	10/24/25 08:25
Total/NA	Analysis	903.0		1	745773	SWS	EET SL	11/18/25 18:00
Total/NA	Prep	PrecSep_0			742105	JTR	EET SL	10/24/25 11:08
Total/NA	Analysis	904.0		1	745772	SWS	EET SL	11/18/25 12:31
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 10:48

Client Sample ID: MW-51
Lab Sample ID: 240-235611-6
Date Collected: 10/15/25 10:08
Matrix: Water
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			742085	JTR	EET SL	10/24/25 08:25
Total/NA	Analysis	903.0		1	745773	SWS	EET SL	11/18/25 18:00
Total/NA	Prep	PrecSep_0			742105	JTR	EET SL	10/24/25 11:08
Total/NA	Analysis	904.0		1	745772	SWS	EET SL	11/18/25 12:31
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 10:48

Client Sample ID: MW-52
Lab Sample ID: 240-235611-7
Date Collected: 10/15/25 11:01
Matrix: Water
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			742085	JTR	EET SL	10/24/25 08:25
Total/NA	Analysis	903.0		1	745774	SWS	EET SL	11/18/25 17:57
Total/NA	Prep	PrecSep_0			742105	JTR	EET SL	10/24/25 11:08
Total/NA	Analysis	904.0		1	745772	SWS	EET SL	11/18/25 12:31
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 10:48

Client Sample ID: MW-53
Lab Sample ID: 240-235611-8
Date Collected: 10/16/25 10:34
Matrix: Water
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			742085	JTR	EET SL	10/24/25 08:25
Total/NA	Analysis	903.0		1	745774	SWS	EET SL	11/18/25 17:57
Total/NA	Prep	PrecSep_0			742105	JTR	EET SL	10/24/25 11:08
Total/NA	Analysis	904.0		1	745772	SWS	EET SL	11/18/25 12:31
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 10:48

Lab Chronicle

Client: TRC Environmental Corporation.
Job ID: 240-235611-1
Project/Site: Karn/Weadock CCR JCW Landfill

Client Sample ID: MW-53R
Lab Sample ID: 240-235611-9
Date Collected: 10/14/25 16:02
Matrix: Water
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			742085	JTR	EET SL	10/24/25 08:25
Total/NA	Analysis	903.0		1	745774	SWS	EET SL	11/18/25 17:57
Total/NA	Prep	PrecSep_0			742105	JTR	EET SL	10/24/25 11:08
Total/NA	Analysis	904.0		1	745772	SWS	EET SL	11/18/25 12:31
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 10:48

Client Sample ID: MW-54R
Lab Sample ID: 240-235611-10
Date Collected: 10/14/25 15:20
Matrix: Water
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			741931	JTR	EET SL	10/23/25 08:39
Total/NA	Analysis	903.0		1	745772	SWS	EET SL	11/18/25 17:47
Total/NA	Prep	PrecSep_0			741932	JTR	EET SL	10/23/25 08:43
Total/NA	Analysis	904.0		1	745774	SWS	EET SL	11/18/25 12:27
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 10:48

Client Sample ID: MW-55
Lab Sample ID: 240-235611-11
Date Collected: 10/14/25 10:13
Matrix: Water
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			741931	JTR	EET SL	10/23/25 08:39
Total/NA	Analysis	903.0		1	745772	SWS	EET SL	11/18/25 17:47
Total/NA	Prep	PrecSep_0			741932	JTR	EET SL	10/23/25 08:43
Total/NA	Analysis	904.0		1	745774	SWS	EET SL	11/18/25 12:28
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 10:48

Client Sample ID: OW-57ROUT
Lab Sample ID: 240-235611-12
Date Collected: 10/14/25 10:13
Matrix: Water
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			741931	JTR	EET SL	10/23/25 08:39
Total/NA	Analysis	903.0		1	745772	SWS	EET SL	11/18/25 17:47
Total/NA	Prep	PrecSep_0			741932	JTR	EET SL	10/23/25 08:43
Total/NA	Analysis	904.0		1	745774	SWS	EET SL	11/18/25 12:28
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 10:48

Lab Chronicle

Client: TRC Environmental Corporation.
Job ID: 240-235611-1
Project/Site: Karn/Weadock CCR JCW Landfill

Client Sample ID: DUP-01
Lab Sample ID: 240-235611-13
Date Collected: 10/14/25 00:00
Matrix: Water
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			741931	JTR	EET SL	10/23/25 08:39
Total/NA	Analysis	903.0		1	745772	SWS	EET SL	11/18/25 17:47
Total/NA	Prep	PrecSep_0			741932	JTR	EET SL	10/23/25 08:43
Total/NA	Analysis	904.0		1	745774	SWS	EET SL	11/18/25 12:28
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 10:48

Client Sample ID: EB-01
Lab Sample ID: 240-235611-14
Date Collected: 10/14/25 10:40
Matrix: Water
Date Received: 10/18/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep STD			741931	JTR	EET SL	10/23/25 08:39
Total/NA	Analysis	903.0		1	745772	SWS	EET SL	11/18/25 17:48
Total/NA	Prep	PrecSep_0			741932	JTR	EET SL	10/23/25 08:43
Total/NA	Analysis	904.0		1	745774	SWS	EET SL	11/18/25 12:28
Total/NA	Analysis	Ra226_Ra228		1	745860	FLC	EET SL	11/19/25 10:48

Laboratory References:

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

Accreditation/Certification Summary

Client: TRC Environmental Corporation. Job ID: 240-235611-1
Project/Site: Karn/Weadock CCR JCW Landfill

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-27
ANAB	Dept. of Defense ELAP	L2305	04-06-27
ANAB	Dept. of Energy	L2305.01	04-06-27
ANAB	ISO/IEC 17025	L2305	04-06-27
Arizona	State	AZ0813	12-08-25
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	07-01-26
Connecticut	State	PH-0241	03-31-27
Florida	NELAP	E87689	06-30-26
HI - RadChem Recognition	State	n/a	06-30-26
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-25 *
Kentucky (DW)	State	KY90125	12-31-25
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana (All)	NELAP	106151	06-30-26
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	10-01-26
Massachusetts	State	M-MO054	06-30-26
MI - RadChem Recognition	State	9005	06-30-26
Missouri	State	780	06-30-28
Nevada	State	MO00054	07-31-26
New Jersey	NELAP	MO002	06-30-26
New Mexico	State	MO00054	06-30-26
New York	NELAP	11616	03-31-26
North Carolina (DW)	State	29700	06-30-26
North Dakota	State	R-207	06-30-25 *
Oklahoma	NELAP	9997	12-31-25
Oregon	NELAP	4157	09-01-26
Pennsylvania	NELAP	68-00540	02-28-26
South Carolina	State	85002	06-30-26
Texas	NELAP	T104704193	07-31-26
US Fish & Wildlife	US Federal Programs	058448	07-31-26
USDA	US Federal Programs	525-23-138-94730	05-18-26
Utah	NELAP	MO00054	07-31-26
Virginia	NELAP	460230	06-14-26
Washington	State	C592	08-31-26
West Virginia DEP	State	381	11-30-26

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

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: A. Kast, E. Wielgopolski	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-137759-29048.1
Client Contact: Jacob Krenz	Phone:	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin:	Page: Page 1 of 2
Company: TRC Environmental Corporation.	PWSID:			Job #:
Address: 1540 Eisenhower Place	Due Date Requested:			Preservation Codes: D - HNO3
City: Ann Arbor	TAT Requested (days): standard			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 734-971-7080(Tel) 734-971-9022(Fax)	PO #: 228027			
Email: JKrenz@trccompanies.com	WO #: 634698.0000			Other:
Project Name: Karn/Weadock CCR JCW Lanfill	Project #: 24024154			
Site:	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air, DW=Drinking Water)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	904.0, Ra226Ra228_GFPC	903.0 - Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D		
JCW-MW-18001	10/16/25	0900	G	Water	N	N	X	X	2	
JCW-MW-18004	10/15/25	1501		Water	N	N	X	X	2	
JCW-MW-18005	10/14/25	1220		Water	N	N	X	X	2	
JCW-MW-18006	10/14/25	0918		Water	N	N	X	X	2	
MW-50	10/15/25	0920		Water	N	N	X	X	2	
MW-51	10/15/25	~~0911~~ 1008		Water	N	N	X	X	2	
MW-52	10/15/25	1101		Water	N	N	X	X	2	
MW-53	10/16/25	1034		Water	N	N	X	X	2	
MW-53R	10/14/25	1602		Water	N	N	X	X	2	
MW-54R	10/14/25	1520		Water	N	N	X	X	2	
MW-55	10/14/25	1013		Water	N	N	X	X	2	

240-235611 COC

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Alan Kast	10/16/25 1500	TRC	TRC Fridge	10/16/25 1500	TRC
2		10/17/25 0922	TRC		10/17/25 0922	EETA
3		10/17/25 0923	EETA		10/17/25 0820	

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

11/19/2025

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: E. Wiegopolski, A. Kast	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-137759-29048.2
Client Contact: Jacob Krenz	Phone:	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin:	Page: Page 2 of 2
Company: TRC Environmental Corporation.	PWSID:	Analysis Requested		Job #:
Address: 1540 Eisenhower Place	Due Date Requested:			Preservation Codes: D - HNO3
City: Ann Arbor	TAT Requested (days): standard			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 734-971-7080(Tel) 734-971-9022(Fax)	PO #: 228027			
Email: JKrenz@trccompanies.com	WO #: 634698.0000			
Project Name: Karn/Weadock CCR JCW Lanfill	Project #: 24024154			Other:
Site:	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air, OW=Drinking Water)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	904.0, Ra226Ra228_GFPC	903.0 - Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D		
OW-57ROUT	10/14/25	1013	G	Water	N	N	X	X	2	
DUP-01	10/14/25	—		Water	N	N	X	X	2	
EB-01	10/14/25	1040		Water	N	N	X	X	2	
				Water						

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Ashley Kast	10/16/25 1500	TRC	TRC Storage	10/16/25 1500	TRC
2		10/17/25 0922	TRC		10/17/25 0922	
3		10/17/25 0923	FEDEX		10/18/25 0800	

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

Eurofins – Cleveland Sample Receipt Form/Narrative Login # _____
Barberton Facility

Client TRC Env. Site Name _____ Cooler unpacked by

Cooler Received on 10/13/25 Opened on 10/13/25

FedEx. 1st Grd Exp UPS FAS (Waypoint) Client Drop Off Eurofins Courier Other _____

Receipt After-hours Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # 5 Foam Box Client Cooler Box Other _____

Packing material used. Bubble Wrap Foam (Plastic Bag) None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt _____ ☐ See Multiple Cooler Form

IR GUN # _____ (CF _____ °C) Observed Cooler Temp _____ °C Corrected Cooler Temp _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes)	No
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes)	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	(No)
-Were tamper/custody seals intact and uncompromised?	(Yes)	No NA
3 Shippers' packing slip attached to the cooler(s)?	Yes	(No)
4. Did custody papers accompany the sample(s)?	(Yes)	No
5 Were the custody papers relinquished & signed in the appropriate place?	(Yes)	No
6 Was/were the person(s) who collected the samples clearly identified on the COC?	(Yes)	No
7 Did all bottles arrive in good condition (Unbroken)?	(Yes)	No
8 Could all bottle labels (ID/Date/Time) be reconciled with the COC?	(Yes)	No
9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?	(Y)	(N)
10 Were correct bottle(s) used for the test(s) indicated?	(Yes)	No
11 Sufficient quantity received to perform indicated analyses?	(Yes)	No
12 Are these work share samples and all listed on the COC?	Yes	(No)
If yes, Questions 13-17 have been checked at the originating laboratory		
13 Were all preserved sample(s) at the correct pH upon receipt?	(Yes)	No NA pH Strip Lot# HC567196
14 Were VOAs on the COC?	Yes	(No)
15 Were air bubbles >6 mm in any VOA vials? ● ← Larger than this	Yes	No (NA)
16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	(No)
17 Was a LL Hg or Me Hg trip blank present? _____	Yes	(No)

Tests that are not checked for pH by Receiving

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Labeled by: JLM

Labels Verified by: [signature]

- MW-55 label time does not match COC. Log per COC
- one of the two containers for JCW-MW-13004 was only 1/3 full

19 SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired

Sample(s) _____ were received in a broken container

Sample(s) _____ were received with bubble >6 mm in diameter (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory

Time preserved _____ Preservative(s) added/Lot number(s) _____

VOA Sample Preservation - Date/Time VOAs Frozen _____

Login # _____

Eurofins - Cleveland Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
(EC) Client Box Other	IR GUN #: 13	0.9	1.5	Wet Ice Blue Ice Dry Ice Water None
(EC) Client Box Other	IR GUN #:	1.2	1.8	Wet Ice Blue Ice Dry Ice Water None
(EC) Client Box Other	IR GUN #:	0.7	1.3	Wet Ice Blue Ice Dry Ice Water None
(EC) Client Box Other	IR GUN #:	0.4	1.0	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

10/18/2025

Login Container Summary Report

240-235611

11/19/2025

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
JCW MW-18001	240-235611 A-1	Plastic 1 liter Nitric Acid	<2			
JCW-MW-18001	240-235611-B-1	Plastic 1 liter - Nitric Acid	<2			
JCW-MW-18004	240-235611-A-2	Plastic 1 liter - Nitric Acid	<2			
JCW-MW 18004	240-235611-B-2	Plastic 1 liter - Nitric Acid	<2			
JCW-MW-18005	240-235611 A-3	Plastic 1 liter Nitric Acid	<2			
JCW MW-18005	240-235611-B-3	Plastic 1 liter - Nitric Acid	<2			
JCW-MW-18006	240-235611 A-4	Plastic 1 liter - Nitric Acid	<2			
JCW-MW 18006	240-235611-B-4	Plastic 1 liter - Nitric Acid	<2			
MW-50	240-235611-A-5	Plastic 1 liter - Nitric Acid	<2			
MW-50	240-235611-B-5	Plastic 1 liter - Nitric Acid	<2			
MW-51	240 235611 A-6	Plastic 1 liter - Nitric Acid	<2			
MW-51	240-235611-B-6	Plastic 1 liter - Nitric Acid	<2			
MW 52	240-235611 A-7	Plastic 1 liter - Nitric Acid	<2			
MW-52	240-235611-B-7	Plastic 1 liter - Nitric Acid	<2			
MW-53	240-235611-A-8	Plastic 1 liter - Nitric Acid	<2			
MW-53	240-235611-B-8	Plastic 1 liter - Nitric Acid	<2			
MW 53R	240 235611-A-9	Plastic 1 liter Nitric Acid	<2			
MW-53R	240-235611 B-9	Plastic 1 liter - Nitric Acid	<2			
MW 54R	240-235611-A-10	Plastic 1 liter Nitric Acid	<2			
MW-54R	240-235611 B-10	Plastic 1 liter - Nitric Acid	<2			
MW-55	240 235611-A-11	Plastic 1 liter - Nitric Acid	<2			
MW-55	240-235611 B-11	Plastic 1 liter - Nitric Acid	<2			
OW 57ROUT	240 235611-A-12	Plastic 1 liter - Nitric Acid	<2			
OW-57ROUT	240 235611-B-12	Plastic 1 liter - Nitric Acid	<2			
DUP-01	240-235611-A-13	Plastic 1 liter Nitric Acid	<2			
DUP-01	240-235611 B 13	Plastic 1 liter - Nitric Acid	<2			
EB-01	240-235611-A-14	Plastic 1 liter - Nitric Acid	<2			
EB-01	240-235611 B-14	Plastic 1 liter - Nitric Acid	<2			

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Brooks, Kris M	Carrier Tracking No(s): N/A	COC No: 240-209715.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin: Michigan	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): N/A		Job #: 240-235611-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/18/2025			
City: Earth City	TAT Requested (days): N/A			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Karn/Weadock CCR JCW Landfill	Project #: 24024154			
Site: N/A	SSOW#: N/A			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_STDRadium 226	904.0/PrecSep_0Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
JCW-MW-18001 (240-235611-1)	10/16/25	09:00 Eastern	G	Water				X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
JCW-MW-18004 (240-235611-2)	10/15/25	15:01 Eastern	G	Water				X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
JCW-MW-18005 (240-235611-3)	10/14/25	12:20 Eastern	G	Water				X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
JCW-MW-18006 (240-235611-4)	10/14/25	09:18 Eastern	G	Water				X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-50 (240-235611-5)	10/15/25	09:20 Eastern	G	Water				X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-51 (240-235611-6)	10/15/25	10:08 Eastern	G	Water				X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-52 (240-235611-7)	10/15/25	11:01 Eastern	G	Water				X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-53 (240-235611-8)	10/16/25	10:34 Eastern	G	Water				X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-53R (240-235611-9)	10/14/25	16:02 Eastern	G	Water				X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.

Analysis Requested

Preservation Codes: -

Other: N/A

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

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

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: CMartin Date/Time: 10/20/25 1400 Company: EUL

Relinquished by: Date/Time: Company

Relinquished by: Date/Time: Company

Method of Shipment:

Received by: Date/Time: Company

Received by: Cheyenne Forrest Date/Time: 10:30 OCT 21 2025 Company

Received by: Date/Time: Company

Custody Seals Intact: ☐ Yes ☐ No Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 10/10/2024

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Brooks, Kris M	Carrier Tracking No(s): N/A	COC No: 240-209715.2
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin: Michigan	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): N/A		Job #: 240-235611-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/18/2025			
City: Earth City	TAT Requested (days): N/A			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Karn/Weadock CCR JCW Landfill	Project #: 24024154			
Site: N/A	SSOW#: N/A			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_STDRadium 226	904.0/PrecSep_0Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
MW-54R (240-235611-10)	10/14/25	15:20 Eastern	G	Water				X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-55 (240-235611-11)	10/14/25	10:13 Eastern	G	Water				X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
MW-57ROUT (240-235611-12)	10/14/25	10:13 Eastern	G	Water				X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
DUP-01 (240-235611-13)	10/14/25	Eastern	G	Water				X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.
FB-01 (240-235611-14)	10/14/25	10:40 Eastern	G	Water				X	X	X	2	TVA protocol - Ra-226+228 action limit at 5.0 pCi/L.

Page 37 of 38

Analysis Requested

Preservation Codes: -

Other: N/A

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

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: Time:

Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Martin	10/20/25 1400	EUL			
Relinquished by:	Date/Time:	Company	Received by: Cheyenne Forrest	Date/Time: 10:30 OCT 21 2025	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

11/19/2025

Ver: 10/10/2024

Login Sample Receipt Checklist

Client: TRC Environmental Corporation.

Job Number: 240-235611-1

Login Number: 235611
List Number: 2
Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis
List Creation: 10/21/25 01:42 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	

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135 W. Trail St.
Jackson, MI 49201
phone 517-788-1251
fax 517-788-2533

To: JJFirlit, Karn/Weadock

From: EBlaj, T-258

Date: October 31, 2025

Subject: HMP GROUNDWATER MONITORING – JCWEADOCK ASD – 2025 Q4

CC: HDRegister, P22-521

Darby Litz, Project Manager
TRC Environmental Corporation
1540 Eisenhower Place
Ann Arbor, MI 48108

Chemistry Project: 25-0755

TRC Environmental, Inc. conducted groundwater monitoring at the JCWeadock site during the week of 10/13/2025 for the 4th Quarter requirements, as specified in the Hydrogeological Monitoring Plan for the site. The sample was received for analysis by the Chemistry department of Laboratory Services on 10/17/2025.

The report that follows presents the results of the requested analytical testing; the results apply only to the samples as received. All samples have been analyzed in accordance with the 2016 TNI Standard and the applicable A2LA accreditation scope for Laboratory Services. Any exceptions to applicable test method criteria and standard compliance are noted in the Case Narrative, or flagged with applicable qualifiers in the analytical results section.

Reviewed and approved by:

Emil Blaj
Sr. Technical Analyst
Project Lead

ilac-MRA A2LA ACCREDITED Certificate #1097.04

Testing performed in accordance with the A2LA scope of accredidation specified in the listed certificate.
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CASE NARRATIVE

I. Sample Receipt

All samples were received within hold time and in good conditions; no anomalies were noted on the attached Sample Log-In Shipment Inspection Form during sample check-in. Identification of all samples included in the work order/project is provided in the sample summary section. All sample preservation and temperature upon receipt was verified by the sample custodian and confirmed to meet method requirements.

II. Methodology

Unless otherwise indicated, sample preparation and analysis was performed in accordance with the corresponding test methods from "Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100); SW-846, "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods", USEPA (latest revisions), and Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WPCF, latest edition.

III. Results/Quality Control

Analytical results for this report are presented by laboratory sample ID, container, & aliquot number. Results for the field blanks, field duplicates, and recoveries of the field matrix spike & matrix spike duplicate samples are included in the results section; all other quality control data is listed in the Quality Control Summary associated with the particular test method, as appropriate. Unless specifically noted in the case narrative, all method quality control requirements have been met. If any results are qualified, the corresponding data flags/qualifiers are listed on the last page of the results section. Any additional information on method performance, when applicable, is presented in this section of the case narrative. When data flags are not needed, the qualifiers text box on the last page is left blank, and a statement confirms that no exceptions occurred.

DEFINITIONS / QUALIFIERS

The following qualifiers and/or acronyms are used in the report, where applicable:

Acronym	Description
RL	Reporting Limit
ND	Result not detected or below Reporting Limit
NT	Non TNI Analyte
LCS	Laboratory Control Sample
LRB	Laboratory Reagent Blank (also referred to as Method Blank)
DUP	Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
TDL	Target Detection Limit
SM	Standard Methods Compendium

Qualifier	Description
*	Generic data flag, applicable description added in the corresponding notes section
B	The analyte was detected in the LRB at a level which is significant relative to sample result
D	Reporting limit elevated due to dilution
E	Estimated due to result exceeding the linear range of the analyzer
H	The maximum recommended hold time was exceeded
I	Dilution required due to matrix interference; reporting limit elevated
J	Estimated due to result found above MDL but below PQL (or RL)
K	Reporting limit raised due to matrix interference
M	The precision for duplicate analysis was not met; RPD outside acceptance criteria
N	Non-homogeneous sample made analysis questionable
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Matrix Spike or Matrix Spike Duplicate recovery outside acceptance criteria
R	Result confirmed by new sample preparation and reanalysis
X	Other notation required; comment listed in sample notes and/or case narrative

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Work Order Sample Summary

Customer Name: Karn/Weadock Complex
Work Order ID: Q4-2025 Weadock ASD
Date Received: 10/17/2025
Chemistry Project: 25-0755

Sample #	Field Sample ID	Matrix	Sample Date	Site
25-0755-01	JCW-OW-18001	Groundwater	10/16/2025 09:56	JC Weadock ASD

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Analytical Report

Report Date: 10/31/25

Sample Site: **JC Weadock ASD**
Field Sample ID: **JCW-OW-18001**
Lab Sample ID: 25-0755-01
Matrix: Groundwater

Laboratory Project: **25-0755**
Collect Date: 10/16/2025
Collect Time: 09:56 AM

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0755-01-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/23/2025	AB25-1022-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0755-01-C01-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Arsenic	121		ug/L	1.0	10/21/2025	AB25-1021-03
Barium	111		ug/L	5.0	10/21/2025	AB25-1021-03
Beryllium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Boron	1900		ug/L	20.0	10/21/2025	AB25-1021-03
Cadmium	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Calcium	200000		ug/L	1000.0	10/21/2025	AB25-1021-03
Chromium	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Cobalt	ND		ug/L	6.0	10/21/2025	AB25-1021-03
Copper	2		ug/L	1.0	10/21/2025	AB25-1021-03
Iron	6640		ug/L	20.0	10/21/2025	AB25-1021-03
Lead	ND		ug/L	1.0	10/21/2025	AB25-1021-03
Lithium	52		ug/L	10.0	10/21/2025	AB25-1021-03
Magnesium	43500		ug/L	1000.0	10/21/2025	AB25-1021-03
Manganese	359		ug/L	5.0	10/21/2025	AB25-1021-03
Molybdenum	ND		ug/L	5.0	10/21/2025	AB25-1021-03
Nickel	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Potassium	10900		ug/L	100.0	10/21/2025	AB25-1021-03
Selenium	4		ug/L	1.0	10/21/2025	AB25-1021-03
Silver	ND		ug/L	0.2	10/21/2025	AB25-1021-03
Sodium	93900		ug/L	1000.0	10/21/2025	AB25-1021-03
Thallium	ND		ug/L	2.0	10/21/2025	AB25-1021-03
Vanadium	3		ug/L	2.0	10/21/2025	AB25-1021-03
Zinc	ND		ug/L	10.0	10/21/2025	AB25-1021-03

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0755-01-C02-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	105000		ug/L	1000.0	10/24/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/24/2025	AB25-1023-01
Sulfate	337000		ug/L	1000.0	10/24/2025	AB25-1023-01

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Analytical Report

Report Date: 10/31/25

Sample Site: **JC Weadock ASD**
Field Sample ID: **JCW-OW-18001**
Lab Sample ID: 25-0755-01
Matrix: Groundwater

Laboratory Project: **25-0755**
Collect Date: 10/16/2025
Collect Time: 09:56 AM

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0755-01-C03-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1170		mg/L	10.0	10/20/2025	AB25-1020-03

Alkalinity by SM 2320B

Aliquot #: 25-0755-01-C04-A01 **Analyst: DLS**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Alkalinity, Total	432000		ug/L	10000.0	10/22/2025	AB25-1022-01
Alkalinity, Bicarbonate	432000		ug/L	10000.0	10/22/2025	AB25-1022-01
Alkalinity, Carbonate	ND		ug/L	10000.0	10/22/2025	AB25-1022-01

Data Qualifiers	Exception Summary
	No exceptions occurred.

TITLE: SAMPLE LOG-IN – SHIPMENT INSPECTION FORM

Project Number: 25-0755 **Inspection Date:** 10.17.25 **Inspection By:** LMO

Sample Origin/Project Name: Q4-2025 JC Weadock ASD

Shipment Delivered By: Enter the type of shipment carrier.

Inter-Company Mail_____ FedEx _____ UPS _____ USPS _____

Tracking Number: 8852-4014-3500 Other/Carry In (whom) _____

Shipping Containers: Enter the type and number of shipping containers received.

Cooler ✓ Cardboard Box _____ Custom Case _____ Envelope/Mailer _____

Loose/Unpackaged Containers _____ Other _____

Condition of Shipment: Enter the as-received condition of the shipment container.

Damaged Shipment Observed: None ✓ Dented _____ Leaking _____

Other _____

Shipment Security: Enter if any of the shipping containers were opened before receipt.

Shipping Containers Received: Opened _____ Sealed ✓ N/A _____

Enclosed Documents: Enter the type of documents enclosed with the shipment.

CoC ✓ Work Request _____ Air Data Sheet_____ Other_____

Temperature of Containers: Measure the temperature of several sample containers.

As-Received Temperature Range 3.1 °C Samples Received on Ice: Yes ✓ No_____

M&TE # and Expiration 015402 / 5.22.26

Number and Type of Containers: Enter the type and total number of sample containers received.

Container Type	Water	Soil	Other	Broken	Leaking
VOA (40mL or 60mL)	2				
Quart/Liter (g / p)					
9-oz (amber glass jar)					
2-oz (amber glass)					
125 mL (plastic)	2				
24 mL vial (glass)					
250 mL (plastic)	1				
Other					

All sample pH meeting criteria? Yes ✓ No___ N/A___ **pH paper lot #** 210224 **Exp. Date** 12.01.26

Indicate if an Exception Report (Page 2 of 2) is needed: Yes _____ No ✓

CHAIN OF CUSTODY

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CONSUMERS ENERGY COMPANY – LABORATORY SERVICES

135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q4-2025 JC Weadock ASD

PROJECT NUMBER: 25-0755

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: E. Wielgopolski

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☒ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES:
GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT:
☐ NPDES
☒ TNI
☐ ISO 17025
☐ 10 CFR 50 APP. B
☐ INTERNAL INFO
☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0755-01	10/16/25	0950	GW	JCW-OW-18001	5	4	1						x	x	x	x	

RELINQUISHED BY: [signature] — DATE/TIME: 10/16/25 1500 — RECEIVED BY: Fed Ex

RELINQUISHED BY: Fed Ex — DATE/TIME: 10-17-25 0950 — RECEIVED BY: [signature]

COMMENTS:

Received on Ice? ☑ Yes ☐ No — M&TE #: 015402

Temperature: 3.1 °C — Cal. Due Date: 05-27-26

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135 W. Trail St.
Jackson, MI 49201
phone 517-788-1251
fax 517-788-2533

To: JJFirlit, Karn/Weadock

From: EBlaj, T-258

Date: October 31, 2025

Subject: HMP GROUNDWATER MONITORING – JCW LEACHATE WELLS – 2025 Q4

CC: HDRegister, P22-521

Darby Litz, Project Manager
TRC Companies, Inc.
1540 Eisenhower Place
Ann Arbor, MI 48108

Chemistry Project: 25-0756

TRC Environmental, Inc. conducted groundwater monitoring at the JC Weadock site during the week of 10/13/2025 for the 4th Quarter requirements, as specified in the Hydrogeological Monitoring Plan for the site. The samples were received for analysis by the Chemistry Department of Laboratory Services on 10/14/2025.

The report that follows presents the results of the requested analytical testing; the results apply only to the samples, as received. All samples have been analyzed in accordance with the 2016 TNI Standard and the applicable A2LA accreditation scope for Laboratory Services. Any exceptions to applicable test method criteria and standard compliance are noted in the Case Narrative or flagged with applicable qualifiers in the analytical results section.

Reviewed and approved by:

Emil Blaj
Sr. Technical Analyst
Project Lead

ilac-MRA A2LA ACCREDITED Certificate #1097.04

Testing performed in accordance with the A2LA scope of accredidation specified in the listed certificate.
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CASE NARRATIVE

I. Sample Receipt

All samples were received within hold time and in good condition; no anomalies were noted on the attached Sample Log-In Shipment Inspection Form during sample check-in. Identification of all samples included in the work order/project is provided in the sample summary section. All sample preservation and temperature upon receipt was verified by the sample custodian and confirmed to meet method requirements. In order to minimize contamination, the samples submitted for Low Level Mercury analysis were preserved in the Mercury clean-room upon receipt at the laboratory, as specified in the corresponding test method.

II. Methodology

Unless otherwise indicated, sample preparation and analysis was performed in accordance with the corresponding test methods from "Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100); SW-846, "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods", USEPA (latest revisions), and Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WPCF, 22nd Edition, 2012.

III. Results/Quality Control

Analytical results for this report are presented by laboratory sample ID, container, & aliquot number. Results for the field blanks, field duplicates, and recoveries of the field matrix spike & matrix spike duplicate samples are included in the results section; all other quality control data is listed in the Quality Control Summary associated with the particular test method, as appropriate. Unless specifically noted in the case narrative, all method quality control requirements have been met. If any results are qualified, the corresponding data flags/qualifiers are listed on the last page of the results section. Any additional information on method performance, when applicable, is presented in this section of the case narrative. When data flags are not needed, the qualifiers text box on the last page is left blank, and a statement confirms that no exceptions occurred.

NOTE: The recovery of the field matrix spike was found to be elevated, at 137%, above the test method upper limit of 125%. However, the field matrix spike duplicate recovery was acceptable, and the % RPD repeatability for both, the field duplicate and MS/MSD pair was found within control limits. All sample containers for Low Level Mercury collected at this location looked cloudy, and with a very fine layer of fluffy particles that settled at the bottom; it is possible that the elevated MS recovery was due to the un-even distribution of these particles between the sample containers.

DEFINITIONS / QUALIFIERS

The following qualifiers and/or acronyms are used in the report, where applicable:

Acronym	Description
RL	Reporting Limit
ND	Result not detected or below Reporting Limit
NT	Non TNI analyte
LCS	Laboratory Control Sample

LRB	Laboratory Reagent Blank (also referred to as Method Blank)
DUP	Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
TDL	Target Detection Limit
SM	Standard Methods Compendium

Qualifier	Description
*	Generic data flag, applicable description added in the corresponding notes section
B	The analyte was detected in the LRB at a level which is significant relative to sample result
D	Reporting limit elevated due to dilution
E	Estimated due to result exceeding the linear range of the analyzer
H	The maximum recommended hold time was exceeded
I	Dilution required due to matrix interference; reporting limit elevated
J	Estimated due to result found above MDL but below PQL (or RL)
K	Reporting limit raised due to matrix interference
M	The precision for duplicate analysis was not met; RPD outside acceptance criteria
N	Non-homogeneous sample made analysis questionable
PI	Possible interference may have affected the accuracy of the laboratory result
Q	Matrix Spike or Matrix Spike Duplicate recovery outside acceptance criteria
R	Result confirmed by new sample preparation and reanalysis
X	Other notation required; comment listed in sample notes and/or case narrative

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Work Order Sample Summary

Customer Name: Karn/Weadock Complex
Work Order ID: Q4-2025 JCW Part 115 Leachate Wells
Date Received: 10/14/2025
Chemistry Project: 25-0756

Sample #	Field Sample ID	Matrix	Sample Date	Site
25-0756-01	LH-103R	Groundwater	10/13/2025 13:55	JCW Solid Waste Disposal Area - Leachate Wells
25-0756-02	LH-103R Dup	Groundwater	10/13/2025 13:55	JCW Solid Waste Disposal Area - Leachate Wells
25-0756-03	LH-103R MS	Groundwater	10/13/2025 13:55	JCW Solid Waste Disposal Area - Leachate Wells
25-0756-04	LH-103R MSD	Groundwater	10/13/2025 13:55	JCW Solid Waste Disposal Area - Leachate Wells
25-0756-05	LH-104	Groundwater	10/13/2025 14:57	JCW Solid Waste Disposal Area - Leachate Wells
25-0756-06	LH-104 Dup	Groundwater	10/13/2025 14:57	JCW Solid Waste Disposal Area - Leachate Wells
25-0756-07	FB-02	Water	10/13/2025 14:57	JCW Solid Waste Disposal Area - Leachate Wells
25-0756-08	EB-02	Water	10/13/2025 15:25	JCW Solid Waste Disposal Area - Leachate Wells
25-0756-09	TB-01	Water	10/13/2025 00:00	JCW Solid Waste Disposal Area - Leachate Wells

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Analytical Report

Report Date: 10/31/25

Sample Site: **JCW Solid Waste Disposal Area - Leachate Wells**
Field Sample ID: **LH-103R**
Lab Sample ID: 25-0756-01
Matrix: Groundwater

Laboratory Project: **25-0756**
Collect Date: 10/13/2025
Collect Time: 01:55 PM

Mercury, Low Level by EPA 1631E

Aliquot #: 25-0756-01-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury Low Level	0.69		ng/L	0.5	10/17/2025	AB25-1017-01

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0756-01-C02-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/23/2025	AB25-1022-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0756-01-C02-A02 **Analyst: EB**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Arsenic	18		ug/L	1.0	10/28/2025	AB25-1029-01
Barium	249		ug/L	5.0	10/28/2025	AB25-1029-01
Beryllium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Boron	6350		ug/L	20.0	10/28/2025	AB25-1029-01
Cadmium	ND		ug/L	0.2	10/28/2025	AB25-1029-01
Calcium	263000		ug/L	1000.0	10/28/2025	AB25-1029-01
Chromium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Cobalt	ND		ug/L	6.0	10/28/2025	AB25-1029-01
Copper	2		ug/L	1.0	10/28/2025	AB25-1029-01
Iron	1150		ug/L	20.0	10/28/2025	AB25-1029-01
Lead	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Lithium	123		ug/L	10.0	10/28/2025	AB25-1029-01
Magnesium	93200		ug/L	1000.0	10/28/2025	AB25-1029-01
Molybdenum	ND		ug/L	5.0	10/28/2025	AB25-1029-01
Nickel	14		ug/L	2.0	10/28/2025	AB25-1029-01
Potassium	33400		ug/L	100.0	10/28/2025	AB25-1029-01
Selenium	8		ug/L	1.0	10/28/2025	AB25-1029-01
Silver	ND		ug/L	0.2	10/28/2025	AB25-1029-01
Sodium	482000		ug/L	1000.0	10/28/2025	AB25-1029-01
Thallium	ND		ug/L	2.0	10/28/2025	AB25-1029-01
Vanadium	9		ug/L	2.0	10/28/2025	AB25-1029-01
Zinc	ND		ug/L	10.0	10/28/2025	AB25-1029-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0756-01-C03-A01 **Analyst: KDR**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	170000		ug/L	1000.0	10/24/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/24/2025	AB25-1023-01
Sulfate	585000		ug/L	1000.0	10/24/2025	AB25-1023-01

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Analytical Report

Report Date: 10/31/25

Sample Site:	**JCW Solid Waste Disposal Area - Leachate Wells**	Laboratory Project:	**25-0756**
Field Sample ID:	**LH-103R**	Collect Date:	10/13/2025
Lab Sample ID:	25-0756-01	Collect Time:	01:55 PM
Matrix:	Groundwater		

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0756-01-C04-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	2420		mg/L	10.0	10/15/2025	AB25-1015-08

Alkalinity by SM 2320B

Aliquot #: 25-0756-01-C05-A01 **Analyst: DLS**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Alkalinity, Total	1280000		ug/L	10000.0	10/22/2025	AB25-1022-01
Alkalinity, Bicarbonate	1280000		ug/L	10000.0	10/22/2025	AB25-1022-01
Alkalinity, Carbonate	ND		ug/L	10000.0	10/22/2025	AB25-1022-01

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Analytical Report

Report Date: 10/31/25

Sample Site:	**JCW Solid Waste Disposal Area - Leachate Wells**	Laboratory Project:	**25-0756**
Field Sample ID:	**LH-103R Dup**	Collect Date:	10/13/2025
Lab Sample ID:	25-0756-02	Collect Time:	01:55 PM
Matrix:	Groundwater		

Mercury, Low Level by EPA 1631E

Aliquot #: 25-0756-02-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury Low Level	0.78		ng/L	0.5	10/17/2025	AB25-1017-01

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Analytical Report

Report Date: 10/31/25

Sample Site:	**JCW Solid Waste Disposal Area - Leachate Wells**	Laboratory Project:	**25-0756**
Field Sample ID:	**LH-103R MS**	Collect Date:	10/13/2025
Lab Sample ID:	25-0756-03	Collect Time:	01:55 PM
Matrix:	Groundwater		

Mercury, Low Level by EPA 1631E

Aliquot #: 25-0756-03-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury Low Level	137	Q	%	0.5	10/17/2025	AB25-1017-01

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Analytical Report

Report Date: 10/31/25

Sample Site:	**JCW Solid Waste Disposal Area - Leachate Wells**	Laboratory Project:	**25-0756**
Field Sample ID:	**LH-103R MSD**	Collect Date:	10/13/2025
Lab Sample ID:	25-0756-04	Collect Time:	01:55 PM
Matrix:	Groundwater		

Mercury, Low Level by EPA 1631E

Aliquot #: 25-0756-04-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury Low Level	106		%	0.5	10/17/2025	AB25-1017-01

Sample Site: **JCW Solid Waste Disposal Area - Leachate Wells**
Field Sample ID: **LH-104**
Lab Sample ID: 25-0756-05
Matrix: Groundwater

Laboratory Project: **25-0756**
Collect Date: 10/13/2025
Collect Time: 02:57 PM

Mercury, Low Level by EPA 1631E

Aliquot #: 25-0756-05-C01-A01 Analyst: CLE

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury Low Level	ND		ng/L	0.5	10/17/2025	AB25-1017-01

Mercury by EPA 7470A, Total, Aqueous

Aliquot #: 25-0756-05-C02-A01 Analyst: CLE

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury	ND		ug/L	0.2	10/23/2025	AB25-1022-06

Metals by EPA 6020B: CCR Rule Appendix III-IV Total Metals Exp

Aliquot #: 25-0756-05-C02-A02 Analyst: EB

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Antimony	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Arsenic	48		ug/L	1.0	10/28/2025	AB25-1029-01
Barium	151		ug/L	5.0	10/28/2025	AB25-1029-01
Beryllium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Boron	11100		ug/L	20.0	10/28/2025	AB25-1029-01
Cadmium	ND		ug/L	0.2	10/28/2025	AB25-1029-01
Calcium	154000		ug/L	1000.0	10/28/2025	AB25-1029-01
Chromium	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Cobalt	ND		ug/L	6.0	10/28/2025	AB25-1029-01
Copper	2		ug/L	1.0	10/28/2025	AB25-1029-01
Iron	1210		ug/L	20.0	10/28/2025	AB25-1029-01
Lead	ND		ug/L	1.0	10/28/2025	AB25-1029-01
Lithium	75		ug/L	10.0	10/28/2025	AB25-1029-01
Magnesium	128000		ug/L	1000.0	10/28/2025	AB25-1029-01
Molybdenum	100		ug/L	5.0	10/28/2025	AB25-1029-01
Nickel	4		ug/L	2.0	10/28/2025	AB25-1029-01
Potassium	14500		ug/L	100.0	10/28/2025	AB25-1029-01
Selenium	5		ug/L	1.0	10/28/2025	AB25-1029-01
Silver	ND		ug/L	0.2	10/28/2025	AB25-1029-01
Sodium	75900		ug/L	1000.0	10/28/2025	AB25-1029-01
Thallium	ND		ug/L	2.0	10/28/2025	AB25-1029-01
Vanadium	3		ug/L	2.0	10/28/2025	AB25-1029-01
Zinc	ND		ug/L	10.0	10/28/2025	AB25-1029-01

Anions by EPA 300.0 CCR Rule Analyte List, Cl, F, SO4, Aqueous

Aliquot #: 25-0756-05-C03-A01 Analyst: KDR

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Chloride	108000		ug/L	1000.0	10/24/2025	AB25-1023-01
Fluoride	ND		ug/L	1000.0	10/24/2025	AB25-1023-01
Sulfate	478000		ug/L	1000.0	10/24/2025	AB25-1023-01

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Analytical Report

Report Date: 10/31/25

Sample Site:	**JCW Solid Waste Disposal Area - Leachate Wells**	Laboratory Project:	**25-0756**
Field Sample ID:	**LH-104**	Collect Date:	10/13/2025
Lab Sample ID:	25-0756-05	Collect Time:	02:57 PM
Matrix:	Groundwater		

Total Dissolved Solids by SM 2540C

Aliquot #: 25-0756-05-C04-A01 **Analyst: LMO**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Total Dissolved Solids	1320		mg/L	10.0	10/15/2025	AB25-1015-08

Alkalinity by SM 2320B

Aliquot #: 25-0756-05-C05-A01 **Analyst: DLS**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Alkalinity, Total	441000		ug/L	10000.0	10/22/2025	AB25-1022-01
Alkalinity, Bicarbonate	441000		ug/L	10000.0	10/22/2025	AB25-1022-01
Alkalinity, Carbonate	ND		ug/L	10000.0	10/22/2025	AB25-1022-01

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Analytical Report

Report Date: 10/31/25

Sample Site:	**JCW Solid Waste Disposal Area - Leachate Wells**	Laboratory Project:	**25-0756**
Field Sample ID:	**LH-104 Dup**	Collect Date:	10/13/2025
Lab Sample ID:	25-0756-06	Collect Time:	02:57 PM
Matrix:	Groundwater		

Mercury, Low Level by EPA 1631E

Aliquot #: 25-0756-06-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury Low Level	ND		ng/L	0.5	10/17/2025	AB25-1017-01

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Analytical Report

Report Date: 10/31/25

Sample Site:	**JCW Solid Waste Disposal Area - Leachate Wells**	Laboratory Project:	**25-0756**
Field Sample ID:	**FB-02**	Collect Date:	10/13/2025
Lab Sample ID:	25-0756-07	Collect Time:	02:57 PM
Matrix:	Water		

Mercury, Low Level by EPA 1631E

Aliquot #: 25-0756-07-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury Low Level	ND		ng/L	0.2	10/17/2025	AB25-1017-01

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Analytical Report

Report Date: 10/31/25

Sample Site:	**JCW Solid Waste Disposal Area - Leachate Wells**	Laboratory Project:	**25-0756**
Field Sample ID:	**EB-02**	Collect Date:	10/13/2025
Lab Sample ID:	25-0756-08	Collect Time:	03:25 PM
Matrix:	Water		

Mercury, Low Level by EPA 1631E

Aliquot #: 25-0756-08-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury Low Level	ND		ng/L	0.2	10/17/2025	AB25-1017-01

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Analytical Report

Report Date: 10/31/25

Sample Site: **JCW Solid Waste Disposal Area - Leachate Wells**
Field Sample ID: **TB-01**
Lab Sample ID: 25-0756-09
Matrix: Water

Laboratory Project: **25-0756**
Collect Date: 10/13/2025
Collect Time: 12:00 AM

Mercury, Low Level by EPA 1631E

Aliquot #: 25-0756-09-C01-A01 **Analyst: CLE**

Parameter(s)	Result	Flag	Units	RL	Analysis Date	Tracking
Mercury Low Level	ND		ng/L	0.2	10/17/2025	AB25-1017-01

Data Qualifiers	Exception Summary
Q = Matrix Spike recovery outside acceptance criteria.	No other exceptions occurred.

General Standard Operating Procedure

TITLE: SAMPLE LOG-IN – SHIPMENT INSPECTION FORM

Project Number: 25-0756 **Inspection Date:** 10.14.25 **Inspection By:** YMO

Sample Origin/Project Name: Q4-2025 Weadock Leachate Wells

Shipment Delivered By: Enter the type of shipment carrier.

Inter-Company Mail_____ FedEx ✓ UPS _____ USPS _____

Tracking Number: 8851-4288-4553, 885-4294-3453 Other/Carry In (whom) _____

Shipping Containers: Enter the type and number of shipping containers received.

Cooler ✓ Cardboard Box _____ Custom Case _____ Envelope/Mailer _____

Loose/Unpackaged Containers _____ Other _____

Condition of Shipment: Enter the as-received condition of the shipment container.

Damaged Shipment Observed: None ✓ Dented _____ Leaking _____

Other _____

Shipment Security: Enter if any of the shipping containers were opened before receipt.

Shipping Containers Received: Opened _____ Sealed ✓ N/A _____

Enclosed Documents: Enter the type of documents enclosed with the shipment.

CoC ✓ Work Request _____ Air Data Sheet_____ Other_____

Temperature of Containers: Measure the temperature of several sample containers.

As-Received Temperature Range 0.8 - 3.2 °C Samples Received on Ice: Yes ✓ No_____

M&TE # and Expiration 015402 / 5.27.26

Number and Type of Containers: Enter the type and total number of sample containers received.

Container Type	Water	Soil	Other	Broken	Leaking
VOA (40mL or 60mL)	4				
Quart/Liter (g / p)					
9-oz (amber glass jar)					
2-oz (amber glass)					
125 mL (plastic)	4				
24 mL vial (glass)					
250 mL (plastic)	2				
Other 8oz - glass	9				

All sample pH meeting criteria? Yes ✓ No___ N/A___ **pH paper lot #** 210224 **Exp. Date** 12-01-26

Indicate if an Exception Report (Page 2 of 2) is needed: Yes _____ No ✓

CHAIN OF CUSTODY

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135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q4-2025 Weadock Leachate Wells

PROJECT NUMBER: 25-0756

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: E. Wielgopolski; A. Whaley

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☑ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: dlitz@trcompanies.com phone: 989-273-2016

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	HNO_3	H_2SO_4	NaOH	HCl	MeOH	Other	Low Level Mercury	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0756-01	10/13/25	1355	GW	LH-103R	6	4	1			1			x	x	x	x	x	
-02		1355	GW	LH-103R Dup	1					1			x					
-03		1355	GW	LH-103R MS	1					1			x					
-04		1355	GW	LH-103R MSD	1					1			x					
-05		1457	GW	LH-104	6	4	1			1			x	x	x	x	x	
-06		1457	GW	LH-104 Dup	1					1			x					
-07		1457	W	FB-02	1					1			x					
-08		1525	W	EB-02	1					1			x					
-09		—	W	TB-02	1					1			x					

RELINQUISHED BY: [signature] — DATE/TIME: 10/13/25 1630 — RECEIVED BY: FedEx

RELINQUISHED BY: FedEx — DATE/TIME: 10/14/25 10:30 — RECEIVED BY: [signature]

COMMENTS: samples on ice, except LL mercury (not required)

Received on Ice? ☑ Yes ☐ No — M&TE #: 015402

Temperature: 0.8-3.2 °C — Cal. Due Date: 05-27-26

Appendix F
Field Records

TRC

PROJECT NAME:	CEC Karn/Weadock: 2025 GW Compliance
PROJECT NUMBER:	000634694/000634698.0000.0000
PROJECT MANAGER:	Darby Litz
SITE LOCATION:	2742 Weadock Hwy Essexville MI, 48732
DATES OF FIELDWORK:	10/14/2025 TO
PURPOSE OF FIELDWORK:	Karn/Weadock Background wells
WORK PERFORMED BY:	Andrew Whaley, Elliot Wielgopolski

E Whaley 11/6/25
SIGNED DATE

CHECKED BY 11/3/25
DATE

TRC

GENERAL NOTES

PROJECT NAME: CEC Weadock LF ~~2024~~ 2025 GW Com	DATE: 10/14/2025	TIME ARRIVED: 07:15
PROJECT NUMBER: ~~552828.0000.0000~~ 0006346[illegible]	AUTHOR: (AW) JK JJ	TIME LEFT: 16:15

WEATHER		
TEMPERATURE: 46-68°F	WIND: 5-12 MPH	VISIBILITY: Partly Cloudy

WORK / SAMPLING PERFORMED

Sample Background wells MW-1500Z and MW 1500P
Ship Background well samples via Fed EX 1700

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
None	NA

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

Adam Whaley 10-17-25
SIGNED DATE

JE JK 10-30-25
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME: CEC Karn BAP/LI: 2025 GW Comp	DATE: 10/14/25	TIME ARRIVED: 0730
PROJECT NUMBER:	AUTHOR: AK (EW) AW	TIME LEFT: 1630

WEATHER		
TEMPERATURE: 46-68 °F	WIND: 5-10 MPH	VISIBILITY: Cloudy

WORK / SAMPLING PERFORMED
• Calibrate
• Sample: MW-15016, 15019

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
None	

COMMUNICATION		
NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM - Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY		
WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	Purge to Ground

E Wilson 11/6/25
SIGNED DATE

J Gaeth 11/3/25
CHECKED BY DATE

EQUIPMENT SUMMARY

PROJECT NAME:	CEC Karn/Weadock: 2025 G	SAMPLER NAME:	Andrew Whaley, Elliot Wielgopolski
PROJECT NO.:	000634694/000634698.0000		

WATER LEVEL MEASUREMENTS COLLECTED WITH:

HERON DIPPER-T	PROJECT DEDICATED
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

PRODUCT LEVEL MEASUREMENTS COLLECTED WITH:

NA	NA
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

DEPTH TO BOTTOM OF WELL MEASUREMENTS COLLECTED WITH:

HERON DIPPER-T	TRC A2
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

PURGING METHOD

PERISTALTIC PUMP	TRC A2
NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)

SAMPLING METHOD

PERISTALTIC PUMP	TRC A2
NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)
NA	NA
NAME AND MODEL OF FILTERATION DEVICE	FILTER TYPE AND SIZE
DISPOSABLE POLY TUBING	☑ LOW-FLOW SAMPLING EVENT
TUBING TYPE	

PURGE WATER DISPOSAL METHOD

☑ GROUND ☐ DRUM ☐ POTW ☐ POLYTANK ☐ OTHER _____

DECONTAMINATION AND FIELD BLANK WATER SOURCE

STORE BOUGHT	LABORATORY PROVIDED
POTABLE WATER SOURCE	DI WATER SOURCE
S Whaley - 11/6/25	11/3/25
SIGNED DATE	CHECKED BY DATE

REVISED 04/2019

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	CEC Weadock LF: 2024 GW Compliance		MODEL:	YSI pro DSS	SAMPLER: ~~JF~~ AW
PROJECT NO.:	~~558028.0000.0000~~ 635698.0000		SERIAL #:	AA office	DATE: 10/14/25

PH CALIBRATION CHECK

pH 7 (LOT #): 5GF1781 (EXP. DATE): Jun 27	pH 4 10 (LOT #): 5GE0612 (EXP. DATE): May 27	CAL. RANGE	TIME
POST-CAL. READING / STANDARD	POST-CAL. READING / STANDARD		
7.04 / 7.04	4.00 / 4.00	☒ WITHIN RANGE	0800
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 566327 (EXP. DATE): Jul 26	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
POST-CAL. READING / STANDARD			
1190 / 1190	16.0	☒ WITHIN RANGE	0807
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 25F100368 (EXP. DATE): Jun 30	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
POST-CAL. READING / STANDARD			
228.4 / 228.4	16.4	☒ WITHIN RANGE	0811
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
POST-CAL. READING /SATURATED AIR			
100% / 100%	17.1	☒ WITHIN RANGE	0815
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): A43111 (EXP. DATE): 11/26	(LOT #): 24G6053 (EXP. DATE): 3/25	CAL. RANGE	TIME
POST-CAL. READING / STANDARD	POST-CAL. READING / STANDARD		
0.0 / 0.0	10.10 / 10.00	☒ WITHIN RANGE	0818
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION (LOT #): (EXP. DATE):	☑ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	CALIBRATION RANGES [1]
☐ pH	pH: +/- 0.2 S.U.
☐ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	[1] CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

Separate Turbidity Meter
LaMotte 2020t

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
None	NA

SIGNED _____ DATE 10/30/25

CHECKED BY _____ DATE 10-30-25

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	CEC Karn ~~BAP/Li~~ LF: 2025 GW Compliance	MODEL: YSI	SAMPLER: AK EW AW
PROJECT NO.:	000634694/634695.0000.00000	SERIAL #: AI office	DATE: 10/14/25

PH CALIBRATION CHECK

pH 7 (LOT #): 50E1781 (EXP. DATE): Jun/27 POST-CAL. READING / STANDARD	pH 4 10 (LOT #): 5GE0612 (EXP. DATE): May/27 POST-CAL. READING / STANDARD	CAL. RANGE	TIME
7.04 / 7.04	4.00 / 4.00	☒ WITHIN RANGE	0800
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 5660322 (EXP. DATE): 3/26 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
1410 / 1190	16.0	☒ WITHIN RANGE	0807
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 25P00369 (EXP. DATE): June/30 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
228.4 / 228.4	16.4	☒ WITHIN RANGE	0811
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING POST-CAL. READING / SATURATED AIR	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
100% / 100%	17.1	☒ WITHIN RANGE	0815
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): A4311 (EXP. DATE): 11/26 POST-CAL. READING / STANDARD	(LOT #): 24006853 (EXP. DATE): 3/25 POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0.0 / 10.0	10.10 / 10.00	☒ WITHIN RANGE	0812
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION (LOT #): (EXP. DATE):	☑ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	CALIBRATION RANGES [1]
☐ pH	pH: +/- 0.2 S.U.
☐ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	[1] CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

Separate Turbidity Meter
LaMotte 2020e

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
None	NA

SIGNED — DATE 10/30/25

CHECKED BY — DATE 11-30-25

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	CEC Karn BAP/LI: 2025 GW Compliance	MODEL: YSI Pro DSS	SAMPLER: AK EW AW
PROJECT NO.:	634695.0000.00000	SERIAL #: Ann Arbor	DATE: 10/14/25

PH CALIBRATION CHECK

pH 7 (LOT #): 56F1781 (EXP. DATE): Jun/27 POST-CAL. READING / STANDARD	pH 4 / 10 (LOT #): 56F0926 (EXP. DATE): Jun/27 POST-CAL. READING / STANDARD	CAL. RANGE	TIME
7.05 / 7.05	4.00 / 4.00	☑ WITHIN RANGE	0803
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 56D522 (EXP. DATE): Jul/26 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
1120 / 1120	13.6	☑ WITHIN RANGE	0806
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): ZSA100492 (EXP. DATE): 2030-01-21 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
239.5 / 239.5	13.8	☑ WITHIN RANGE	0808
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING D1 POST-CAL. READING /SATURATED AIR	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
100% / 100%	14.1	☑ WITHIN RANGE	0810
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): Q (EXP. DATE):	(LOT #): A4164 (EXP. DATE): Jun/26	CAL. RANGE	TIME
POST-CAL. READING / STANDARD	POST-CAL. READING / STANDARD		
0.00 / 0.00	100.0 / 100.0	☑ WITHIN RANGE	0812
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION (LOT #): (EXP. DATE):	☑ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	CALIBRATION RANGES [1]
☐ pH	pH: +/- 0.2 S.U.
☐ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	[1] CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS

E Wiffle 11/6/25
SIGNED DATE

CHECKED BY 11/13/25
DATE

TRC WATER SAMPLE LOG

PROJECT NAME: CEC Weadock LF: ~~2024~~ 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 60698698 ~~553828~~.0000.0000	BY: AW DATE: 10/14/25	BY: JK DATE: 10-30-25

SAMPLE ID: MW-15002 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1432	DATE: 10/14/25	SAMPLE	TIME: 1507	DATE: 10/14/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 9.03 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 70 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: None

TURBIDITY ☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 6.82 SU CONDUCTIVITY: 3358 umhos/cm

ORP: -0.8 mV DO: 0.62 mg/L

TURBIDITY: 4.60 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 16.6 °C FERROUS Fe — mg/L

COLOR: Clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: FILTRATE ODOR:

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS: FB- Background EB- Background 1535

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1432	200	7.08	1153	13.8	1.24	12.2	16.4	9.03	INITIAL
1437		7.07	1155	15.2	1.02	17.7	16.4	9.35	1.0
1442		7.04	1248	13.7	0.92	3.42	16.6		2.0
1447		6.90	2211	1.0	0.86	4.66	16.9		3.0
1452		6.84	2820	2.6	0.51	5.20	16.8		4.0
1457		6.85	3280	-3.8	0.60	4.18	16.5		5.0
1502		6.84	3320	-2.4	0.63	3.72	16.5		6.0
1507		6.82	3358	-0.8	0.62	4.60	16.6		7.0

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	—	125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N	—	40 mL	VOA	E	☐ Y ☐ N
—	60 mL	VOA	A	☐ Y ☐ N	4	1 L	PLASTIC	B	☐ Y ☒ N
2	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
—	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: Fed EX	DATE SHIPPED: 10/14/25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: A. Whaley	DATE SIGNED: 10/20/25

WATER SAMPLE LOG

PROJECT NAME: CEC Weadock LF: ~~2024~~ 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: ~~353828.0000.0000~~ 0006346978	BY: AW DATE: 10/14/25	BY: SK DATE: 10-30-25

SAMPLE ID: MW-15008 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 13:20	DATE: 10/14/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 6.14 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 4.0 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: None

TURBIDITY: ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 13:40	DATE: 10/14/25

PH: 6.88 SU CONDUCTIVITY: 1709 umhos/cm

ORP: -76.5 mV DO: 0.80 mg/L

TURBIDITY: 0.00 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 15.5 °C FERROUS Fe — mg/L

COLOR: Clear ODOR: Slight

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: FILTRATE ODOR:

QC SAMPLE: ☐ MS/MSD ☒ DUP- Background

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
13:20	200	6.78	2044	-60.6	1.18	2.65	15.6	6.20	INITIAL
13:25	↓	6.85	1841	-69.0	0.96	1.76	15.6	6.25	1.0
13:30		6.87	1740	-74.3	0.85	1.22	15.5	6.25	2.0
13:35		6.88	1718	-76.0	0.81	1.38	15.6	6.25	3.0
13:40		6.88	1709	-76.5	0.80	0.00	15.5	6.25	4.0

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	A	☐ Y ☒ N		125 mL	PLASTIC	D	☐ Y ☐ N
2	125 mL	PLASTIC	A	☐ Y ☒ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N	4	1 L	PLASTIC	B	☐ Y ☒ N
2	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: Fed EX	DATE SHIPPED: 10/14/25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: A. Wiley	DATE SIGNED: 10/30/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Karn BAP/LI: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634695.0000.00000	BY: AK EW AW	DATE: 10/14	BY: AW	DATE: 11/13/25

SAMPLE ID: MW-15016 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1503	DATE: 10/14	SAMPLE	TIME: 1533	DATE: 10/14

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 5.57 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 6.0 ☑ LITERS ☐ GALLONS

COLOR: clear ODOR: None

TURBIDITY ☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 6.89 SU CONDUCTIVITY: 1428 umhos/cm

ORP: -235.2 mV DO: 1.17 mg/L

TURBIDITY: 5.55 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 17.2 °C FERROUS Fe _____ mg/L

COLOR: clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP- _____

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1503	200	7.20	1482	-145.0	9.41	14.30	18.6	5.57	INITIAL
1508		6.89	1496	-214.6	1.30	6.84	16.9	5.57	1.6
1513		6.89	1472	-232.3	0.98	5.72	17.4	5.57	2.0
1518		6.89	1458	-225.4	1.59	6.25	17.4	5.57	3.6
1523		6.89	1430	-240.0	0.93	4.91	17.5	5.57	4.6
1528		6.89	1420	-231.0	1.15	4.59	17.5	5.57	5.0
1533		6.89	1428	-235.2	1.17	5.55	17.2	5.57	6.0

Lots of Random Air bubbles started then stopped

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N	2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	10/14/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	ECJ	DATE SIGNED:	11/6/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Karn BAP/LI: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634695.0000.00000	BY: AK (EW) AW	DATE: 10/14	BY: AH	DATE: 11/13/25

SAMPLE ID: MW-15019	WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER				
WELL MATERIAL:	☑ PVC	☐ SS	☐ IRON	☐ GALVANIZED STEEL	☐ OTHER
SAMPLE TYPE:	☑ GW	☐ WW	☐ SW	☐ DI	☐ LEACHATE ☐ OTHER

PURGING	TIME: 1358	DATE: 10/14/25	SAMPLE	TIME: 1438	DATE: 10/14/25
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP		PH: 6.86 SU	CONDUCTIVITY: 1512	umhos/cm
	☐ BAILER		ORP: -235.0 mV	DO: 0.55	mg/L
DEPTH TO WATER: 17.17 T/ PVC			TURBIDITY: 9.19 NTU		
DEPTH TO BOTTOM: NM T/ PVC			☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME: NA	☐ LITERS ☐ GALLONS		TEMPERATURE: 15.2 °C	FERROUS Fe	mg/L
VOLUME REMOVED: 8.0	☑ LITERS ☐ GALLONS		COLOR: Orange	ODOR: Slight	
COLOR: orange	ODOR: Slight		FILTRATE (0.45 um) ☐ YES ☒ NO		
TURBIDITY			FILTRATE COLOR: —	FILTRATE ODOR: —	
☐ NONE ☐ SLIGHT ☒ MODERATE ☐ VERY			QC SAMPLE: ☐ MS/MSD	☐ DUP-	
DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER			COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1358	200	7.07	1436	-243.6	5.79	59.48	16.7	7.17	INITIAL
1403	|	6.80	1555	-218.2	1.22	31.18	14.8	7.17	1.6
1408	|	6.81	1547	-227.4	0.84	37.90	15.0	7.17	2.6
1413	|	6.81	1548	-229.5	0.71	30.40	15.1	7.17	3.0
1418	|	6.80	1549	-235.2	0.63	15.72	15.1	7.17	4.6
1423		6.86	1546	-238.0	0.61	12.20	15.2	7.17	5.6
1428		6.80	1539	-237.1	0.59	9.99	15.2	7.17	6.6
1433		6.80	1529	-236.8	0.56	9.49	15.2	7.17	7.0
1438		6.80	1512	-235.0	0.55	9.19	15.2	7.17	8.0

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N	2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: FedEx	DATE SHIPPED: 10/14/25	AIRBILL NUMBER: —			
COC NUMBER: —	SIGNATURE: EW	DATE SIGNED: 11/6/25			

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: E. Wielgopolski, A. Whaley	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-137757-33282.1
Client Contact: Jacob Krenz	Phone: 989-273-2016	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin: MI	Page: Page 1 of 1
Company: TRC Environmental Corporation.	PWSID:			Job #:
Address: 1540 Eisenhower Place	Due Date Requested:			
City: Ann Arbor	TAT Requested (days): Standard			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 734-971-7080(Tel) 734-971-9022(Fax)	PO #: 228027			
Email: JKrenz@trccompanies.com	WO #:			
Project Name: Kam/Weadock CCR Background Well	Project #: 24024154			
Site:	SSOW#:			

Analysis Requested

Preservation Codes: D - HNO3

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air, DW=Drinking Water)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0, Ra226Ra228_GFPC	904.0 - Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D		
MW-15002	10/14/25	1507	G	Water	N	N	X	X		
MW-15008		1340	G	Water	N	N	X	X		
MW-15016		1533	G	Water	N	N	X	X		
MW-15019		1438	G	Water	N	N	X	X		
DUP-Background		~	G	Water	N	N	X	X		
EB-Backgroud		1535	G	Water	N	N	X	X		
				Water						

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	10/16/25	TRC	Sample Fridge	10/16/25	TRC
2	[signature]	10/17/25 0922	TRC	[signature]	10/17/25 0922	EETA
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

CHAIN OF CUSTODY

Consumers Energy — Count on Us

CONSUMERS ENERGY COMPANY – LABORATORY SERVICES

135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q4-2025 JCW-DEK Background Wells

PROJECT NUMBER: 25-0757

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: A. Whaley E. Wiedgopski

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☐ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	REMARKS
25-0757-01	10/14/25	1507	GW	MW-15002	3	2	1						x	x	x	
-02		1340	GW	MW-15008	3	2	1						x	x	x	
-03		1533	GW	MW-15016	3	2	1						x	x	x	
-04		1438	GW	MW-15019	3	2	1						x	x	x	
-05		—	GW	DUP-Background	3	2	1						x	x	x	
-06		1507	W	FB- Background	1								x			

RELINQUISHED BY: (TRC) — DATE/TIME: 10/14/25 1700 — RECEIVED BY: FedEX

RELINQUISHED BY: Fed Ex — DATE/TIME: 10/15/25 1015 — RECEIVED BY:

COMMENTS:

Received on Ice? ☑ Yes ☐ No — M&TE #: 015402

Temperature: 0.2 - 1.2 °C — Cal. Due Date: 05-27-26

TRC

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance
PROJECT NUMBER:	634698.0000.0000
PROJECT MANAGER:	Darby Litz
SITE LOCATION:	2742 Weadock Hwy Essexville, MI 48732
DATES OF FIELDWORK:	10/13/2025 TO 10/16/2025
PURPOSE OF FIELDWORK:	Fourth Quarter 2025 Groundwater Sampling
WORK PERFORMED BY:	A. Whaley, A. Kast, E. Wielgopolski

SIGNED 10/27/25 DATE

CHECKED BY 10-30-25 DATE

REVISED 04/2019

TRC

GENERAL NOTES

PROJECT NAME: DE Karn/Weadock	DATE: 10/13/25	TIME ARRIVED: 0825
PROJECT NUMBER: 000634698	AUTHOR: A. Kast	TIME LEFT: 1700

WEATHER		
TEMPERATURE: 55 -68 °F	WIND: 0 -10 MPH	VISIBILITY: Clear

WORK / SAMPLING PERFORMED

Arrive on-site, check in w/ security, wait for field team @ gate. Enter site & collect site-wide water levels @ Weadock. assist w/ low level mercury sampling.

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
DARBY LITZ	TRC	PM - UPDATES
JAKE KRENZ	TRC	TECH COORDINATOR -UPDATES

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
GW	NM	Purge to ground

Allen Kast 10/27/25
SIGNED DATE

CHECKED BY 10-30-25
DATE

TRC

GENERAL NOTES

PROJECT NAME: CEC Karn LF: 2025 GW Complian	DATE: 10/13/25	TIME ARRIVED: 0900
PROJECT NUMBER: 634698.0000	AUTHOR: AW, AK, EW	TIME LEFT: 1700

WEATHER

TEMPERATURE: 49-70 °F WIND: 5-10 MPH VISIBILITY: Clear

WORK / SAMPLING PERFORMED

- Met W Andrew
- Calibrate YSI
- Sampled: OW-02, OW-07, CH-103R, CH-104

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
None	

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM/Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	To Ground

E Wyff 11/13/25
SIGNED DATE

Adam Veals 11/13/25
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME: DE Karn/Weadock	DATE: 10/14/25	TIME ARRIVED: 0736
PROJECT NUMBER: 000634698	AUTHOR: A. Kast	TIME LEFT: 1630

WEATHER

TEMPERATURE: 52-65 °F WIND: 10-15 MPH VISIBILITY: clear

WORK / SAMPLING PERFORMED

Arrive on-site, check in w/ security, calibrate meter.
Sample JCW-MW-18005 & 18006, MW-53R, MW-54R, MW-55, & OW-57R OUT. Purged/Stabilized JCW-MW-18004 (well ran dry).
Collected EB-01
DUP-JCW-LF-01 collected @ JCW-MW-18005
DUP-JCW-LF-02 collected @ MW-55

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
DARBY LITZ	TRC	PM - UPDATES
JAKE KRENZ	TRC	TECH COORDINATOR -UPDATES

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
GW	NM	Purge to ground

Ashley Kast 10/27/25
SIGNED DATE

CHECKED BY 10-30-25
DATE

TRC

GENERAL NOTES

PROJECT NAME: DE Karn/Weadock	DATE: 10/15/25	TIME ARRIVED: 0718
PROJECT NUMBER: 000634698	AUTHOR: A. Kast	TIME LEFT: 1645

WEATHER		
TEMPERATURE: 50-60 °F	WIND: 0-10 MPH	VISIBILITY: clear / overcast

WORK / SAMPLING PERFORMED

Arrive on-site, check in w/ security, calibrate meter. check w/ security about site access for EGLE, meet w/ Lori from EGLE for split sampling. Split sample MW-50, MW-51, & MW-52.
Sample ~~MW~~ JCW-MW-18004.

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
DARBY LITZ	TRC	PM - UPDATES
JAKE KRENZ	TRC	TECH COORDINATOR -UPDATES

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
GW	NM	Purge to ground

Abbie Vest 10/17/25
SIGNED DATE

[signature] 10-30-25
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME: CEC Karn BAP/LI: 2025 GW Comp	DATE: 10/16/25	TIME ARRIVED: 0730
PROJECT NUMBER: 634698.0000	AUTHOR: AK (EW) AW	TIME LEFT: 1230

WEATHER		
TEMPERATURE: 37-61 °F	WIND: 0 MPH	VISIBILITY: clear

WORK / SAMPLING PERFORMED

- Calibrate
- Sample: JCW-MW-18001, DW-18001, MW-53, DEK-MW-1500S

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
None	

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
Darby Litz	TRC	PM - Updates
Jon Gaeth	Consumers	Site Contact

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
Groundwater	NM	Purge to Ground

E Wilson 10/17/25
SIGNED DATE

Andrew Kent 11/13/25
CHECKED BY DATE

EQUIPMENT SUMMARY

PROJECT NAME:	CEC Weadock LF: 2025 GW Co	SAMPLER NAME:	EW, AK, AW
PROJECT NO.:	634698.0000.0000		

WATER LEVEL MEASUREMENTS COLLECTED WITH:

HERON DIPPER-T	TRC A2
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

PRODUCT LEVEL MEASUREMENTS COLLECTED WITH:

NA	NA
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

DEPTH TO BOTTOM OF WELL MEASUREMENTS COLLECTED WITH:

HERON DIPPER-T	TRC A2
NAME AND MODEL OF INSTRUMENT	SERIAL NUMBER (IF APPLICABLE)

PURGING METHOD

PERISTALTIC PUMP	TRC A2
NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)

SAMPLING METHOD

PERISTALTIC PUMP	TRC A2
NAME AND MODEL OF PUMP OR TYPE OF BAILER	SERIAL NUMBER (IF APPLICABLE)
NA	NA
NAME AND MODEL OF FILTERATION DEVICE	FILTER TYPE AND SIZE
DEDICATED POLY TUBING	☑ LOW-FLOW SAMPLING EVENT
TUBING TYPE	

PURGE WATER DISPOSAL METHOD

☑ GROUND ☐ DRUM ☐ POTW ☐ POLYTANK ☐ OTHER _____

DECONTAMINATION AND FIELD BLANK WATER SOURCE

STORE BOUGHT	LABORATORY PROVIDED
POTABLE WATER SOURCE	DI WATER SOURCE
Ashley Hart 10/27/25	10-30-25
SIGNED DATE	CHECKED BY DATE

REVISED 04/2019

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	CEC Karn LF: 2025 GW Compliance	MODEL: YSI Pro DSS	SAMPLER: AW, AK, EW
PROJECT NO.:	634694.0000.0000	SERIAL #: Ann Arbor	DATE: 10/13/25

PH CALIBRATION CHECK

pH 7 (LOT #): 5GF1781 (EXP. DATE): Jun/27 — POST-CAL. READING / STANDARD	pH 4 / 10 (LOT #): 5GF0926 (EXP. DATE): Jun/27 — POST-CAL. READING / STANDARD	CAL. RANGE	TIME
7.01 / 7.01	4.00 / 4.00	☒ WITHIN RANGE	0929
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 5660522 (EXP. DATE): Jul/26 — POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
1280 / 1280	19.2	☒ WITHIN RANGE	0932
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): ZSA100492 (EXP. DATE): 2030-01-20 — POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
233.0 / 233.0	18.2	☒ WITHIN RANGE	0935
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING: DI water — POST-CAL. READING /SATURATED AIR	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
100% / 100%	18.2	☒ WITHIN RANGE	0940
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): DI (EXP. DATE): water — POST-CAL. READING / STANDARD	(LOT #): A4464 (EXP. DATE): Jun/26 — POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0.0 / 0.0	100 / 100	☒ WITHIN RANGE	0943
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION
(LOT #):
(EXP. DATE):

☑ STANDARD SOLUTION (S)
LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK

CALIBRATED PARAMETERS		CALIBRATION RANGES (1)	
☐	pH	pH:	+/- 0.2 S.U.
☐	COND	COND:	+/- 1% OF CAL. STANDARD
☐	ORP	ORP:	+/- 25 mV
☐	D.O.	D.O.:	VARIES
☐	TURB	TURB:	+/- 5% OF CAL. STANDARD
☐	_____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER	
☐	_____		

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS

SIGNED — DATE: 10/17/25

CHECKED BY — DATE: 11/13/25

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	DE Karn/Weadock	MODEL:	Aqua Troll 600	SAMPLER:	AK
PROJECT NO.:	000634698	SERIAL #:	~~PROJECT~~ Ann Arbor	DATE:	10/14/25

PH CALIBRATION CHECK

pH 7 (LOT #): 46J1193 (EXP. DATE): 10/26 POST-CAL. READING / STANDARD	pH 4 / 10 (LOT #): 5661227 (EXP. DATE): 3/27 POST-CAL. READING / STANDARD	CAL. RANGE	TIME
7.02 / 7.02	4.00 / 4.00	☒ WITHIN RANGE	0801
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 4610916 (EXP. DATE): 9/25 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
1251 / 1251	19	☒ WITHIN RANGE	0804
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 24H100553 (EXP. DATE): 6/29/29 POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
233.29 / 233.29	18	☒ WITHIN RANGE	0806
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING D.I. POST-CAL. READING /SATURATED AIR	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
100% / 100%	17	☒ WITHIN RANGE	0809
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): A4311 (EXP. DATE): 11/26 POST-CAL. READING / STANDARD	(LOT #): 24019884 (EXP. DATE): 6/28 POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0.00 / 0.00	100.0 / 100.0	☒ WITHIN RANGE	0812
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION (LOT #): (EXP. DATE):	☑ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	CALIBRATION RANGES [1]
☐ pH	pH: +/- 0.2 S.U.
☐ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	[1] CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

PROBLEMS ENCOUNTERED / CORRECTIVE ACTIONS

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS

Adam Vest 10/27/25
SIGNED DATE

[signature] 10-30-25
CHECKED BY DATE

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance	MODEL: ~~YSI Pro DSS~~ Aqua Troll 600	SAMPLER: AW (AK) EW
PROJECT NO.:	634698.0000.0000	SERIAL #: ~~IRC-A2~~ Ann Arbor	DATE: 10/15/25

PH CALIBRATION CHECK

pH 7 (LOT #): 463193 (EXP. DATE): 10/26	pH 4 / 10 (LOT #): 561227 (EXP. DATE): 3/27	CAL. RANGE	TIME
POST-CAL. READING / STANDARD	POST-CAL. READING / STANDARD		
7.04 / 7.04	4.00 / 4.00	☒ WITHIN RANGE	0736
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 4610916 (EXP. DATE): 9/25	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
POST-CAL. READING / STANDARD			
1121 / 1121	14	☒ WITHIN RANGE	0740
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 24H100553 (EXP. DATE): 6/29/29	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
POST-CAL. READING / STANDARD			
240.6 / 240.6	13	☒ WITHIN RANGE	0743
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING 0.I	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
POST-CAL. READING /SATURATED AIR			
100% / 100%	12	☒ WITHIN RANGE	0744
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): A4311 (EXP. DATE): 11/26	(LOT #): 24019884 (EXP. DATE): 6/26	CAL. RANGE	TIME
POST-CAL. READING / STANDARD	POST-CAL. READING / STANDARD		
0.00 / 0.00	100.0 / 100.0	☒ WITHIN RANGE	0746
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION (LOT #): (EXP. DATE):

☑ STANDARD SOLUTION (S) — LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK

CALIBRATED PARAMETERS		CALIBRATION RANGES (1)	
☐	pH	pH:	+/- 0.2 S.U.
☐	COND	COND:	+/- 1% OF CAL. STANDARD
☐	ORP	ORP:	+/- 25 mV
☐	D.O.	D.O.:	VARIES
☐	TURB	TURB:	+/- 5% OF CAL. STANDARD
☐	_____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER	
☐	_____		

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS

Allison Holt 10/27/25
SIGNED DATE

CHECKED BY 10-30-25
DATE

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	CEC Karn/Weadock Backgroud: 2025 GW Comp	MODEL: YSI Pro DSS	SAMPLER: AW AK (EW)
PROJECT NO.:	634698.0000.0000	SERIAL #: TRC A2	DATE: 10/16/25

PH CALIBRATION CHECK

pH 7 (LOT #): 56F1781 (EXP. DATE): JUN/27 — POST-CAL. READING / STANDARD	pH 4 / 10 (LOT #): 56F0926 (EXP. DATE): JUN/27 — POST-CAL. READING / STANDARD	CAL. RANGE	TIME
7.09 / 7.09	4.00 / 4.00	☒ WITHIN RANGE	0747
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 56D522 (EXP. DATE): JUL/26 — POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
970 / 970	5.1	☒ WITHIN RANGE	0750
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 25A106492 (EXP. DATE): 2030-01-20 — POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
251.6 / 251.6	5.5	☒ WITHIN RANGE	0753
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CAL. READING: D1 — POST-CAL. READING /SATURATED AIR	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
100% / 100%	6.7	☒ WITHIN RANGE	0805
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): D1 (EXP. DATE): — POST-CAL. READING / STANDARD	(LOT #): AH164 (EXP. DATE): JUN/26 — POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0 / 0	100 / 100	☒ WITHIN RANGE	0802
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION
(LOT #):
(EXP. DATE):

☑ STANDARD SOLUTION (S)
LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK

CALIBRATED PARAMETERS		CALIBRATION RANGES (1)	
☐	pH	pH:	+/- 0.2 S.U.
☐	COND	COND:	+/- 1% OF CAL. STANDARD
☐	ORP	ORP:	+/- 25 mV
☐	D.O.	D.O.:	VARIES
☐	TURB	TURB:	+/- 5% OF CAL. STANDARD
☐	_____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER	
☐	_____		

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
NONE	

SIGNED — DATE: 10/17/25

CHECKED BY — DATE: 11/13/25

TRC

WATER LEVEL DATA

PROJECT NAME:	CEC Weadock LF: 2025 GW Compliance	DATE:	10/13/25
PROJECT NUMBER:	634698.0000.0000	AUTHOR:	A. Whaley, A. Kast, E. Wielgo

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION
JCW-MW-18001	0927	TOC	18.06	23.77	NA	NM
JCW-MW-18004	1107	TOC	13.39	14.75	NA	NM
JCW-MW-18005	1120	TOC	10.55	16.35	NA	NM
JCW-MW-18006	0915	TOC	15.73	23.70	NA	NM
JCW-OW-18001	0930	TOC	8.23	20.28	NA	NM
JCW-OW-18002	1034	TOC	10.49	19.83	NA	NM
JCW-OW-18003	1235	TOC	8.54	18.63	NA	NM
JCW-OW-18004	1105	TOC	7.52	14.86	NA	NM
JCW-OW-18006	0916	TOC	10.16	24.47	NA	NM
LH-103R	1222	TOC	22.56	33.45	NA	NM
LH-104	1111	TOC	9.39	14.05	NA	NM
MW-20	1229	TOC	8.64	14.02	NA	NM
MW-50	1035	TOC	14.71	19.45	NA	NM
MW-51	1037	TOC	15.42	20.03	NA	NM
MW-52	1042	TOC	15.98	19.90	NA	NM
MW-53	1245	TOC	14.73	18.21	NA	NM
MW-53R	1054	TOC	15.55	18.88	NA	NM
MW-54R	1102	TOC	14.89	17.22	NA	NM
MW-55	1114	TOC	15.07	16.41	NA	NM
MW-58	1430	TOC	6.97	18.31	NA	NM
OW-51	1038	TOC	8.99	17.29	NA	NM
OW-53	1052	TOC	7.74	18.01	NA	NM
OW-54	1101	TOC	7.26	16.51	NA	NM
OW-55	1115	TOC	6.75	18.83	NA	NM
OW-56	1124	TOC	5.92	19.29	NA	NM

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR (E.G., 1.1 + 0.00 T/PVC).

Adam Kast 10/27/25
SIGNED DATE

CHECKED 10-30-25
DATE

TRC

WATER LEVEL DATA

PROJECT NAME: CEC Weadock LF: 2025 GW Compliance	DATE: 10/13/25
PROJECT NUMBER: 634698.0000.0000	AUTHOR: A. Whaley, A. Kast, E. Wielgo

WELL LOCATION	TIME	REFERENCE	DEPTH TO WATER (FEET)	DEPTH TO BOTTOM (FEET)	DEPTH TO PRODUCT (FEET)	WATER ELEVATION	
OW-56R	1122	TOC	5.94	20.25	NA	NM	
OW-57 IN	1142	TOC	6.09	20.19	NA	NM	
OW-57R IN	1146	TOC	5.91	19.57	NA	NM	
OW-57 OUT	1129	TOC	16.66	19.36	NA	NM	
OW-57R OUT	1131	TOC	10.10	20.24	NA	NM	
OW-61	1205	TOC	10.72	26.22	NA	NM	
~~OW-63~~		TOC			NA	NM	*Decommissioned
JCW-MW-15007	1325	TOC	6.44	8.92	NA	NM	
JCW-MW-15009	0907	TOC	10.49	13.01	NA	NM	
JCW-MW-15010	1308	TOC	18.61	19.60	NA	NM	
JCW-MW-15028	1319	TOC	9.96	25.10	NA	NM	
MW-15002	1438	TOC	8.89	16.91			
MW-15008	1440	TOC	5.93	17.43			
MW-15016	1436	TOC	6.31	7.77			
MW-15019	1431	TOC	7.47	16.90			

ALL WATER LEVELS MUST INCLUDE REFERENCE POINT AND TAPE CORRECTION FACTOR
(E.G., 1.1 + 0.00 T/PVC).

SIGNED 10/27/25 DATE

CHECKED 10-30-25 DATE

WATER SAMPLE LOG

PROJECT NAME:	CEC Karn/Weadock Backgrou	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: AW AK (EW)	DATE: 10/16	BY: AK	DATE: 11/13/25

SAMPLE ID: JCW-MW-18001 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0840	DATE: 10/16/25	SAMPLE	TIME: 0900	DATE: 10/16/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 17.95 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 4.0 ☒ LITERS ☐ GALLONS

COLOR: cloudy ODOR: None

TURBIDITY ☐ NONE ☐ SLIGHT ☐ MODERATE ☒ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 6.89 SU | CONDUCTIVITY: 1973 umhos/cm

ORP: 269.0 mV | DO: 0.69 mg/L

TURBIDITY: 2.40 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 13.5 °C | FERROUS Fe — mg/L

COLOR: clear | ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — | FILTRATE ODOR: —

QC SAMPLE: ☒ MS/MSD ☐ DUP- ____

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0840	200	7.07	2062	-89.6	6.83	418.99	12.5	17.95	INITIAL
0845		6.92	2026	-233.9	1.29	43.88	13.0	18.0	1.0
0850		6.91	1983	-258.9	0.90	3.37	13.4	18.0	2.0
0855		6.90	1982	-264.5	0.75	2.53	13.4	18.0	3.0
0900		6.89	1973	-269.0	0.69	2.40	13.5	18.0	4.0

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N		125 mL	PLASTIC	D	☐ Y ☐ N
3	125 mL	PLASTIC	A	☐ Y ☒ N		40 mL	VOA	E	☐ Y ☐ N
2	60 mL	VOA	A	☐ Y ☒ N	2	1 L	PLASTIC	B	☐ Y ☒ N
3	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	10/16/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	EW	DATE SIGNED:	11/6/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: AW (AK) EW	DATE: 10/14/25	BY: JK	DATE: 10-30-25

SAMPLE ID: JCW-MW-18004 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1435	DATE: 10/14/25	SAMPLE	TIME: ~~1510~~ (AW) 1501	DATE: 10/15/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 13.45 T/ PVC

DEPTH TO BOTTOM: 14.75 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 1 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: None

TURBIDITY ☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.04 SU CONDUCTIVITY: 1200.4 umhos/cm

ORP: ~~116.45~~ (AW) 116.5 mV DO: ~~116.5~~ 3.51 mg/L

TURBIDITY: 12.08 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 18.23 °C FERROUS Fe — mg/L

COLOR: Orange ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS: DTW: 13.57 on 10/15

DTW @1615 14.70 on 10/14

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1435	100	7.13	1112.2	123.6	5.45	10.25	19.94	13.45	INITIAL
1440		7.09	1185.9	115.6	5.09	4.79	18.33	13.98	.5
1445		7.04	1200.4	116.5	3.51	12.08	18.23	14.25	1
~~1450~~				DRY					+

Slow Recharge; return to sample on 10/15/25

Well went dry on 10/15/25 while collecting combined radium sample; wait for recharge. Slow/no recharge.

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N		~~125 mL~~	~~PLASTIC~~	~~D~~	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N		~~40 mL~~	~~VOA~~	~~E~~	☐ Y ☐ N
	~~60 mL~~	~~VOA~~	~~A~~	☐ Y ☐ N		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	~~125 mL~~	PLASTIC	~~C~~	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	Courier/Fedex	DATE SHIPPED:	10-17-25/10-15-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	Ashlen Rest	DATE SIGNED:	10/27/25

WATER SAMPLE LOG

PROJECT NAME: CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634698.0000.0000	BY: AW (AK) EW DATE: 10/14/25	BY: JK DATE: 10-30-25

SAMPLE ID: JCW-MW-13005 — WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1135	DATE: 10/14/25	SAMPLE	TIME: 1220	DATE: 10/14/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 10.57 T/ PVC

DEPTH TO BOTTOM: 16.33 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 4.5 ☒ LITERS ☐ GALLONS

COLOR: Orange/cloudy ODOR: slight

TURBIDITY: ☐ NONE ☐ SLIGHT ☐ MODERATE ☒ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 6.95 SU CONDUCTIVITY: 1108.1 umhos/cm

ORP: 106.1 mV DO: 0.32 mg/L

TURBIDITY: 2.11 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 16.75 °C FERROUS Fe ____ mg/L

COLOR: clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☒ DUP- JCW-EF-01

COMMENTS: Replaced cracked tubing

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)	
1135 (AW) ~~100~~ 150		6.86	1271.8	128.3	4.62	1256.3	16.22	10.57	INITIAL	
1140 ~~1134~~ (AW)	100	6.99	1119.6	104.1	0.42	639.67	16.24	11.10	0.5	cleaned Flow thru cell
1145		6.98	1109.2	80.5	0.40	195.64	16.43	11.19	1.0	
1150		6.98	1097.1	82.1	0.45	131.22	16.22	11.26	1.5	
1155		7.00	1093.9	94.2	0.78	106.77	16.14	11.31	2.0	
1200		6.98	1095.1	95.6	0.78	50.42	16.25	11.35	2.5	
1205		6.96	1103.7	101.3	0.77	31.66	16.41	11.39	3.0	
1210		6.96	1104.2	103.8	0.54	8.63	16.53	11.45	3.5	
1215		6.96	1105.3	104.9	0.37	2.10	16.72	11.61	4.0	
SAMPLE 1220		6.95	1108.1	106.1	0.32	2.11	16.75	11.69	4.5	SAMPLE

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	A	☐ Y ☒ N		125 mL	PLASTIC	D	☐ Y ☐ N
2	125 mL	PLASTIC	A	☐ Y ☒ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N	4	1 L	PLASTIC	B	☐ Y ☒ N
2	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: courier/FedEx	DATE SHIPPED: 10-17-25/10-15-25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: Ashley Hart	DATE SIGNED: 10/27/25

TRC WATER SAMPLE LOG

PROJECT NAME: DE Karn/Weadock	PREPARED		CHECKED	
PROJECT NUMBER: 000634698	BY: AK	DATE: 10/14/25	BY: JK	DATE: 10-20-25

SAMPLE ID: JCW-MW-18006 | WELL DIAMETER: ☒ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0848	DATE: 10/14/25	SAMPLE	TIME: 0918	DATE: 10/14/25

PURGE METHOD: ☒ PUMP PERISTALTIC PUMP / ☑ BAILER

DEPTH TO WATER: 15.78 T/ PVC

DEPTH TO BOTTOM 23.70 T/ PVC

WELL VOLUME: — ☐ LITERS ☐ GALLONS

VOLUME REMOVED 6 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: None

TURBIDITY: ☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☒ GROUND ☐ DRUM ☐ OTHER

PH: 7.02 SU CONDUCTIVITY: 971.98 umhos/cm

ORP: 23.7 mV DO: 0.24 mg/L

TURBIDITY: 1.89 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 12.80 °C OTHER: —

COLOR: Clear ODOR: Slight

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP- —

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0848	200	6.96	978.11	120.4	3.42	9.97	13.16	15.78	INITIAL
0853		7.02	970.22	72.3	0.45	7.66	13.20	15.88	1
0858		7.02	962.11	52.0	0.34	4.12	13.03	15.89	2
0903		7.02	955.09	33.6	0.30	1.43	13.00	15.89	3
0908		7.02	960.08	26.3	0.28	2.33	12.89	15.89	4
0913		7.02	968.48	23.9	0.25	1.65	12.84	15.89	5
0918		7.02	971.98	23.7	0.24	1.89	12.80	15.89	6
			SAMPLE						

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- ~~10~~ 3% ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/- ~~0.5°C~~

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
3	40 mL	VOA	E	☐ Y ☐ N	1	125mL	Plastic	A	☐ Y ☒ N
1	500mL	PLASTIC	B	☐ Y ☐ N					☐ Y ☐ N
~~2~~ 1	250 mL	PLASTIC	A	☐ Y ☒ N					☐ Y ☐ N
2	1L	Plastic	B	☐ Y ☒ N					☐ Y ☐ N
1	125mL	plastic	B	☐ Y ☒ N					☐ Y ☐ N

SHIPPING METHOD: courier/FedEx	DATE SHIPPED: 10-17-25/10-15-25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: Allen Kest	DATE SIGNED: 10/27/25

WATER SAMPLE LOG

PROJECT NAME: CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634698.0000.0000	BY: AW (AK) EW DATE: 10/15/25	BY: JK DATE: 10-30-25

SAMPLE ID: MW-50 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0900	DATE: 10/15/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 14.44 T/ PVC

DEPTH TO BOTTOM: 19.43 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 4 ☒ LITERS ☐ GALLONS

COLOR: clear ODOR: slight

TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 0920	DATE: 10/15/25

PH: 7.29 SU CONDUCTIVITY: 1251.9 umhos/cm

ORP: 6.4 mV DO: 0.13 mg/L

TURBIDITY: 3.12 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 13.79 °C FERROUS Fe — mg/L

COLOR: clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP- _____

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0900	200	6.89	1278.5	152.6	5.13	2.04	13.50	14.44	INITIAL
0905		7.18	1261.4	44.0	0.24	3.01	13.65	14.45	1
0910		7.26	1259.0	19.4	0.17	3.50	13.76	14.45	2
0915		7.28	1254.6	11.4	0.15	3.09	13.74	14.45	3
0920		7.29	1251.9	6.4	0.13	3.12	13.79	14.45	4
				SAMPLE					

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10mV D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~—~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~—~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~—~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~	2	1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~1~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD: Courier/FedEX	DATE SHIPPED: 10-17-25/10-15-25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: Ashley Hart	DATE SIGNED: 10/27/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: AW (AK) EW	DATE: 10/15/25	BY: SK	DATE: 10-30-25

SAMPLE ID: MW-51 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0953	DATE: 10/15/25	SAMPLE	TIME: 1008	DATE: 10/15/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 15.36 T/ PVC

DEPTH TO BOTTOM: 20.02 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 3 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: None

TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.20 SU | CONDUCTIVITY: 1291.7 umhos/cm

ORP: 10.2 mV | DO: 0.11 mg/L

TURBIDITY: 2.89 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 14.26 °C | FERROUS Fe ~ mg/L

COLOR: Clear | ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: ~ | FILTRATE ODOR: ~

QC SAMPLE: ☐ MS/MSD ☐ DUP- ~

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0953	200	7.26	1287.1	58.7	4.73	2.35	14.31	15.36	INITIAL
0958		7.21	1287.9	14.7	0.18	3.63	14.28	15.42	1
1003		7.20	1292.1	11.6	0.13	2.48	14.25	15.42	2
1008		7.20	1291.7	10.2	0.11	2.89	14.26	15.42	3
				SAMPLE					

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ~

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☐ N	~~~	~~125 mL~~	~~PLASTIC~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☐ N	~~~	~~40 mL~~	~~VOA~~	~~E~~	~~☐ Y ☐ N~~
~~2~~	~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~	2	1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☐ N					☐ Y ☐ N
~~1~~	~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~					☐ Y ☐ N

SHIPPING METHOD:	Courier/Fedex	DATE SHIPPED:	10-17-25/10-15-25	AIRBILL NUMBER:	~
COC NUMBER:	~	SIGNATURE:	Ashley Kelt	DATE SIGNED:	10/27/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER:	634698.0000.0000	BY: AW (AK) EW DATE: 10/15/25	BY: JK DATE: 10-30-25

SAMPLE ID: MW-52 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1046	DATE: 10/15/25	SAMPLE	TIME: 1101	DATE: 10/15/25
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 6.79 SU	CONDUCTIVITY: 1438.8 umhos/cm	
			ORP: 55.2 mV	DO: 0.11 mg/L	
DEPTH TO WATER: 15.94 T/ PVC			TURBIDITY: 4.07 NTU		
DEPTH TO BOTTOM: 19.89 T/ PVC			☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME: NA ☐ LITERS ☐ GALLONS			TEMPERATURE: 14.17 °C	FERROUS Fe — mg/L	
VOLUME REMOVED: 3 ☒ LITERS ☐ GALLONS			COLOR: Clear	ODOR: None	
COLOR: Cloudy/very slight yellow	ODOR: None		FILTRATE (0.45 um) ☐ YES ☒ NO		
TURBIDITY			FILTRATE COLOR: —	FILTRATE ODOR: —	
☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY			QC SAMPLE: ☐ MS/MSD ☐ DUP-		
DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER			COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1046	200	6.81	1426.3	88.4	1.11	15.62	10.13	15.94	INITIAL
1051		6.79	1437.5	67.4	0.15	2.54	14.36	16.09	1
1056		6.79	1437.3	60.0	0.13	4.25	14.23	16.16 (AK) 16.17	2
1101		6.79	1438.8	55.2	0.11	4.07	14.17	16.18	3
				SAMPLE					

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~125 mL~~	~~PLASTIC~~	~~D~~	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~1~~	~~40 mL~~	~~VOA~~	~~E~~	☐ Y ☐ N
~~1~~	~~60 mL~~	~~VOA~~	~~A~~	☐ Y ☐ N	2	1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~1~~	~~125 mL~~	~~PLASTIC~~	~~C~~	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	courier/FedEx	DATE SHIPPED:	10-17-25/10-15-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	Ashley Watt	DATE SIGNED:	10/27/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Karn/Weadock Backgroud	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: AW AK EW	DATE: 10/16	BY: AK	DATE: 11/13/25

SAMPLE ID: MW-53 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1009	DATE: 10/16/25	SAMPLE	TIME: 1034	DATE: 10/16/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 14.65 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 5.0 ☒ LITERS ☐ GALLONS

COLOR: clear ODOR: NONE

TURBIDITY: ☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.62 SU CONDUCTIVITY: 672 umhos/cm

ORP: -276.1 mV DO: 0.51 mg/L

TURBIDITY: 5.63 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 14.7 °C FERROUS Fe — mg/L

COLOR: clear ODOR: NONE

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP- _____

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1009	200	7.88	666	-181.3	6.03	13.24	14.4	14.65	INITIAL
1014	↑	7.63	674	-238.3	0.90	2.54	14.6	14.75	1.0
1019		7.62	674	-255.7	0.68	2.52	14.6	14.75	2.0
1024		7.62	673	-266.5	0.58	2.93	14.6	14.75	3.0
1029		7.62	672	-272.5	0.54	4.51	14.7	14.75	4.0
1034		7.62	672	-276.1	0.51	5.63	14.7	14.75	5.0

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N	2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	10/16/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	[signature]	DATE SIGNED:	10/17/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: AW ~~AW~~ EW	DATE: 10/14/25	BY: SK	DATE: 10-30-25

SAMPLE ID: MW-53R — WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1547	DATE: 10/14/25	SAMPLE	TIME: 1602	DATE: 10/14/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 15.33 T/ PVC

DEPTH TO BOTTOM: 18.86 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 3 ☒ LITERS ☐ GALLONS

COLOR: clear ODOR: None

TURBIDITY: ☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.04 SU CONDUCTIVITY: 1160.1 umhos/cm

ORP: 128.1 mV DO: 0.20 mg/L

TURBIDITY: 1.90 NTU

☒ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 15.48 °C FERROUS Fe — mg/L

COLOR: clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
~~0~~ 1547	200	7.08	1183.1	142.8	1.29	10.74	16.92	15.33	INITIAL
1552		7.04	1178.8	143.7	0.21	2.96	15.64	15.48	1
1557		7.07	1168.8	136.5	0.21	2.90	15.52	15.51	2
1602		7.04	1160.1	128.1	0.20	1.90	15.48	15.56	3
				SAMPLE					

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N	~~125 mL~~	~~PLASTIC~~	~~D~~	~~D~~	~~☐ Y ☐ N~~
1	125 mL	PLASTIC	A	☐ Y ☒ N	~~40 mL~~	~~VOA~~	~~E~~	~~E~~	~~☐ Y ☐ N~~
~~60 mL~~	~~VOA~~	~~A~~	~~☐ Y ☐ N~~	2	1 L	PLASTIC	B	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
~~125 mL~~	~~PLASTIC~~	~~C~~	~~☐ Y ☐ N~~						☐ Y ☐ N

SHIPPING METHOD:	Courier/FedEX	DATE SHIPPED:	10-17-25/10-15-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	Autumn Kent	DATE SIGNED:	10/27/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER:	634698.0000.0000	BY: AW (AK) EW DATE: 10/14/25	BY: JK DATE: 10-30-25

SAMPLE ID: MW-54R | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1500	DATE: 10/14/25	SAMPLE	TIME: 1520	DATE: 10/14/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 14.85 T/ PVC

DEPTH TO BOTTOM: 17.25 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 4 ☒ LITERS ☐ GALLONS

COLOR: slight yellow ODOR: None

TURBIDITY ☐ NONE ☐ SLIGHT ☒ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 6.99 SU | CONDUCTIVITY: 1581.4 umhos/cm

ORP: 111.1 mV | DO: 0.59 mg/L

TURBIDITY: 4.85 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 16.57 °C | FERROUS Fe — mg/L

COLOR: clear | ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — | FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1500	200	6.76	1555.1	85.9	2.86	163.65	17.02	14.85	INITIAL
1505		7.03	1552.0	91.9	1.23	3.32	16.52	14.92	1
1510		7.01	1570.3	104.8	0.60	4.67	16.51	14.92	2
1515		6.99	1579.2	110.1	0.58	4.77	16.51	14.92	3
1520		6.99	1581.4	111.1	0.59	4.85	16.57	14.92	4
				SAMPLE					

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N		~~125 mL~~	~~PLASTIC~~	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N		~~40 mL~~	~~VOA~~	E	☐ Y ☐ N
	~~60 mL~~	~~VOA~~	A	☐ Y ☐ N	2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	~~125 mL~~	~~PLASTIC~~	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	courier/Fedex	DATE SHIPPED:	10-17-25/10-15-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	Ashley Katz	DATE SIGNED:	10/27/25

TRC WATER SAMPLE LOG

PROJECT NAME: CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634698.0000.0000	BY: AW (AK) EW DATE: 10/14/25	BY: JK DATE: 10-30-25

SAMPLE ID: MW-55 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1320	DATE: 10/14/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 15.07 T/ PVC

DEPTH TO BOTTOM: 16.41 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 3.0 ☒ LITERS ☐ GALLONS

COLOR: Cloudy/Yellow ODOR: Slight

TURBIDITY

☐ NONE ☐ SLIGHT ☒ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1345	DATE: 10/14/25

PH: 7.05 SU CONDUCTIVITY: 1105.6 umhos/cm

ORP: 9.4 mV DO: 0.25 mg/L

TURBIDITY: 4.14 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 17.75 °C FERROUS Fe — mg/L

COLOR: Clear ODOR: Slight

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☒ DUP- JCW-GF-02

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1320	100	7.02	1089.2	15.6	0.84	69.50	19.66	15.07	INITIAL
1325		7.15	1103.1	13.6	0.31	18.32	17.83	15.09	0.5
1330		7.14	1110.6	10.2	0.30	15.19	17.72	15.09	1.0
1335	150	7.08	1110.2	9.8	0.29	4.13	17.95	15.09	1.5
1340		7.05	1108.4	9.6	0.26	4.06	17.90	15.09	2.25
1345		7.05	1105.6	9.4	0.25	4.14	17.75	15.09	3.0
				SAMPLE					

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
(AW) ~~1~~ 1	250 mL	PLASTIC	A	☐ Y ☐ N	~~1~~	125 mL	PLASTIC	D	☐ Y ☐ N
2	125 mL	PLASTIC	A	☐ Y ☐ N	~~1~~	~~40 mL~~	VOA	E	☐ Y ☐ N
~~1~~	~~60 mL~~	~~VOA~~	~~A~~	☐ Y ☐ N	2	1 L	PLASTIC	B	☐ Y ☐ N
~~2~~	~~125 mL~~	~~PLASTIC~~	~~B~~	☐ Y ☐ N					☐ Y ☐ N
~~2~~	~~125 mL~~	~~PLASTIC~~	~~C~~	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: courier/fedex	DATE SHIPPED: 10/17/25 ~~10/15/25~~	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: Allison Vost	DATE SIGNED: 10/27/25

TRC WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: AW (AK) EW	DATE: 10/14/25	BY: JK	DATE: 10-30-25

SAMPLE ID: OW-57R OUT | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0958	DATE: 10/14/25	SAMPLE	TIME: 1013	DATE: 10/14/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 10.13 T/ PVC

DEPTH TO BOTTOM: 20.25 T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 2.0 ☒ LITERS ☐ GALLONS

COLOR: clear ODOR: None

TURBIDITY ☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 6.94 SU | CONDUCTIVITY: 1143.1 umhos/cm

ORP: 92.9 mV | DO: 0.25 mg/L

TURBIDITY: 1.80 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 15.22 °C | FERROUS Fe — mg/L

COLOR: clear | ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — | FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS: EB-01 & FB-01

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0958	200	6.97	1158.3	104.8	4.84	6.33	15.12	10.13	INITIAL
1003	1	6.95	1151.2	99.3	0.26	1.35	14.97	11.13	1
1008	100	6.94	1148.4	96.7	0.28	1.51	15.22	11.98	1.5
1013	|	6.94	1143.1	92.9	0.25	1.80	15.22	12.46	2.0
			SAMPLE						2.5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- 0.1 COND.: +/- 3 % ORP: +/- 10 D.O.: +/- 0.3 TURB: +/- 10 % or </= 10 TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N		40 mL	VOA	E	☐ Y ☐ N
	60 mL	VOA	A	☐ Y ☐ N	2	1 L	PLASTIC	B	☐ Y ☒ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	courier/Fedex	DATE SHIPPED:	10-17-25/10-15-25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	Allison Hart	DATE SIGNED:	10/27/25

WATER SAMPLE LOG

PROJECT NAME:	CEC Karn/Weadock Backgrou	PREPARED		CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: AW AK EW	DATE: 10/16	BY: AW	DATE: 11/13/25

SAMPLE ID: JCW-OW-18001 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0926	DATE: 10/16/25	SAMPLE	TIME: 0956	DATE: 10/16/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 8.35 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 6.0 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: None

TURBIDITY ☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 7.14 SU CONDUCTIVITY: 881 umhos/cm

ORP: -232.7 mV DO: 0.77 mg/L

TURBIDITY: 4.77 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 14.0 °C FERROUS Fe — mg/L

COLOR: Clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0926	200	7.73	871	-192.2	5.82	14.89	14.4	8.35	INITIAL
0931	|	7.02	977	-199.7	1.50	3.24	14.5	8.45	1.0
0936	|	7.05	966	-213.9	1.01	17.29	14.1	8.45	2.0
0941	|	7.07	925	-223.8	0.87	9.15	14.0	8.45	3.0
0946	|	7.11	897	-226.4	0.84	6.53	14.0	8.45	4.0
0951	|	7.13	885	-231.0	0.78	5.28	14.0	8.45	5.0
0956		7.14	881	-232.7	0.77	4.77	14.0	8.45	6.0

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	250 mL	PLASTIC	A	☐ Y ☒ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☒ N		40 mL	VOA	E	☐ Y ☐ N
2	60 mL	VOA	A	☐ Y ☒ N		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☒ N					☐ Y ☐ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	10/16/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	EW	DATE SIGNED:	11/6/25

TRC WATER SAMPLE LOG

PROJECT NAME:	CEC Weadock LF: 2025 GW C	PREPARED	CHECKED	
PROJECT NUMBER:	634698.0000.0000	BY: AW AK EW DATE: 10/13	BY: AW	DATE: 11/13/25

SAMPLE ID: CH-103R | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1330	DATE: 10/13/25	SAMPLE	TIME: 1355	DATE: 10/13/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 22.86 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 50 ☒ LITERS ☐ GALLONS

COLOR: Cloudy/Black ODOR: moderate to Strong

TURBIDITY ☐ NONE ☐ SLIGHT ☐ MODERATE ☒ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

PH: 6.96 SU | CONDUCTIVITY: 2790 umhos/cm

ORP: -332.2 mV | DO: 0.44 mg/L

TURBIDITY: 0.91 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 13.7 °C | FERROUS Fe — mg/L

COLOR: Clear | ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — | FILTRATE ODOR: —

QC SAMPLE: ☒ MS/MSD ☒ DUP- CLHg Dup+MSD

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1330	200	7.24	3359	-352.1	5.02	203.68	16.1	22.86	INITIAL
1335	|	7.10	3108	-337.3	1.03	71.30	14.2	23.13	1.0
1340	|	7.04	2967	-332.8	0.66	6.91	13.8	23.13	2.0
1345	|	6.99	2868	-331.6	0.53	2.91	13.7	23.13	3.0
1350	|	6.97	2830	-331.2	0.48	2.18	13.8	23.13	4.0
1355	|	6.96	2790	-332.2	0.44	0.91	13.7	23.13	5.0

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
	250 mL	PLASTIC	A	☐ Y ☐ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☐ N	1	40 mL	VOA	E	☐ Y ☒ N
2	60 mL	VOA	A	☐ Y ☒ N		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☒ N	1	250mL	Glass	A	☐ Y ☒ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	FedEx	DATE SHIPPED:	10/13/25	AIRBILL NUMBER:	—
COC NUMBER:	—	SIGNATURE:	EW	DATE SIGNED:	11/6/25

TRC WATER SAMPLE LOG

PROJECT NAME: CEC Weadock LF: 2025 GW C	PREPARED	CHECKED
PROJECT NUMBER: 634698.0000.0000	BY: AW AK EW DATE: 10/13/25	BY: AW DATE: 11/13/25

SAMPLE ID: LH-104 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1442	DATE: 10/13/25

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 9.37 T/ PVC

DEPTH TO BOTTOM: NM T/ PVC

WELL VOLUME: NA ☐ LITERS ☐ GALLONS

VOLUME REMOVED: 1.5 ☒ LITERS ☐ GALLONS

COLOR: Clear ODOR: None

TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☑ GROUND ☐ DRUM ☐ OTHER

SAMPLE	TIME: 1457	DATE: 10/13/25

PH: 7.68 SU CONDUCTIVITY: 1411 umhos/cm

ORP: -258.3 mV DO: 0.62 mg/L

TURBIDITY: 2.39 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 15.4 °C FERROUS Fe — mg/L

COLOR: Clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ~~☒ MS/MSD~~ ☒ DUP- CLMg Dup 1

COMMENTS: EB-1325 FB-1457

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1442	100	7.73	1468	-236.6	5.89	15.62	17.4	9.37	INITIAL
1447	|	7.68	1419	-248.8	0.85	3.52	15.1	10.02	0.5
1452	|	7.67	1409	-255.2	0.65	3.36	15.3	10.10	1.0
1457	|	7.68	1411	-258.3	0.62	2.39	15.4	10.10	1.5
~~1502~~	|								
1507	|								

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **0.3** TURB: +/- **10 %** or </= **10** TEMP.: +/-

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
	250 mL	PLASTIC	A	☐ Y ☐ N		125 mL	PLASTIC	D	☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☐ N	1	40 mL	VOA	E	☐ Y ☒ N
2	60 mL	VOA	A	☐ Y ☒ N		1 L	PLASTIC	B	☐ Y ☐ N
1	125 mL	PLASTIC	B	☐ Y ☒ N	1	250mL	Glass	A	☐ Y ☒ N
	125 mL	PLASTIC	C	☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: FedEx	DATE SHIPPED: 10/13/25	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: EW	DATE SIGNED: 11/6/25

CHAIN OF CUSTODY

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CONSUMERS ENERGY COMPANY – LABORATORY SERVICES

135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q4-2025 JC Weadock Porewater Wells

PROJECT NUMBER: **25-0754**

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: A. West, E. Wielgopolski

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☑ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: jlfirlit@trccompanies.com — phone: 989-273-2616

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	HNO_3	H_2SO_4	NaOH	HCl	MeOH	Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0754-01	10/16/25	0900	GW	JCW-MW-18001	5	4	1						x	x	x	x	
-02	10/15/25	1501	GW	JCW-MW-18004	3	2	1						x	x	x		
-03	10/14/25	1220	GW	JCW-MW-18005	3	2	1						x	x	x		
-04	10/14/25	0918	GW	JCW-MW-18006	3	2	1						x	x	x		
-05	10/15/25	0920	GW	MW-50	3	2	1						x	x	x		
-06	10/15/25	1008	GW	MW-51	3	2	1						x	x	x		
-07	10/15/25	1101	GW	MW-52	3	2	1						x	x	x		
-08	10/16/25	1034	GW	MW-53	3	2	1						x	x	x		
-09	10/14/25	1602	GW	MW-53R	3	2	1						x	x	x		
-10	10/14/25	1520	GW	MW-54R	3	2	1						x	x	x		
-11	10/14/25	1345	GW	MW-55	3	2	1						x	x	x		
-12	10/14/25	1013	GW	OW-57ROUT	3	2	1						x	x	x		

RELINQUISHED BY: A. West — DATE/TIME: 10/15/25 1616 — RECEIVED BY: E. Wielgopolski

RELINQUISHED BY: E. Wielgopolski — DATE/TIME: 10/16/25 — RECEIVED BY: Fed Ex 10/16 25 1500 — 10-17-25 0950

via Fed Ex 10-17-25 0950

COMMENTS:

Received on Ice? ☑ Yes ☐ No — M&TE #: 015402

Temperature: 1.2-2.4 °C — Cal. Due Date: 05-27-26

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135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q4-2025 JC Weadock Porewater Wells

PROJECT NUMBER: 25-0754

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: E. Wielgopolski

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☒ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: — phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0754-13	10/14/25	—	GW	DUP-JCW-LF-01	3	2	1						x	x	x		
-14	10/14/25	—	GW	DUP-JCW-LF-02	3	2	1						x	x	x		
-15	10/16/25	0960	GW	JCW-MW-18001 MS	2	1	1						x	x			
-16	10/16/25	0900	GW	JCW-MW-18001 MSD	2	1	1						x	x			
-17	10/14/25	1029	GW	FB-01	2	1	1						x	x			
-18	10/14/25	1033	W	EB-01	2	1	1						x	x			

RELINQUISHED BY: E. Wielgopolski — DATE/TIME: 10/16/25 — RECEIVED BY: Fed Ex

RELINQUISHED BY: Fed Ex — DATE/TIME: 10-17-25 0950 — RECEIVED BY:

COMMENTS:

Received on Ice? ☑ Yes ☐ No — M&TE #: 015402

Temperature: 1.2-2.4 °C — Cal. Due Date: 05-27-24

CHAIN OF CUSTODY

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CONSUMERS ENERGY COMPANY – LABORATORY SERVICES

135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q4-2025 JC Weadock ASD

PROJECT NUMBER: 25-0755

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: E. Wielgopolski

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☒ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit

email:

phone:

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	PRESERVATIVE HNO_3	PRESERVATIVE H_2SO_4	PRESERVATIVE NaOH	PRESERVATIVE HCl	PRESERVATIVE MeOH	PRESERVATIVE Other	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0755-01	10/16/25	0950	GW	JCW-OW-18001	5	4	1						x	x	x	x	

RELINQUISHED BY: [signature] DATE/TIME: 10/16/25 1500 RECEIVED BY: Fed Ex

RELINQUISHED BY: Fed Ex DATE/TIME: 10-17-25 0950 RECEIVED BY: [signature]

COMMENTS:

Received on Ice? ☑ Yes ☐ No M&TE #: 015402

Temperature: 3.1 °C Cal. Due Date: 05-27-26

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135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251

SAMPLING SITE / CUSTOMER: Q4-2025 Weadock Leachate Wells

PROJECT NUMBER: 25-0756

SAP CC or WO#:

REQUESTER: Harold Register

SAMPLING TEAM: E. Wielgopolski; A. Whaley

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 3 DAYS ☑ STANDARD ☒ OTHER _____

SEND REPORT TO: Joseph Firlit — email: dlitz@trccompanies.com phone: 989-273-2016

COPY TO: Harold Register; TRC

MATRIX CODES: GW = Groundwater; WW = Wastewater; W = Water / Aqueous Liquid; S = Soil / General Solid; O = Oil; OX = Other _____; SL = Sludge; A = Air; WP = Wipe; WT = General Waste

ANALYSIS REQUESTED (Attach List if More Space is Needed)

QA REQUIREMENT: ☐ NPDES ☒ TNI ☐ ISO 17025 ☐ 10 CFR 50 APP. B ☐ INTERNAL INFO ☐ OTHER _____

LAB SAMPLE ID	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	MATRIX	FIELD SAMPLE ID / LOCATION	CONTAINERS TOTAL #	PRESERVATIVE None	HNO_3	H_2SO_4	NaOH	HCl	MeOH	Other	Low Level Mercury	Total Metals	Anions	TDS	Alkalinity	REMARKS
25-0756-01	10/13/25	1355	GW	LH-103R	6	4	1			1			x	x	x	x	x	
-02		1355	GW	LH-103R Dup	1					1			x					
-03		1355	GW	LH-103R MS	1					1			x					
-04		1355	GW	LH-103R MSD	1					1			x					
-05		1457	GW	LH-104	6	4	1			1			x	x	x	x	x	
-06		1457	GW	LH-104 Dup	1					1			x					
-07		1457	W	FB-02	1					1			x					
-08		1525	W	EB-02	1					1			x					
-09		—	W	TB-02	1					1			x					

RELINQUISHED BY: [signature] DATE/TIME: 10/13/25 1630 RECEIVED BY: FedEx

RELINQUISHED BY: Fed Ex DATE/TIME: 10/14/25 10:30 RECEIVED BY: [signature]

COMMENTS: Samples on ice, except LL Mercury (not required)

Received on Ice? ☑ Yes ☐ No M&TE #: 015402

Temperature: 0.8-3.2 °C Cal. Due Date: 5-27-26

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: A. Kast, E. Wielgosik	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-137759-29048.1
Client Contact: Jacob Krenz	Phone:	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin:	Page: Page 1 of 2
Company: TRC Environmental Corporation.	PWSID:			Job #:
Address: 1540 Eisenhower Place	Due Date Requested:			
City: Ann Arbor	TAT Requested (days): standard			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 734-971-7080(Tel) 734-971-9022(Fax)	PO #: 228027			
Email: JKrenz@trccompanies.com	WO #: 634698.0000			
Project Name: Karn/Weadock CCR JCW Lanfill	Project #: 24024154			
Site:	SSOW#:			

Analysis Requested

Preservation Codes: D - HNO3

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air, DW=Drinking Water)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	904.0, Ra226Ra228_GFPC	903.0 - Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D		
JCW-MW-18001	10/16/25	0900	G	Water	N	N	X	X	2	
JCW-MW-18004	10/15/25	1501		Water	N	N	X	X	2	
JCW-MW-18005	10/14/25	1220		Water	N	N	X	X	2	
JCW-MW-18006	10/14/25	0918		Water	N	N	X	X	2	
MW-50	10/15/25	0920		Water	N	N	X	X	2	
MW-51	10/15/25	~~0911~~ 1008		Water	N	N	X	X	2	
MW-52	10/15/25	1101		Water	N	N	X	X	2	
MW-53	10/16/25	1034		Water	N	N	X	X	2	
MW-53R	10/14/25	1602		Water	N	N	X	X	2	
MW-54R	10/14/25	1520		Water	N	N	X	X	2	
MW-55	10/14/25	1013		Water	N	N	X	X	2	

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	10/16/25 1500	TRC	TRC Fridge	10/16/25 1500	TRC
2	[signature]	10/17/25 0922	TRC	[signature]	10/17/25 0922	EETA
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: E. Wielgopolski, A. Kast	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-137759-29048.2
Client Contact: Jacob Krenz	Phone:	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin:	Page: Page 2 of 2
Company: TRC Environmental Corporation.	PWSID:			Job #:
Address: 1540 Eisenhower Place	Due Date Requested:			
City: Ann Arbor	TAT Requested (days): standard			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 734-971-7080(Tel) 734-971-9022(Fax)	PO #: 228027			
Email: JKrenz@trccompanies.com	WO #: 634698.0000			
Project Name: Karn/Weadock CCR JCW Lanfill	Project #: 24024154			
Site:	SSOW#:			

Analysis Requested

Preservation Codes: D - HNO3

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air, DW=Drinking Water)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	904.0, Ra226Ra228_GFPC	903.0 - Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D		
OW-57ROUT	10/14/25	1013	G	Water	N	N	X	X	2	
DUP-01	10/14/25	—		Water	N	N	X	X	2	
EB-01	10/14/25	1040		Water	N	N	X	X	2	
				Water						

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

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

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

Special Instructions/QC Requirements:

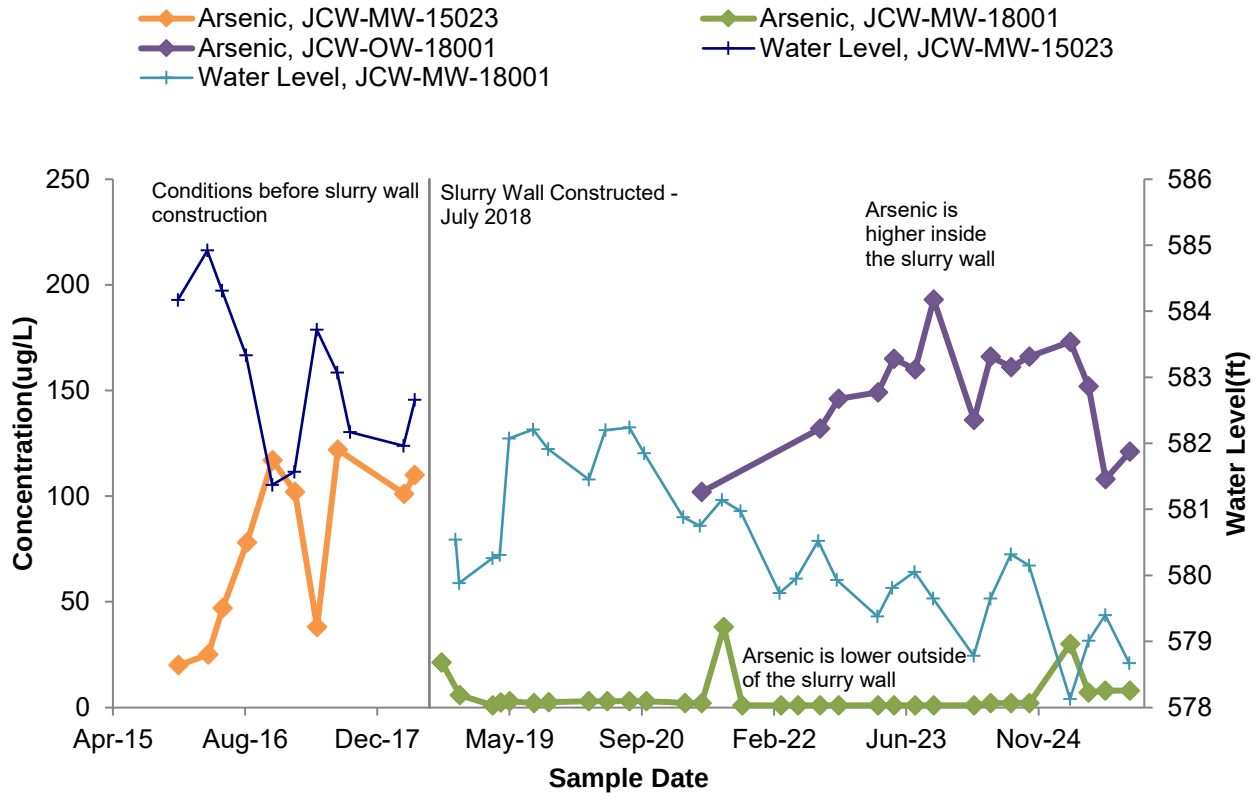
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by: Ashley Kelt	10/16/25 1500	TRC	TRC Storage	10/16/25 1500	TRC
Relinquished by:	10/17/25 0922	TRC		10/17/25 0922	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Appendix G
Alternate Source Demonstration Supporting Information

Figure G1: Time Series Plots for JCW-MW-18001 ASD



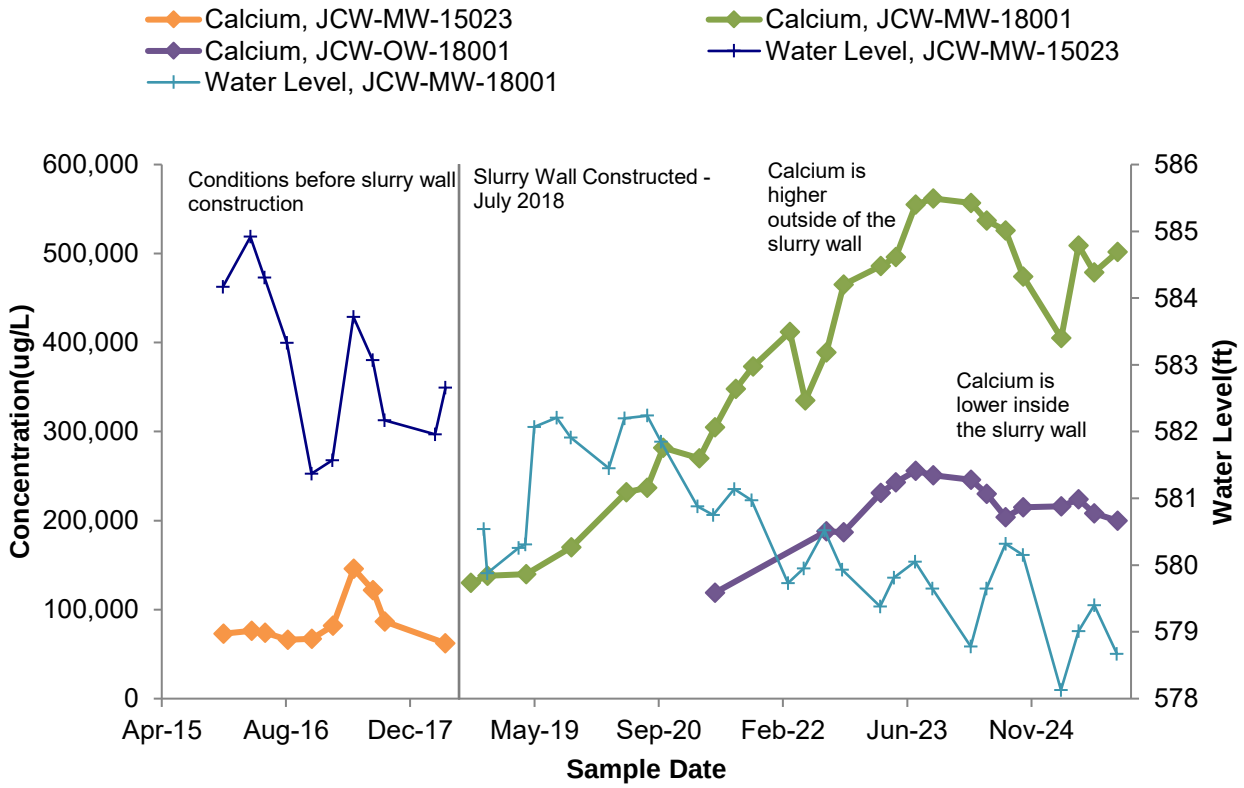
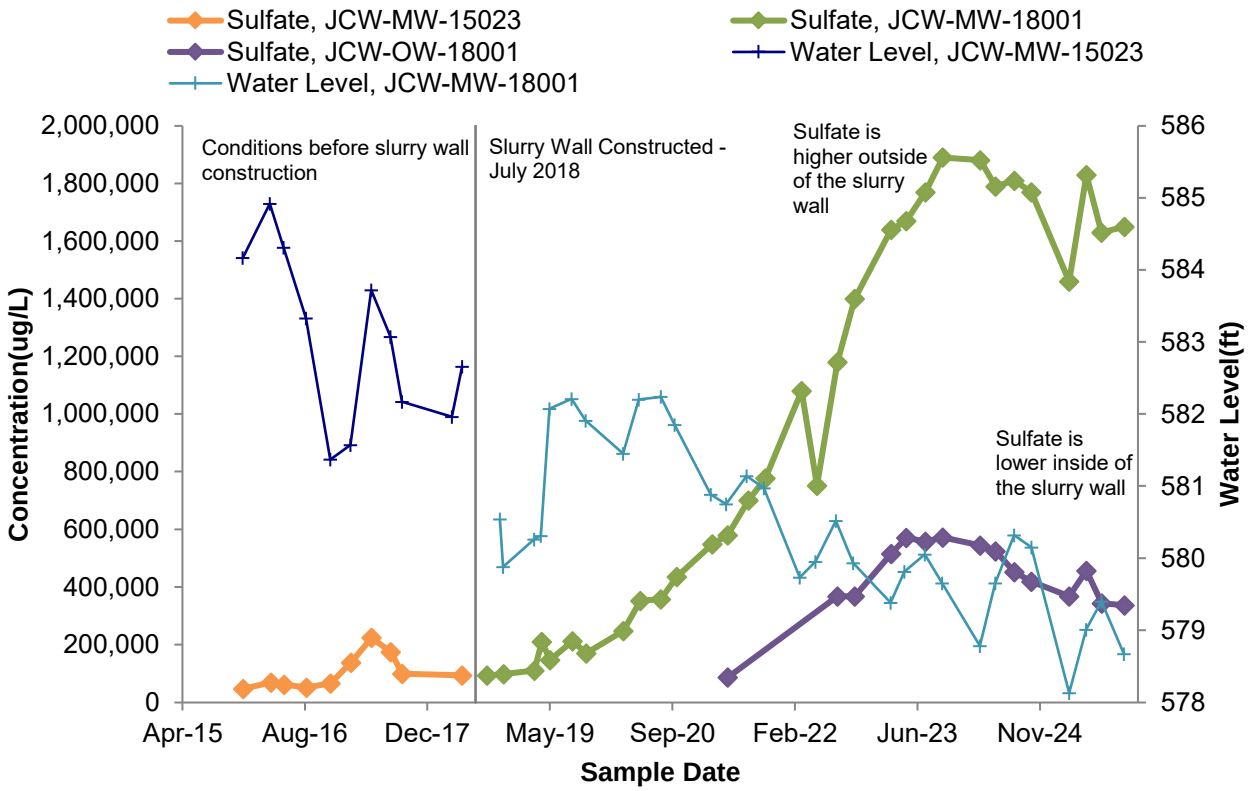


Figure G1: Time Series Plots for JCW-MW-18001 ASD



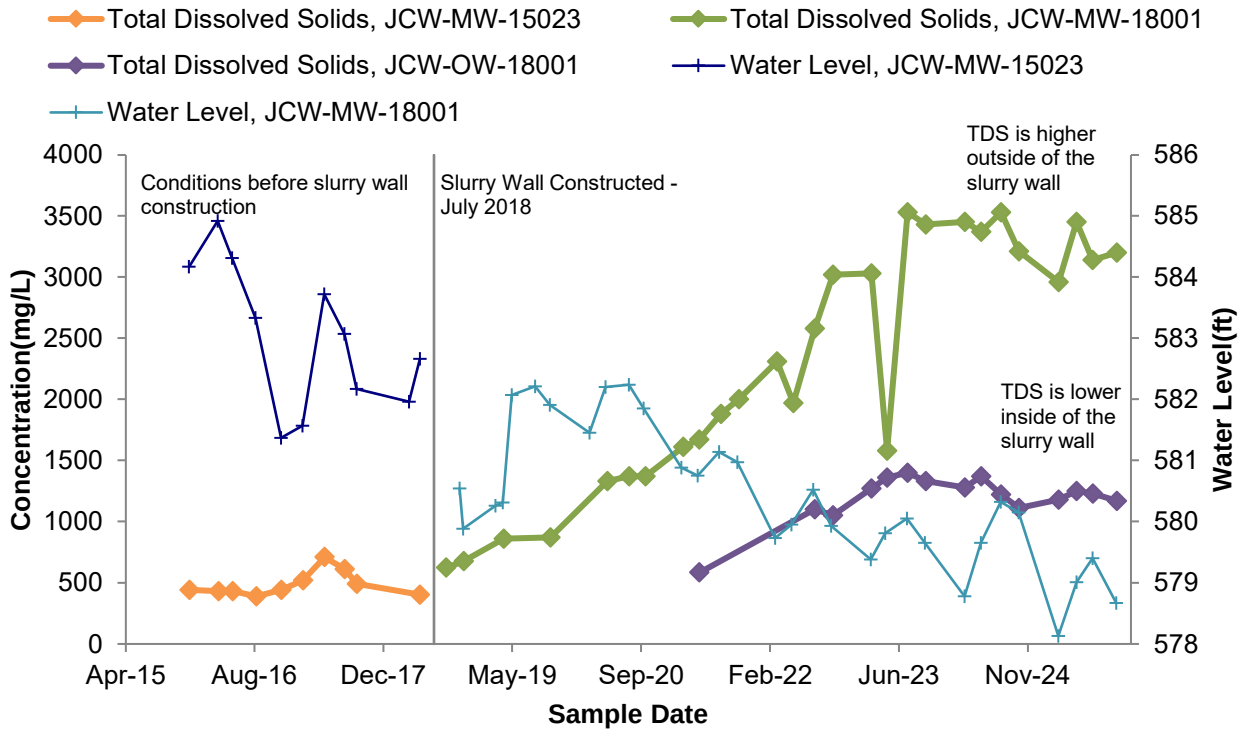
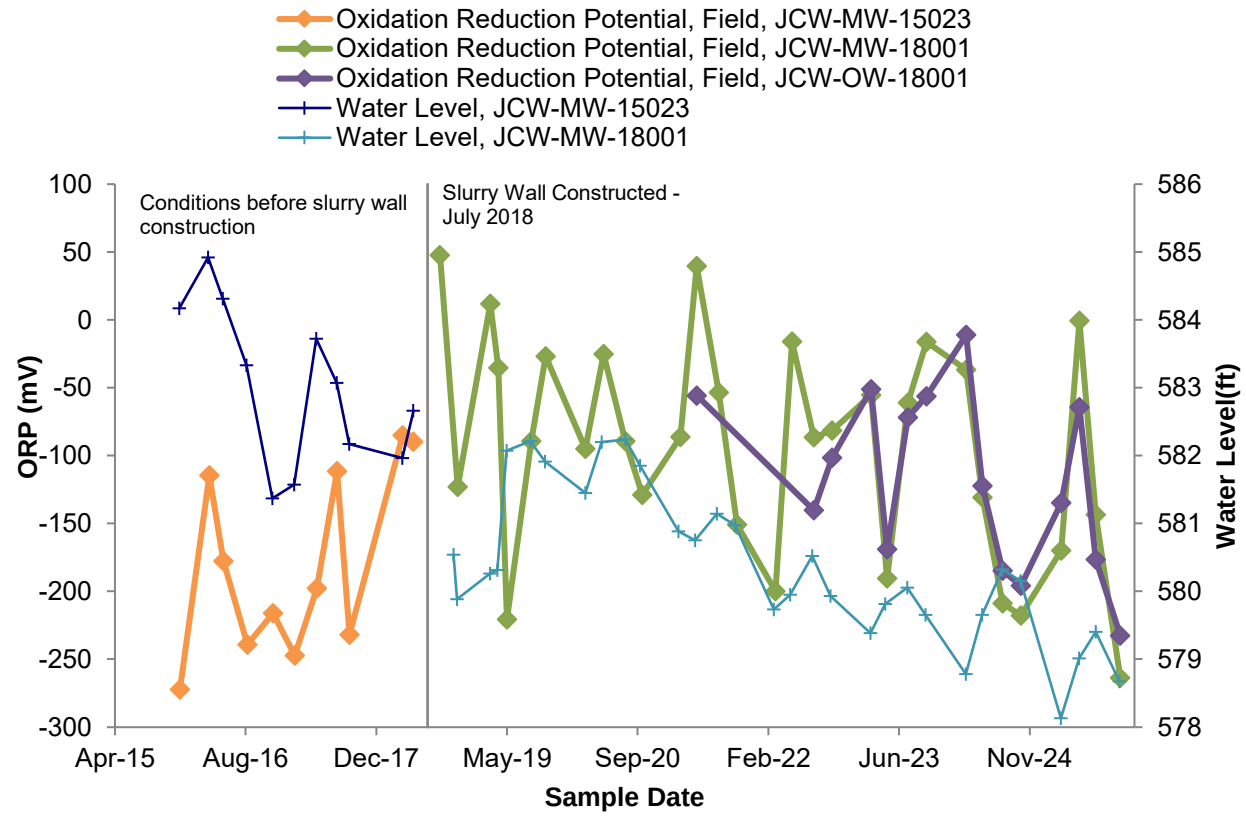


Figure G1: Time Series Plots for JCW-MW-18001 ASD



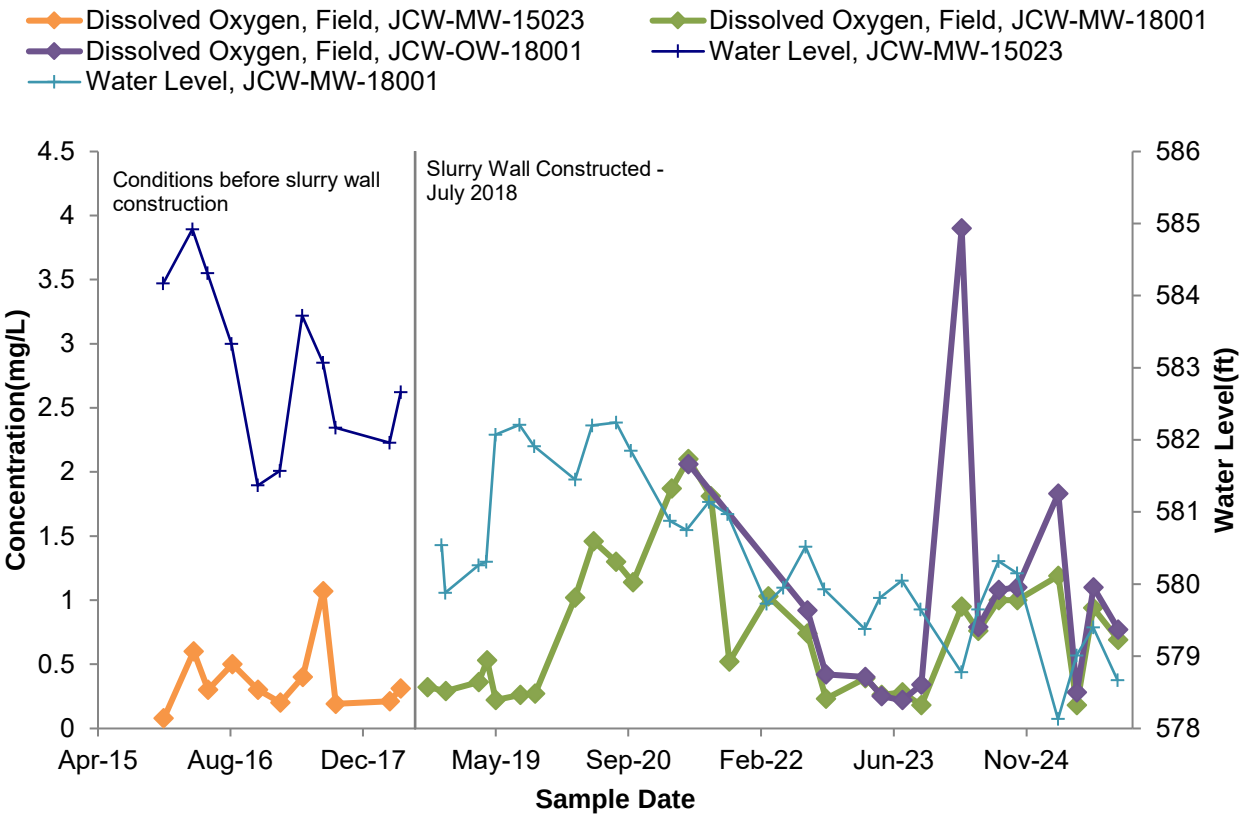


Figure G2: Time Series Plots for MW-55 ASD