



2025 Annual Groundwater Monitoring and Corrective Action Report

**Coal Combustion Residue (CCR) Landfill
Permit No. #70-SDP-06-82P**

Muscatine Power and Water

January 30, 2026

Certification

Annual Groundwater Monitoring and Corrective Action Report for the MPW CCR Landfill

Permit No. 70-SDP-06-82P

CCR Landfill

Muscatine, Iowa

Muscatine Power and Water

I certify this Annual Groundwater Monitoring and Corrective Action Report meets the requirements of 40 CFR §257.90(e).

	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.	
	 Michael J. Alowitz, P.E.	 Date
	License Number: 18160	
	My license renewal date is: December 31, 2026	
	Pages or sheets covered by this seal: Entire Document	

Executive Summary

In compliance with 40 CFR §257.90(e)(6), this executive summary provides an overview of the current status of groundwater monitoring and corrective action programs for Muscatine Power and Water (MPW) coal combustion residue (CCR) Landfill in Muscatine, Iowa.

Item	Current Status
(e)(6)(i) At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95;	At the start of the current annual reporting period, this CCR unit was operating under the assessment monitoring program (40 CFR §257.95).
(e)(6)(ii) At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95;	At the end of the current annual reporting period, this CCR unit was operating under the assessment monitoring program (40 CFR §257.95).
(e)(6)(iii) If it was determined that there was a statistically significant increase over background for one or more constituents listed in Appendix III to this part pursuant to §257.94(e):	
(A) Identify those constituents listed in Appendix III to this part and the names of the monitoring wells associated with such an increase; and	During the calendar year 2025 annual reporting period, statistically significant increases over background were detected for the following Appendix III constituents: — Boron at MW-14A, MW-15A, and MW-21 — Calcium at MW-14A — Chloride at MW-5B — pH (lower limit) at MW-21 — Sulfate at MW-14A — TDS at MW-14A
(B) Provide the date when the assessment monitoring program was initiated for the CCR unit.	The assessment monitoring program for this CCR unit was initiated in March 2018.
(e)(6)(iv) If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in Appendix IV to this part pursuant to §257.95(g) include all of the following:	No results were identified at a statistically significantly level above groundwater protection standards for appendix IV parameters during the 2025 monitoring period.
(A) Identify those constituents listed in Appendix IV to this part and the names of the monitoring wells associated with such an increase;	No SSIs were identified for Appendix IV parameters.

Item	Current Status
(B) Provide the date when the assessment of corrective measures was initiated for the CCR unit;	Assessment of corrective measures is not initiated for this CCR unit.
(C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and	No public meeting has been conducted or planned because the CCR unit is not subject to corrective measures.
(D) Provide the date when the assessment of corrective measures was completed for the CCR unit.	Corrective measures have not been initiated for this CCR unit.
(e)(6)(v) Whether a remedy was selected pursuant to §257.97 during the current annual reporting period, and if so, the date of remedy selection; and	No corrective measures are required.
(e)(6)(vi) Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.	No remedial activities are required.

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1. Introduction

This Annual Groundwater Monitoring and Correction Action Report (AGWMCAR) was prepared by GHD Services Inc. on behalf of Muscatine Power and Water (MPW) in compliance with the Federal Coal Combustion Residual (CCR) Rule (40 CFR Part 257) for the MPW CCR Landfill. The approximate 80-acre landfill site is located in the SW¼ of Section 16, Township 76 North, Range 3 West in Muscatine County (Figure 1). A site overview is provided on Figure 2.

MPW initiated baseline groundwater monitoring in accordance with the Federal CCR rule in June 2015. The initial eight rounds of baseline sampling and analysis were completed prior to the October 17, 2017, deadline established in the Federal CCR Rule (40 CFR § 257.94).

Two semiannual assessment monitoring events were conducted during 2025. The first event was conducted April 15-18, 2025, and the second event September 8-10, 2025. The 2025 semiannual assessment monitoring events were completed in accordance with 40 CFR §257.

The uppermost aquifer in the vicinity of the CCR Landfill consists of a glacial till and clayey silt. No perched water zones have been observed. The water table elevation fluctuates with regional changes and varies with topography and native stream flow patterns on the CCR Landfill site. A clay-rich glacial till functions as a lower confining limit and overlies a carbonate bedrock. The depth to bedrock is 335 feet based on a water well drilled at the Site maintenance shop located southwest of the monofill (Figure 3). Additional geologic details are included in the Groundwater Monitoring System and Sampling and Analysis Program (HR Green, 2017a).

1.1 Scope and limitations

This report: has been prepared by GHD for Muscatine Power and Water and may only be used and relied on by Muscatine Power and Water for the purpose agreed between GHD and Muscatine Power and Water as set out in this report.

GHD otherwise disclaims responsibility to any person other than Muscatine Power and Water arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section 5 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

2. Groundwater Monitoring Activities

2.1 Groundwater Monitoring Network

The routine groundwater monitoring network (Table 1) consists of 16 monitoring wells (denoted by MW-X) and one piezometer (PZ-5). Monitoring well MW-12 is screened in the lower confining unit glacial till; all other monitoring wells are screened in the Uppermost Aquifer. The piezometer is screened in CCR. Monitoring wells MW-8, MW-10, MW-22, and MW-23 are classified as background locations while monitoring wells MW-4A/4B, MW-5B, MW-6A, MW-14A, MW-15A, and MW-21 are downgradient monitoring locations. Monitoring wells MW-11, MW-12, MW-24, MW-26, and MW-27 are typically only used as water level gaging locations. Monitoring wells MW-24, MW-26, and MW-27 are supplemental and not part of the federal groundwater monitoring network. The monitoring locations are shown in Figure 3.

There were no changes in the monitoring system during the 2025 reporting period.

Monitoring well MW-22 was installed in 2018 to provide an additional background quality monitoring point. MW-23 was added as a background well in 2020.

Monitoring well MW-13 was determined to be an ineffective monitoring point and was abandoned in April 2019 following Iowa Department of Natural Resources (IDNR) approval. In March 2019, bentonite was observed in the casing of MW-18A, indicating damage to the point where it could no longer be used, and was subsequently abandoned in August 2019. Monitoring well MW-4A was damaged, abandoned, and replaced with MW-4B in 2020. No other monitoring wells under the federal monitoring program have been decommissioned or abandoned since 2020.

There are facility monitoring wells which are not part of the current Federal CCR groundwater monitoring system because under §257.95(f-g) there has been no statistical trigger to further characterize the nature of a release. These other wells were installed to comply with separate monitoring requirements established under State of Iowa CCR rule [567] IAC Chapter 103 and per IDNR request and include: MW-24 installed in 2018, and MW-26 and MW-27 installed in 2020.

Downgradient monitoring wells MW-4A/4B, MW-5B, and MW-6A are closely clustered within approximately 250 feet of each other; other downgradient locations are approximately 300-400 feet apart. Groundwater samples are used to assess the potential impacts of the MPW CCR Landfill on surrounding groundwater. Groundwater elevation data are used to identify upgradient and downgradient monitoring points. Well construction details are provided in Table 1.

2.2 Monitoring Well Inspection

During each sampling event, the monitoring wells are inspected, and conditions of concern documented. Monitoring wells are maintained with a cap and lockable protective casing. Observations include the condition of the protective casing/vault and surrounding ground surface. Monitoring wells in the groundwater monitoring system consist of 2-inch nominal inner-diameter polyvinyl chloride (PVC) casing and screen. The well pads for MW-4B, MW-26, and MW-27 were observed to need repair or replacement.

2.3 Sample Collection

Low-flow sampling was conducted using dedicated tubing and a peristaltic pump to purge water and collect samples. Prior to sample collection, the temperature, conductivity, pH, oxidation-reduction potential (ORP), dissolved oxygen, and turbidity of the purge water were measured using a calibrated multiparameter water quality instrument. The readings were recorded on well sampling records. Upon stabilization, unfiltered samples were collected in laboratory-supplied containers. Copies of the groundwater sampling records for the 2025 events are included in Appendix A. Field duplicate samples were collected for quality assurance/quality control purposes from MW-5 and MW-22 during the April 2025 event, and from MW-08 and MW-22 during the September 2025 event.

2.4 Analytical Parameters

A summary of groundwater sampling events is provided in Table 2. Groundwater samples were analyzed for the parameters lists specified in 40 CFR Part 257 Appendix III and Appendix IV (Table 3 and 4, respectively) for the two semiannual assessment monitoring events completed in 2025.

The laboratory analyses were conducted by Eurofins Environment Testing North Central, LLC (Eurofins) in Cedar Falls, Iowa with the exception of the radium 226 and 228 (combined) analyses which were conducted by Eurofins in St. Louis, Missouri. Analyses were conducted by the laboratory in accordance with the procedures and methods described in the United States Environmental Protection Agency (USEPA) Manual SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (September 1986)," as updated and/or in accordance with other approved testing procedures. Eurofins provided prepared sample containers for each monitoring event. Analytical reports from each sampling event report total (i.e., unfiltered) sample results in accordance with the Federal CCR rule.

Table 2 summarizes the number of groundwater samples collected for analysis from each monitoring well, the dates the samples were collected, and whether the sample was required by the baseline, detection monitoring, or assessment monitoring programs.

3. Groundwater Flow Conditions

Groundwater levels were measured during each monitoring event. Piezometer PZ-5 was dry during each monitoring event in 2025. Groundwater elevations are presented in Table 1. Field depth to water measurements are included in Appendix A on sample collection records for those wells where samples are collected.

3.1 Horizontal Groundwater Flow

Groundwater flow maps were prepared using water level measurements from each monitoring event (Figures 4 and 5). The overall groundwater flow direction is generally southward, mimicking topography and surface water flow patterns. Groundwater flows from the west and east toward the center of the Site before flowing southward toward the Farm Pond (the northern extent of this pond is shown on Figures 4 and 5). This pattern is consistent with historical observations.

3.2 Horizontal Hydraulic Gradient and Groundwater Flow Velocity

Hydraulic conductivity data for the alluvial aquifer are estimated at 1.0E-5 to 1.0E-4 centimeters per second (cm/s) or 0.008 to 0.08 meters per day (m/d) (HR Green, 2017a). For calculation purposes, a hydraulic conductivity of 0.04 m/d is assumed.

The average linear groundwater velocity at the water table was estimated based on hydraulic conductivity, horizontal gradient, and the estimated porosity of the formation using the following equation:

$$V = Ki/n$$

Where V equals the average linear velocity; K equals the hydraulic conductivity (0.04 m/day); i equals the average horizontal hydraulic gradient; and n equals the effective porosity (estimated at 0.3). The average linear groundwater flow velocity in the shallow alluvial aquifer was estimated at 0.002 m/day (approximately 2 to 3 feet per year) for both of the 2025 monitoring events. The estimated horizontal gradients and average linear groundwater flow velocities for each of the monitoring events is summarized in Table 5.

3.3 Vertical Hydraulic Gradient

Water levels measured in monitoring well pairs MW-8/MW-9, MW-10/MW-11, and MW-11/MW-12 during the two 2025 gauging events, where both wells in each nest were gauged, were used to calculate vertical hydraulic gradients. The vertical hydraulic gradients were calculated by the following equation:

$$\text{Water Elevation in Deep Well} - \text{Water Elevation in Shallow Well}$$

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

The difference in groundwater elevations between nested pairs of wells is variable, ranging from 0.03 (at the MW-11/MW-12 well pair during the April 2025 gauging event) to a maximum difference of 13.01 feet (at the MW-8/MW-9 well pair during the September 2025 gauging event).

The vertical hydraulic gradients ranged from -0.826 (downward-directed flow) in well cluster MW-8/MW-9 (September 2025) to 0.057 (upward-directed flow) in well clusters MW-10/MW-11 (September 2025).

Vertical gradients were in the upward direction during both 2025 gauging events at well clusters MW-10/MW-11. The vertical gradient was in the downward direction during both 2025 monitoring events at well cluster MW-8/MW-9. Vertical gradient was upward in April 2025 monitoring event, and then downward in September 2025 monitoring event at well cluster MW-11/MW-12. The vertical hydraulic gradients for each monitoring event are summarized in Table 6.

3.4 Monitoring Well Network Assessment

The MPW CCR Landfill groundwater monitoring network meets the Federal CCR rule requirements of having at least one upgradient monitoring well and three downgradient monitoring wells, and the groundwater monitoring network meets the design and construction requirements of 40 CFR §257.91. Monitoring wells MW-8, MW-10, MW-22, and MW-23 have been identified as upgradient sampling locations.

4. Groundwater Monitoring

Groundwater sample collection records for the 2025 monitoring events are provided in Appendix A. The associated laboratory reports are provided in Appendix B. Statistical analysis of the analytical data was performed by Groundwater Stats Consulting (GW Stats). Statistical analysis, historic and current data, graphs, and supporting information are provided in GW Stats' report in Appendix C.

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

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

The statistical methods used in these evaluation steps for the MPW CCR Landfill are presented in the Groundwater Monitoring System and Sampling and Analysis Program (GWMSSAP) document (HR Green, 2017a). The procedures in the MSSAP were selected in accordance with the Federal CCR rule, using methodology presented in the USEPA's Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance (Unified Guidance) (USEPA, 2009). The present evaluation uses the statistical methods presented therein to evaluate monitoring data from groundwater samples collected during the 2025 assessment monitoring events.

Originally, baseline monitoring under the Federal CCR rule occurred at the MPW CCR Landfill during eight monitoring events conducted between June 2016 and August 2017. For background monitoring well MW-22, the baseline period was March 2018 to April 2021 and for background well MW-23, the baseline period was June 2018 to September 2021. Baseline and other sampling event history are summarized in Table 2.

4.1 Statistical Analysis Approach

Groundwater monitoring at MPW CCR Landfill is currently conducted under assessment monitoring per the Federal CCR rule. The 2025 assessment monitoring data are presented in Appendix C and Table 10. During both 2025 semiannual assessment monitoring events all Appendix III and Appendix IV parameters were analyzed in accordance with 40 CFR §257.95(d)(1).

No single method of statistical analysis is appropriate for each groundwater constituent dataset; instead, the statistical methods selected for use are dependent upon the data and distributions and should consider the specific constituents and the nature of local hydrogeologic conditions. Depending on characteristics of the site and the groundwater monitoring data, a mix of inter-well (comparison vs. upgradient conditions) and intra-well (comparison vs. baseline) tests may be warranted. The statistical methods used for the inter-well and intra-well approaches are selected based

on these factors as well as consideration of natural temporal or spatial variability of the concentrations of the groundwater constituents.

The analyzed data were used to calculate statistical limits for each well/constituent pair where there are a significant quantity of results above the reporting limit. Statistical calculations were performed by Groundwater Stats using industry standard SANITAS™ Statistical Software, an EPA-compliant package (EPA, 2009). The full procedure is as detailed in the GWMSSAP (HR Green, 2017a).

The statistical report dated December 15, 2025, incorporates data collected through 2025 and the corresponding statistical analyses, including narratives, background limits, prediction limits, statistically significant increases (SSI), trend tests, confidence intervals, statistically significant levels (SSL), and groundwater protection standards (GWPS), and time-series plots is provided in Appendix C and discussed below.

4.2 Discussion of Findings

Groundwater at the MPW CCR Landfill has been analyzed under the Federal CCR rule since 2016. The first two years of data were to collect baseline samples. Sampling history is described in the following subsections.

Appendix III constituents include boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids (TDS). Appendix IV constituents include antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226+228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium.

4.2.1 2016-2017 Groundwater Monitoring

Establishment of background water quality occurred by testing all wells for Appendix III and IV constituents during the period of June 2016 through August 2017 (8 sampling events, spaced to capture seasonality), following which the detection monitoring program was initiated.

The first detection monitoring event was on October 16, 2017, where Appendix III constituents were tested. An initial 22 well/constituent pairs were determined to exceed their respective statistical limits (Groundwater Stats Consulting, November 15, 2017), which are called initial SSIs, above background concentration.

A resampling event for the 22 well/constituent pairs was conducted on November 28, 2017, to confirm that each is in fact an SSI and not a false positive. Based on re-sampling and statistical analysis there were 3 false positives (calcium, sulfate, and TDS at MW-13) and 19 confirmed SSIs (Groundwater Stats Consulting, December 19, 2017).

Under §257.95(a), the confirmed SSI directed the facility transition into assessment monitoring beginning in 2018.

4.2.2 2018-2024 Groundwater Monitoring

Assessment monitoring commenced in 2018 with the analysis of Appendix III and IV constituents. The events were conducted in the spring and fall of each year. These events satisfy the requirement of semiannual and assessment monitoring. Specifically, assessment monitoring was initiated at the March 6, 2018, event, where the full Appendix III and Appendix IV constituent lists were tested.

4.2.3 2025 Groundwater Monitoring

Assessment monitoring was completed in 2025 for Appendix III and IV constituents. The events were conducted in April and September of 2025. These events satisfy the requirement of semiannual and assessment monitoring requirements. Detected Appendix IV parameters are identified in Table 7.

Table 8 provides a current groundwater monitoring program summary including:

1. The current monitoring program status,
2. Planned change in monitoring program status for the next sampling event,
3. Confirmed statistically significant increases (SSI) over background,

4. Statistically significant trends,
5. Statistically significant level (SSL) over a groundwater protection standard (GWPS), and
6. Upcoming sampling dates and constituents (as best as can be determined at this point in time).

The information shown in Table 8 shows that the concentrations of several constituents remain at a statistically significant increase above background (i.e., SSL), but that Appendix IV analytes are below the GWPS, that is, there were no SSLs identified. GWPSs are shown in Table 9 along with background concentrations.

The facility is required to continue assessment monitoring in 2026, as shown in Table 3, due to detections above background concentrations at multiple well locations.

In summary, the current-year review indicates:

1. Monitoring wells remain viable sampling points as they are physically intact (pending repair of multiple well pads), void of excessive sediment, and provide the anticipated recharge during sampling, with the exception of MW-13 and MW-18A which were abandoned in 2019, and MW-4A which was abandoned and replaced with MW-4B in 2020.
2. The primary groundwater flow path is from the west and east toward the center of the Site before flowing southward toward the Farm Pond. (Figures 4 and 5).
3. Analytical results indicate the landfill's primary impact on groundwater quality is from Appendix III constituents, including boron, calcium, chloride, sulfate, and TDS in the immediate area downgradient of the active landfill (MW-14A and MW-15A) and vicinity of the sediment runoff control pond (MW-5B and MW-21).

4.3 Comparison to Groundwater Protection Standards

During the April and September 2025 semiannual assessment monitoring events, Appendix III and Appendix IV parameters were analyzed. The 2025 sample results are compared to the Groundwater Protection Standards (GWPSs), as described in 40 CFR §257.95(h):

(h) The owner or operator of the CCR unit must establish a groundwater protection standard for each constituent in appendix IV to this part detected in the groundwater. The groundwater protection standard shall be:

(1) For constituents for which a maximum contaminant level (MCL) has been established under §§141.62 and 141.66 of this title, the MCL for that constituent;

(2) For the following constituents:

- (i) Cobalt 6 micrograms per liter (µg/l)*
- (ii) Lead 15 µg/l;*
- (iii) Lithium 40 µg/l; and*
- (iv) Molybdenum 100 µg/l.*

(3) For constituents for which the background level is higher than the levels identified under paragraphs (h)(1) and (h)(2) of this section, the background concentration.

The resulting site-specific GWPS values for Appendix IV parameters at the Site are summarized in Table 9. Comparisons of the 2025 monitoring data to the GWPS values are presented below for Appendix III and Appendix IV parameters. No sample results exceeded a GWPS in 2025.

4.3.1 Appendix III Analytes

- Boron: No MCL has been established for boron. The maximum boron concentration detected during 2025 was 16.1 milligrams per liter (mg/L) at MW-14A.
- Calcium: No MCL has been established for calcium. The maximum calcium concentration detected during 2025 was 286 mg/L at MW-14A.

- Chloride: No MCL has been established for chloride. The maximum chloride concentration detected during 2025 was 42 mg/L at MW-5B.
- Fluoride: Fluoride has an MCL of 4 mg/L and is included on both the Appendix III and Appendix IV analyte lists. Fluoride was reported at each monitored location during each 2025 event with a maximum concentration of 0.293 mg/L at MW-15A in September.
- pH: No MCL has been established for pH. The highest and lowest pH recorded during the 2025 monitoring events were 7.6 (at MW-22) and 6.8 (at MW-21).
- Sulfate: No MCL has been established for sulfate. The maximum sulfate concentration detected during 2025 was 953 mg/L at monitoring well MW-14A.
- TDS: No MCL has been established for TDS. The maximum TDS concentration detected during 2025 was 1,870 mg/L at monitoring well MW-14A.

4.3.2 Appendix IV Analytes

- Antimony: No detectable concentrations of antimony were reported in any of the samples collected during the 2025 monitoring events. The statistical background limit calculated for antimony is 0.002 mg/L which is below the established MCL of 0.006 mg/L.
- Arsenic: Arsenic has an MCL of 0.01 mg/L. The maximum arsenic concentration detected during 2025 was 0.00768 mg/L at MW-22.
- Barium: Barium was detected in all monitored wells during the 2025 monitoring events; however, the detected levels were below the MCL for barium (2.0 mg/L) with a maximum concentration of 0.0256 mg/L at monitoring well MW-5B.
- Beryllium: No detectable concentrations of beryllium were reported in any of the samples collected during 2025. The beryllium reporting limit is 0.001 mg/L, which is below the established MCL (0.004 mg/L).
- Cadmium: Cadmium was not detected in any of the samples collected in the 2025 monitoring events. The statistical background limit calculated for cadmium is 0.0001 mg/L, which is below the established MCL (0.005).
- Chromium: Chromium was detected only in MW-21 with a concentration of 0.00647, which is above the background limit of 0.005, but below the established MCL of 0.1 mg/L.
- Cobalt: The GWPS for cobalt in groundwater at the Site is 0.006, the maximum cobalt concentration detected during the 2025 event was 0.00247 at upgradient well MW-4B.
- Lead: The established CCR rule GWPS for lead is 0.015 mg/L with the background limit for Site calculated at 0.002 mg/L. Only one detectable concentration of lead was reported in any of the samples collected during 2025, 0.00115 at MW-23.
- Lithium: No MCL has been established for lithium; the CCR rule GWPS is 0.04 mg/L. Lithium was detected at a maximum concentration of 0.0185 at MW-21, which is below the GWPS.
- Mercury: Mercury has an MCL of 0.002, and a background limit set at 0.0002 mg/L. There were no detections of mercury in any of the samples collected during the 2025 monitoring period.
- Molybdenum: There is no MCL established for molybdenum, the GWPS is 0.1 mg/L and there is a background limit of 0.0082 mg/L. Upgradient monitoring well MW-15A had the maximum detection with a concentration of 0.0109 mg/L, which is below the GWPS.
- Radium 226 and 228 (combined): Combined radium levels were detected in many of the wells; however, detected concentrations were below the MCL of 5 picocuries per liter (pCi/L) and most were below the background limit of 1.15 pCi/L. MW-5B, MW-6A, MW-14A and MW-23 did have levels at or above the background limit, at 1.17 pCi/L, 1.33 pCi/L, 1.54 pCi/L and 1.96 pCi/L respectively.
- Selenium: Selenium has an established MCL of 0.05 mg/L. The background limit for selenium is 0.005 mg/L. Selenium was only detected in the spring 2025 sample from MW-21, at a concentration of 0.00832 mg/L.
- Thallium: Thallium has an established MCL of 0.002 mg/L and a background limit of 0.001 mg/L. There was no thallium detected in any sample taken during the 2025 monitoring period.

5. Conclusions and Recommendations

This AGWMCAR documents groundwater monitoring conducted at the Site during the 2025 reporting period. During the reporting period, two assessment monitoring events were completed at the site.

5.1 Groundwater Flow and Evaluation of the Monitoring Network

The groundwater flow was consistent through the spring and fall 2025 monitoring events, with flow direction generally towards the runoff pond west of the landfill area and then south off site. The groundwater contour maps (Figures 4 and 5) indicate the monitoring network is sufficient and has appropriately located background and downgradient well locations.

5.2 Groundwater Quality

Monitoring data from samples collected during the past year (April and September 2025 assessment monitoring events) were evaluated. The key findings of the evaluation are:

- Inter-well comparisons – below is a summary of well/constituent pairs that had at least one observation outside of upgradient background conditions during the 2025 monitoring period. Confirmed SSIs were identified for:
 - Boron at MW-14A, MW-15A, and MW-21
 - Calcium at MW-14A
 - Chloride at MW-5B
 - Sulfate at MW-14A
 - TDS at MW-14A

Statistical analysis indicates that the concentrations of multiple constituents remain above background limits (see SSI on Table 8), however, during 2025 there were no Appendix IV constituents that exhibited a statistically significant level (SSL) above a GWPS. As such this site will continue in assessment monitoring.

5.3 Recommendations

Based on the evaluation findings, the MPW Site remains in assessment monitoring. No changes to the monitoring network or sampling procedures are necessary.

6. References

Green Environmental Services (GES), November 21, 1991. Coal Combustion Residue Landfill Development Plans and Supporting Documentation, Muscatine Power and Water; and Supplemental Plan Sheets 16 and 18 dated January 29, 1993.

Green Environmental Services (GES), October 25, 1991. Hydrogeologic Evaluation of the Muscatine Power and Water Coal Combustion Residue Landfill.

Green Environmental Services (GES), June 1990. Hydrogeologic Evaluation Work Plan for the Muscatine Power and Water Coal Combustion Residue Landfill.

GHD, January 26, 2024. 2023 Annual Groundwater Monitoring and Correction Action Report, Coal Combustion Residue (CCR) Landfill Permit No. #70-SDP-06-82P, Muscatine Power and Water.

Groundwater Stats Consulting, November 17, 2022. Summary of statistical analysis used to establish baseline water quality, SSI and SSL. Includes the analysis of 19 sample events conducted from June 2016 through September 2022.

HR Green, 2023. 2022 Annual Groundwater Monitoring and Corrective Action Report. January 2023.

HR Green, January, 2021. Annual Water Quality Report, addressing State of Iowa [567] IAC Chapter 103 rule and landfill operating permit requirements.

HR Green, December 23, 2022. Annual Inspection Report, Muscatine Power & Water, CCR Landfill.

HR Green, December 19, 2022. Annual CCR Fugitive Dust Control Report, Muscatine Power & Water, CCR Landfill.

HR Green, October 17, 2021. Run-On and Run-Off Control System Plan, Muscatine Power & Water, CCR Landfill.

HR Green, April 22, 2019. Existing Final Cover Verification Report, Muscatine Power & Water, CCR Landfill.

HR Green, December 5, 2018. CCR Fugitive Dust Prevention and Control Plan, Muscatine Power & Water, CCR Landfill (original October 19, 2015).

HR Green, 2017a. Groundwater Monitoring System and Sampling and Analysis Program, CCR Landfill (original May 18, 2016). May 2, 2017.

HR Green, June 2017b. Procedure for Groundwater and Surface Water Sampling. (Updated November 2018.)

HR Green, October 17, 2016. Closure and Post-Closure Plan, Muscatine Power & Water, CCR Landfill.

HR Green, January 17, 2012. CCR Landfill Cell Development – Phase II Expansion Plans, Muscatine Power and Water.

Iowa Administrative Code [567], Chapter 103 Sanitary Landfills: Coal Combustion Residue.

Iowa Department of Natural Resources (IDNR) Landfill Operating Permit No. 70-SDP- 06-82P dated August 8, Muscatine Power and Water.

Iowa Geological Survey, 2010. The Iowa State-Wide Trace Element Soil Sampling Project: Design and Implementation: Iowa Department of Natural Resources, Iowa Geological and Water Survey, Open File Report 10-1, June 2010.

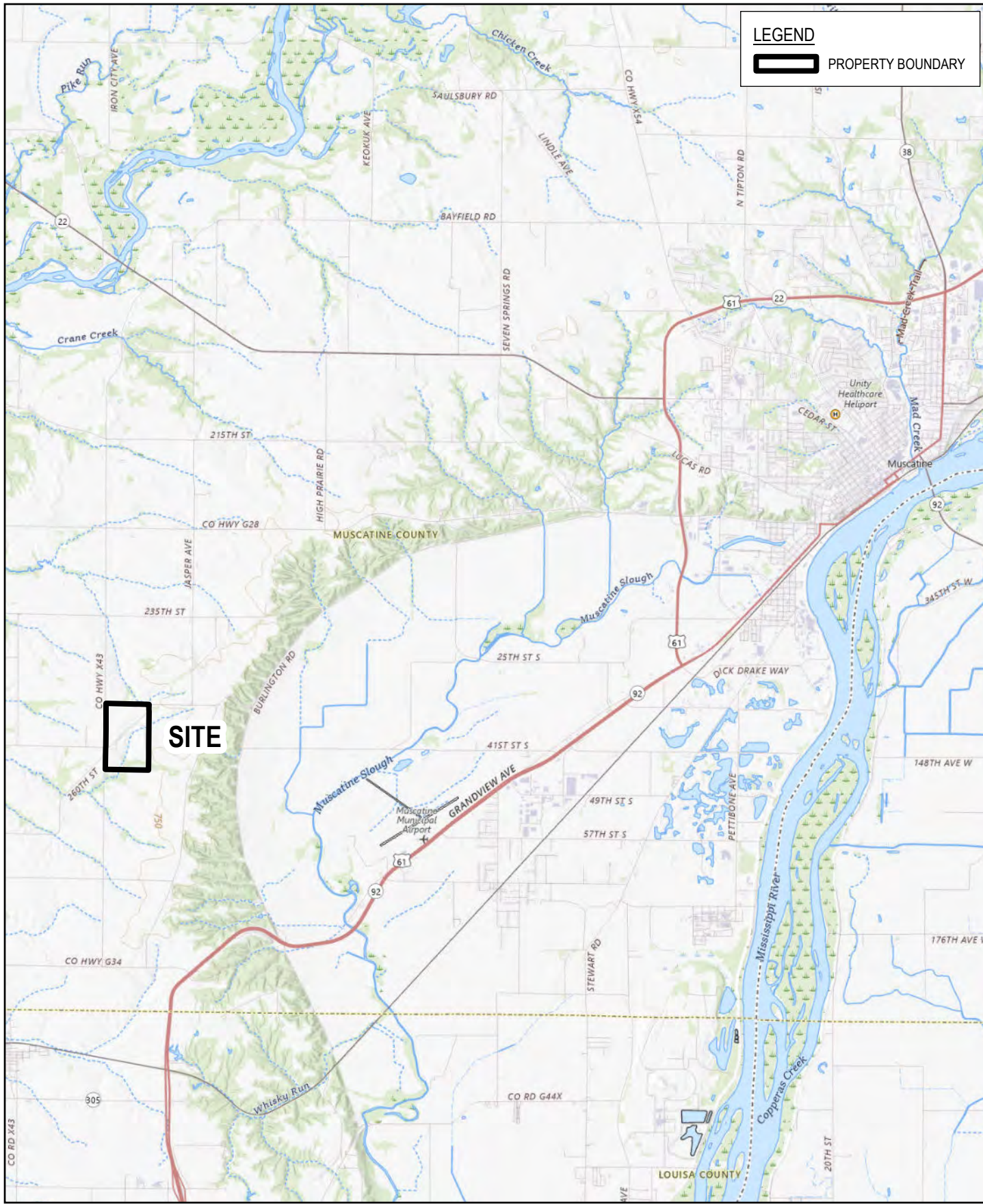
Muscatine Power and Water. *Federal CCR Rule Compliance Data and Information*, publicly accessible Internet site at <https://www.mpw.org/utilities/electric/ccr-rule>.

Muscatine Power and Water, October 2, 2008, December 17, 2009, and March 30, 2010. Supplemental Information relating to landfill development.

U.S. Environmental Protection Agency (EPA), 2015. Published in Federal Register Volume 80, No. 74 published on April 17, 2015, *Final Rule 40 CFR Part 257 Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities*; and *Technical Amendments* published in Federal Register Volume 80, No. 127 on July 2, 2015 (correcting the effective date); and Volume 83, No. 146 on July 30, 2018 (revising groundwater protection standards for four constituents which do not have an established MCL).

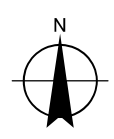
U.S. Environmental Protection Agency (EPA), March 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. Office of Resource Conservation and Recovery Program Implementation and Information Division, U.S. EPA, Washington, DC. EPA 530/R-09-007.

Figures



LEGEND
 PROPERTY BOUNDARY

Paper Size ANSI A
 0 0.5 1 1.5
 Miles



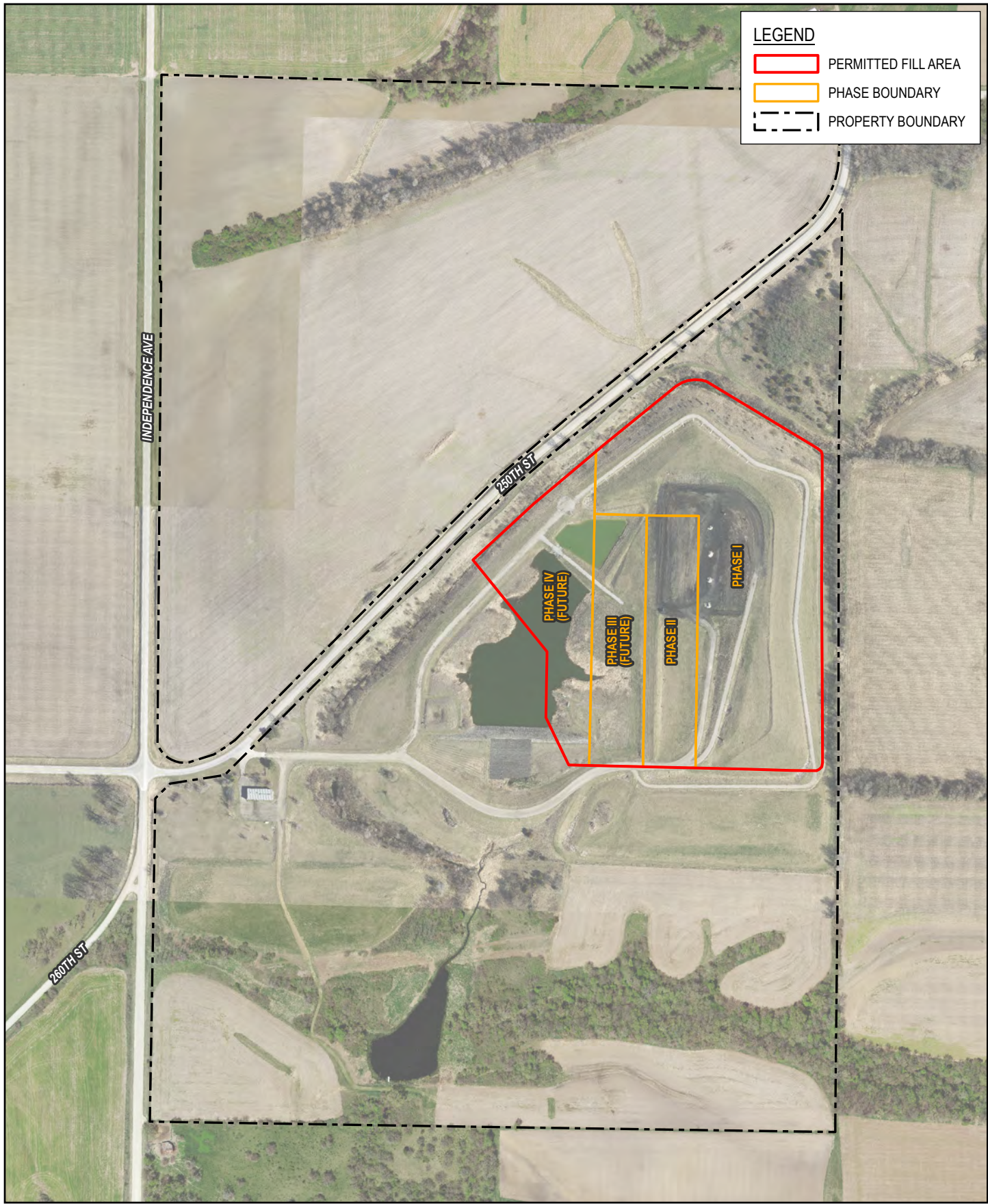
**MUSCATINE POWER AND WATER
 CCR LANDFILL
 MUSCATINE, IOWA**

Project No. 12606359
 Revision No. -
 Date 11/25/2025

Map Projection: Transverse Mercator
 Horizontal Datum: NAD 1983 2011
 Grid: NAD 1983 (2011) IARCS zone 14

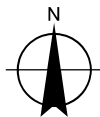
SITE LOCATION

FIGURE 1



Paper Size ANSI A
0 100 200 300 400 500
Feet

Map Projection: Transverse Mercator
Horizontal Datum: NAD 1983 2011
Grid: NAD 1983 (2011) 1aRCS zone 14

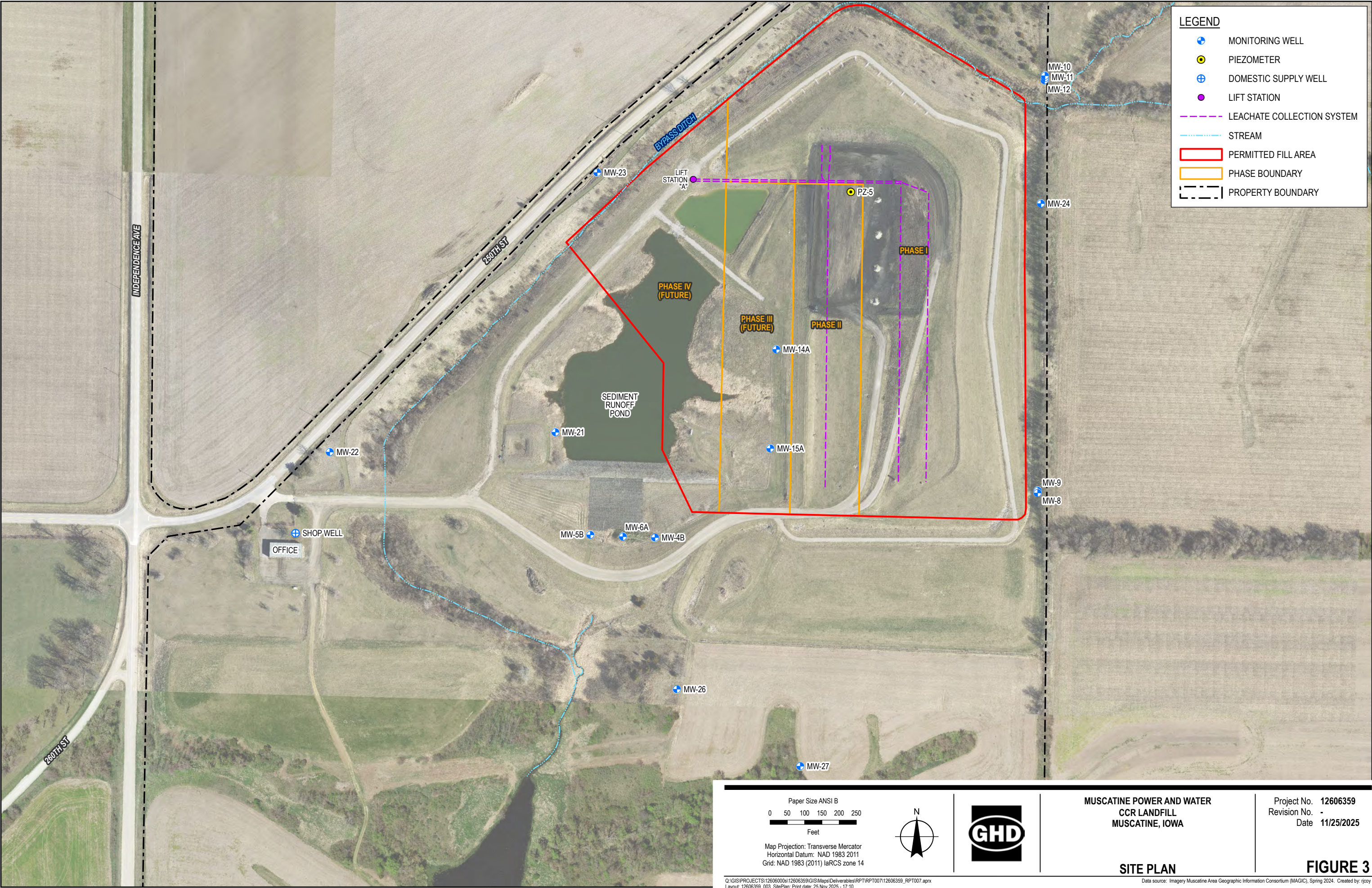


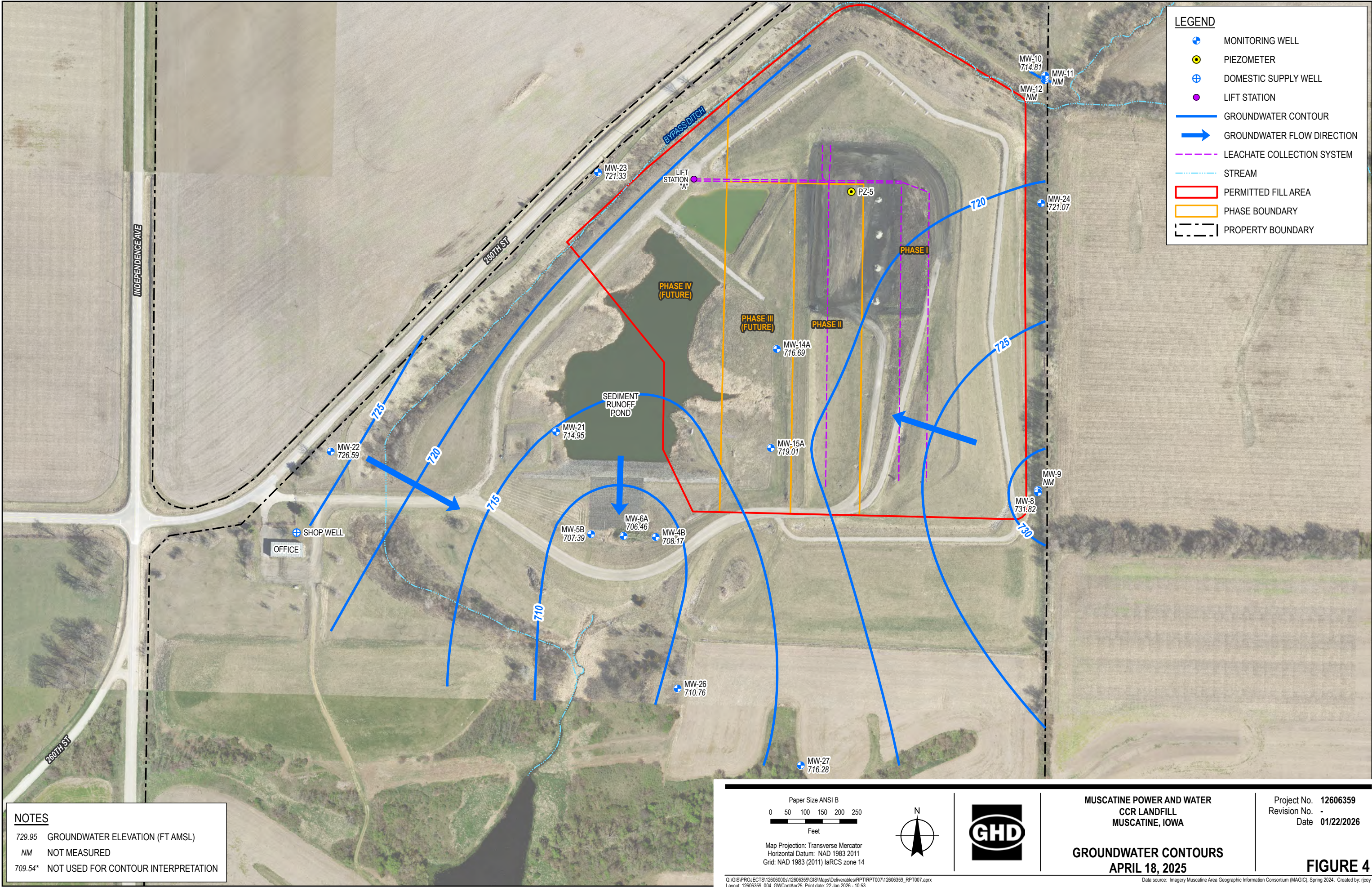
MUSCATINE POWER AND WATER
CCR LANDFILL
MUSCATINE, IOWA

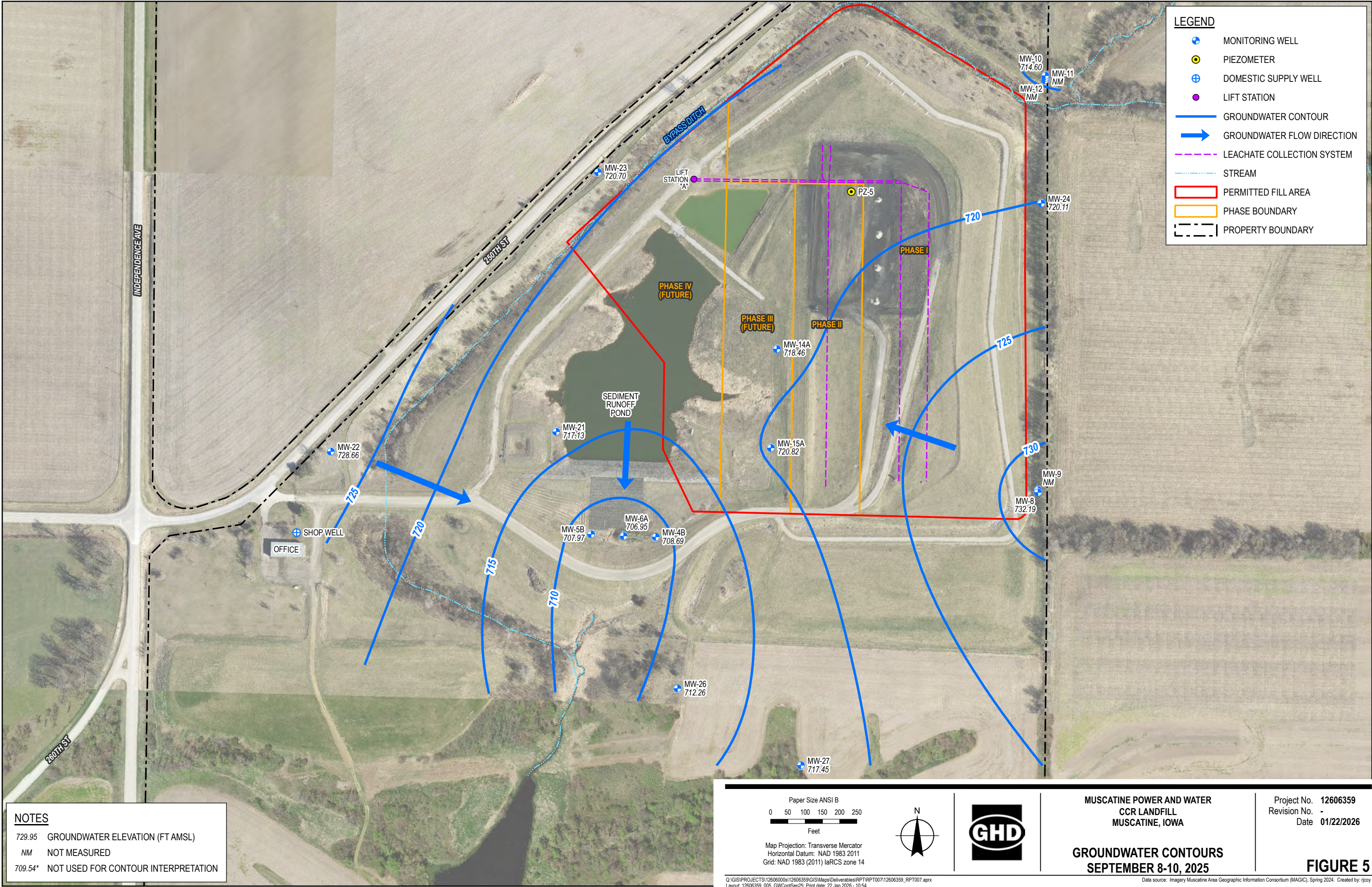
Project No. 12606359
Revision No. -
Date 11/25/2025

SITE OVERVIEW

FIGURE 2







Tables

Table 1

**Summary of Monitoring Wells and Piezometers
2025 Groundwater Monitoring and Corrective Action Report
Muscatine Power and Water CCR Landfill
Permit No. #70-SDP-06-82P**

Well ID			WELL CONSTRUCTION ⁽²⁾					Function	Hydrogeologic Unit	WATER LEVELS (Feet, amsl) ⁽³⁾				
	State Plane ⁽¹⁾		Elevation		Well Depth	Screen Length	Screened Lithology			Low	High	Vertical Gradient ⁽⁴⁾	4/18/2025	9/10/2025
	Northing	Easting	Top of Well Casing	Ground										
PZ-5	511,495	2,269,505	729.63	727	10.00	1	CCR	Piezometer	CCR	DRY	DRY	NA	DRY	DRY
MW-4B ⁽⁵⁾	510,484	2,268,975	715.87	712.04	24.70	10	Clay, Silt	Monitoring	Uppermost Aquifer	705.73	710.01	NA	708.17	708.69
MW-5B	510,485	2,268,777	709.10	706.73	25.30	10	Silt, Clay	Monitoring	Uppermost Aquifer	704.07	708.31	NA	707.39	707.97
MW-6A	510,482	2,268,871	708.92	706.49	25.35	10	Silt, Sand	Monitoring	Uppermost Aquifer	704.47	706.95	NA	706.46	706.95
MW-8	510,639	2,270,068	747.36	744.37	42.95	10	Till	Monitoring	Uppermost Aquifer	727.50	737.74	NA	731.82	732.19
MW-9	510,646	2,270,068	747.12	744.40	58.74	10	Till	Piezometer	Uppermost Aquifer	719.18	729.75	NA	725.02	719.18
MW-10	511,846	2,270,058	718.51	716.32	20.32	10	Silt, Till	Monitoring	Uppermost Aquifer	710.89	715.10	NA	714.81	714.60
MW-11	511,840	2,270,058	718.34	716.00	55.97	10	Till, Sand	Piezometer	Uppermost Aquifer	712.87	718.34	NA	715.45	716.66
MW-12	511,833	2,270,057	717.75	715.40	86.42	5	Till	Piezometer	Lower Confining Unit	713.13	717.75	NA	715.48	716.25
MW-14A	511,035	2,269,301	729.00	726.19	20.50	10	Silt, Till, Clay	Monitoring	Uppermost Aquifer	712.59	719.96	NA	716.69	718.46
MW-15A	510,748	2,269,291	729.99	727.12	20.50	10	Silt, Clay	Monitoring	Uppermost Aquifer	713.83	722.40	NA	719.01	720.82
MW-21	510,779	2,268,668	725.75	722.81	22.20	10	Silt, Clay	Monitoring	Uppermost Aquifer	713.16	721.01	NA	714.95	717.13
MW-22	510,704	2,268,017	744.27	741.13	41	10	Clay Till	Monitoring	Uppermost Aquifer	726.59	731.18	NA	726.59	728.66
MW-23	511,532	2,268,770	726.90	723.73	25	10	Clay Till	Assessment	Uppermost Aquifer	718.47	723.02	NA	721.33	721.00
MW-24	511,476	2,270,056	735.32	732.10	20	10	Clay Till	Supplemental	Uppermost Aquifer	716.11	725.83	NA	721.07	721.15
MW-26	510,044	2,269,037	731.08	727.35	38.27	10	Clay Till	Supplemental	Uppermost Aquifer	709.68	712.91	NA	710.76	712.64
MW-27	509,830	2,269,401	730.26	726.26	19.44	10	Sand Clay	Supplemental	Uppermost Aquifer	714.47	718.43	NA	716.28	717.45

Notes:

- (1) State Plane coordinates from MPW in email dated 1/20/16 and 6/28/18. MPW has transited away from Site System coordinates-see 2017 AWQR Table I-1.
- (2) DNR original well construction forms. Top of casings at piezometers re-surveyed May 2018.
- (3) Period of record: 2002-2025 (for wells installed during a portion or the entire duration)
- (4) Well clusters are MW-8/MW-9 and MW-10/11/12.
- (5) MW-4A was damaged and replaced by MW-4B in 2020
- (6) MW-13 and MW-18A abandoned in 2019 and MW-25 abandoned in 2020.
- NA not applicable; **bold** low or high recorded during 2025.

Table 2

Summary of Groundwater Monitoring Events
2025 Groundwater Monitoring and Corrective Action Report
Muscatine Power and Water CCR Landfill
Permit No. #70-SDP-06-82P

Sampling Dates	MW-4A/MW-4B	MW-5B	MW-6A	MW-8	MW-10	MW-13
Well Function	Downgradient	Downgradient	Downgradient	Upgradient	Upgradient	Downgradient
June 6, 2016	Baseline	Baseline	Baseline	Baseline	Baseline	Baseline
August 15, 2016	Baseline	Baseline	Baseline	Baseline	Baseline	Baseline
October 10, 2016	Baseline	Baseline	Baseline	Baseline	Baseline	Baseline
December 12, 2016	Baseline	Baseline	Baseline	Baseline	Baseline	Baseline
February 17, 2017	Baseline	Baseline	Baseline	Baseline	Baseline	Baseline
April 17, 2017	Baseline	Baseline	Baseline	Baseline	Baseline	Baseline
June 19, 2017	Baseline	Baseline	Baseline	Baseline	Baseline	Baseline
August 7, 2017	Baseline	Baseline	Baseline	Baseline	Baseline	Baseline
October 16, 2017	Detection	Detection	Detection	Detection	Detection	Detection
November 28, 2017	-	Supplemental	-	-	-	Supplemental
March 6, 2018	Assessment	Assessment	Assessment	Assessment	Assessment	Assessment
June 19, 2018	Assessment	Assessment	Assessment	Assessment	Assessment	Assessment
June 30, 2018	-	-	-	-	-	-
August 29-30, 2018	Assessment	Assessment	Assessment	Assessment	Assessment	Assessment
March 18, 2019	Assessment	Assessment	Assessment	Assessment	Assessment	-
August 6, 2019	Assessment	Assessment	Assessment	Assessment	Assessment	-
April 7, 2020	Assessment	Assessment	Assessment	Assessment	Assessment	-
September 18, 2020	-	-	-	-	-	-
September 24, 2020	Assessment	Assessment	Assessment	Assessment	Assessment	-
April 6, 2021	Assessment	Assessment	Assessment	Assessment	Assessment	-
September 1, 2021	Assessment	Assessment	Assessment	Assessment	Assessment	-
April 20, 2022	Assessment	Assessment	Assessment	Assessment	Assessment	-
September 14, 2022	Assessment	Assessment	Assessment	Assessment	Assessment	-
April 11-12, 2023	Assessment	Assessment	Assessment	Assessment	Assessment	-
September 18-20, 2023	Assessment	Assessment	Assessment	Assessment	Assessment	-
April 15, 2024	Assessment	Assessment	Assessment	Assessment	Assessment	-
September 12, 2024	Assessment	Assessment	Assessment	Assessment	Assessment	-
April 18, 2025	Assessment	Assessment	Assessment	Assessment	Assessment	-
September 10, 2025	Assessment	Assessment	Assessment	Assessment	Assessment	-
Number of Samples						
Appendix III Analytes	26	26	26	26	26	14
Appendix IV Analytes	25	25	25	25	25	13

Table 2

Summary of Groundwater Monitoring Events
2025 Groundwater Monitoring and Corrective Action Report
Muscatine Power and Water CCR Landfill
Permit No. #70-SDP-06-82P

Sampling Dates	MW-14A	MW-15A	MW-18A	MW-21	MW-22 ⁽²⁾	MW-23
Well Function	Downgradient	Downgradient	Downgradient	Downgradient	Upgradient	Upgradient
June 6, 2016	Baseline	Baseline	Baseline	Baseline	-	-
August 15, 2016	Baseline	Baseline	Baseline	Baseline	-	-
October 10, 2016	Baseline	Baseline	Baseline	Baseline	-	-
December 12, 2016	Baseline	Baseline	Baseline	Baseline	-	-
February 17, 2017	Baseline	Baseline	Baseline	Baseline	-	-
April 17, 2017	Baseline	Baseline	Baseline	Baseline	-	-
June 19, 2017	Baseline	Baseline	Baseline	Baseline	-	-
August 7, 2017	Baseline	Baseline	Baseline	Baseline	-	-
October 16, 2017	Detection	Detection	Detection	Detection	-	-
November 28, 2017	Supplemental	Supplemental	Supplemental	Supplemental	-	-
March 6, 2018	Assessment	Assessment	Assessment	Assessment	Baseline	-
June 19, 2018	Assessment	Assessment	Assessment	Assessment	Baseline	-
June 30, 2018	-	-	-	-	-	Baseline
August 29-30, 2018	Assessment	Assessment	Assessment	Assessment	Baseline	Baseline
March 18, 2019	Assessment	Assessment	-	Assessment	Baseline	Baseline
August 6, 2019	Assessment	Assessment	-	Assessment	Baseline	Baseline
April 7, 2020	Assessment	Assessment	-	Assessment	Baseline	Baseline
September 18, 2020	-	-	-	-	Baseline	Baseline
September 24, 2020	Assessment	Assessment	-	Assessment	-	-
April 6, 2021	Assessment	Assessment	-	Assessment	Baseline	Baseline
September 1, 2021	Assessment	Assessment	-	Assessment	Detection	Baseline
April 20, 2022	Assessment	Assessment	-	Assessment	Assessment	Assessment
September 14, 2022	Assessment	Assessment	-	Assessment	Assessment	Assessment
April 11-12, 2023	Assessment	Assessment	-	Assessment	Assessment	Assessment
September 18-20, 2023	Assessment	Assessment	-	Assessment	Assessment	Assessment
April 15, 2024	Assessment	Assessment	-	Assessment	Assessment	Assessment
September 12, 2024	Assessment	Assessment	-	Assessment	Assessment	Assessment
April 18, 2025	Assessment	Assessment	-	Assessment	Assessment	Assessment
September 10, 2025	Assessment	Assessment	-	Assessment	Assessment	Assessment
Number of Samples						
Appendix III Analytes	26	26	14	26	17	16
Appendix IV Analytes	25	25	13	25	16	15

Notes:

1. Baseline monitoring events include analysis of both Appendix III (Detection Monitoring) and Appendix IV (Assessment Monitoring) analytes.
2. Detection monitoring events include the analysis of Appendix III (Detection Monitoring) analytes only.
3. Assessment monitoring events include analysis of Appendix III (Detection Monitoring) and Appendix IV (Assessment Monitoring) analytes.
4. MW-22 installed in February 2018 as an additional background well.
5. MW-13 and MW-18A were decommissioned in 2019 due to damage and site construction following IDNR approval.

Table 3

**Appendix III Parameters (Detection Monitoring)
2025 Groundwater Monitoring and Corrective Action Report
Muscatine Power and Water CCR Landfill
Permit No. #70-SDP-06-82P**

Analyte	Analytical Method
Boron	EPA 6020A
Calcium	EPA 6020A
Chloride	EPA 9056A
Fluoride	EPA 9056A
pH	SM 4500 H+B
Sulfate	EPA 9056A
Total Dissolved Solids (TDS)	SM 2540C

Table 4

Appendix IV Parameters (Assessment Monitoring)
2025 Groundwater Monitoring and Corrective Action Report
Muscatine Power and Water CCR Landfill
Permit No. #70-SDP-06-82P

Analyte	Analytical Method
Antimony	EPA 6020A
Arsenic	EPA 6020A
Barium	EPA 6020A
Beryllium	EPA 6020A
Cadmium	EPA 6020A
Chromium	EPA 6020A
Cobalt	EPA 6020A
Fluoride	EPA 9056A
Lead	EPA 6020A
Lithium	EPA 6020A
Mercury	EPA 7470A
Molybdenum	EPA 6020A
Selenium	EPA 6020A
Thallium	EPA 6020A
Radium 226 and 228 combined	EPA 9315/9320

Table 5

**Horizontal Groundwater Flow Velocity
2025 Groundwater Monitoring and Corrective Action Report
Muscatine Power and Water CCR Landfill
Permit No. #70-SDP-06-82P**

Date	Monitoring Wells	Horizontal Hydraulic Gradient (unitless)	Average Linear Groundwater Flow Velocity (meters/day)	Average Linear Groundwater Flow Velocity (feet/year)
4/18/2025	MW-8, MW-15A	0.017	0.002	3
9/10/2025	MW-8, MW-15A	0.015	0.002	2

Notes:

Velocity calculated for given well pair assuming effective porosity of 0.3 and mean hydraulic conductivity of 0.04 meters per day.

Table 6

Vertical Hydraulic Grandients^a (ft/ft)
2025 Groundwater Monitoring and Corrective Action Report
Muscatine Power and Water CCR Landfill
Permit No. #70-SDP-06-82P

Well Cluster	Vertical Gradient	
	April 2025	September 2025
<i>Shallow/Deep</i>		
MW-8/MW-9	-0.431	-0.826
MW-10/MW-11	0.018	0.057
MW-11/MW-12	0.001	-0.012

Notes:

^a Positive hydraulic gradients indicate upward-directed flow, and negative hydraulic gradients indicate downward-directed flow.
ft/ft - Foot per foot.

Table 7

**Overview of Detected Appendix IV Analytes in 2025
2025 Groundwater Monitoring and Corrective Action Report
Muscatine Power and Water CCR Landfill
Permit No. #70-SDP-06-82P**

MW-	4A/4B	5B	6A	8	10	14A	15A	21	22	23
Arsenic				X	X				X	
Barium	X	X	X	X	X	X	X	X	X	X
Cobalt	X			X	X					
Fluoride	X	X	X	X	X	X	X	X	X	X
Lead										X
Lithium								X		
Molybdenum					X	X	X		X	
Selenium								X		
Combined Radium 226+226	X	X	X	X	X	X	X	X	X	X

Table 8

Groundwater Monitoring Program Summary
2025 Groundwater Monitoring and Corrective Action Report
Muscatine Power and Water CCR Landfill
Permit No. #70-SDP-06-82P

Monitoring Well	Current Monitoring Program Status	Planned Change in Monitoring Program Status For The Next Sampling Event	Confirmed Statistically Significant Increase (SSI) Over Background	Statistically Significant Trends	Statistically Significant Level (SSL) Over GWPS	Upcoming Sampling Dates And Constituents			
						Resample	Semiannual Assessment Monitoring: April 2026	Semiannual Assessment Monitoring: September 2026	Others TBD, if needed
PZ-4	Water level	None	NA	NA	NA	NA	NA	NA	
MW-4A / MW-4B	Assessment	None	None	None	None	NA	Appendix III & IV	Appendix III & IV	
MW-5B	Assessment	None	Chloride	None	None	NA	Appendix III & IV	Appendix III & IV	
MW-6A	Assessment	None	None	None	None	NA	Appendix III & IV	Appendix III & IV	
MW-8	Background	None	None	Upward: Arsenic, Cobalt; Downward: Sulfate, TDS	None	NA	Appendix III & IV	Appendix III & IV	
MW-9	Water level	None	NA	NA	NA	NA	NA	NA	
MW-10	Background	None	None	Upward: Cobalt	None	NA	Appendix III & IV	Appendix III & IV	
MW-11	Water level	None	NA	NA	NA	NA	NA	NA	
MW-12	Water level	None	NA	NA	NA	NA	NA	NA	
MW-13	Abandoned ⁽¹⁾	None	NA	NA	NA	NA	NA	NA	
MW-14A	Assessment	None	Boron, Calcium, Sulfate, TDS	None	None	NA	Appendix III & IV	Appendix III & IV	
MW-15A	Assessment	None	Boron	None	None	NA	Appendix III & IV	Appendix III & IV	
MW-18A	Abandoned ⁽¹⁾	None	NA	NA	NA	NA	NA	NA	
MW-21	Assessment	None	Boron, pH	None	None	NA	Appendix III & IV	Appendix III & IV	
MW-22	Background	None	None	Upward: Sulfate, Arsenic, Barium; Downward: Chloride, Cobalt	None	NA	Appendix III & IV	Appendix III & IV	
MW-23	Background	None	None	Upward: Chloride; Downward: Sulfate, Barium, Lead	None	NA	Appendix III & IV	Appendix III & IV	
MW-24	Supplemental	None	NA	NA	NA	NA	NA	NA	
MW-26	Supplemental	None	NA	NA	NA	NA	NA	NA	
MW-27	Supplemental	None	NA	NA	NA	NA	NA	NA	

Notes:

Assessment monitoring program triggered upon receipt of confirmed (by resample) SSI on December 19, 2017 and continuing SSI in 2018.

SSI = Statistically Significant Increase above background.

SSL = Statistically Significant Level above a groundwater protection standard (GWPS).

NA = Not Applicable.

(1) MW-13 and MW-18A were plugged and abandoned in 2019 due to damage and site construction following IDNR approval.

Groundwater Protection Standards
2025 Groundwater Monitoring and Corrective Action Report
Muscatine Power and Water CCR Landfill
Permit No. #70-SDP-06-82P

Constituent	Unit	MCL	40 CFR 247.95(h)(2)	Statistical Background Limit	GWPS
Antimony	(mg/L)	0.006	-	0.002	0.006
Arsenic	(mg/L)	0.01	-	0.0078	0.01
Barium	(mg/L)	2	-	0.27	2
Beryllium	(mg/L)	0.004	-	0.001	0.004
Cadmium	(mg/L)	0.005	-	0.0002	0.005
Chromium	(mg/L)	0.1	-	0.005	0.1
Cobalt	(mg/L)	N/A	0.006	0.0056	0.006
Combined Radium	(pCi/L)	5	-	2.48	5
Fluoride	(mg/L)	4	-	1	4
Lead	(mg/L)	-	0.015	0.002	0.015
Lithium	(mg/L)	N/A	0.04	0.01	0.04
Mercury	(mg/L)	0.002	-	0.0002	0.002
Molybdenum	(mg/L)	N/A	0.1	0.0082	0.1
Selenium	(mg/L)	0.05	-	0.005	0.05
Thallium	(mg/L)	0.002	-	0.001	0.002

Notes:

All metals as total recoverable.

MCL: Maximum Contaminant Level.

CFR: Code of Federal Regulations.

Statistical Background Limit: Groundwater Stats Consulting, 12/15/2025.

GWPS: Ground Water Protection Standard.

Table 10

Analytical Data Summary
2025 Annual Water Quality Report
Muscatine Power & Water - CCR
Permit No. 70-SDP-06-82P

Constituent (CAS #)	Sample Date	Units	MW-8 Bkgrnd	MW-10 Bkgrnd	MW-22 Bkgrnd	MW-23 Bkgrnd	MW-4B DwnGrad	MW-5B DwnGrad	MW-6A DwnGrad	MW-13 Abandone	MW-14A DwnGrad	MW-15A DwnGrad	MW-18 Abandone	MW-21 DwnGrad
Aluminum (Total) (7429-90-5) SDWR = 0.05 - 0.2	10/10/2016	mg/l	<0.05	0.0826			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	8/7/2017	mg/l	<0.05	<0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	3/6/2018	mg/l	<0.05	<0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.0832
	8/27/2018	mg/l	<0.05	<0.05			<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	3/18/2019	mg/l	<0.05	<0.05	<0.05	0.644	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	8/6/2019	mg/l	<0.05	<0.05	<0.05	0.253	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	4/10/2020	mg/l	<0.05	<0.05	<0.05	0.552	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	9/18/2020	mg/l	<0.05	<0.05	<0.05	<0.05	0.475	<0.05	<0.05		<0.05	<0.05		<0.05
	4/6/2021	mg/l	<0.05	<0.05	<0.05	0.39	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	9/1/2021	mg/l	<0.05	<0.05	<0.05	0.135	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	4/20/2022	mg/l	<0.05	<0.05	<0.05	0.478	<0.05	<0.05	<0.05		0.111	<0.05		<0.05
	9/14/2022	mg/l	<0.05	<0.05	<0.05	0.142	<0.05	<0.05	<0.05		0.119	<0.05		<0.05
	4/12/2023	mg/l	<0.05	<0.05	<0.05	0.233	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	9/20/2023	mg/l	<0.05	<0.05	<0.05	0.105	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	4/15/2024	mg/l	<0.05	<0.05	<0.05	0.243	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	9/11/2024	mg/l	<0.05	<0.05	<0.05	0.168	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	4/18/2025	mg/l	<0.05	<0.05	0.139	2.76	<0.05	0.0574	<0.05		0.104	<0.05		<0.05
	9/10/2025	mg/l	<0.05	<0.05	<0.05	0.209	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
Arsenic (Total) (7440-38-2) MCL = 0.01	10/10/2016	mg/l	<0.002	0.00328			<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
	8/7/2017	mg/l	<0.002	0.00317			<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
	3/6/2018	mg/l	<0.002	<0.002			<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00265	<0.002
	8/27/2018	mg/l	<0.002	0.0036			<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
	3/18/2019	mg/l	<0.002	0.0056	<0.002	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	8/6/2019	mg/l	<0.002	0.00784	<0.002	<0.002	<0.002	<0.002	<0.002		<0.008	<0.002		<0.002
	4/10/2020	mg/l	<0.002	0.00697	<0.002	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	9/18/2020	mg/l	<0.002	0.00748	<0.002	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	4/6/2021	mg/l	<0.002	0.00393	0.00289	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	9/1/2021	mg/l	<0.002	0.00781	0.00267	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	4/20/2022	mg/l	<0.002	0.00371	0.00340	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	9/14/2022	mg/l	<0.002	0.00497	0.00285	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	4/12/2023	mg/l	0.00247	0.00224	0.00421	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	9/20/2023	mg/l	<0.002	0.0	0.0	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	4/15/2024	mg/l	0.00390	<0.002	0.00634	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	9/11/2024	mg/l	0.00466	0.00525	0.00749	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	4/18/2025	mg/l	0.00450	<0.002	0.00671	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	9/10/2025	mg/l	0.00317	0.00429	0.00768	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002

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Constituent (CAS #)	Sample Date	Units	MW-8 Bkgrnd	MW-10 Bkgrnd	MW-22 Bkgrnd	MW-23 Bkgrnd	MW-4B DwnGrad	MW-5B DwnGrad	MW-6A DwnGrad	MW-13 Abandone	MW-14A DwnGrad	MW-15A DwnGrad	MW-18 Abandone	MW-21 DwnGrad
Barium (Total) (7440-39-3) MCL = 2	10/10/2016	mg/l	0.1	0.1630			0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.1
	8/7/2017	mg/l	0.1	0.2			0.1	0.3	0.2	0.1	0.0	0.0	0.0	0.0
	3/6/2018	mg/l	0.1	0.1			0.1	0.3	0.2	0.1	0.0	0.0	0.0	0.0148
	8/27/2018	mg/l	0.1	0.2			0.1	0.4	0.2	0.1	0.0	0.0	0.0	0.1
	3/18/2019	mg/l	0.1	0.2	0.2	0.092	0.2	0.3	0.2		0.0	0.0		0.1
	8/6/2019	mg/l	0.1	0.2	0.2	0.064	0.1	0.3	0.2		0.0	0.0		0.1
	4/10/2020	mg/l	0.1	0.2	0.2	0.065	0.2	0.3	0.2		0.0	0.0		0.0
	9/18/2020	mg/l	0.1	0.2	0.2	0.0	0.147	0.2	0.2		0.0	0.0		0.0
	4/6/2021	mg/l	0.1	0.2	0.2	0.06	0.169	0.3	0.2		0.0	0.0		0.0
	9/1/2021	mg/l	0.1	0.2	0.2	0.050	0.186	0.2	0.2		0.0	0.0		0.0
	4/20/2022	mg/l	0.1	0.2	0.2	0.057	0.2	0.3	0.2		0.033	0.0		0.0
	9/14/2022	mg/l	0.0703	0.223	0.243	0.0507	0.188	0.253	0.229		0.034	0.0327		0.0447
	4/12/2023	mg/l	0.07	0.19	0.227	0.0518	0.173	0.237	0.246		0.032	0.0299		0.031
	9/20/2023	mg/l	0.0782	0.233	0.256	0.0533	0.181	0.274	0.222		0.0348	0.0338		0.0559
	4/15/2024	mg/l	0.0857	0.193	0.271		0.168	0.243	0.235		0.0323	0.0353		0.031
	9/11/2024	mg/l	0.0944	0.219	0.268	0.0521	0.184	0.258	0.249		0.0338	0.0335		0.0555
	4/18/2025	mg/l	0.0867	0.190	0.247	0.067	0.157	0.256	0.231		0.0294	0.0300		0.0460
	9/10/2025	mg/l	0.0852	0.172	0.262	0.0468	0.175	0.252	0.213		0.0331	0.0302		0.0412
Beryllium (Total) (7440-41-7) MCL = 0.004	10/10/2016	mg/l	<0.001	<0.001			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	8/7/2017	mg/l	<0.001	<0.001			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	3/6/2018	mg/l	<0.001	<0.001			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	8/27/2018	mg/l	<0.001	<0.001			<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001
	3/18/2019	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001
	8/6/2019	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.004	<0.001		<0.001
	4/10/2020	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001
	9/18/2020	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001
	4/6/2021	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001
	9/1/2021	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001
	4/20/2022	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001
	9/14/2022	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001
	4/12/2023	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001
	9/20/2023	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001
	4/15/2024	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001
	9/11/2024	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001
	4/18/2025	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001
	9/10/2025	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001

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Constituent (CAS #)	Sample Date	Units	MW-8 Bkgrnd	MW-10 Bkgrnd	MW-22 Bkgrnd	MW-23 Bkgrnd	MW-4B DwnGrad	MW-5B DwnGrad	MW-6A DwnGrad	MW-13 Abandone	MW-14A DwnGrad	MW-15A DwnGrad	MW-18 Abandone	MW-21 DwnGrad
Boron (Total) (7440-42-8) HAL = 6	10/10/2016	mg/l	<0.2	<0.2			<0.2	<0.2	<0.2	74.8	19.3	17.9	14.3	8.45
	8/7/2017	mg/l	<0.2	<0.2			<0.2	<0.2	<0.2	2.72	13	14.7	10.8	7.05
	3/6/2018	mg/l	<0.2	<0.2			0.66	<0.2	<0.2	21.7	11	9.8	8.81	0.885
	8/27/2018	mg/l	<0.2	<0.2			<0.2	<0.2	<0.2	1.45	14	14.6	10.5	1.36
	3/18/2019	mg/l	<0.2	<0.2	0.299	<0.2	<0.2	<0.2	<0.2		15.5	8.35		6.95
	8/6/2019	mg/l	0.205	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		17.6	7.56		8.46
	4/10/2020	mg/l	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		17.4	10.6		6.76
	9/18/2020	mg/l	<0.1	<0.1	0.263	0.15	<0.1	<0.1	<0.1		19.5	14.5		6.82
	4/6/2021	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		17.2	10.3		5.24
	9/1/2021	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		17.1	11.1		5.88
	4/20/2022	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		15.2	6.98		3.57
	9/14/2022	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		15.1	10.4		3.69
	4/12/2023	mg/l	<0.1	<0.1	0.247	0.145	<0.1	<0.1	<0.1		14.8	5.80		3.35
	9/20/2023	mg/l	<0.1	<0.1	0.207	0.128	<0.1	<0.1	<0.1		18.1	9.28		4.42
	4/15/2024	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		15.2	5.8		2.31
	9/11/2024	mg/l	<0.1	<0.1	0.243	0.126	<0.1	<0.1	<0.1		17.7	8.5		3.68
	4/18/2025	mg/l	<0.1	<0.1	<0.1	<0.1	0.169	<0.1	<0.1		15.4	8.16		2.64
	9/10/2025	mg/l	<0.1	<0.1	0.187	0.123	<0.1	<0.01	<0.1		16.1	5.51		1.65
Calcium (Total) (7440-70-2) MCL = NA	10/10/2016	mg/l	118	83.3			89.3	140	75.7	276	308	203	280	185
	8/7/2017	mg/l	91.3	85.5			89.7	139	71.2	95.4	296	206	258	163
	3/6/2018	mg/l	74.7	77.3			95.8	134	74.1	149	278	229	191	25.1
	8/27/2018	mg/l	83.6	85.4			91.3	146	73.3	93.1	309	155	223	78.7
	3/18/2019	mg/l	97.6	76.3	91.6	59.7	99.7	134	73.2		290	118		142
	8/6/2019	mg/l	132	78.9	83.8	59.5	93.8	139	80.9		255	111		145
	4/10/2020	mg/l	92.4	75.4	80.9	61	89.6	117	85.1		245	163		104
	9/18/2020	mg/l	77.7	74.2	75.5	52.1	89	108	87.9		244	134		101
	4/6/2021	mg/l	81.2	78.8	78.4	56.3	94.1	104	87.6		259	128		79.5
	9/1/2021	mg/l	78.3	80	79.4	56.1	95.1	108	90.6		270	125		93.5
	4/20/2022	mg/l	69.6	90.4	80.2	54	106	117	96.5		289	127		97.5
	9/14/2022	mg/l	76.8	82	79.6	54.5	92.3	117	89		301	132		88.2
	4/12/2023	mg/l	78.2	83.7	80.4	55.3	91.3	107	95.4		318	110		76.0
	9/20/2023	mg/l	79.4	84.7	79	56	90.4	115	82.1		291	126		96.0
	4/15/2024	mg/l	84.2	96.2	83.1	59.7	97.7	112	92.4		344	118		59.9
	9/11/2024	mg/l	88.6	97.8	84.3	58	102	123	99.4		327	129		96.6
	4/18/2025	mg/l	84.1	99.6	74.5	56	86.8	106	85.2		286	125		87.4
	9/10/2025	mg/l	79.6	82.6	74.6	44.9	94.9	114	79		277	77.2		52.8

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Constituent (CAS #)	Sample Date	Units	MW-8 Bkgrnd	MW-10 Bkgrnd	MW-22 Bkgrnd	MW-23 Bkgrnd	MW-4B DwnGrad	MW-5B DwnGrad	MW-6A DwnGrad	MW-13 Abandone	MW-14A DwnGrad	MW-15A DwnGrad	MW-18 Abandone	MW-21 DwnGrad
Chloride (16887-00-6) SDWR = 250	10/10/2016	mg/l	16.2	<5			13.6	66.0	<5	29.8	37.0	17.6	35.3	24.4
	8/7/2017	mg/l	14.0	<5			13.2	64.0	<5	9.6	32.9	15.4	27.0	16.1
	3/6/2018	mg/l	14.5	<5			8.8	68.2	5.3	19.9	37.4	24.2	27.1	<5
	8/27/2018	mg/l	15.6	<5			19.4	70.8	<5	7.2	33.1	10.1	26.9	<5
	3/18/2019	mg/l	16.1	<5	27.6	10.5	16.0	55.0	<5		25.8	8.5		8.3
	8/6/2019	mg/l	17.1	<5	26.9	13.8	15.6	64.1	<5		22.1	9.9		14.0
	4/10/2020	mg/l	17.2	<5	24.8	15.7	14.8	44.0	12.2		22.5	13.0		8.1
	9/18/2020	mg/l	14.7	<5	23.2	14.4	15.100	41.0	15.6		22.8	8.6		7.2
	4/6/2021	mg/l	22.3	<5	28.1	21.4	22.900	42.7	19.3		27.1	15.0		5.1
	9/1/2021	mg/l	16.3	<5	20.0	15.2	16.700	37.6	17.4		23.2	8.9		6.6
	4/20/2022	mg/l	15.8	<5	20.2	16.9	20.8	38.1	14.2		25.500	7.7		7.2
	9/14/2022	mg/l	16.7	<5	7.04	16.2	16.8	39	13.3		22.4	8.29		18
	4/12/2023	mg/l	17.9	5.86	18.2	17.7	18	38.7	15.4		20.3	7.3		5.93
	9/20/2023	mg/l	19.9	<5.00	18.4	19.2	17.4	41.8	12.2		20.9	8.41		8.23
	4/15/2024	mg/l	17.2	<5.00	15.8	19.2	18.1	39.3	15.5		16.4	7.01		<5.00
	9/11/2024	mg/l	20.1	9.65	16.6	21.7	14.6	40.5	14.4		16.3	7.41		13.5
	4/18/2025	mg/l	18.6	12.8	16.1	25.1	18.9	32.1	15.8		18	7.79		10.9
	9/10/2025	mg/l	20.8	8.5	14.5	25.2	18.9	42	16.8		15.4	4.5		5.1
Cobalt (Total) (7440-48-4) 40CFR§257.95(h)(2) = 0.006	10/10/2016	mg/l	<0.0005	0.000520			<0.0005	<0.0005	<0.0005	0.00179	<0.0005	<0.0005	<0.0005	<0.0005
	8/7/2017	mg/l	0.00051	0.0007			<0.0005	<0.0005	<0.0005	0.000686	<0.0005	<0.0005	<0.0005	<0.0005
	3/6/2018	mg/l	<0.0005	0.00063			<0.0005	<0.0005	<0.0005	0.000964	<0.0005	<0.0005	<0.0005	<0.0005
	8/27/2018	mg/l	<0.0005	0.00088			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	3/18/2019	mg/l	0.00177	0.00078	<0.0005	0.00176	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	8/6/2019	mg/l	0.00558	0.000572	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		<0.002	<0.0005		<0.0005
	4/10/2020	mg/l	0.000517	0.000581	<0.0005	0.000817	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	9/18/2020	mg/l	0.000738	0.000751	<0.0005	<0.0005	0.00147	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	4/6/2021	mg/l	0.000839	0.000752	<0.0005	0.000517	0.00132	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	9/1/2021	mg/l	0.001270	0.000576	<0.0005	<0.0005	0.00335	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	4/20/2022	mg/l	0.001430	0.001040	<0.0005	0.000561	0.00135	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	9/14/2022	mg/l	0.00164	0.00109	<0.0005	<0.0005	0.00459	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	4/12/2023	mg/l	0.001400	0.001420	<0.0005	<0.0005	0.00271	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	9/20/2023	mg/l	0.001260	0.000995	<0.0005	<0.0005	0.00374	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	4/15/2024	mg/l	0.0018	0.00122	<0.0005	<0.0005	0.00172	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	9/11/2024	mg/l	0.00216	0.000977	<0.0005	<0.0005	0.0028	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	4/18/2025	mg/l	0.00163	0.00154	<0.0005	0.000879	0.00119	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	9/10/2025	mg/l	0.00142	0.0009	<0.0005	<0.0005	0.00247	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005

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Constituent (CAS #)	Sample Date	Units	MW-8 Bkgrnd	MW-10 Bkgrnd	MW-22 Bkgrnd	MW-23 Bkgrnd	MW-4B DwnGrad	MW-5B DwnGrad	MW-6A DwnGrad	MW-13 Abandone	MW-14A DwnGrad	MW-15A DwnGrad	MW-18 Abandone	MW-21 DwnGrad
Copper (Total) (7440-50-8) MCL = 1.3	10/10/2016	mg/l	<0.005	<0.005			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	8/7/2017	mg/l	<0.005	<0.005			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	3/6/2018	mg/l	<0.005	<0.005			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	8/27/2018	mg/l	<0.005	<0.005			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	3/18/2019	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	8/6/2019	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.02	<0.005		<0.005
	4/10/2020	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	9/18/2020	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	4/6/2021	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	9/1/2021	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	4/20/2022	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	9/14/2022	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	4/12/2023	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	9/20/2023	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	4/15/2024	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	9/11/2024	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	4/18/2025	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	9/10/2025	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
Fluoride (16984-48-8) MCL = 4	10/10/2016	mg/l	<0.5	<0.5			<0.5	<0.5	<0.5	3.25	0.867	<0.5	0.791	<0.5
	8/7/2017	mg/l	<0.05	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	3/6/2018	mg/l	<0.05	<0.5			<0.5	<0.5	<0.5	2.08	<0.5	<0.5	<0.5	<0.5
	8/27/2018	mg/l	<0.05	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	3/18/2019	mg/l	<0.05	<0.5	<0.5	<0.5	0.771	<0.5	<0.5		<0.5	0.523		<0.5
	8/6/2019	mg/l	0.643	0.596	0.507	<0.5	0.525	<0.5	0.535		<0.5	0.625		<0.5
	4/10/2020	mg/l	0.864	<0.5	<0.5	<0.5	<0.5	<0.5	0.652		<0.5	<0.5		<0.5
	9/18/2020	mg/l	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5		<0.5
	4/6/2021	mg/l	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.5		<0.5
	9/1/2021	mg/l	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5		<0.5
	4/20/2022	mg/l	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5		<0.5
	9/14/2022	mg/l	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5		<0.5
	4/12/2023	mg/l	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00		<1.00	<1.00		<1.00
	9/20/2023	mg/l	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00		<1.00	<1.00		<1.00
	4/15/2024	mg/l	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00		<1.00	<1.00		<1.00
	9/11/2024	mg/l	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00		<1.00	<1.00		<1.00
	4/18/2025	mg/l	0.312	0.281	0.268	0.236	0.268	0.193	0.303		0.262	0.257		0.154
	9/10/2025	mg/l	0.311	0.218	0.289	0.281	0.274	0.173	0.273		0.261	0.293		0.174

Table 10

Analytical Data Summary
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Constituent (CAS #)	Sample Date	Units	MW-8 Bkgrnd	MW-10 Bkgrnd	MW-22 Bkgrnd	MW-23 Bkgrnd	MW-4B DwnGrad	MW-5B DwnGrad	MW-6A DwnGrad	MW-13 Abandone	MW-14A DwnGrad	MW-15A DwnGrad	MW-18 Abandone	MW-21 DwnGrad
Iron (Total) (7439-89-6) SDWR = 0.3	10/10/2016	mg/l	<0.1	1.8			1.5	2.49	3.12	<0.1	<0.1	<0.1	<0.1	<0.1
	8/7/2017	mg/l	<0.1	1.58			1.68	2.51	3.09	0.408	<0.1	<0.1	<0.1	<0.1
	3/6/2018	mg/l	<0.1	0.177			0.267	2.43	3.05	0.263	<0.1	<0.1	<0.1	<0.1
	8/27/2018	mg/l	<0.1	1.75			1.63	2.6	3.13	0.86	<0.1	0.102	0.144	<0.1
	3/18/2019	mg/l	<0.1	2.75	<0.1	0.674	1.97	3.08	3.07		<0.1	<0.1		<0.1
	8/6/2019	mg/l	<0.1	3.33	<0.1	0.231	1.61	2.6	3.39		<0.4	<0.4		<0.1
	4/10/2020	mg/l	<0.1	3.36	<0.1	0.485	5.55	1.88	3.47		<0.1	<0.1		<0.1
	9/18/2020	mg/l	<0.1	4.38	<0.1	<0.1	0.895	1.86	3.45		<0.1	<0.1		<0.1
	4/6/2021	mg/l	0.2	2.08	<0.1	0.3	<0.1	1.85	3.57		<0.1	<0.1		<0.1
	9/1/2021	mg/l	0.1	4.37	<0.1	0.1	<0.1	2.21	3.83		<0.1	<0.1		<0.1
	4/20/2022	mg/l	0.565	2.49	<0.1	0.492	<0.1	1.99	3.61		0.165	<0.1		<0.1
	9/14/2022	mg/l	0.609	2.70	<0.1	0.117	0.250	2.03	3.43		<0.1	<0.1		<0.1
	4/12/2023	mg/l	0.708	1.09	<0.1	0.210	0.423	1.83	3.43		<0.1	<0.1		<0.1
	9/20/2023	mg/l	0.451	2.45	<0.1	<0.1	0.559	2.18	3.09		<0.1	<0.1		<0.1
	4/15/2024	mg/l	1.29	0.982	<0.1	0.239	0.309	1.78	3.42		<0.1	<0.1		<0.1
	9/11/2024	mg/l	1.53	2.86	0.189	0.16	0.797	2.06	3.6		<0.1	<0.1		<0.1
	4/18/2025	mg/l	1.44	1.40	0.215	2.53	0.310	2.25	3.2		0.163	<0.1		<0.1
	9/10/2025	mg/l	1.13	2.58	0.196	0.192	0.931	2.07	3.11		<0.1	<0.1		<0.1
Lead (Total) (7439-92-1) MCL = 0.015	10/10/2016	mg/l	<0.0005	<0.0005			<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005
	8/7/2017	mg/l	<0.0005	<0.0005			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	3/6/2018	mg/l	<0.0005	<0.0005			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	8/27/2018	mg/l	<0.0005	<0.0005			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	3/18/2019	mg/l	<0.0005	<0.0005	<0.0005	0.00204	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	8/6/2019	mg/l	<0.0005	<0.0005	<0.0005	0.000663	<0.0005	<0.0005	<0.0005		<0.002	<0.0005		<0.0005
	4/10/2020	mg/l	<0.0005	<0.0005	<0.0005	0.00116	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	9/18/2020	mg/l	<0.0005	<0.0005	<0.0005	<0.0005	0.000532	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	4/6/2021	mg/l	<0.0005	<0.0005	<0.0005	0.000624	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	9/1/2021	mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	4/20/2022	mg/l	<0.0005	<0.0005	<0.0005	0.000596	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	9/14/2022	mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	4/12/2023	mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	9/20/2023	mg/l	<0.0005	<0.0005	<0.0005	<0.0005	0.000576	0.000627	<0.0005		<0.0005	<0.0005		<0.0005
	4/15/2024	mg/l	<0.0005	<0.0005	<0.0005	<0.0005			<0.0005		<0.0005	<0.0005		<0.0005
	9/11/2024	mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	4/18/2025	mg/l	<0.0005	<0.0005	<0.0005	0.00115	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005		<0.0005
	9/10/2025	mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005		

Table 10

Analytical Data Summary
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Constituent (CAS #)	Sample Date	Units	MW-8 Bkgrnd	MW-10 Bkgrnd	MW-22 Bkgrnd	MW-23 Bkgrnd	MW-4B DwnGrad	MW-5B DwnGrad	MW-6A DwnGrad	MW-13 Abandone	MW-14A DwnGrad	MW-15A DwnGrad	MW-18 Abandone	MW-21 DwnGrad
Lithium 40CFR§257.95(h)(2) = 0.04	10/10/2016	mg/l	<0.05	<0.05				<0.05	<0.05	<0.150	<0.05	<0.05	<0.05	<0.05
	8/7/2017	mg/l	<0.05	<0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	3/6/2018	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0122	<0.01	<0.0005	<0.0005	<0.01
	8/27/2018	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	3/18/2019	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0005	<0.01		<0.01	<0.01		0.0277
	8/6/2019	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0005	<0.01		<0.04	<0.01		0.0279
	4/10/2020	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		0.0213
	9/18/2020	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		0.0225
	4/6/2021	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		0.0198
	9/1/2021	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		0.0233
	4/20/2022	mg/l	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100		<0.0100	<0.0100		0.0162
	9/14/2022	mg/l	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100		<0.0100	<0.0100		0.018
	4/12/2023	mg/l	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100		<0.0100	<0.0100		0.0143
	9/20/2023	mg/l	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100		<0.0100	<0.0100		0.0205
	4/15/2024	mg/l	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100		<0.0100	<0.0100		0.0124
	9/11/2024	mg/l	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100		<0.0100	<0.0100		0.0194
	4/18/2025	mg/l	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100		<0.0100	<0.0100		0.0185
	9/10/2025	mg/l	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100		<0.0100	<0.0100		0.0121
Magnesium (Total) (7439-95-4) MCL = NA	10/10/2016	mg/l	44.1	33.8			31.4	42	23.5	88	122	79.3	107	76.6
	8/7/2017	mg/l	36.4	37.8			33.4	43.8	24.7	34.9	124	86	99.6	72.1
	3/6/2018	mg/l	28.5	35.1			36.9	40.3	23.6	55.9	120	92	71.3	11.3
	8/27/2018	mg/l	31.8	33.4			32.6	44.6	23.6	33	145	63.4	81.5	34.1
	3/18/2019	mg/l	37.4	31.7	34.9	18.4	35.6	43.1	24.2		103	48.5		60.1
	8/6/2019	mg/l	50.1	30.0	33.0	24.7	34	42.8	25.4		103	46.9		62.5
	4/10/2020	mg/l	37.1	31.4	34.5	28.5	34	39.6	29.4		102	71		46.9
	9/18/2020	mg/l	31.8	31.9	31.1	24.3	33.2	36.6	28.5		104	59		45.6
	4/6/2021	mg/l	31.8	32.2	31.0	25.3	34.3	35.7	28.8		116	55.4		34.9
	9/1/2021	mg/l	31.0	31.3	31.4	24.8	35.6	35.2	29.6			54		40.8
	4/20/2022	mg/l	27.7	35.0	29.6	23.3	35.1	35.0	28.6		120.0	56.0		40.2
	9/14/2022	mg/l	30.1	33.3	31.8	24.6	33.6	36.8	29.4		122	56.1		39.1
	4/12/2023	mg/l	31.1	34.5	31.5	24.4	33.9	34.8	31.2		122.0	48.7		33.0
	9/20/2023	mg/l	31.5	34.7	32.0	25.4	33.6	37.6	27.2		122.0	54.0		42.8
	4/15/2024	mg/l	32.7	41.5	33	26.6	35.6	36.5	31		135	51.6		24.9
	9/11/2024	mg/l	34.3	41.1	33.1	25.9	35.9	36.4	30.8		134.0	53.8		41.3
	4/18/2025	mg/l	34.4	46.1	30.7	27.1	32.3	36.3	28.8		134.0	53.2		40.5
	9/10/2025	mg/l	32.4	36.4	31	21.9	35.7	38.3	27.5		124	34.2		23.7

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Constituent (CAS #)	Sample Date	Units	MW-8 Bkgrnd	MW-10 Bkgrnd	MW-22 Bkgrnd	MW-23 Bkgrnd	MW-4B DwnGrad	MW-5B DwnGrad	MW-6A DwnGrad	MW-13 Abandone	MW-14A DwnGrad	MW-15A DwnGrad	MW-18 Abandone	MW-21 DwnGrad
Manganese (Total) (7439-95-5) SDWR = 0.05 / HAL = 0.3	10/10/2016	mg/l	0.28	0.151			0.133	0.69	0.0818	0.509	<0.01	<0.01	<0.01	<0.01
	8/7/2017	mg/l	0.237	0.166			0.132	0.689	0.0802	0.286	<0.01	<0.01	<0.01	<0.01
	3/6/2018	mg/l	0.201	0.0706			0.208	0.692	0.0866	0.512	<0.01	<0.01	<0.01	<0.01
	8/27/2018	mg/l	0.325	0.239			0.131	0.717	0.0805	0.305	<0.01	<0.01	0.0142	<0.01
	3/18/2019	mg/l	0.455	0.163	0.256	0.134	0.15	0.576	0.0839		<0.01	<0.01		<0.01
	8/6/2019	mg/l	0.758	0.177	1.74	0.0443	0.145	0.784	0.0941		<0.04	<0.01		<0.01
	4/10/2020	mg/l	0.119	0.184	0.0896	0.0718	0.13	0.492	0.103		<0.01	<0.01		<0.01
	9/18/2020	mg/l	0.652	0.251	1.36	0.0127	0.686	0.546	0.113		<0.01	<0.01		<0.01
	4/6/2021	mg/l	0.185	0.199	0.18	0.0634	1.39	0.467	0.109		<0.01	<0.01		<0.01
	9/1/2021	mg/l	0.663	0.221	1.27	0.0444	1.39	0.512	0.117		<0.01	<0.01		<0.01
	4/20/2022	mg/l	0.411	0.231	0.106	0.0588	0.91	0.454	0.112		0.0264	<0.01		<0.01
	9/14/2022	mg/l	0.749	0.31	0.795	0.0222	0.871	0.532	0.112		<0.01	<0.01		<0.01
	4/12/2023	mg/l	0.309	0.396	0.0633	0.0372	0.510	0.453	0.113		<0.01	<0.01		<0.01
	9/20/2023	mg/l	0.370	0.266	0.7670	0.0169	0.612	0.594	0.0995		<0.01	<0.01		<0.01
	4/15/2024	mg/l	0.509	0.233	0.118	0.037	0.395	0.506	0.114		<0.01	<0.01		<0.01
	9/11/2024	mg/l	0.491	0.255	0.6770	0.0301	0.491	0.554	0.118		<0.01	<0.01		<0.01
	4/18/2025	mg/l	0.434	0.285	0.382	0.0499	0.241	0.478	0.111		<0.01	<0.01		0.32
	9/10/2025	mg/l	0.366	0.165	0.48	0.02	0.386	0.53	0.0942		<0.01	<0.01		
Molybdenum (Total) (7439-98-40) CFR§257.95(h)(2) = 0.1	10/10/2016	mg/l	<0.002	<0.002			<0.002	<0.002	<0.002	0.0176	<0.002	<0.002	<0.002	<0.002
	8/7/2017	mg/l	<0.002	<0.002			<0.002	<0.002	<0.002	0.00329	<0.002	<0.002	<0.002	<0.002
	3/6/2018	mg/l	0.0022	<0.02			<0.002	<0.002	<0.002	0.00732	<0.002	<0.002	<0.002	<0.002
	8/27/2018	mg/l	0.00224	0.0022			<0.002	<0.002	<0.002	0.00278	<0.002	<0.002	<0.002	<0.002
	3/18/2019	mg/l	<0.002	0.00341	0.00263	<0.002	<0.002	0.00212	<0.002		<0.002	<0.002		<0.002
	8/6/2019	mg/l	<0.002	0.00219	0.00574	<0.002	<0.002	<0.002	<0.002		<0.008	<0.002		<0.002
	4/10/2020	mg/l	<0.002	0.00215	0.00297	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	9/18/2020	mg/l	<0.002	<0.002	0.00529	<0.002	0.00296	<0.002	<0.002		<0.002	<0.002		<0.002
	4/6/2021	mg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	9/1/2021	mg/l	0.00218	0.0	0.00558	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	4/20/2022	mg/l	<0.002	<0.002	0.0042	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	9/14/2022	mg/l	<0.002	<0.002	0.00446	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	4/12/2023	mg/l	<0.002	<0.002	0.00364	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	9/20/2023	mg/l	<0.002	<0.002	0.00661	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	4/15/2024	mg/l	<0.002	<0.002	0.00217	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	9/11/2024	mg/l	0.00205	0.00287	0.00578	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
	4/18/2025	mg/l	<0.002	<0.002	0.00415	<0.002	<0.002	<0.002	<0.002		0.00322	0.0109		<0.002
	9/10/2025	mg/l	<0.002	0.00216	0.0051	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002

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Constituent (CAS #)	Sample Date	Units	MW-8 Bkgrnd	MW-10 Bkgrnd	MW-22 Bkgrnd	MW-23 Bkgrnd	MW-4B DwnGrad	MW-5B DwnGrad	MW-6A DwnGrad	MW-13 Abandone	MW-14A DwnGrad	MW-15A DwnGrad	MW-18 Abandone	MW-21 DwnGrad
Radium 226 and 228 combined	10/10/2016	mg/l	0.35	0.694			0.674	0.428	0.512	1.14	0.523	0.286	0.711	0.817
	8/7/2017	mg/l	0.336	0.831			0.443	0.507	0.333	0.523	0.456	0.244	0.284	0.814
	3/6/2018	mg/l	0.668	0.276	0.257		0.45	0.959	0.618	0.785	0.258	0.123	0.384	0.358
	8/27/2018	mg/l												
	3/18/2019	mg/l	<0.217	<0.331	<0.343	1	0.436	0.568	0.481		<0.0223	<0.391		<0.287
	8/6/2019	mg/l												
	4/10/2020	mg/l	0.462	1.01	0.44	0.576	0.354	1.2	0.787		0.397			0.305
	9/18/2020	mg/l												
	4/6/2021	mg/l	0.208 U	0.488	0.547	0.296 U	0.0519 U	0.982	0.667		0.614	0.219 U		0.182 U
	9/1/2021	mg/l	0.296 U	1.32	0.522	0.794	1.08	1.29	1.12		0.684	0.362 U		0.499
	4/20/2022	mg/l	0.316 U	0.693	0.494	1.27	0.550 U	0.913	0.901		0.486 U	0.0289 U		0.171 U
	9/14/2022	mg/l	-0.0309 U	1.12	0.283 U	-0.195 U	0.836	0.363 U	0.599		0.0843 U	-0.159 U		-0.0783 U
	4/12/2023	mg/l	0.469 U	0.775	0.422 U	1.32	0.687	0.553	0.695		0.0651 U	0.727		0.678
	9/20/2023	mg/l	1.03	1.48	1.11	0.606 U	0.575 U	1.15	0.916		0.57	0.118 U		0.497 U
	4/15/2024	mg/l	0.994	0.825	2.48	0.402 U	0.663	1.23	0.522		1.02	0.157 U		0.0684 U
	9/11/2024	mg/l	<0.606 U	0.555	0.674	<0.563 U	1.3	1.57	0.876		<0.603 U	<0.549 U		<0.586 U
	4/18/2025	mg/l	<0.554 U	<0.503 U	0.665	<0.648 U	<0.613 U	1.11	<0.630 U		0.683	<0.553 U		<0.552 U
	9/10/2025	mg/l	0.638	1.11	0.942	1.96	0.952	1.17	1.33		1.54	0.626		1.13
Selenium (Total) (7782-49-2) MCL = 0.05	10/10/2016	mg/l	<0.005	<0.005			<0.005	<0.005	<0.005	0.0364	0.00821	<0.005	<0.005	0.0137
	8/7/2017	mg/l	<0.005	<0.005			<0.005	<0.005	<0.005	<0.005	0.00759	<0.005	<0.005	0.0109
	3/6/2018	mg/l	<0.005	<0.005			<0.005	<0.005	<0.005	0.0195	<0.005	0.00502	<0.005	<0.005
	8/27/2018	mg/l	<0.005	<0.005			<0.005	<0.005	<0.005	<0.005	0.00827	<0.005	<0.005	<0.005
	3/18/2019	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		0.00569	<0.005		0.0102
	8/6/2019	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.02	<0.005		0.0108
	4/10/2020	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		0.00632
	9/18/2020	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		0.00762
	4/6/2021	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	9/1/2021	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		0.00617
	4/20/2022	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		0.00634
	9/14/2022	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	4/12/2023	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	9/20/2023	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		0.0053
	4/15/2024	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005
	9/11/2024	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		0.00666
	4/18/2025	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		0.00832
	9/10/2025	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005

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Strontium (Total) (7440-24-6) HAL = 4	10/10/2016	mg/l	0.338	0.156			0.103	0.193	0.156	0.342	0.279	0.185	0.325	0.291
	8/7/2017	mg/l	0.243	0.165			0.11	0.197	0.161	0.135	0.257	0.178	0.287	0.256
	3/6/2018	mg/l	0.209	0.159			0.137	0.2	0.172	0.243	0.241	0.191	0.225	0.0425
	8/27/2018	mg/l	0.198	0.197			0.107	0.212	0.161	0.139	0.266	0.14	0.257	0.133
	3/18/2019	mg/l	0.236	0.181	0.151	0.123	0.12	0.214	0.176		0.275	0.126		0.254
	8/6/2019	mg/l	0.323	0.199	0.133	0.0872	0.115	0.208	0.178		0.274	0.134		0.263
	4/10/2020	mg/l	0.233	0.19	0.129	0.0661	0.103	0.166	0.173		0.246	0.154		0.175
	9/18/2020	mg/l	0.176	0.19	0.108	0.0602	0.146	0.167	0.187		0.259	0.153		0.184
	4/6/2021	mg/l	0.188	0.18	0.130	0.0639	0.129	0.163	0.188		0.261	0.133		0.148
	9/1/2021	mg/l	0.172	0.23	0.115	0.068	0.14	0.17	0.204		0.282	0.136		0.178
	4/20/2022	mg/l	0.164	0.173	0.127	0.0595	0.122	0.168	0.194		0.247	0.149		0.169
	9/14/2022	mg/l	0.16	0.191	0.111	0.0592	0.101	0.167	0.184		0.266	0.127		0.155
	4/12/2023	mg/l	0.148	0.178	0.137	0.0526	0.0910	0.149	0.194		0.293	0.0985		0.153
	9/20/2023	mg/l	0.151	0.207	0.101	0.0601	0.0958	0.163	0.165		0.282	0.113		0.164
	4/15/2024	mg/l	0.172	0.188	0.103	0.0585	0.0951	0.166	0.19		0.301	0.125		0.153
	9/11/2024	mg/l	0.181	0.197	0.106	0.0598	0.1030	0.162	0.188		0.298	0.117		0.181
	4/18/2025	mg/l	0.159	0.169	0.124	0.0665	0.0917	0.159	0.175		0.229	0.107		0.173
	9/10/2025	mg/l	0.151	0.164	0.119	0.053	0.101	0.161	0.162		0.243	0.0826		0.166
Sulfate (14808-79-8) SDWR = 250	10/10/2016	mg/l	187	36.4			27.2	105	<5	1170	1010	607	855	603
	8/7/2017	mg/l	119	39			35.3	114	<5	99.4	1110	664	801	590
	3/6/2018	mg/l	87.3	51.4			162	122	<5	506	1110	824	624	53.7
	8/27/2018	mg/l	94.7	34.3			52.2	120	<5	72.7	1070	400	675	96.6
	3/18/2019	mg/l	223	42.8	134	26.2	48	85	<5		1050	351		442
	8/6/2019	mg/l	276	28.8	139	29.7	47	112	<5		837	327		529
	4/10/2020	mg/l	123	18.6	143	25.5	41.5	58.9	13.6		888	496		373
	9/18/2020	mg/l	100	36.5	151	25.8	46.9	61.9	19.1		924	403		356
	4/6/2021	mg/l	100	27.6	154	35.5	60.1	57.4	27.3		952	338		237
	9/1/2021	mg/l	83	32.3	154	25.8	50.2	53.7	22.7		1010	333		303
	4/20/2022	mg/l	72.8	48.3	158	25.4	58.4	44.7	18.9		1030	297		293
	9/14/2022	mg/l	67.1	31.2	220	23	49.5	49.9	16.4		978	319		151
	4/12/2023	mg/l	72.2	39.8	147	25.0	54.0	45.8	20.5		1150	254		215
	9/20/2023	mg/l	94.2	57.4	208	28.6	53.1	53.4	10.1		1440	365		303
	4/15/2024	mg/l	65.7	49.6	160	21.8	56.1	46.3	18.1		1160	256		138
	9/11/2024	mg/l	69	59.9	161	23.8	65.8	50.4	16.3		1110	273		248
	4/18/2025	mg/l	63.5	84.7	143	23.4	50.8	35.7	18.5		808	309		230
	9/10/2025	mg/l	68.8	57	149	25.7	55.8	47.6	20.7		953	162		135

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Total Suspended Solids	9/11/2024	mg/L	2.25	386				520	382		1830	602		584
	4/18/2025	mg/L	2.88	4	430	73.5	3.75	8.2	8.33		3.25	<1.88		2.13
	9/10/2025	mg/L												
Zinc (Total) (7440-66-6) HAL = 2 / SDWR = 5	10/10/2016	mg/l	<0.01	<0.01			<0.01	<0.01	<0.01	0.0197	<0.01	<0.01	<0.01	<0.01
	8/7/2017	mg/l	<0.02	<0.02			<0.02	<0.02	<0.02	<0.002	<0.02	<0.02	<0.02	<0.02
	3/6/2018	mg/l	<0.02	<0.02			<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	8/27/2018	mg/l	<0.02	<0.02			<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	3/18/2019	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02		<0.02
	8/6/2019	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.08	<0.02		<0.02
	4/10/2020	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02		<0.02
	9/18/2020	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02		<0.02
	4/6/2021	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02		<0.02
	9/1/2021	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02		<0.02
	4/20/2022	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02		<0.02
	9/14/2022	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02		<0.02
	4/12/2023	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02		<0.02
	9/20/2023	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02		<0.02
	4/15/2024	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02		<0.02
	9/11/2024	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		0.022	<0.02		<0.02
	4/18/2025	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02		<0.02
	9/10/2025	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02		<0.02

Notes.
 Bold indicates reported detection
 MCL = USEPA Maximum Contaminant Level
 HAL = Health Advisory Level

NS - Not Sampled
SS = Iowa Statewide Standards
SDWR = Secondary Drinking Water Regulations (also known as Secondary MCL)

Appendices

Appendix A

Groundwater Sample Collection Records

Site Name Muscatine P & W
Weather Sunny , 70DF, Calm

Date April 18, 2025
Measured By Sam Bennett/Neil Hoskins

Well #	TOC Elevation	Water Level from TOC (in feet)	Measured to Bottom	Well Depth	Water Level Elevation (in feet)	Well condition / Notes
MW-4B	715.87	7.70	27.80		708.17	Well Replaced due to damage
MW-5B	709.10	1.71	24.88		707.39	---
MW-6A	708.92	2.46	25.19		706.46	---
MW-08	747.36	15.54	43.16		731.82	---
MW-10	718.51	3.70	19.93		714.81	---
MW-14A	729.00	12.31	20.65		716.69	---
MW-15A	729.99	10.98	20.53		719.01	
MW-21	725.75	10.80	22.15		714.95	---
MW-22	744.27	17.68	43.28		726.59	
MW-23	726.90	5.57	19.19		721.33	
MW-24	735.32	14.25	22.65		721.07	
MW-26	731.08	20.32	37.93		710.76	
MW-27	730.26	13.98	19.42		716.28	
MW-09	---	22.10	---		#VALUE!	---
MW-11	---	2.89	---		#VALUE!	---
MW-12	---	2.27	---		#VALUE!	---
LPZ-05	---	Dry			#VALUE!	

LOW FLOW SAMPLING FORM

DATE	4/18/2025	WELL ID	MW-4B	SAMPLE DATE - TIME	4/18/25 - 0945
SITE	Muscatine Power & Water	DTW	7.70	NOTE	
PROJECT #		WELL DEPTH	27.80		
WEATHER	Mostly Cloudy, 65DF	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mc

LOW FLOW SAMPLING FORM

DATE	4/18/2025	WELL ID	MW-5B	SAMPLE DATE - TIME	4/18/25 - 0835
SITE	Muscatine Power & Water	DTW	1.71	NOTE	OL-2 taken here marked as 1200
PROJECT #		WELL DEPTH	Bottom, 24.88		
WEATHER	68DF, Clear, Calm	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mC

LOW FLOW SAMPLING FORM

DATE	4/18/2025	WELL ID	MW-6A	SAMPLE DATE - TIME	4/18/25 - 1015
SITE	Muscatine Power & Water	DTW	2.46	NOTE	
PROJECT #		WELL DEPTH	Bottom 25.19		
WEATHER	W wind 20mph, Mostly Cloudy, 65DF	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 ml

LOW FLOW SAMPLING FORM

DATE	4/16/2025	WELL ID	MW-08	SAMPLE DATE - TIME	4/16/25 - 1115
SITE	Muscatine Power & Water	DTW	15.59	NOTE	
PROJECT #		WELL DEPTH	Bottom 43.16		
WEATHER		PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mC

LOW FLOW SAMPLING FORM

DATE	4/16/2025	WELL ID	MW-10	SAMPLE DATE - TIME	4/16/25 - 0840
SITE	Muscatine Power & Water	DTW	3.70	NOTE	
PROJECT #	Spring 25	WELL DEPTH	19.93		
WEATHER	41DF, Clear, Calm	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	- - -	minimize	- - -	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10% or +/-0.2 mg	Limits

LOW FLOW SAMPLING FORM

DATE	4/17/2025	WELL ID	MW-14A	SAMPLE DATE - TIME	4/17/25 - 0815
SITE	Muscataine Power & Water	DTW	12.31	NOTE	
PROJECT #		WELL DEPTH	20.65		
WEATHER	60DF, Light Rain, 5-10MPH SSE Wind	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mg

LOW FLOW SAMPLING FORM

DATE	4/17/2025	WELL ID	MW-15A	SAMPLE DATE - TIME	4/17/25 - 1010
SITE	Muscatine Power & Water	DTW	10.98	NOTE	
PROJECT #		WELL DEPTH	20.53		
WEATHER	65DF, Rain, 10-15MPW Wind	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

TIME	PURGE RATE(ml)	VOL REMOVED(ml)	DTW	TEMP	Ph	ORP	SpecCond	Turbidity	DO	NOTES															
900	100		10.98																						
905	100	500	11.42	13.11	7.16	261	1.03	5.1	9.66																
910	100	1000	11.65	12.45	7.11	265	1.04	4.5	9.77																
915	100	1500	12.06	12.35	7.08	266	1.04	3.9	9.62																
920	100	2000	12.41	12.19	7.02	270	1.04	1.4	9.59																
925	100	2500	12.78	12.25	7.07	269	1.04	1.5	9.58																
930	100	3000	13.08	12.24	7.05	270	1.04	0.8	9.35																
935	100	3500	13.30	12.10	7.02	272	1.02	1.1	9.54																
940	100	4000	13.52	11.24	7.03	276	0.98	0.2	12.04																
945	100	4500	13.83	10.84	6.98	279	1.00	0.0	11.45																
950	100	5000	14.01	11.10	7.14	271	1.01	0.0	10.68	Adjusted Sample Cell															
1000	100	5500	14.3	11.34	7.31	260	1.04	0.3	10.76																
1005	100	6000	14.62	11.33	7.31	260	1.05	0.3	10.79																
1010	100	6500	14.88	11.35	7.31	261	1.05	0.1	10.71	Sample Start															
1105	100		16.57							Sample End															
										<table><tr><th>Preservative</th><th># of Containers</th><th></th></tr><tr><td>HCl</td><td></td><td></td></tr><tr><td>HNO₃</td><td></td><td></td></tr><tr><td>NaOH</td><td></td><td></td></tr><tr><td>None</td><td></td><td></td></tr></table>	Preservative	# of Containers		HCl			HNO ₃			NaOH			None		
Preservative	# of Containers																								
HCl																									
HNO ₃																									
NaOH																									
None																									
0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	HCl HNO₃ NaOH None or +/-0.2 mg															

Limits

LOW FLOW SAMPLING FORM

DATE	4/16/2025	WELL ID	MW-21	SAMPLE DATE - TIME	4/16/25 1300
SITE	Muscatine Power & Water	DTW	10.80	NOTE	
PROJECT #		WELL DEPTH	22.15		
WEATHER		PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mg

LOW FLOW SAMPLING FORM

DATE	4/15/2025	WELL ID	MW-22	SAMPLE DATE - TIME	4/15/2025 0835
SITE	Muscatine Power & Water	DTW	17.68	NOTE	QC1 Labeled 1200 4/15
PROJECT #	Spring 2025	WELL DEPTH	Bottom 43.28		
WEATHER	Sunny, Windy W 25-30MPH, 45DF	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mg

LOW FLOW SAMPLING FORM

DATE	4/15/2025	WELL ID	MW-23	SAMPLE DATE - TIME	4/15/25 1045
SITE	Muscatine Power & Water	DTW	5.57	NOTE	
PROJECT #	Spring 2025	WELL DEPTH	Bottom 19.19		
WEATHER	Cloudy, 52DF, Windy W 25-30MPH	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mg

LOW FLOW SAMPLING FORM

DATE	4/14/2025	WELL ID		SAMPLE DATE - TIME	
SITE	Muscatine Power & Water	DTW		NOTE	
PROJECT #		WELL DEP			
WEATHER		PUMP TYF GeoTech Peristaltic		DEPTH TO INTAKE	

TIME	PURGE RATE(ml)	VOL REMOVED(ml)	DTW	TEMP	Ph	ORP	SpecCond	Turbidity	DO	NOTES
SW22	1:55			14.51	6.90	237	0.471	0.3	14.45	3" deep / 3' wide / 1ft/min
SW25	14:05			10.59	6.87	180	1.030	0.0	7.32	6-7" in pipe
SW24	14:30			10.66	7.75	204	1.410	0.9	8.91	1gal/min
SW23	14:45			15.11	8.12	199	0.783	2.0	11.13	4" deep / 6' wide / 6ft/min
SW28	15:00			15.87	8.46	192	0.511	2.7	11.92	100gal/min

Site Name Muscatine P & W
Weather Sunny , 70DF, Calm

Date April 18, 2025
Measured By Sam Bennett/Neil Hoskins

Well #	TOC Elevation	Water Level from TOC (in feet)	Measured to Bottom	Well Depth	Water Level Elevation (in feet)	Well condition / Notes
MW-4B	715.87	7.70	27.80		708.17	Well Replaced due to damage
MW-5B	709.10	1.71	24.88		707.39	---
MW-6A	708.92	2.46	25.19		706.46	---
MW-08	747.36	15.54	43.16		731.82	---
MW-10	718.51	3.70	19.93		714.81	---
MW-14A	729.00	12.31	20.65		716.69	---
MW-15A	729.99	10.98	20.53		719.01	
MW-21	725.75	10.80	22.15		714.95	---
MW-22	744.27	17.68	43.28		726.59	
MW-23	726.90	5.57	19.19		721.33	
MW-24	735.32	14.25	22.65		721.07	
MW-26	731.08	20.32	37.93		710.76	
MW-27	730.26	13.98	19.42		716.28	
MW-09	---	22.10	---		#VALUE!	---
MW-11	---	2.89	---		#VALUE!	---
MW-12	---	2.27	---		#VALUE!	---
LPZ-05	---	Dry			#VALUE!	

LOW FLOW SAMPLING FORM

DATE	9/10/2025	WELL ID	MW-4B	SAMPLE DATE - TIME	9/10/25 - 0945
SITE	Muscatine Power & Water	DTW	7.18	NOTE	
PROJECT #	Fall 2025	WELL DEPTH	27.80		
WEATHER	60 deg, Clear, Calm	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mc

LOW FLOW SAMPLING FORM

DATE	9/10/2025	WELL ID	MW-5B	SAMPLE DATE - TIME	9/10/25 -1225
SITE	Muscatine Power & Water	DTW	1.13	NOTE	
PROJECT #	Fall 2025	WELL DEPTH	24.98		
WEATHER	60 deg, Clear, Calm	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mC

LOW FLOW SAMPLING FORM

DATE	9/10/2025	WELL ID	MW-6A	SAMPLE DATE - TIME	1040
SITE	Muscatine Power & Water	DTW	1.97	NOTE	
PROJECT #	Fall 2025	WELL DEPTH	25.08		
WEATHER	60 deg, Clear, Calm	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mV

LOW FLOW SAMPLING FORM

DATE	9/9/2025	WELL ID	MW-08	SAMPLE DATE - TIME	9/9/25 - 0920
SITE	Muscatine Power & Water	DTW	15.17	NOTE	DUP-2 marked 1200
PROJECT #	Fall 2025	WELL DEPTH	43.03		
WEATHER	Clear, 78 deg, 10-15 mph SW wind	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mC

LOW FLOW SAMPLING FORM

DATE	9/8/2025	WELL ID	MW-10	SAMPLE DATE - TIME	9/8/25 - 1510
SITE	Muscataine Power & Water	DTW	3.91	NOTE	
PROJECT #	Fall 2025	WELL DEPTH	19.80		
WEATHER	Clear, 78 deg, 10-15 mph SW wind	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mg

LOW FLOW SAMPLING FORM

DATE	9/9/2025	WELL ID	MW-14A	SAMPLE DATE - TIME	9/9/25 - 1355
SITE	Muscatine Power & Water	DTW	10.54	NOTE	
PROJECT #	Fall 2025	WELL DEPTH	20.48		
WEATHER	75 deg, 10mph S wind, Overcast	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mg

LOW FLOW SAMPLING FORM

DATE	9/10/2025	WELL ID	MW-15A	SAMPLE DATE - TIME	9/10/25 - 0825
SITE	Muscatine Power & Water	DTW	9.17	NOTE	
PROJECT #	Fall 2025	WELL DEPTH	20.55		
WEATHER	60 deg, Clear, Calm	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

Limits

LOW FLOW SAMPLING FORM

DATE	9/9/2025	WELL ID	MW-21	SAMPLE DATE - TIME	9/9/25 - 1240
SITE	Muscatine Power & Water	DTW	8.62	NOTE	
PROJECT #	Fall 2025	WELL DEPTH	22.16 Bottom		
WEATHER	75 deg, SW Wind 5-10mpw, Mostly Clear	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mg

LOW FLOW SAMPLING FORM

DATE	9/8/2025	WELL ID	MW-22	SAMPLE DATE - TIME	9/8/25 - 1145
SITE	Muscatine Power & Water	DTW	15.61	NOTE	DUP-1 marked 1200
PROJECT #	Fall 2025	WELL DEPTH	43.17		
WEATHER	67 deg; 11mph S wind, Partly Sunny	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mg

LOW FLOW SAMPLING FORM

DATE	9/8/2025	WELL ID	MW-23	SAMPLE DATE - TIME	9/8/2025 - 1350
SITE	Muscatine Power & Water	DTW	5.90	NOTE	
PROJECT #	Fall 2025	WELL DEPTH	19.08		
WEATHER	Clear, 72 deg.	PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 min	200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mg

LOW FLOW SAMPLING FORM

DATE	9/10/2025	WELL ID		SAMPLE DATE - TIME	
SITE	Muscatine Power & Water	DTW		NOTE	
PROJECT	Fall 2025	WELL DEPTH			
WEATHER		PUMP TYPE	GeoTech Peristaltic	DEPTH TO INTAKE	

[illegible]

0.5-5.0 m 200-500 ml	---	minimize	---	+/- 0.1	+/-10 mV	+/- 3%	+/- 10%	+/- 10%	Limits or +/-0.2 mc

Appendix B

2025 Laboratory Analytical Reports

ANALYTICAL REPORT

PREPARED FOR

Attn: Sam Bennett
Muscatine Power & Water
1700 Dick Drake Way
PO BOX 899
Muscatine, Iowa 52761

Generated 4/30/2025 5:23:00 PM

JOB DESCRIPTION

MPW CCR - Landfill

JOB NUMBER

310-304575-1

Eurofins Cedar Falls

Job Notes

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

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

Authorization



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4/30/2025 5:23:00 PM

Authorized for release by
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Case Narrative

Client: Muscatine Power & Water
Project: MPW CCR - Landfill

Job ID: 310-304575-1

Job ID: 310-304575-1

Eurofins Cedar Falls

Job Narrative 310-304575-1

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 4/18/2025 8:40 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.3°C and 0.7°C.

Metals

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

General Chemistry

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

Eurofins Cedar Falls

Sample Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-304575-1	MW-8	Ground Water	04/16/25 11:15	04/18/25 08:40
310-304575-2	MW-10	Ground Water	04/16/25 08:40	04/18/25 08:40
310-304575-3	MW-21	Ground Water	04/16/25 13:00	04/18/25 08:40
310-304575-4	MW-22	Ground Water	04/15/25 08:35	04/18/25 08:40
310-304575-5	MW-23	Ground Water	04/15/25 10:45	04/18/25 08:40
310-304575-6	MW-24	Ground Water	04/16/25 10:15	04/18/25 08:40
310-304575-7	MW-26	Ground Water	04/16/25 14:10	04/18/25 08:40
310-304575-8	MW-27	Ground Water	04/16/25 14:40	04/18/25 08:40
310-304575-9	QC1	Ground Water	04/15/25 12:00	04/18/25 08:40

Detection Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Client Sample ID: MW-8

Lab Sample ID: 310-304575-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00450		0.00200		mg/L	1		6020B	Total/NA
Barium	0.0867		0.00200		mg/L	1		6020B	Total/NA
Calcium	84.1		0.500		mg/L	1		6020B	Total/NA
Cobalt	0.00163		0.000500		mg/L	1		6020B	Total/NA
Iron	1.44		0.100		mg/L	1		6020B	Total/NA
Magnesium	34.4		0.500		mg/L	1		6020B	Total/NA
Manganese	0.434		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.159		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.312		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	63.5		25.0		mg/L	5		D516-16	Total/NA
Total Suspended Solids	2.88		1.88		mg/L	1		I-3765-85	Total/NA
Total Dissolved Solids	390		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	18.6		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.5	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-10

Lab Sample ID: 310-304575-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.190		0.00200		mg/L	1		6020B	Total/NA
Calcium	99.6		0.500		mg/L	1		6020B	Total/NA
Cobalt	0.00154		0.000500		mg/L	1		6020B	Total/NA
Iron	1.40		0.100		mg/L	1		6020B	Total/NA
Magnesium	46.1		0.500		mg/L	1		6020B	Total/NA
Manganese	0.285		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.169		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.281		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	84.7		25.0		mg/L	5		D516-16	Total/NA
Total Suspended Solids	4.00		3.75		mg/L	1		I-3765-85	Total/NA
Total Dissolved Solids	486		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	12.8		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.2	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-21

Lab Sample ID: 310-304575-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0460		0.00200		mg/L	1		6020B	Total/NA
Boron	2.64		0.100		mg/L	1		6020B	Total/NA
Calcium	87.4		0.500		mg/L	1		6020B	Total/NA
Chromium	0.00647		0.00500		mg/L	1		6020B	Total/NA
Lithium	0.0185		0.0100		mg/L	1		6020B	Total/NA
Magnesium	40.5		0.500		mg/L	1		6020B	Total/NA
Selenium	0.00832		0.00500		mg/L	1		6020B	Total/NA
Strontium	0.173		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.154		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	230		50.0		mg/L	10		D516-16	Total/NA
Total Suspended Solids	2.13		1.88		mg/L	1		I-3765-85	Total/NA
Total Dissolved Solids	606		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	10.9		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	6.9	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Client Sample ID: MW-22

Lab Sample ID: 310-304575-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.139		0.0500		mg/L	1		6020B	Total/NA
Arsenic	0.00671		0.00200		mg/L	1		6020B	Total/NA
Barium	0.247		0.00200		mg/L	1		6020B	Total/NA
Calcium	74.5		0.500		mg/L	1		6020B	Total/NA
Iron	0.215		0.100		mg/L	1		6020B	Total/NA
Magnesium	30.7		0.500		mg/L	1		6020B	Total/NA
Manganese	0.382		0.0100		mg/L	1		6020B	Total/NA
Molybdenum	0.00415		0.00200		mg/L	1		6020B	Total/NA
Strontium	0.124		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.268		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	143		50.0		mg/L	10		D516-16	Total/NA
Total Suspended Solids	6.00		1.88		mg/L	1		I-3765-85	Total/NA
Total Dissolved Solids	430		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	16.1		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.4	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-23

Lab Sample ID: 310-304575-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	2.76		0.0500		mg/L	1		6020B	Total/NA
Barium	0.0670		0.00200		mg/L	1		6020B	Total/NA
Calcium	56.0		0.500		mg/L	1		6020B	Total/NA
Cobalt	0.000879		0.000500		mg/L	1		6020B	Total/NA
Iron	2.53		0.100		mg/L	1		6020B	Total/NA
Lead	0.00115		0.000500		mg/L	1		6020B	Total/NA
Magnesium	27.1		0.500		mg/L	1		6020B	Total/NA
Manganese	0.0499		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.0665		0.00100		mg/L	1		6020B	Total/NA
Vanadium	0.00547		0.00500		mg/L	1		6020B	Total/NA
Fluoride	0.236		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	23.4		5.00		mg/L	1		D516-16	Total/NA
Total Suspended Solids	73.5		7.50		mg/L	1		I-3765-85	Total/NA
Total Dissolved Solids	298		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	25.1		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.4	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-24

Lab Sample ID: 310-304575-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0973		0.00200		mg/L	1		6020B	Total/NA
Calcium	71.6		0.500		mg/L	1		6020B	Total/NA
Magnesium	32.7		0.500		mg/L	1		6020B	Total/NA
Manganese	0.0166		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.0806		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.220		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	40.5		25.0		mg/L	5		D516-16	Total/NA
Chloride	23.6		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.3	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Client Sample ID: MW-26

Lab Sample ID: 310-304575-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.0503		0.0500		mg/L	1		6020B	Total/NA
Barium	0.0617		0.00200		mg/L	1		6020B	Total/NA
Boron	3.40		0.100		mg/L	1		6020B	Total/NA
Calcium	114		0.500		mg/L	1		6020B	Total/NA
Lithium	0.0107		0.0100		mg/L	1		6020B	Total/NA
Magnesium	43.3		0.500		mg/L	1		6020B	Total/NA
Manganese	0.0423		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.119		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.181		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	269		50.0		mg/L	10		D516-16	Total/NA
Chloride	17.2		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.6	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-27

Lab Sample ID: 310-304575-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	2.75		0.0500		mg/L	1		6020B	Total/NA
Barium	0.0607		0.00200		mg/L	1		6020B	Total/NA
Boron	0.244		0.100		mg/L	1		6020B	Total/NA
Calcium	26.4		0.500		mg/L	1		6020B	Total/NA
Cobalt	0.000855		0.000500		mg/L	1		6020B	Total/NA
Iron	2.37		0.100		mg/L	1		6020B	Total/NA
Lead	0.00108		0.000500		mg/L	1		6020B	Total/NA
Magnesium	13.0		0.500		mg/L	1		6020B	Total/NA
Manganese	0.0940		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.0670		0.00100		mg/L	1		6020B	Total/NA
Vanadium	0.00613		0.00500		mg/L	1		6020B	Total/NA
Sulfate	11.4		5.00		mg/L	1		D516-16	Total/NA
Chloride	23.0		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	6.4	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: QC1

Lab Sample ID: 310-304575-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.106		0.0500		mg/L	1		6020B	Total/NA
Arsenic	0.0123		0.00200		mg/L	1		6020B	Total/NA
Barium	0.296		0.00200		mg/L	1		6020B	Total/NA
Calcium	78.8		0.500		mg/L	1		6020B	Total/NA
Cobalt	0.000772		0.000500		mg/L	1		6020B	Total/NA
Iron	0.544		0.100		mg/L	1		6020B	Total/NA
Magnesium	32.6		0.500		mg/L	1		6020B	Total/NA
Manganese	0.621		0.0100		mg/L	1		6020B	Total/NA
Molybdenum	0.00508		0.00200		mg/L	1		6020B	Total/NA
Strontium	0.110		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.313		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	161		50.0		mg/L	10		D516-16	Total/NA
Total Suspended Solids	4.13		1.88		mg/L	1		I-3765-85	Total/NA
Total Dissolved Solids	458		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	14.7		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.8	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Client Sample ID: MW-8

Lab Sample ID: 310-304575-1

Date Collected: 04/16/25 11:15

Matrix: Ground Water

Date Received: 04/18/25 08:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		04/22/25 10:30	04/22/25 18:38	1
Antimony	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:38	1
Arsenic	0.00450		0.00200		mg/L		04/22/25 10:30	04/22/25 18:38	1
Barium	0.0867		0.00200		mg/L		04/22/25 10:30	04/22/25 18:38	1
Beryllium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:38	1
Boron	<0.100		0.100		mg/L		04/22/25 10:30	04/22/25 18:38	1
Cadmium	<0.000200		0.000200		mg/L		04/22/25 10:30	04/22/25 18:38	1
Calcium	84.1		0.500		mg/L		04/22/25 10:30	04/22/25 18:38	1
Chromium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:38	1
Cobalt	0.00163		0.000500		mg/L		04/22/25 10:30	04/22/25 18:38	1
Copper	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:38	1
Iron	1.44		0.100		mg/L		04/22/25 10:30	04/22/25 18:38	1
Lead	<0.000500		0.000500		mg/L		04/22/25 10:30	04/22/25 18:38	1
Lithium	<0.0100		0.0100		mg/L		04/22/25 10:30	04/22/25 18:38	1
Magnesium	34.4		0.500		mg/L		04/22/25 10:30	04/22/25 18:38	1
Manganese	0.434		0.0100		mg/L		04/22/25 10:30	04/22/25 18:38	1
Molybdenum	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:38	1
Nickel	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:38	1
Selenium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:38	1
Strontium	0.159		0.00100		mg/L		04/22/25 10:30	04/22/25 18:38	1
Thallium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:38	1
Vanadium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:38	1
Zinc	<0.0200		0.0200		mg/L		04/22/25 10:30	04/22/25 18:38	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/24/25 12:56	04/25/25 11:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.312		0.100		mg/L			04/22/25 12:12	1
Sulfate (ASTM D516-16)	63.5		25.0		mg/L			04/29/25 13:27	5
Total Suspended Solids (USGS I-3765-85)	2.88		1.88		mg/L			04/21/25 15:26	1
Total Dissolved Solids (SM 2540C)	390		50.0		mg/L			04/21/25 19:11	1
Chloride (SM 4500 Cl- E)	18.6		2.00		mg/L			04/23/25 15:39	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.5	HF	1.0		SU			04/18/25 10:16	1

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Client Sample ID: MW-10

Lab Sample ID: 310-304575-2

Date Collected: 04/16/25 08:40

Matrix: Ground Water

Date Received: 04/18/25 08:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		04/22/25 10:30	04/22/25 18:55	1
Antimony	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:55	1
Arsenic	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:55	1
Barium	0.190		0.00200		mg/L		04/22/25 10:30	04/22/25 18:55	1
Beryllium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:55	1
Boron	<0.100		0.100		mg/L		04/22/25 10:30	04/22/25 18:55	1
Cadmium	<0.000200		0.000200		mg/L		04/22/25 10:30	04/22/25 18:55	1
Calcium	99.6		0.500		mg/L		04/22/25 10:30	04/22/25 18:55	1
Chromium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:55	1
Cobalt	0.00154		0.000500		mg/L		04/22/25 10:30	04/22/25 18:55	1
Copper	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:55	1
Iron	1.40		0.100		mg/L		04/22/25 10:30	04/22/25 18:55	1
Lead	<0.000500		0.000500		mg/L		04/22/25 10:30	04/22/25 18:55	1
Lithium	<0.0100		0.0100		mg/L		04/22/25 10:30	04/22/25 18:55	1
Magnesium	46.1		0.500		mg/L		04/22/25 10:30	04/22/25 18:55	1
Manganese	0.285		0.0100		mg/L		04/22/25 10:30	04/22/25 18:55	1
Molybdenum	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:55	1
Nickel	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:55	1
Selenium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:55	1
Strontium	0.169		0.00100		mg/L		04/22/25 10:30	04/22/25 18:55	1
Thallium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:55	1
Vanadium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:55	1
Zinc	<0.0200		0.0200		mg/L		04/22/25 10:30	04/22/25 18:55	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 14:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.281		0.100		mg/L			04/22/25 12:15	1
Sulfate (ASTM D516-16)	84.7		25.0		mg/L			04/29/25 13:27	5
Total Suspended Solids (USGS I-3765-85)	4.00		3.75		mg/L			04/21/25 15:26	1
Total Dissolved Solids (SM 2540C)	486		50.0		mg/L			04/21/25 19:11	1
Chloride (SM 4500 Cl- E)	12.8		2.00		mg/L			04/23/25 15:40	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.2	HF	1.0		SU			04/18/25 10:17	1

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Client Sample ID: MW-21

Lab Sample ID: 310-304575-3

Date Collected: 04/16/25 13:00

Matrix: Ground Water

Date Received: 04/18/25 08:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		04/22/25 10:30	04/22/25 18:17	1
Antimony	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:17	1
Arsenic	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:17	1
Barium	0.0460		0.00200		mg/L		04/22/25 10:30	04/22/25 18:17	1
Beryllium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:17	1
Boron	2.64		0.100		mg/L		04/22/25 10:30	04/22/25 18:17	1
Cadmium	<0.000200		0.000200		mg/L		04/22/25 10:30	04/22/25 18:17	1
Calcium	87.4		0.500		mg/L		04/22/25 10:30	04/22/25 18:17	1
Chromium	0.00647		0.00500		mg/L		04/22/25 10:30	04/22/25 18:17	1
Cobalt	<0.000500		0.000500		mg/L		04/22/25 10:30	04/22/25 18:17	1
Copper	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:17	1
Iron	<0.100		0.100		mg/L		04/22/25 10:30	04/22/25 18:17	1
Lead	<0.000500		0.000500		mg/L		04/22/25 10:30	04/22/25 18:17	1
Lithium	0.0185		0.0100		mg/L		04/22/25 10:30	04/22/25 18:17	1
Magnesium	40.5		0.500		mg/L		04/22/25 10:30	04/22/25 18:17	1
Manganese	<0.0100		0.0100		mg/L		04/22/25 10:30	04/22/25 18:17	1
Molybdenum	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:17	1
Nickel	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:17	1
Selenium	0.00832		0.00500		mg/L		04/22/25 10:30	04/22/25 18:17	1
Strontium	0.173		0.00100		mg/L		04/22/25 10:30	04/22/25 18:17	1
Thallium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:17	1
Vanadium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:17	1
Zinc	<0.0200		0.0200		mg/L		04/22/25 10:30	04/22/25 18:17	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 14:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.154		0.100		mg/L			04/22/25 12:19	1
Sulfate (ASTM D516-16)	230		50.0		mg/L			04/29/25 13:27	10
Total Suspended Solids (USGS I-3765-85)	2.13		1.88		mg/L			04/21/25 15:26	1
Total Dissolved Solids (SM 2540C)	606		50.0		mg/L			04/21/25 19:11	1
Chloride (SM 4500 Cl- E)	10.9		2.00		mg/L			04/23/25 15:40	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	6.9	HF	1.0		SU			04/18/25 10:18	1

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Client Sample ID: MW-22

Lab Sample ID: 310-304575-4

Date Collected: 04/15/25 08:35

Matrix: Ground Water

Date Received: 04/18/25 08:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.139		0.0500		mg/L		04/22/25 10:30	04/22/25 18:46	1
Antimony	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:46	1
Arsenic	0.00671		0.00200		mg/L		04/22/25 10:30	04/22/25 18:46	1
Barium	0.247		0.00200		mg/L		04/22/25 10:30	04/22/25 18:46	1
Beryllium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:46	1
Boron	<0.100		0.100		mg/L		04/22/25 10:30	04/22/25 18:46	1
Cadmium	<0.000200		0.000200		mg/L		04/22/25 10:30	04/22/25 18:46	1
Calcium	74.5		0.500		mg/L		04/22/25 10:30	04/22/25 18:46	1
Chromium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:46	1
Cobalt	<0.000500		0.000500		mg/L		04/22/25 10:30	04/22/25 18:46	1
Copper	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:46	1
Iron	0.215		0.100		mg/L		04/22/25 10:30	04/22/25 18:46	1
Lead	<0.000500		0.000500		mg/L		04/22/25 10:30	04/22/25 18:46	1
Lithium	<0.0100		0.0100		mg/L		04/22/25 10:30	04/22/25 18:46	1
Magnesium	30.7		0.500		mg/L		04/22/25 10:30	04/22/25 18:46	1
Manganese	0.382		0.0100		mg/L		04/22/25 10:30	04/22/25 18:46	1
Molybdenum	0.00415		0.00200		mg/L		04/22/25 10:30	04/22/25 18:46	1
Nickel	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:46	1
Selenium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:46	1
Strontium	0.124		0.00100		mg/L		04/22/25 10:30	04/22/25 18:46	1
Thallium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:46	1
Vanadium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:46	1
Zinc	<0.0200		0.0200		mg/L		04/22/25 10:30	04/22/25 18:46	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 14:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.268		0.100		mg/L			04/22/25 12:22	1
Sulfate (ASTM D516-16)	143		50.0		mg/L			04/30/25 11:22	10
Total Suspended Solids (USGS I-3765-85)	6.00		1.88		mg/L			04/21/25 14:55	1
Total Dissolved Solids (SM 2540C)	430		50.0		mg/L			04/21/25 19:11	1
Chloride (SM 4500 Cl- E)	16.1		2.00		mg/L			04/23/25 15:40	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.4	HF	1.0		SU			04/18/25 10:19	1

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Client Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Client Sample ID: MW-23

Lab Sample ID: 310-304575-5

Date Collected: 04/15/25 10:45

Matrix: Ground Water

Date Received: 04/18/25 08:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	2.76		0.0500		mg/L		04/22/25 10:30	04/22/25 18:32	1
Antimony	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:32	1
Arsenic	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:32	1
Barium	0.0670		0.00200		mg/L		04/22/25 10:30	04/22/25 18:32	1
Beryllium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:32	1
Boron	<0.100		0.100		mg/L		04/22/25 10:30	04/22/25 18:32	1
Cadmium	<0.000200		0.000200		mg/L		04/22/25 10:30	04/22/25 18:32	1
Calcium	56.0		0.500		mg/L		04/22/25 10:30	04/22/25 18:32	1
Chromium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:32	1
Cobalt	0.000879		0.000500		mg/L		04/22/25 10:30	04/22/25 18:32	1
Copper	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:32	1
Iron	2.53		0.100		mg/L		04/22/25 10:30	04/22/25 18:32	1
Lead	0.00115		0.000500		mg/L		04/22/25 10:30	04/22/25 18:32	1
Lithium	<0.0100		0.0100		mg/L		04/22/25 10:30	04/22/25 18:32	1
Magnesium	27.1		0.500		mg/L		04/22/25 10:30	04/22/25 18:32	1
Manganese	0.0499		0.0100		mg/L		04/22/25 10:30	04/22/25 18:32	1
Molybdenum	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:32	1
Nickel	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:32	1
Selenium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:32	1
Strontium	0.0665		0.00100		mg/L		04/22/25 10:30	04/22/25 18:32	1
Thallium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:32	1
Vanadium	0.00547		0.00500		mg/L		04/22/25 10:30	04/22/25 18:32	1
Zinc	<0.0200		0.0200		mg/L		04/22/25 10:30	04/22/25 18:32	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 14:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.236		0.100		mg/L			04/22/25 12:25	1
Sulfate (ASTM D516-16)	23.4		5.00		mg/L			04/30/25 11:23	1
Total Suspended Solids (USGS I-3765-85)	73.5		7.50		mg/L			04/21/25 14:55	1
Total Dissolved Solids (SM 2540C)	298		50.0		mg/L			04/21/25 19:11	1
Chloride (SM 4500 Cl- E)	25.1		2.00		mg/L			04/23/25 15:41	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.4	HF	1.0		SU			04/18/25 10:20	1

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Client Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Client Sample ID: MW-24

Lab Sample ID: 310-304575-6

Date Collected: 04/16/25 10:15

Matrix: Ground Water

Date Received: 04/18/25 08:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		04/22/25 10:30	04/22/25 18:52	1
Antimony	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:52	1
Arsenic	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:52	1
Barium	0.0973		0.00200		mg/L		04/22/25 10:30	04/22/25 18:52	1
Beryllium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:52	1
Boron	<0.100		0.100		mg/L		04/22/25 10:30	04/22/25 18:52	1
Cadmium	<0.000200		0.000200		mg/L		04/22/25 10:30	04/22/25 18:52	1
Calcium	71.6		0.500		mg/L		04/22/25 10:30	04/22/25 18:52	1
Chromium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:52	1
Cobalt	<0.000500		0.000500		mg/L		04/22/25 10:30	04/22/25 18:52	1
Copper	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:52	1
Iron	<0.100		0.100		mg/L		04/22/25 10:30	04/22/25 18:52	1
Lead	<0.000500		0.000500		mg/L		04/22/25 10:30	04/22/25 18:52	1
Lithium	<0.0100		0.0100		mg/L		04/22/25 10:30	04/22/25 18:52	1
Magnesium	32.7		0.500		mg/L		04/22/25 10:30	04/22/25 18:52	1
Manganese	0.0166		0.0100		mg/L		04/22/25 10:30	04/22/25 18:52	1
Molybdenum	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:52	1
Nickel	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:52	1
Selenium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:52	1
Strontium	0.0806		0.00100		mg/L		04/22/25 10:30	04/22/25 18:52	1
Thallium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:52	1
Vanadium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:52	1
Zinc	<0.0200		0.0200		mg/L		04/22/25 10:30	04/22/25 18:52	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 14:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.220		0.100		mg/L			04/22/25 12:28	1
Sulfate (ASTM D516-16)	40.5		25.0		mg/L			04/30/25 11:23	5
Chloride (SM 4500 Cl- E)	23.6		2.00		mg/L			04/23/25 15:41	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	1.0		SU			04/18/25 13:04	1

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Client Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Client Sample ID: MW-26

Lab Sample ID: 310-304575-7

Date Collected: 04/16/25 14:10

Matrix: Ground Water

Date Received: 04/18/25 08:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0503		0.0500		mg/L		04/22/25 10:30	04/22/25 18:58	1
Antimony	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:58	1
Arsenic	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:58	1
Barium	0.0617		0.00200		mg/L		04/22/25 10:30	04/22/25 18:58	1
Beryllium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:58	1
Boron	3.40		0.100		mg/L		04/22/25 10:30	04/22/25 18:58	1
Cadmium	<0.000200		0.000200		mg/L		04/22/25 10:30	04/22/25 18:58	1
Calcium	114		0.500		mg/L		04/22/25 10:30	04/22/25 18:58	1
Chromium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:58	1
Cobalt	<0.000500		0.000500		mg/L		04/22/25 10:30	04/22/25 18:58	1
Copper	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:58	1
Iron	<0.100		0.100		mg/L		04/22/25 10:30	04/22/25 18:58	1
Lead	<0.000500		0.000500		mg/L		04/22/25 10:30	04/22/25 18:58	1
Lithium	0.0107		0.0100		mg/L		04/22/25 10:30	04/22/25 18:58	1
Magnesium	43.3		0.500		mg/L		04/22/25 10:30	04/22/25 18:58	1
Manganese	0.0423		0.0100		mg/L		04/22/25 10:30	04/22/25 18:58	1
Molybdenum	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:58	1
Nickel	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:58	1
Selenium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:58	1
Strontium	0.119		0.00100		mg/L		04/22/25 10:30	04/22/25 18:58	1
Thallium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:58	1
Vanadium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:58	1
Zinc	<0.0200		0.0200		mg/L		04/22/25 10:30	04/22/25 18:58	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 14:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.181		0.100		mg/L			04/22/25 12:32	1
Sulfate (ASTM D516-16)	269		50.0		mg/L			04/30/25 11:25	10
Chloride (SM 4500 Cl- E)	17.2		2.00		mg/L			04/23/25 16:26	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.6	HF	1.0		SU			04/18/25 13:03	1

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Client Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Client Sample ID: MW-27

Lab Sample ID: 310-304575-8

Date Collected: 04/16/25 14:40

Matrix: Ground Water

Date Received: 04/18/25 08:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	2.75		0.0500		mg/L		04/22/25 10:30	04/22/25 19:27	1
Antimony	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 19:27	1
Arsenic	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 19:27	1
Barium	0.0607		0.00200		mg/L		04/22/25 10:30	04/22/25 19:27	1
Beryllium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 19:27	1
Boron	0.244		0.100		mg/L		04/22/25 10:30	04/22/25 19:27	1
Cadmium	<0.000200		0.000200		mg/L		04/22/25 10:30	04/22/25 19:27	1
Calcium	26.4		0.500		mg/L		04/22/25 10:30	04/22/25 19:27	1
Chromium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 19:27	1
Cobalt	0.000855		0.000500		mg/L		04/22/25 10:30	04/22/25 19:27	1
Copper	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 19:27	1
Iron	2.37		0.100		mg/L		04/22/25 10:30	04/22/25 19:27	1
Lead	0.00108		0.000500		mg/L		04/22/25 10:30	04/22/25 19:27	1
Lithium	<0.0100		0.0100		mg/L		04/22/25 10:30	04/22/25 19:27	1
Magnesium	13.0		0.500		mg/L		04/22/25 10:30	04/22/25 19:27	1
Manganese	0.0940		0.0100		mg/L		04/22/25 10:30	04/22/25 19:27	1
Molybdenum	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 19:27	1
Nickel	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 19:27	1
Selenium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 19:27	1
Strontium	0.0670		0.00100		mg/L		04/22/25 10:30	04/22/25 19:27	1
Thallium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 19:27	1
Vanadium	0.00613		0.00500		mg/L		04/22/25 10:30	04/22/25 19:27	1
Zinc	<0.0200		0.0200		mg/L		04/22/25 10:30	04/22/25 19:27	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 14:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	<0.100		0.100		mg/L			04/22/25 12:35	1
Sulfate (ASTM D516-16)	11.4		5.00		mg/L			04/30/25 11:25	1
Chloride (SM 4500 Cl- E)	23.0		2.00		mg/L			04/23/25 16:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	6.4	HF	1.0		SU			04/18/25 13:01	1

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Client Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Client Sample ID: QC1

Lab Sample ID: 310-304575-9

Date Collected: 04/15/25 12:00

Matrix: Ground Water

Date Received: 04/18/25 08:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.106		0.0500		mg/L		04/22/25 10:30	04/22/25 19:30	1
Antimony	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 19:30	1
Arsenic	0.0123		0.00200		mg/L		04/22/25 10:30	04/22/25 19:30	1
Barium	0.296		0.00200		mg/L		04/22/25 10:30	04/22/25 19:30	1
Beryllium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 19:30	1
Boron	<0.100		0.100		mg/L		04/22/25 10:30	04/22/25 19:30	1
Cadmium	<0.000200		0.000200		mg/L		04/22/25 10:30	04/22/25 19:30	1
Calcium	78.8		0.500		mg/L		04/22/25 10:30	04/22/25 19:30	1
Chromium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 19:30	1
Cobalt	0.000772		0.000500		mg/L		04/22/25 10:30	04/22/25 19:30	1
Copper	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 19:30	1
Iron	0.544		0.100		mg/L		04/22/25 10:30	04/22/25 19:30	1
Lead	<0.000500		0.000500		mg/L		04/22/25 10:30	04/22/25 19:30	1
Lithium	<0.0100		0.0100		mg/L		04/22/25 10:30	04/22/25 19:30	1
Magnesium	32.6		0.500		mg/L		04/22/25 10:30	04/22/25 19:30	1
Manganese	0.621		0.0100		mg/L		04/22/25 10:30	04/22/25 19:30	1
Molybdenum	0.00508		0.00200		mg/L		04/22/25 10:30	04/22/25 19:30	1
Nickel	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 19:30	1
Selenium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 19:30	1
Strontium	0.110		0.00100		mg/L		04/22/25 10:30	04/22/25 19:30	1
Thallium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 19:30	1
Vanadium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 19:30	1
Zinc	<0.0200		0.0200		mg/L		04/22/25 10:30	04/22/25 19:30	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 14:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.313		0.100		mg/L			04/22/25 12:38	1
Sulfate (ASTM D516-16)	161		50.0		mg/L			04/29/25 13:31	10
Total Suspended Solids (USGS I-3765-85)	4.13		1.88		mg/L			04/21/25 14:55	1
Total Dissolved Solids (SM 2540C)	458		50.0		mg/L			04/21/25 19:11	1
Chloride (SM 4500 Cl- E)	14.7		2.00		mg/L			04/23/25 16:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.8	HF	1.0		SU			04/18/25 10:14	1

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Definitions/Glossary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

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

Glossary

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

QC Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-452231/1-A

Matrix: Water

Analysis Batch: 452465

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 452231

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		04/22/25 10:30	04/22/25 18:12	1
Antimony	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:12	1
Arsenic	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:12	1
Barium	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:12	1
Beryllium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:12	1
Boron	<0.100		0.100		mg/L		04/22/25 10:30	04/22/25 18:12	1
Cadmium	<0.000200		0.000200		mg/L		04/22/25 10:30	04/22/25 18:12	1
Calcium	<0.500		0.500		mg/L		04/22/25 10:30	04/22/25 18:12	1
Chromium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:12	1
Cobalt	<0.000500		0.000500		mg/L		04/22/25 10:30	04/22/25 18:12	1
Copper	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:12	1
Iron	<0.100		0.100		mg/L		04/22/25 10:30	04/22/25 18:12	1
Lead	<0.000500		0.000500		mg/L		04/22/25 10:30	04/22/25 18:12	1
Lithium	<0.0100		0.0100		mg/L		04/22/25 10:30	04/22/25 18:12	1
Magnesium	<0.500		0.500		mg/L		04/22/25 10:30	04/22/25 18:12	1
Manganese	<0.0100		0.0100		mg/L		04/22/25 10:30	04/22/25 18:12	1
Molybdenum	<0.00200		0.00200		mg/L		04/22/25 10:30	04/22/25 18:12	1
Nickel	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:12	1
Selenium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:12	1
Strontium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:12	1
Thallium	<0.00100		0.00100		mg/L		04/22/25 10:30	04/22/25 18:12	1
Vanadium	<0.00500		0.00500		mg/L		04/22/25 10:30	04/22/25 18:12	1
Zinc	<0.0200		0.0200		mg/L		04/22/25 10:30	04/22/25 18:12	1

Lab Sample ID: LCS 310-452231/2-A

Matrix: Water

Analysis Batch: 452465

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452231

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	0.200	0.2102		mg/L		105	80 - 120
Antimony	0.200	0.2121		mg/L		106	80 - 120
Arsenic	0.200	0.1955		mg/L		98	80 - 120
Barium	0.100	0.1023		mg/L		102	80 - 120
Beryllium	0.100	0.1003		mg/L		100	80 - 120
Boron	0.200	0.2127		mg/L		106	80 - 120
Cadmium	0.100	0.09820		mg/L		98	80 - 120
Calcium	2.00	2.020		mg/L		101	80 - 120
Chromium	0.100	0.1033		mg/L		103	80 - 120
Cobalt	0.100	0.1051		mg/L		105	80 - 120
Copper	0.200	0.2078		mg/L		104	80 - 120
Iron	0.200	0.2004		mg/L		100	80 - 120
Lead	0.200	0.1966		mg/L		98	80 - 120
Lithium	0.200	0.2160		mg/L		108	80 - 120
Magnesium	2.00	1.964		mg/L		98	80 - 120
Manganese	0.100	0.09739		mg/L		97	80 - 120
Molybdenum	0.200	0.1996		mg/L		100	80 - 120
Nickel	0.200	0.2026		mg/L		101	80 - 120
Selenium	0.400	0.3800		mg/L		95	80 - 120
Strontium	0.200	0.1951		mg/L		98	80 - 120

Eurofins Cedar Falls

QC Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

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

Lab Sample ID: LCS 310-452231/2-A

Matrix: Water

Analysis Batch: 452465

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452231

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.100	0.09550		mg/L		95	80 - 120
Vanadium	0.100	0.1016		mg/L		102	80 - 120
Zinc	0.200	0.1826		mg/L		91	80 - 120

Lab Sample ID: 310-304575-3 MS

Matrix: Ground Water

Analysis Batch: 452465

Client Sample ID: MW-21

Prep Type: Total/NA

Prep Batch: 452231

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	<0.0500		0.200	0.2367		mg/L		101	75 - 125
Antimony	<0.00200		0.200	0.2149		mg/L		107	75 - 125
Arsenic	<0.00200		0.200	0.2059		mg/L		102	75 - 125
Barium	0.0460		0.100	0.1497		mg/L		104	75 - 125
Beryllium	<0.00100		0.100	0.1026		mg/L		103	75 - 125
Boron	2.64		0.200	2.835	4	mg/L		98	75 - 125
Cadmium	<0.000200		0.100	0.1021		mg/L		102	75 - 125
Calcium	87.4		2.00	87.58	4	mg/L		10	75 - 125
Chromium	0.00647		0.100	0.1093		mg/L		103	75 - 125
Cobalt	<0.000500		0.100	0.1026		mg/L		103	75 - 125
Copper	<0.00500		0.200	0.2029		mg/L		101	75 - 125
Iron	<0.100		0.200	0.2344		mg/L		117	75 - 125
Lead	<0.000500		0.200	0.2004		mg/L		100	75 - 125
Lithium	0.0185		0.200	0.2296		mg/L		106	75 - 125
Magnesium	40.5		2.00	41.21	4	mg/L		37	75 - 125
Manganese	<0.0100		0.100	0.09636		mg/L		96	75 - 125
Molybdenum	<0.00200		0.200	0.2070		mg/L		104	75 - 125
Nickel	<0.00500		0.200	0.1978		mg/L		97	75 - 125
Selenium	0.00832		0.400	0.3948		mg/L		97	75 - 125
Strontium	0.173		0.200	0.3662		mg/L		96	75 - 125
Thallium	<0.00100		0.100	0.08665		mg/L		87	75 - 125
Vanadium	<0.00500		0.100	0.1040		mg/L		104	75 - 125
Zinc	<0.0200		0.200	0.1822		mg/L		91	75 - 125

Lab Sample ID: 310-304575-3 MSD

Matrix: Ground Water

Analysis Batch: 452465

Client Sample ID: MW-21

Prep Type: Total/NA

Prep Batch: 452231

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aluminum	<0.0500		0.200	0.2376		mg/L		102	75 - 125	0	20
Antimony	<0.00200		0.200	0.2172		mg/L		109	75 - 125	1	20
Arsenic	<0.00200		0.200	0.2068		mg/L		103	75 - 125	0	20
Barium	0.0460		0.100	0.1520		mg/L		106	75 - 125	2	20
Beryllium	<0.00100		0.100	0.1028		mg/L		103	75 - 125	0	20
Boron	2.64		0.200	2.887	4	mg/L		124	75 - 125	2	20
Cadmium	<0.000200		0.100	0.1027		mg/L		103	75 - 125	1	20
Calcium	87.4		2.00	88.33	4	mg/L		48	75 - 125	1	20
Chromium	0.00647		0.100	0.1102		mg/L		104	75 - 125	1	20
Cobalt	<0.000500		0.100	0.1033		mg/L		103	75 - 125	1	20
Copper	<0.00500		0.200	0.2038		mg/L		102	75 - 125	0	20

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QC Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

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

Lab Sample ID: 310-304575-3 MSD

Matrix: Ground Water

Analysis Batch: 452465

Client Sample ID: MW-21

Prep Type: Total/NA

Prep Batch: 452231

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	<0.100		0.200	0.2384		mg/L		119	75 - 125	2	20
Lead	<0.000500		0.200	0.2000		mg/L		100	75 - 125	0	20
Lithium	0.0185		0.200	0.2310		mg/L		106	75 - 125	1	20
Magnesium	40.5		2.00	41.63	4	mg/L		58	75 - 125	1	20
Manganese	<0.0100		0.100	0.09686		mg/L		97	75 - 125	1	20
Molybdenum	<0.00200		0.200	0.2097		mg/L		105	75 - 125	1	20
Nickel	<0.00500		0.200	0.1987		mg/L		97	75 - 125	0	20
Selenium	0.00832		0.400	0.4028		mg/L		99	75 - 125	2	20
Strontium	0.173		0.200	0.3713		mg/L		99	75 - 125	1	20
Thallium	<0.00100		0.100	0.09050		mg/L		90	75 - 125	4	20
Vanadium	<0.00500		0.100	0.1041		mg/L		104	75 - 125	0	20
Zinc	<0.0200		0.200	0.1823		mg/L		91	75 - 125	0	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-452501/1-A

Matrix: Water

Analysis Batch: 452733

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 452501

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/24/25 12:56	04/25/25 10:40	1

Lab Sample ID: LCS 310-452501/2-A

Matrix: Water

Analysis Batch: 452733

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452501

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001718		mg/L		103	80 - 120

Lab Sample ID: MB 310-452863/1-A

Matrix: Water

Analysis Batch: 453118

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 452863

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 13:58	1

Lab Sample ID: LCS 310-452863/2-A

Matrix: Water

Analysis Batch: 453118

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452863

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001674		mg/L		100	80 - 120

Lab Sample ID: 310-304575-2 MS

Matrix: Ground Water

Analysis Batch: 453118

Client Sample ID: MW-10

Prep Type: Total/NA

Prep Batch: 452863

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.000200		0.00167	0.001649		mg/L		99	80 - 120

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QC Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 310-304575-2 MSD
Matrix: Ground Water
Analysis Batch: 453118

Client Sample ID: MW-10
Prep Type: Total/NA
Prep Batch: 452863

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.000200		0.00167	0.001742		mg/L		105	80 - 120	6	20

Method: 4500 F C-2011 - Fluoride (Ion-selective Electrode)

Lab Sample ID: MB 310-452344/5
Matrix: Water
Analysis Batch: 452344

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.100		0.100		mg/L			04/22/25 11:40	1

Lab Sample ID: LCS 310-452344/6
Matrix: Water
Analysis Batch: 452344

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	2.00	2.168		mg/L		108	90 - 110

Method: D516-16 - Sulfate

Lab Sample ID: MB 310-453112/16
Matrix: Water
Analysis Batch: 453112

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.00		5.00		mg/L			04/29/25 13:21	1

Lab Sample ID: LCS 310-453112/17
Matrix: Water
Analysis Batch: 453112

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	10.0	8.555		mg/L		86	85 - 115

Lab Sample ID: MB 310-453231/16
Matrix: Water
Analysis Batch: 453231

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.00		5.00		mg/L			04/30/25 11:20	1

Lab Sample ID: LCS 310-453231/17
Matrix: Water
Analysis Batch: 453231

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	10.0	9.949		mg/L		99	85 - 115

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QC Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Method: I-3765-85 - Residue, Non-filterable (TSS)

Lab Sample ID: MB 310-452219/1

Matrix: Water

Analysis Batch: 452219

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00		mg/L			04/21/25 14:55	1

Lab Sample ID: LCS 310-452219/2

Matrix: Water

Analysis Batch: 452219

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	112.0		mg/L		112	81 - 116

Lab Sample ID: MB 310-452222/1

Matrix: Water

Analysis Batch: 452222

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00		mg/L			04/21/25 15:26	1

Lab Sample ID: LCS 310-452222/2

Matrix: Water

Analysis Batch: 452222

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	112.0		mg/L		112	81 - 116

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

Lab Sample ID: MB 310-452247/1

Matrix: Water

Analysis Batch: 452247

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<50.0		50.0		mg/L			04/21/25 19:11	1

Lab Sample ID: LCS 310-452247/2

Matrix: Water

Analysis Batch: 452247

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	964.0		mg/L		96	88 - 110

Lab Sample ID: 310-304575-4 DU

Matrix: Ground Water

Analysis Batch: 452247

Client Sample ID: MW-22

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	430		454.0		mg/L		5	16

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QC Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 310-452503/45

Matrix: Water

Analysis Batch: 452503

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.00		2.00		mg/L			04/23/25 15:34	1

Lab Sample ID: LCS 310-452503/46

Matrix: Water

Analysis Batch: 452503

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	10.39		mg/L		104	90 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-451981/22

Matrix: Water

Analysis Batch: 451981

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100	98 - 102

Lab Sample ID: 310-304575-8 DU

Matrix: Ground Water

Analysis Batch: 451981

Client Sample ID: MW-27

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.4	HF	6.4		SU		0.2	20

Lab Sample ID: 310-304575-9 DU

Matrix: Ground Water

Analysis Batch: 451981

Client Sample ID: QC1

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8	HF	7.8		SU		0.1	20

QC Association Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Metals

Prep Batch: 452231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-1	MW-8	Total/NA	Ground Water	3005A	
310-304575-2	MW-10	Total/NA	Ground Water	3005A	
310-304575-3	MW-21	Total/NA	Ground Water	3005A	
310-304575-4	MW-22	Total/NA	Ground Water	3005A	
310-304575-5	MW-23	Total/NA	Ground Water	3005A	
310-304575-6	MW-24	Total/NA	Ground Water	3005A	
310-304575-7	MW-26	Total/NA	Ground Water	3005A	
310-304575-8	MW-27	Total/NA	Ground Water	3005A	
310-304575-9	QC1	Total/NA	Ground Water	3005A	
MB 310-452231/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-452231/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-304575-3 MS	MW-21	Total/NA	Ground Water	3005A	
310-304575-3 MSD	MW-21	Total/NA	Ground Water	3005A	

Analysis Batch: 452465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-1	MW-8	Total/NA	Ground Water	6020B	452231
310-304575-2	MW-10	Total/NA	Ground Water	6020B	452231
310-304575-3	MW-21	Total/NA	Ground Water	6020B	452231
310-304575-4	MW-22	Total/NA	Ground Water	6020B	452231
310-304575-5	MW-23	Total/NA	Ground Water	6020B	452231
310-304575-6	MW-24	Total/NA	Ground Water	6020B	452231
310-304575-7	MW-26	Total/NA	Ground Water	6020B	452231
310-304575-8	MW-27	Total/NA	Ground Water	6020B	452231
310-304575-9	QC1	Total/NA	Ground Water	6020B	452231
MB 310-452231/1-A	Method Blank	Total/NA	Water	6020B	452231
LCS 310-452231/2-A	Lab Control Sample	Total/NA	Water	6020B	452231
310-304575-3 MS	MW-21	Total/NA	Ground Water	6020B	452231
310-304575-3 MSD	MW-21	Total/NA	Ground Water	6020B	452231

Prep Batch: 452501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-1	MW-8	Total/NA	Ground Water	7470A	
MB 310-452501/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-452501/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 452733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-1	MW-8	Total/NA	Ground Water	7470A	452501
MB 310-452501/1-A	Method Blank	Total/NA	Water	7470A	452501
LCS 310-452501/2-A	Lab Control Sample	Total/NA	Water	7470A	452501

Prep Batch: 452863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-2	MW-10	Total/NA	Ground Water	7470A	
310-304575-3	MW-21	Total/NA	Ground Water	7470A	
310-304575-4	MW-22	Total/NA	Ground Water	7470A	
310-304575-5	MW-23	Total/NA	Ground Water	7470A	
310-304575-6	MW-24	Total/NA	Ground Water	7470A	
310-304575-7	MW-26	Total/NA	Ground Water	7470A	
310-304575-8	MW-27	Total/NA	Ground Water	7470A	

Eurofins Cedar Falls

QC Association Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Metals (Continued)

Prep Batch: 452863 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-9	QC1	Total/NA	Ground Water	7470A	
MB 310-452863/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-452863/2-A	Lab Control Sample	Total/NA	Water	7470A	
310-304575-2 MS	MW-10	Total/NA	Ground Water	7470A	
310-304575-2 MSD	MW-10	Total/NA	Ground Water	7470A	

Analysis Batch: 453118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-2	MW-10	Total/NA	Ground Water	7470A	452863
310-304575-3	MW-21	Total/NA	Ground Water	7470A	452863
310-304575-4	MW-22	Total/NA	Ground Water	7470A	452863
310-304575-5	MW-23	Total/NA	Ground Water	7470A	452863
310-304575-6	MW-24	Total/NA	Ground Water	7470A	452863
310-304575-7	MW-26	Total/NA	Ground Water	7470A	452863
310-304575-8	MW-27	Total/NA	Ground Water	7470A	452863
310-304575-9	QC1	Total/NA	Ground Water	7470A	452863
MB 310-452863/1-A	Method Blank	Total/NA	Water	7470A	452863
LCS 310-452863/2-A	Lab Control Sample	Total/NA	Water	7470A	452863
310-304575-2 MS	MW-10	Total/NA	Ground Water	7470A	452863
310-304575-2 MSD	MW-10	Total/NA	Ground Water	7470A	452863

General Chemistry

Analysis Batch: 451981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-1	MW-8	Total/NA	Ground Water	SM 4500 H+ B	
310-304575-2	MW-10	Total/NA	Ground Water	SM 4500 H+ B	
310-304575-3	MW-21	Total/NA	Ground Water	SM 4500 H+ B	
310-304575-4	MW-22	Total/NA	Ground Water	SM 4500 H+ B	
310-304575-5	MW-23	Total/NA	Ground Water	SM 4500 H+ B	
310-304575-6	MW-24	Total/NA	Ground Water	SM 4500 H+ B	
310-304575-7	MW-26	Total/NA	Ground Water	SM 4500 H+ B	
310-304575-8	MW-27	Total/NA	Ground Water	SM 4500 H+ B	
310-304575-9	QC1	Total/NA	Ground Water	SM 4500 H+ B	
LCS 310-451981/22	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-304575-8 DU	MW-27	Total/NA	Ground Water	SM 4500 H+ B	
310-304575-9 DU	QC1	Total/NA	Ground Water	SM 4500 H+ B	

Analysis Batch: 452219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-4	MW-22	Total/NA	Ground Water	I-3765-85	
310-304575-5	MW-23	Total/NA	Ground Water	I-3765-85	
310-304575-9	QC1	Total/NA	Ground Water	I-3765-85	
MB 310-452219/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-452219/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 452222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-1	MW-8	Total/NA	Ground Water	I-3765-85	
310-304575-2	MW-10	Total/NA	Ground Water	I-3765-85	
310-304575-3	MW-21	Total/NA	Ground Water	I-3765-85	

Eurofins Cedar Falls

QC Association Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

General Chemistry (Continued)

Analysis Batch: 452222 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-452222/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-452222/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 452247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-1	MW-8	Total/NA	Ground Water	SM 2540C	
310-304575-2	MW-10	Total/NA	Ground Water	SM 2540C	
310-304575-3	MW-21	Total/NA	Ground Water	SM 2540C	
310-304575-4	MW-22	Total/NA	Ground Water	SM 2540C	
310-304575-5	MW-23	Total/NA	Ground Water	SM 2540C	
310-304575-9	QC1	Total/NA	Ground Water	SM 2540C	
MB 310-452247/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-452247/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-304575-4 DU	MW-22	Total/NA	Ground Water	SM 2540C	

Analysis Batch: 452344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-1	MW-8	Total/NA	Ground Water	4500 F C-2011	
310-304575-2	MW-10	Total/NA	Ground Water	4500 F C-2011	
310-304575-3	MW-21	Total/NA	Ground Water	4500 F C-2011	
310-304575-4	MW-22	Total/NA	Ground Water	4500 F C-2011	
310-304575-5	MW-23	Total/NA	Ground Water	4500 F C-2011	
310-304575-6	MW-24	Total/NA	Ground Water	4500 F C-2011	
310-304575-7	MW-26	Total/NA	Ground Water	4500 F C-2011	
310-304575-8	MW-27	Total/NA	Ground Water	4500 F C-2011	
310-304575-9	QC1	Total/NA	Ground Water	4500 F C-2011	
MB 310-452344/5	Method Blank	Total/NA	Water	4500 F C-2011	
LCS 310-452344/6	Lab Control Sample	Total/NA	Water	4500 F C-2011	

Analysis Batch: 452503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-1	MW-8	Total/NA	Ground Water	SM 4500 Cl- E	
310-304575-2	MW-10	Total/NA	Ground Water	SM 4500 Cl- E	
310-304575-3	MW-21	Total/NA	Ground Water	SM 4500 Cl- E	
310-304575-4	MW-22	Total/NA	Ground Water	SM 4500 Cl- E	
310-304575-5	MW-23	Total/NA	Ground Water	SM 4500 Cl- E	
310-304575-6	MW-24	Total/NA	Ground Water	SM 4500 Cl- E	
310-304575-7	MW-26	Total/NA	Ground Water	SM 4500 Cl- E	
310-304575-8	MW-27	Total/NA	Ground Water	SM 4500 Cl- E	
310-304575-9	QC1	Total/NA	Ground Water	SM 4500 Cl- E	
MB 310-452503/45	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 310-452503/46	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 453112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-1	MW-8	Total/NA	Ground Water	D516-16	
310-304575-2	MW-10	Total/NA	Ground Water	D516-16	
310-304575-3	MW-21	Total/NA	Ground Water	D516-16	
310-304575-9	QC1	Total/NA	Ground Water	D516-16	
MB 310-453112/16	Method Blank	Total/NA	Water	D516-16	
LCS 310-453112/17	Lab Control Sample	Total/NA	Water	D516-16	

Eurofins Cedar Falls

QC Association Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

General Chemistry

Analysis Batch: 453231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-4	MW-22	Total/NA	Ground Water	D516-16	
310-304575-5	MW-23	Total/NA	Ground Water	D516-16	
310-304575-6	MW-24	Total/NA	Ground Water	D516-16	
310-304575-7	MW-26	Total/NA	Ground Water	D516-16	
310-304575-8	MW-27	Total/NA	Ground Water	D516-16	
MB 310-453231/16	Method Blank	Total/NA	Water	D516-16	
LCS 310-453231/17	Lab Control Sample	Total/NA	Water	D516-16	

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Client Sample ID: MW-8

Lab Sample ID: 310-304575-1

Date Collected: 04/16/25 11:15

Matrix: Ground Water

Date Received: 04/18/25 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452231	QTZ5	EET CF	04/22/25 10:30
Total/NA	Analysis	6020B		1	452465	ZRI4	EET CF	04/22/25 18:38
Total/NA	Prep	7470A			452501	F5MW	EET CF	04/24/25 12:56
Total/NA	Analysis	7470A		1	452733	QTZ5	EET CF	04/25/25 11:38
Total/NA	Analysis	4500 F C-2011		1	452344	WZC8	EET CF	04/22/25 12:12
Total/NA	Analysis	D516-16		5	453112	WZC8	EET CF	04/29/25 13:27
Total/NA	Analysis	I-3765-85		1	452222	HE7K	EET CF	04/21/25 15:26
Total/NA	Analysis	SM 2540C		1	452247	MDU9	EET CF	04/21/25 19:11
Total/NA	Analysis	SM 4500 CI- E		1	452503	ENB7	EET CF	04/23/25 15:39
Total/NA	Analysis	SM 4500 H+ B		1	451981	W9YR	EET CF	04/18/25 10:16

Client Sample ID: MW-10

Lab Sample ID: 310-304575-2

Date Collected: 04/16/25 08:40

Matrix: Ground Water

Date Received: 04/18/25 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452231	QTZ5	EET CF	04/22/25 10:30
Total/NA	Analysis	6020B		1	452465	ZRI4	EET CF	04/22/25 18:55
Total/NA	Prep	7470A			452863	F5MW	EET CF	04/29/25 09:26
Total/NA	Analysis	7470A		1	453118	F5MW	EET CF	04/29/25 14:02
Total/NA	Analysis	4500 F C-2011		1	452344	WZC8	EET CF	04/22/25 12:15
Total/NA	Analysis	D516-16		5	453112	WZC8	EET CF	04/29/25 13:27
Total/NA	Analysis	I-3765-85		1	452222	HE7K	EET CF	04/21/25 15:26
Total/NA	Analysis	SM 2540C		1	452247	MDU9	EET CF	04/21/25 19:11
Total/NA	Analysis	SM 4500 CI- E		1	452503	ENB7	EET CF	04/23/25 15:40
Total/NA	Analysis	SM 4500 H+ B		1	451981	W9YR	EET CF	04/18/25 10:17

Client Sample ID: MW-21

Lab Sample ID: 310-304575-3

Date Collected: 04/16/25 13:00

Matrix: Ground Water

Date Received: 04/18/25 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452231	QTZ5	EET CF	04/22/25 10:30
Total/NA	Analysis	6020B		1	452465	ZRI4	EET CF	04/22/25 18:17
Total/NA	Prep	7470A			452863	F5MW	EET CF	04/29/25 09:26
Total/NA	Analysis	7470A		1	453118	F5MW	EET CF	04/29/25 14:08
Total/NA	Analysis	4500 F C-2011		1	452344	WZC8	EET CF	04/22/25 12:19
Total/NA	Analysis	D516-16		10	453112	WZC8	EET CF	04/29/25 13:27
Total/NA	Analysis	I-3765-85		1	452222	HE7K	EET CF	04/21/25 15:26
Total/NA	Analysis	SM 2540C		1	452247	MDU9	EET CF	04/21/25 19:11
Total/NA	Analysis	SM 4500 CI- E		1	452503	ENB7	EET CF	04/23/25 15:40
Total/NA	Analysis	SM 4500 H+ B		1	451981	W9YR	EET CF	04/18/25 10:18

Eurofins Cedar Falls

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Client Sample ID: MW-22

Lab Sample ID: 310-304575-4

Date Collected: 04/15/25 08:35

Matrix: Ground Water

Date Received: 04/18/25 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452231	QTZ5	EET CF	04/22/25 10:30
Total/NA	Analysis	6020B		1	452465	ZRI4	EET CF	04/22/25 18:46
Total/NA	Prep	7470A			452863	F5MW	EET CF	04/29/25 09:26
Total/NA	Analysis	7470A		1	453118	F5MW	EET CF	04/29/25 14:10
Total/NA	Analysis	4500 F C-2011		1	452344	WZC8	EET CF	04/22/25 12:22
Total/NA	Analysis	D516-16		10	453231	WZC8	EET CF	04/30/25 11:22
Total/NA	Analysis	I-3765-85		1	452219	HE7K	EET CF	04/21/25 14:55
Total/NA	Analysis	SM 2540C		1	452247	MDU9	EET CF	04/21/25 19:11
Total/NA	Analysis	SM 4500 Cl- E		1	452503	ENB7	EET CF	04/23/25 15:40
Total/NA	Analysis	SM 4500 H+ B		1	451981	W9YR	EET CF	04/18/25 10:19

Client Sample ID: MW-23

Lab Sample ID: 310-304575-5

Date Collected: 04/15/25 10:45

Matrix: Ground Water

Date Received: 04/18/25 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452231	QTZ5	EET CF	04/22/25 10:30
Total/NA	Analysis	6020B		1	452465	ZRI4	EET CF	04/22/25 18:32
Total/NA	Prep	7470A			452863	F5MW	EET CF	04/29/25 09:26
Total/NA	Analysis	7470A		1	453118	F5MW	EET CF	04/29/25 14:12
Total/NA	Analysis	4500 F C-2011		1	452344	WZC8	EET CF	04/22/25 12:25
Total/NA	Analysis	D516-16		1	453231	WZC8	EET CF	04/30/25 11:23
Total/NA	Analysis	I-3765-85		1	452219	HE7K	EET CF	04/21/25 14:55
Total/NA	Analysis	SM 2540C		1	452247	MDU9	EET CF	04/21/25 19:11
Total/NA	Analysis	SM 4500 Cl- E		1	452503	ENB7	EET CF	04/23/25 15:41
Total/NA	Analysis	SM 4500 H+ B		1	451981	W9YR	EET CF	04/18/25 10:20

Client Sample ID: MW-24

Lab Sample ID: 310-304575-6

Date Collected: 04/16/25 10:15

Matrix: Ground Water

Date Received: 04/18/25 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452231	QTZ5	EET CF	04/22/25 10:30
Total/NA	Analysis	6020B		1	452465	ZRI4	EET CF	04/22/25 18:52
Total/NA	Prep	7470A			452863	F5MW	EET CF	04/29/25 09:26
Total/NA	Analysis	7470A		1	453118	F5MW	EET CF	04/29/25 14:15
Total/NA	Analysis	4500 F C-2011		1	452344	WZC8	EET CF	04/22/25 12:28
Total/NA	Analysis	D516-16		5	453231	WZC8	EET CF	04/30/25 11:23
Total/NA	Analysis	SM 4500 Cl- E		1	452503	ENB7	EET CF	04/23/25 15:41
Total/NA	Analysis	SM 4500 H+ B		1	451981	W9YR	EET CF	04/18/25 13:04

Eurofins Cedar Falls

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Client Sample ID: MW-26

Date Collected: 04/16/25 14:10

Date Received: 04/18/25 08:40

Lab Sample ID: 310-304575-7

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452231	QTZ5	EET CF	04/22/25 10:30
Total/NA	Analysis	6020B		1	452465	ZRI4	EET CF	04/22/25 18:58
Total/NA	Prep	7470A			452863	F5MW	EET CF	04/29/25 09:26
Total/NA	Analysis	7470A		1	453118	F5MW	EET CF	04/29/25 14:17
Total/NA	Analysis	4500 F C-2011		1	452344	WZC8	EET CF	04/22/25 12:32
Total/NA	Analysis	D516-16		10	453231	WZC8	EET CF	04/30/25 11:25
Total/NA	Analysis	SM 4500 Cl- E		1	452503	ENB7	EET CF	04/23/25 16:26
Total/NA	Analysis	SM 4500 H+ B		1	451981	W9YR	EET CF	04/18/25 13:03

Client Sample ID: MW-27

Date Collected: 04/16/25 14:40

Date Received: 04/18/25 08:40

Lab Sample ID: 310-304575-8

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452231	QTZ5	EET CF	04/22/25 10:30
Total/NA	Analysis	6020B		1	452465	ZRI4	EET CF	04/22/25 19:27
Total/NA	Prep	7470A			452863	F5MW	EET CF	04/29/25 09:26
Total/NA	Analysis	7470A		1	453118	F5MW	EET CF	04/29/25 14:23
Total/NA	Analysis	4500 F C-2011		1	452344	WZC8	EET CF	04/22/25 12:35
Total/NA	Analysis	D516-16		1	453231	WZC8	EET CF	04/30/25 11:25
Total/NA	Analysis	SM 4500 Cl- E		1	452503	ENB7	EET CF	04/23/25 16:27
Total/NA	Analysis	SM 4500 H+ B		1	451981	W9YR	EET CF	04/18/25 13:01

Client Sample ID: QC1

Date Collected: 04/15/25 12:00

Date Received: 04/18/25 08:40

Lab Sample ID: 310-304575-9

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452231	QTZ5	EET CF	04/22/25 10:30
Total/NA	Analysis	6020B		1	452465	ZRI4	EET CF	04/22/25 19:30
Total/NA	Prep	7470A			452863	F5MW	EET CF	04/29/25 09:26
Total/NA	Analysis	7470A		1	453118	F5MW	EET CF	04/29/25 14:25
Total/NA	Analysis	4500 F C-2011		1	452344	WZC8	EET CF	04/22/25 12:38
Total/NA	Analysis	D516-16		10	453112	WZC8	EET CF	04/29/25 13:31
Total/NA	Analysis	I-3765-85		1	452219	HE7K	EET CF	04/21/25 14:55
Total/NA	Analysis	SM 2540C		1	452247	MDU9	EET CF	04/21/25 19:11
Total/NA	Analysis	SM 4500 Cl- E		1	452503	ENB7	EET CF	04/23/25 16:27
Total/NA	Analysis	SM 4500 H+ B		1	451981	W9YR	EET CF	04/18/25 10:14

Laboratory References:

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

Eurofins Cedar Falls

Accreditation/Certification Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
6020B	3005A	Ground Water	Lithium

Method Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-1

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
4500 F C-2011	Fluoride (Ion-selective Electrode)	SM	EET CF
D516-16	Sulfate	ASTM	EET CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 Cl- E	Chloride, Total	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF

Protocol References:

ASTM = ASTM International

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

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

USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

Laboratory References:

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



310-304575 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Muscatine Power & Water</u>			
City/State:	CITY <u>Muscatine</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>4/16/25</u>	TIME <u>0840</u>	Received By: <u>BP</u>
Delivery Type: ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		☒ Yes ☐ No If yes: Cooler ID: _____	
Multiple Coolers?		☒ Yes ☐ No If yes: Cooler # <u>1</u> of <u>2</u>	
Cooler Custody Seals Present?		☒ Yes ☐ No If yes: Cooler custody seals intact? ☒ Yes ☐ No	
Sample Custody Seals Present?		☐ Yes ☒ No If yes: Sample custody seals intact? ☐ Yes ☐ No	
Trip Blank Present?		☐ Yes ☒ No If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID: <u>AA</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.7</u>		Corrected Temp (°C): <u>0.7</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>		<u>CONTAINER 2</u>
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE: If yes, contact PM before proceeding If no, proceed with login			
Additional Comments			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Muscatine Power & Water</u>			
City/State:	CITY <u>Muscatine</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>4/18/25</u>	TIME <u>0840</u>	Received By: <u>BP</u>
Delivery Type: ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		☒ Yes ☐ No	If yes: Cooler ID: _____
Multiple Coolers?		☒ Yes ☐ No	If yes: Cooler # <u>2</u> of <u>2</u>
Cooler Custody Seals Present?		☒ Yes ☐ No	If yes: Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?		☐ Yes ☒ No	If yes: Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?		☐ Yes ☒ No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID: <u>AA</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.3</u>		Corrected Temp (°C): <u>0.3</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>		<u>CONTAINER 2</u>
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE: If yes, contact PM before proceeding If no, proceed with login			
Additional Comments			

Eurofins Cedar Falls

3019 Venture Way

Cedar Falls, IA 50613

Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

Client Information		Sampler Sam Bennett		Lab PM Michels, Bob		Carrier Tracking No(s):		COC No:	
Client Contact: Sam Bennett MP&W		Phone: 563-262-3583		E-Mail bob.michels@et.eurofins.com				Page:	
Company Muscatine Power & Water								Job #:	
Address: 1700 Dick Drake Way		Due Date Requested:						Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other	
City Muscatine		TAT Requested (days):						M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)	
State, Zip IA, 52761		PO #: 251639							
Phone: 251639		WO #:							
Email: sbennett@mpw.org and neil.hoskins@mpw.org		TestAmerica Project #: 310-290523							
Project Name: Muscatine Power & Water CCR Landfill		Event: Spring 2025 Sampling							
Site: Iowa									
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=oil, A=air)	
MW-4B						G		GW	
MW-5B						G		GW	
MW-6A						G		GW	
MW-8		4/16/25		1115		G		GW	
MW-10		4/16/25		0840		G		GW	
MW-14A						G		GW	
MW-15A						G		GW	
MW-21		4/16/25		1300		G		GW	
MW-22		4/15/25		0835		G		GW	
MW-23		4/15/25		1045		G		GW	
MW-24		4/16/25		1015		G		GW	
Possible Hazard Identification		☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological							
Deliverable Requested 1, II, III, IV, Other (specify)									
Empty Kit Relinquished by:		Date		Time		Method of Shipment:			
Relinquished by:		Date/Time:		Company		Received by:		Date/Time: Company	
Relinquished by:		Date/Time:		Company		Received by:		Date/Time: Company	
Relinquished by:		Date/Time:		Company		Received by:		Date/Time: Company	
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No				Cooler Temperature(s) °C and Other Remarks:			

Chain of Custody Record

Client Information		Carrier Tracking No(s):	COC No:
Sampler: Sam Bennett	Lab PM Michels, Bob		
Client Contact: Sam Bennett MP&W 563-262-3583	Phone: 563-262-3583	E-Mail bob.michels@et.eurofinsus.com	Page:

Address:	1700 Dick Drake Way									
City:	Muscatine									
State, Zip:	IA, 52761									
Phone:	PO #: 251639									
Email:	WO #: sbsennett@mpw.org and neil.hoskins@mpw.org									
Project Name:	TestAmerica Project #: 310-290523 Muscatine Power & Water CCR Landfill									
Site:	Event: Spring 2025 Sampling Iowa									

[illegible]

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) _____ Special Instructions/QC Requirements: _____	

Empty Kit Relinquished by		Date		Time		Method of Shipment:	
Relinquished by		Date/Time:		Company	Received by		Date/Time: 4-18-15 840 Company
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:

Chain of Custody Record

Client Information		Lab PM Michels, Bob		Carrier Tracking No(s):		COC No:	
Client Contact: Sam Bennett MP&W		Phone: 563-262-3583		E-Mail: bob.michels@et.eurofinsus.com		Page:	
Company: Muscatine Power & Water		Address: 1700 Dick Drake Way		City: Muscatine		State, Zip: IA, 52761	
Phone: 251639		PO #: 251639		WO #:		Project Name: Muscatine Power & Water State Landfill	
Email: sbennett@mpw.org and neil.hoskins@mpw.org		TestAmerica Project #: 310-290523		Spring 2025 Sampling		Site: Iowa	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)	
Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)		Preservation Code		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)	
MW-4B		GW		X		X	
MW-5B		GW		X		X	
MW-6A		GW		X		X	
MW-8		GW		X		X	
MW-10		GW		X		X	
MW-14A		GW		X		X	
MW-15A		GW		X		X	
MW-21		GW		X		X	
MW-22		GW		X		X	
MW-23		GW		X		X	
MW-24		GW		X		X	
Possible Hazard Identification		☐ Non-Hazard		☐ Flammable		☐ Skin Irritant	
☐ Poison B		☐ Unknown		☐ Radiological		☐ Deliverable Requested I II III IV, Other (specify)	
Empty Kit Relinquished by:		Date/Time:		Date/Time:		Date/Time:	
Relinquished by:		Company:		Date/Time:		Date/Time:	
Relinquished by:		Company:		Date/Time:		Date/Time:	
Relinquished by:		Company:		Date/Time:		Date/Time:	

Analysis Requested		Special Instructions/Note:	
Total Number of containers		Special Instructions/Note:	
Preservation Codes:		Special Instructions/Note:	
A - HCL		M - Hexane	
B - NaOH		N - None	
C - Zn Acetate		O - AsNaO2	
D - Nitric Acid		P - Na2O4S	
E - NaHSO4		Q - Na2SO3	
F - MeOH		R - Na2SO3	
G - Amchlor		S - H2SO4	
H - Ascorbic Acid		T - TSP Dodecalhydrate	
I - Ica		U - Acetone	
J - DI Water		V - MCAA	
K - EDTA		W - ph 4-5	
L - EDA		Z - other (specify)	
Other:			

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.

Method of Shipment:		Date/Time:	
Received by:		Date/Time:	
Received by:		Date/Time:	
Received by:		Date/Time:	

Chain of Custody Record

3019 Venture Way
Cedar Falls IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

[illegible]

Login Sample Receipt Checklist

Client: Muscatine Power & Water

Job Number: 310-304575-1

Login Number: 304575

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Hirsch, Preston

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

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

Eurofins Cedar Falls

ANALYTICAL REPORT

PREPARED FOR

Attn: Sam Bennett
Muscatine Power & Water
1700 Dick Drake Way
PO BOX 899
Muscatine, Iowa 52761

Generated 5/22/2025 12:28:20 PM

JOB DESCRIPTION

Muscatine Power & Water Landfill
310-290523

JOB NUMBER

310-304703-2

Eurofins Cedar Falls

Job Notes

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

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

Authorization



Generated
5/22/2025 12:28:20 PM

Authorized for release by
Bob Michels, Project Manager I
Bob.Michels@et.eurofinsus.com
(319)277-2401

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Case Narrative

Client: Muscatine Power & Water
Project: Muscatine Power & Water Landfill

Job ID: 310-304703-2

Job ID: 310-304703-2

Eurofins Cedar Falls

Job Narrative 310-304703-2

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

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

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

Receipt

The samples were received on 4/22/2025 8:25 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.6°C and 2.0°C.

Gas Flow Proportional Counter

Method 9320_Ra228: Radium 228 Batch 714095

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. Leachate (310-304703-7)

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

Rad

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

Eurofins Cedar Falls

Sample Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-304703-1	MW-4B	Water	04/18/25 09:45	04/22/25 08:25
310-304703-2	MW-5B	Water	04/18/25 08:35	04/22/25 08:25
310-304703-3	MW-6A	Water	04/18/25 10:15	04/22/25 08:25
310-304703-4	MW-14A	Water	04/17/25 08:15	04/22/25 08:25
310-304703-5	MW-15A	Water	04/17/25 10:10	04/22/25 08:25
310-304703-6	QC-2	Water	04/18/25 10:15	04/22/25 08:25
310-304703-7	Leachate	Water	04/18/25 10:45	04/22/25 08:25

Detection Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Client Sample ID: MW-4B

Lab Sample ID: 310-304703-1

No Detections.

Client Sample ID: MW-5B

Lab Sample ID: 310-304703-2

No Detections.

Client Sample ID: MW-6A

Lab Sample ID: 310-304703-3

No Detections.

Client Sample ID: MW-14A

Lab Sample ID: 310-304703-4

No Detections.

Client Sample ID: MW-15A

Lab Sample ID: 310-304703-5

No Detections.

Client Sample ID: QC-2

Lab Sample ID: 310-304703-6

No Detections.

Client Sample ID: Leachate

Lab Sample ID: 310-304703-7

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Client Sample ID: MW-4B

Lab Sample ID: 310-304703-1

Date Collected: 04/18/25 09:45

Matrix: Water

Date Received: 04/22/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.461	U	0.233	0.233	1.00	0.461	pCi/L	04/24/25 07:22	05/21/25 15:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.0		30 - 110					04/24/25 07:22	05/21/25 15:07	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.613	U	0.339	0.340	1.00	0.613	pCi/L	04/24/25 07:28	05/21/25 09:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.0		30 - 110					04/24/25 07:28	05/21/25 09:58	1
Y Carrier	75.5		30 - 110					04/24/25 07:28	05/21/25 09:58	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	<0.613	U	0.411	0.412	5.00	0.613	pCi/L		05/21/25 14:09	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Client Sample ID: MW-5B

Lab Sample ID: 310-304703-2

Date Collected: 04/18/25 08:35

Matrix: Water

Date Received: 04/22/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.365	U	0.224	0.225	1.00	0.365	pCi/L	04/24/25 07:22	05/21/25 15:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.1		30 - 110					04/24/25 07:22	05/21/25 15:08	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.916		0.494	0.501	1.00	0.699	pCi/L	04/24/25 07:28	05/21/25 09:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.1		30 - 110					04/24/25 07:28	05/21/25 09:58	1
Y Carrier	70.3		30 - 110					04/24/25 07:28	05/21/25 09:58	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	1.11		0.542	0.549	5.00	0.699	pCi/L		05/21/25 14:09	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Client Sample ID: MW-6A

Lab Sample ID: 310-304703-3

Date Collected: 04/18/25 10:15

Matrix: Water

Date Received: 04/22/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.328	U	0.191	0.192	1.00	0.328	pCi/L	04/24/25 07:22	05/21/25 15:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		30 - 110					04/24/25 07:22	05/21/25 15:08	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.630	U	0.389	0.390	1.00	0.630	pCi/L	04/24/25 07:28	05/21/25 09:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		30 - 110					04/24/25 07:28	05/21/25 09:58	1
Y Carrier	77.8		30 - 110					04/24/25 07:28	05/21/25 09:58	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	<0.630	U	0.433	0.435	5.00	0.630	pCi/L		05/21/25 14:09	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Client Sample ID: MW-14A

Lab Sample ID: 310-304703-4

Date Collected: 04/17/25 08:15

Matrix: Water

Date Received: 04/22/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.340	U	0.210	0.211	1.00	0.340	pCi/L	04/24/25 07:22	05/21/25 15:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		30 - 110					04/24/25 07:22	05/21/25 15:08	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.672	U	0.426	0.429	1.00	0.672	pCi/L	04/24/25 07:28	05/21/25 09:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		30 - 110					04/24/25 07:28	05/21/25 09:59	1
Y Carrier	76.3		30 - 110					04/24/25 07:28	05/21/25 09:59	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	0.683		0.475	0.478	5.00	0.672	pCi/L		05/22/25 12:18	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Client Sample ID: MW-15A

Lab Sample ID: 310-304703-5

Date Collected: 04/17/25 10:10

Matrix: Water

Date Received: 04/22/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.295	U	0.183	0.184	1.00	0.295	pCi/L	04/24/25 07:22	05/21/25 15:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		30 - 110					04/24/25 07:22	05/21/25 15:09	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.553	U	0.333	0.334	1.00	0.553	pCi/L	04/24/25 07:28	05/21/25 09:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		30 - 110					04/24/25 07:28	05/21/25 09:59	1
Y Carrier	78.9		30 - 110					04/24/25 07:28	05/21/25 09:59	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	<0.553	U	0.380	0.381	5.00	0.553	pCi/L		05/22/25 12:18	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Client Sample ID: QC-2

Lab Sample ID: 310-304703-6

Date Collected: 04/18/25 10:15

Matrix: Water

Date Received: 04/22/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.342	U	0.228	0.229	1.00	0.342	pCi/L	04/24/25 07:22	05/21/25 15:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.9		30 - 110					04/24/25 07:22	05/21/25 15:09	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.731	U	0.440	0.441	1.00	0.731	pCi/L	04/24/25 07:28	05/21/25 09:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.9		30 - 110					04/24/25 07:28	05/21/25 09:59	1
Y Carrier	74.4		30 - 110					04/24/25 07:28	05/21/25 09:59	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	<0.731	U	0.496	0.497	5.00	0.731	pCi/L		05/22/25 12:18	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Client Sample ID: Leachate

Lab Sample ID: 310-304703-7

Date Collected: 04/18/25 10:45

Matrix: Water

Date Received: 04/22/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.750	U	0.369	0.369	1.00	0.750	pCi/L	04/24/25 07:22	05/21/25 15:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.8		30 - 110					04/24/25 07:22	05/21/25 15:09	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<1.29	U G	0.748	0.749	1.00	1.29	pCi/L	04/24/25 07:28	05/21/25 09:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.8		30 - 110					04/24/25 07:28	05/21/25 09:59	1
Y Carrier	78.1		30 - 110					04/24/25 07:28	05/21/25 09:59	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	<1.29	U	0.834	0.835	5.00	1.29	pCi/L		05/21/25 14:09	1

Definitions/Glossary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

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

QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-714094/1-A

Matrix: Water

Analysis Batch: 718628

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 714094

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.303	U	0.160	0.160	1.00	0.303	pCi/L	04/24/25 07:22	05/21/25 15:06	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.9		30 - 110					04/24/25 07:22	05/21/25 15:06	1

Lab Sample ID: LCS 160-714094/2-A

Matrix: Water

Analysis Batch: 718628

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 714094

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226		9.58	8.526		1.18	1.00	0.286	pCi/L	89	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	88.5		30 - 110							

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-714095/1-A

Matrix: Water

Analysis Batch: 718628

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 714095

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.588	U	0.345	0.346	1.00	0.588	pCi/L	04/24/25 07:28	05/21/25 09:57	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.9		30 - 110					04/24/25 07:28	05/21/25 09:57	1
Y Carrier	78.5		30 - 110					04/24/25 07:28	05/21/25 09:57	1

Lab Sample ID: LCS 160-714095/2-A

Matrix: Water

Analysis Batch: 718628

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 714095

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228		9.43	9.668		1.35	1.00	0.627	pCi/L	103	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	88.5		30 - 110							
Y Carrier	77.8		30 - 110							

Eurofins Cedar Falls

QC Association Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Rad

Prep Batch: 714094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-1	MW-4B	Total/NA	Water	PrecSep-21	
310-304703-2	MW-5B	Total/NA	Water	PrecSep-21	
310-304703-3	MW-6A	Total/NA	Water	PrecSep-21	
310-304703-4	MW-14A	Total/NA	Water	PrecSep-21	
310-304703-5	MW-15A	Total/NA	Water	PrecSep-21	
310-304703-6	QC-2	Total/NA	Water	PrecSep-21	
310-304703-7	Leachate	Total/NA	Water	PrecSep-21	
MB 160-714094/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-714094/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 714095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-1	MW-4B	Total/NA	Water	PrecSep_0	
310-304703-2	MW-5B	Total/NA	Water	PrecSep_0	
310-304703-3	MW-6A	Total/NA	Water	PrecSep_0	
310-304703-4	MW-14A	Total/NA	Water	PrecSep_0	
310-304703-5	MW-15A	Total/NA	Water	PrecSep_0	
310-304703-6	QC-2	Total/NA	Water	PrecSep_0	
310-304703-7	Leachate	Total/NA	Water	PrecSep_0	
MB 160-714095/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-714095/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Client Sample ID: MW-4B

Date Collected: 04/18/25 09:45

Date Received: 04/22/25 08:25

Lab Sample ID: 310-304703-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			714094	OGC	EET SL	04/24/25 07:22
Total/NA	Analysis	9315		1	718628	SWS	EET SL	05/21/25 15:07
Total/NA	Prep	PrecSep_0			714095	OGC	EET SL	04/24/25 07:28
Total/NA	Analysis	9320		1	718628	SWS	EET SL	05/21/25 09:58
Total/NA	Analysis	Ra226_Ra228		1	718210	FLC	EET SL	05/21/25 14:09

Client Sample ID: MW-5B

Date Collected: 04/18/25 08:35

Date Received: 04/22/25 08:25

Lab Sample ID: 310-304703-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			714094	OGC	EET SL	04/24/25 07:22
Total/NA	Analysis	9315		1	718629	SWS	EET SL	05/21/25 15:08
Total/NA	Prep	PrecSep_0			714095	OGC	EET SL	04/24/25 07:28
Total/NA	Analysis	9320		1	718628	SWS	EET SL	05/21/25 09:58
Total/NA	Analysis	Ra226_Ra228		1	718210	FLC	EET SL	05/21/25 14:09

Client Sample ID: MW-6A

Date Collected: 04/18/25 10:15

Date Received: 04/22/25 08:25

Lab Sample ID: 310-304703-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			714094	OGC	EET SL	04/24/25 07:22
Total/NA	Analysis	9315		1	718629	SWS	EET SL	05/21/25 15:08
Total/NA	Prep	PrecSep_0			714095	OGC	EET SL	04/24/25 07:28
Total/NA	Analysis	9320		1	718628	SWS	EET SL	05/21/25 09:58
Total/NA	Analysis	Ra226_Ra228		1	718210	FLC	EET SL	05/21/25 14:09

Client Sample ID: MW-14A

Date Collected: 04/17/25 08:15

Date Received: 04/22/25 08:25

Lab Sample ID: 310-304703-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			714094	OGC	EET SL	04/24/25 07:22
Total/NA	Analysis	9315		1	718629	SWS	EET SL	05/21/25 15:08
Total/NA	Prep	PrecSep_0			714095	OGC	EET SL	04/24/25 07:28
Total/NA	Analysis	9320		1	718628	SWS	EET SL	05/21/25 09:59
Total/NA	Analysis	Ra226_Ra228		1	718210	FLC	EET SL	05/22/25 12:18

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Client Sample ID: MW-15A

Date Collected: 04/17/25 10:10

Date Received: 04/22/25 08:25

Lab Sample ID: 310-304703-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			714094	OGC	EET SL	04/24/25 07:22
Total/NA	Analysis	9315		1	718629	SWS	EET SL	05/21/25 15:09
Total/NA	Prep	PrecSep_0			714095	OGC	EET SL	04/24/25 07:28
Total/NA	Analysis	9320		1	718628	SWS	EET SL	05/21/25 09:59
Total/NA	Analysis	Ra226_Ra228		1	718210	FLC	EET SL	05/22/25 12:18

Client Sample ID: QC-2

Date Collected: 04/18/25 10:15

Date Received: 04/22/25 08:25

Lab Sample ID: 310-304703-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			714094	OGC	EET SL	04/24/25 07:22
Total/NA	Analysis	9315		1	718629	SWS	EET SL	05/21/25 15:09
Total/NA	Prep	PrecSep_0			714095	OGC	EET SL	04/24/25 07:28
Total/NA	Analysis	9320		1	718628	SWS	EET SL	05/21/25 09:59
Total/NA	Analysis	Ra226_Ra228		1	718210	FLC	EET SL	05/22/25 12:18

Client Sample ID: Leachate

Date Collected: 04/18/25 10:45

Date Received: 04/22/25 08:25

Lab Sample ID: 310-304703-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			714094	OGC	EET SL	04/24/25 07:22
Total/NA	Analysis	9315		1	718629	SWS	EET SL	05/21/25 15:09
Total/NA	Prep	PrecSep_0			714095	OGC	EET SL	04/24/25 07:28
Total/NA	Analysis	9320		1	718628	SWS	EET SL	05/21/25 09:59
Total/NA	Analysis	Ra226_Ra228		1	718210	FLC	EET SL	05/21/25 14:09

Laboratory References:

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

Accreditation/Certification Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Laboratory: Eurofins St. Louis

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

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

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

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

Method Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

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

Protocol References:

None = None

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

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

Laboratory References:

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



Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Muscatine Power & Water</u>			
City/State:	CITY <u>Muscatine</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>4/22/25</u>	TIME <u>0825</u>	Received By: <u>[Signature]</u>
Delivery Type: ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		☒ Yes ☐ No	If yes: Cooler ID: _____
Multiple Coolers?		☒ Yes ☐ No	If yes: Cooler # <u>1</u> of <u>2</u>
Cooler Custody Seals Present?		☒ Yes ☐ No	If yes: Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?		☐ Yes ☒ No	If yes: Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?		☐ Yes ☒ No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C): <u>+0.0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>1.6</u>		Corrected Temp (°C): <u>1.6</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>		<u>CONTAINER 2</u>
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No			
a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Muscatine Power + Water</u>			
City/State:	CITY <u>Muscatine</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>4/22/25</u>	TIME <u>0825</u>	Received By: <u>[Signature]</u>
Delivery Type: ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		If yes: Cooler ID:	
☒ Yes ☐ No			
Multiple Coolers?		If yes: Cooler # <u>0</u> of <u>2</u>	
☒ Yes ☐ No			
Cooler Custody Seals Present?		If yes: Cooler custody seals intact?	
☒ Yes ☐ No		☐ Yes ☐ No	
Sample Custody Seals Present?		If yes: Sample custody seals intact?	
☐ Yes ☒ No		☐ Yes ☐ No	
Trip Blank Present?		If yes: Which VOA samples are in cooler? ↓	
☐ Yes ☒ No			
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C): <u>+0.5</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>2.0</u>		Corrected Temp (°C): <u>2.0</u>	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1		CONTAINER 2
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No			
a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Chain of Custody Record

Client Information		Lab PM		Carrier Tracking No(s)		COC No:	
Client Contact: Sam Bennett MP&W		Sam Bennett Phone: 563-262-3583 E-Mail: bob.michels@eurofins.com		Michels, Bob		Page:	
Company: Muscatine Power & Water		Due Date Requested: TAT Requested (days)		Analysis Requested		Job #:	
Address: 1700 Dick Drake Way		City: Muscatine		State Zip: IA, 52761		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)	
Phone: 251639		PO #: 251639		WO #:		Total Number of containers	
Email: sbennett@mpw.org and neil.hoskins@mpw.org		TestAmerica Project #: 310-290523		Field Filtered Sample (Yes or No)		Special Instructions/Note:	
Project Name: Muscatine Power & Water CCR Landfill		Event: Spring 2025 Sampling		Form MS/MSD (Yes or No)			
Site: Iowa		Sample Date		Sample Time		Sample Preservation Code	
Sample Identification							
MW-4B		4/18/25	0945	G	GW		
MW-5B		4/18/25	0835	G	GW		
MW-6A		4/18/25	1015	G	GW		
MW-8				G	GW		
MW-10				G	GW		
MW-14A		4/17/25	0815	G	GW		
MW-15A		4/17/25	1010	G	GW		
MW-21				G	GW		
MW-22				G	GW		
MW-23				G	GW		
MW-24				G	GW		
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological							
Deliverable Requested I, II, III, IV Other (specify)							
Empty Kit Relinquished by		Date		Time		Method of Shipment	
Relinquished by		Date/Time		Company		Received by: Date/Time: Company	
Relinquished by		Date/Time		Company		Received by: Date/Time: Company	
Relinquished by		Date/Time		Company		Received by: Date/Time: Company	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No		Cooler Temperature(s) °C and Other Remarks:		4/22/25 0820	

Chain of Custody Record

3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

[illegible]

Eurofins Cedar Falls

3019 Venture Way

Cedar Falls, IA 50613

Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

Client Information		Sampler Sam Bennett		Lab PM Michels, Bob		Carrier Tracking No(s):		COC No:				
Client Contact: Sam Bennett MP&W		Phone: 563-262-3583		E-Mail bob.michels@et.eurofinsus.com				Page:				
Company: Muscatine Power & Water								Job #:				
Address: 1700 Dick Drake Way		Due Date Requested		Analysis Requested				Preservation Codes				
City: Muscatine		TAT Requested (days)						A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other				
State, Zip IA, 52761		PO #: 251639						M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)				
Phone: sbennett@mpw.org and neil.hoskins@mpw.org		WG #: 310-290523										
Email: sbennett@mpw.org and neil.hoskins@mpw.org		TestAmerica Project #: 310-290523										
Project Name: Muscatine Power & Water State Landfill												
Site: Iowa		Spring 2025 Sampling										
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, Asdy)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A State Metals List	9056A Chloride, Fluoride, Sulfate	TSS	Total Number of Containers	Special Instructions/Note
MW-4B		4/18/25	0945	G	GW	X	X	X	X	X	X	
MW-5B		4/18/25	0835	G	GW	X	X	X	X	X	X	
MW-6A		4/18/25	1015	G	GW	X	X	X	X	X	X	
MW-8					GW	X	X	X	X	X	X	
MW-10					GW	X	X	X	X	X	X	
MW-14A		4/17/25	0815	G	GW	X	X	X	X	X	X	
MW-15A		4/17/25	1010	G	GW	X	X	X	X	X	X	
MW-21					GW	X	X	X	X	X	X	
MW-22					GW	X	X	X	X	X	X	
MW-23					GW	X	X	X	X	X	X	
MW-24					GW	X	X	X	X	X	X	
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological												
Deliverable Requested I, II, III, IV, Other (specify)												
Empty Kit Relinquished by												
Relinquished by												
Relinquished by												
Relinquished by												
Custody Seals Intact: ☐ Yes ☐ No												
Custody Seal No												
Cooler Temperature(s) °C and Other Remarks:												

Chain of Custody Record

[illegible]

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

Login Sample Receipt Checklist

Client: Muscatine Power & Water

Job Number: 310-304703-2

SDG Number: 310-290523

Login Number: 304703

List Number: 1

Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls

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

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

Eurofins Cedar Falls

Login Sample Receipt Checklist

Client: Muscatine Power & Water

Job Number: 310-304703-2

SDG Number: 310-290523

Login Number: 304703

List Number: 2

Creator: Worthington, Sierra M

List Source: Eurofins St. Louis

List Creation: 04/23/25 10:36 AM

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

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

Eurofins Cedar Falls

Tracer/Carrier Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-2
SDG: 310-290523

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
Lab Sample ID	Client Sample ID	Ba					
		(30-110)					
310-304703-1	MW-4B	87.0					
310-304703-2	MW-5B	82.1					
310-304703-3	MW-6A	92.3					
310-304703-4	MW-14A	86.4					
310-304703-5	MW-15A	94.1					
310-304703-6	QC-2	84.9					
310-304703-7	Leachate	78.8					
LCS 160-714094/2-A	Lab Control Sample	88.5					
MB 160-714094/1-A	Method Blank	93.9					
Tracer/Carrier Legend							
Ba = Ba Carrier							

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
Lab Sample ID	Client Sample ID	Ba	Y				
		(30-110)	(30-110)				
310-304703-1	MW-4B	87.0	75.5				
310-304703-2	MW-5B	82.1	70.3				
310-304703-3	MW-6A	92.3	77.8				
310-304703-4	MW-14A	86.4	76.3				
310-304703-5	MW-15A	94.1	78.9				
310-304703-6	QC-2	84.9	74.4				
310-304703-7	Leachate	78.8	78.1				
LCS 160-714095/2-A	Lab Control Sample	88.5	77.8				
MB 160-714095/1-A	Method Blank	93.9	78.5				
Tracer/Carrier Legend							
Ba = Ba Carrier							
Y = Y Carrier							

ANALYTICAL REPORT

PREPARED FOR

Attn: Sam Bennett
Muscatine Power & Water
1700 Dick Drake Way
PO BOX 899
Muscatine, Iowa 52761

Generated 5/2/2025 4:23:42 PM

JOB DESCRIPTION

Muscatine Power & Water Landfill
310-290523

JOB NUMBER

310-304703-1

Eurofins Cedar Falls

Job Notes

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

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

Authorization



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5/2/2025 4:23:42 PM

Authorized for release by
Bob Michels, Project Manager I
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(319)277-2401



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Case Narrative

Client: Muscatine Power & Water
Project: Muscatine Power & Water Landfill

Job ID: 310-304703-1

Job ID: 310-304703-1

Eurofins Cedar Falls

Job Narrative 310-304703-1

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 4/22/2025 8:25 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.6°C and 2.0°C.

Metals

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

General Chemistry

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

Eurofins Cedar Falls

Sample Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-304703-1	MW-4B	Water	04/18/25 09:45	04/22/25 08:25
310-304703-2	MW-5B	Water	04/18/25 08:35	04/22/25 08:25
310-304703-3	MW-6A	Water	04/18/25 10:15	04/22/25 08:25
310-304703-4	MW-14A	Water	04/17/25 08:15	04/22/25 08:25
310-304703-5	MW-15A	Water	04/17/25 10:10	04/22/25 08:25
310-304703-6	QC-2	Water	04/18/25 10:15	04/22/25 08:25
310-304703-7	Leachate	Water	04/18/25 10:45	04/22/25 08:25

Detection Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Client Sample ID: MW-4B

Lab Sample ID: 310-304703-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.157		0.00200		mg/L	1		6020B	Total/NA
Boron	0.169		0.100		mg/L	1		6020B	Total/NA
Calcium	86.8		0.500		mg/L	1		6020B	Total/NA
Cobalt	0.00119		0.000500		mg/L	1		6020B	Total/NA
Iron	0.310		0.100		mg/L	1		6020B	Total/NA
Magnesium	32.3		0.500		mg/L	1		6020B	Total/NA
Manganese	0.241		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.0917		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.268		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	50.8		25.0		mg/L	5		D516-16	Total/NA
Total Suspended Solids	3.75		1.88		mg/L	1		I-3765-85	Total/NA
Total Dissolved Solids	424		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	18.9		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.5	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-5B

Lab Sample ID: 310-304703-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.0574		0.0500		mg/L	1		6020B	Total/NA
Barium	0.256		0.00200		mg/L	1		6020B	Total/NA
Calcium	106		0.500		mg/L	1		6020B	Total/NA
Iron	2.25		0.100		mg/L	1		6020B	Total/NA
Magnesium	36.3		0.500		mg/L	1		6020B	Total/NA
Manganese	0.478		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.159		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.193		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	35.7		25.0		mg/L	5		D516-16	Total/NA
Total Suspended Solids	8.20		3.00		mg/L	1		I-3765-85	Total/NA
Total Dissolved Solids	470		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	32.1		20.0		mg/L	10		SM 4500 Cl- E	Total/NA
pH	7.3	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-6A

Lab Sample ID: 310-304703-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.231		0.00200		mg/L	1		6020B	Total/NA
Calcium	85.2		0.500		mg/L	1		6020B	Total/NA
Iron	3.20		0.100		mg/L	1		6020B	Total/NA
Magnesium	28.8		0.500		mg/L	1		6020B	Total/NA
Manganese	0.111		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.175		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.303		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	18.5		5.00		mg/L	1		D516-16	Total/NA
Total Suspended Solids	8.33		5.00		mg/L	1		I-3765-85	Total/NA
Total Dissolved Solids	380		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	15.8		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.3	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-14A

Lab Sample ID: 310-304703-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.104		0.0500		mg/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Client Sample ID: MW-14A (Continued)

Lab Sample ID: 310-304703-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0294		0.00200		mg/L	1		6020B	Total/NA
Boron	15.4		0.400		mg/L	4		6020B	Total/NA
Calcium	286		0.500		mg/L	1		6020B	Total/NA
Iron	0.163		0.100		mg/L	1		6020B	Total/NA
Magnesium	134		2.00		mg/L	4		6020B	Total/NA
Molybdenum	0.00322		0.00200		mg/L	1		6020B	Total/NA
Strontium	0.229		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.262		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	808		250		mg/L	50		D516-16	Total/NA
Total Suspended Solids	3.25		1.88		mg/L	1		I-3765-85	Total/NA
Total Dissolved Solids	1830		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	18.0		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.3	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-15A

Lab Sample ID: 310-304703-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0300		0.00200		mg/L	1		6020B	Total/NA
Boron	8.16		0.400		mg/L	4		6020B	Total/NA
Calcium	125		0.500		mg/L	1		6020B	Total/NA
Magnesium	53.2		0.500		mg/L	1		6020B	Total/NA
Molybdenum	0.0109		0.00200		mg/L	1		6020B	Total/NA
Strontium	0.107		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.257		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	309		50.0		mg/L	10		D516-16	Total/NA
Total Dissolved Solids	766		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	7.79		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.5	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: QC-2

Lab Sample ID: 310-304703-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.250		0.00200		mg/L	1		6020B	Total/NA
Calcium	108		0.500		mg/L	1		6020B	Total/NA
Iron	2.19		0.100		mg/L	1		6020B	Total/NA
Magnesium	35.9		0.500		mg/L	1		6020B	Total/NA
Manganese	0.464		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.155		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.198		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	35.8		5.00		mg/L	1		D516-16	Total/NA
Total Suspended Solids	7.00		3.00		mg/L	1		I-3765-85	Total/NA
Total Dissolved Solids	488		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	42.2		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.3	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: Leachate

Lab Sample ID: 310-304703-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.39		0.100		mg/L	50		6020B	Total/NA
Barium	0.0501		0.00200		mg/L	1		6020B	Total/NA
Boron	69.8		5.00		mg/L	50		6020B	Total/NA
Cadmium	0.000529		0.000200		mg/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Client Sample ID: Leachate (Continued)

Lab Sample ID: 310-304703-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	434		25.0		mg/L	50		6020B	Total/NA
Iron	3.90		2.00		mg/L	20		6020B	Total/NA
Lithium	0.395		0.200		mg/L	20		6020B	Total/NA
Magnesium	61.9		10.0		mg/L	20		6020B	Total/NA
Manganese	2.10		0.200		mg/L	20		6020B	Total/NA
Molybdenum	1.55		0.0400		mg/L	20		6020B	Total/NA
Strontium	6.27		0.0200		mg/L	20		6020B	Total/NA
Thallium	0.00244		0.00100		mg/L	1		6020B	Total/NA
Fluoride	3.18		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	192		50.0		mg/L	10		D516-16	Total/NA
Total Suspended Solids	2.25		1.88		mg/L	1		I-3765-85	Total/NA
Total Dissolved Solids	7600		250		mg/L	1		SM 2540C	Total/NA
Chloride	81.6		20.0		mg/L	10		SM 4500 Cl- E	Total/NA
pH	8.9	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Client Sample ID: MW-4B

Lab Sample ID: 310-304703-1

Date Collected: 04/18/25 09:45

Matrix: Water

Date Received: 04/22/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		04/24/25 09:00	04/25/25 14:58	1
Antimony	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 14:58	1
Arsenic	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 14:58	1
Barium	0.157		0.00200		mg/L		04/24/25 09:00	04/25/25 14:58	1
Beryllium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 14:58	1
Boron	0.169		0.100		mg/L		04/24/25 09:00	04/28/25 15:27	1
Cadmium	<0.000200		0.000200		mg/L		04/24/25 09:00	04/25/25 14:58	1
Calcium	86.8		0.500		mg/L		04/24/25 09:00	04/25/25 14:58	1
Chromium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:58	1
Cobalt	0.00119		0.000500		mg/L		04/24/25 09:00	04/25/25 14:58	1
Copper	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:58	1
Iron	0.310		0.100		mg/L		04/24/25 09:00	04/25/25 14:58	1
Lead	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 14:58	1
Lithium	<0.0100		0.0100		mg/L		04/24/25 09:00	04/25/25 14:58	1
Magnesium	32.3		0.500		mg/L		04/24/25 09:00	04/25/25 14:58	1
Manganese	0.241		0.0100		mg/L		04/24/25 09:00	04/25/25 14:58	1
Molybdenum	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 14:58	1
Nickel	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:58	1
Selenium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:58	1
Strontium	0.0917		0.00100		mg/L		04/24/25 09:00	04/25/25 14:58	1
Thallium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 14:58	1
Vanadium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:58	1
Zinc	<0.0200		0.0200		mg/L		04/24/25 09:00	04/25/25 14:58	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 15:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.268		0.100		mg/L			05/02/25 08:34	1
Sulfate (ASTM D516-16)	50.8		25.0		mg/L			04/30/25 11:55	5
Total Suspended Solids (USGS I-3765-85)	3.75		1.88		mg/L			04/23/25 10:22	1
Total Dissolved Solids (SM 2540C)	424		50.0		mg/L			04/22/25 14:38	1
Chloride (SM 4500 Cl- E)	18.9		2.00		mg/L			04/26/25 15:15	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.5	HF	1.0		SU			04/22/25 09:27	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Client Sample ID: MW-5B

Lab Sample ID: 310-304703-2

Date Collected: 04/18/25 08:35

Matrix: Water

Date Received: 04/22/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0574		0.0500		mg/L		04/24/25 09:00	04/25/25 13:13	1
Antimony	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 13:13	1
Arsenic	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 13:13	1
Barium	0.256		0.00200		mg/L		04/24/25 09:00	04/25/25 13:13	1
Beryllium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 13:13	1
Boron	<0.100		0.100		mg/L		04/24/25 09:00	04/25/25 13:13	1
Cadmium	<0.000200		0.000200		mg/L		04/24/25 09:00	04/25/25 13:13	1
Calcium	106		0.500		mg/L		04/24/25 09:00	04/25/25 13:13	1
Chromium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:13	1
Cobalt	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 13:13	1
Copper	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:13	1
Iron	2.25		0.100		mg/L		04/24/25 09:00	04/25/25 13:13	1
Lead	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 13:13	1
Lithium	<0.0100		0.0100		mg/L		04/24/25 09:00	04/25/25 13:13	1
Magnesium	36.3		0.500		mg/L		04/24/25 09:00	04/25/25 13:13	1
Manganese	0.478		0.0100		mg/L		04/24/25 09:00	04/25/25 13:13	1
Molybdenum	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 13:13	1
Nickel	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:13	1
Selenium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:13	1
Strontium	0.159		0.00100		mg/L		04/24/25 09:00	04/25/25 13:13	1
Thallium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 13:13	1
Vanadium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:13	1
Zinc	<0.0200		0.0200		mg/L		04/24/25 09:00	04/25/25 13:13	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 15:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.193		0.100		mg/L			05/02/25 08:44	1
Sulfate (ASTM D516-16)	35.7		25.0		mg/L			04/30/25 11:55	5
Total Suspended Solids (USGS I-3765-85)	8.20		3.00		mg/L			04/23/25 10:22	1
Total Dissolved Solids (SM 2540C)	470		50.0		mg/L			04/22/25 14:38	1
Chloride (SM 4500 Cl- E)	32.1		20.0		mg/L			04/26/25 15:15	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	1.0		SU			04/22/25 09:28	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Client Sample ID: MW-6A

Lab Sample ID: 310-304703-3

Date Collected: 04/18/25 10:15

Matrix: Water

Date Received: 04/22/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		04/24/25 09:00	04/25/25 13:20	1
Antimony	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 13:20	1
Arsenic	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 13:20	1
Barium	0.231		0.00200		mg/L		04/24/25 09:00	04/25/25 13:20	1
Beryllium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 13:20	1
Boron	<0.100		0.100		mg/L		04/24/25 09:00	04/25/25 13:20	1
Cadmium	<0.000200		0.000200		mg/L		04/24/25 09:00	04/25/25 13:20	1
Calcium	85.2		0.500		mg/L		04/24/25 09:00	04/25/25 13:20	1
Chromium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:20	1
Cobalt	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 13:20	1
Copper	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:20	1
Iron	3.20		0.100		mg/L		04/24/25 09:00	04/25/25 13:20	1
Lead	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 13:20	1
Lithium	<0.0100		0.0100		mg/L		04/24/25 09:00	04/25/25 13:20	1
Magnesium	28.8		0.500		mg/L		04/24/25 09:00	04/25/25 13:20	1
Manganese	0.111		0.0100		mg/L		04/24/25 09:00	04/25/25 13:20	1
Molybdenum	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 13:20	1
Nickel	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:20	1
Selenium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:20	1
Strontium	0.175		0.00100		mg/L		04/24/25 09:00	04/25/25 13:20	1
Thallium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 13:20	1
Vanadium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:20	1
Zinc	<0.0200		0.0200		mg/L		04/24/25 09:00	04/25/25 13:20	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 15:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.303		0.100		mg/L			05/02/25 08:47	1
Sulfate (ASTM D516-16)	18.5		5.00		mg/L			04/30/25 12:37	1
Total Suspended Solids (USGS I-3765-85)	8.33		5.00		mg/L			04/23/25 09:51	1
Total Dissolved Solids (SM 2540C)	380		50.0		mg/L			04/22/25 14:38	1
Chloride (SM 4500 Cl- E)	15.8		2.00		mg/L			04/26/25 15:17	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	1.0		SU			04/22/25 09:29	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Client Sample ID: MW-14A

Lab Sample ID: 310-304703-4

Date Collected: 04/17/25 08:15

Matrix: Water

Date Received: 04/22/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.104		0.0500		mg/L		04/24/25 09:00	04/25/25 14:56	1
Antimony	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 14:56	1
Arsenic	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 14:56	1
Barium	0.0294		0.00200		mg/L		04/24/25 09:00	04/25/25 14:56	1
Beryllium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 14:56	1
Boron	15.4		0.400		mg/L		04/24/25 09:00	04/28/25 15:24	4
Cadmium	<0.000200		0.000200		mg/L		04/24/25 09:00	04/25/25 14:56	1
Calcium	286		0.500		mg/L		04/24/25 09:00	04/25/25 14:56	1
Chromium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:56	1
Cobalt	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 14:56	1
Copper	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:56	1
Iron	0.163		0.100		mg/L		04/24/25 09:00	04/25/25 14:56	1
Lead	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 14:56	1
Lithium	<0.0100		0.0100		mg/L		04/24/25 09:00	04/25/25 14:56	1
Magnesium	134		2.00		mg/L		04/24/25 09:00	04/28/25 15:24	4
Manganese	<0.0100		0.0100		mg/L		04/24/25 09:00	04/25/25 14:56	1
Molybdenum	0.00322		0.00200		mg/L		04/24/25 09:00	04/25/25 14:56	1
Nickel	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:56	1
Selenium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:56	1
Strontium	0.229		0.00100		mg/L		04/24/25 09:00	04/25/25 14:56	1
Thallium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 14:56	1
Vanadium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:56	1
Zinc	<0.0200		0.0200		mg/L		04/24/25 09:00	04/25/25 14:56	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 15:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.262		0.100		mg/L			05/02/25 08:51	1
Sulfate (ASTM D516-16)	808		250		mg/L			04/30/25 11:56	50
Total Suspended Solids (USGS I-3765-85)	3.25		1.88		mg/L			04/23/25 09:51	1
Total Dissolved Solids (SM 2540C)	1830		50.0		mg/L			04/22/25 14:38	1
Chloride (SM 4500 Cl- E)	18.0		2.00		mg/L			04/26/25 14:46	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	1.0		SU			04/22/25 09:30	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Client Sample ID: MW-15A

Lab Sample ID: 310-304703-5

Date Collected: 04/17/25 10:10

Matrix: Water

Date Received: 04/22/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		04/24/25 09:00	04/25/25 14:53	1
Antimony	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 14:53	1
Arsenic	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 14:53	1
Barium	0.0300		0.00200		mg/L		04/24/25 09:00	04/25/25 14:53	1
Beryllium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 14:53	1
Boron	8.16		0.400		mg/L		04/24/25 09:00	04/28/25 15:22	4
Cadmium	<0.000200		0.000200		mg/L		04/24/25 09:00	04/25/25 14:53	1
Calcium	125		0.500		mg/L		04/24/25 09:00	04/25/25 14:53	1
Chromium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:53	1
Cobalt	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 14:53	1
Copper	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:53	1
Iron	<0.100		0.100		mg/L		04/24/25 09:00	04/25/25 14:53	1
Lead	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 14:53	1
Lithium	<0.0100		0.0100		mg/L		04/24/25 09:00	04/25/25 14:53	1
Magnesium	53.2		0.500		mg/L		04/24/25 09:00	04/25/25 14:53	1
Manganese	<0.0100		0.0100		mg/L		04/24/25 09:00	04/25/25 14:53	1
Molybdenum	0.0109		0.00200		mg/L		04/24/25 09:00	04/25/25 14:53	1
Nickel	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:53	1
Selenium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:53	1
Strontium	0.107		0.00100		mg/L		04/24/25 09:00	04/25/25 14:53	1
Thallium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 14:53	1
Vanadium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:53	1
Zinc	<0.0200		0.0200		mg/L		04/24/25 09:00	04/25/25 14:53	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 15:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.257		0.100		mg/L			05/02/25 09:00	1
Sulfate (ASTM D516-16)	309		50.0		mg/L			04/30/25 11:56	10
Total Suspended Solids (USGS I-3765-85)	<1.88		1.88		mg/L			04/23/25 09:51	1
Total Dissolved Solids (SM 2540C)	766		50.0		mg/L			04/22/25 14:38	1
Chloride (SM 4500 Cl- E)	7.79		2.00		mg/L			04/26/25 14:46	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.5	HF	1.0		SU			04/22/25 09:31	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Client Sample ID: QC-2

Lab Sample ID: 310-304703-6

Date Collected: 04/18/25 10:15

Matrix: Water

Date Received: 04/22/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		04/24/25 09:00	04/25/25 13:18	1
Antimony	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 13:18	1
Arsenic	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 13:18	1
Barium	0.250		0.00200		mg/L		04/24/25 09:00	04/25/25 13:18	1
Beryllium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 13:18	1
Boron	<0.100		0.100		mg/L		04/24/25 09:00	04/25/25 13:18	1
Cadmium	<0.000200		0.000200		mg/L		04/24/25 09:00	04/25/25 13:18	1
Calcium	108		0.500		mg/L		04/24/25 09:00	04/25/25 13:18	1
Chromium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:18	1
Cobalt	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 13:18	1
Copper	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:18	1
Iron	2.19		0.100		mg/L		04/24/25 09:00	04/25/25 13:18	1
Lead	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 13:18	1
Lithium	<0.0100		0.0100		mg/L		04/24/25 09:00	04/25/25 13:18	1
Magnesium	35.9		0.500		mg/L		04/24/25 09:00	04/25/25 13:18	1
Manganese	0.464		0.0100		mg/L		04/24/25 09:00	04/25/25 13:18	1
Molybdenum	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 13:18	1
Nickel	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:18	1
Selenium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:18	1
Strontium	0.155		0.00100		mg/L		04/24/25 09:00	04/25/25 13:18	1
Thallium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 13:18	1
Vanadium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:18	1
Zinc	<0.0200		0.0200		mg/L		04/24/25 09:00	04/25/25 13:18	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 15:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.198		0.100		mg/L			05/02/25 09:03	1
Sulfate (ASTM D516-16)	35.8		5.00		mg/L			04/30/25 12:38	1
Total Suspended Solids (USGS I-3765-85)	7.00		3.00		mg/L			04/23/25 10:22	1
Total Dissolved Solids (SM 2540C)	488		50.0		mg/L			04/22/25 14:38	1
Chloride (SM 4500 Cl- E)	42.2		2.00		mg/L			04/26/25 14:47	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	1.0		SU			04/22/25 09:32	1

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Client Sample ID: Leachate

Lab Sample ID: 310-304703-7

Date Collected: 04/18/25 10:45

Matrix: Water

Date Received: 04/22/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<2.50		2.50		mg/L		04/24/25 09:00	04/29/25 13:40	50
Antimony	<0.0400		0.0400		mg/L		04/24/25 09:00	04/28/25 15:29	20
Arsenic	2.39		0.100		mg/L		04/24/25 09:00	04/29/25 13:40	50
Barium	0.0501		0.00200		mg/L		04/24/25 09:00	04/25/25 15:05	1
Beryllium	<0.0200		0.0200		mg/L		04/24/25 09:00	04/28/25 15:29	20
Boron	69.8		5.00		mg/L		04/24/25 09:00	04/29/25 13:40	50
Cadmium	0.000529		0.000200		mg/L		04/24/25 09:00	04/25/25 15:05	1
Calcium	434		25.0		mg/L		04/24/25 09:00	04/29/25 13:40	50
Chromium	<0.250		0.250		mg/L		04/24/25 09:00	04/29/25 13:40	50
Cobalt	<0.0250		0.0250		mg/L		04/24/25 09:00	04/29/25 13:40	50
Copper	<0.250		0.250		mg/L		04/24/25 09:00	04/29/25 13:40	50
Iron	3.90		2.00		mg/L		04/24/25 09:00	04/28/25 15:29	20
Lead	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 15:05	1
Lithium	0.395		0.200		mg/L		04/24/25 09:00	04/28/25 15:29	20
Magnesium	61.9		10.0		mg/L		04/24/25 09:00	04/28/25 15:29	20
Manganese	2.10		0.200		mg/L		04/24/25 09:00	04/28/25 15:29	20
Molybdenum	1.55		0.0400		mg/L		04/24/25 09:00	04/28/25 15:29	20
Nickel	<0.250		0.250		mg/L		04/24/25 09:00	04/29/25 13:40	50
Selenium	<0.250		0.250		mg/L		04/24/25 09:00	04/29/25 13:40	50
Strontium	6.27		0.0200		mg/L		04/24/25 09:00	04/28/25 15:29	20
Thallium	0.00244		0.00100		mg/L		04/24/25 09:00	04/25/25 15:05	1
Vanadium	<0.250		0.250		mg/L		04/24/25 09:00	04/29/25 13:40	50
Zinc	<0.0200		0.0200		mg/L		04/24/25 09:00	04/25/25 15:05	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/30/25 13:14	05/01/25 12:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	3.18		0.100		mg/L			05/02/25 09:07	1
Sulfate (ASTM D516-16)	192		50.0		mg/L			04/30/25 12:20	10
Total Suspended Solids (USGS I-3765-85)	2.25		1.88		mg/L			04/23/25 09:51	1
Total Dissolved Solids (SM 2540C)	7600		250		mg/L			04/22/25 14:38	1
Chloride (SM 4500 Cl- E)	81.6		20.0		mg/L			04/26/25 14:47	10
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	8.9	HF	1.0		SU			04/22/25 09:33	1

Definitions/Glossary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Qualifiers

General Chemistry

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

Glossary

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

QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-452476/1-A

Matrix: Water

Analysis Batch: 452834

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 452476

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		04/24/25 09:00	04/25/25 13:53	1
Antimony	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 13:53	1
Arsenic	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 13:53	1
Barium	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 13:53	1
Beryllium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 13:53	1
Boron	<0.100		0.100		mg/L		04/24/25 09:00	04/25/25 13:53	1
Cadmium	<0.000200		0.000200		mg/L		04/24/25 09:00	04/25/25 13:53	1
Calcium	<0.500		0.500		mg/L		04/24/25 09:00	04/25/25 13:53	1
Chromium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:53	1
Cobalt	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 13:53	1
Copper	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:53	1
Iron	<0.100		0.100		mg/L		04/24/25 09:00	04/25/25 13:53	1
Lead	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 13:53	1
Lithium	<0.0100		0.0100		mg/L		04/24/25 09:00	04/25/25 13:53	1
Magnesium	<0.500		0.500		mg/L		04/24/25 09:00	04/25/25 13:53	1
Manganese	<0.0100		0.0100		mg/L		04/24/25 09:00	04/25/25 13:53	1
Molybdenum	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 13:53	1
Nickel	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:53	1
Selenium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:53	1
Strontium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 13:53	1
Thallium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 13:53	1
Vanadium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 13:53	1
Zinc	<0.0200		0.0200		mg/L		04/24/25 09:00	04/25/25 13:53	1

Lab Sample ID: MB 310-452476/1-A

Matrix: Water

Analysis Batch: 452981

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 452476

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.500		0.500		mg/L		04/24/25 09:00	04/28/25 15:03	1

Lab Sample ID: LCS 310-452476/2-A

Matrix: Water

Analysis Batch: 452834

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452476

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	0.200	0.1948		mg/L		97	80 - 120
Antimony	0.200	0.2018		mg/L		101	80 - 120
Arsenic	0.200	0.1879		mg/L		94	80 - 120
Barium	0.100	0.09572		mg/L		96	80 - 120
Beryllium	0.100	0.08910		mg/L		89	80 - 120
Boron	0.200	0.2002		mg/L		100	80 - 120
Cadmium	0.100	0.09203		mg/L		92	80 - 120
Calcium	2.00	1.685		mg/L		84	80 - 120
Chromium	0.100	0.09229		mg/L		92	80 - 120
Cobalt	0.100	0.09518		mg/L		95	80 - 120
Copper	0.200	0.1845		mg/L		92	80 - 120
Iron	0.200	0.1929		mg/L		96	80 - 120
Lead	0.200	0.1908		mg/L		95	80 - 120

Eurofins Cedar Falls

QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

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

Lab Sample ID: LCS 310-452476/2-A

Matrix: Water

Analysis Batch: 452834

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452476

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
	Added	Result	Qualifier				Limits
Lithium	0.200	0.1887		mg/L		94	80 - 120
Magnesium	2.00	1.790		mg/L		89	80 - 120
Manganese	0.100	0.08930		mg/L		89	80 - 120
Molybdenum	0.200	0.1822		mg/L		91	80 - 120
Nickel	0.200	0.1842		mg/L		92	80 - 120
Selenium	0.400	0.3564		mg/L		89	80 - 120
Strontium	0.200	0.1810		mg/L		90	80 - 120
Thallium	0.100	0.08520		mg/L		85	80 - 120
Vanadium	0.100	0.09263		mg/L		93	80 - 120
Zinc	0.200	0.1773		mg/L		89	80 - 120

Lab Sample ID: LCS 310-452476/2-A

Matrix: Water

Analysis Batch: 452981

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452476

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
	Added	Result	Qualifier				Limits
Calcium	2.00	1.796		mg/L		90	80 - 120

Lab Sample ID: MB 310-452480/1-A

Matrix: Water

Analysis Batch: 452834

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 452480

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aluminum	<0.0500		0.0500		mg/L		04/24/25 09:00	04/25/25 12:42	1
Antimony	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 12:42	1
Arsenic	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 12:42	1
Barium	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 12:42	1
Beryllium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 12:42	1
Boron	<0.100		0.100		mg/L		04/24/25 09:00	04/25/25 12:42	1
Cadmium	<0.000200		0.000200		mg/L		04/24/25 09:00	04/25/25 12:42	1
Calcium	<0.500		0.500		mg/L		04/24/25 09:00	04/25/25 12:42	1
Chromium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 12:42	1
Cobalt	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 12:42	1
Copper	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 12:42	1
Iron	<0.100		0.100		mg/L		04/24/25 09:00	04/25/25 12:42	1
Lead	<0.000500		0.000500		mg/L		04/24/25 09:00	04/25/25 12:42	1
Lithium	<0.0100		0.0100		mg/L		04/24/25 09:00	04/25/25 12:42	1
Magnesium	<0.500		0.500		mg/L		04/24/25 09:00	04/25/25 12:42	1
Manganese	<0.0100		0.0100		mg/L		04/24/25 09:00	04/25/25 12:42	1
Molybdenum	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 12:42	1
Nickel	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 12:42	1
Selenium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 12:42	1
Strontium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 12:42	1
Thallium	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 12:42	1
Vanadium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 12:42	1
Zinc	<0.0200		0.0200		mg/L		04/24/25 09:00	04/25/25 12:42	1

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QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

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

Lab Sample ID: LCS 310-452480/2-A

Matrix: Water

Analysis Batch: 452834

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452480

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	0.200	0.2140		mg/L		107	80 - 120
Antimony	0.200	0.2186		mg/L		109	80 - 120
Arsenic	0.200	0.2068		mg/L		103	80 - 120
Barium	0.100	0.1059		mg/L		106	80 - 120
Beryllium	0.100	0.09833		mg/L		98	80 - 120
Boron	0.200	0.2114		mg/L		106	80 - 120
Cadmium	0.100	0.1016		mg/L		102	80 - 120
Calcium	2.00	1.858		mg/L		93	80 - 120
Chromium	0.100	0.1025		mg/L		103	80 - 120
Cobalt	0.100	0.1061		mg/L		106	80 - 120
Copper	0.200	0.2061		mg/L		103	80 - 120
Iron	0.200	0.2191		mg/L		110	80 - 120
Lead	0.200	0.2087		mg/L		104	80 - 120
Lithium	0.200	0.2054		mg/L		103	80 - 120
Magnesium	2.00	1.965		mg/L		98	80 - 120
Manganese	0.100	0.09914		mg/L		99	80 - 120
Molybdenum	0.200	0.2018		mg/L		101	80 - 120
Nickel	0.200	0.2055		mg/L		103	80 - 120
Selenium	0.400	0.3892		mg/L		97	80 - 120
Strontium	0.200	0.2015		mg/L		101	80 - 120
Thallium	0.100	0.09259		mg/L		93	80 - 120
Vanadium	0.100	0.1024		mg/L		102	80 - 120
Zinc	0.200	0.2025		mg/L		101	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-452864/1-A

Matrix: Water

Analysis Batch: 453118

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 452864

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 14:57	1

Lab Sample ID: LCS 310-452864/2-A

Matrix: Water

Analysis Batch: 453118

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452864

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001647		mg/L		99	80 - 120

Lab Sample ID: MB 310-453106/1-A

Matrix: Water

Analysis Batch: 453403

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 453106

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/30/25 13:14	05/01/25 11:56	1

Eurofins Cedar Falls

QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 310-453106/2-A
Matrix: Water
Analysis Batch: 453403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 453106

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001769		mg/L		106	80 - 120

Method: 4500 F C-2011 - Fluoride (Ion-selective Electrode)

Lab Sample ID: MB 310-453564/5
Matrix: Water
Analysis Batch: 453564

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.100		0.100		mg/L			05/02/25 08:27	1

Lab Sample ID: LCS 310-453564/6
Matrix: Water
Analysis Batch: 453564

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	2.00	2.034		mg/L		102	90 - 110

Lab Sample ID: 310-304703-1 MS
Matrix: Water
Analysis Batch: 453564

Client Sample ID: MW-4B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.268		1.00	1.117		mg/L		85	75 - 125

Lab Sample ID: 310-304703-1 MSD
Matrix: Water
Analysis Batch: 453564

Client Sample ID: MW-4B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.268		1.00	1.198		mg/L		93	75 - 125	7	20

Method: D516-16 - Sulfate

Lab Sample ID: MB 310-453231/35
Matrix: Water
Analysis Batch: 453231

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.00		5.00		mg/L			04/30/25 11:49	1

Lab Sample ID: LCS 310-453231/36
Matrix: Water
Analysis Batch: 453231

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	10.0	8.688		mg/L		87	85 - 115

QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Method: I-3765-85 - Residue, Non-filterable (TSS)

Lab Sample ID: MB 310-452431/1
Matrix: Water
Analysis Batch: 452431

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00		mg/L			04/23/25 09:51	1

Lab Sample ID: LCS 310-452431/2
Matrix: Water
Analysis Batch: 452431

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	112.0		mg/L		112	81 - 116

Lab Sample ID: MB 310-452446/1
Matrix: Water
Analysis Batch: 452446

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00		mg/L			04/23/25 10:22	1

Lab Sample ID: LCS 310-452446/2
Matrix: Water
Analysis Batch: 452446

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	106.0		mg/L		106	81 - 116

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

Lab Sample ID: MB 310-452347/1
Matrix: Water
Analysis Batch: 452347

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<50.0		50.0		mg/L			04/22/25 14:38	1

Lab Sample ID: LCS 310-452347/2
Matrix: Water
Analysis Batch: 452347

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	974.0		mg/L		97	88 - 110

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 310-452818/77
Matrix: Water
Analysis Batch: 452818

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.00		2.00		mg/L			04/26/25 15:13	1

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QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: MB 310-452818/83

Matrix: Water

Analysis Batch: 452818

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.00		2.00		mg/L			04/26/25 15:16	1

Lab Sample ID: LCS 310-452818/84

Matrix: Water

Analysis Batch: 452818

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	10.58		mg/L		106	90 - 110

Lab Sample ID: 310-304703-3 MSD

Matrix: Water

Analysis Batch: 452818

Client Sample ID: MW-6A

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	15.8		10.0	25.13		mg/L		94	73 - 110	3	14

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-452271/1

Matrix: Water

Analysis Batch: 452271

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100	98 - 102

QC Association Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Metals

Prep Batch: 452476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-1	MW-4B	Total/NA	Water	3005A	
310-304703-4	MW-14A	Total/NA	Water	3005A	
310-304703-5	MW-15A	Total/NA	Water	3005A	
310-304703-7	Leachate	Total/NA	Water	3005A	
MB 310-452476/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-452476/2-A	Lab Control Sample	Total/NA	Water	3005A	

Prep Batch: 452480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-2	MW-5B	Total/NA	Water	3005A	
310-304703-3	MW-6A	Total/NA	Water	3005A	
310-304703-6	QC-2	Total/NA	Water	3005A	
MB 310-452480/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-452480/2-A	Lab Control Sample	Total/NA	Water	3005A	

Analysis Batch: 452834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-1	MW-4B	Total/NA	Water	6020B	452476
310-304703-2	MW-5B	Total/NA	Water	6020B	452480
310-304703-3	MW-6A	Total/NA	Water	6020B	452480
310-304703-4	MW-14A	Total/NA	Water	6020B	452476
310-304703-5	MW-15A	Total/NA	Water	6020B	452476
310-304703-6	QC-2	Total/NA	Water	6020B	452480
310-304703-7	Leachate	Total/NA	Water	6020B	452476
MB 310-452476/1-A	Method Blank	Total/NA	Water	6020B	452476
MB 310-452480/1-A	Method Blank	Total/NA	Water	6020B	452480
LCS 310-452476/2-A	Lab Control Sample	Total/NA	Water	6020B	452476
LCS 310-452480/2-A	Lab Control Sample	Total/NA	Water	6020B	452480

Prep Batch: 452864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-1	MW-4B	Total/NA	Water	7470A	
310-304703-2	MW-5B	Total/NA	Water	7470A	
310-304703-3	MW-6A	Total/NA	Water	7470A	
310-304703-4	MW-14A	Total/NA	Water	7470A	
310-304703-5	MW-15A	Total/NA	Water	7470A	
310-304703-6	QC-2	Total/NA	Water	7470A	
MB 310-452864/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-452864/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 452981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-1	MW-4B	Total/NA	Water	6020B	452476
310-304703-4	MW-14A	Total/NA	Water	6020B	452476
310-304703-5	MW-15A	Total/NA	Water	6020B	452476
310-304703-7	Leachate	Total/NA	Water	6020B	452476
MB 310-452476/1-A	Method Blank	Total/NA	Water	6020B	452476
LCS 310-452476/2-A	Lab Control Sample	Total/NA	Water	6020B	452476

QC Association Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Metals

Analysis Batch: 453087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-7	Leachate	Total/NA	Water	6020B	452476

Prep Batch: 453106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-7	Leachate	Total/NA	Water	7470A	
MB 310-453106/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-453106/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 453118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-1	MW-4B	Total/NA	Water	7470A	452864
310-304703-2	MW-5B	Total/NA	Water	7470A	452864
310-304703-3	MW-6A	Total/NA	Water	7470A	452864
310-304703-4	MW-14A	Total/NA	Water	7470A	452864
310-304703-5	MW-15A	Total/NA	Water	7470A	452864
310-304703-6	QC-2	Total/NA	Water	7470A	452864
MB 310-452864/1-A	Method Blank	Total/NA	Water	7470A	452864
LCS 310-452864/2-A	Lab Control Sample	Total/NA	Water	7470A	452864

Analysis Batch: 453403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-7	Leachate	Total/NA	Water	7470A	453106
MB 310-453106/1-A	Method Blank	Total/NA	Water	7470A	453106
LCS 310-453106/2-A	Lab Control Sample	Total/NA	Water	7470A	453106

General Chemistry

Analysis Batch: 452271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-1	MW-4B	Total/NA	Water	SM 4500 H+ B	
310-304703-2	MW-5B	Total/NA	Water	SM 4500 H+ B	
310-304703-3	MW-6A	Total/NA	Water	SM 4500 H+ B	
310-304703-4	MW-14A	Total/NA	Water	SM 4500 H+ B	
310-304703-5	MW-15A	Total/NA	Water	SM 4500 H+ B	
310-304703-6	QC-2	Total/NA	Water	SM 4500 H+ B	
310-304703-7	Leachate	Total/NA	Water	SM 4500 H+ B	
LCS 310-452271/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 452347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-1	MW-4B	Total/NA	Water	SM 2540C	
310-304703-2	MW-5B	Total/NA	Water	SM 2540C	
310-304703-3	MW-6A	Total/NA	Water	SM 2540C	
310-304703-4	MW-14A	Total/NA	Water	SM 2540C	
310-304703-5	MW-15A	Total/NA	Water	SM 2540C	
310-304703-6	QC-2	Total/NA	Water	SM 2540C	
310-304703-7	Leachate	Total/NA	Water	SM 2540C	
MB 310-452347/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-452347/2	Lab Control Sample	Total/NA	Water	SM 2540C	

QC Association Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

General Chemistry

Analysis Batch: 452431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-3	MW-6A	Total/NA	Water	I-3765-85	
310-304703-4	MW-14A	Total/NA	Water	I-3765-85	
310-304703-5	MW-15A	Total/NA	Water	I-3765-85	
310-304703-7	Leachate	Total/NA	Water	I-3765-85	
MB 310-452431/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-452431/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 452446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-1	MW-4B	Total/NA	Water	I-3765-85	
310-304703-2	MW-5B	Total/NA	Water	I-3765-85	
310-304703-6	QC-2	Total/NA	Water	I-3765-85	
MB 310-452446/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-452446/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 452818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-1	MW-4B	Total/NA	Water	SM 4500 Cl- E	
310-304703-2	MW-5B	Total/NA	Water	SM 4500 Cl- E	
310-304703-3	MW-6A	Total/NA	Water	SM 4500 Cl- E	
310-304703-4	MW-14A	Total/NA	Water	SM 4500 Cl- E	
310-304703-5	MW-15A	Total/NA	Water	SM 4500 Cl- E	
310-304703-6	QC-2	Total/NA	Water	SM 4500 Cl- E	
310-304703-7	Leachate	Total/NA	Water	SM 4500 Cl- E	
MB 310-452818/77	Method Blank	Total/NA	Water	SM 4500 Cl- E	
MB 310-452818/83	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 310-452818/84	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
310-304703-3 MSD	MW-6A	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 453231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-1	MW-4B	Total/NA	Water	D516-16	
310-304703-2	MW-5B	Total/NA	Water	D516-16	
310-304703-3	MW-6A	Total/NA	Water	D516-16	
310-304703-4	MW-14A	Total/NA	Water	D516-16	
310-304703-5	MW-15A	Total/NA	Water	D516-16	
310-304703-6	QC-2	Total/NA	Water	D516-16	
310-304703-7	Leachate	Total/NA	Water	D516-16	
MB 310-453231/35	Method Blank	Total/NA	Water	D516-16	
LCS 310-453231/36	Lab Control Sample	Total/NA	Water	D516-16	

Analysis Batch: 453564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304703-1	MW-4B	Total/NA	Water	4500 F C-2011	
310-304703-2	MW-5B	Total/NA	Water	4500 F C-2011	
310-304703-3	MW-6A	Total/NA	Water	4500 F C-2011	
310-304703-4	MW-14A	Total/NA	Water	4500 F C-2011	
310-304703-5	MW-15A	Total/NA	Water	4500 F C-2011	
310-304703-6	QC-2	Total/NA	Water	4500 F C-2011	
310-304703-7	Leachate	Total/NA	Water	4500 F C-2011	
MB 310-453564/5	Method Blank	Total/NA	Water	4500 F C-2011	

Eurofins Cedar Falls

QC Association Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

General Chemistry (Continued)

Analysis Batch: 453564 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-453564/6	Lab Control Sample	Total/NA	Water	4500 F C-2011	
310-304703-1 MS	MW-4B	Total/NA	Water	4500 F C-2011	
310-304703-1 MSD	MW-4B	Total/NA	Water	4500 F C-2011	

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Client Sample ID: MW-4B

Lab Sample ID: 310-304703-1

Date Collected: 04/18/25 09:45

Matrix: Water

Date Received: 04/22/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452476	QTZ5	EET CF	04/24/25 09:00
Total/NA	Analysis	6020B		1	452834	NFT2	EET CF	04/25/25 14:58
Total/NA	Prep	3005A			452476	QTZ5	EET CF	04/24/25 09:00
Total/NA	Analysis	6020B		1	452981	NFT2	EET CF	04/28/25 15:27
Total/NA	Prep	7470A			452864	F5MW	EET CF	04/29/25 09:26
Total/NA	Analysis	7470A		1	453118	F5MW	EET CF	04/29/25 15:44
Total/NA	Analysis	4500 F C-2011		1	453564	WZC8	EET CF	05/02/25 08:34
Total/NA	Analysis	D516-16		5	453231	WZC8	EET CF	04/30/25 11:55
Total/NA	Analysis	I-3765-85		1	452446	HE7K	EET CF	04/23/25 10:22
Total/NA	Analysis	SM 2540C		1	452347	XJ7V	EET CF	04/22/25 14:38
Total/NA	Analysis	SM 4500 Cl- E		1	452818	ENB7	EET CF	04/26/25 15:15
Total/NA	Analysis	SM 4500 H+ B		1	452271	W9YR	EET CF	04/22/25 09:27

Client Sample ID: MW-5B

Lab Sample ID: 310-304703-2

Date Collected: 04/18/25 08:35

Matrix: Water

Date Received: 04/22/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452480	QTZ5	EET CF	04/24/25 09:00
Total/NA	Analysis	6020B		1	452834	NFT2	EET CF	04/25/25 13:13
Total/NA	Prep	7470A			452864	F5MW	EET CF	04/29/25 09:26
Total/NA	Analysis	7470A		1	453118	F5MW	EET CF	04/29/25 15:46
Total/NA	Analysis	4500 F C-2011		1	453564	WZC8	EET CF	05/02/25 08:44
Total/NA	Analysis	D516-16		5	453231	WZC8	EET CF	04/30/25 11:55
Total/NA	Analysis	I-3765-85		1	452446	HE7K	EET CF	04/23/25 10:22
Total/NA	Analysis	SM 2540C		1	452347	XJ7V	EET CF	04/22/25 14:38
Total/NA	Analysis	SM 4500 Cl- E		10	452818	ENB7	EET CF	04/26/25 15:15
Total/NA	Analysis	SM 4500 H+ B		1	452271	W9YR	EET CF	04/22/25 09:28

Client Sample ID: MW-6A

Lab Sample ID: 310-304703-3

Date Collected: 04/18/25 10:15

Matrix: Water

Date Received: 04/22/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452480	QTZ5	EET CF	04/24/25 09:00
Total/NA	Analysis	6020B		1	452834	NFT2	EET CF	04/25/25 13:20
Total/NA	Prep	7470A			452864	F5MW	EET CF	04/29/25 09:26
Total/NA	Analysis	7470A		1	453118	F5MW	EET CF	04/29/25 15:48
Total/NA	Analysis	4500 F C-2011		1	453564	WZC8	EET CF	05/02/25 08:47
Total/NA	Analysis	D516-16		1	453231	WZC8	EET CF	04/30/25 12:37
Total/NA	Analysis	I-3765-85		1	452431	HE7K	EET CF	04/23/25 09:51
Total/NA	Analysis	SM 2540C		1	452347	XJ7V	EET CF	04/22/25 14:38
Total/NA	Analysis	SM 4500 Cl- E		1	452818	ENB7	EET CF	04/26/25 15:17

Eurofins Cedar Falls

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Client Sample ID: MW-6A

Date Collected: 04/18/25 10:15

Date Received: 04/22/25 08:25

Lab Sample ID: 310-304703-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	452271	W9YR	EET CF	04/22/25 09:29

Client Sample ID: MW-14A

Date Collected: 04/17/25 08:15

Date Received: 04/22/25 08:25

Lab Sample ID: 310-304703-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452476	QTZ5	EET CF	04/24/25 09:00
Total/NA	Analysis	6020B		1	452834	NFT2	EET CF	04/25/25 14:56
Total/NA	Prep	3005A			452476	QTZ5	EET CF	04/24/25 09:00
Total/NA	Analysis	6020B		4	452981	NFT2	EET CF	04/28/25 15:24
Total/NA	Prep	7470A			452864	F5MW	EET CF	04/29/25 09:26
Total/NA	Analysis	7470A		1	453118	F5MW	EET CF	04/29/25 15:50
Total/NA	Analysis	4500 F C-2011		1	453564	WZC8	EET CF	05/02/25 08:51
Total/NA	Analysis	D516-16		50	453231	WZC8	EET CF	04/30/25 11:56
Total/NA	Analysis	I-3765-85		1	452431	HE7K	EET CF	04/23/25 09:51
Total/NA	Analysis	SM 2540C		1	452347	XJ7V	EET CF	04/22/25 14:38
Total/NA	Analysis	SM 4500 Cl- E		1	452818	ENB7	EET CF	04/26/25 14:46
Total/NA	Analysis	SM 4500 H+ B		1	452271	W9YR	EET CF	04/22/25 09:30

Client Sample ID: MW-15A

Date Collected: 04/17/25 10:10

Date Received: 04/22/25 08:25

Lab Sample ID: 310-304703-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452476	QTZ5	EET CF	04/24/25 09:00
Total/NA	Analysis	6020B		1	452834	NFT2	EET CF	04/25/25 14:53
Total/NA	Prep	3005A			452476	QTZ5	EET CF	04/24/25 09:00
Total/NA	Analysis	6020B		4	452981	NFT2	EET CF	04/28/25 15:22
Total/NA	Prep	7470A			452864	F5MW	EET CF	04/29/25 09:26
Total/NA	Analysis	7470A		1	453118	F5MW	EET CF	04/29/25 15:53
Total/NA	Analysis	4500 F C-2011		1	453564	WZC8	EET CF	05/02/25 09:00
Total/NA	Analysis	D516-16		10	453231	WZC8	EET CF	04/30/25 11:56
Total/NA	Analysis	I-3765-85		1	452431	HE7K	EET CF	04/23/25 09:51
Total/NA	Analysis	SM 2540C		1	452347	XJ7V	EET CF	04/22/25 14:38
Total/NA	Analysis	SM 4500 Cl- E		1	452818	ENB7	EET CF	04/26/25 14:46
Total/NA	Analysis	SM 4500 H+ B		1	452271	W9YR	EET CF	04/22/25 09:31

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Client Sample ID: QC-2

Lab Sample ID: 310-304703-6

Date Collected: 04/18/25 10:15

Matrix: Water

Date Received: 04/22/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452480	QTZ5	EET CF	04/24/25 09:00
Total/NA	Analysis	6020B		1	452834	NFT2	EET CF	04/25/25 13:18
Total/NA	Prep	7470A			452864	F5MW	EET CF	04/29/25 09:26
Total/NA	Analysis	7470A		1	453118	F5MW	EET CF	04/29/25 15:55
Total/NA	Analysis	4500 F C-2011		1	453564	WZC8	EET CF	05/02/25 09:03
Total/NA	Analysis	D516-16		1	453231	WZC8	EET CF	04/30/25 12:38
Total/NA	Analysis	I-3765-85		1	452446	HE7K	EET CF	04/23/25 10:22
Total/NA	Analysis	SM 2540C		1	452347	XJ7V	EET CF	04/22/25 14:38
Total/NA	Analysis	SM 4500 CI- E		1	452818	ENB7	EET CF	04/26/25 14:47
Total/NA	Analysis	SM 4500 H+ B		1	452271	W9YR	EET CF	04/22/25 09:32

Client Sample ID: Leachate

Lab Sample ID: 310-304703-7

Date Collected: 04/18/25 10:45

Matrix: Water

Date Received: 04/22/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452476	QTZ5	EET CF	04/24/25 09:00
Total/NA	Analysis	6020B		1	452834	NFT2	EET CF	04/25/25 15:05
Total/NA	Prep	3005A			452476	QTZ5	EET CF	04/24/25 09:00
Total/NA	Analysis	6020B		20	452981	NFT2	EET CF	04/28/25 15:29
Total/NA	Prep	3005A			452476	QTZ5	EET CF	04/24/25 09:00
Total/NA	Analysis	6020B		50	453087	NFT2	EET CF	04/29/25 13:40
Total/NA	Prep	7470A			453106	F5MW	EET CF	04/30/25 13:14
Total/NA	Analysis	7470A		1	453403	F5MW	EET CF	05/01/25 12:45
Total/NA	Analysis	4500 F C-2011		1	453564	WZC8	EET CF	05/02/25 09:07
Total/NA	Analysis	D516-16		10	453231	WZC8	EET CF	04/30/25 12:20
Total/NA	Analysis	I-3765-85		1	452431	HE7K	EET CF	04/23/25 09:51
Total/NA	Analysis	SM 2540C		1	452347	XJ7V	EET CF	04/22/25 14:38
Total/NA	Analysis	SM 4500 CI- E		10	452818	ENB7	EET CF	04/26/25 14:47
Total/NA	Analysis	SM 4500 H+ B		1	452271	W9YR	EET CF	04/22/25 09:33

Laboratory References:

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

Accreditation/Certification Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
6020B	3005A	Water	Lithium

Method Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water Landfill

Job ID: 310-304703-1
SDG: 310-290523

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
4500 F C-2011	Fluoride (Ion-selective Electrode)	SM	EET CF
D516-16	Sulfate	ASTM	EET CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 Cl- E	Chloride, Total	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF

Protocol References:

ASTM = ASTM International

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

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

USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

Laboratory References:

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



Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Muscatine Power & Water</u>			
City/State:	CITY <u>Muscatine</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>4/22/25</u>	TIME <u>0825</u>	Received By: <u>[Signature]</u>
Delivery Type: ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		☒ Yes ☐ No	If yes: Cooler ID: _____
Multiple Coolers?		☒ Yes ☐ No	If yes: Cooler # <u>1</u> of <u>2</u>
Cooler Custody Seals Present?		☒ Yes ☐ No	If yes: Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?		☐ Yes ☒ No	If yes: Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?		☐ Yes ☒ No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C): <u>+0.0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>1.6</u>		Corrected Temp (°C): <u>1.6</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>		<u>CONTAINER 2</u>
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE If yes, contact PM before proceeding If no, proceed with login			
Additional Comments			

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Muscatine Power + Water</u>			
City/State:	CITY <u>Muscatine</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>4/22/25</u>	TIME <u>0825</u>	Received By. <u>h</u>
Delivery Type. ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		If yes: Cooler ID:	
☒ Yes ☐ No			
Multiple Coolers?		If yes: Cooler # <u>0</u> of <u>2</u>	
☒ Yes ☐ No			
Cooler Custody Seals Present?		If yes: Cooler custody seals intact?	
☒ Yes ☐ No		☐ Yes ☐ No	
Sample Custody Seals Present?		If yes: Sample custody seals intact?	
☐ Yes ☒ No		☐ Yes ☐ No	
Trip Blank Present?		If yes: Which VOA samples are in cooler? ↓	
☐ Yes ☒ No			
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C): <u>+0.5</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>2.0</u>		Corrected Temp (°C): <u>2.0</u>	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1		CONTAINER 2
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No			
a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Chain of Custody Record

Client Information		Lab PM		Carrier Tracking No(s):		COC No:									
Client Contact: Sam Bennett MP&W		Sam Bennett Phone: 563-262-3583 E-Mail: bob.michels@eurofins.com													
Company: Muscatine Power & Water															
Address: 1700 Dick Drake Way		Due Date Requested:		Analysis Requested											
City: Muscatine		TAT Requested (days)													
State Zip: IA, 52761															
Phone: 251639		PO #:													
Email: sbennett@mpw.org and neil.hoskins@mpw.org		WO #:													
Project Name: Muscatine Power & Water CCR Landfill		TestAmerica Project #: 310-290523													
Site: Iowa		Event: Spring 2025 Sampling													
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=oil, BT=Tissue, A=air)	Field Filtered Sample (Yes or No)	Form MS/MSD (Yes or No)	6020A CCR List, 7470A Mercury	2540C TDS, SM4500, H+ pH	9055A Chloride, Fluoride, Sulfate	Radium-226	Radium-228	Total Number of Containers	Preservation Codes	Special Instructions/Note:
MW-4B		4/18/25	0945	G	GW	X	X	X	X	X	X	X	X		
MW-5B		4/18/25	0835	G	GW	X	X	X	X	X	X	X	X		
MW-6A		4/18/25	1015	G	GW	X	X	X	X	X	X	X	X		
MW-8				G	GW	X	X	X	X	X	X	X	X		
MW-10				G	GW	X	X	X	X	X	X	X	X		
MW-14A		4/17/25	0815	G	GW	X	X	X	X	X	X	X	X		
MW-15A		4/17/25	1010	G	GW	X	X	X	X	X	X	X	X		
MW-21				G	GW	X	X	X	X	X	X	X	X		
MW-22				G	GW	X	X	X	X	X	X	X	X		
MW-23				G	GW	X	X	X	X	X	X	X	X		
MW-24				G	GW	X	X	X	X	X	X	X	X		
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological															
Deliverable Requested I, II, III, IV Other (specify)															
Empty Kit Relinquished by															
Relinquished by															
Relinquished by															
Relinquished by															
Custody Seals Intact: ☐ Yes ☐ No															
Custody Seal No															
Cooler Temperature(s) *C and Other Remarks:															
Received by: Company															
Received by: Company															
Received by: Company															
Date/Time: 4/22/25 0820															

Chain of Custody Record

3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

Client Information		Sampler Sam Bennett	Lab PM Michels, Bob
Client Contact: Sam Bennett MP&W		Phone: 563-262-3583	E-Mail bob.michels@et.eurofins.com
Company Muscatine Power & Water			
Address: 1700 Dick Drake Way			
City Muscatine			
State Zip IA, 52761			
Phone: 251639			
Email sbennett@mpw.org and neil.hoskins@mpw.org			
Project Name: Muscatine Power & Water CCR Landfill			
Site: Iowa			
Due Date Requested		TAT Requested (days)	
PO #:			
WO #:			
TestAmerica Project #:			
Event:			
Spring 2025 Sampling			
Sample Identification	Sample Date	Sample Time	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, ASH=Ash)
MW-26			G GW
MW-27			G GW
QC1			G GW
QC2	4/18/25	1015	G GW
Leachate	4/18/25	1045	G Leachate
Possible Hazard Identification	Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological ☐		
Deliverable Requested I, II, III, IV, Other (specify) 			
Empty Kit Relinquished by _____ Date _____			
Relinquished by _____	Date/Time: _____	Received by _____	Date/Time: _____
Relinquished by _____	Date/Time: _____	Received by _____	Date/Time: _____
Relinquished by _____	Date/Time: _____	Received by _____	Date/Time: _____
Custody Seals Intact: A Yes A No	Custody Seal No _____		

Eurofins Cedar Falls

3019 Venture Way

Cedar Falls, IA 50613

Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

Client Information		Sampler Sam Bennett		Lab PM Michels, Bob		Carrier Tracking No(s):		COC No:				
Client Contact: Sam Bennett MP&W		Phone: 563-262-3583		E-Mail bob.michels@et.eurofinsus.com				Page:				
Company: Muscatine Power & Water								Job #:				
Address: 1700 Dick Drake Way		Due Date Requested		Analysis Requested				Preservation Codes				
City: Muscatine		TAT Requested (days)						A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other				
State, Zip IA, 52761		PO #: 251639						M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)				
Phone: sbennett@mpw.org and neil.hoskins@mpw.org		WG #: 310-290523										
Email: sbennett@mpw.org and neil.hoskins@mpw.org		TestAmerica Project #: 310-290523										
Project Name: Muscatine Power & Water State Landfill												
Site: Iowa		Spring 2025 Sampling										
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, Asdy)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A State Metals List	9056A Chloride, Fluoride, Sulfate	TSS	Total Number of Containers	Special Instructions/Note
MW-4B		4/18/25	0945	G	GW	X	X	X	X	X	X	
MW-5B		4/18/25	0835	G	GW	X	X	X	X	X	X	
MW-6A		4/18/25	1015	G	GW	X	X	X	X	X	X	
MW-8					GW	X	X	X	X	X	X	
MW-10					GW	X	X	X	X	X	X	
MW-14A		4/17/25	0815	G	GW	X	X	X	X	X	X	
MW-15A		4/17/25	1010	G	GW	X	X	X	X	X	X	
MW-21					GW	X	X	X	X	X	X	
MW-22					GW	X	X	X	X	X	X	
MW-23					GW	X	X	X	X	X	X	
MW-24					GW	X	X	X	X	X	X	
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological												
Deliverable Requested I, II, III, IV, Other (specify)												
Empty Kit Relinquished by												
Relinquished by												
Relinquished by												
Relinquished by												
Custody Seals Intact: ☐ Yes ☐ No												
Custody Seal No												
Cooler Temperature(s) °C and Other Remarks:												
Date												
Time												
Received by												
Date/Time												
Company												
Received by												
Date/Time												
Company												
Received by												
Date/Time												
Company												
4/22/25 0825												

Chain of Custody Record

Client Information			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Client Contact: Sam Bennett MP&W			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Phone: 563-262-3583			E-Mail: bob.michels@et.eurofinsus.com		Carrier Tracking No(s)		COC No:	
Company Muscatine Power & Water			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Address: 1700 Dick Drake Way			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
City: Muscatine			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
State, Zip: IA, 52761			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Phone: 251639			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Email: sbennett@mpw.org and neil.hoskins@mpw.org			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Project Name: Muscatine Power & Water State Landfill			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Site: Iowa			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Event: Spring 2025 Sampling			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Due Date Requested			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
TAT Requested (days)			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
PO #:			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
WO #:			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
TestAmerica Project #:			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
310-290523			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Sample Identification			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
MW-26			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
MW-27			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
QC1			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
QC2			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Leachate			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Sample Date			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Sample Time			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Sample Type (C=Comp, G=grab)			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Matrix (W=water, S=solid, O=waste/soil, BT=tissue, Asap)			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Preservation Code			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Field Filtered Sample (Yes or No)			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Perform MS/MSD (Yes or No)			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
6020A State Metals List			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
9056A Chloride, Fluoride, Sulfate			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
TSS			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Total Number of containers			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Special Instructions/Note			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Preservation Codes			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
A - HCL			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
B - NaOH			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
C - Zn Acetate			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
D - Nitric Acid			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
E - NaHSO4			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
F - MeOH			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
G - H2SO4			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
H - Ascorbic Acid			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
I - Ice			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
J - DI Water			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
K - EDTA			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
L - EDA			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Other			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Special Instructions/Note			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Return To Client			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Disposal By Lab			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Archive For			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Months			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Special Instructions/QC Requirements			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Method of Shipment			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Time			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Date			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Company			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Received by			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Date/Time:			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Company			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Received by			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Date/Time:			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Company			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Received by			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Date/Time:			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Company			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Cooler Temperature(s) °C and Other Remarks:			Lab PM Michels, Bob		Carrier Tracking No(s)		COC No:	
Custody Seals Intact:			Lab PM Michels, Bob		Carrier Tracking No(s)			

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

Login Sample Receipt Checklist

Client: Muscatine Power & Water

Job Number: 310-304703-1

SDG Number: 310-290523

Login Number: 304703

List Number: 1

Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls

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

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

Eurofins Cedar Falls



ANALYTICAL REPORT

PREPARED FOR

Attn: Sam Bennett
Muscatine Power & Water
1700 Dick Drake Way
PO BOX 899
Muscatine, Iowa 52761

Generated 5/21/2025 2:32:21 PM

JOB DESCRIPTION

MPW CCR - Landfill

JOB NUMBER

310-304575-2

Eurofins Cedar Falls

Job Notes

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

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

Authorization



Generated
5/21/2025 2:32:21 PM

Authorized for release by
Bob Michels, Project Manager I
Bob.Michels@et.eurofinsus.com
(319)277-2401

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Case Narrative

Client: Muscatine Power & Water
Project: MPW CCR - Landfill

Job ID: 310-304575-2

Job ID: 310-304575-2

Eurofins Cedar Falls

Job Narrative 310-304575-2

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

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

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

Receipt

The samples were received on 4/18/2025 8:40 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.3°C and 0.7°C.

Gas Flow Proportional Counter

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

Rad

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

Eurofins Cedar Falls

Sample Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-304575-1	MW-8	Ground Water	04/16/25 11:15	04/18/25 08:40
310-304575-2	MW-10	Ground Water	04/16/25 08:40	04/18/25 08:40
310-304575-3	MW-21	Ground Water	04/16/25 13:00	04/18/25 08:40
310-304575-4	MW-22	Ground Water	04/15/25 08:35	04/18/25 08:40
310-304575-5	MW-23	Ground Water	04/15/25 10:45	04/18/25 08:40
310-304575-9	QC1	Ground Water	04/15/25 12:00	04/18/25 08:40

Detection Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

Client Sample ID: MW-8

Lab Sample ID: 310-304575-1

No Detections.

Client Sample ID: MW-10

Lab Sample ID: 310-304575-2

No Detections.

Client Sample ID: MW-21

Lab Sample ID: 310-304575-3

No Detections.

Client Sample ID: MW-22

Lab Sample ID: 310-304575-4

No Detections.

Client Sample ID: MW-23

Lab Sample ID: 310-304575-5

No Detections.

Client Sample ID: QC1

Lab Sample ID: 310-304575-9

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

Client Sample ID: MW-8

Lab Sample ID: 310-304575-1

Date Collected: 04/16/25 11:15

Matrix: Ground Water

Date Received: 04/18/25 08:40

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.303	U	0.196	0.197	1.00	0.303	pCi/L	04/23/25 08:21	05/21/25 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.0		30 - 110					04/23/25 08:21	05/21/25 07:41	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.554	U	0.302	0.302	1.00	0.554	pCi/L	04/23/25 08:24	05/20/25 11:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.0		30 - 110					04/23/25 08:24	05/20/25 11:52	1
Y Carrier	81.5		30 - 110					04/23/25 08:24	05/20/25 11:52	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	<0.554	U	0.360	0.361	5.00	0.554	pCi/L		05/20/25 11:59	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

Client Sample ID: MW-10

Lab Sample ID: 310-304575-2

Date Collected: 04/16/25 08:40

Matrix: Ground Water

Date Received: 04/18/25 08:40

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.254		0.166	0.167	1.00	0.215	pCi/L	04/23/25 08:21	05/21/25 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.1		30 - 110					04/23/25 08:21	05/21/25 07:41	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.503	U	0.290	0.290	1.00	0.503	pCi/L	04/23/25 08:24	05/20/25 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.1		30 - 110					04/23/25 08:24	05/20/25 11:53	1
Y Carrier	84.9		30 - 110					04/23/25 08:24	05/20/25 11:53	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	<0.503	U	0.334	0.335	5.00	0.503	pCi/L		05/20/25 11:59	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

Client Sample ID: MW-21

Lab Sample ID: 310-304575-3

Date Collected: 04/16/25 13:00

Matrix: Ground Water

Date Received: 04/18/25 08:40

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.287	U	0.181	0.181	1.00	0.287	pCi/L	04/23/25 08:21	05/21/25 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.7		30 - 110					04/23/25 08:21	05/21/25 07:41	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.552	U	0.266	0.266	1.00	0.552	pCi/L	04/23/25 08:24	05/20/25 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.7		30 - 110					04/23/25 08:24	05/20/25 11:53	1
Y Carrier	83.0		30 - 110					04/23/25 08:24	05/20/25 11:53	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	<0.552	U	0.322	0.322	5.00	0.552	pCi/L		05/20/25 11:59	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

Client Sample ID: MW-22

Lab Sample ID: 310-304575-4

Date Collected: 04/15/25 08:35

Matrix: Ground Water

Date Received: 04/18/25 08:40

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.334	U	0.221	0.223	1.00	0.334	pCi/L	04/23/25 08:21	05/21/25 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.6		30 - 110					04/23/25 08:21	05/21/25 07:41	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.458	U	0.299	0.302	1.00	0.458	pCi/L	04/23/25 08:24	05/20/25 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.6		30 - 110					04/23/25 08:24	05/20/25 11:53	1
Y Carrier	83.7		30 - 110					04/23/25 08:24	05/20/25 11:53	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	0.665		0.372	0.375	5.00	0.458	pCi/L		05/20/25 11:59	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

Client Sample ID: MW-23

Lab Sample ID: 310-304575-5

Date Collected: 04/15/25 10:45

Matrix: Ground Water

Date Received: 04/18/25 08:40

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.487	U	0.278	0.278	1.00	0.487	pCi/L	04/23/25 08:21	05/21/25 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		30 - 110					04/23/25 08:21	05/21/25 07:41	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.648	U	0.361	0.362	1.00	0.648	pCi/L	04/23/25 08:24	05/20/25 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		30 - 110					04/23/25 08:24	05/20/25 11:53	1
Y Carrier	84.5		30 - 110					04/23/25 08:24	05/20/25 11:53	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	0.456	0.456	5.00	0.648	pCi/L		05/20/25 11:59	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

Client Sample ID: QC1

Lab Sample ID: 310-304575-9

Date Collected: 04/15/25 12:00

Matrix: Ground Water

Date Received: 04/18/25 08:40

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.327		0.205	0.207	1.00	0.279	pCi/L	04/23/25 08:21	05/21/25 07:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.4		30 - 110					04/23/25 08:21	05/21/25 07:43	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.522	U	0.278	0.278	1.00	0.522	pCi/L	04/23/25 08:24	05/20/25 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.4		30 - 110					04/23/25 08:24	05/20/25 11:53	1
Y Carrier	84.1		30 - 110					04/23/25 08:24	05/20/25 11:53	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	<0.522	U	0.345	0.347	5.00	0.522	pCi/L		05/20/25 11:59	1

Definitions/Glossary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

Qualifiers

Rad

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

Glossary

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

QC Sample Results

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-713894/1-A

Matrix: Water

Analysis Batch: 718628

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 713894

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.251	U	0.115	0.115	1.00	0.251	pCi/L	04/23/25 08:21	05/21/25 07:40	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.3		30 - 110					04/23/25 08:21	05/21/25 07:40	1

Lab Sample ID: LCS 160-713894/2-A

Matrix: Water

Analysis Batch: 718628

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 713894

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226		9.58	7.716		1.02	1.00	0.264	pCi/L	81	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	93.6		30 - 110							

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-713895/1-A

Matrix: Water

Analysis Batch: 718429

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 713895

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.518	U	0.268	0.269	1.00	0.518	pCi/L	04/23/25 08:24	05/20/25 11:49	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.3		30 - 110					04/23/25 08:24	05/20/25 11:49	1
Y Carrier	86.0		30 - 110					04/23/25 08:24	05/20/25 11:49	1

Lab Sample ID: LCS 160-713895/2-A

Matrix: Water

Analysis Batch: 718429

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 713895

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228		9.43	9.830		1.30	1.00	0.480	pCi/L	104	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	93.6		30 - 110							
Y Carrier	85.2		30 - 110							

Eurofins Cedar Falls

QC Association Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

Rad

Prep Batch: 713894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-1	MW-8	Total/NA	Ground Water	PrecSep-21	
310-304575-2	MW-10	Total/NA	Ground Water	PrecSep-21	
310-304575-3	MW-21	Total/NA	Ground Water	PrecSep-21	
310-304575-4	MW-22	Total/NA	Ground Water	PrecSep-21	
310-304575-5	MW-23	Total/NA	Ground Water	PrecSep-21	
310-304575-9	QC1	Total/NA	Ground Water	PrecSep-21	
MB 160-713894/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-713894/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 713895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304575-1	MW-8	Total/NA	Ground Water	PrecSep_0	
310-304575-2	MW-10	Total/NA	Ground Water	PrecSep_0	
310-304575-3	MW-21	Total/NA	Ground Water	PrecSep_0	
310-304575-4	MW-22	Total/NA	Ground Water	PrecSep_0	
310-304575-5	MW-23	Total/NA	Ground Water	PrecSep_0	
310-304575-9	QC1	Total/NA	Ground Water	PrecSep_0	
MB 160-713895/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-713895/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

Client Sample ID: MW-8

Lab Sample ID: 310-304575-1

Date Collected: 04/16/25 11:15

Matrix: Ground Water

Date Received: 04/18/25 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			713894	OGC	EET SL	04/23/25 08:21
Total/NA	Analysis	9315		1	718628	SWS	EET SL	05/21/25 07:41
Total/NA	Prep	PrecSep_0			713895	OGC	EET SL	04/23/25 08:24
Total/NA	Analysis	9320		1	718429	SWS	EET SL	05/20/25 11:52
Total/NA	Analysis	Ra226_Ra228		1	718210	FLC	EET SL	05/20/25 11:59

Client Sample ID: MW-10

Lab Sample ID: 310-304575-2

Date Collected: 04/16/25 08:40

Matrix: Ground Water

Date Received: 04/18/25 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			713894	OGC	EET SL	04/23/25 08:21
Total/NA	Analysis	9315		1	718628	SWS	EET SL	05/21/25 07:41
Total/NA	Prep	PrecSep_0			713895	OGC	EET SL	04/23/25 08:24
Total/NA	Analysis	9320		1	718429	SWS	EET SL	05/20/25 11:53
Total/NA	Analysis	Ra226_Ra228		1	718210	FLC	EET SL	05/20/25 11:59

Client Sample ID: MW-21

Lab Sample ID: 310-304575-3

Date Collected: 04/16/25 13:00

Matrix: Ground Water

Date Received: 04/18/25 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			713894	OGC	EET SL	04/23/25 08:21
Total/NA	Analysis	9315		1	718628	SWS	EET SL	05/21/25 07:41
Total/NA	Prep	PrecSep_0			713895	OGC	EET SL	04/23/25 08:24
Total/NA	Analysis	9320		1	718429	SWS	EET SL	05/20/25 11:53
Total/NA	Analysis	Ra226_Ra228		1	718210	FLC	EET SL	05/20/25 11:59

Client Sample ID: MW-22

Lab Sample ID: 310-304575-4

Date Collected: 04/15/25 08:35

Matrix: Ground Water

Date Received: 04/18/25 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			713894	OGC	EET SL	04/23/25 08:21
Total/NA	Analysis	9315		1	718628	SWS	EET SL	05/21/25 07:41
Total/NA	Prep	PrecSep_0			713895	OGC	EET SL	04/23/25 08:24
Total/NA	Analysis	9320		1	718429	SWS	EET SL	05/20/25 11:53
Total/NA	Analysis	Ra226_Ra228		1	718210	FLC	EET SL	05/20/25 11:59

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

Client Sample ID: MW-23

Date Collected: 04/15/25 10:45

Date Received: 04/18/25 08:40

Lab Sample ID: 310-304575-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			713894	OGC	EET SL	04/23/25 08:21
Total/NA	Analysis	9315		1	718628	SWS	EET SL	05/21/25 07:41
Total/NA	Prep	PrecSep_0			713895	OGC	EET SL	04/23/25 08:24
Total/NA	Analysis	9320		1	718429	SWS	EET SL	05/20/25 11:53
Total/NA	Analysis	Ra226_Ra228		1	718210	FLC	EET SL	05/20/25 11:59

Client Sample ID: QC1

Date Collected: 04/15/25 12:00

Date Received: 04/18/25 08:40

Lab Sample ID: 310-304575-9

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			713894	OGC	EET SL	04/23/25 08:21
Total/NA	Analysis	9315		1	718629	SWS	EET SL	05/21/25 07:43
Total/NA	Prep	PrecSep_0			713895	OGC	EET SL	04/23/25 08:24
Total/NA	Analysis	9320		1	718429	SWS	EET SL	05/20/25 11:53
Total/NA	Analysis	Ra226_Ra228		1	718210	FLC	EET SL	05/20/25 11:59

Laboratory References:

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

Accreditation/Certification Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

Laboratory: Eurofins St. Louis

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

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

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

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

Method Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

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

Protocol References:

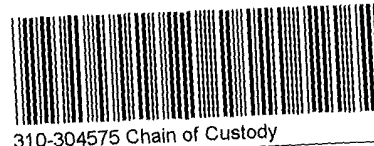
None = None

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

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

Laboratory References:

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



310-304575 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Muscatine Power & Water</u>			
City/State:	CITY <u>Muscatine</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>4/16/25</u>	TIME <u>0840</u>	Received By: <u>BP</u>
Delivery Type: ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		☒ Yes ☐ No If yes: Cooler ID: _____	
Multiple Coolers?		☒ Yes ☐ No If yes: Cooler # <u>1</u> of <u>2</u>	
Cooler Custody Seals Present?		☒ Yes ☐ No If yes: Cooler custody seals intact? ☒ Yes ☐ No	
Sample Custody Seals Present?		☐ Yes ☒ No If yes: Sample custody seals intact? ☐ Yes ☐ No	
Trip Blank Present?		☐ Yes ☒ No If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID: <u>AA</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.7</u>		Corrected Temp (°C): <u>0.7</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>		<u>CONTAINER 2</u>
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE: If yes, contact PM before proceeding If no, proceed with login			
Additional Comments			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Muscatine Power & Water</u>			
City/State:	CITY <u>Muscatine</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>4/18/25</u>	TIME <u>0840</u>	Received By: <u>BP</u>
Delivery Type: ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		☒ Yes ☐ No	If yes: Cooler ID: _____
Multiple Coolers?		☒ Yes ☐ No	If yes: Cooler # <u>2</u> of <u>2</u>
Cooler Custody Seals Present?		☒ Yes ☐ No	If yes: Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?		☐ Yes ☒ No	If yes: Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?		☐ Yes ☒ No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID: <u>AA</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.3</u>		Corrected Temp (°C): <u>0.3</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>		<u>CONTAINER 2</u>
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE: If yes, contact PM before proceeding If no, proceed with login			
Additional Comments			

Eurofins Cedar Falls

3019 Venture Way

Cedar Falls, IA 50613

Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

Client Information		Sampler Sam Bennett		Lab PM Michels, Bob		Carrier Tracking No(s):		COC No:	
Client Contact: Sam Bennett MP&W		Phone: 563-262-3583		E-Mail bob.michels@et.eurofins.com				Page:	
Company Muscatine Power & Water								Job #:	
Address: 1700 Dick Drake Way		Due Date Requested:						Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other	
City Muscatine		TAT Requested (days):							
State, Zip IA, 52761		PO #: 251639							
Phone: 251639		WO #:							
Email: sbennett@mpw.org and neil.hoskins@mpw.org		TestAmerica Project #: 310-290523							
Project Name: Muscatine Power & Water CCR Landfill		Event: Spring 2025 Sampling							
Site: Iowa									
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=oil, A=air)	
MW-4B						G		GW	
MW-5B						G		GW	
MW-6A						G		GW	
MW-8		4/16/25		1115		G		GW	
MW-10		4/16/25		0840		G		GW	
MW-14A						G		GW	
MW-15A						G		GW	
MW-21		4/16/25		1300		G		GW	
MW-22		4/15/25		0835		G		GW	
MW-23		4/15/25		1045		G		GW	
MW-24		4/16/25		1015		G		GW	
Possible Hazard Identification		☐ Non-Hazard		☐ Flammable		☐ Skin Irritant		☐ Poison B	
Deliverable Requested 1, II, III, IV, Other (specify)		☐ Unknown		☐ Radiological		☐ Radiological			
Empty Kit Relinquished by:		Date:		Time:		Company:		Method of Shipment:	
Relinquished by:		Date/Time:				Received by:		Date/Time:	
Relinquished by:		Date/Time:				Received by:		Date/Time:	
Relinquished by:		Date/Time:				Received by:		Date/Time:	
Custody Seals Intact:		Custody Seal No				Cooler Temperature(s) °C and Other Remarks:			
Δ Yes Δ No									

Chain of Custody Record

[illegible]

Chain of Custody Record

Client Information		Lab PM Michels, Bob		Carrier Tracking No(s):		COC No:	
Client Contact: Sam Bennett MP&W		Phone: 563-262-3583		E-Mail: bob.michels@et.eurofinsus.com		Page:	
Company: Muscatine Power & Water		Address: 1700 Dick Drake Way		City: Muscatine		State, Zip: IA, 52761	
Phone: 251639		PO #: 251639		WO #:		Due Date Requested	
Email: sbennett@mpw.org and neil.hoskins@mpw.org		TestAmerica Project #: 310-290523		Spring 2025 Sampling		TAT Requested (days)	
Project Name: Muscatine Power & Water State Landfill		Site: Iowa		Sample Date		Sample Time	
Sample Identification		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)		Preservation Code	
MW-4B		GW		GW		GW	
MW-5B		GW		GW		GW	
MW-6A		GW		GW		GW	
MW-8		1115		1115		1115	
MW-10		0840		0840		0840	
MW-14A		GW		GW		GW	
MW-15A		GW		GW		GW	
MW-21		1300		1300		1300	
MW-22		0835		0835		0835	
MW-23		1045		1045		1045	
MW-24		1015		1015		1015	

Possible Hazard Identification		☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	
Deliverable Requested I II III IV, Other (specify)		Special Instructions/QC Requirements.	
Empty Kit Relinquished by:		Date/Time:	
Relinquished by:		Date/Time:	
Relinquished by:		Date/Time:	

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

Method of Shipment:		Date/Time:	
Received by:		Date/Time:	
Received by:		Date/Time:	
Received by:		Date/Time:	

Chain of Custody Record

Phone (319) 277-2401 Fax (319) 277-2425

5/21/2025

Login Sample Receipt Checklist

Client: Muscatine Power & Water

Job Number: 310-304575-2

Login Number: 304575

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Hirsch, Preston

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

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

Eurofins Cedar Falls

Login Sample Receipt Checklist

Client: Muscatine Power & Water

Job Number: 310-304575-2

Login Number: 304575

List Number: 2

Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis

List Creation: 04/21/25 12:22 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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

Eurofins Cedar Falls

Tracer/Carrier Summary

Client: Muscatine Power & Water
Project/Site: MPW CCR - Landfill

Job ID: 310-304575-2

Method: 9315 - Radium-226 (GFPC)

Matrix: Ground Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
Lab Sample ID	Client Sample ID	Ba (30-110)					
310-304575-1	MW-8	89.0					
310-304575-2	MW-10	93.1					
310-304575-3	MW-21	84.7					
310-304575-4	MW-22	93.6					
310-304575-5	MW-23	86.4					
310-304575-9	QC1	85.4					
Tracer/Carrier Legend							
Ba = Ba Carrier							

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
Lab Sample ID	Client Sample ID	Ba (30-110)					
LCS 160-713894/2-A	Lab Control Sample	93.6					
MB 160-713894/1-A	Method Blank	89.3					
Tracer/Carrier Legend							
Ba = Ba Carrier							

Method: 9320 - Radium-228 (GFPC)

Matrix: Ground Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)				
310-304575-1	MW-8	89.0	81.5				
310-304575-2	MW-10	93.1	84.9				
310-304575-3	MW-21	84.7	83.0				
310-304575-4	MW-22	93.6	83.7				
310-304575-5	MW-23	86.4	84.5				
310-304575-9	QC1	85.4	84.1				
Tracer/Carrier Legend							
Ba = Ba Carrier							
Y = Y Carrier							

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)				
LCS 160-713895/2-A	Lab Control Sample	93.6	85.2				
MB 160-713895/1-A	Method Blank	89.3	86.0				
Tracer/Carrier Legend							
Ba = Ba Carrier							
Y = Y Carrier							

Eurofins Cedar Falls

ANALYTICAL REPORT

PREPARED FOR

Attn: Sam Bennett
Muscatine Power & Water
1700 Dick Drake Way
PO BOX 899
Muscatine, Iowa 52761

Generated 10/1/2025 4:03:43 PM

JOB DESCRIPTION

Muscatine Power & Water CCR Landfill

JOB NUMBER

310-315538-1

Eurofins Cedar Falls

Job Notes

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

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

Authorization



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Authorized for release by
Bob Michels, Project Manager I
Bob.Michels@et.eurofinsus.com
(319)277-2401

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Case Narrative

Client: Muscatine Power & Water
Project: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Job ID: 310-315538-1

Eurofins Cedar Falls

Job Narrative 310-315538-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 9/12/2025 8:25 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 0.9°C, 1.3°C, 1.7°C and 2.7°C.

Metals

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

General Chemistry

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

Eurofins Cedar Falls

Sample Summary

Client: Muscatine Power & Water

Job ID: 310-315538-1

Project/Site: Muscatine Power & Water CCR Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
310-315538-1	MW-4B	Ground Water	09/10/25 09:45	09/12/25 08:25	Iowa
310-315538-2	MW-5B	Ground Water	09/10/25 12:25	09/12/25 08:25	Iowa
310-315538-3	MW-6A	Ground Water	09/10/25 10:40	09/12/25 08:25	Iowa
310-315538-4	MW-8	Ground Water	09/09/25 09:20	09/12/25 08:25	Iowa
310-315538-5	MW-10	Ground Water	09/08/25 15:10	09/12/25 08:25	Iowa
310-315538-6	MW-14A	Ground Water	09/09/25 13:55	09/12/25 08:25	Iowa
310-315538-7	MW-15A	Ground Water	09/10/25 08:25	09/12/25 08:25	Iowa
310-315538-8	MW-21	Ground Water	09/09/25 12:40	09/12/25 08:25	Iowa
310-315538-9	MW-22	Ground Water	09/08/25 11:45	09/12/25 08:25	Iowa
310-315538-10	MW-23	Ground Water	09/08/25 13:50	09/12/25 08:25	Iowa
310-315538-11	DUP-1	Ground Water	09/08/25 12:00	09/12/25 08:25	Iowa
310-315538-12	DUP-2	Ground Water	09/09/25 12:00	09/12/25 08:25	Iowa
310-315538-13	LEACHATE	Water	09/10/25 14:10	09/12/25 08:25	Iowa

Detection Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-4B

Lab Sample ID: 310-315538-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.175		0.00200		mg/L	1		6020B	Total/NA
Calcium	94.9		0.500		mg/L	1		6020B	Total/NA
Cobalt	0.00247		0.000500		mg/L	1		6020B	Total/NA
Iron	0.931		0.100		mg/L	1		6020B	Total/NA
Magnesium	35.7		0.500		mg/L	1		6020B	Total/NA
Manganese	0.386		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.101		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.274	F1	0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	55.8		25.0		mg/L	5		D516-16	Total/NA
Total Dissolved Solids	442		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	18.9		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.5	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-5B

Lab Sample ID: 310-315538-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.252		0.00200		mg/L	1		6020B	Total/NA
Calcium	114		0.500		mg/L	1		6020B	Total/NA
Iron	2.07		0.100		mg/L	1		6020B	Total/NA
Magnesium	38.3		0.500		mg/L	1		6020B	Total/NA
Manganese	0.530		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.161		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.173		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	47.6		25.0		mg/L	5		D516-16	Total/NA
Total Dissolved Solids	496		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	42.0		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.3	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-6A

Lab Sample ID: 310-315538-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.213		0.00200		mg/L	1		6020B	Total/NA
Calcium	79.0		0.500		mg/L	1		6020B	Total/NA
Iron	3.11		0.100		mg/L	1		6020B	Total/NA
Magnesium	27.5		0.500		mg/L	1		6020B	Total/NA
Manganese	0.0942		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.162		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.273		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	20.7		5.00		mg/L	1		D516-16	Total/NA
Total Dissolved Solids	380		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	16.8		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.3	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-8

Lab Sample ID: 310-315538-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00317		0.00200		mg/L	1		6020B	Total/NA
Barium	0.0852		0.00200		mg/L	1		6020B	Total/NA
Calcium	79.6		0.500		mg/L	1		6020B	Total/NA
Cobalt	0.00142		0.000500		mg/L	1		6020B	Total/NA
Iron	1.13		0.100		mg/L	1		6020B	Total/NA
Magnesium	32.4		0.500		mg/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: Muscatine Power & Water

Job ID: 310-315538-1

Project/Site: Muscatine Power & Water CCR Landfill

Client Sample ID: MW-8 (Continued)

Lab Sample ID: 310-315538-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.366		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.151		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.311		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	68.8		25.0		mg/L	5		D516-16	Total/NA
Total Dissolved Solids	384		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	20.8		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.4	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-10

Lab Sample ID: 310-315538-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00429		0.00200		mg/L	1		6020B	Total/NA
Barium	0.172		0.00200		mg/L	1		6020B	Total/NA
Calcium	82.6		0.500		mg/L	1		6020B	Total/NA
Cobalt	0.000900		0.000500		mg/L	1		6020B	Total/NA
Iron	2.58		0.100		mg/L	1		6020B	Total/NA
Magnesium	36.4		0.500		mg/L	1		6020B	Total/NA
Manganese	0.165		0.0100		mg/L	1		6020B	Total/NA
Molybdenum	0.00216		0.00200		mg/L	1		6020B	Total/NA
Strontium	0.164		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.218		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	57.0		25.0		mg/L	5		D516-16	Total/NA
Total Dissolved Solids	434		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	8.50		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.3	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-14A

Lab Sample ID: 310-315538-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0331		0.00200		mg/L	1		6020B	Total/NA
Boron	16.1		0.400		mg/L	4		6020B	Total/NA
Calcium	277		0.500		mg/L	1		6020B	Total/NA
Magnesium	124		2.00		mg/L	4		6020B	Total/NA
Strontium	0.243		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.261		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	953		125		mg/L	25		D516-16	Total/NA
Total Dissolved Solids	1870		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	15.4		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.3	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-15A

Lab Sample ID: 310-315538-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0302		0.00200		mg/L	1		6020B	Total/NA
Boron	5.51		0.400		mg/L	4		6020B	Total/NA
Calcium	77.2		0.500		mg/L	1		6020B	Total/NA
Magnesium	34.2		0.500		mg/L	1		6020B	Total/NA
Strontium	0.0826		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.293		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	162		25.0		mg/L	5		D516-16	Total/NA
Total Dissolved Solids	518		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	4.50		2.00		mg/L	1		SM 4500 Cl- E	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-15A (Continued)

Lab Sample ID: 310-315538-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-21

Lab Sample ID: 310-315538-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0412		0.00200		mg/L	1		6020B	Total/NA
Boron	1.65		0.100		mg/L	1		6020B	Total/NA
Calcium	52.8		0.500		mg/L	1		6020B	Total/NA
Lithium	0.0121		0.0100		mg/L	1		6020B	Total/NA
Magnesium	23.7		0.500		mg/L	1		6020B	Total/NA
Manganese	0.320		0.0100		mg/L	1		6020B	Total/NA
Nickel	0.0206		0.00500		mg/L	1		6020B	Total/NA
Strontium	0.166		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.174		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	135		50.0		mg/L	10		D516-16	Total/NA
Total Dissolved Solids	396		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	5.10		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	6.8	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-22

Lab Sample ID: 310-315538-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00768		0.00200		mg/L	1		6020B	Total/NA
Barium	0.262		0.00200		mg/L	1		6020B	Total/NA
Boron	0.187		0.100		mg/L	1		6020B	Total/NA
Calcium	74.6		0.500		mg/L	1		6020B	Total/NA
Iron	0.196		0.100		mg/L	1		6020B	Total/NA
Magnesium	31.0		0.500		mg/L	1		6020B	Total/NA
Manganese	0.480		0.0100		mg/L	1		6020B	Total/NA
Molybdenum	0.00510		0.00200		mg/L	1		6020B	Total/NA
Strontium	0.119		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.289		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	149		50.0		mg/L	10		D516-16	Total/NA
Total Dissolved Solids	426		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	14.5		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.6	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-23

Lab Sample ID: 310-315538-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.209		0.0500		mg/L	1		6020B	Total/NA
Barium	0.0468		0.00200		mg/L	1		6020B	Total/NA
Boron	0.123		0.100		mg/L	1		6020B	Total/NA
Calcium	44.9		0.500		mg/L	1		6020B	Total/NA
Iron	0.192		0.100		mg/L	1		6020B	Total/NA
Magnesium	21.9		0.500		mg/L	1		6020B	Total/NA
Manganese	0.0200		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.0530		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.281		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	25.7		5.00		mg/L	1		D516-16	Total/NA
Total Dissolved Solids	300		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	25.2		2.00		mg/L	1		SM 4500 Cl- E	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-23 (Continued)

Lab Sample ID: 310-315538-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP-1

Lab Sample ID: 310-315538-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0203		0.00200		mg/L	1		6020B	Total/NA
Barium	0.279		0.00200		mg/L	1		6020B	Total/NA
Calcium	77.6		0.500		mg/L	1		6020B	Total/NA
Cobalt	0.000670		0.000500		mg/L	1		6020B	Total/NA
Iron	1.23		0.100		mg/L	1		6020B	Total/NA
Magnesium	32.0		0.500		mg/L	1		6020B	Total/NA
Manganese	0.642		0.0100		mg/L	1		6020B	Total/NA
Molybdenum	0.00605		0.00200		mg/L	1		6020B	Total/NA
Strontium	0.105		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.290		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	158		50.0		mg/L	10		D516-16	Total/NA
Total Dissolved Solids	416		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	15.6		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.6	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP-2

Lab Sample ID: 310-315538-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00340		0.00200		mg/L	1		6020B	Total/NA
Barium	0.0947		0.00200		mg/L	1		6020B	Total/NA
Boron	0.132		0.100		mg/L	1		6020B	Total/NA
Calcium	88.7		0.500		mg/L	1		6020B	Total/NA
Cobalt	0.00188		0.000500		mg/L	1		6020B	Total/NA
Iron	1.33		0.100		mg/L	1		6020B	Total/NA
Magnesium	36.0		0.500		mg/L	1		6020B	Total/NA
Manganese	0.526		0.0100		mg/L	1		6020B	Total/NA
Strontium	0.171		0.00100		mg/L	1		6020B	Total/NA
Fluoride	0.304		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	61.5		50.0		mg/L	10		D516-16	Total/NA
Total Dissolved Solids	406		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	25.1		20.0		mg/L	10		SM 4500 Cl- E	Total/NA
pH	7.4	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: LEACHATE

Lab Sample ID: 310-315538-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.36		0.0400		mg/L	20		6020B	Total/NA
Boron	50.2		2.00		mg/L	20		6020B	Total/NA
Cadmium	0.000867		0.000200		mg/L	1		6020B	Total/NA
Calcium	455		10.0		mg/L	20		6020B	Total/NA
Lithium	0.192		0.0100		mg/L	1		6020B	Total/NA
Magnesium	23.9		0.500		mg/L	1		6020B	Total/NA
Manganese	0.886		0.0100		mg/L	1		6020B	Total/NA
Molybdenum	2.59		0.0400		mg/L	20		6020B	Total/NA
Strontium	6.18		0.0200		mg/L	20		6020B	Total/NA
Thallium	0.00210		0.00100		mg/L	1		6020B	Total/NA
Vanadium	0.0210		0.00500		mg/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: Muscatine Power & Water

Job ID: 310-315538-1

Project/Site: Muscatine Power & Water CCR Landfill

Client Sample ID: LEACHATE (Continued)

Lab Sample ID: 310-315538-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	2.47		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	6720		1000		mg/L	200		D516-16	Total/NA
Total Dissolved Solids	9500		250		mg/L	1		SM 2540C	Total/NA
Chloride	120		20.0		mg/L	10		SM 4500 Cl- E	Total/NA
pH	9.0	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-4B

Lab Sample ID: 310-315538-1

Date Collected: 09/10/25 09:45

Matrix: Ground Water

Date Received: 09/12/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		09/17/25 09:00	09/25/25 17:53	1
Antimony	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:53	1
Arsenic	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:53	1
Barium	0.175		0.00200		mg/L		09/17/25 09:00	09/25/25 17:53	1
Beryllium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:53	1
Boron	<0.100		0.100		mg/L		09/17/25 09:00	09/26/25 15:36	1
Cadmium	<0.000200		0.000200		mg/L		09/17/25 09:00	09/25/25 17:53	1
Calcium	94.9		0.500		mg/L		09/17/25 09:00	09/25/25 17:53	1
Chromium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:53	1
Cobalt	0.00247		0.000500		mg/L		09/17/25 09:00	09/25/25 17:53	1
Copper	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:53	1
Iron	0.931		0.100		mg/L		09/17/25 09:00	09/25/25 17:53	1
Lead	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:53	1
Lithium	<0.0100		0.0100		mg/L		09/17/25 09:00	09/25/25 17:53	1
Magnesium	35.7		0.500		mg/L		09/17/25 09:00	09/25/25 17:53	1
Manganese	0.386		0.0100		mg/L		09/17/25 09:00	09/25/25 17:53	1
Molybdenum	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:53	1
Nickel	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:53	1
Selenium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:53	1
Strontium	0.101		0.00100		mg/L		09/17/25 09:00	09/25/25 17:53	1
Thallium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:53	1
Vanadium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:53	1
Zinc	<0.0200		0.0200		mg/L		09/29/25 09:00	09/30/25 18:13	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/19/25 14:15	09/22/25 10:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.274	F1	0.100		mg/L			09/17/25 12:09	1
Sulfate (ASTM D516-16)	55.8		25.0		mg/L			09/18/25 14:33	5
Total Dissolved Solids (SM 2540C)	442		50.0		mg/L			09/16/25 13:34	1
Chloride (SM 4500 Cl- E)	18.9		2.00		mg/L			09/18/25 23:09	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.5	HF	1.0		SU			09/12/25 11:43	1

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-5B

Lab Sample ID: 310-315538-2

Date Collected: 09/10/25 12:25

Matrix: Ground Water

Date Received: 09/12/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		09/17/25 09:00	09/25/25 17:56	1
Antimony	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:56	1
Arsenic	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:56	1
Barium	0.252		0.00200		mg/L		09/17/25 09:00	09/25/25 17:56	1
Beryllium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:56	1
Boron	<0.100		0.100		mg/L		09/17/25 09:00	09/26/25 15:39	1
Cadmium	<0.000200		0.000200		mg/L		09/17/25 09:00	09/25/25 17:56	1
Calcium	114		0.500		mg/L		09/17/25 09:00	09/25/25 17:56	1
Chromium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:56	1
Cobalt	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:56	1
Copper	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:56	1
Iron	2.07		0.100		mg/L		09/17/25 09:00	09/25/25 17:56	1
Lead	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:56	1
Lithium	<0.0100		0.0100		mg/L		09/17/25 09:00	09/25/25 17:56	1
Magnesium	38.3		0.500		mg/L		09/17/25 09:00	09/25/25 17:56	1
Manganese	0.530		0.0100		mg/L		09/17/25 09:00	09/25/25 17:56	1
Molybdenum	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:56	1
Nickel	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:56	1
Selenium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:56	1
Strontium	0.161		0.00100		mg/L		09/17/25 09:00	09/25/25 17:56	1
Thallium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:56	1
Vanadium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:56	1
Zinc	<0.0200		0.0200		mg/L		09/29/25 09:00	09/30/25 18:24	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/19/25 14:15	09/22/25 10:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.173		0.100		mg/L			09/17/25 12:54	1
Sulfate (ASTM D516-16)	47.6		25.0		mg/L			09/18/25 14:33	5
Total Dissolved Solids (SM 2540C)	496		50.0		mg/L			09/16/25 13:34	1
Chloride (SM 4500 Cl- E)	42.0		2.00		mg/L			09/18/25 23:10	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	1.0		SU			09/12/25 11:44	1

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-6A

Lab Sample ID: 310-315538-3

Date Collected: 09/10/25 10:40

Matrix: Ground Water

Date Received: 09/12/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		09/17/25 09:00	09/25/25 17:24	1
Antimony	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:24	1
Arsenic	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:24	1
Barium	0.213		0.00200		mg/L		09/17/25 09:00	09/25/25 17:24	1
Beryllium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:24	1
Boron	<0.100		0.100		mg/L		09/17/25 09:00	09/26/25 15:08	1
Cadmium	<0.000200		0.000200		mg/L		09/17/25 09:00	09/25/25 17:24	1
Calcium	79.0		0.500		mg/L		09/17/25 09:00	09/25/25 17:24	1
Chromium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:24	1
Cobalt	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:24	1
Copper	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:24	1
Iron	3.11		0.100		mg/L		09/17/25 09:00	09/25/25 17:24	1
Lead	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:24	1
Lithium	<0.0100		0.0100		mg/L		09/17/25 09:00	09/25/25 17:24	1
Magnesium	27.5		0.500		mg/L		09/17/25 09:00	09/25/25 17:24	1
Manganese	0.0942		0.0100		mg/L		09/17/25 09:00	09/25/25 17:24	1
Molybdenum	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:24	1
Nickel	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:24	1
Selenium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:24	1
Strontium	0.162		0.00100		mg/L		09/17/25 09:00	09/25/25 17:24	1
Thallium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:24	1
Vanadium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:24	1
Zinc	<0.0200		0.0200		mg/L		09/29/25 09:00	09/30/25 18:26	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/19/25 14:15	09/22/25 10:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.273		0.100		mg/L			09/17/25 12:58	1
Sulfate (ASTM D516-16)	20.7		5.00		mg/L			09/18/25 14:34	1
Total Dissolved Solids (SM 2540C)	380		50.0		mg/L			09/16/25 13:34	1
Chloride (SM 4500 Cl- E)	16.8		2.00		mg/L			09/18/25 23:10	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	1.0		SU			09/12/25 11:49	1

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-8

Lab Sample ID: 310-315538-4

Date Collected: 09/09/25 09:20

Matrix: Ground Water

Date Received: 09/12/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		09/17/25 09:00	09/25/25 17:59	1
Antimony	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:59	1
Arsenic	0.00317		0.00200		mg/L		09/17/25 09:00	09/25/25 17:59	1
Barium	0.0852		0.00200		mg/L		09/17/25 09:00	09/25/25 17:59	1
Beryllium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:59	1
Boron	<0.100		0.100		mg/L		09/17/25 09:00	09/26/25 15:42	1
Cadmium	<0.000200		0.000200		mg/L		09/17/25 09:00	09/25/25 17:59	1
Calcium	79.6		0.500		mg/L		09/17/25 09:00	09/25/25 17:59	1
Chromium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:59	1
Cobalt	0.00142		0.000500		mg/L		09/17/25 09:00	09/25/25 17:59	1
Copper	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:59	1
Iron	1.13		0.100		mg/L		09/17/25 09:00	09/25/25 17:59	1
Lead	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:59	1
Lithium	<0.0100		0.0100		mg/L		09/17/25 09:00	09/25/25 17:59	1
Magnesium	32.4		0.500		mg/L		09/17/25 09:00	09/25/25 17:59	1
Manganese	0.366		0.0100		mg/L		09/17/25 09:00	09/25/25 17:59	1
Molybdenum	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:59	1
Nickel	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:59	1
Selenium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:59	1
Strontium	0.151		0.00100		mg/L		09/17/25 09:00	09/25/25 17:59	1
Thallium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:59	1
Vanadium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:59	1
Zinc	<0.0200		0.0200		mg/L		09/29/25 09:00	09/30/25 18:29	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/19/25 14:15	09/22/25 10:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.311		0.100		mg/L			09/17/25 13:01	1
Sulfate (ASTM D516-16)	68.8		25.0		mg/L			09/18/25 14:35	5
Total Dissolved Solids (SM 2540C)	384		50.0		mg/L			09/12/25 18:08	1
Chloride (SM 4500 Cl- E)	20.8		2.00		mg/L			09/18/25 23:12	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.4	HF	1.0		SU			09/12/25 11:52	1

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-10

Lab Sample ID: 310-315538-5

Date Collected: 09/08/25 15:10

Matrix: Ground Water

Date Received: 09/12/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		09/17/25 09:00	09/25/25 17:27	1
Antimony	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:27	1
Arsenic	0.00429		0.00200		mg/L		09/17/25 09:00	09/25/25 17:27	1
Barium	0.172		0.00200		mg/L		09/17/25 09:00	09/25/25 17:27	1
Beryllium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:27	1
Boron	<0.100		0.100		mg/L		09/17/25 09:00	09/26/25 15:10	1
Cadmium	<0.000200		0.000200		mg/L		09/17/25 09:00	09/25/25 17:27	1
Calcium	82.6		0.500		mg/L		09/17/25 09:00	09/25/25 17:27	1
Chromium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:27	1
Cobalt	0.000900		0.000500		mg/L		09/17/25 09:00	09/25/25 17:27	1
Copper	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:27	1
Iron	2.58		0.100		mg/L		09/17/25 09:00	09/25/25 17:27	1
Lead	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:27	1
Lithium	<0.0100		0.0100		mg/L		09/17/25 09:00	09/25/25 17:27	1
Magnesium	36.4		0.500		mg/L		09/17/25 09:00	09/25/25 17:27	1
Manganese	0.165		0.0100		mg/L		09/17/25 09:00	09/25/25 17:27	1
Molybdenum	0.00216		0.00200		mg/L		09/17/25 09:00	09/25/25 17:27	1
Nickel	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:27	1
Selenium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:27	1
Strontium	0.164		0.00100		mg/L		09/17/25 09:00	09/25/25 17:27	1
Thallium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:27	1
Vanadium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:27	1
Zinc	<0.0200		0.0200		mg/L		09/29/25 09:00	09/30/25 18:32	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/19/25 14:15	09/22/25 10:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.218		0.100		mg/L			09/17/25 13:04	1
Sulfate (ASTM D516-16)	57.0		25.0		mg/L			09/18/25 14:36	5
Total Dissolved Solids (SM 2540C)	434		50.0		mg/L			09/12/25 18:08	1
Chloride (SM 4500 Cl- E)	8.50		2.00		mg/L			09/18/25 23:12	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	1.0		SU			09/12/25 11:51	1

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-14A

Lab Sample ID: 310-315538-6

Date Collected: 09/09/25 13:55

Matrix: Ground Water

Date Received: 09/12/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		09/17/25 09:00	09/25/25 17:38	1
Antimony	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:38	1
Arsenic	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:38	1
Barium	0.0331		0.00200		mg/L		09/17/25 09:00	09/25/25 17:38	1
Beryllium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:38	1
Boron	16.1		0.400		mg/L		09/17/25 09:00	09/26/25 15:28	4
Cadmium	<0.000200		0.000200		mg/L		09/17/25 09:00	09/25/25 17:38	1
Calcium	277		0.500		mg/L		09/17/25 09:00	09/25/25 17:38	1
Chromium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:38	1
Cobalt	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:38	1
Copper	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:38	1
Iron	<0.100		0.100		mg/L		09/17/25 09:00	09/25/25 17:38	1
Lead	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:38	1
Lithium	<0.0100		0.0100		mg/L		09/17/25 09:00	09/25/25 17:38	1
Magnesium	124		2.00		mg/L		09/17/25 09:00	09/26/25 15:28	4
Manganese	<0.0100		0.0100		mg/L		09/17/25 09:00	09/25/25 17:38	1
Molybdenum	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:38	1
Nickel	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:38	1
Selenium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:38	1
Strontium	0.243		0.00100		mg/L		09/17/25 09:00	09/25/25 17:38	1
Thallium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:38	1
Vanadium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:38	1
Zinc	<0.0200		0.0200		mg/L		09/29/25 09:00	09/30/25 18:35	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/19/25 14:15	09/22/25 10:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.261		0.100		mg/L			09/17/25 13:07	1
Sulfate (ASTM D516-16)	953		125		mg/L			09/18/25 15:06	25
Total Dissolved Solids (SM 2540C)	1870		50.0		mg/L			09/15/25 18:40	1
Chloride (SM 4500 Cl- E)	15.4		2.00		mg/L			09/18/25 23:13	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	1.0		SU			09/12/25 11:45	1

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Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-15A

Lab Sample ID: 310-315538-7

Date Collected: 09/10/25 08:25

Matrix: Ground Water

Date Received: 09/12/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		09/17/25 09:00	09/25/25 17:30	1
Antimony	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:30	1
Arsenic	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:30	1
Barium	0.0302		0.00200		mg/L		09/17/25 09:00	09/25/25 17:30	1
Beryllium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:30	1
Boron	5.51		0.400		mg/L		09/17/25 09:00	09/26/25 15:13	4
Cadmium	<0.000200		0.000200		mg/L		09/17/25 09:00	09/25/25 17:30	1
Calcium	77.2		0.500		mg/L		09/17/25 09:00	09/25/25 17:30	1
Chromium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:30	1
Cobalt	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:30	1
Copper	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:30	1
Iron	<0.100		0.100		mg/L		09/17/25 09:00	09/25/25 17:30	1
Lead	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:30	1
Lithium	<0.0100		0.0100		mg/L		09/17/25 09:00	09/25/25 17:30	1
Magnesium	34.2		0.500		mg/L		09/17/25 09:00	09/25/25 17:30	1
Manganese	<0.0100		0.0100		mg/L		09/17/25 09:00	09/25/25 17:30	1
Molybdenum	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:30	1
Nickel	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:30	1
Selenium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:30	1
Strontium	0.0826		0.00100		mg/L		09/17/25 09:00	09/25/25 17:30	1
Thallium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:30	1
Vanadium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:30	1
Zinc	<0.0200		0.0200		mg/L		09/29/25 09:00	09/30/25 18:43	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/23/25 11:55	09/24/25 10:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.293		0.100		mg/L			09/17/25 13:11	1
Sulfate (ASTM D516-16)	162		25.0		mg/L			09/18/25 14:37	5
Total Dissolved Solids (SM 2540C)	518		50.0		mg/L			09/16/25 13:34	1
Chloride (SM 4500 Cl- E)	4.50		2.00		mg/L			09/18/25 23:13	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.4	HF	1.0		SU			09/12/25 11:42	1

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Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-21

Lab Sample ID: 310-315538-8

Date Collected: 09/09/25 12:40

Matrix: Ground Water

Date Received: 09/12/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		09/17/25 09:00	09/25/25 17:33	1
Antimony	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:33	1
Arsenic	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:33	1
Barium	0.0412		0.00200		mg/L		09/17/25 09:00	09/25/25 17:33	1
Beryllium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:33	1
Boron	1.65		0.100		mg/L		09/17/25 09:00	09/26/25 15:22	1
Cadmium	<0.000200		0.000200		mg/L		09/17/25 09:00	09/25/25 17:33	1
Calcium	52.8		0.500		mg/L		09/17/25 09:00	09/25/25 17:33	1
Chromium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:33	1
Cobalt	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:33	1
Copper	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:33	1
Iron	<0.100		0.100		mg/L		09/17/25 09:00	09/25/25 17:33	1
Lead	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:33	1
Lithium	0.0121		0.0100		mg/L		09/17/25 09:00	09/25/25 17:33	1
Magnesium	23.7		0.500		mg/L		09/17/25 09:00	09/25/25 17:33	1
Manganese	0.320		0.0100		mg/L		09/17/25 09:00	09/25/25 17:33	1
Molybdenum	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:33	1
Nickel	0.0206		0.00500		mg/L		09/17/25 09:00	09/25/25 17:33	1
Selenium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:33	1
Strontium	0.166		0.00100		mg/L		09/17/25 09:00	09/25/25 17:33	1
Thallium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:33	1
Vanadium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:33	1
Zinc	<0.0200		0.0200		mg/L		09/29/25 09:00	09/30/25 18:46	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/23/25 11:55	09/24/25 10:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.174		0.100		mg/L			09/17/25 13:21	1
Sulfate (ASTM D516-16)	135		50.0		mg/L			09/18/25 14:37	10
Total Dissolved Solids (SM 2540C)	396		50.0		mg/L			09/15/25 18:40	1
Chloride (SM 4500 Cl- E)	5.10		2.00		mg/L			09/18/25 23:14	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	6.8	HF	1.0		SU			09/12/25 11:45	1

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Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-22

Lab Sample ID: 310-315538-9

Date Collected: 09/08/25 11:45

Matrix: Ground Water

Date Received: 09/12/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		09/17/25 09:00	09/25/25 17:07	1
Antimony	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:07	1
Arsenic	0.00768		0.00200		mg/L		09/17/25 09:00	09/25/25 17:07	1
Barium	0.262		0.00200		mg/L		09/17/25 09:00	09/25/25 17:07	1
Beryllium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:07	1
Boron	0.187		0.100		mg/L		09/17/25 09:00	09/25/25 17:07	1
Cadmium	<0.000200		0.000200		mg/L		09/17/25 09:00	09/25/25 17:07	1
Calcium	74.6		0.500		mg/L		09/17/25 09:00	09/25/25 17:07	1
Chromium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:07	1
Cobalt	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:07	1
Copper	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:07	1
Iron	0.196		0.100		mg/L		09/17/25 09:00	09/25/25 17:07	1
Lead	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:07	1
Lithium	<0.0100		0.0100		mg/L		09/17/25 09:00	09/25/25 17:07	1
Magnesium	31.0		0.500		mg/L		09/17/25 09:00	09/25/25 17:07	1
Manganese	0.480		0.0100		mg/L		09/17/25 09:00	09/25/25 17:07	1
Molybdenum	0.00510		0.00200		mg/L		09/17/25 09:00	09/25/25 17:07	1
Nickel	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:07	1
Selenium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:07	1
Strontium	0.119		0.00100		mg/L		09/17/25 09:00	09/25/25 17:07	1
Thallium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:07	1
Vanadium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:07	1
Zinc	<0.0200		0.0200		mg/L		09/29/25 09:00	09/30/25 18:49	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/23/25 11:55	09/24/25 10:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.289		0.100		mg/L			09/17/25 13:24	1
Sulfate (ASTM D516-16)	149		50.0		mg/L			09/18/25 14:38	10
Total Dissolved Solids (SM 2540C)	426		50.0		mg/L			09/12/25 18:08	1
Chloride (SM 4500 Cl- E)	14.5		2.00		mg/L			09/18/25 23:14	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.6	HF	1.0		SU			09/12/25 11:41	1

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-23

Lab Sample ID: 310-315538-10

Date Collected: 09/08/25 13:50

Matrix: Ground Water

Date Received: 09/12/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.209		0.0500		mg/L		09/17/25 09:00	09/25/25 17:41	1
Antimony	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:41	1
Arsenic	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:41	1
Barium	0.0468		0.00200		mg/L		09/17/25 09:00	09/25/25 17:41	1
Beryllium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:41	1
Boron	0.123		0.100		mg/L		09/17/25 09:00	09/26/25 15:30	1
Cadmium	<0.000200		0.000200		mg/L		09/17/25 09:00	09/25/25 17:41	1
Calcium	44.9		0.500		mg/L		09/17/25 09:00	09/25/25 17:41	1
Chromium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:41	1
Cobalt	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:41	1
Copper	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:41	1
Iron	0.192		0.100		mg/L		09/17/25 09:00	09/25/25 17:41	1
Lead	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:41	1
Lithium	<0.0100		0.0100		mg/L		09/17/25 09:00	09/25/25 17:41	1
Magnesium	21.9		0.500		mg/L		09/17/25 09:00	09/25/25 17:41	1
Manganese	0.0200		0.0100		mg/L		09/17/25 09:00	09/25/25 17:41	1
Molybdenum	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:41	1
Nickel	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:41	1
Selenium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:41	1
Strontium	0.0530		0.00100		mg/L		09/17/25 09:00	09/25/25 17:41	1
Thallium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:41	1
Vanadium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:41	1
Zinc	<0.0200		0.0200		mg/L		09/29/25 09:00	09/30/25 18:52	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/23/25 11:55	09/24/25 10:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.281		0.100		mg/L			09/17/25 13:27	1
Sulfate (ASTM D516-16)	25.7		5.00		mg/L			09/18/25 14:38	1
Total Dissolved Solids (SM 2540C)	300		50.0		mg/L			09/12/25 18:08	1
Chloride (SM 4500 Cl- E)	25.2		2.00		mg/L			09/18/25 23:15	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.4	HF	1.0		SU			09/12/25 11:38	1

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Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: DUP-1

Lab Sample ID: 310-315538-11

Date Collected: 09/08/25 12:00

Matrix: Ground Water

Date Received: 09/12/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		09/17/25 09:00	09/25/25 17:15	1
Antimony	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:15	1
Arsenic	0.0203		0.00200		mg/L		09/17/25 09:00	09/25/25 17:15	1
Barium	0.279		0.00200		mg/L		09/17/25 09:00	09/25/25 17:15	1
Beryllium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:15	1
Boron	<0.100		0.100		mg/L		09/17/25 09:00	09/26/25 14:59	1
Cadmium	<0.000200		0.000200		mg/L		09/17/25 09:00	09/25/25 17:15	1
Calcium	77.6		0.500		mg/L		09/17/25 09:00	09/25/25 17:15	1
Chromium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:15	1
Cobalt	0.000670		0.000500		mg/L		09/17/25 09:00	09/25/25 17:15	1
Copper	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:15	1
Iron	1.23		0.100		mg/L		09/17/25 09:00	09/25/25 17:15	1
Lead	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:15	1
Lithium	<0.0100		0.0100		mg/L		09/17/25 09:00	09/25/25 17:15	1
Magnesium	32.0		0.500		mg/L		09/17/25 09:00	09/25/25 17:15	1
Manganese	0.642		0.0100		mg/L		09/17/25 09:00	09/25/25 17:15	1
Molybdenum	0.00605		0.00200		mg/L		09/17/25 09:00	09/25/25 17:15	1
Nickel	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:15	1
Selenium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:15	1
Strontium	0.105		0.00100		mg/L		09/17/25 09:00	09/25/25 17:15	1
Thallium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:15	1
Vanadium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:15	1
Zinc	<0.0200		0.0200		mg/L		09/29/25 09:00	09/30/25 18:54	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/23/25 11:55	09/24/25 10:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.290		0.100		mg/L			09/17/25 13:30	1
Sulfate (ASTM D516-16)	158		50.0		mg/L			09/18/25 14:38	10
Total Dissolved Solids (SM 2540C)	416		50.0		mg/L			09/12/25 18:08	1
Chloride (SM 4500 Cl- E)	15.6		2.00		mg/L			09/18/25 23:15	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.6	HF	1.0		SU			09/12/25 11:40	1

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: DUP-2

Lab Sample ID: 310-315538-12

Date Collected: 09/09/25 12:00

Matrix: Ground Water

Date Received: 09/12/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		09/17/25 09:00	09/25/25 17:50	1
Antimony	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:50	1
Arsenic	0.00340		0.00200		mg/L		09/17/25 09:00	09/25/25 17:50	1
Barium	0.0947		0.00200		mg/L		09/17/25 09:00	09/25/25 17:50	1
Beryllium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:50	1
Boron	0.132		0.100		mg/L		09/17/25 09:00	09/26/25 15:33	1
Cadmium	<0.000200		0.000200		mg/L		09/17/25 09:00	09/25/25 17:50	1
Calcium	88.7		0.500		mg/L		09/17/25 09:00	09/25/25 17:50	1
Chromium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:50	1
Cobalt	0.00188		0.000500		mg/L		09/17/25 09:00	09/25/25 17:50	1
Copper	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:50	1
Iron	1.33		0.100		mg/L		09/17/25 09:00	09/25/25 17:50	1
Lead	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:50	1
Lithium	<0.0100		0.0100		mg/L		09/17/25 09:00	09/25/25 17:50	1
Magnesium	36.0		0.500		mg/L		09/17/25 09:00	09/25/25 17:50	1
Manganese	0.526		0.0100		mg/L		09/17/25 09:00	09/25/25 17:50	1
Molybdenum	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 17:50	1
Nickel	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:50	1
Selenium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:50	1
Strontium	0.171		0.00100		mg/L		09/17/25 09:00	09/25/25 17:50	1
Thallium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:50	1
Vanadium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:50	1
Zinc	<0.0200		0.0200		mg/L		09/29/25 09:00	09/30/25 19:00	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/23/25 11:55	09/24/25 10:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.304		0.100		mg/L			09/17/25 13:34	1
Sulfate (ASTM D516-16)	61.5		50.0		mg/L			09/18/25 14:39	10
Total Dissolved Solids (SM 2540C)	406		50.0		mg/L			09/15/25 18:40	1
Chloride (SM 4500 Cl- E)	25.1		20.0		mg/L			09/18/25 23:15	10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.4	HF	1.0		SU			09/12/25 11:36	1

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Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: LEACHATE

Lab Sample ID: 310-315538-13

Date Collected: 09/10/25 14:10

Matrix: Water

Date Received: 09/12/25 08:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<1.00		1.00		mg/L		09/17/25 09:00	09/26/25 15:02	20
Antimony	<0.0400		0.0400		mg/L		09/17/25 09:00	09/26/25 15:02	20
Arsenic	1.36		0.0400		mg/L		09/29/25 09:00	10/01/25 12:12	20
Barium	<0.0400		0.0400		mg/L		09/17/25 09:00	09/26/25 15:02	20
Beryllium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 17:18	1
Boron	50.2		2.00		mg/L		09/29/25 09:00	10/01/25 12:12	20
Cadmium	0.000867		0.000200		mg/L		09/17/25 09:00	09/25/25 17:18	1
Calcium	455		10.0		mg/L		09/17/25 09:00	09/26/25 15:02	20
Chromium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:18	1
Cobalt	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:18	1
Copper	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:18	1
Iron	<2.00		2.00		mg/L		09/29/25 09:00	10/01/25 12:12	20
Lead	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 17:18	1
Lithium	0.192		0.0100		mg/L		09/17/25 09:00	09/25/25 17:18	1
Magnesium	23.9		0.500		mg/L		09/29/25 09:00	09/30/25 19:03	1
Manganese	0.886		0.0100		mg/L		09/17/25 09:00	09/25/25 17:18	1
Molybdenum	2.59		0.0400		mg/L		09/29/25 09:00	10/01/25 12:12	20
Nickel	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 17:18	1
Selenium	<0.100		0.100		mg/L		09/17/25 09:00	09/26/25 15:02	20
Strontium	6.18		0.0200		mg/L		09/17/25 09:00	09/26/25 15:02	20
Thallium	0.00210		0.00100		mg/L		09/17/25 09:00	09/25/25 17:18	1
Vanadium	0.0210		0.00500		mg/L		09/17/25 09:00	09/25/25 17:18	1
Zinc	<0.400		0.400		mg/L		09/29/25 09:00	10/01/25 12:12	20

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/23/25 11:55	09/24/25 10:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	2.47		0.100		mg/L			09/17/25 13:37	1
Sulfate (ASTM D516-16)	6720		1000		mg/L			09/18/25 14:39	200
Total Dissolved Solids (SM 2540C)	9500		250		mg/L			09/16/25 13:34	1
Chloride (SM 4500 Cl- E)	120		20.0		mg/L			09/18/25 23:16	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	9.0	HF	1.0		SU			09/12/25 11:39	1

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Definitions/Glossary

Client: Muscatine Power & Water

Job ID: 310-315538-1

Project/Site: Muscatine Power & Water CCR Landfill

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Glossary

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

QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-466891/1-A

Matrix: Water

Analysis Batch: 468018

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 466891

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.0500		0.0500		mg/L		09/17/25 09:00	09/25/25 16:44	1
Antimony	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 16:44	1
Arsenic	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 16:44	1
Barium	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 16:44	1
Beryllium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 16:44	1
Boron	<0.100		0.100		mg/L		09/17/25 09:00	09/25/25 16:44	1
Cadmium	<0.000200		0.000200		mg/L		09/17/25 09:00	09/25/25 16:44	1
Calcium	<0.500		0.500		mg/L		09/17/25 09:00	09/25/25 16:44	1
Chromium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 16:44	1
Cobalt	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 16:44	1
Copper	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 16:44	1
Iron	<0.100		0.100		mg/L		09/17/25 09:00	09/25/25 16:44	1
Lead	<0.000500		0.000500		mg/L		09/17/25 09:00	09/25/25 16:44	1
Lithium	<0.0100		0.0100		mg/L		09/17/25 09:00	09/25/25 16:44	1
Magnesium	<0.500		0.500		mg/L		09/17/25 09:00	09/25/25 16:44	1
Manganese	<0.0100		0.0100		mg/L		09/17/25 09:00	09/25/25 16:44	1
Molybdenum	<0.00200		0.00200		mg/L		09/17/25 09:00	09/25/25 16:44	1
Nickel	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 16:44	1
Selenium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 16:44	1
Strontium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 16:44	1
Thallium	<0.00100		0.00100		mg/L		09/17/25 09:00	09/25/25 16:44	1
Vanadium	<0.00500		0.00500		mg/L		09/17/25 09:00	09/25/25 16:44	1

Lab Sample ID: LCS 310-466891/2-A

Matrix: Water

Analysis Batch: 468018

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 466891

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	0.200	0.1918		mg/L		96	80 - 120
Antimony	0.200	0.2112		mg/L		106	80 - 120
Arsenic	0.200	0.1909		mg/L		95	80 - 120
Barium	0.100	0.09769		mg/L		98	80 - 120
Beryllium	0.100	0.1028		mg/L		103	80 - 120
Boron	0.200	0.2335		mg/L		117	80 - 120
Cadmium	0.100	0.09928		mg/L		99	80 - 120
Calcium	2.00	1.928		mg/L		96	80 - 120
Chromium	0.100	0.1025		mg/L		102	80 - 120
Cobalt	0.100	0.09908		mg/L		99	80 - 120
Copper	0.200	0.2079		mg/L		104	80 - 120
Iron	0.200	0.1929		mg/L		96	80 - 120
Lead	0.200	0.2025		mg/L		101	80 - 120
Lithium	0.200	0.2066		mg/L		103	80 - 120
Magnesium	2.00	1.880		mg/L		94	80 - 120
Manganese	0.100	0.08828		mg/L		88	80 - 120
Molybdenum	0.200	0.2191		mg/L		110	80 - 120
Nickel	0.200	0.2109		mg/L		105	80 - 120
Selenium	0.400	0.3922		mg/L		98	80 - 120
Strontium	0.200	0.1855		mg/L		93	80 - 120
Thallium	0.100	0.1047		mg/L		105	80 - 120

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QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

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

Lab Sample ID: LCS 310-466891/2-A

Matrix: Water

Analysis Batch: 468018

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 466891

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vanadium	0.100	0.1015		mg/L		101	80 - 120

Lab Sample ID: 310-315538-8 DU

Matrix: Ground Water

Analysis Batch: 468018

Client Sample ID: MW-21

Prep Type: Total/NA

Prep Batch: 466891

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Aluminum	<0.0500		<0.0500		mg/L		NC	20
Antimony	<0.00200		<0.00200		mg/L		NC	20
Arsenic	<0.00200		<0.00200		mg/L		NC	20
Barium	0.0412		0.04187		mg/L		2	20
Beryllium	<0.00100		<0.00100		mg/L		NC	20
Cadmium	<0.000200		<0.000200		mg/L		NC	20
Calcium	52.8		54.24		mg/L		3	20
Chromium	<0.00500		<0.00500		mg/L		NC	20
Cobalt	<0.000500		<0.000500		mg/L		NC	20
Copper	<0.00500		<0.00500		mg/L		NC	20
Iron	<0.100		<0.100		mg/L		NC	20
Lead	<0.000500		<0.000500		mg/L		NC	20
Lithium	0.0121		0.01148		mg/L		5	20
Magnesium	23.7		23.73		mg/L		0.2	20
Manganese	0.320		0.3239		mg/L		1	20
Molybdenum	<0.00200		<0.00200		mg/L		NC	20
Nickel	0.0206		0.02010		mg/L		3	20
Selenium	<0.00500		<0.00500		mg/L		NC	20
Strontium	0.166		0.1683		mg/L		2	20
Thallium	<0.00100		<0.00100		mg/L		NC	20
Vanadium	<0.00500		<0.00500		mg/L		NC	20

Lab Sample ID: 310-315538-8 DU

Matrix: Ground Water

Analysis Batch: 468123

Client Sample ID: MW-21

Prep Type: Total/NA

Prep Batch: 466891

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	1.65		1.723		mg/L		4	20

Lab Sample ID: MB 310-468161/1-A

Matrix: Water

Analysis Batch: 468473

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 468161

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	<0.0200		0.0200		mg/L		09/29/25 09:00	09/30/25 18:02	1

Lab Sample ID: MB 310-468161/1-A

Matrix: Water

Analysis Batch: 468583

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 468161

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.100		0.100		mg/L		09/29/25 09:00	10/01/25 11:58	1

Eurofins Cedar Falls

QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

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

Lab Sample ID: LCS 310-468161/2-A

Matrix: Water

Analysis Batch: 468473

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468161

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

Lab Sample ID: LCS 310-468161/2-A

Matrix: Water

Analysis Batch: 468583

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468161

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.200	0.1992		mg/L		100	80 - 120

Lab Sample ID: 310-315538-1 MS

Matrix: Ground Water

Analysis Batch: 468473

Client Sample ID: MW-4B

Prep Type: Total/NA

Prep Batch: 468161

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	<0.0500		0.200	0.2086		mg/L		104	75 - 125
Antimony	<0.00200		0.200	0.2242		mg/L		112	75 - 125
Arsenic	<0.00200		0.200	0.1970		mg/L		98	75 - 125
Barium	0.157		0.100	0.2571		mg/L		100	75 - 125
Beryllium	<0.00100		0.100	0.08793		mg/L		88	75 - 125
Cadmium	<0.000200		0.100	0.09583		mg/L		96	75 - 125
Calcium	97.6		2.00	100.3	4	mg/L		136	75 - 125
Chromium	<0.00500		0.100	0.09720		mg/L		97	75 - 125
Cobalt	0.00211		0.100	0.09513		mg/L		93	75 - 125
Copper	<0.00500		0.200	0.1839		mg/L		92	75 - 125
Iron	0.883		0.200	1.093	4	mg/L		105	75 - 125
Lead	<0.000500		0.200	0.1826		mg/L		91	75 - 125
Lithium	<0.0100		0.200	0.1789		mg/L		88	75 - 125
Magnesium	36.7		2.00	37.29	4	mg/L		28	75 - 125
Manganese	0.392		0.100	0.4852		mg/L		94	75 - 125
Molybdenum	<0.00200		0.200	0.1877		mg/L		94	75 - 125
Nickel	<0.00500		0.200	0.1808		mg/L		89	75 - 125
Selenium	<0.00500		0.400	0.3860		mg/L		96	75 - 125
Strontium	0.101		0.200	0.3342		mg/L		117	75 - 125
Thallium	<0.00100		0.100	0.09486		mg/L		95	75 - 125
Vanadium	<0.00500		0.100	0.09120		mg/L		91	75 - 125
Zinc	<0.0200		0.200	0.1909		mg/L		95	75 - 125

Lab Sample ID: 310-315538-1 MS

Matrix: Ground Water

Analysis Batch: 468583

Client Sample ID: MW-4B

Prep Type: Total/NA

Prep Batch: 468161

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	<0.100		0.200	0.2185		mg/L		109	75 - 125

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QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

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

Lab Sample ID: 310-315538-1 MSD

Matrix: Ground Water

Analysis Batch: 468473

Client Sample ID: MW-4B

Prep Type: Total/NA

Prep Batch: 468161

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aluminum	<0.0500		0.200	0.2146		mg/L		107	75 - 125	3	20
Antimony	<0.00200		0.200	0.2279		mg/L		114	75 - 125	2	20
Arsenic	<0.00200		0.200	0.2017		mg/L		101	75 - 125	2	20
Barium	0.157		0.100	0.2587		mg/L		101	75 - 125	1	20
Beryllium	<0.00100		0.100	0.09253		mg/L		93	75 - 125	5	20
Cadmium	<0.000200		0.100	0.09812		mg/L		98	75 - 125	2	20
Calcium	97.6		2.00	99.51	4	mg/L		95	75 - 125	1	20
Chromium	<0.00500		0.100	0.1010		mg/L		101	75 - 125	4	20
Cobalt	0.00211		0.100	0.09967		mg/L		98	75 - 125	5	20
Copper	<0.00500		0.200	0.1921		mg/L		96	75 - 125	4	20
Iron	0.883		0.200	1.094	4	mg/L		105	75 - 125	0	20
Lead	<0.000500		0.200	0.1918		mg/L		96	75 - 125	5	20
Lithium	<0.0100		0.200	0.1820		mg/L		89	75 - 125	2	20
Magnesium	36.7		2.00	37.49	4	mg/L		38	75 - 125	1	20
Manganese	0.392		0.100	0.4967		mg/L		105	75 - 125	2	20
Molybdenum	<0.00200		0.200	0.1978		mg/L		99	75 - 125	5	20
Nickel	<0.00500		0.200	0.1884		mg/L		93	75 - 125	4	20
Selenium	<0.00500		0.400	0.3929		mg/L		98	75 - 125	2	20
Strontium	0.101		0.200	0.3427		mg/L		121	75 - 125	3	20
Thallium	<0.00100		0.100	0.08282		mg/L		83	75 - 125	14	20
Vanadium	<0.00500		0.100	0.09441		mg/L		94	75 - 125	3	20
Zinc	<0.0200		0.200	0.1953		mg/L		98	75 - 125	2	20

Lab Sample ID: 310-315538-1 MSD

Matrix: Ground Water

Analysis Batch: 468583

Client Sample ID: MW-4B

Prep Type: Total/NA

Prep Batch: 468161

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	<0.100		0.200	0.2226		mg/L		111	75 - 125	2	20

Lab Sample ID: 310-315538-11 DU

Matrix: Ground Water

Analysis Batch: 468473

Client Sample ID: DUP-1

Prep Type: Total/NA

Prep Batch: 468161

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Zinc	<0.0200		<0.0200		mg/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-467199/1-A

Matrix: Water

Analysis Batch: 467505

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 467199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/19/25 14:15	09/22/25 09:19	1

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QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 310-467199/2-A
Matrix: Water
Analysis Batch: 467505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 467199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001611		mg/L		97	80 - 120

Lab Sample ID: MB 310-467595/1-A
Matrix: Water
Analysis Batch: 467781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 467595

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		09/23/25 11:55	09/24/25 10:13	1

Lab Sample ID: LCS 310-467595/2-A
Matrix: Water
Analysis Batch: 467781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 467595

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001653		mg/L		99	80 - 120

Method: 4500 F C-2011 - Fluoride (Ion-selective Electrode)

Lab Sample ID: MB 310-467076/5
Matrix: Water
Analysis Batch: 467076

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.100		0.100		mg/L			09/17/25 12:02	1

Lab Sample ID: LCS 310-467076/6
Matrix: Water
Analysis Batch: 467076

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	2.00	2.012		mg/L		101	90 - 110

Lab Sample ID: 310-315538-1 MS
Matrix: Ground Water
Analysis Batch: 467076

Client Sample ID: MW-4B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.274	F1	1.00	0.7314	F1	mg/L		46	75 - 125

Lab Sample ID: 310-315538-1 MSD
Matrix: Ground Water
Analysis Batch: 467076

Client Sample ID: MW-4B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.274	F1	1.00	0.7712	F1	mg/L		50	75 - 125	5	16

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QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Method: D516-16 - Sulfate

Lab Sample ID: MB 310-467203/16

Matrix: Water

Analysis Batch: 467203

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.00		5.00		mg/L			09/18/25 14:30	1

Lab Sample ID: MB 310-467203/46

Matrix: Water

Analysis Batch: 467203

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.00		5.00		mg/L			09/18/25 14:44	1

Lab Sample ID: LCS 310-467203/17

Matrix: Water

Analysis Batch: 467203

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	10.0	9.167		mg/L		92	85 - 115

Lab Sample ID: LCS 310-467203/47

Matrix: Water

Analysis Batch: 467203

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	10.0	8.527		mg/L		85	85 - 115

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

Lab Sample ID: MB 310-466593/1

Matrix: Water

Analysis Batch: 466593

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<50.0		50.0		mg/L			09/12/25 18:08	1

Lab Sample ID: LCS 310-466593/2

Matrix: Water

Analysis Batch: 466593

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1028		mg/L		103	89 - 110

Lab Sample ID: MB 310-466769/1

Matrix: Water

Analysis Batch: 466769

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<50.0		50.0		mg/L			09/15/25 18:40	1

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QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

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

Lab Sample ID: LCS 310-466769/2

Matrix: Water

Analysis Batch: 466769

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1010		mg/L		101	89 - 110

Lab Sample ID: MB 310-466849/1

Matrix: Water

Analysis Batch: 466849

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<50.0		50.0		mg/L			09/16/25 13:34	1

Lab Sample ID: LCS 310-466849/2

Matrix: Water

Analysis Batch: 466849

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1014		mg/L		101	89 - 110

Lab Sample ID: 310-315538-1 DU

Matrix: Ground Water

Analysis Batch: 466849

Client Sample ID: MW-4B

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	442		422.0		mg/L		5	13

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 310-467219/16

Matrix: Water

Analysis Batch: 467219

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.00		2.00		mg/L			09/18/25 23:07	1

Lab Sample ID: LCS 310-467219/14

Matrix: Water

Analysis Batch: 467219

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	10.79		mg/L		108	90 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-466532/1

Matrix: Water

Analysis Batch: 466532

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100	98 - 102

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QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 310-315538-3 DU

Matrix: Ground Water

Analysis Batch: 466532

Client Sample ID: MW-6A

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	7.3	HF	7.3		SU		0.3	20

Lab Sample ID: 310-315538-12 DU

Matrix: Ground Water

Analysis Batch: 466532

Client Sample ID: DUP-2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	7.4	HF	7.4		SU		0.1	20

QC Association Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Metals

Prep Batch: 466891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-1	MW-4B	Total/NA	Ground Water	3005A	
310-315538-2	MW-5B	Total/NA	Ground Water	3005A	
310-315538-3	MW-6A	Total/NA	Ground Water	3005A	
310-315538-4	MW-8	Total/NA	Ground Water	3005A	
310-315538-5	MW-10	Total/NA	Ground Water	3005A	
310-315538-6	MW-14A	Total/NA	Ground Water	3005A	
310-315538-7	MW-15A	Total/NA	Ground Water	3005A	
310-315538-8	MW-21	Total/NA	Ground Water	3005A	
310-315538-9	MW-22	Total/NA	Ground Water	3005A	
310-315538-10	MW-23	Total/NA	Ground Water	3005A	
310-315538-11	DUP-1	Total/NA	Ground Water	3005A	
310-315538-12	DUP-2	Total/NA	Ground Water	3005A	
310-315538-13	LEACHATE	Total/NA	Water	3005A	
MB 310-466891/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-466891/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-315538-8 DU	MW-21	Total/NA	Ground Water	3005A	

Prep Batch: 467199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-1	MW-4B	Total/NA	Ground Water	7470A	
310-315538-2	MW-5B	Total/NA	Ground Water	7470A	
310-315538-3	MW-6A	Total/NA	Ground Water	7470A	
310-315538-4	MW-8	Total/NA	Ground Water	7470A	
310-315538-5	MW-10	Total/NA	Ground Water	7470A	
310-315538-6	MW-14A	Total/NA	Ground Water	7470A	
MB 310-467199/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-467199/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 467505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-1	MW-4B	Total/NA	Ground Water	7470A	467199
310-315538-2	MW-5B	Total/NA	Ground Water	7470A	467199
310-315538-3	MW-6A	Total/NA	Ground Water	7470A	467199
310-315538-4	MW-8	Total/NA	Ground Water	7470A	467199
310-315538-5	MW-10	Total/NA	Ground Water	7470A	467199
310-315538-6	MW-14A	Total/NA	Ground Water	7470A	467199
MB 310-467199/1-A	Method Blank	Total/NA	Water	7470A	467199
LCS 310-467199/2-A	Lab Control Sample	Total/NA	Water	7470A	467199

Prep Batch: 467595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-7	MW-15A	Total/NA	Ground Water	7470A	
310-315538-8	MW-21	Total/NA	Ground Water	7470A	
310-315538-9	MW-22	Total/NA	Ground Water	7470A	
310-315538-10	MW-23	Total/NA	Ground Water	7470A	
310-315538-11	DUP-1	Total/NA	Ground Water	7470A	
310-315538-12	DUP-2	Total/NA	Ground Water	7470A	
310-315538-13	LEACHATE	Total/NA	Water	7470A	
MB 310-467595/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-467595/2-A	Lab Control Sample	Total/NA	Water	7470A	

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QC Association Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Metals

Analysis Batch: 467781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-7	MW-15A	Total/NA	Ground Water	7470A	467595
310-315538-8	MW-21	Total/NA	Ground Water	7470A	467595
310-315538-9	MW-22	Total/NA	Ground Water	7470A	467595
310-315538-10	MW-23	Total/NA	Ground Water	7470A	467595
310-315538-11	DUP-1	Total/NA	Ground Water	7470A	467595
310-315538-12	DUP-2	Total/NA	Ground Water	7470A	467595
310-315538-13	LEACHATE	Total/NA	Water	7470A	467595
MB 310-467595/1-A	Method Blank	Total/NA	Water	7470A	467595
LCS 310-467595/2-A	Lab Control Sample	Total/NA	Water	7470A	467595

Analysis Batch: 468018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-1	MW-4B	Total/NA	Ground Water	6020B	466891
310-315538-2	MW-5B	Total/NA	Ground Water	6020B	466891
310-315538-3	MW-6A	Total/NA	Ground Water	6020B	466891
310-315538-4	MW-8	Total/NA	Ground Water	6020B	466891
310-315538-5	MW-10	Total/NA	Ground Water	6020B	466891
310-315538-6	MW-14A	Total/NA	Ground Water	6020B	466891
310-315538-7	MW-15A	Total/NA	Ground Water	6020B	466891
310-315538-8	MW-21	Total/NA	Ground Water	6020B	466891
310-315538-9	MW-22	Total/NA	Ground Water	6020B	466891
310-315538-10	MW-23	Total/NA	Ground Water	6020B	466891
310-315538-11	DUP-1	Total/NA	Ground Water	6020B	466891
310-315538-12	DUP-2	Total/NA	Ground Water	6020B	466891
310-315538-13	LEACHATE	Total/NA	Water	6020B	466891
MB 310-466891/1-A	Method Blank	Total/NA	Water	6020B	466891
LCS 310-466891/2-A	Lab Control Sample	Total/NA	Water	6020B	466891
310-315538-8 DU	MW-21	Total/NA	Ground Water	6020B	466891

Analysis Batch: 468123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-1	MW-4B	Total/NA	Ground Water	6020B	466891
310-315538-2	MW-5B	Total/NA	Ground Water	6020B	466891
310-315538-3	MW-6A	Total/NA	Ground Water	6020B	466891
310-315538-4	MW-8	Total/NA	Ground Water	6020B	466891
310-315538-5	MW-10	Total/NA	Ground Water	6020B	466891
310-315538-6	MW-14A	Total/NA	Ground Water	6020B	466891
310-315538-7	MW-15A	Total/NA	Ground Water	6020B	466891
310-315538-8	MW-21	Total/NA	Ground Water	6020B	466891
310-315538-10	MW-23	Total/NA	Ground Water	6020B	466891
310-315538-11	DUP-1	Total/NA	Ground Water	6020B	466891
310-315538-12	DUP-2	Total/NA	Ground Water	6020B	466891
310-315538-13	LEACHATE	Total/NA	Water	6020B	466891
310-315538-8 DU	MW-21	Total/NA	Ground Water	6020B	466891

Prep Batch: 468161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-1	MW-4B	Total/NA	Ground Water	3005A	
310-315538-2	MW-5B	Total/NA	Ground Water	3005A	
310-315538-3	MW-6A	Total/NA	Ground Water	3005A	
310-315538-4	MW-8	Total/NA	Ground Water	3005A	

Eurofins Cedar Falls

QC Association Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Metals (Continued)

Prep Batch: 468161 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-5	MW-10	Total/NA	Ground Water	3005A	
310-315538-6	MW-14A	Total/NA	Ground Water	3005A	
310-315538-7	MW-15A	Total/NA	Ground Water	3005A	
310-315538-8	MW-21	Total/NA	Ground Water	3005A	
310-315538-9	MW-22	Total/NA	Ground Water	3005A	
310-315538-10	MW-23	Total/NA	Ground Water	3005A	
310-315538-11	DUP-1	Total/NA	Ground Water	3005A	
310-315538-12	DUP-2	Total/NA	Ground Water	3005A	
310-315538-13	LEACHATE	Total/NA	Water	3005A	
MB 310-468161/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-468161/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-315538-1 MS	MW-4B	Total/NA	Ground Water	3005A	
310-315538-1 MSD	MW-4B	Total/NA	Ground Water	3005A	
310-315538-11 DU	DUP-1	Total/NA	Ground Water	3005A	

Analysis Batch: 468473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-1	MW-4B	Total/NA	Ground Water	6020B	468161
310-315538-2	MW-5B	Total/NA	Ground Water	6020B	468161
310-315538-3	MW-6A	Total/NA	Ground Water	6020B	468161
310-315538-4	MW-8	Total/NA	Ground Water	6020B	468161
310-315538-5	MW-10	Total/NA	Ground Water	6020B	468161
310-315538-6	MW-14A	Total/NA	Ground Water	6020B	468161
310-315538-7	MW-15A	Total/NA	Ground Water	6020B	468161
310-315538-8	MW-21	Total/NA	Ground Water	6020B	468161
310-315538-9	MW-22	Total/NA	Ground Water	6020B	468161
310-315538-10	MW-23	Total/NA	Ground Water	6020B	468161
310-315538-11	DUP-1	Total/NA	Ground Water	6020B	468161
310-315538-12	DUP-2	Total/NA	Ground Water	6020B	468161
310-315538-13	LEACHATE	Total/NA	Water	6020B	468161
MB 310-468161/1-A	Method Blank	Total/NA	Water	6020B	468161
LCS 310-468161/2-A	Lab Control Sample	Total/NA	Water	6020B	468161
310-315538-1 MS	MW-4B	Total/NA	Ground Water	6020B	468161
310-315538-1 MSD	MW-4B	Total/NA	Ground Water	6020B	468161
310-315538-11 DU	DUP-1	Total/NA	Ground Water	6020B	468161

Analysis Batch: 468583

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-13	LEACHATE	Total/NA	Water	6020B	468161
MB 310-468161/1-A	Method Blank	Total/NA	Water	6020B	468161
LCS 310-468161/2-A	Lab Control Sample	Total/NA	Water	6020B	468161
310-315538-1 MS	MW-4B	Total/NA	Ground Water	6020B	468161
310-315538-1 MSD	MW-4B	Total/NA	Ground Water	6020B	468161

General Chemistry

Analysis Batch: 466532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-1	MW-4B	Total/NA	Ground Water	SM 4500 H+ B	
310-315538-2	MW-5B	Total/NA	Ground Water	SM 4500 H+ B	
310-315538-3	MW-6A	Total/NA	Ground Water	SM 4500 H+ B	

Eurofins Cedar Falls

QC Association Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

General Chemistry (Continued)

Analysis Batch: 466532 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-4	MW-8	Total/NA	Ground Water	SM 4500 H+ B	
310-315538-5	MW-10	Total/NA	Ground Water	SM 4500 H+ B	
310-315538-6	MW-14A	Total/NA	Ground Water	SM 4500 H+ B	
310-315538-7	MW-15A	Total/NA	Ground Water	SM 4500 H+ B	
310-315538-8	MW-21	Total/NA	Ground Water	SM 4500 H+ B	
310-315538-9	MW-22	Total/NA	Ground Water	SM 4500 H+ B	
310-315538-10	MW-23	Total/NA	Ground Water	SM 4500 H+ B	
310-315538-11	DUP-1	Total/NA	Ground Water	SM 4500 H+ B	
310-315538-12	DUP-2	Total/NA	Ground Water	SM 4500 H+ B	
310-315538-13	LEACHATE	Total/NA	Water	SM 4500 H+ B	
LCS 310-466532/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-315538-3 DU	MW-6A	Total/NA	Ground Water	SM 4500 H+ B	
310-315538-12 DU	DUP-2	Total/NA	Ground Water	SM 4500 H+ B	

Analysis Batch: 466593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-4	MW-8	Total/NA	Ground Water	SM 2540C	
310-315538-5	MW-10	Total/NA	Ground Water	SM 2540C	
310-315538-9	MW-22	Total/NA	Ground Water	SM 2540C	
310-315538-10	MW-23	Total/NA	Ground Water	SM 2540C	
310-315538-11	DUP-1	Total/NA	Ground Water	SM 2540C	
MB 310-466593/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-466593/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 466769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-6	MW-14A	Total/NA	Ground Water	SM 2540C	
310-315538-8	MW-21	Total/NA	Ground Water	SM 2540C	
310-315538-12	DUP-2	Total/NA	Ground Water	SM 2540C	
MB 310-466769/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-466769/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 466849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-1	MW-4B	Total/NA	Ground Water	SM 2540C	
310-315538-2	MW-5B	Total/NA	Ground Water	SM 2540C	
310-315538-3	MW-6A	Total/NA	Ground Water	SM 2540C	
310-315538-7	MW-15A	Total/NA	Ground Water	SM 2540C	
310-315538-13	LEACHATE	Total/NA	Water	SM 2540C	
MB 310-466849/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-466849/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-315538-1 DU	MW-4B	Total/NA	Ground Water	SM 2540C	

Analysis Batch: 467076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-1	MW-4B	Total/NA	Ground Water	4500 F C-2011	
310-315538-2	MW-5B	Total/NA	Ground Water	4500 F C-2011	
310-315538-3	MW-6A	Total/NA	Ground Water	4500 F C-2011	
310-315538-4	MW-8	Total/NA	Ground Water	4500 F C-2011	
310-315538-5	MW-10	Total/NA	Ground Water	4500 F C-2011	
310-315538-6	MW-14A	Total/NA	Ground Water	4500 F C-2011	

Eurofins Cedar Falls

QC Association Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

General Chemistry (Continued)

Analysis Batch: 467076 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-7	MW-15A	Total/NA	Ground Water	4500 F C-2011	
310-315538-8	MW-21	Total/NA	Ground Water	4500 F C-2011	
310-315538-9	MW-22	Total/NA	Ground Water	4500 F C-2011	
310-315538-10	MW-23	Total/NA	Ground Water	4500 F C-2011	
310-315538-11	DUP-1	Total/NA	Ground Water	4500 F C-2011	
310-315538-12	DUP-2	Total/NA	Ground Water	4500 F C-2011	
310-315538-13	LEACHATE	Total/NA	Water	4500 F C-2011	
MB 310-467076/5	Method Blank	Total/NA	Water	4500 F C-2011	
LCS 310-467076/6	Lab Control Sample	Total/NA	Water	4500 F C-2011	
310-315538-1 MS	MW-4B	Total/NA	Ground Water	4500 F C-2011	
310-315538-1 MSD	MW-4B	Total/NA	Ground Water	4500 F C-2011	

Analysis Batch: 467203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-1	MW-4B	Total/NA	Ground Water	D516-16	
310-315538-2	MW-5B	Total/NA	Ground Water	D516-16	
310-315538-3	MW-6A	Total/NA	Ground Water	D516-16	
310-315538-4	MW-8	Total/NA	Ground Water	D516-16	
310-315538-5	MW-10	Total/NA	Ground Water	D516-16	
310-315538-6	MW-14A	Total/NA	Ground Water	D516-16	
310-315538-7	MW-15A	Total/NA	Ground Water	D516-16	
310-315538-8	MW-21	Total/NA	Ground Water	D516-16	
310-315538-9	MW-22	Total/NA	Ground Water	D516-16	
310-315538-10	MW-23	Total/NA	Ground Water	D516-16	
310-315538-11	DUP-1	Total/NA	Ground Water	D516-16	
310-315538-12	DUP-2	Total/NA	Ground Water	D516-16	
310-315538-13	LEACHATE	Total/NA	Water	D516-16	
MB 310-467203/16	Method Blank	Total/NA	Water	D516-16	
MB 310-467203/46	Method Blank	Total/NA	Water	D516-16	
LCS 310-467203/17	Lab Control Sample	Total/NA	Water	D516-16	
LCS 310-467203/47	Lab Control Sample	Total/NA	Water	D516-16	

Analysis Batch: 467219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-1	MW-4B	Total/NA	Ground Water	SM 4500 Cl- E	
310-315538-2	MW-5B	Total/NA	Ground Water	SM 4500 Cl- E	
310-315538-3	MW-6A	Total/NA	Ground Water	SM 4500 Cl- E	
310-315538-4	MW-8	Total/NA	Ground Water	SM 4500 Cl- E	
310-315538-5	MW-10	Total/NA	Ground Water	SM 4500 Cl- E	
310-315538-6	MW-14A	Total/NA	Ground Water	SM 4500 Cl- E	
310-315538-7	MW-15A	Total/NA	Ground Water	SM 4500 Cl- E	
310-315538-8	MW-21	Total/NA	Ground Water	SM 4500 Cl- E	
310-315538-9	MW-22	Total/NA	Ground Water	SM 4500 Cl- E	
310-315538-10	MW-23	Total/NA	Ground Water	SM 4500 Cl- E	
310-315538-11	DUP-1	Total/NA	Ground Water	SM 4500 Cl- E	
310-315538-12	DUP-2	Total/NA	Ground Water	SM 4500 Cl- E	
310-315538-13	LEACHATE	Total/NA	Water	SM 4500 Cl- E	
MB 310-467219/16	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 310-467219/14	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-4B

Lab Sample ID: 310-315538-1

Date Collected: 09/10/25 09:45

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 17:53
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468123	NFT2	EET CF	09/26/25 15:36
Total/NA	Prep	3005A			468161	QTZ5	EET CF	09/29/25 09:00
Total/NA	Analysis	6020B		1	468473	NFT2	EET CF	09/30/25 18:13
Total/NA	Prep	7470A			467199	RLT9	EET CF	09/19/25 14:15
Total/NA	Analysis	7470A		1	467505	RLT9	EET CF	09/22/25 10:06
Total/NA	Analysis	4500 F C-2011		1	467076	WZC8	EET CF	09/17/25 12:09
Total/NA	Analysis	D516-16		5	467203	WZC8	EET CF	09/18/25 14:33
Total/NA	Analysis	SM 2540C		1	466849	HE7K	EET CF	09/16/25 13:34
Total/NA	Analysis	SM 4500 Cl- E		1	467219	ZJX4	EET CF	09/18/25 23:09
Total/NA	Analysis	SM 4500 H+ B		1	466532	W9YR	EET CF	09/12/25 11:43

Client Sample ID: MW-5B

Lab Sample ID: 310-315538-2

Date Collected: 09/10/25 12:25

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 17:56
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468123	NFT2	EET CF	09/26/25 15:39
Total/NA	Prep	3005A			468161	QTZ5	EET CF	09/29/25 09:00
Total/NA	Analysis	6020B		1	468473	NFT2	EET CF	09/30/25 18:24
Total/NA	Prep	7470A			467199	RLT9	EET CF	09/19/25 14:15
Total/NA	Analysis	7470A		1	467505	RLT9	EET CF	09/22/25 10:08
Total/NA	Analysis	4500 F C-2011		1	467076	WZC8	EET CF	09/17/25 12:54
Total/NA	Analysis	D516-16		5	467203	WZC8	EET CF	09/18/25 14:33
Total/NA	Analysis	SM 2540C		1	466849	HE7K	EET CF	09/16/25 13:34
Total/NA	Analysis	SM 4500 Cl- E		1	467219	ZJX4	EET CF	09/18/25 23:10
Total/NA	Analysis	SM 4500 H+ B		1	466532	W9YR	EET CF	09/12/25 11:44

Client Sample ID: MW-6A

Lab Sample ID: 310-315538-3

Date Collected: 09/10/25 10:40

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 17:24
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468123	NFT2	EET CF	09/26/25 15:08
Total/NA	Prep	3005A			468161	QTZ5	EET CF	09/29/25 09:00
Total/NA	Analysis	6020B		1	468473	NFT2	EET CF	09/30/25 18:26

Eurofins Cedar Falls

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-6A

Lab Sample ID: 310-315538-3

Date Collected: 09/10/25 10:40

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			467199	RLT9	EET CF	09/19/25 14:15
Total/NA	Analysis	7470A		1	467505	RLT9	EET CF	09/22/25 10:13
Total/NA	Analysis	4500 F C-2011		1	467076	WZC8	EET CF	09/17/25 12:58
Total/NA	Analysis	D516-16		1	467203	WZC8	EET CF	09/18/25 14:34
Total/NA	Analysis	SM 2540C		1	466849	HE7K	EET CF	09/16/25 13:34
Total/NA	Analysis	SM 4500 Cl- E		1	467219	ZJX4	EET CF	09/18/25 23:10
Total/NA	Analysis	SM 4500 H+ B		1	466532	W9YR	EET CF	09/12/25 11:49

Client Sample ID: MW-8

Lab Sample ID: 310-315538-4

Date Collected: 09/09/25 09:20

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 17:59
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468123	NFT2	EET CF	09/26/25 15:42
Total/NA	Prep	3005A			468161	QTZ5	EET CF	09/29/25 09:00
Total/NA	Analysis	6020B		1	468473	NFT2	EET CF	09/30/25 18:29
Total/NA	Prep	7470A			467199	RLT9	EET CF	09/19/25 14:15
Total/NA	Analysis	7470A		1	467505	RLT9	EET CF	09/22/25 10:10
Total/NA	Analysis	4500 F C-2011		1	467076	WZC8	EET CF	09/17/25 13:01
Total/NA	Analysis	D516-16		5	467203	WZC8	EET CF	09/18/25 14:35
Total/NA	Analysis	SM 2540C		1	466593	ENB7	EET CF	09/12/25 18:08
Total/NA	Analysis	SM 4500 Cl- E		1	467219	ZJX4	EET CF	09/18/25 23:12
Total/NA	Analysis	SM 4500 H+ B		1	466532	W9YR	EET CF	09/12/25 11:52

Client Sample ID: MW-10

Lab Sample ID: 310-315538-5

Date Collected: 09/08/25 15:10

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 17:27
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468123	NFT2	EET CF	09/26/25 15:10
Total/NA	Prep	3005A			468161	QTZ5	EET CF	09/29/25 09:00
Total/NA	Analysis	6020B		1	468473	NFT2	EET CF	09/30/25 18:32
Total/NA	Prep	7470A			467199	RLT9	EET CF	09/19/25 14:15
Total/NA	Analysis	7470A		1	467505	RLT9	EET CF	09/22/25 10:15
Total/NA	Analysis	4500 F C-2011		1	467076	WZC8	EET CF	09/17/25 13:04
Total/NA	Analysis	D516-16		5	467203	WZC8	EET CF	09/18/25 14:36
Total/NA	Analysis	SM 2540C		1	466593	ENB7	EET CF	09/12/25 18:08

Eurofins Cedar Falls

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-10

Date Collected: 09/08/25 15:10

Date Received: 09/12/25 08:25

Lab Sample ID: 310-315538-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 Cl- E		1	467219	ZJX4	EET CF	09/18/25 23:12
Total/NA	Analysis	SM 4500 H+ B		1	466532	W9YR	EET CF	09/12/25 11:51

Client Sample ID: MW-14A

Date Collected: 09/09/25 13:55

Date Received: 09/12/25 08:25

Lab Sample ID: 310-315538-6

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 17:38
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		4	468123	NFT2	EET CF	09/26/25 15:28
Total/NA	Prep	3005A			468161	QTZ5	EET CF	09/29/25 09:00
Total/NA	Analysis	6020B		1	468473	NFT2	EET CF	09/30/25 18:35
Total/NA	Prep	7470A			467199	RLT9	EET CF	09/19/25 14:15
Total/NA	Analysis	7470A		1	467505	RLT9	EET CF	09/22/25 10:17
Total/NA	Analysis	4500 F C-2011		1	467076	WZC8	EET CF	09/17/25 13:07
Total/NA	Analysis	D516-16		25	467203	WZC8	EET CF	09/18/25 15:06
Total/NA	Analysis	SM 2540C		1	466769	ENB7	EET CF	09/15/25 18:40
Total/NA	Analysis	SM 4500 Cl- E		1	467219	ZJX4	EET CF	09/18/25 23:13
Total/NA	Analysis	SM 4500 H+ B		1	466532	W9YR	EET CF	09/12/25 11:45

Client Sample ID: MW-15A

Date Collected: 09/10/25 08:25

Date Received: 09/12/25 08:25

Lab Sample ID: 310-315538-7

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 17:30
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		4	468123	NFT2	EET CF	09/26/25 15:13
Total/NA	Prep	3005A			468161	QTZ5	EET CF	09/29/25 09:00
Total/NA	Analysis	6020B		1	468473	NFT2	EET CF	09/30/25 18:43
Total/NA	Prep	7470A			467595	RLT9	EET CF	09/23/25 11:55
Total/NA	Analysis	7470A		1	467781	RLT9	EET CF	09/24/25 10:28
Total/NA	Analysis	4500 F C-2011		1	467076	WZC8	EET CF	09/17/25 13:11
Total/NA	Analysis	D516-16		5	467203	WZC8	EET CF	09/18/25 14:37
Total/NA	Analysis	SM 2540C		1	466849	HE7K	EET CF	09/16/25 13:34
Total/NA	Analysis	SM 4500 Cl- E		1	467219	ZJX4	EET CF	09/18/25 23:13
Total/NA	Analysis	SM 4500 H+ B		1	466532	W9YR	EET CF	09/12/25 11:42

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-21

Lab Sample ID: 310-315538-8

Date Collected: 09/09/25 12:40

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 17:33
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468123	NFT2	EET CF	09/26/25 15:22
Total/NA	Prep	3005A			468161	QTZ5	EET CF	09/29/25 09:00
Total/NA	Analysis	6020B		1	468473	NFT2	EET CF	09/30/25 18:46
Total/NA	Prep	7470A			467595	RLT9	EET CF	09/23/25 11:55
Total/NA	Analysis	7470A		1	467781	RLT9	EET CF	09/24/25 10:35
Total/NA	Analysis	4500 F C-2011		1	467076	WZC8	EET CF	09/17/25 13:21
Total/NA	Analysis	D516-16		10	467203	WZC8	EET CF	09/18/25 14:37
Total/NA	Analysis	SM 2540C		1	466769	ENB7	EET CF	09/15/25 18:40
Total/NA	Analysis	SM 4500 Cl- E		1	467219	ZJX4	EET CF	09/18/25 23:14
Total/NA	Analysis	SM 4500 H+ B		1	466532	W9YR	EET CF	09/12/25 11:45

Client Sample ID: MW-22

Lab Sample ID: 310-315538-9

Date Collected: 09/08/25 11:45

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 17:07
Total/NA	Prep	3005A			468161	QTZ5	EET CF	09/29/25 09:00
Total/NA	Analysis	6020B		1	468473	NFT2	EET CF	09/30/25 18:49
Total/NA	Prep	7470A			467595	RLT9	EET CF	09/23/25 11:55
Total/NA	Analysis	7470A		1	467781	RLT9	EET CF	09/24/25 10:37
Total/NA	Analysis	4500 F C-2011		1	467076	WZC8	EET CF	09/17/25 13:24
Total/NA	Analysis	D516-16		10	467203	WZC8	EET CF	09/18/25 14:38
Total/NA	Analysis	SM 2540C		1	466593	ENB7	EET CF	09/12/25 18:08
Total/NA	Analysis	SM 4500 Cl- E		1	467219	ZJX4	EET CF	09/18/25 23:14
Total/NA	Analysis	SM 4500 H+ B		1	466532	W9YR	EET CF	09/12/25 11:41

Client Sample ID: MW-23

Lab Sample ID: 310-315538-10

Date Collected: 09/08/25 13:50

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 17:41
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468123	NFT2	EET CF	09/26/25 15:30
Total/NA	Prep	3005A			468161	QTZ5	EET CF	09/29/25 09:00
Total/NA	Analysis	6020B		1	468473	NFT2	EET CF	09/30/25 18:52
Total/NA	Prep	7470A			467595	RLT9	EET CF	09/23/25 11:55
Total/NA	Analysis	7470A		1	467781	RLT9	EET CF	09/24/25 10:39

Eurofins Cedar Falls

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: MW-23

Lab Sample ID: 310-315538-10

Date Collected: 09/08/25 13:50

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	4500 F C-2011		1	467076	WZC8	EET CF	09/17/25 13:27
Total/NA	Analysis	D516-16		1	467203	WZC8	EET CF	09/18/25 14:38
Total/NA	Analysis	SM 2540C		1	466593	ENB7	EET CF	09/12/25 18:08
Total/NA	Analysis	SM 4500 CI- E		1	467219	ZJX4	EET CF	09/18/25 23:15
Total/NA	Analysis	SM 4500 H+ B		1	466532	W9YR	EET CF	09/12/25 11:38

Client Sample ID: DUP-1

Lab Sample ID: 310-315538-11

Date Collected: 09/08/25 12:00

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 17:15
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468123	NFT2	EET CF	09/26/25 14:59
Total/NA	Prep	3005A			468161	QTZ5	EET CF	09/29/25 09:00
Total/NA	Analysis	6020B		1	468473	NFT2	EET CF	09/30/25 18:54
Total/NA	Prep	7470A			467595	RLT9	EET CF	09/23/25 11:55
Total/NA	Analysis	7470A		1	467781	RLT9	EET CF	09/24/25 10:41
Total/NA	Analysis	4500 F C-2011		1	467076	WZC8	EET CF	09/17/25 13:30
Total/NA	Analysis	D516-16		10	467203	WZC8	EET CF	09/18/25 14:38
Total/NA	Analysis	SM 2540C		1	466593	ENB7	EET CF	09/12/25 18:08
Total/NA	Analysis	SM 4500 CI- E		1	467219	ZJX4	EET CF	09/18/25 23:15
Total/NA	Analysis	SM 4500 H+ B		1	466532	W9YR	EET CF	09/12/25 11:40

Client Sample ID: DUP-2

Lab Sample ID: 310-315538-12

Date Collected: 09/09/25 12:00

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 17:50
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468123	NFT2	EET CF	09/26/25 15:33
Total/NA	Prep	3005A			468161	QTZ5	EET CF	09/29/25 09:00
Total/NA	Analysis	6020B		1	468473	NFT2	EET CF	09/30/25 19:00
Total/NA	Prep	7470A			467595	RLT9	EET CF	09/23/25 11:55
Total/NA	Analysis	7470A		1	467781	RLT9	EET CF	09/24/25 10:43
Total/NA	Analysis	4500 F C-2011		1	467076	WZC8	EET CF	09/17/25 13:34
Total/NA	Analysis	D516-16		10	467203	WZC8	EET CF	09/18/25 14:39
Total/NA	Analysis	SM 2540C		1	466769	ENB7	EET CF	09/15/25 18:40
Total/NA	Analysis	SM 4500 CI- E		10	467219	ZJX4	EET CF	09/18/25 23:15
Total/NA	Analysis	SM 4500 H+ B		1	466532	W9YR	EET CF	09/12/25 11:36

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Lab Chronicle

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Client Sample ID: LEACHATE

Lab Sample ID: 310-315538-13

Date Collected: 09/10/25 14:10

Matrix: Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		1	468018	NFT2	EET CF	09/25/25 17:18
Total/NA	Prep	3005A			466891	WK2X	EET CF	09/17/25 09:00
Total/NA	Analysis	6020B		20	468123	NFT2	EET CF	09/26/25 15:02
Total/NA	Prep	3005A			468161	QTZ5	EET CF	09/29/25 09:00
Total/NA	Analysis	6020B		1	468473	NFT2	EET CF	09/30/25 19:03
Total/NA	Prep	3005A			468161	QTZ5	EET CF	09/29/25 09:00
Total/NA	Analysis	6020B		20	468583	NFT2	EET CF	10/01/25 12:12
Total/NA	Prep	7470A			467595	RLT9	EET CF	09/23/25 11:55
Total/NA	Analysis	7470A		1	467781	RLT9	EET CF	09/24/25 10:45
Total/NA	Analysis	4500 F C-2011		1	467076	WZC8	EET CF	09/17/25 13:37
Total/NA	Analysis	D516-16		200	467203	WZC8	EET CF	09/18/25 14:39
Total/NA	Analysis	SM 2540C		1	466849	HE7K	EET CF	09/16/25 13:34
Total/NA	Analysis	SM 4500 Cl- E		10	467219	ZJX4	EET CF	09/18/25 23:16
Total/NA	Analysis	SM 4500 H+ B		1	466532	W9YR	EET CF	09/12/25 11:39

Laboratory References:

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

Accreditation/Certification Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-1

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
6020B	3005A	Ground Water	Lithium
6020B	3005A	Water	Lithium

Method Summary

Client: Muscatine Power & Water

Job ID: 310-315538-1

Project/Site: Muscatine Power & Water CCR Landfill

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
4500 F C-2011	Fluoride (Ion-selective Electrode)	SM	EET CF
D516-16	Sulfate	ASTM	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 Cl- E	Chloride, Total	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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



Environment Testing
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310-315538 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client. <u>Muscatine Power & Water</u>			
City/State:	CITY <u>Muscatine</u>	STATE <u>IA</u>	Project
Receipt Information			
Date/Time Received.	DATE <u>09/12/25</u>	TIME <u>0825</u>	Received By <u>ES</u>
Delivery Type. ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other. _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		☒ Yes ☐ No	If yes: Cooler ID
Multiple Coolers?		☒ Yes ☐ No	If yes: Cooler # <u>1</u> of <u>4</u>
Cooler Custody Seals Present?		☒ Yes ☐ No	If yes: Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?		☐ Yes ☒ No	If yes: Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?		☐ Yes ☒ No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other _____ ☐ NONE			
Thermometer ID. <u>R</u>		Correction Factor (°C) <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C). <u>0.9</u>		Corrected Temp (°C): <u>0.9</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE If yes, contact PM before proceeding If no, proceed with login			
Additional Comments			



Environment Testing
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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Muscatine Power & Water</u>			
City/State:	CITY <u>Muscatine</u>	STATE <u>IA</u>	Project
Receipt Information			
Date/Time Received	DATE <u>09/12/25</u>	TIME <u>0825</u>	Received By <u>ES</u>
Delivery Type. ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler? ☒ Yes ☐ No If yes Cooler ID			
Multiple Coolers? ☒ Yes ☐ No If yes: Cooler # <u>2</u> of <u>4</u>			
Cooler Custody Seals Present? ☒ Yes ☐ No If yes: Cooler custody seals intact? ☒ Yes ☐ No			
Sample Custody Seals Present? ☐ Yes ☒ No If yes: Sample custody seals intact? ☐ Yes ☐ No			
Trip Blank Present? ☐ Yes ☒ No If yes. Which VOA samples are in cooler? ↓			
Temperature Record			
Coolant ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other _____ ☐ NONE			
Thermometer ID. <u>R</u>		Correction Factor (°C):	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C) <u>2.7</u>		Corrected Temp (°C). <u>2.7</u>	
• Sample Container Temperature			
Container(s) used	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE If yes, contact PM before proceeding If no, proceed with login			
Additional Comments			



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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client <u>Muscatare Power & Water</u>			
City/State.	CITY <u>Muscatare</u>	STATE <u>IA</u>	Project
Receipt Information			
Date/Time Received	DATE <u>09/12/25</u>	TIME <u>0825</u>	Received By <u>ES</u>
Delivery Type: ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		☒ Yes ☐ No	If yes: Cooler ID:
Multiple Coolers?		☒ Yes ☐ No	If yes: Cooler # <u>3</u> of <u>4</u>
Cooler Custody Seals Present?		☒ Yes ☐ No	If yes: Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?		☐ Yes ☒ No	If yes: Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?		☐ Yes ☒ No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other _____ ☐ NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C). <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>1.3</u>		Corrected Temp (°C): <u>1.3</u>	
• Sample Container Temperature			
Container(s) used	<u>CONTAINER 1</u>		<u>CONTAINER 2</u>
Uncorrected Temp (°C):			
Corrected Temp (°C)			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Muscatine Power & Water</u>			
City/State	CITY <u>Muscatine</u>	STATE <u>IA</u>	Project
Receipt Information			
Date/Time Received.	DATE <u>09/12/25</u>	TIME <u>0825</u>	Received By: <u>ES</u>
Delivery Type. ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other. _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		☒ Yes ☐ No	If yes: Cooler ID: _____
Multiple Coolers?		☒ Yes ☐ No	If yes: Cooler # <u>4</u> of <u>4</u>
Cooler Custody Seals Present?		☒ Yes ☐ No	If yes: Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?		☐ Yes ☒ No	If yes: Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?		☐ Yes ☒ No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID <u>A</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C) <u>1.7</u>		Corrected Temp (°C) <u>1.7</u>	
• Sample Container Temperature			
Container(s) used.	<u>CONTAINER 1</u>		<u>CONTAINER 2</u>
Uncorrected Temp (°C).			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes. Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE If yes, contact PM before proceeding If no, proceed with login			
Additional Comments			

Eurofins Cedar Falls

3019 Venture Way

Cedar Falls IA 50613

Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

Client Information		Sampler	Lab PM	Carrier Tracking No(s)		COC No							
Client Contact: Sam Bennett MP&W		Sam Bennett Phone: 563-262-3583	Michels, Bob E-Mail: bob.michels@et.eurofinsus.com			Page:							
Company: Muscatine Power & Water						Job #:							
Address: 1700 Dick Drake Way						Analysis Requested							
City: Muscatine													
State Zip: IA, 52761													
Phone: 254338													
PO #: 254338													
Email: sbennett@mpw.org and neil.hoskins@mpw.org						Preservation Codes A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other							
Project Name: Muscatine Power & Water CCR Landfill													
Test/America Project #:													
Event: Fall 2025 Sampling													
Site: Iowa													
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (V=water, S=solid, O=oil, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A CCR List, 7470A Mercury	2540C TDS, SM4500_H+ pH	9056A Chloride, Fluoride, Sulfate	Radium-226	Radium-228	Total Number of containers	Special Instructions/Note:
MW-4B	9/10/25	0945	G	GW	X	X	X	X	X	X	X	X	
MW-5B	9/10/25	1225	G	GW	X	X	X	X	X	X	X	X	
MW-6A	9/10/25	1040	G	GW	X	X	X	X	X	X	X	X	
MW-8	9/9/25	0920	G	GW	X	X	X	X	X	X	X	X	
MW-10	9/8/25	1510	G	GW	X	X	X	X	X	X	X	X	
MW-14A	9/9/25	1355	G	GW	X	X	X	X	X	X	X	X	
MW-15A	9/10/25	0825	G	GW	X	X	X	X	X	X	X	X	
MW-21	9/9/25	1240	G	GW	X	X	X	X	X	X	X	X	
MW-22	9/8/25	1145	G	GW	X	X	X	X	X	X	X	X	
MW-23	9/8/25	1350	G	GW	X	X	X	X	X	X	X	X	
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological													
Deliverable Requested 1, II, III, IV, Other (specify)													
Empty Kit Relinquished by													
Relinquished by: Sam Bennett Date/Time: 9/11/25 Company: mpw													
Relinquished by: Date/Time: Company:													
Relinquished by: Date/Time: Company:													
Custody Seals Intact: ☐ Yes ☐ No													
Custody Seal No													
Cooler Temperature(s) °C and Other Remarks:													

Chain of Custody Record

[illegible]

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

Login Sample Receipt Checklist

Client: Muscatine Power & Water

Job Number: 310-315538-1

SDG Number:

Login Number: 315538

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Schaufenbuel, Erin

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

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

Eurofins Cedar Falls

ANALYTICAL REPORT

PREPARED FOR

Attn: Sam Bennett
Muscatine Power & Water
1700 Dick Drake Way
PO BOX 899
Muscatine, Iowa 52761

Generated 10/9/2025 3:02:50 PM

JOB DESCRIPTION

Muscatine Power & Water CCR Landfill

JOB NUMBER

310-315538-2

Eurofins Cedar Falls

Job Notes

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

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

Authorization



Generated
10/9/2025 3:02:50 PM

Authorized for release by
Bob Michels, Project Manager I
Bob.Michels@et.eurofinsus.com
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Case Narrative

Client: Muscatine Power & Water
Project: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Job ID: 310-315538-2

Eurofins Cedar Falls

Job Narrative 310-315538-2

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 9/12/2025 8:25 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 0.9°C, 1.3°C, 1.7°C and 2.7°C.

Gas Flow Proportional Counter

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

Rad

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

Eurofins Cedar Falls

Sample Summary

Client: Muscatine Power & Water

Job ID: 310-315538-2

Project/Site: Muscatine Power & Water CCR Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
310-315538-1	MW-4B	Ground Water	09/10/25 09:45	09/12/25 08:25	Iowa
310-315538-2	MW-5B	Ground Water	09/10/25 12:25	09/12/25 08:25	Iowa
310-315538-3	MW-6A	Ground Water	09/10/25 10:40	09/12/25 08:25	Iowa
310-315538-4	MW-8	Ground Water	09/09/25 09:20	09/12/25 08:25	Iowa
310-315538-5	MW-10	Ground Water	09/08/25 15:10	09/12/25 08:25	Iowa
310-315538-6	MW-14A	Ground Water	09/09/25 13:55	09/12/25 08:25	Iowa
310-315538-7	MW-15A	Ground Water	09/10/25 08:25	09/12/25 08:25	Iowa
310-315538-8	MW-21	Ground Water	09/09/25 12:40	09/12/25 08:25	Iowa
310-315538-9	MW-22	Ground Water	09/08/25 11:45	09/12/25 08:25	Iowa
310-315538-10	MW-23	Ground Water	09/08/25 13:50	09/12/25 08:25	Iowa
310-315538-11	DUP-1	Ground Water	09/08/25 12:00	09/12/25 08:25	Iowa
310-315538-12	DUP-2	Ground Water	09/09/25 12:00	09/12/25 08:25	Iowa
310-315538-13	LEACHATE	Water	09/10/25 14:10	09/12/25 08:25	Iowa

Detection Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: MW-4B

Lab Sample ID: 310-315538-1

No Detections.

Client Sample ID: MW-5B

Lab Sample ID: 310-315538-2

No Detections.

Client Sample ID: MW-6A

Lab Sample ID: 310-315538-3

No Detections.

Client Sample ID: MW-8

Lab Sample ID: 310-315538-4

No Detections.

Client Sample ID: MW-10

Lab Sample ID: 310-315538-5

No Detections.

Client Sample ID: MW-14A

Lab Sample ID: 310-315538-6

No Detections.

Client Sample ID: MW-15A

Lab Sample ID: 310-315538-7

No Detections.

Client Sample ID: MW-21

Lab Sample ID: 310-315538-8

No Detections.

Client Sample ID: MW-22

Lab Sample ID: 310-315538-9

No Detections.

Client Sample ID: MW-23

Lab Sample ID: 310-315538-10

No Detections.

Client Sample ID: DUP-1

Lab Sample ID: 310-315538-11

No Detections.

Client Sample ID: DUP-2

Lab Sample ID: 310-315538-12

No Detections.

Client Sample ID: LEACHATE

Lab Sample ID: 310-315538-13

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: MW-4B

Lab Sample ID: 310-315538-1

Date Collected: 09/10/25 09:45

Matrix: Ground Water

Date Received: 09/12/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.571		0.276	0.280	1.00	0.327	pCi/L	09/16/25 07:45	10/08/25 15:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		30 - 110					09/16/25 07:45	10/08/25 15:35	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.619	U	0.383	0.385	1.00	0.619	pCi/L	09/16/25 07:51	10/08/25 11:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		30 - 110					09/16/25 07:51	10/08/25 11:46	1
Y Carrier	78.5		30 - 110					09/16/25 07:51	10/08/25 11:46	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	0.952		0.472	0.476	5.00	0.619	pCi/L		10/09/25 12:32	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: MW-5B

Lab Sample ID: 310-315538-2

Date Collected: 09/10/25 12:25

Matrix: Ground Water

Date Received: 09/12/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.487		0.265	0.268	1.00	0.339	pCi/L	09/16/25 07:45	10/08/25 15:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.1		30 - 110					09/16/25 07:45	10/08/25 15:36	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.685		0.356	0.362	1.00	0.493	pCi/L	09/16/25 07:51	10/08/25 11:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.1		30 - 110					09/16/25 07:51	10/08/25 11:46	1
Y Carrier	78.9		30 - 110					09/16/25 07:51	10/08/25 11:46	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		0.444	0.450	5.00	0.493	pCi/L		10/09/25 12:32	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: MW-6A

Lab Sample ID: 310-315538-3

Date Collected: 09/10/25 10:40

Matrix: Ground Water

Date Received: 09/12/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.444	U	0.265	0.266	1.00	0.444	pCi/L	09/16/25 07:45	10/08/25 15:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		30 - 110					09/16/25 07:45	10/08/25 15:36	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.14		0.442	0.454	1.00	0.573	pCi/L	09/16/25 07:51	10/08/25 11:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		30 - 110					09/16/25 07:51	10/08/25 11:47	1
Y Carrier	81.9		30 - 110					09/16/25 07:51	10/08/25 11:47	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.33		0.515	0.526	5.00	0.573	pCi/L		10/09/25 12:32	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: MW-8

Lab Sample ID: 310-315538-4

Date Collected: 09/09/25 09:20

Matrix: Ground Water

Date Received: 09/12/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.384	U	0.197	0.197	1.00	0.384	pCi/L	09/16/25 07:45	10/08/25 15:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.0		30 - 110					09/16/25 07:45	10/08/25 15:36	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.630	U	0.417	0.421	1.00	0.630	pCi/L	09/16/25 07:51	10/08/25 11:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.0		30 - 110					09/16/25 07:51	10/08/25 11:47	1
Y Carrier	77.0		30 - 110					09/16/25 07:51	10/08/25 11:47	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.638		0.461	0.465	5.00	0.630	pCi/L		10/09/25 12:32	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: MW-10

Lab Sample ID: 310-315538-5

Date Collected: 09/08/25 15:10

Matrix: Ground Water

Date Received: 09/12/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.609		0.276	0.282	1.00	0.316	pCi/L	09/16/25 07:45	10/08/25 15:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.4		30 - 110					09/16/25 07:45	10/08/25 15:45	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.534	U	0.354	0.356	1.00	0.534	pCi/L	09/16/25 07:51	10/08/25 11:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.4		30 - 110					09/16/25 07:51	10/08/25 11:47	1
Y Carrier	76.6		30 - 110					09/16/25 07:51	10/08/25 11:47	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.11		0.449	0.454	5.00	0.534	pCi/L		10/09/25 12:32	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: MW-14A

Lab Sample ID: 310-315538-6

Date Collected: 09/09/25 13:55

Matrix: Ground Water

Date Received: 09/12/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.371	U	0.175	0.175	1.00	0.371	pCi/L	09/16/25 07:45	10/08/25 15:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.5		30 - 110					09/16/25 07:45	10/08/25 15:45	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.58		0.482	0.504	1.00	0.568	pCi/L	09/16/25 07:51	10/08/25 11:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.5		30 - 110					09/16/25 07:51	10/08/25 11:47	1
Y Carrier	80.0		30 - 110					09/16/25 07:51	10/08/25 11:47	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.54		0.513	0.534	5.00	0.568	pCi/L		10/09/25 12:32	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: MW-15A

Lab Sample ID: 310-315538-7

Date Collected: 09/10/25 08:25

Matrix: Ground Water

Date Received: 09/12/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.487		0.275	0.278	1.00	0.360	pCi/L	09/16/25 07:45	10/08/25 15:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.9		30 - 110					09/16/25 07:45	10/08/25 15:45	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.524	U	0.300	0.301	1.00	0.524	pCi/L	09/16/25 07:51	10/08/25 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.9		30 - 110					09/16/25 07:51	10/08/25 11:48	1
Y Carrier	81.9		30 - 110					09/16/25 07:51	10/08/25 11:48	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.626		0.407	0.410	5.00	0.524	pCi/L		10/09/25 12:32	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: MW-21

Lab Sample ID: 310-315538-8

Date Collected: 09/09/25 12:40

Matrix: Ground Water

Date Received: 09/12/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.429	U	0.243	0.243	1.00	0.429	pCi/L	09/16/25 07:45	10/08/25 15:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.8		30 - 110					09/16/25 07:45	10/08/25 15:45	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.00		0.383	0.394	1.00	0.452	pCi/L	09/16/25 07:51	10/08/25 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.8		30 - 110					09/16/25 07:51	10/08/25 11:48	1
Y Carrier	80.0		30 - 110					09/16/25 07:51	10/08/25 11:48	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.13		0.454	0.463	5.00	0.452	pCi/L		10/09/25 12:32	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: MW-22

Lab Sample ID: 310-315538-9

Date Collected: 09/08/25 11:45

Matrix: Ground Water

Date Received: 09/12/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.548		0.302	0.306	1.00	0.396	pCi/L	09/16/25 07:45	10/08/25 15:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.8		30 - 110					09/16/25 07:45	10/08/25 15:45	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.525	U	0.337	0.339	1.00	0.525	pCi/L	09/16/25 07:51	10/08/25 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.8		30 - 110					09/16/25 07:51	10/08/25 11:48	1
Y Carrier	79.3		30 - 110					09/16/25 07:51	10/08/25 11:48	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.942		0.453	0.457	5.00	0.525	pCi/L		10/09/25 12:32	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: MW-23

Lab Sample ID: 310-315538-10

Date Collected: 09/08/25 13:50

Matrix: Ground Water

Date Received: 09/12/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.488	U	0.292	0.293	1.00	0.488	pCi/L	09/16/25 07:45	10/08/25 15:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.9		30 - 110					09/16/25 07:45	10/08/25 15:45	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.73		0.619	0.639	1.00	0.759	pCi/L	09/16/25 07:51	10/08/25 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.9		30 - 110					09/16/25 07:51	10/08/25 11:48	1
Y Carrier	78.9		30 - 110					09/16/25 07:51	10/08/25 11:48	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.96		0.684	0.703	5.00	0.759	pCi/L		10/09/25 12:32	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: DUP-1

Lab Sample ID: 310-315538-11

Date Collected: 09/08/25 12:00

Matrix: Ground Water

Date Received: 09/12/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.358	U	0.231	0.232	1.00	0.358	pCi/L	09/16/25 07:45	10/08/25 15:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		30 - 110					09/16/25 07:45	10/08/25 15:45	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.855		0.370	0.378	1.00	0.486	pCi/L	09/16/25 07:51	10/08/25 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		30 - 110					09/16/25 07:51	10/08/25 11:48	1
Y Carrier	84.1		30 - 110					09/16/25 07:51	10/08/25 11:48	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.10		0.436	0.444	5.00	0.486	pCi/L		10/09/25 12:32	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: DUP-2

Lab Sample ID: 310-315538-12

Date Collected: 09/09/25 12:00

Matrix: Ground Water

Date Received: 09/12/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.473	U	0.257	0.257	1.00	0.473	pCi/L	09/16/25 07:45	10/08/25 15:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.0		30 - 110					09/16/25 07:45	10/08/25 15:45	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.25		0.453	0.467	1.00	0.558	pCi/L	09/16/25 07:51	10/08/25 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.0		30 - 110					09/16/25 07:51	10/08/25 11:48	1
Y Carrier	77.8		30 - 110					09/16/25 07:51	10/08/25 11:48	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.32		0.521	0.533	5.00	0.558	pCi/L		10/09/25 12:32	1

Client Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: LEACHATE

Lab Sample ID: 310-315538-13

Date Collected: 09/10/25 14:10

Matrix: Water

Date Received: 09/12/25 08:25

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.346	U	0.202	0.203	1.00	0.346	pCi/L	09/16/25 07:45	10/08/25 15:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	72.0		30 - 110					09/16/25 07:45	10/08/25 15:41	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.19		0.524	0.536	1.00	0.698	pCi/L	09/16/25 07:51	10/08/25 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	72.0		30 - 110					09/16/25 07:51	10/08/25 11:48	1
Y Carrier	79.3		30 - 110					09/16/25 07:51	10/08/25 11:48	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.33		0.562	0.573	5.00	0.698	pCi/L		10/09/25 12:32	1

Definitions/Glossary

Client: Muscatine Power & Water

Job ID: 310-315538-2

Project/Site: Muscatine Power & Water CCR Landfill

Qualifiers

Rad

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

Glossary

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

QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-736233/1-A

Matrix: Water

Analysis Batch: 739717

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 736233

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.406	U	0.198	0.198	1.00	0.406	pCi/L	09/16/25 07:45	10/08/25 15:34	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.2		30 - 110					09/16/25 07:45	10/08/25 15:34	1

Lab Sample ID: LCS 160-736233/2-A

Matrix: Water

Analysis Batch: 739717

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 736233

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226		9.57	9.278		1.25	1.00	0.351	pCi/L	97	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	90.5		30 - 110							

Lab Sample ID: 310-315538-1 DU

Matrix: Ground Water

Analysis Batch: 739717

Client Sample ID: MW-4B

Prep Type: Total/NA

Prep Batch: 736233

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.571		<0.359	U	0.238	1.00	0.359	pCi/L	0.57	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	93.4		30 - 110							

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-736234/1-A

Matrix: Water

Analysis Batch: 739694

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 736234

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.7758		0.425	0.431	1.00	0.611	pCi/L	09/16/25 07:51	10/08/25 11:46	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.2		30 - 110					09/16/25 07:51	10/08/25 11:46	1
Y Carrier	76.6		30 - 110					09/16/25 07:51	10/08/25 11:46	1

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QC Sample Results

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

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

Lab Sample ID: LCS 160-736234/2-A

Matrix: Water

Analysis Batch: 739694

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 736234

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	9.00	10.92		1.44	1.00	0.542	pCi/L	121	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	90.5		30 - 110
Y Carrier	79.3		30 - 110

Lab Sample ID: 310-315538-1 DU

Matrix: Ground Water

Analysis Batch: 739694

Client Sample ID: MW-4B

Prep Type: Total/NA

Prep Batch: 736234

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	<0.619	U	1.002		0.415	1.00	0.527	pCi/L	0.78	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	93.4		30 - 110
Y Carrier	81.1		30 - 110

QC Association Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Rad

Prep Batch: 736233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-1	MW-4B	Total/NA	Ground Water	PrecSep-21	
310-315538-2	MW-5B	Total/NA	Ground Water	PrecSep-21	
310-315538-3	MW-6A	Total/NA	Ground Water	PrecSep-21	
310-315538-4	MW-8	Total/NA	Ground Water	PrecSep-21	
310-315538-5	MW-10	Total/NA	Ground Water	PrecSep-21	
310-315538-6	MW-14A	Total/NA	Ground Water	PrecSep-21	
310-315538-7	MW-15A	Total/NA	Ground Water	PrecSep-21	
310-315538-8	MW-21	Total/NA	Ground Water	PrecSep-21	
310-315538-9	MW-22	Total/NA	Ground Water	PrecSep-21	
310-315538-10	MW-23	Total/NA	Ground Water	PrecSep-21	
310-315538-11	DUP-1	Total/NA	Ground Water	PrecSep-21	
310-315538-12	DUP-2	Total/NA	Ground Water	PrecSep-21	
310-315538-13	LEACHATE	Total/NA	Water	PrecSep-21	
MB 160-736233/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-736233/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
310-315538-1 DU	MW-4B	Total/NA	Ground Water	PrecSep-21	

Prep Batch: 736234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-315538-1	MW-4B	Total/NA	Ground Water	PrecSep_0	
310-315538-2	MW-5B	Total/NA	Ground Water	PrecSep_0	
310-315538-3	MW-6A	Total/NA	Ground Water	PrecSep_0	
310-315538-4	MW-8	Total/NA	Ground Water	PrecSep_0	
310-315538-5	MW-10	Total/NA	Ground Water	PrecSep_0	
310-315538-6	MW-14A	Total/NA	Ground Water	PrecSep_0	
310-315538-7	MW-15A	Total/NA	Ground Water	PrecSep_0	
310-315538-8	MW-21	Total/NA	Ground Water	PrecSep_0	
310-315538-9	MW-22	Total/NA	Ground Water	PrecSep_0	
310-315538-10	MW-23	Total/NA	Ground Water	PrecSep_0	
310-315538-11	DUP-1	Total/NA	Ground Water	PrecSep_0	
310-315538-12	DUP-2	Total/NA	Ground Water	PrecSep_0	
310-315538-13	LEACHATE	Total/NA	Water	PrecSep_0	
MB 160-736234/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-736234/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
310-315538-1 DU	MW-4B	Total/NA	Ground Water	PrecSep_0	

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: MW-4B

Lab Sample ID: 310-315538-1

Date Collected: 09/10/25 09:45

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			736233	JTR	EET SL	09/16/25 07:45
Total/NA	Analysis	9315		1	739717	SWS	EET SL	10/08/25 15:35
Total/NA	Prep	PrecSep_0			736234	JTR	EET SL	09/16/25 07:51
Total/NA	Analysis	9320		1	739694	SWS	EET SL	10/08/25 11:46
Total/NA	Analysis	Ra226_Ra228		1	739928	SCB	EET SL	10/09/25 12:32

Client Sample ID: MW-5B

Lab Sample ID: 310-315538-2

Date Collected: 09/10/25 12:25

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			736233	JTR	EET SL	09/16/25 07:45
Total/NA	Analysis	9315		1	739717	SWS	EET SL	10/08/25 15:36
Total/NA	Prep	PrecSep_0			736234	JTR	EET SL	09/16/25 07:51
Total/NA	Analysis	9320		1	739694	SWS	EET SL	10/08/25 11:46
Total/NA	Analysis	Ra226_Ra228		1	739928	SCB	EET SL	10/09/25 12:32

Client Sample ID: MW-6A

Lab Sample ID: 310-315538-3

Date Collected: 09/10/25 10:40

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			736233	JTR	EET SL	09/16/25 07:45
Total/NA	Analysis	9315		1	739717	SWS	EET SL	10/08/25 15:36
Total/NA	Prep	PrecSep_0			736234	JTR	EET SL	09/16/25 07:51
Total/NA	Analysis	9320		1	739694	SWS	EET SL	10/08/25 11:47
Total/NA	Analysis	Ra226_Ra228		1	739928	SCB	EET SL	10/09/25 12:32

Client Sample ID: MW-8

Lab Sample ID: 310-315538-4

Date Collected: 09/09/25 09:20

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			736233	JTR	EET SL	09/16/25 07:45
Total/NA	Analysis	9315		1	739717	SWS	EET SL	10/08/25 15:36
Total/NA	Prep	PrecSep_0			736234	JTR	EET SL	09/16/25 07:51
Total/NA	Analysis	9320		1	739694	SWS	EET SL	10/08/25 11:47
Total/NA	Analysis	Ra226_Ra228		1	739928	SCB	EET SL	10/09/25 12:32

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: MW-10

Lab Sample ID: 310-315538-5

Date Collected: 09/08/25 15:10

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			736233	JTR	EET SL	09/16/25 07:45
Total/NA	Analysis	9315		1	739713	SWS	EET SL	10/08/25 15:45
Total/NA	Prep	PrecSep_0			736234	JTR	EET SL	09/16/25 07:51
Total/NA	Analysis	9320		1	739694	SWS	EET SL	10/08/25 11:47
Total/NA	Analysis	Ra226_Ra228		1	739928	SCB	EET SL	10/09/25 12:32

Client Sample ID: MW-14A

Lab Sample ID: 310-315538-6

Date Collected: 09/09/25 13:55

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			736233	JTR	EET SL	09/16/25 07:45
Total/NA	Analysis	9315		1	739713	SWS	EET SL	10/08/25 15:45
Total/NA	Prep	PrecSep_0			736234	JTR	EET SL	09/16/25 07:51
Total/NA	Analysis	9320		1	739694	SWS	EET SL	10/08/25 11:47
Total/NA	Analysis	Ra226_Ra228		1	739928	SCB	EET SL	10/09/25 12:32

Client Sample ID: MW-15A

Lab Sample ID: 310-315538-7

Date Collected: 09/10/25 08:25

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			736233	JTR	EET SL	09/16/25 07:45
Total/NA	Analysis	9315		1	739713	SWS	EET SL	10/08/25 15:45
Total/NA	Prep	PrecSep_0			736234	JTR	EET SL	09/16/25 07:51
Total/NA	Analysis	9320		1	739694	SWS	EET SL	10/08/25 11:48
Total/NA	Analysis	Ra226_Ra228		1	739928	SCB	EET SL	10/09/25 12:32

Client Sample ID: MW-21

Lab Sample ID: 310-315538-8

Date Collected: 09/09/25 12:40

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			736233	JTR	EET SL	09/16/25 07:45
Total/NA	Analysis	9315		1	739713	SWS	EET SL	10/08/25 15:45
Total/NA	Prep	PrecSep_0			736234	JTR	EET SL	09/16/25 07:51
Total/NA	Analysis	9320		1	739694	SWS	EET SL	10/08/25 11:48
Total/NA	Analysis	Ra226_Ra228		1	739928	SCB	EET SL	10/09/25 12:32

Eurofins Cedar Falls

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: MW-22

Lab Sample ID: 310-315538-9

Date Collected: 09/08/25 11:45

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			736233	JTR	EET SL	09/16/25 07:45
Total/NA	Analysis	9315		1	739713	SWS	EET SL	10/08/25 15:45
Total/NA	Prep	PrecSep_0			736234	JTR	EET SL	09/16/25 07:51
Total/NA	Analysis	9320		1	739694	SWS	EET SL	10/08/25 11:48
Total/NA	Analysis	Ra226_Ra228		1	739928	SCB	EET SL	10/09/25 12:32

Client Sample ID: MW-23

Lab Sample ID: 310-315538-10

Date Collected: 09/08/25 13:50

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			736233	JTR	EET SL	09/16/25 07:45
Total/NA	Analysis	9315		1	739713	SWS	EET SL	10/08/25 15:45
Total/NA	Prep	PrecSep_0			736234	JTR	EET SL	09/16/25 07:51
Total/NA	Analysis	9320		1	739694	SWS	EET SL	10/08/25 11:48
Total/NA	Analysis	Ra226_Ra228		1	739928	SCB	EET SL	10/09/25 12:32

Client Sample ID: DUP-1

Lab Sample ID: 310-315538-11

Date Collected: 09/08/25 12:00

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			736233	JTR	EET SL	09/16/25 07:45
Total/NA	Analysis	9315		1	739713	SWS	EET SL	10/08/25 15:45
Total/NA	Prep	PrecSep_0			736234	JTR	EET SL	09/16/25 07:51
Total/NA	Analysis	9320		1	739694	SWS	EET SL	10/08/25 11:48
Total/NA	Analysis	Ra226_Ra228		1	739928	SCB	EET SL	10/09/25 12:32

Client Sample ID: DUP-2

Lab Sample ID: 310-315538-12

Date Collected: 09/09/25 12:00

Matrix: Ground Water

Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			736233	JTR	EET SL	09/16/25 07:45
Total/NA	Analysis	9315		1	739713	SWS	EET SL	10/08/25 15:45
Total/NA	Prep	PrecSep_0			736234	JTR	EET SL	09/16/25 07:51
Total/NA	Analysis	9320		1	739694	SWS	EET SL	10/08/25 11:48
Total/NA	Analysis	Ra226_Ra228		1	739928	SCB	EET SL	10/09/25 12:32

Lab Chronicle

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Client Sample ID: LEACHATE Lab Sample ID: 310-315538-13
Date Collected: 09/10/25 14:10 Matrix: Water
Date Received: 09/12/25 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			736233	JTR	EET SL	09/16/25 07:45
Total/NA	Analysis	9315		1	739694	SWS	EET SL	10/08/25 15:41
Total/NA	Prep	PrecSep_0			736234	JTR	EET SL	09/16/25 07:51
Total/NA	Analysis	9320		1	739694	SWS	EET SL	10/08/25 11:48
Total/NA	Analysis	Ra226_Ra228		1	739928	SCB	EET SL	10/09/25 12:32

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

Accreditation/Certification Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Laboratory: Eurofins St. Louis

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

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

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

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

Method Summary

Client: Muscatine Power & Water

Job ID: 310-315538-2

Project/Site: Muscatine Power & Water CCR Landfill

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

Protocol References:

None = None

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

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

Laboratory References:

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



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310-315538 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client. <u>Muscatine Power & Water</u>			
City/State:	CITY <u>Muscatine</u>	STATE <u>IA</u>	Project
Receipt Information			
Date/Time Received.	DATE <u>09/12/25</u>	TIME <u>0825</u>	Received By <u>ES</u>
Delivery Type. ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other. _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler? ☒ Yes ☐ No If yes: Cooler ID _____			
Multiple Coolers? ☒ Yes ☐ No If yes: Cooler # <u>1</u> of <u>4</u>			
Cooler Custody Seals Present? ☒ Yes ☐ No If yes: Cooler custody seals intact? ☒ Yes ☐ No			
Sample Custody Seals Present? ☐ Yes ☒ No If yes: Sample custody seals intact? ☐ Yes ☐ No			
Trip Blank Present? ☐ Yes ☒ No If yes: Which VOA samples are in cooler? ↓ _____			
Temperature Record			
Coolant ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other _____ ☐ NONE			
Thermometer ID. <u>R</u>		Correction Factor (°C) <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C). <u>0.9</u>		Corrected Temp (°C): <u>0.9</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE If yes, contact PM before proceeding If no, proceed with login			
Additional Comments			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Muscatine Power & Water</u>			
City/State:	CITY <u>Muscatine</u>	STATE <u>IA</u>	Project
Receipt Information			
Date/Time Received	DATE <u>09/12/25</u>	TIME <u>0825</u>	Received By <u>ES</u>
Delivery Type. ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler? ☒ Yes ☐ No If yes: Cooler ID _____			
Multiple Coolers? ☒ Yes ☐ No If yes: Cooler # <u>2</u> of <u>4</u>			
Cooler Custody Seals Present? ☒ Yes ☐ No If yes: Cooler custody seals intact? ☒ Yes ☐ No			
Sample Custody Seals Present? ☐ Yes ☒ No If yes: Sample custody seals intact? ☐ Yes ☐ No			
Trip Blank Present? ☐ Yes ☒ No If yes: Which VOA samples are in cooler? ↓			
Temperature Record			
Coolant ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other _____ ☐ NONE			
Thermometer ID. <u>R</u>		Correction Factor (°C): _____	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C) <u>2.7</u>		Corrected Temp (°C). <u>2.7</u>	
• Sample Container Temperature			
Container(s) used	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE If yes, contact PM before proceeding If no, proceed with login			
Additional Comments			



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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client <u>Muscatare Power & Water</u>			
City/State.	CITY <u>Muscatare</u>	STATE <u>IA</u>	Project
Receipt Information			
Date/Time Received	DATE <u>09/12/25</u>	TIME <u>0825</u>	Received By <u>ES</u>
Delivery Type: ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		☒ Yes ☐ No	If yes: Cooler ID:
Multiple Coolers?		☒ Yes ☐ No	If yes: Cooler # <u>3</u> of <u>4</u>
Cooler Custody Seals Present?		☒ Yes ☐ No	If yes: Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?		☐ Yes ☒ No	If yes: Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?		☐ Yes ☒ No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other _____ ☐ NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>1.3</u>		Corrected Temp (°C): <u>1.3</u>	
• Sample Container Temperature			
Container(s) used	<u>CONTAINER 1</u>		<u>CONTAINER 2</u>
Uncorrected Temp (°C):			
Corrected Temp (°C)			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Muscatine Power & Water</u>			
City/State	CITY <u>Muscatine</u>	STATE <u>IA</u>	Project
Receipt Information			
Date/Time Received.	DATE <u>09/12/25</u>	TIME <u>0825</u>	Received By: <u>ES</u>
Delivery Type. ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other. _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		☒ Yes ☐ No	If yes: Cooler ID: _____
Multiple Coolers?		☒ Yes ☐ No	If yes: Cooler # <u>4</u> of <u>4</u>
Cooler Custody Seals Present?		☒ Yes ☐ No	If yes: Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?		☐ Yes ☒ No	If yes: Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?		☐ Yes ☒ No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID <u>A</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C) <u>1.7</u>		Corrected Temp (°C) <u>1.7</u>	
• Sample Container Temperature			
Container(s) used.	<u>CONTAINER 1</u>		<u>CONTAINER 2</u>
Uncorrected Temp (°C).			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes. Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE If yes, contact PM before proceeding If no, proceed with login			
Additional Comments			

Eurofins Cedar Falls

3019 Venture Way

Cedar Falls IA 50613

Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

Client Information		Sampler	Lab PM	Carrier Tracking No(s)		COC No							
Client Contact: Sam Bennett MP&W		Sam Bennett Phone: 563-262-3583	Michels, Bob E-Mail: bob.michels@et.eurofinsus.com										
Company: Muscatine Power & Water													
Address: 1700 Dick Drake Way													
City: Muscatine													
State Zip: IA, 52761													
Phone: 254338													
Email: sbennett@mpw.org and neil.hoskins@mpw.org													
Project Name: Muscatine Power & Water CCR Landfill													
Site: Iowa													
Event: Fall 2025 Sampling													
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (V=Vapor, S=Solid, O=Organic, A=Allyl)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A CCR List, 7470A Mercury	2540C TDS, SM4500_H+PH	9056A Chloride, Fluoride, Sulfate	Radium-226	Radium-228	Total Number of Containers	Special Instructions/Note:
MW-4B	9/10/25	0945	G	GW			X	X	X	X	X	X	
MW-5B	9/10/25	1225	G	GW			X	X	X	X	X	X	
MW-6A	9/10/25	1040	G	GW			X	X	X	X	X	X	
MW-8	9/9/25	0920	G	GW			X	X	X	X	X	X	
MW-10	9/8/25	1510	G	GW			X	X	X	X	X	X	
MW-14A	9/9/25	1355	G	GW			X	X	X	X	X	X	
MW-15A	9/10/25	0825	G	GW			X	X	X	X	X	X	
MW-21	9/9/25	1240	G	GW			X	X	X	X	X	X	
MW-22	9/8/25	1145	G	GW			X	X	X	X	X	X	
MW-23	9/8/25	1350	G	GW			X	X	X	X	X	X	
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological													
Deliverable Requested I, II, III, IV, Other (specify)													
Empty Kit Relinquished by													
Relinquished by Sam Bennett Date/Time: 9/11/25 Company: mpw													
Relinquished by Date/Time: Company:													
Relinquished by Date/Time: Company:													
Custody Seals Intact: ☐ Yes ☐ No													
Custody Seal No													
Cooler Temperature(s) °C and Other Remarks:													
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													
Method of Shipment:													
Received by Date/Time: 9/12/25 0825 Company: EET													
Received by Date/Time: Company:													
Received by Date/Time: Company:													

Chain of Custody Record

[illegible]

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

Login Sample Receipt Checklist

Client: Muscatine Power & Water

Job Number: 310-315538-2

SDG Number:

Login Number: 315538

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Schaufenbuel, Erin

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

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

Eurofins Cedar Falls

Login Sample Receipt Checklist

Client: Muscatine Power & Water

Job Number: 310-315538-2

SDG Number:

Login Number: 315538

List Number: 2

Creator: Pinette, Meadow L

List Source: Eurofins St. Louis

List Creation: 09/15/25 11:12 AM

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

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

Eurofins Cedar Falls

Tracer/Carrier Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill

Job ID: 310-315538-2

Method: 9315 - Radium-226 (GFPC)

Matrix: Ground Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
		Ba					
Lab Sample ID	Client Sample ID	(30-110)					
310-315538-1	MW-4B	91.7					
310-315538-1 DU	MW-4B	93.4					
310-315538-2	MW-5B	95.1					
310-315538-3	MW-6A	87.6					
310-315538-4	MW-8	88.0					
310-315538-5	MW-10	95.4					
310-315538-6	MW-14A	91.5					
310-315538-7	MW-15A	93.9					
310-315538-8	MW-21	86.8					
310-315538-9	MW-22	87.8					
310-315538-10	MW-23	82.9					
310-315538-11	DUP-1	93.2					
310-315538-12	DUP-2	88.0					
Tracer/Carrier Legend							
Ba = Ba Carrier							

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
		Ba					
Lab Sample ID	Client Sample ID	(30-110)					
310-315538-13	LEACHATE	72.0					
LCS 160-736233/2-A	Lab Control Sample	90.5					
MB 160-736233/1-A	Method Blank	90.2					
Tracer/Carrier Legend							
Ba = Ba Carrier							

Method: 9320 - Radium-228 (GFPC)

Matrix: Ground Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
		Ba		Y			
Lab Sample ID	Client Sample ID	(30-110)	(30-110)				
310-315538-1	MW-4B	91.7	78.5				
310-315538-1 DU	MW-4B	93.4	81.1				
310-315538-2	MW-5B	95.1	78.9				
310-315538-3	MW-6A	87.6	81.9				
310-315538-4	MW-8	88.0	77.0				
310-315538-5	MW-10	95.4	76.6				
310-315538-6	MW-14A	91.5	80.0				
310-315538-7	MW-15A	93.9	81.9				
310-315538-8	MW-21	86.8	80.0				
310-315538-9	MW-22	87.8	79.3				
310-315538-10	MW-23	82.9	78.9				
310-315538-11	DUP-1	93.2	84.1				
310-315538-12	DUP-2	88.0	77.8				
Tracer/Carrier Legend							
Ba = Ba Carrier							

Eurofins Cedar Falls

Tracer/Carrier Summary

Client: Muscatine Power & Water
Project/Site: Muscatine Power & Water CCR Landfill
Y = Y Carrier

Job ID: 310-315538-2

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

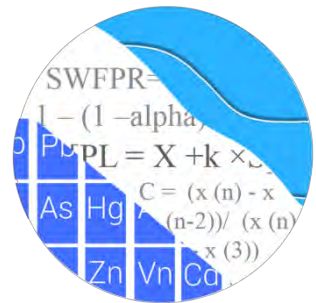
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
Lab Sample ID	Client Sample ID	Ba	Y				
		(30-110)	(30-110)				
310-315538-13	LEACHATE	72.0	79.3				
LCS 160-736234/2-A	Lab Control Sample	90.5	79.3				
MB 160-736234/1-A	Method Blank	90.2	76.6				
Tracer/Carrier Legend							
Ba = Ba Carrier							
Y = Y Carrier							

Appendix C

Groundwater Statistical Analysis

GROUNDWATER STATS CONSULTING



December 15, 2025

GHD

Attn: Mr. Michael Alowitz
11228 Aurora Avenue
Des Moines Iowa 50322-7904

Re: Muscatine Power & Water –
April & September 2025 Detection & Assessment Monitoring Report

Dear Mr. Alowitz,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the background update and statistical analysis of groundwater data for the April and September 2025 sample events at the Muscatine Power & Water for the Coal Combustion Residuals (CCR) program. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals from Electric Utilities (CCR Rule, 2015) as well as with the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Sampling began for the CCR program in June 2016 for all wells except for upgradient well MW-22 which has been sampled since 2018. The monitoring well network at Muscatine Power & Water consists of the following:

- o **Upgradient wells:** MW-08, MW-10, MW-22, and MW-23
- o **Downgradient wells** MW-4B, MW-5B, MW-6A, MW-14A, MW-15A, and MW-21

The CCR program consists of the following constituents:

- o **Appendix III** (Detection Monitoring) - boron, calcium, chloride, fluoride, pH, sulfate, and TDS

- o **Appendix IV** (Assessment Monitoring) - antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed by Andrew Collins, Project Manager for Groundwater Stats Consulting.

When there are no detections present in downgradient wells for a given constituent, statistical analyses are not required. A summary of downgradient well/constituent pairs with 100% non-detects follows this letter.

Time series plots for Appendix III and IV parameters at all wells are provided for the purpose of screening data at these wells (Figure A). Additionally, a separate section of box plots is included for all constituents at upgradient and downgradient wells (Figure B). The time series plots are used to initially screen for suspected outliers and trends, while the box plots provide visual representation of variation within individual wells and between all wells. Values in background which have been flagged as outliers may be seen in a lighter font and as a disconnected symbol on the graphs.

In earlier analyses, data at all wells were evaluated for the following: 1) outliers; 2) trends; 3) most appropriate statistical method for Appendix III parameters based on site characteristics of groundwater data upgradient of the facility; and 4) eligibility of downgradient wells when intrawell statistical methods are recommended. Power curves were provided and demonstrated that the selected statistical methods for Appendix III parameters comply with the USEPA Unified Guidance. The EPA suggests the selected statistical method should provide at least 55% power at 3 standard deviations or at least 80% power at 4 standard deviations.

Summary of Statistical Methods – Appendix III & IV Parameters:

Based on the earlier evaluation described above, the following methods were selected:

- Interwell prediction limits, combined with a 1-of-2 resample plan for boron, calcium, chloride, fluoride, pH, sulfate, and TDS
- Confidence intervals compared to Groundwater Protection Standards for all Appendix IV constituents

Parametric prediction limits, tolerance limits, and confidence intervals are utilized when the screened historical data follow a normal or transformed-normal distribution. Parametric prediction limits are based on a significance level of 0.05 for each semi-annual

event. When data cannot be normalized or the majority of data are non-detects, a nonparametric test is utilized. The significance level of a nonparametric tests depends on the background sample size. The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (US EPA, 2009), data are analyzed using either parametric or non-parametric prediction limits as appropriate. Non-detects are handled as follows:

- No statistical analyses are required on wells and analytes containing 100% non-detects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% non-detects, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for non-detects is the most recent practical quantification limit (PQL) as reported by the laboratory.
- When data contain between 15-50% non-detects, the Kaplan-Meier non-detect adjustment is applied to the background data. This technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.
- Nonparametric prediction limits, tolerance limits, and confidence intervals are used on data containing greater than 50% non-detects.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits is necessary to accommodate these types of changes. In the interwell case, prediction limits are updated with upgradient well data during each event after screening for any new outliers. In some cases, the earlier portion of data may be deselected prior to construction of limits to provide sensitive limits that will rapidly detect changes in groundwater quality. Even though the data are excluded from the calculation, the values will continue to be reported and shown in tables and graphs.

For Appendix III detection monitoring parameters, compliance is determined by comparing the most recent observation to a background prediction limit. The corresponding trend tests for screening and evaluating prediction limit exceedances of Appendix III parameters are performed at the 99% confidence level to provide a high level of confidence against false positives. For Appendix IV assessment monitoring parameters, however, compliance is assessed by comparing a full (or truncated) period of record to a Groundwater Protection Standard using a confidence interval. The corresponding trend tests for screening and evaluating confidence interval exceedances of Appendix IV constituents are performed at the 95% confidence level to provide greater capability of identifying potential trends than the 99% confidence level.

Summary of Initial Background Screening – Conducted in October 2017

Background data were originally screened in October 2017 for all parameters at each well for the constituents listed above, and the results of the screening were submitted during that time. A summary of the screening is discussed below.

Outlier Screening

Time series plots were used to initially screen for suspected outliers, trends, and seasonal patterns. Outliers and trends in background data result in increased variation and statistical limits that are not conservative from a regulatory perspective, if not addressed.

Box plots provide visual representation of variation within individual wells and between all wells. Data were further evaluated through the Analysis of Variance test to determine whether observed variation is statistically significant, and guide the decision logic for determining an appropriate statistical limit as discussed below.

A handful of possible outliers were identified and formally tested using Tukey's box plot method. When outliers were confirmed, these values were flagged in the computer database with "o" in order to deselect prior to construction of statistical limits. Flagged values appear as a disconnected, lighter symbol on the time series graphs. A summary of Tukey's test results was included with the screening.

Seasonality

No seasonal patterns were visually apparent in any of the detected data; therefore, no deseasonalizing adjustments were made to the data. When seasonal patterns are observed, data may be optionally deseasonalized so that the resulting limits will correctly account for the seasonality as a predictable pattern rather than random variation or a release.

Trend Testing

The Sen's Slope/Mann Kendall trend test was used to evaluate all proposed background data through August 2017 to identify statistically significant increasing or decreasing trends. In the absence of suspected contamination, significant trending data are typically not included as part of the background data used for construction of prediction limits. This step serves to eliminate the trend and, thus, reduce variation in background. When statistically significant decreasing trends are present, earlier data are evaluated to determine whether earlier concentration levels are significantly different than current

reported concentrations and will be deselected as necessary. When the historical records of data are truncated for the reasons above, a summary report will be provided to show the date ranges used in construction of the statistical limits.

The results of the trend analyses showed a statistically significant decreasing trend for chloride in upgradient well MW-08. This trend was relatively low in magnitude when compared to average concentrations; therefore, no adjustments were made to the data sets. No other statistically significant trends were identified for any of the Appendix III parameters. The results of the trend tests were included with the screening.

Determination of Statistical Methods

The Analysis of Variance (ANOVA), tolerance limits, and confidence intervals were used to identify the most appropriate statistical approach for Muscatine Power & Water. Based on the results from the 2017 background screening, interwell methods were recommended initially in lieu of intrawell methods. Interwell tests compare downgradient well data to statistical limits constructed from pooled upgradient well data. This method is appropriate when average concentrations are similar across upgradient wells. Intrawell tests compare compliance data from a single well to screened historical data within the same well, and are appropriate when upgradient wells exhibit spatial variation; when statistical limits constructed from upgradient wells would not be conservative from a regulatory perspective; and when downgradient water quality is unimpacted compared to upgradient water quality for the same parameters.

If further research identifies whether the elevated downgradient concentrations are likely the result of natural geological conditions or an off-site source, data would be re-evaluated to determine the most appropriate statistical Detection Monitoring method.

Summary of Background Update – Appendix III & IV Parameters – September 2025

Outlier Analysis

Visual screening with time series graphs and Tukey's outlier test were used to identify suspected outliers, or extreme values that would result in limits that are not representative of the current pooled upgradient well data population (Figure C). Suspected outliers at upgradient wells for Appendix III and Appendix IV parameters were formally tested using Tukey's box plot method and, when identified, flagged in the computer database with "o" and deselected prior to construction of statistical limits. When the most recent values are identified as an outlier, values are often not flagged in the database as the measurements

may represent a possible trend. If future values do not remain at similar concentrations, these values will be flagged as outliers and deselected.

Tukey's outlier test on pooled upgradient well data identified values for calcium, combined radium 226 + 228, molybdenum, and TDS. Previously flagged values were confirmed with Tukey's test and visual screening (Figure C). Among values identified by Tukey's test, the highest value for calcium in well MW-08 was flagged. Any other values identified by Tukey's, but not flagged in the database, appeared representative of remaining concentrations among pooled upgradient data or, in the case of molybdenum, were an order of magnitude below a federally derived standard such as the Maximum Contaminant Level (MCL). When any values are flagged in the database as outliers, the measurements are plotted in a disconnected and lighter symbol on the time series graph. The accompanying data pages display the flagged value in a lighter font as well.

Seasonality

No obvious seasonal patterns were observed on the time series plots for any of the detected data; therefore, no deseasonalizing adjustments were made to the data. When seasonal patterns are observed, data may be deseasonalized so that the resulting limits will correctly account for the seasonality as a predictable pattern rather than random variation or a release.

Trend Test Evaluation

While trends can be identified by visual inspection, a quantification of the trend and its statistical significance is needed. The Sen's Slope/Mann Kendall trend test was used to evaluate all data at each upgradient well to identify statistically significant increasing or decreasing trends (Figure D). In the absence of suspected contamination, significant trending data are typically not included as part of the background data used for construction of prediction limits. This step serves to eliminate the trend and, thus, reduce variation in background. When statistically significant decreasing trends are present, all available data are evaluated to determine whether earlier concentration levels are significantly different than current reported concentrations and will be deselected as necessary. When any records of data are truncated for the reasons above, a summary report will be provided to show the date ranges used in construction of the statistical limits. The following statistically significant trends were identified at upgradient wells:

Appendix III

Increasing

- Chloride: MW-23
- Sulfate: MW-22

Decreasing

- Chloride: MW-22
- Sulfate: MW-08 and MW-23
- Total Dissolved Solids: MW-08

Appendix IV

Increasing

- Arsenic: MW-08 and MW-22
- Barium: MW-10 and MW-22
- Cobalt: MW-08 and MW-10
- Combined Radium 226 + 228: MW-22

Decreasing

- Barium: MW-23
- Cobalt: MW-22
- Lead: MW-23

Note that while a statistically significant increasing trend was identified for arsenic at upgradient well MW-08 and a statistically significant decreasing trend was identified for cobalt at upgradient well MW-22, the slopes, which represent the median slope of all pairwise slopes within the record, are zero. The zero median slope results from several consecutive years of non-detects either early or late in the record.

While identifying these upgradient trends is useful for understanding and characterization of upgradient background groundwater quality, truncation of the records to remove the trend may be appropriate when the trend would result in statistical limits that are not representative of upgradient groundwater quality and/or not able to detect downgradient changes that result from the facility. Deselecting data at upgradient wells is done with caution as similar observations may be observed at one or more downgradient wells depending on transport times. For example, concentrations early in the record for sulfate and TDS at well MW-08 are similar to more recent measurements at downgradient wells for these constituents. Therefore, no truncation is recommended at this time.

Although, statistically significant trends were identified, no adjustments to the data set were required for the statistically significant trends identified for chloride and sulfate at wells MW-22 and MW-23, as all observations within these wells fall within the range of pooled upgradient well concentrations. Truncating the earlier measurements from these

individual records to reduce the influence of the trend would not impact resulting interwell prediction limits using pooled upgradient well data. Similarly, for Appendix IV parameters, the significant trends did not adversely affect GWPS as all concentrations were below established MCLs or CCR-Rule specified levels, or overall concentrations for an individual well were well below remaining pooled upgradient well data from neighboring upgradient wells. Therefore, no adjustments were required for these well/constituent pairs at this time, and all data from upgradient wells were used to construct interwell prediction limits for all Appendix III parameters and interwell tolerance limits for Appendix IV parameters.

If the observed decreasing or increasing trends persist over a longer time frame and influence resulting statistical limits, some records may require truncation. A summary of any truncated records follows this letter.

Statistical Evaluation – Appendix III Parameters – April & September 2025

Interwell prediction limits were constructed as recommended in the CCR Rule (2015) and in the EPA Unified Guidance (2009), based on a 1-of-2 resample plan using pooled upgradient well data for all Appendix III parameters through April 2025 and September 2025 (Figures E and F, respectively). Interwell prediction limits pool upgradient well data to establish a background limit for an individual constituent. The April and September 2025 samples from each downgradient well are compared to the respective background limit to determine whether initial exceedances are present.

In the event of an initial exceedance of compliance well data, the 1-of-2 resample plan allows for collection of one additional sample to determine whether the initial exceedance is confirmed. When an independent resample confirms the initial exceedance, a statistically significant increase is identified and further research would be required to identify the cause of the exceedance (i.e., impact from the site, natural variation, or an off-site source). If the resample falls within the statistical limit, the initial exceedance is considered to be a false positive result and, therefore, no exceedance is noted and no further action is necessary. If no resample is collected, the original result is considered a confirmed exceedance.

Parametric prediction limits were constructed when background data followed a normal or transformed-normal distribution. Non-parametric prediction limits are provided for data sets with greater than 50% non-detects, and for data sets which do not follow a normal or transformed-normal distribution. A summary table of well/constituent pairs found to exceed their respective limits follows this letter and prediction limit exceedances were noted for the following well/constituent pairs:

April 2025

- Boron: MW-14A, MW-15A, and MW-21
- Calcium: MW-14A
- Chloride: MW-5B
- Sulfate: MW-14A
- Total Dissolved Solids: MW-14A and MW-15A

September 2025

- Boron: MW-14A, MW-15A, and MW-21
- Calcium: MW-14A
- Chloride: MW-5B
- pH (lower limit): MW-21
- Sulfate: MW-14A
- Total Dissolved Solids: MW-14A

Trend Tests

When prediction limit exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test at the 99% confidence level to determine whether concentrations are statistically increasing, decreasing, or stable (Figure G). Upgradient wells are included in the trend analyses for all parameters found to exceed their prediction limit in downgradient wells to identify whether similar patterns exist upgradient of the site which is an indication of variability in groundwater unrelated to practices at the site. A summary of the trend test results follows this letter. Statistically significant trends were identified for the following well/constituent pairs:

Increasing

- Chloride: MW-23 (upgradient)
- Sulfate: MW-22 (upgradient)

Decreasing

- Boron: MW-15A
- Calcium: MW-08 (upgradient)
- Chloride: MW-22 (upgradient) and MW-5B
- Sulfate: MW-08 and MW-23 (both upgradient)
- Total Dissolved Solids: MW-08 (upgradient) and MW-15A

Statistical Evaluation – Appendix IV – April & September 2025

For Appendix IV parameters, confidence intervals for each downgradient well/constituent were compared against corresponding GWPS. GWPS were developed as described below. Well/constituent pairs containing 100% non-detects do not require analysis. Note that no

detections are present at any downgradient wells for antimony, arsenic, and beryllium. Data from upgradient wells for Appendix IV parameters are reassessed for outliers during each analysis. No additional outliers were identified and a summary of flagged outliers follows this report (Figure C).

Interwell Upper Tolerance Limits

Parametric tolerance limits were used to calculate background limits from pooled upgradient well data through the September 2025 event for Appendix IV parameters, with a target of 95% confidence and 95% coverage, to determine background limits (Figure H). The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples.

Groundwater Protection Standards

The background limits were compared to the MCLs, CCR Rule-Specified levels, and background limits in the GWPS table following this letter to determine the highest limit for use as the GWPS in the Confidence Interval comparisons (Figure I).

Confidence Intervals

Confidence intervals were then constructed on downgradient wells with data through the September 2025 event for each of the Appendix IV parameters using the highest limit of the MCL, CCR Rule-Specified level, or background limit as discussed above (Figure J). Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its respective standard. No statistical exceedances were identified and a summary of the confidence interval results follows this letter.

Trend Test Evaluation – Appendix IV

When confidence interval exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test to determine whether concentrations are statistically increasing, decreasing, or stable at the 95% confidence level. Upgradient wells are included in the trend analyses for all parameters found to exceed their prediction limit in downgradient wells. When similar patterns exist upgradient of the site, it is an indication of variability in groundwater which may be unrelated to practices at the site. Since no confidence interval exceedances were identified among downgradient wells, no further action was necessary.

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for Muscatine Power & Water. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,



Easton Rayner
Groundwater Analyst



Andrew Collins
Project Manager

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Summary Tables

100% Non-Detects

Analysis Run 12/9/2025 11:11 AM View: Federal Confidence Intervals
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Antimony (mg/L)

MW-14A, MW-15A, MW-21, MW-4B, MW-5B, MW-6A

Arsenic (mg/L)

MW-14A, MW-15A, MW-21, MW-4B, MW-5B, MW-6A

Beryllium (mg/L)

MW-14A, MW-15A, MW-21, MW-4B, MW-5B, MW-6A

Cadmium (mg/L)

MW-14A, MW-15A, MW-21, MW-6A

Chromium (mg/L)

MW-14A, MW-15A, MW-4B, MW-5B, MW-6A

Cobalt (mg/L)

MW-14A, MW-15A, MW-21, MW-5B, MW-6A

Lead (mg/L)

MW-14A, MW-15A, MW-6A

Lithium (mg/L)

MW-14A, MW-15A, MW-4B, MW-5B, MW-6A

Mercury (mg/L)

MW-14A, MW-15A, MW-21, MW-4B, MW-6A

Molybdenum (mg/L)

MW-6A

Selenium (mg/L)

MW-4B, MW-5B, MW-6A

Thallium (mg/L)

MW-14A, MW-15A, MW-21, MW-6A

Outlier Summary

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 12:53 PM

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Appendix III Trend Tests - Upgradient Wells - Significant Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 1:12 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Chloride (mg/L)	MW-22 (bg)	-2.056	-102	-63	Yes	17	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-23 (bg)	1.516	85	58	Yes	16	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-08 (bg)	-12.86	-221	-118	Yes	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-22 (bg)	4.734	77	63	Yes	17	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-23 (bg)	-0.8498	-65	-58	Yes	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-08 (bg)	-42.47	-187	-111	Yes	25	0	n/a	n/a	0.01	NP

Appendix III Trend Tests - Upgradient Wells - All Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 1:12 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	MW-08 (bg)	0	1	118	No	26	96.15	n/a	n/a	0.01	NP
Boron (mg/L)	MW-10 (bg)	0	0	118	No	26	100	n/a	n/a	0.01	NP
Boron (mg/L)	MW-22 (bg)	0	17	63	No	17	58.82	n/a	n/a	0.01	NP
Boron (mg/L)	MW-23 (bg)	0	23	58	No	16	62.5	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-08 (bg)	-2.922	-102	-111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-10 (bg)	0.5172	40	118	No	26	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-22 (bg)	-0.4821	-22	-63	No	17	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-23 (bg)	-1.457	-52	-58	No	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-08 (bg)	0.3471	107	118	No	26	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-10 (bg)	0	63	118	No	26	80.77	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-22 (bg)	-2.056	-102	-63	Yes	17	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-23 (bg)	1.516	85	58	Yes	16	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-08 (bg)	0	-31	-111	No	25	76	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-10 (bg)	0	-17	-118	No	26	80.77	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-22 (bg)	0	-23	-63	No	17	82.35	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-23 (bg)	0	-27	-58	No	16	87.5	n/a	n/a	0.01	NP
pH (SU)	MW-08 (bg)	0.01508	76	118	No	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-10 (bg)	0	-18	-118	No	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-22 (bg)	0.005529	6	63	No	17	0	n/a	n/a	0.01	NP
pH (SU)	MW-23 (bg)	-0.011	-9	-58	No	16	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-08 (bg)	-12.86	-221	-118	Yes	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-10 (bg)	1.617	71	118	No	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-22 (bg)	4.734	77	63	Yes	17	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-23 (bg)	-0.8498	-65	-58	Yes	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-08 (bg)	-42.47	-187	-111	Yes	25	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-10 (bg)	-10.94	-87	-118	No	26	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-22 (bg)	-1.77	-22	-63	No	17	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-23 (bg)	-6.153	-26	-58	No	16	0	n/a	n/a	0.01	NP

Appendix IV Trend Tests - Upgradient Wells - Significant Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/9/2025, 10:19 AM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (mg/L)	MW-08 (bg)	0	100	85	Yes	25	80	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-22 (bg)	0.0006658	101	49	Yes	17	29.41	n/a	n/a	0.05	NP
Barium (mg/L)	MW-10 (bg)	0.006419	120	85	Yes	25	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-22 (bg)	0.01142	106	49	Yes	17	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-23 (bg)	-0.003443	-50	-45	Yes	16	0	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-08 (bg)	0.0001305	176	85	Yes	25	36	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-10 (bg)	0.00007216	158	85	Yes	25	4	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-22 (bg)	0	-54	-53	Yes	18	77.78	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	MW-22 (bg)	0.06395	51	37	Yes	14	0	n/a	n/a	0.05	NP
Lead (mg/L)	MW-23 (bg)	-0.00002816	-54	-45	Yes	16	50	n/a	n/a	0.05	NP

Appendix IV Trend Tests - Upgradient Wells - All Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/9/2025, 10:19 AM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Antimony (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Antimony (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Antimony (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-08 (bg)	0	100	85	Yes	25	80	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-10 (bg)	0.0001361	45	85	No	25	16	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-22 (bg)	0.0006658	101	49	Yes	17	29.41	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Barium (mg/L)	MW-08 (bg)	0.001261	67	85	No	25	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-10 (bg)	0.006419	120	85	Yes	25	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-22 (bg)	0.01142	106	49	Yes	17	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-23 (bg)	-0.003443	-50	-45	Yes	16	0	n/a	n/a	0.05	NP
Beryllium (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Beryllium (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Beryllium (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Beryllium (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Cadmium (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Cadmium (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Cadmium (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Cadmium (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Chromium (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Chromium (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Chromium (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Chromium (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-08 (bg)	0.0001305	176	85	Yes	25	36	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-10 (bg)	0.00007216	158	85	Yes	25	4	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-22 (bg)	0	-54	-53	Yes	18	77.78	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-23 (bg)	-0.000005289	-40	-45	No	16	56.25	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	MW-08 (bg)	0.02328	49	66	No	21	0	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	MW-10 (bg)	0.04863	60	66	No	21	0	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	MW-22 (bg)	0.06395	51	37	Yes	14	0	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	MW-23 (bg)	0.04483	8	34	No	13	0	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-08 (bg)	0	-31	-85	No	25	76	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-10 (bg)	0	-17	-90	No	26	80.77	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-22 (bg)	0	-23	-49	No	17	82.35	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-23 (bg)	0	-27	-45	No	16	87.5	n/a	n/a	0.05	NP
Lead (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Lead (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Lead (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Lead (mg/L)	MW-23 (bg)	-0.00002816	-54	-45	Yes	16	50	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Mercury (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Mercury (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Mercury (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Mercury (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Molybdenum (mg/L)	MW-08 (bg)	0	14	90	No	26	84.62	n/a	n/a	0.05	NP
Molybdenum (mg/L)	MW-10 (bg)	0	41	85	No	25	72	n/a	n/a	0.05	NP
Molybdenum (mg/L)	MW-22 (bg)	0.00004331	7	53	No	18	5.556	n/a	n/a	0.05	NP
Molybdenum (mg/L)	MW-23 (bg)	0	-29	-45	No	16	87.5	n/a	n/a	0.05	NP
Selenium (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Selenium (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Selenium (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Selenium (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Thallium (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Thallium (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Thallium (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Thallium (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP

Appendix III - Interwell Prediction Limits - April 2025 - Significant Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 12:56 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-14A	0.322	n/a	4/17/2025	15.4	Yes	81	85.19	n/a	0.0002927	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-15A	0.322	n/a	4/17/2025	8.16	Yes	81	85.19	n/a	0.0002927	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-21	0.322	n/a	4/16/2025	2.64	Yes	81	85.19	n/a	0.0002927	NP Inter (NDs) 1 of 2
Calcium (mg/L)	MW-14A	132	n/a	4/17/2025	286	Yes	80	0	n/a	0.0002988	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-5B	30	n/a	4/18/2025	32.1	Yes	81	25.93	n/a	0.0002927	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-14A	366	n/a	4/17/2025	808	Yes	81	0	n/a	0.0002927	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-14A	636.4	n/a	4/17/2025	1830	Yes	80	0	x^(1/3)	0.001254	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-15A	636.4	n/a	4/17/2025	766	Yes	80	0	x^(1/3)	0.001254	Param Inter 1 of 2

Appendix III - Interwell Prediction Limits - April 2025 - All Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 12:56 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg	N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-14A	0.322	n/a	4/17/2025	15.4	Yes	81	85.19	n/a	0.0002927		NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-15A	0.322	n/a	4/17/2025	8.16	Yes	81	85.19	n/a	0.0002927		NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-21	0.322	n/a	4/16/2025	2.64	Yes	81	85.19	n/a	0.0002927		NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-4B	0.322	n/a	4/18/2025	0.169	No	81	85.19	n/a	0.0002927		NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-5B	0.322	n/a	4/18/2025	0.1ND	No	81	85.19	n/a	0.0002927		NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-6A	0.322	n/a	4/18/2025	0.1ND	No	81	85.19	n/a	0.0002927		NP Inter (NDs) 1 of 2
Calcium (mg/L)	MW-14A	132	n/a	4/17/2025	286	Yes	80	0	n/a	0.0002988		NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-15A	132	n/a	4/17/2025	125	No	80	0	n/a	0.0002988		NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-21	132	n/a	4/16/2025	87.4	No	80	0	n/a	0.0002988		NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-4B	132	n/a	4/18/2025	86.8	No	80	0	n/a	0.0002988		NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-5B	132	n/a	4/18/2025	106	No	80	0	n/a	0.0002988		NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-6A	132	n/a	4/18/2025	85.2	No	80	0	n/a	0.0002988		NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-14A	30	n/a	4/17/2025	18	No	81	25.93	n/a	0.0002927		NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-15A	30	n/a	4/17/2025	7.79	No	81	25.93	n/a	0.0002927		NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-21	30	n/a	4/16/2025	10.9	No	81	25.93	n/a	0.0002927		NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-4B	30	n/a	4/18/2025	18.9	No	81	25.93	n/a	0.0002927		NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-5B	30	n/a	4/18/2025	32.1	Yes	81	25.93	n/a	0.0002927		NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-6A	30	n/a	4/18/2025	15.8	No	81	25.93	n/a	0.0002927		NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-14A	1	n/a	4/17/2025	0.262	No	80	85	n/a	0.0002988		NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-15A	1	n/a	4/17/2025	0.257	No	80	85	n/a	0.0002988		NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-21	1	n/a	4/16/2025	0.154	No	80	85	n/a	0.0002988		NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-4B	1	n/a	4/18/2025	0.268	No	80	85	n/a	0.0002988		NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-5B	1	n/a	4/18/2025	0.193	No	80	85	n/a	0.0002988		NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-6A	1	n/a	4/18/2025	0.303	No	80	85	n/a	0.0002988		NP Inter (NDs) 1 of 2
pH (SU)	MW-14A	7.784	6.878	4/17/2025	7.3	No	81	0	No	0.0006268		Param Inter 1 of 2
pH (SU)	MW-15A	7.784	6.878	4/17/2025	7.5	No	81	0	No	0.0006268		Param Inter 1 of 2
pH (SU)	MW-21	7.784	6.878	4/16/2025	6.9	No	81	0	No	0.0006268		Param Inter 1 of 2
pH (SU)	MW-4B	7.784	6.878	4/18/2025	7.5	No	81	0	No	0.0006268		Param Inter 1 of 2
pH (SU)	MW-5B	7.784	6.878	4/18/2025	7.3	No	81	0	No	0.0006268		Param Inter 1 of 2
pH (SU)	MW-6A	7.784	6.878	4/18/2025	7.3	No	81	0	No	0.0006268		Param Inter 1 of 2
Sulfate (mg/L)	MW-14A	366	n/a	4/17/2025	808	Yes	81	0	n/a	0.0002927		NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-15A	366	n/a	4/17/2025	309	No	81	0	n/a	0.0002927		NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-21	366	n/a	4/16/2025	230	No	81	0	n/a	0.0002927		NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-4B	366	n/a	4/18/2025	50.8	No	81	0	n/a	0.0002927		NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-5B	366	n/a	4/18/2025	35.7	No	81	0	n/a	0.0002927		NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-6A	366	n/a	4/18/2025	18.5	No	81	0	n/a	0.0002927		NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-14A	636.4	n/a	4/17/2025	1830	Yes	80	0	x^(1/3)	0.001254		Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-15A	636.4	n/a	4/17/2025	766	Yes	80	0	x^(1/3)	0.001254		Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-21	636.4	n/a	4/16/2025	606	No	80	0	x^(1/3)	0.001254		Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-4B	636.4	n/a	4/18/2025	424	No	80	0	x^(1/3)	0.001254		Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-5B	636.4	n/a	4/18/2025	470	No	80	0	x^(1/3)	0.001254		Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-6A	636.4	n/a	4/18/2025	380	No	80	0	x^(1/3)	0.001254		Param Inter 1 of 2

Appendix III - Interwell Prediction Limits - September 2025 - Significant Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 12:59 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-14A	0.322	n/a	9/9/2025	16.1	Yes	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-15A	0.322	n/a	9/10/2025	5.51	Yes	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-21	0.322	n/a	9/9/2025	1.65	Yes	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Calcium (mg/L)	MW-14A	132	n/a	9/9/2025	277	Yes	84	0	n/a	0.0002742	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-5B	30	n/a	9/10/2025	42	Yes	85	24.71	n/a	0.0002681	NP Inter (normality) 1 of 2
pH (SU)	MW-21	7.781	6.891	9/9/2025	6.8	Yes	85	0	No	0.0006268	Param Inter 1 of 2
Sulfate (mg/L)	MW-14A	366	n/a	9/9/2025	953	Yes	85	0	n/a	0.0002681	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-14A	639.7	n/a	9/9/2025	1870	Yes	84	0	ln(x)	0.001254	Param Inter 1 of 2

Appendix III - Interwell Prediction Limits - September 2025 - All Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 12:59 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-14A	0.322	n/a	9/9/2025	16.1	Yes	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-15A	0.322	n/a	9/10/2025	5.51	Yes	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-21	0.322	n/a	9/9/2025	1.65	Yes	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-4B	0.322	n/a	9/10/2025	0.1ND	No	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-5B	0.322	n/a	9/10/2025	0.1ND	No	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-6A	0.322	n/a	9/10/2025	0.1ND	No	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Calcium (mg/L)	MW-14A	132	n/a	9/9/2025	277	Yes	84	0	n/a	0.0002742	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-15A	132	n/a	9/10/2025	77.2	No	84	0	n/a	0.0002742	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-21	132	n/a	9/9/2025	52.8	No	84	0	n/a	0.0002742	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-4B	132	n/a	9/10/2025	94.9	No	84	0	n/a	0.0002742	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-5B	132	n/a	9/10/2025	114	No	84	0	n/a	0.0002742	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-6A	132	n/a	9/10/2025	79	No	84	0	n/a	0.0002742	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-14A	30	n/a	9/9/2025	15.4	No	85	24.71	n/a	0.0002681	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-15A	30	n/a	9/10/2025	4.5	No	85	24.71	n/a	0.0002681	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-21	30	n/a	9/9/2025	5.1	No	85	24.71	n/a	0.0002681	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-4B	30	n/a	9/10/2025	18.9	No	85	24.71	n/a	0.0002681	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-5B	30	n/a	9/10/2025	42	Yes	85	24.71	n/a	0.0002681	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-6A	30	n/a	9/10/2025	16.8	No	85	24.71	n/a	0.0002681	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-14A	1	n/a	9/9/2025	0.261	No	84	80.95	n/a	0.0002742	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-15A	1	n/a	9/10/2025	0.293	No	84	80.95	n/a	0.0002742	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-21	1	n/a	9/9/2025	0.174	No	84	80.95	n/a	0.0002742	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-4B	1	n/a	9/10/2025	0.274	No	84	80.95	n/a	0.0002742	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-5B	1	n/a	9/10/2025	0.173	No	84	80.95	n/a	0.0002742	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-6A	1	n/a	9/10/2025	0.273	No	84	80.95	n/a	0.0002742	NP Inter (NDs) 1 of 2
pH (SU)	MW-14A	7.781	6.891	9/9/2025	7.3	No	85	0	No	0.0006268	Param Inter 1 of 2
pH (SU)	MW-15A	7.781	6.891	9/10/2025	7.4	No	85	0	No	0.0006268	Param Inter 1 of 2
pH (SU)	MW-21	7.781	6.891	9/9/2025	6.8	Yes	85	0	No	0.0006268	Param Inter 1 of 2
pH (SU)	MW-4B	7.781	6.891	9/10/2025	7.5	No	85	0	No	0.0006268	Param Inter 1 of 2
pH (SU)	MW-5B	7.781	6.891	9/10/2025	7.3	No	85	0	No	0.0006268	Param Inter 1 of 2
pH (SU)	MW-6A	7.781	6.891	9/10/2025	7.3	No	85	0	No	0.0006268	Param Inter 1 of 2
Sulfate (mg/L)	MW-14A	366	n/a	9/9/2025	953	Yes	85	0	n/a	0.0002681	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-15A	366	n/a	9/10/2025	162	No	85	0	n/a	0.0002681	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-21	366	n/a	9/9/2025	135	No	85	0	n/a	0.0002681	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-4B	366	n/a	9/10/2025	55.8	No	85	0	n/a	0.0002681	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-5B	366	n/a	9/10/2025	47.6	No	85	0	n/a	0.0002681	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-6A	366	n/a	9/10/2025	20.7	No	85	0	n/a	0.0002681	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-14A	639.7	n/a	9/9/2025	1870	Yes	84	0	ln(x)	0.001254	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-15A	639.7	n/a	9/10/2025	518	No	84	0	ln(x)	0.001254	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-21	639.7	n/a	9/9/2025	396	No	84	0	ln(x)	0.001254	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-4B	639.7	n/a	9/10/2025	442	No	84	0	ln(x)	0.001254	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-5B	639.7	n/a	9/10/2025	496	No	84	0	ln(x)	0.001254	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-6A	639.7	n/a	9/10/2025	380	No	84	0	ln(x)	0.001254	Param Inter 1 of 2

Appendix III Trend Tests - Prediction Limit Exceedances - Significant Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 1:03 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	MW-15A	-1.271	-241	-124	Yes	27	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-22 (bg)	-2.056	-102	-63	Yes	17	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-23 (bg)	1.516	85	58	Yes	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-5B	-3.931	-190	-124	Yes	27	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-08 (bg)	-12.86	-221	-118	Yes	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-22 (bg)	4.734	77	63	Yes	17	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-23 (bg)	-0.8498	-65	-58	Yes	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-08 (bg)	-42.47	-187	-111	Yes	25	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-15A	-112.4	-234	-124	Yes	27	0	n/a	n/a	0.01	NP

Appendix III Trend Tests - Prediction Limit Exceedances - All Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 1:03 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	MW-08 (bg)	0	1	118	No	26	96.15	n/a	n/a	0.01	NP
Boron (mg/L)	MW-10 (bg)	0	0	118	No	26	100	n/a	n/a	0.01	NP
Boron (mg/L)	MW-14A	0.1732	50	124	No	27	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-15A	-1.271	-241	-124	Yes	27	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-21	-0.4056	-107	-124	No	27	3.704	n/a	n/a	0.01	NP
Boron (mg/L)	MW-22 (bg)	0	17	63	No	17	58.82	n/a	n/a	0.01	NP
Boron (mg/L)	MW-23 (bg)	0	23	58	No	16	62.5	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-08 (bg)	-2.922	-102	-111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-10 (bg)	0.5172	40	118	No	26	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-14A	-1.662	-43	-124	No	27	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-22 (bg)	-0.4821	-22	-63	No	17	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-23 (bg)	-1.457	-52	-58	No	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-08 (bg)	0.3471	107	118	No	26	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-10 (bg)	0	63	118	No	26	80.77	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-22 (bg)	-2.056	-102	-63	Yes	17	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-23 (bg)	1.516	85	58	Yes	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-5B	-3.931	-190	-124	Yes	27	0	n/a	n/a	0.01	NP
pH (SU)	MW-08 (bg)	0.01508	76	118	No	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-10 (bg)	0	-18	-118	No	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-21	0.0127	39	124	No	27	0	n/a	n/a	0.01	NP
pH (SU)	MW-22 (bg)	0.005529	6	63	No	17	0	n/a	n/a	0.01	NP
pH (SU)	MW-23 (bg)	-0.011	-9	-58	No	16	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-08 (bg)	-12.86	-221	-118	Yes	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-10 (bg)	1.617	71	118	No	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-14A	-11.48	-57	-124	No	27	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-22 (bg)	4.734	77	63	Yes	17	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-23 (bg)	-0.8498	-65	-58	Yes	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-08 (bg)	-42.47	-187	-111	Yes	25	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-10 (bg)	-10.94	-87	-118	No	26	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-14A	-46.95	-85	-124	No	27	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-15A	-112.4	-234	-124	Yes	27	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-22 (bg)	-1.77	-22	-63	No	17	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-23 (bg)	-6.153	-26	-58	No	16	0	n/a	n/a	0.01	NP

Upper Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/9/2025, 11:04 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	n/a	0.002	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)
Arsenic (mg/L)	n/a	0.00784	n/a	n/a	n/a	83	54.22	n/a	0.01416	NP Inter(NDs)
Barium (mg/L)	n/a	0.271	n/a	n/a	n/a	83	0	n/a	0.01416	NP Inter(normality)
Beryllium (mg/L)	n/a	0.001	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)
Cadmium (mg/L)	n/a	0.0002	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)
Chromium (mg/L)	n/a	0.005	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)
Cobalt (mg/L)	n/a	0.00558	n/a	n/a	n/a	84	39.29	n/a	0.01345	NP Inter(normality)
Combined Radium 226 + 228 (pCi/L)	n/a	2.48	n/a	n/a	n/a	69	0	n/a	0.02904	NP Inter(normality)
Fluoride (mg/L)	n/a	1	n/a	n/a	n/a	84	80.95	n/a	0.01345	NP Inter(NDs)
Lead (mg/L)	n/a	0.00204	n/a	n/a	n/a	83	90.36	n/a	0.01416	NP Inter(NDs)
Lithium (mg/L)	n/a	0.01	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)
Mercury (mg/L)	n/a	0.0002	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)
Molybdenum (mg/L)	n/a	0.00822	n/a	n/a	n/a	85	64.71	n/a	0.01278	NP Inter(NDs)
Selenium (mg/L)	n/a	0.005	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)
Thallium (mg/L)	n/a	0.001	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)

MUSCATINE POWER & WATER GWPS				
Constituent Name	MCL	CCR Rule-Specified	Background Limit	GWPS
Antimony, Total (mg/L)	0.006		0.002	0.006
Arsenic, Total (mg/L)	0.01		0.0078	0.01
Barium, Total (mg/L)	2		0.27	2
Beryllium, Total (mg/L)	0.004		0.001	0.004
Cadmium, Total (mg/L)	0.005		0.0002	0.005
Chromium, Total (mg/L)	0.1		0.005	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.0056	0.006
Combined Radium, Total (pCi/L)	5		2.48	5
Fluoride, Total (mg/L)	4		1	4
Lead, Total (mg/L)	0.015		0.002	0.015
Lithium, Total (mg/L)	n/a	0.04	0.01	0.04
Mercury, Total (mg/L)	0.002		0.0002	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.0082	0.1
Selenium, Total (mg/L)	0.05		0.005	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residual*

**GWPS = Groundwater Protection Standard*

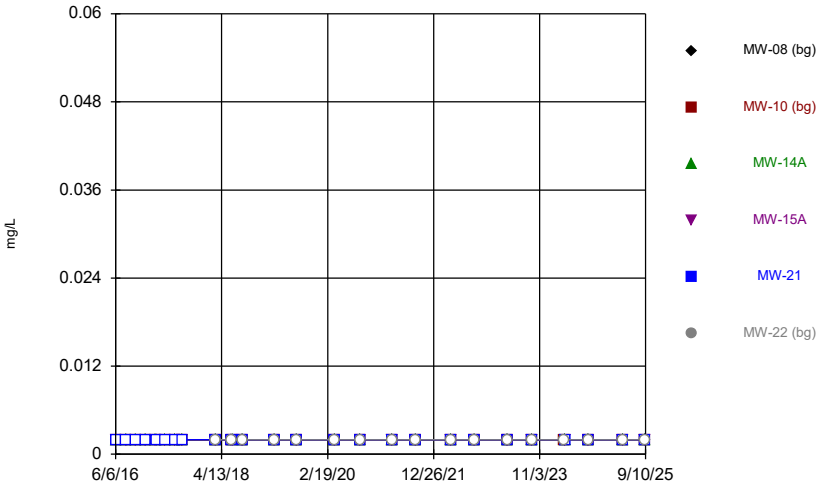
Appendix IV - Confidence Intervals - All Results (No Significant)

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/9/2025, 11:13 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Barium (mg/L)	MW-14A	0.03595	0.03203	2	No	25	0	No	0.01	Param.
Barium (mg/L)	MW-15A	0.03906	0.03419	2	No	24	0	No	0.01	Param.
Barium (mg/L)	MW-21	0.05288	0.03997	2	No	25	0	No	0.01	Param.
Barium (mg/L)	MW-4B	0.1657	0.1431	2	No	25	0	No	0.01	Param.
Barium (mg/L)	MW-5B	0.3042	0.2671	2	No	25	0	No	0.01	Param.
Barium (mg/L)	MW-6A	0.2281	0.2051	2	No	25	0	No	0.01	Param.
Cadmium (mg/L)	MW-4B	0.000285	0.0002	0.005	No	25	96	No	0.01	NP (NDs)
Cadmium (mg/L)	MW-5B	0.000255	0.0002	0.005	No	25	96	No	0.01	NP (NDs)
Chromium (mg/L)	MW-21	0.00632	0.00554	0.1	No	25	24	No	0.01	Param.
Cobalt (mg/L)	MW-4B	0.00172	0.0005	0.006	No	25	52	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MW-14A	0.5445	0.1773	5	No	21	0	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-15A	0.3914	0.158	5	No	21	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-21	0.5217	0.1796	5	No	21	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-4B	0.7728	0.4322	5	No	21	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5B	1.097	0.7509	5	No	21	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6A	0.823	0.5187	5	No	21	0	No	0.01	Param.
Fluoride (mg/L)	MW-14A	1	0.867	4	No	25	84	No	0.01	NP (NDs)
Fluoride (mg/L)	MW-15A	1	0.625	4	No	25	76	No	0.01	NP (NDs)
Fluoride (mg/L)	MW-21	1	0.993	4	No	26	84.62	No	0.01	NP (NDs)
Fluoride (mg/L)	MW-4B	1	0.801	4	No	26	76.92	No	0.01	NP (NDs)
Fluoride (mg/L)	MW-5B	1.88	0.627	4	No	26	80.77	No	0.01	NP (NDs)
Fluoride (mg/L)	MW-6A	1	0.814	4	No	26	73.08	No	0.01	NP (NDs)
Lead (mg/L)	MW-21	0.000633	0.0005	0.015	No	25	96	No	0.01	NP (NDs)
Lead (mg/L)	MW-4B	0.000532	0.0005	0.015	No	24	91.67	No	0.01	NP (NDs)
Lead (mg/L)	MW-5B	0.000627	0.0005	0.015	No	25	96	No	0.01	NP (NDs)
Lithium (mg/L)	MW-21	0.0198	0.01	0.04	No	25	40	No	0.01	NP (normality)
Mercury (mg/L)	MW-5B	0.000813	0.0002	0.002	No	25	96	No	0.01	NP (NDs)
Molybdenum (mg/L)	MW-14A	0.00322	0.002	0.1	No	25	96	No	0.01	NP (NDs)
Molybdenum (mg/L)	MW-15A	0.0109	0.002	0.1	No	25	96	No	0.01	NP (NDs)
Molybdenum (mg/L)	MW-21	0.00383	0.002	0.1	No	25	96	No	0.01	NP (NDs)
Molybdenum (mg/L)	MW-4B	0.00296	0.002	0.1	No	25	96	No	0.01	NP (NDs)
Molybdenum (mg/L)	MW-5B	0.00212	0.002	0.1	No	25	96	No	0.01	NP (NDs)
Selenium (mg/L)	MW-14A	0.00759	0.005	0.05	No	25	56	No	0.01	NP (NDs)
Selenium (mg/L)	MW-15A	0.00502	0.005	0.05	No	25	96	No	0.01	NP (NDs)
Selenium (mg/L)	MW-21	0.009244	0.006363	0.05	No	25	28	sqrt(x)	0.01	Param.
Thallium (mg/L)	MW-4B	0.00288	0.001	0.002	No	25	92	No	0.01	NP (NDs)
Thallium (mg/L)	MW-5B	0.00393	0.001	0.002	No	25	92	No	0.01	NP (NDs)

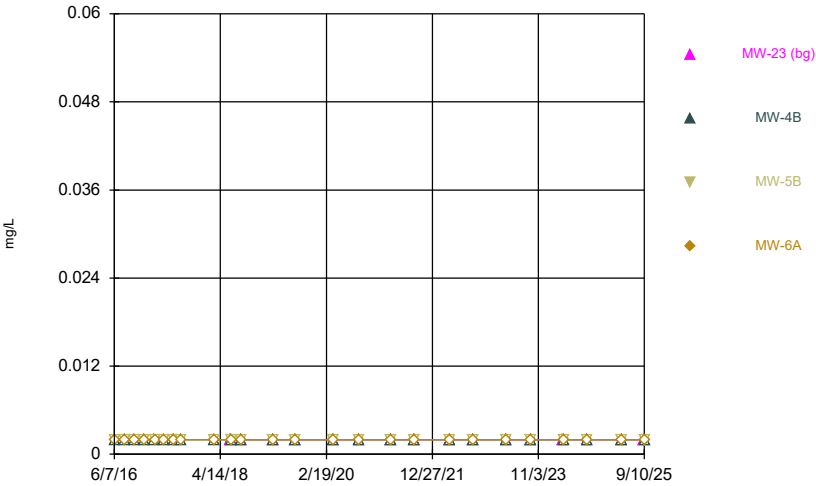
FIGURE A.

Time Series



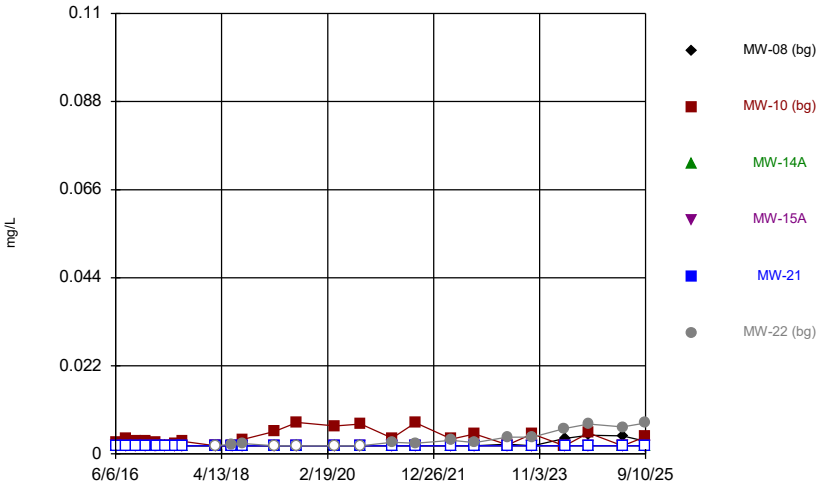
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



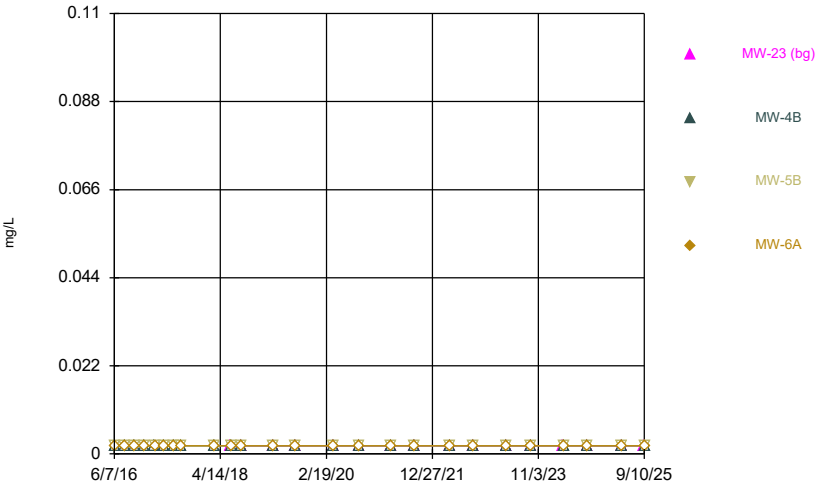
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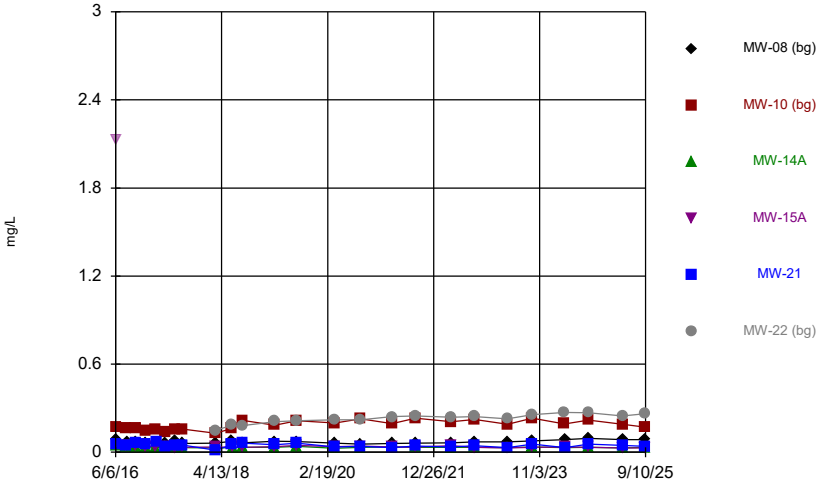
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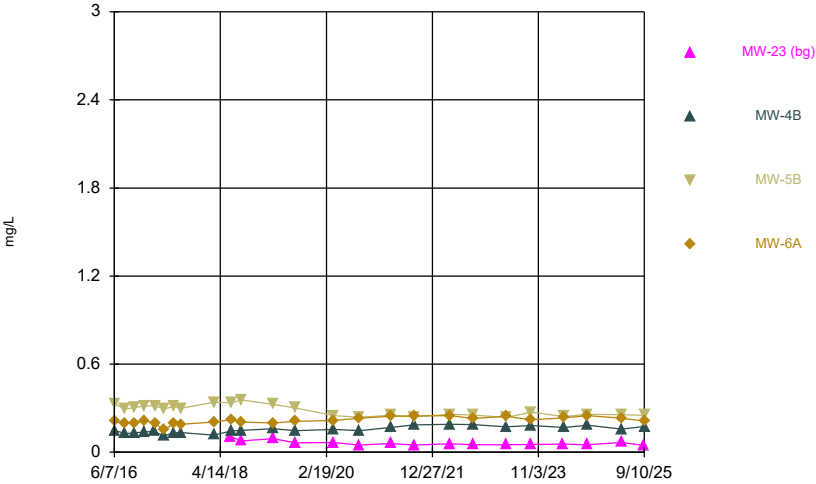
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Time Series



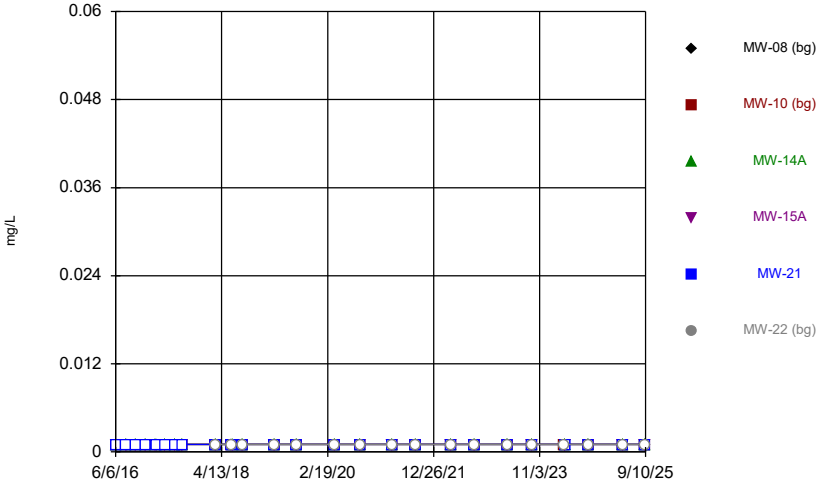
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



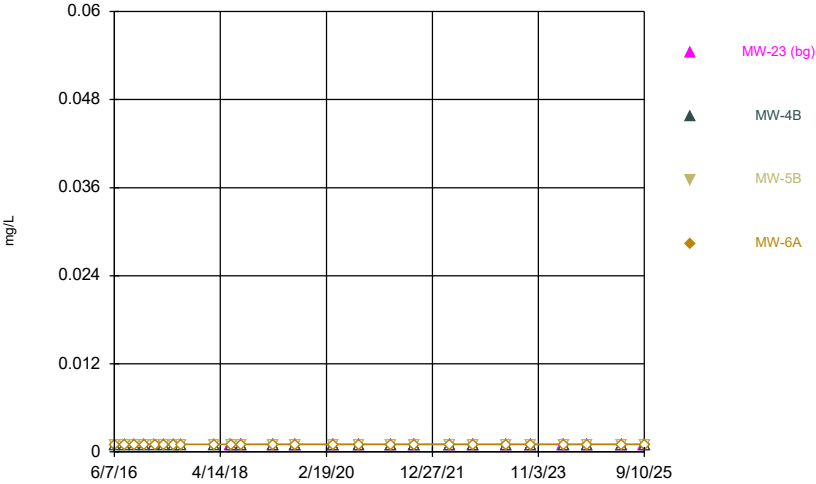
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Time Series



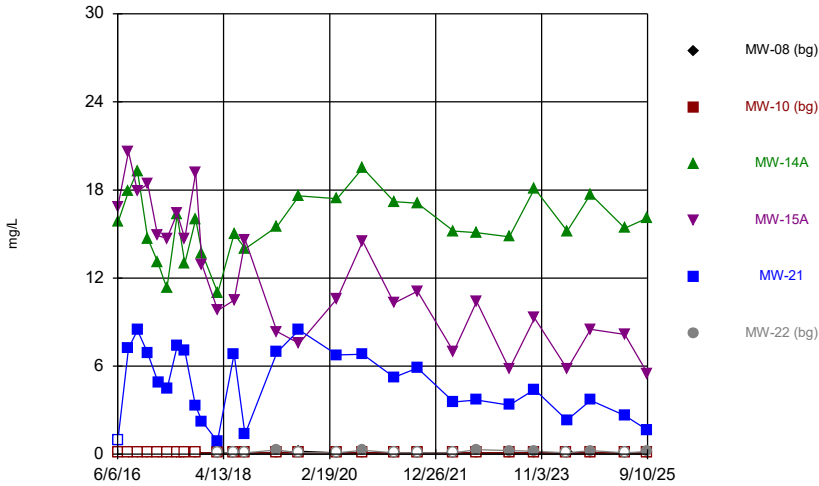
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Time Series



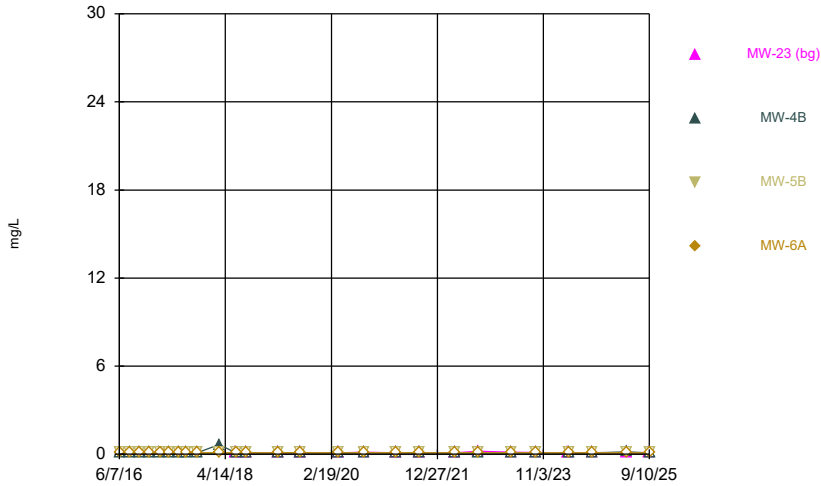
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Time Series



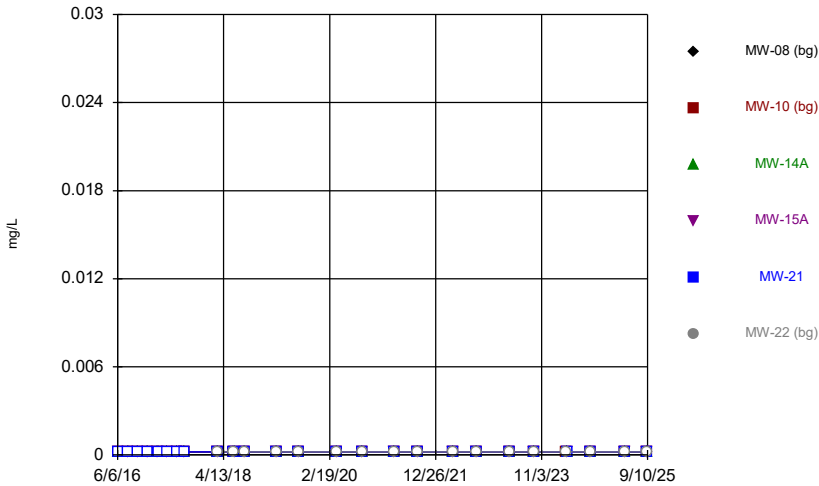
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Time Series



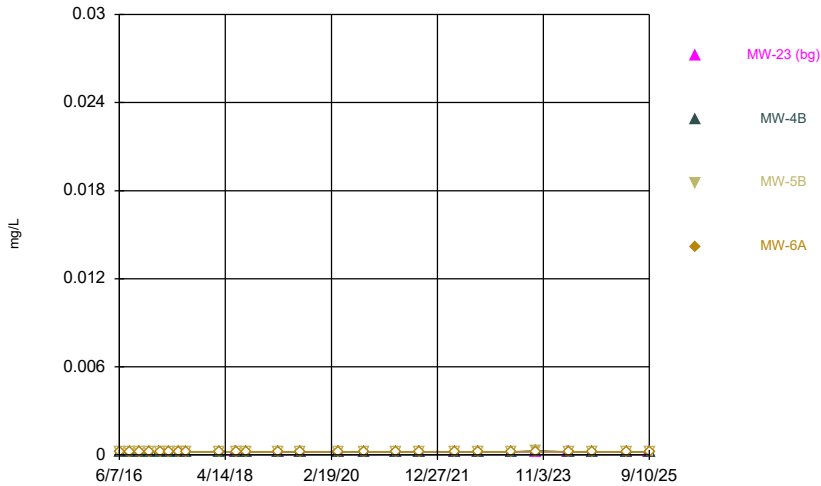
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



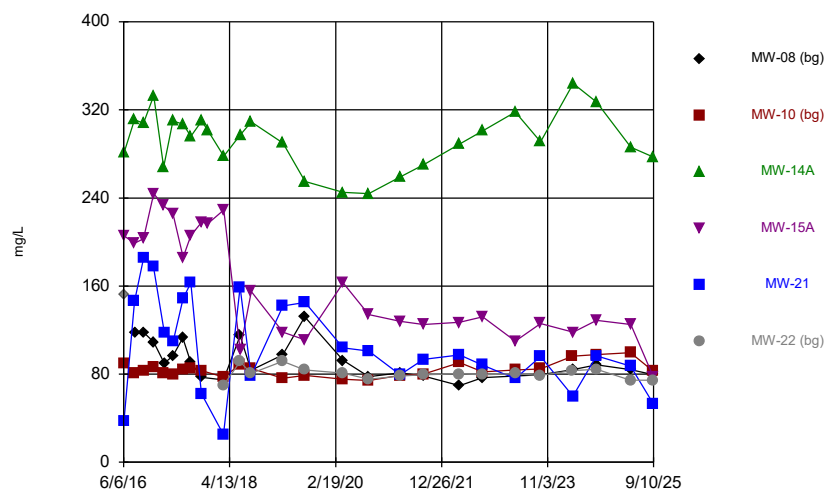
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Time Series

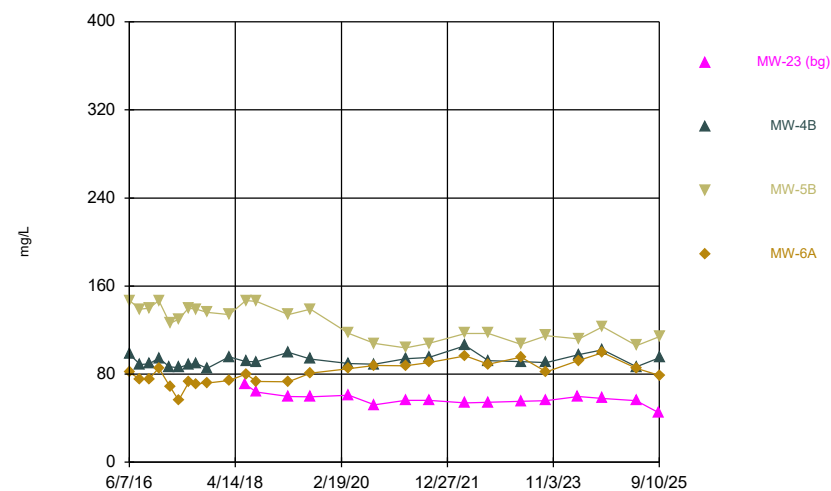


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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

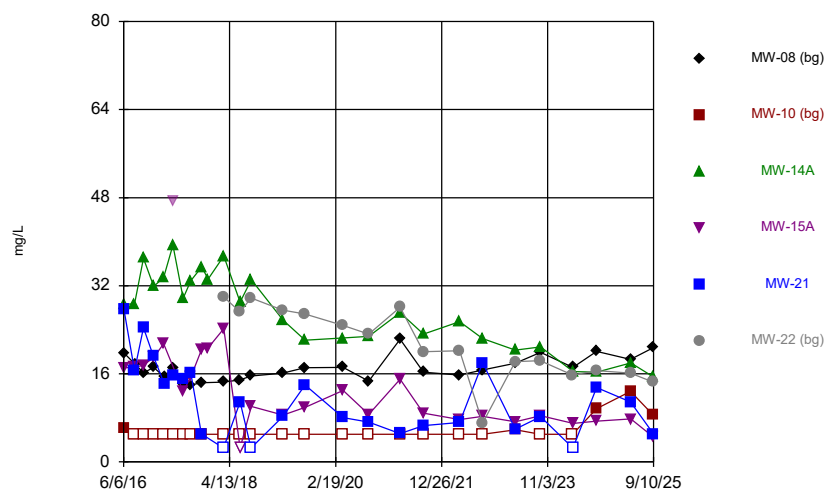
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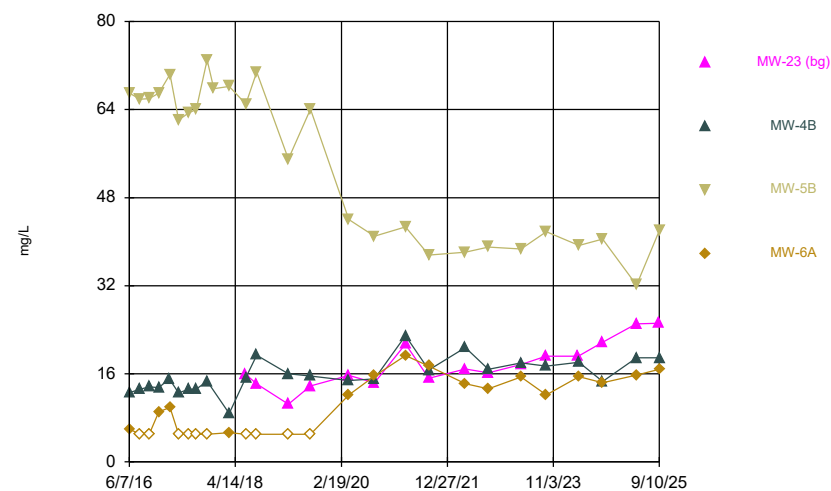
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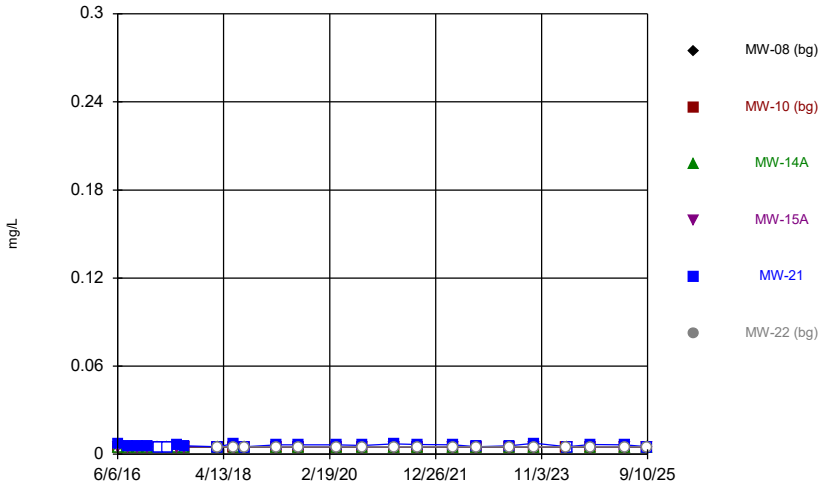
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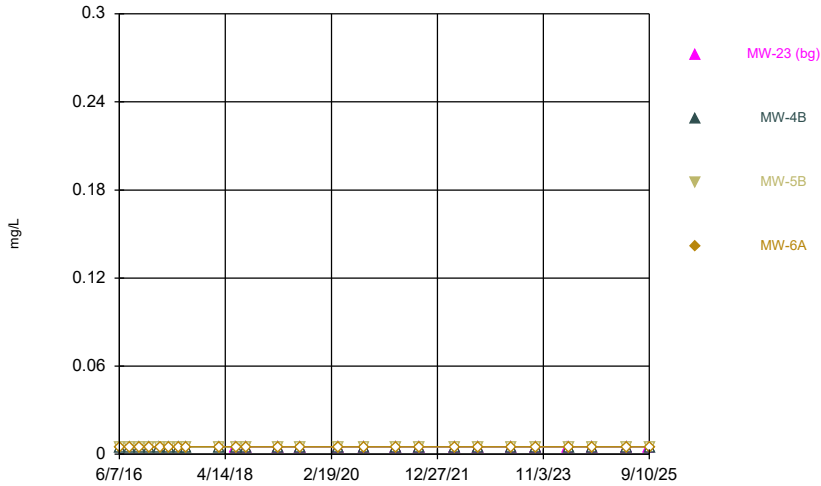


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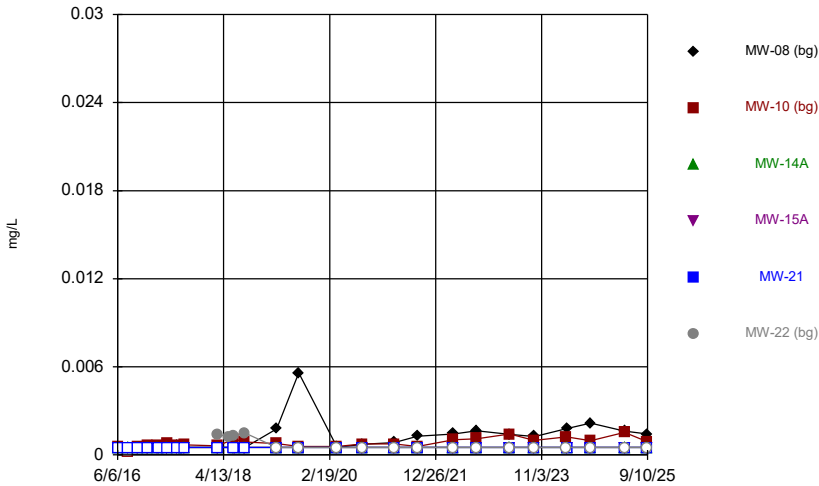
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



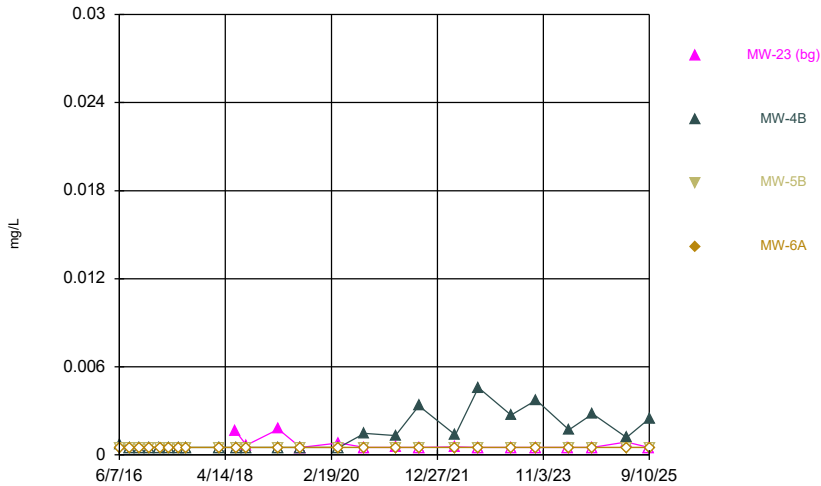
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



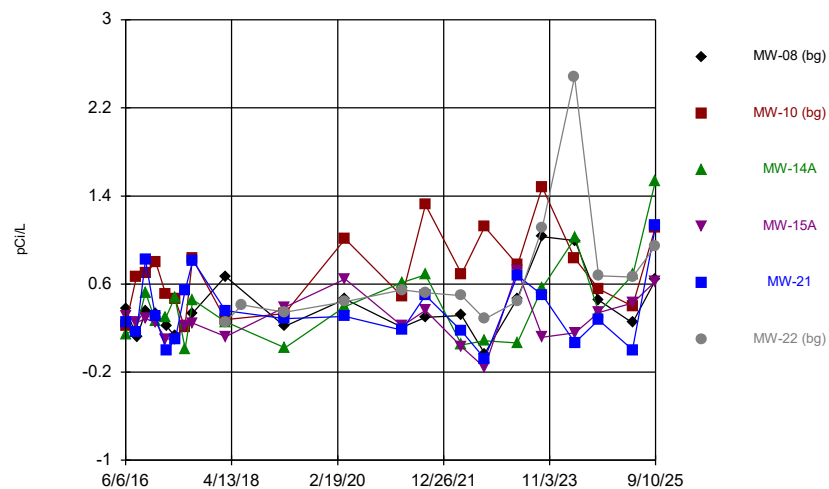
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Time Series

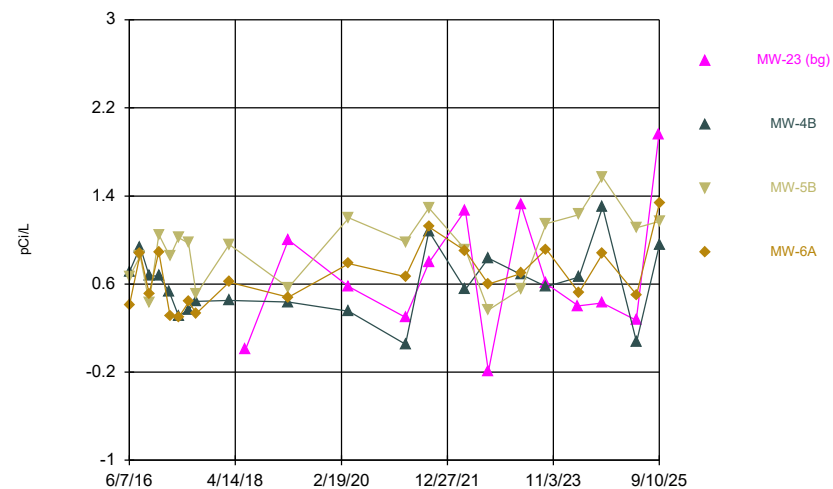


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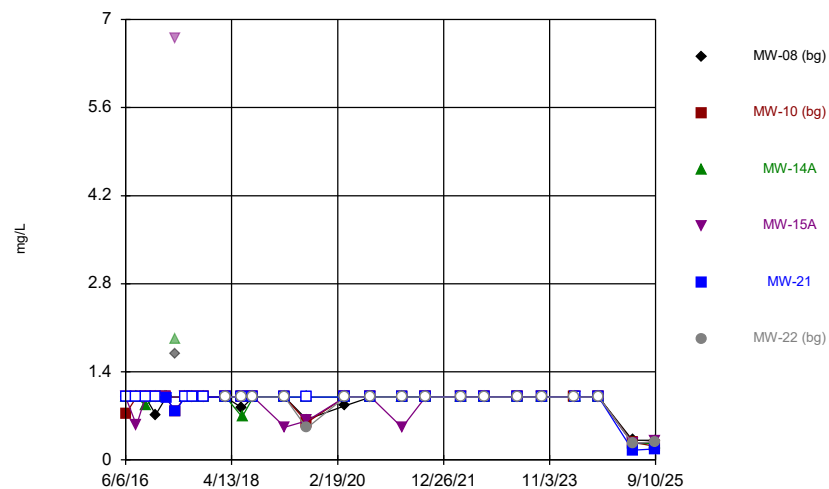
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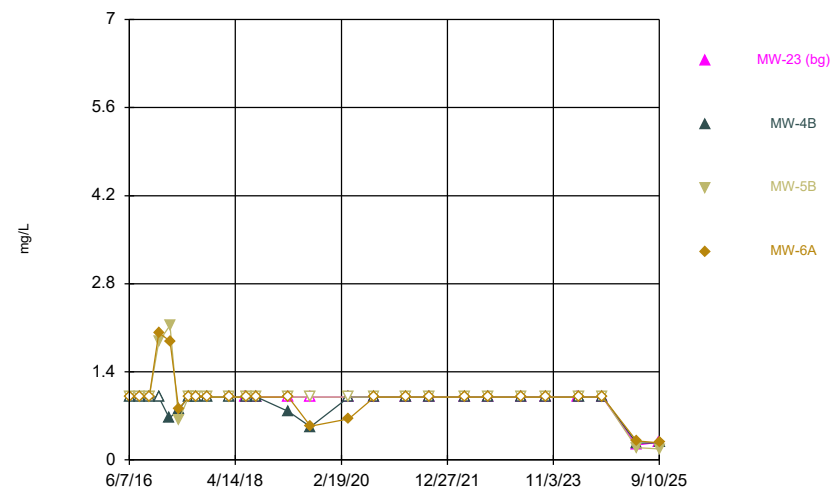
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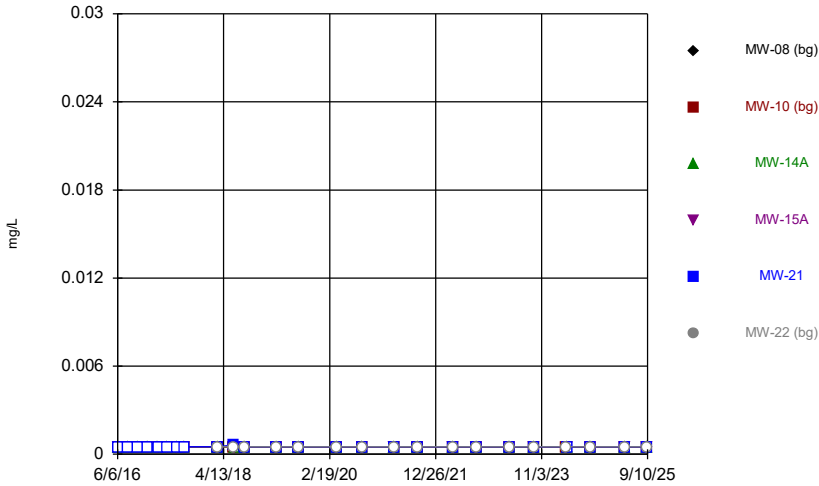
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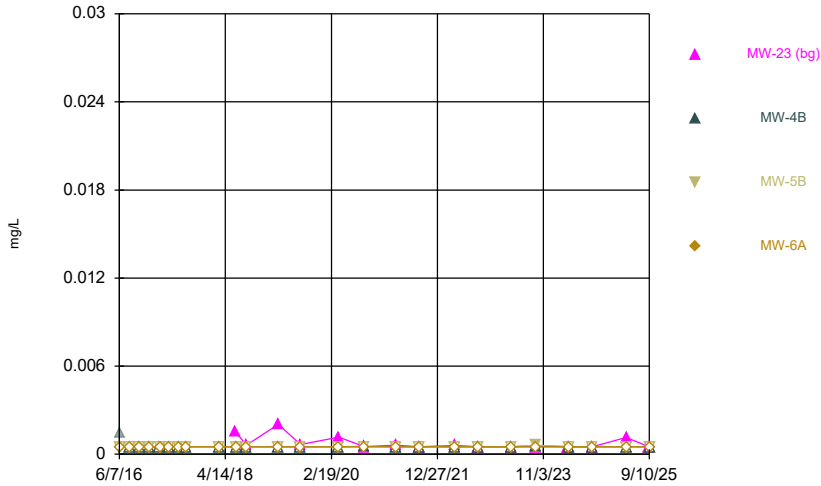


Time Series



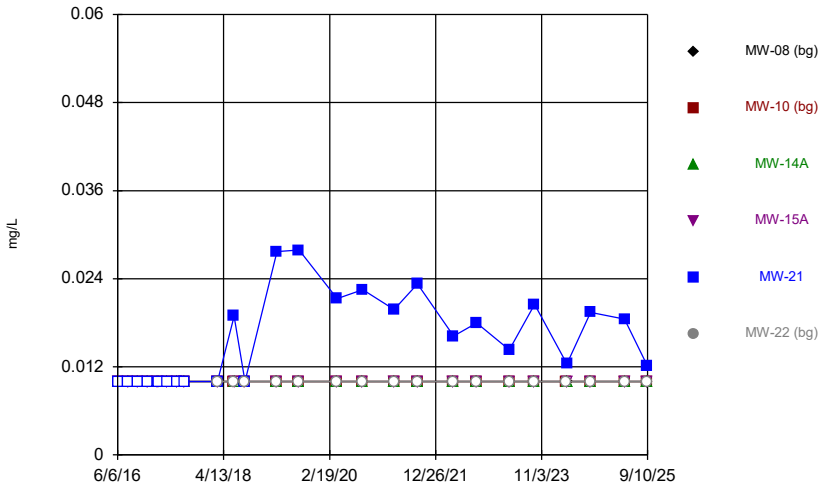
Constituent: Lead Analysis Run 12/12/2025 1:18 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



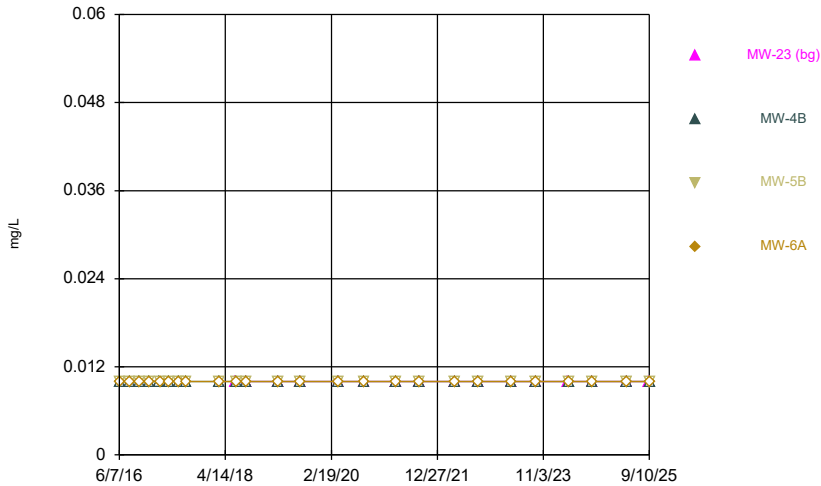
Constituent: Lead Analysis Run 12/12/2025 1:18 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



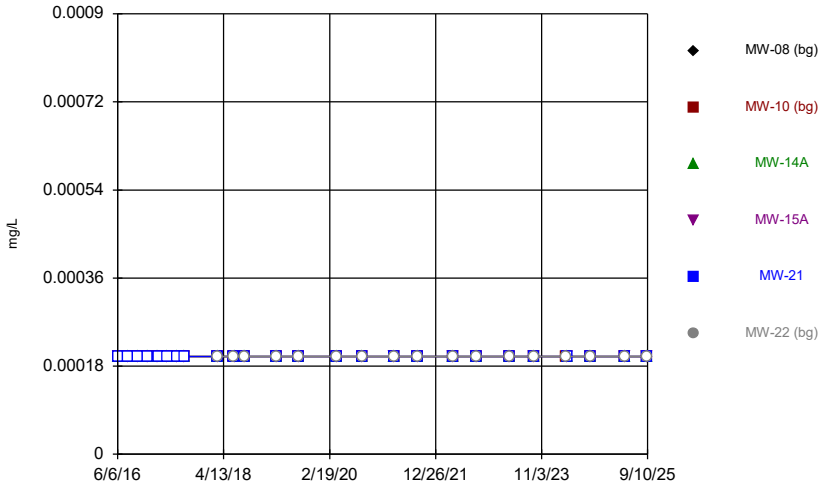
Constituent: Lithium Analysis Run 12/12/2025 1:18 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



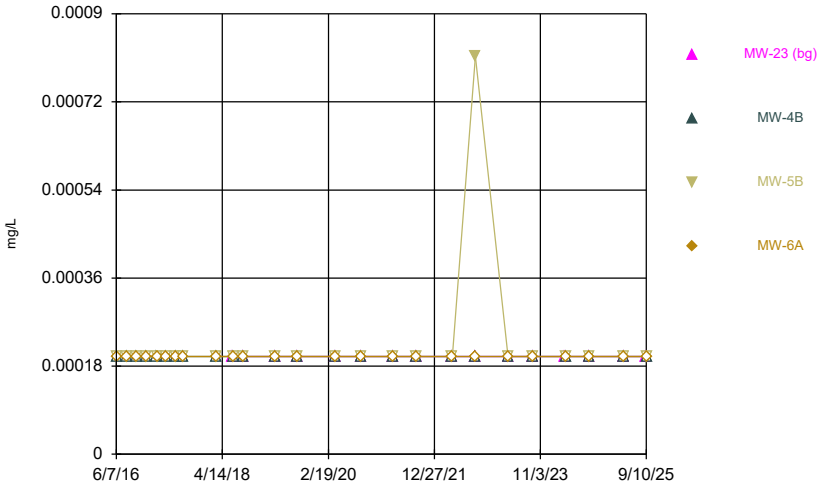
Constituent: Lithium Analysis Run 12/12/2025 1:18 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



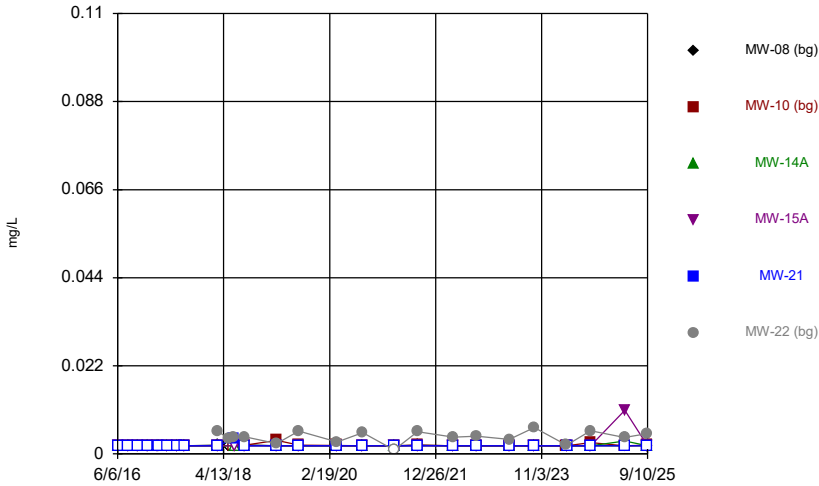
Constituent: Mercury Analysis Run 12/12/2025 1:18 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



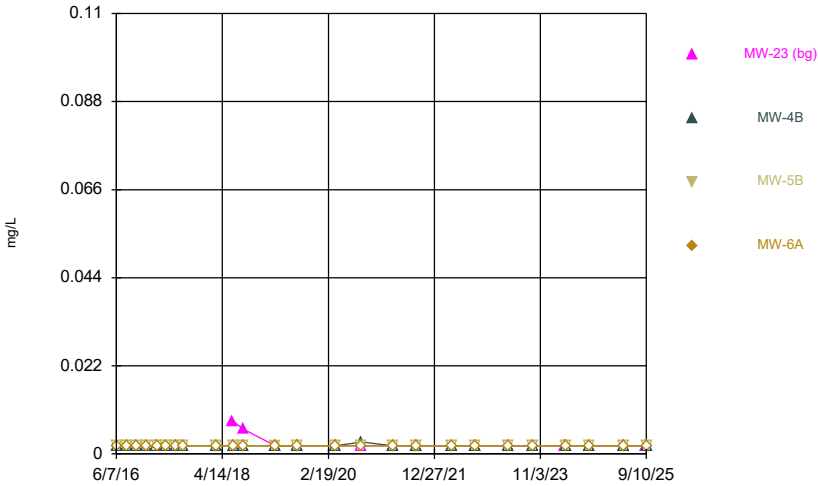
Constituent: Mercury Analysis Run 12/12/2025 1:18 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



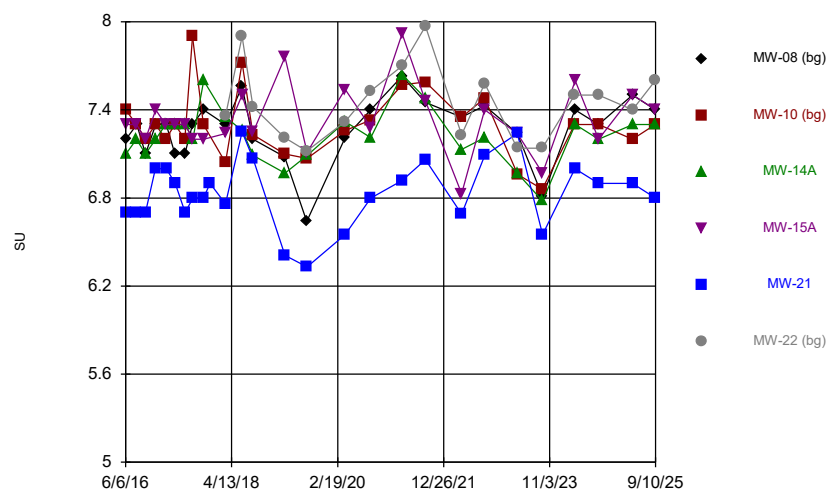
Constituent: Molybdenum Analysis Run 12/12/2025 1:18 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series

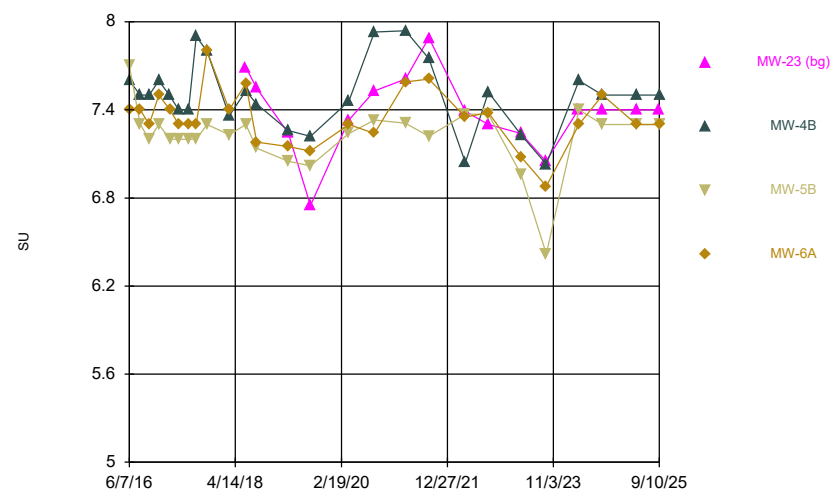


Constituent: Molybdenum Analysis Run 12/12/2025 1:18 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

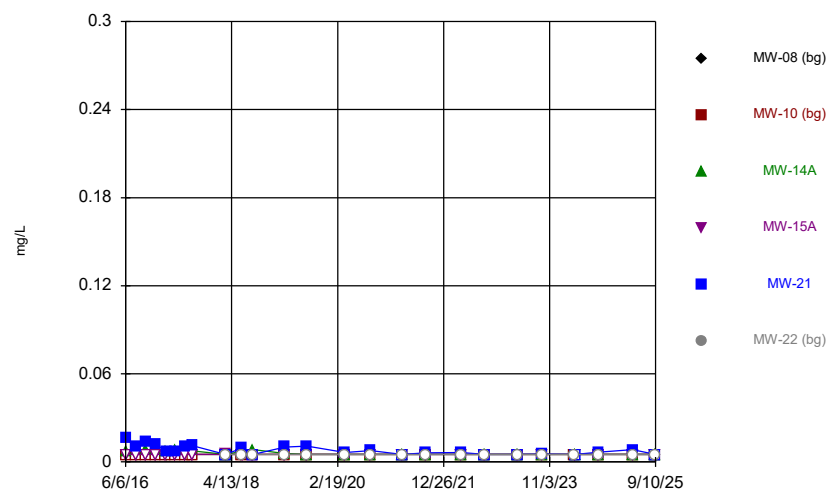
Time Series



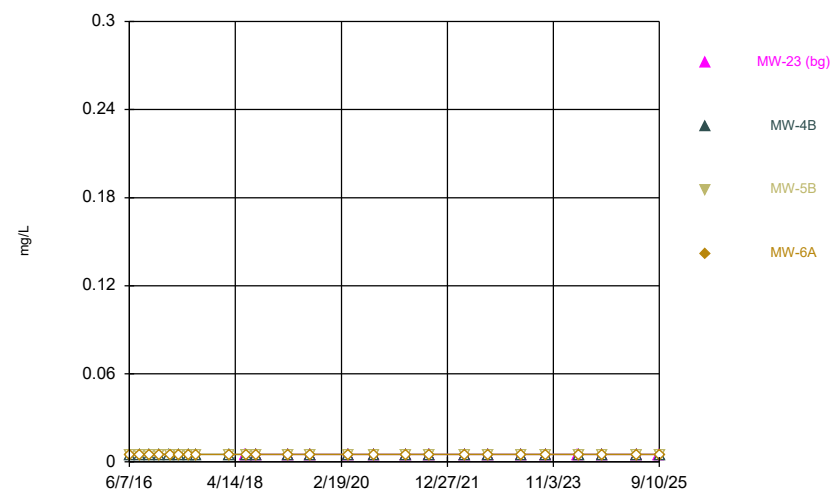
Time Series



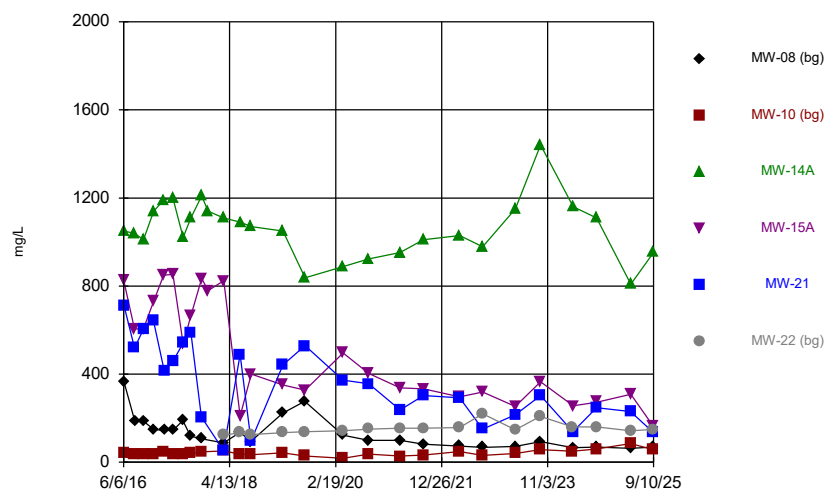
Time Series



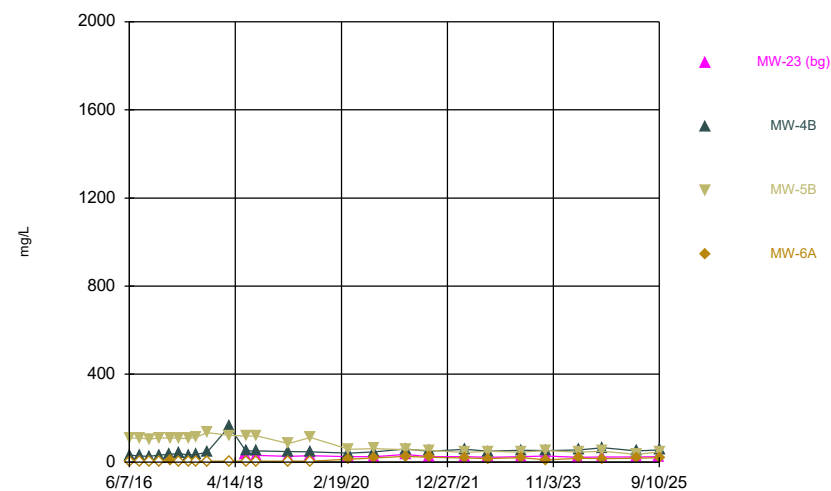
Time Series



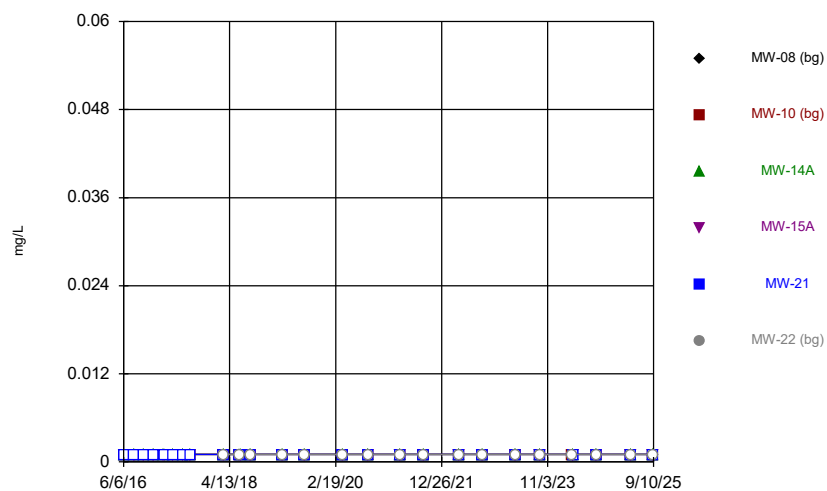
Time Series



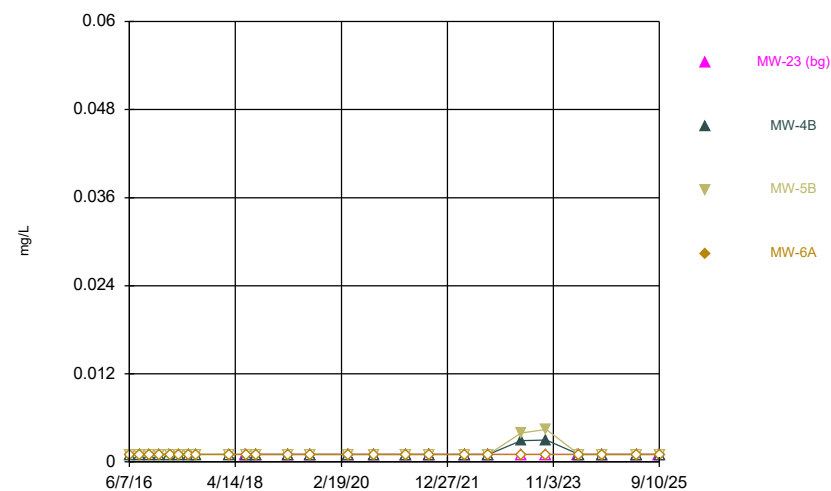
Time Series



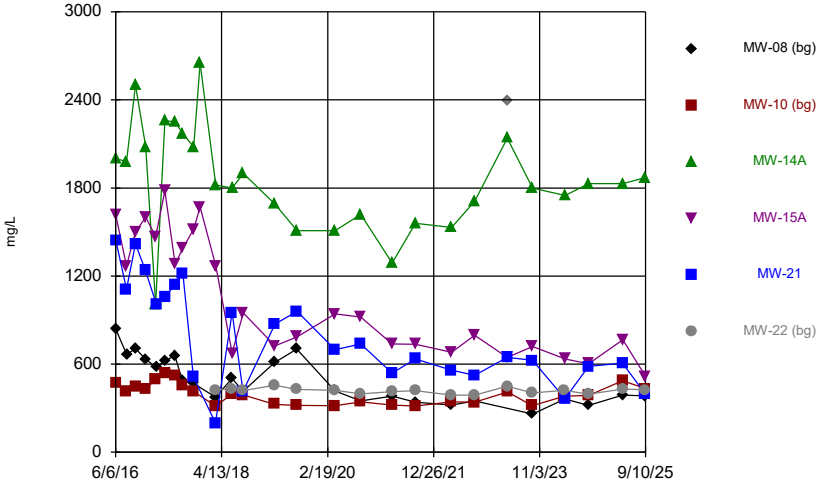
Time Series



Time Series

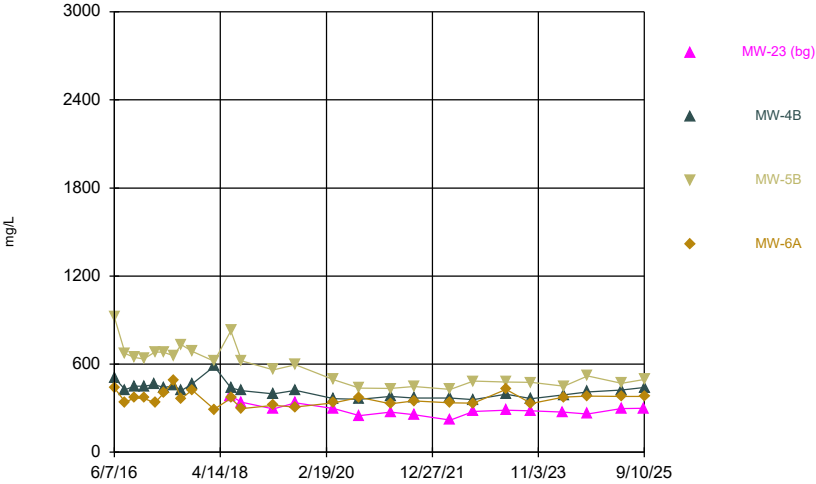


Time Series



Constituent: Total Dissolved Solids Analysis Run 12/12/2025 1:18 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



Constituent: Total Dissolved Solids Analysis Run 12/12/2025 1:18 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series

Constituent: Antimony (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		<0.002		<0.002		
6/7/2016	<0.002					
6/8/2016			<0.002		<0.002	
8/15/2016		<0.002	<0.002	<0.002	<0.002	
8/16/2016	<0.002					
10/10/2016	<0.002	<0.002			<0.002	
10/11/2016			<0.002	<0.002		
12/12/2016					<0.002	
12/14/2016	<0.002	<0.002	<0.002	<0.002		
2/17/2017		<0.002	<0.002	<0.002		
2/21/2017	<0.002				<0.002	
4/17/2017	<0.002	<0.002	<0.002	<0.002		
4/18/2017					<0.002	
6/19/2017	<0.002	<0.002				
6/20/2017					<0.002	
6/21/2017			<0.002	<0.002		
8/7/2017	<0.002	<0.002				
8/8/2017			<0.002	<0.002	<0.002	
3/5/2018		<0.002				
3/6/2018	<0.002				<0.002	<0.002
3/7/2018			<0.002	<0.002		
6/19/2018	<0.002	<0.002			<0.002	<0.002
6/20/2018			<0.002	<0.002		
8/27/2018	<0.002	<0.002				<0.002
8/28/2018					<0.002	
8/29/2018			<0.002	<0.002		
3/18/2019	<0.002					
3/19/2019		<0.002				<0.002
3/20/2019			<0.002	<0.002	<0.002	
8/6/2019	<0.002					<0.002
8/7/2019		<0.002	<0.002	<0.002	<0.002	
4/7/2020	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
9/18/2020	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
4/5/2021	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
9/1/2021	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
4/20/2022	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
9/14/2022	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
4/10/2023						<0.002
4/11/2023	<0.002		<0.002	<0.002	<0.002	
4/12/2023		<0.002				
9/18/2023		<0.002				<0.002
9/19/2023	<0.002		<0.002	<0.002	<0.002	
4/11/2024		<0.002				<0.002
4/12/2024	<0.002				<0.002	
4/15/2024			<0.002	<0.002		
9/10/2024		<0.002			<0.002	<0.002
9/11/2024	<0.002		<0.002	<0.002		
4/15/2025						<0.002
4/16/2025	<0.002	<0.002			<0.002	
4/17/2025			<0.002	<0.002		
9/8/2025		<0.002				<0.002
9/9/2025	<0.002		<0.002		<0.002	

Time Series

Constituent: Antimony (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
9/10/2025				<0.002		

Time Series

Constituent: Antimony (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		<0.002	<0.002	<0.002
8/16/2016		<0.002	<0.002	<0.002
10/11/2016		<0.002	<0.002	<0.002
12/12/2016		<0.002	<0.002	<0.002
2/17/2017		<0.002		
2/21/2017			<0.002	<0.002
4/17/2017		<0.002	<0.002	<0.002
6/20/2017		<0.002	<0.002	
6/21/2017				<0.002
8/7/2017		<0.002		
8/8/2017			<0.002	<0.002
3/6/2018		<0.002	<0.002	<0.002
6/20/2018	<0.002			
6/21/2018		<0.002	<0.002	<0.002
8/27/2018	<0.002			
8/28/2018		<0.002		
8/29/2018			<0.002	<0.002
3/19/2019	<0.002	<0.002	<0.002	<0.002
8/6/2019	<0.002			
8/7/2019		<0.002	<0.002	<0.002
4/7/2020	<0.002	<0.002	<0.002	<0.002
9/18/2020	<0.002	<0.002	<0.002	<0.002
4/5/2021	<0.002	<0.002	<0.002	<0.002
9/1/2021	<0.002	<0.002	<0.002	<0.002
4/20/2022	<0.002	<0.002	<0.002	<0.002
9/14/2022	<0.002	<0.002	<0.002	<0.002
4/12/2023	<0.002	<0.002	<0.002	<0.002
9/18/2023	<0.002			
9/20/2023		<0.002	<0.002	<0.002
4/11/2024	<0.002			
4/15/2024		<0.002	<0.002	<0.002
9/10/2024	<0.002			
9/12/2024		<0.002	<0.002	<0.002
4/15/2025	<0.002			
4/18/2025		<0.002	<0.002	<0.002
9/8/2025	<0.002			
9/10/2025		<0.002	<0.002	<0.002

Time Series

Constituent: Arsenic (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		0.00298		<0.002		
6/7/2016	<0.002					
6/8/2016			<0.002		<0.002	
8/15/2016		0.00369	<0.002	<0.002	<0.002	
8/16/2016	<0.002					
10/10/2016	<0.002	0.00328			<0.002	
10/11/2016			<0.002	<0.002		
12/12/2016					<0.002	
12/14/2016	<0.002	0.00312	<0.002	<0.002		
2/17/2017		0.00298	<0.002	<0.002		
2/21/2017	<0.002				<0.002	
4/17/2017	<0.002	<0.002	<0.002	<0.002		
4/18/2017					<0.002	
6/19/2017	<0.002	0.00262				
6/20/2017					<0.002	
6/21/2017			<0.002	<0.002		
8/7/2017	<0.002	0.00317				
8/8/2017			<0.002	<0.002	<0.002	
3/5/2018		<0.002				
3/6/2018	<0.002				<0.002	<0.002
3/7/2018			<0.002	<0.002		
6/19/2018	<0.002	0.00211			<0.002	0.00245
6/20/2018			<0.002	<0.002		
8/27/2018	<0.002	0.0036				0.00261
8/28/2018					<0.002	
8/29/2018			<0.002	<0.002		
3/18/2019	<0.002					
3/19/2019		0.0056				<0.002
3/20/2019			<0.002	<0.002	<0.002	
8/6/2019	<0.002					<0.002
8/7/2019		0.00784	<0.002	<0.002	<0.002	
4/7/2020	<0.002	0.00697	<0.002	<0.002	<0.002	<0.002
9/18/2020	<0.002	0.00748	<0.002	<0.002	<0.002	<0.002
4/5/2021	<0.002	0.00393	<0.002	<0.002	<0.002	0.00289
9/1/2021	<0.002	0.00781	<0.002	<0.002	<0.002	0.00267
4/20/2022	<0.002	0.00371	<0.002	<0.002	<0.002	0.0034
9/14/2022	<0.002	0.00497	<0.002	<0.002	<0.002	0.00285
4/10/2023						0.00421
4/11/2023	0.00247		<0.002	<0.002	<0.002	
4/12/2023		0.00224				
9/18/2023		0.00501				0.00421
9/19/2023	<0.002		<0.002	<0.002	<0.002	
4/11/2024		<0.002				0.00634
4/12/2024	0.0039				<0.002	
4/15/2024			<0.002	<0.002		
9/10/2024		0.00525			<0.002	0.00749
9/11/2024	0.00466		<0.002	<0.002		
4/15/2025						0.00671
4/16/2025	0.0045	<0.002			<0.002	
4/17/2025			<0.002	<0.002		
9/8/2025		0.00429				0.00768
9/9/2025	0.00317		<0.002		<0.002	

Time Series

Constituent: Arsenic (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
9/10/2025				<0.002		

Time Series

Constituent: Arsenic (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		<0.002	<0.002	<0.002
8/16/2016		<0.002	<0.002	<0.002
10/11/2016		<0.002	<0.002	<0.002
12/12/2016		<0.002	<0.002	<0.002
2/17/2017		<0.002		
2/21/2017			<0.002	<0.002
4/17/2017		<0.002	<0.002	<0.002
6/20/2017		<0.002	<0.002	
6/21/2017				<0.002
8/7/2017		<0.002		
8/8/2017			<0.002	<0.002
3/6/2018		<0.002	<0.002	<0.002
6/20/2018	<0.002			
6/21/2018		<0.002	<0.002	<0.002
8/27/2018	<0.002			
8/28/2018		<0.002		
8/29/2018			<0.002	<0.002
3/19/2019	<0.002	<0.002	<0.002	<0.002
8/6/2019	<0.002			
8/7/2019		<0.002	<0.002	<0.002
4/7/2020	<0.002	<0.002	<0.002	<0.002
9/18/2020	<0.002	<0.002	<0.002	<0.002
4/5/2021	<0.002	<0.002	<0.002	<0.002
9/1/2021	<0.002	<0.002	<0.002	<0.002
4/20/2022	<0.002	<0.002	<0.002	<0.002
9/14/2022	<0.002	<0.002	<0.002	<0.002
4/12/2023	<0.002	<0.002	<0.002	<0.002
9/18/2023	<0.002			
9/20/2023		<0.002	<0.002	<0.002
4/11/2024	<0.002			
4/15/2024		<0.002	<0.002	<0.002
9/10/2024	<0.002			
9/12/2024		<0.002	<0.002	<0.002
4/15/2025	<0.002			
4/18/2025		<0.002	<0.002	<0.002
9/8/2025	<0.002			
9/10/2025		<0.002	<0.002	<0.002

Time Series

Constituent: Barium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		0.168		2.13 (o)		
6/7/2016	0.0861					
6/8/2016			0.0443		0.0573	
8/15/2016		0.161	0.0402	0.044	0.0482	
8/16/2016	0.0671					
10/10/2016	0.0706	0.163			0.0606	
10/11/2016			0.0391	0.0426		
12/12/2016					0.056	
12/14/2016	0.0645	0.15	0.0383	0.0406		
2/17/2017		0.151	0.0306	0.0402		
2/21/2017	0.0594 (F1)				0.0735	
4/17/2017	0.0636	0.138	0.0341	0.0364		
4/18/2017					0.0356	
6/19/2017	0.076	0.154				
6/20/2017					0.0461	
6/21/2017			0.0338	0.0327		
8/7/2017	0.0596	0.157				
8/8/2017			0.031	0.0338	0.0499	
3/5/2018		0.129				
3/6/2018	0.0617				0.0148	0.15
3/7/2018			0.0285	0.0352		
6/19/2018	0.0761	0.162			0.0515	0.184
6/20/2018			0.0314	0.0338		
8/27/2018	0.0649	0.216				0.181
8/28/2018					0.0622	
8/29/2018			0.0344	0.0335		
3/18/2019	0.0751					
3/19/2019		0.185				0.209
3/20/2019			0.0328	0.037	0.0511	
8/6/2019	0.0733					0.215
8/7/2019		0.215	0.0398	0.047	0.0624	
4/7/2020	0.0613	0.199	0.0266	0.0389	0.0352	0.222
9/18/2020	0.0549	0.227	0.0328	0.0416	0.0407	0.222
4/5/2021	0.0596	0.196	0.0355	0.0365	0.0309	0.242
9/1/2021	0.0623	0.233	0.0345	0.0355	0.0434	0.247
4/20/2022	0.0631	0.208	0.0327	0.0443	0.036	0.239
9/14/2022	0.0703	0.223	0.034	0.0327	0.0447	0.243
4/10/2023						0.227
4/11/2023	0.07		0.032	0.0299	0.031	
4/12/2023		0.19				
9/18/2023		0.233				0.256
9/19/2023	0.0782		0.0348	0.0338	0.0559	
4/11/2024		0.193				0.271
4/12/2024	0.0857				0.031	
4/15/2024			0.0323	0.0353		
9/10/2024		0.219			0.0555	0.268
9/11/2024	0.0944		0.0338	0.0335		
4/15/2025						0.247
4/16/2025	0.0867	0.19			0.046	
4/17/2025			0.0294	0.03		
9/8/2025		0.172				0.262
9/9/2025	0.0852		0.0331		0.0412	

Time Series

Constituent: Barium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
9/10/2025				0.0302		

Time Series

Constituent: Barium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		0.15	0.331	0.209
8/16/2016		0.128	0.295	0.199
10/11/2016		0.131	0.304	0.196
12/12/2016		0.139	0.315	0.216
2/17/2017		0.143		
2/21/2017			0.316	0.197
4/17/2017		0.111	0.296	0.152
6/20/2017		0.133	0.31	
6/21/2017				0.197
8/7/2017		0.133		
8/8/2017			0.3	0.19
3/6/2018		0.117	0.341	0.206
6/20/2018	0.106			
6/21/2018		0.144	0.336	0.222
8/27/2018	0.0779			
8/28/2018		0.149		
8/29/2018			0.357	0.206
3/19/2019	0.0922	0.161	0.326	0.2
8/6/2019	0.0635			
8/7/2019		0.147	0.301	0.211
4/7/2020	0.0654	0.156	0.25	0.216
9/18/2020	0.0491	0.147	0.239	0.231
4/5/2021	0.0608	0.169	0.252	0.245
9/1/2021	0.0497	0.186	0.241	0.248
4/20/2022	0.0572	0.191	0.258	0.249
9/14/2022	0.0507	0.188	0.253	0.229
4/12/2023	0.0518	0.173	0.237	0.246
9/18/2023	0.0533			
9/20/2023		0.181	0.274	0.222
4/11/2024	0.0547			
4/15/2024		0.168	0.243	0.235
9/10/2024	0.0521			
9/12/2024		0.184	0.258	0.249
4/15/2025	0.067			
4/18/2025		0.157	0.256	0.231
9/8/2025	0.0468			
9/10/2025		0.175	0.252	0.213

Time Series

Constituent: Beryllium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		<0.001		<0.001		
6/7/2016	<0.001					
6/8/2016			<0.001		<0.001	
8/15/2016		<0.001	<0.001	<0.001	<0.001	
8/16/2016	<0.001					
10/10/2016	<0.001	<0.001			<0.001	
10/11/2016			<0.001	<0.001		
12/12/2016					<0.001	
12/14/2016	<0.001	<0.001	<0.001	<0.001		
2/17/2017		<0.001	<0.001	<0.001		
2/21/2017	<0.001				<0.001	
4/17/2017	<0.001	<0.001	<0.001	<0.001		
4/18/2017					<0.001	
6/19/2017	<0.001	<0.001				
6/20/2017					<0.001	
6/21/2017			<0.001	<0.001		
8/7/2017	<0.001	<0.001				
8/8/2017			<0.001	<0.001	<0.001	
3/5/2018		<0.001				
3/6/2018	<0.001				<0.001	<0.001
3/7/2018			<0.001	<0.001		
6/19/2018	<0.001	<0.001			<0.001	<0.001
6/20/2018			<0.001	<0.001		
8/27/2018	<0.001	<0.001				<0.001
8/28/2018					<0.001	
8/29/2018			<0.001	<0.001		
3/18/2019	<0.001					
3/19/2019		<0.001				<0.001
3/20/2019			<0.001	<0.001	<0.001	
8/6/2019	<0.001					<0.001
8/7/2019		<0.001	<0.001	<0.001	<0.001	
4/7/2020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
9/18/2020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
4/5/2021	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
9/1/2021	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
4/20/2022	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
9/14/2022	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
4/10/2023						<0.001
4/11/2023	<0.001		<0.001	<0.001	<0.001	
4/12/2023		<0.001				
9/18/2023		<0.001				<0.001
9/19/2023	<0.001		<0.001	<0.001	<0.001	
4/11/2024		<0.001				<0.001
4/12/2024	<0.001				<0.001	
4/15/2024			<0.001	<0.001		
9/10/2024		<0.001			<0.001	<0.001
9/11/2024	<0.001		<0.001	<0.001		
4/15/2025						<0.001
4/16/2025	<0.001	<0.001			<0.001	
4/17/2025			<0.001	<0.001		
9/8/2025		<0.001				<0.001
9/9/2025	<0.001		<0.001		<0.001	

Time Series

Constituent: Beryllium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
9/10/2025				<0.001		

Time Series

Constituent: Beryllium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		<0.001	<0.001	<0.001
8/16/2016		<0.001	<0.001	<0.001
10/11/2016		<0.001	<0.001	<0.001
12/12/2016		<0.001	<0.001	<0.001
2/17/2017		<0.001		
2/21/2017			<0.001	<0.001
4/17/2017		<0.001	<0.001	<0.001
6/20/2017		<0.001	<0.001	
6/21/2017				<0.001
8/7/2017		<0.001		
8/8/2017			<0.001	<0.001
3/6/2018		<0.001	<0.001	<0.001
6/20/2018	<0.001			
6/21/2018		<0.001	<0.001	<0.001
8/27/2018	<0.001			
8/28/2018		<0.001		
8/29/2018			<0.001	<0.001
3/19/2019	<0.001	<0.001	<0.001	<0.001
8/6/2019	<0.001			
8/7/2019		<0.001	<0.001	<0.001
4/7/2020	<0.001	<0.001	<0.001	<0.001
9/18/2020	<0.001	<0.001	<0.001	<0.001
4/5/2021	<0.001	<0.001	<0.001	<0.001
9/1/2021	<0.001	<0.001	<0.001	<0.001
4/20/2022	<0.001	<0.001	<0.001	<0.001
9/14/2022	<0.001	<0.001	<0.001	<0.001
4/12/2023	<0.001	<0.001	<0.001	<0.001
9/18/2023	<0.001			
9/20/2023		<0.001	<0.001	<0.001
4/11/2024	<0.001			
4/15/2024		<0.001	<0.001	<0.001
9/10/2024	<0.001			
9/12/2024		<0.001	<0.001	<0.001
4/15/2025	<0.001			
4/18/2025		<0.001	<0.001	<0.001
9/8/2025	<0.001			
9/10/2025		<0.001	<0.001	<0.001

Time Series

Constituent: Boron (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		<0.1		16.8		
6/7/2016	<0.1					
6/8/2016			15.8		<2	
8/15/2016		<0.1	17.9	20.6	7.23	
8/16/2016	<0.1					
10/10/2016	<0.1	<0.1			8.45	
10/11/2016			19.3	17.9		
12/12/2016					6.93	
12/14/2016	<0.1	<0.1	14.7	18.4		
2/17/2017		<0.1	13.1	14.9		
2/21/2017	<0.1				4.87	
4/17/2017	<0.1	<0.1	11.3	14.7		
4/18/2017					4.49	
6/19/2017	<0.1	<0.1				
6/20/2017					7.36	
6/21/2017			16.3	16.4		
8/7/2017	<0.1	<0.1				
8/8/2017			13	14.7	7.05	
10/16/2017	<0.1	<0.1			3.33	
10/17/2017			16	19.2		
11/28/2017			13.7 (R)	12.9 (R)	2.24 (R)	
3/5/2018		<0.1				
3/6/2018	<0.1				0.885	<0.1
3/7/2018			11	9.8		
6/19/2018	<0.1	<0.1			6.84	<0.1
6/20/2018			15	10.5		
8/27/2018	<0.1	<0.1				<0.1
8/28/2018					1.36	
8/29/2018			14	14.6		
3/18/2019	<0.1					
3/19/2019		<0.1				0.299
3/20/2019			15.5	8.35	6.95	
8/6/2019	0.205					<0.1
8/7/2019		<0.1	17.6	7.56	8.46	
4/7/2020	<0.1	<0.1	17.4	10.6	6.76	<0.1
9/18/2020	<0.1	<0.1	19.5	14.5	6.82	0.263
4/5/2021	<0.1	<0.1	17.2	10.3	5.24	<0.1
9/1/2021	<0.1	<0.1	17.1	11.1	5.88	<0.1
4/20/2022	<0.1	<0.1	15.2	6.98	3.57	<0.1
9/14/2022	<0.1	<0.1	15.1	10.4	3.69	0.322
4/10/2023						0.247
4/11/2023	<0.1		14.8	5.8	3.35	
4/12/2023		<0.1				
9/18/2023		<0.1				0.207
9/19/2023	<0.1		18.1	9.28	4.42	
4/11/2024		<0.1				<0.1
4/12/2024	<0.1				2.31	
4/15/2024			15.2	5.8		
9/10/2024		<0.1			3.68	0.243
9/11/2024	<0.1		17.7	8.5		
4/15/2025						<0.1
4/16/2025	<0.1	<0.1			2.64	

Time Series

Constituent: Boron (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
4/17/2025			15.4	8.16		
9/8/2025		<0.1				0.187
9/9/2025	<0.1		16.1		1.65	
9/10/2025				5.51		

Time Series

Constituent: Boron (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		<0.1	<0.1	<0.1
8/16/2016		<0.1	<0.1	<0.1
10/11/2016		<0.1	<0.1	<0.1
12/12/2016		<0.1	<0.1	<0.1
2/17/2017		<0.1		
2/21/2017			<0.1	<0.1
4/17/2017		<0.1	<0.1	<0.1
6/20/2017		<0.1	<0.1	
6/21/2017				<0.1
8/7/2017		<0.1		
8/8/2017			<0.1	<0.1
10/16/2017		<0.1		
10/17/2017			<0.1	<0.1
3/6/2018		0.66	<0.1	<0.1
6/20/2018	<0.1			
6/21/2018		<0.1	<0.1	<0.1
8/27/2018	<0.1			
8/28/2018		<0.1		
8/29/2018			<0.1	<0.1
3/19/2019	<0.1	<0.1	<0.1	<0.1
8/6/2019	<0.1			
8/7/2019		<0.1	<0.1	<0.1
4/7/2020	<0.1	<0.1	<0.1	<0.1
9/18/2020	0.15	<0.1	<0.1	<0.1
4/5/2021	<0.1	<0.1	<0.1	<0.1
9/1/2021	<0.1	<0.1	<0.1	<0.1
4/20/2022	<0.1	<0.1	<0.1	<0.1
9/14/2022	0.204	<0.1	<0.1	<0.1
4/12/2023	0.145	<0.1	<0.1	<0.1
9/18/2023	0.128			
9/20/2023		<0.1	<0.1	<0.1
4/11/2024	<0.1			
4/15/2024		<0.1	<0.1	<0.1
9/10/2024	0.126			
9/12/2024		<0.1	<0.1	<0.1
4/15/2025	<0.1			
4/18/2025		0.169	<0.1	<0.1
9/8/2025	0.123			
9/10/2025		<0.1	<0.1	<0.1

Time Series

Constituent: Cadmium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		<0.0002		<0.0002		
6/7/2016	<0.0002					
6/8/2016			<0.0002		<0.0002	
8/15/2016		<0.0002	<0.0002	<0.0002	<0.0002	
8/16/2016	<0.0002					
10/10/2016	<0.0002	<0.0002			<0.0002	
10/11/2016			<0.0002	<0.0002		
12/12/2016					<0.0002	
12/14/2016	<0.0002	<0.0002	<0.0002	<0.0002		
2/17/2017		<0.0002	<0.0002	<0.0002		
2/21/2017	<0.0002				<0.0002	
4/17/2017	<0.0002	<0.0002	<0.0002	<0.0002		
4/18/2017					<0.0002	
6/19/2017	<0.0002	<0.0002				
6/20/2017					<0.0002	
6/21/2017			<0.0002	<0.0002		
8/7/2017	<0.0002	<0.0002				
8/8/2017			<0.0002	<0.0002	<0.0002	
3/5/2018		<0.0002				
3/6/2018	<0.0002				<0.0002	<0.0002
3/7/2018			<0.0002	<0.0002		
6/19/2018	<0.0002	<0.0002			<0.0002	<0.0002
6/20/2018			<0.0002	<0.0002		
8/27/2018	<0.0002	<0.0002				<0.0002
8/28/2018					<0.0002	
8/29/2018			<0.0002	<0.0002		
3/18/2019	<0.0002					
3/19/2019		<0.0002				<0.0002
3/20/2019			<0.0002	<0.0002	<0.0002	
8/6/2019	<0.0002					<0.0002
8/7/2019		<0.0002	<0.0002	<0.0002	<0.0002	
4/7/2020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
9/18/2020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
4/5/2021	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
9/1/2021	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
4/20/2022	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
9/14/2022	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
4/10/2023						<0.0002
4/11/2023	<0.0002		<0.0002	<0.0002	<0.0002	
4/12/2023		<0.0002				
9/18/2023		<0.0002				<0.0002
9/19/2023	<0.0002		<0.0002	<0.0002	<0.0002	
4/11/2024		<0.0002				<0.0002
4/12/2024	<0.0002				<0.0002	
4/15/2024			<0.0002	<0.0002		
9/10/2024		<0.0002			<0.0002	<0.0002
9/11/2024	<0.0002		<0.0002	<0.0002		
4/15/2025						<0.0002
4/16/2025	<0.0002	<0.0002			<0.0002	
4/17/2025			<0.0002	<0.0002		
9/8/2025		<0.0002				<0.0002
9/9/2025	<0.0002		<0.0002		<0.0002	

Time Series

Constituent: Cadmium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
9/10/2025				<0.0002		

Time Series

Constituent: Cadmium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		<0.0002	<0.0002	<0.0002
8/16/2016		<0.0002	<0.0002	<0.0002
10/11/2016		<0.0002	<0.0002	<0.0002
12/12/2016		<0.0002	<0.0002	<0.0002
2/17/2017		<0.0002		
2/21/2017			<0.0002	<0.0002
4/17/2017		<0.0002	<0.0002	<0.0002
6/20/2017		<0.0002	<0.0002	
6/21/2017				<0.0002
8/7/2017		<0.0002		
8/8/2017			<0.0002	<0.0002
3/6/2018		<0.0002	<0.0002	<0.0002
6/20/2018	<0.0002			
6/21/2018		<0.0002	<0.0002	<0.0002
8/27/2018	<0.0002			
8/28/2018		<0.0002		
8/29/2018			<0.0002	<0.0002
3/19/2019	<0.0002	<0.0002	<0.0002	<0.0002
8/6/2019	<0.0002			
8/7/2019		<0.0002	<0.0002	<0.0002
4/7/2020	<0.0002	<0.0002	<0.0002	<0.0002
9/18/2020	<0.0002	<0.0002	<0.0002	<0.0002
4/5/2021	<0.0002	<0.0002	<0.0002	<0.0002
9/1/2021	<0.0002	<0.0002	<0.0002	<0.0002
4/20/2022	<0.0002	<0.0002	<0.0002	<0.0002
9/14/2022	<0.0002	<0.0002	<0.0002	<0.0002
4/12/2023	<0.0002	<0.0002	<0.0002	<0.0002
9/18/2023	<0.0002			
9/20/2023		0.000285	0.000255	<0.0002
4/11/2024	<0.0002			
4/15/2024		<0.0002	<0.0002	<0.0002
9/10/2024	<0.0002			
9/12/2024		<0.0002	<0.0002	<0.0002
4/15/2025	<0.0002			
4/18/2025		<0.0002	<0.0002	<0.0002
9/8/2025	<0.0002			
9/10/2025		<0.0002	<0.0002	<0.0002

Time Series

Constituent: Calcium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		89.3		206		
6/7/2016	152 (o)					
6/8/2016			281		37.2	
8/15/2016		80.7	311	199	146	
8/16/2016	117					
10/10/2016	118	83.3			185	
10/11/2016			308	203		
12/12/2016					178	
12/14/2016	109	86.5	333	244		
2/17/2017		81.2	268	233		
2/21/2017	89.9				118	
4/17/2017	96.5	79.2	310	226		
4/18/2017					110	
6/19/2017	113	83.6				
6/20/2017					149	
6/21/2017			307	186		
8/7/2017	91.3	85.5				
8/8/2017			296	206	163	
10/16/2017	77	83.3			62.3	
10/17/2017			310	218		
11/28/2017			301 (R)	217 (R)		
3/5/2018		77.3				
3/6/2018	74.7				25.1	69.8
3/7/2018			278	229		
6/19/2018	115	88.5			159	91.5
6/20/2018			297	102		
8/27/2018	83.6	85.4				80.7
8/28/2018					78.7	
8/29/2018			309	155		
3/18/2019	97.6					
3/19/2019		76.3				91.6
3/20/2019			290	118	142	
8/6/2019	132					83.8
8/7/2019		78.9	255	111	145	
4/7/2020	92.4	75.4	245	163	104	80.9
9/18/2020	77.7	74.2	244	134	101	75.5
4/5/2021	81.2	78.8	259	128	79.5	78.4
9/1/2021	78.3	80	270	125	93.5	79.4
4/20/2022	69.6	90.4	289	127	97.5	80.2
9/14/2022	76.8	82	301	132	88.2	79.6
4/10/2023						80.4
4/11/2023	78.2		318	110	76	
4/12/2023		83.7				
9/18/2023		84.7				79
9/19/2023	79.4		291	126	96	
4/11/2024		96.2				83.1
4/12/2024	84.2				59.9	
4/15/2024			344	118		
9/10/2024		97.8			96.6	84.3
9/11/2024	88.6		327	129		
4/15/2025						74.5
4/16/2025	84.1	99.6			87.4	

Time Series

Constituent: Calcium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
4/17/2025			286	125		
9/8/2025		82.6				74.6
9/9/2025	79.6		277		52.8	
9/10/2025				77.2		

Time Series

Constituent: Calcium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		98.2	147	81.4
8/16/2016		88.8	139	75.4
10/11/2016		89.3	140	75.7
12/12/2016		94.5	147	85.6
2/17/2017		86.8		
2/21/2017			126	68.8
4/17/2017		85.9	130	56.3
6/20/2017		88.7	140	
6/21/2017				72.9
8/7/2017		89.7		
8/8/2017			139	71.2
10/16/2017		85.3		
10/17/2017			136	71.9
3/6/2018		95.8	134	74.1
6/20/2018	70.5			
6/21/2018		91.4	147	80.1
8/27/2018	63.9			
8/28/2018		91.3		
8/29/2018			146	73.3
3/19/2019	59.7	99.7	134	73.2
8/6/2019	59.5			
8/7/2019		93.8	139	80.9
4/7/2020	61	89.6	117	85.1
9/18/2020	52.1	89	108	87.9
4/5/2021	56.3	94.1	104	87.6
9/1/2021	56.1	95.1	108	90.6
4/20/2022	54	106	117	96.5
9/14/2022	54.5	92.3	117	89
4/12/2023	55.3	91.3	107	95.4
9/18/2023	56			
9/20/2023		90.4	115	82.1
4/11/2024	59.7			
4/15/2024		97.7	112	92.4
9/10/2024	58			
9/12/2024		102	123	99.4
4/15/2025	56			
4/18/2025		86.8	106	85.2
9/8/2025	44.9			
9/10/2025		94.9	114	79

Time Series

Constituent: Chloride (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		6.22		17.1		
6/7/2016	19.8					
6/8/2016			28.7		27.7	
8/15/2016		<5	28.7	17.2	16.6	
8/16/2016	17.8					
10/10/2016	16.2	<5			24.4	
10/11/2016			37	17.6		
12/12/2016					19.2	
12/14/2016	17.2	<5	31.9	19		
2/17/2017		<5	33.5	21.5		
2/21/2017	15.4				14.2	
4/17/2017	17.1	<5	39.4	47.4 (o)		
4/18/2017					15.6	
6/19/2017	14.1	<5				
6/20/2017					15.1	
6/21/2017			29.7	12.8		
8/7/2017	14	<5				
8/8/2017			32.9	15.4	16.1	
10/16/2017	14.4	<5			5.09	
10/17/2017			35.4	20.5		
11/28/2017			33.2 (R)	20.7 (R)		
3/5/2018		<5				
3/6/2018	14.5				<5	30
3/7/2018			37.4	24.2		
6/19/2018	14.9	<5			10.9	27.2
6/20/2018			29	<5		
8/27/2018	15.6	<5				29.8
8/28/2018					<5	
8/29/2018			33.1	10.1		
3/18/2019	16.1					
3/19/2019		<5				27.6
3/20/2019			25.8	8.54	8.3	
8/6/2019	17.1					26.9
8/7/2019		<5	22.1	9.91	14	
4/7/2020	17.2	<5	22.5	13	8.05	24.8
9/18/2020	14.7	<5	22.8	8.63	7.21	23.2
4/5/2021	22.3	<5	27.1	15	5.14	28.1
9/1/2021	16.3	<5	23.2	8.86	6.58	20
4/20/2022	15.8	<5	25.5	7.71	7.19	20.2
9/14/2022	16.7	<5	22.4	8.29	18	7.04
4/10/2023						18.2
4/11/2023	17.9		20.3	7.3	5.93	
4/12/2023		5.86				
9/18/2023		<5				18.4
9/19/2023	19.9		20.9	8.41	8.23	
4/11/2024		<5				15.8
4/12/2024	17.2				<5	
4/15/2024			16.4	7.01		
9/10/2024		9.65			13.5	16.6
9/11/2024	20.1		16.3	7.41		
4/15/2025						16.1
4/16/2025	18.6	12.8			10.9	

Time Series

Constituent: Chloride (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
4/17/2025			18	7.79		
9/8/2025		8.5				14.5
9/9/2025	20.8		15.4		5.1	
9/10/2025				4.5		

Time Series

Constituent: Chloride (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		12.6	67	5.97
8/16/2016		13.2	65.9	<5
10/11/2016		13.6	66	<5
12/12/2016		13.5	67	9.08
2/17/2017		15.1		
2/21/2017			70.4	9.93
4/17/2017		12.5	62.1	<5
6/20/2017		13.2	63.4	
6/21/2017				<5
8/7/2017		13.2		
8/8/2017			64	<5
10/16/2017		14.7		
10/17/2017			73	<5
11/28/2017			67.8 (R)	
3/6/2018		8.81	68.2	5.33
6/20/2018	15.9			
6/21/2018		15.3	65	<5
8/27/2018	14.2			
8/28/2018		19.4		
8/29/2018			70.8	<5
3/19/2019	10.5	16	55	<5
8/6/2019	13.8			
8/7/2019		15.6	64.1	<5
4/7/2020	15.7	14.8	44	12.2
9/18/2020	14.4	15.1	41	15.6
4/5/2021	21.4	22.9	42.7	19.3
9/1/2021	15.2	16.7	37.6	17.4
4/20/2022	16.9	20.8	38.1	14.2
9/14/2022	16.2	16.8	39	13.3
4/12/2023	17.7	18	38.7	15.4
9/18/2023	19.2			
9/20/2023		17.4	41.8	12.2
4/11/2024	19.2			
4/15/2024		18.1	39.3	15.5
9/10/2024	21.7			
9/12/2024		14.6	40.5	14.4
4/15/2025	25.1			
4/18/2025		18.9	32.1	15.8
9/8/2025	25.2			
9/10/2025		18.9	42	16.8

Time Series

Constituent: Chromium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		<0.005		<0.005		
6/7/2016	<0.005					
6/8/2016			<0.005		0.00694	
8/15/2016		<0.005	<0.005	<0.005	0.00538	
8/16/2016	<0.005					
10/10/2016	<0.005	<0.005			0.00582	
10/11/2016			<0.005	<0.005		
12/12/2016					0.00561	
12/14/2016	<0.005	<0.005	<0.005	<0.005		
2/17/2017		<0.005	<0.005 (F2)	<0.005		
2/21/2017	<0.005				<0.005	
4/17/2017	<0.005	<0.005	<0.005	<0.005		
4/18/2017					<0.005	
6/19/2017	<0.005	<0.005				
6/20/2017					0.00586	
6/21/2017			<0.005	<0.005		
8/7/2017	<0.005	<0.005				
8/8/2017			<0.005	<0.005	0.00572	
3/5/2018		<0.005				
3/6/2018	<0.005				<0.005	<0.005
3/7/2018			<0.005	<0.005		
6/19/2018	<0.005	<0.005			0.00726	<0.005
6/20/2018			<0.005	<0.005		
8/27/2018	<0.005	<0.005				<0.005
8/28/2018					<0.005	
8/29/2018			<0.005	<0.005		
3/18/2019	<0.005					
3/19/2019		<0.005				<0.005
3/20/2019			<0.005	<0.005	0.00647	
8/6/2019	<0.005					<0.005
8/7/2019		<0.005	<0.005	<0.005	0.00637	
4/7/2020	<0.005	<0.005	<0.005	<0.005	0.00644	<0.005
9/18/2020	<0.005	<0.005	<0.005	<0.005	0.00589	<0.005
4/5/2021	<0.005	<0.005	<0.005	<0.005	0.00708	<0.005
9/1/2021	<0.005	<0.005	<0.005	<0.005	0.00659	<0.005
4/20/2022	<0.005	<0.005	<0.005	<0.005	0.00636	<0.005
9/14/2022	<0.005	<0.005	<0.005	<0.005	0.00505	<0.005
4/10/2023						<0.005
4/11/2023	<0.005		<0.005	<0.005	0.00577	
4/12/2023		<0.005				
9/18/2023		<0.005				<0.005
9/19/2023	<0.005		<0.005	<0.005	0.00752	
4/11/2024		<0.005				<0.005
4/12/2024	<0.005				<0.005	
4/15/2024			<0.005	<0.005		
9/10/2024		<0.005			0.00657	<0.005
9/11/2024	<0.005		<0.005	<0.005		
4/15/2025						<0.005
4/16/2025	<0.005	<0.005			0.00647	
4/17/2025			<0.005	<0.005		
9/8/2025		<0.005				<0.005
9/9/2025	<0.005		<0.005		<0.005	

Time Series

Constituent: Chromium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
9/10/2025				<0.005		

Time Series

Constituent: Chromium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		<0.005	<0.005	<0.005
8/16/2016		<0.005	<0.005	<0.005
10/11/2016		<0.005	<0.005	<0.005
12/12/2016		<0.005	<0.005	<0.005
2/17/2017		<0.005		
2/21/2017			<0.005	<0.005
4/17/2017		<0.005	<0.005	<0.005
6/20/2017		<0.005	<0.005	
6/21/2017				<0.005
8/7/2017		<0.005		
8/8/2017			<0.005	<0.005
3/6/2018		<0.005	<0.005	<0.005
6/20/2018	<0.005			
6/21/2018		<0.005	<0.005	<0.005
8/27/2018	<0.005			
8/28/2018		<0.005		
8/29/2018			<0.005	<0.005
3/19/2019	<0.005	<0.005	<0.005	<0.005
8/6/2019	<0.005			
8/7/2019		<0.005	<0.005	<0.005
4/7/2020	<0.005	<0.005	<0.005	<0.005
9/18/2020	<0.005	<0.005	<0.005	<0.005
4/5/2021	<0.005	<0.005	<0.005	<0.005
9/1/2021	<0.005	<0.005	<0.005	<0.005
4/20/2022	<0.005	<0.005	<0.005	<0.005
9/14/2022	<0.005	<0.005	<0.005	<0.005
4/12/2023	<0.005	<0.005	<0.005	<0.005
9/18/2023	<0.005			
9/20/2023		<0.005	<0.005	<0.005
4/11/2024	<0.005			
4/15/2024		<0.005	<0.005	<0.005
9/10/2024	<0.005			
9/12/2024		<0.005	<0.005	<0.005
4/15/2025	<0.005			
4/18/2025		<0.005	<0.005	<0.005
9/8/2025	<0.005			
9/10/2025		<0.005	<0.005	<0.005

Time Series

Constituent: Cobalt (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		0.000555		<0.0005		
6/7/2016	<0.0005					
6/8/2016			<0.0005		<0.0005	
8/15/2016		<0.0005	<0.0005	<0.0005	<0.0005	
8/16/2016	<0.0005					
10/10/2016	<0.0005	0.000523			<0.0005	
10/11/2016			<0.0005	<0.0005		
12/12/2016					<0.0005	
12/14/2016	<0.0005	0.000638	<0.0005	<0.0005		
2/17/2017		0.000663	<0.0005	<0.0005		
2/21/2017	<0.0005				<0.0005	
4/17/2017	<0.0005	0.000779	<0.0005	<0.0005		
4/18/2017					<0.0005	
6/19/2017	0.000601	0.000621				
6/20/2017					<0.0005	
6/21/2017			<0.0005	<0.0005		
8/7/2017	0.00051	0.000695				
8/8/2017			<0.0005	<0.0005	<0.0005	
3/5/2018		0.000627				
3/6/2018	<0.0005				<0.0005	0.00142
3/7/2018			<0.0005	<0.0005		
5/14/2018						0.0012
6/19/2018	<0.0005	0.00107			<0.0005	0.00129
6/20/2018			<0.0005	<0.0005		
8/27/2018	<0.0005	0.00088				0.00149
8/28/2018					<0.0005	
8/29/2018			<0.0005	<0.0005		
3/18/2019	0.00177					
3/19/2019		0.000783				<0.0005
3/20/2019			<0.0005	<0.0005	<0.0005	
8/6/2019	0.00558					<0.0005
8/7/2019		0.000572	<0.0005	<0.0005	<0.0005	
4/7/2020	0.000517	0.000581	<0.0005	<0.0005	<0.0005	<0.0005
9/18/2020	0.000738	0.000751	<0.0005	<0.0005	<0.0005	<0.0005
4/5/2021	0.000839	0.000752	<0.0005	<0.0005	<0.0005	<0.0005
9/1/2021	0.00127	0.000576	<0.0005	<0.0005	<0.0005	<0.0005
4/20/2022	0.00143	0.00104	<0.0005	<0.0005	<0.0005	<0.0005
9/14/2022	0.00164	0.00109	<0.0005	<0.0005	<0.0005	<0.0005
4/10/2023						<0.0005
4/11/2023	0.0014		<0.0005	<0.0005	<0.0005	
4/12/2023		0.00142				
9/18/2023		0.000995				<0.0005
9/19/2023	0.00126		<0.0005	<0.0005	<0.0005	
4/11/2024		0.00122				<0.0005
4/12/2024	0.0018				<0.0005	
4/15/2024			<0.0005	<0.0005		
9/10/2024		0.000977			<0.0005	<0.0005
9/11/2024	0.00216		<0.0005	<0.0005		
4/15/2025						<0.0005
4/16/2025	0.00163	0.00154			<0.0005	
4/17/2025			<0.0005	<0.0005		
9/8/2025		0.0009				<0.0005

Time Series

Constituent: Cobalt (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
9/9/2025	0.00142		<0.0005		<0.0005	
9/10/2025				<0.0005		

Time Series

Constituent: Cobalt (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		0.000681	<0.0005	<0.0005
8/16/2016		<0.0005	<0.0005	<0.0005
10/11/2016		<0.0005	<0.0005	<0.0005
12/12/2016		<0.0005	<0.0005	<0.0005
2/17/2017		<0.0005		
2/21/2017			<0.0005	<0.0005
4/17/2017		<0.0005	<0.0005	<0.0005
6/20/2017		<0.0005	<0.0005	
6/21/2017				<0.0005
8/7/2017		<0.0005		
8/8/2017			<0.0005	<0.0005
3/6/2018		<0.0005	<0.0005	<0.0005
6/20/2018	0.00161			
6/21/2018		<0.0005	<0.0005	<0.0005
8/27/2018	0.00066			
8/28/2018		<0.0005		
8/29/2018			<0.0005	<0.0005
3/19/2019	0.00176	<0.0005	<0.0005	<0.0005
8/6/2019	<0.0005			
8/7/2019		<0.0005	<0.0005	<0.0005
4/7/2020	0.000817	<0.0005	<0.0005	<0.0005
9/18/2020	<0.0005	0.00147	<0.0005	<0.0005
4/5/2021	0.000517	0.00132	<0.0005	<0.0005
9/1/2021	<0.0005	0.00335	<0.0005	<0.0005
4/20/2022	0.000561	0.00135	<0.0005	<0.0005
9/14/2022	<0.0005	0.00459	<0.0005	<0.0005
4/12/2023	<0.0005	0.00271	<0.0005	<0.0005
9/18/2023	<0.0005			
9/20/2023		0.00374	<0.0005	<0.0005
4/11/2024	<0.0005			
4/15/2024		0.00172	<0.0005	<0.0005
9/10/2024	<0.0005			
9/12/2024		0.0028	<0.0005	<0.0005
4/15/2025	0.000879			
4/18/2025		0.00119	<0.0005	<0.0005
9/8/2025	<0.0005			
9/10/2025		0.00247	<0.0005	<0.0005

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		0.223 (U)		0.31 (U)		
6/7/2016	0.375 (U)					
6/8/2016			0.145 (U)		0.253 (U)	
8/15/2016		0.668	0.202 (U)	0.251 (U)	0.159 (U)	
8/16/2016	0.115 (U)					
10/10/2016	0.35 (U)	0.694			0.817	
10/11/2016			0.523	0.286 (U)		
12/12/2016					0.306 (U)	
12/14/2016	0.336 (U)	0.799	0.26 (U)	0.251 (U)		
2/17/2017		0.513	0.293 (U)	0.103 (U)		
2/21/2017	0.221 (U)				-0.000573 (U)	
4/17/2017	0.126 (U)	0.47	0.48	0.0966 (U)		
4/18/2017					0.0953 (U)	
6/19/2017	0.204 (U)	0.204 (U)				
6/20/2017					0.545	
6/21/2017			0.0131 (U)	0.221 (U)		
8/7/2017	0.336 (U)	0.831				
8/8/2017			0.456	0.244 (U)	0.814	
3/5/2018		0.276 (U)				
3/6/2018	0.668				0.358	0.257 (U)
3/7/2018			0.258 (U)	0.123 (U)		
6/19/2018						0.412 (U)
3/18/2019	0.217 (U)					
3/19/2019		0.331 (U)				0.343 (U)
3/20/2019			0.0223 (U)	0.391 (U)	0.287 (U)	
4/7/2020	0.462	1.01	0.397 (U)	0.645	0.305 (U)	0.44
4/5/2021	0.208 (U)	0.488	0.614	0.219 (U)	0.182 (U)	0.547
9/1/2021	0.296 (U)	1.32	0.684	0.362 (U)	0.499	0.522
4/20/2022	0.316 (U)	0.693	0.0486 (U)	0.0289 (U)	0.171 (U)	0.494
9/14/2022	-0.0309 (U)	1.12	0.0843 (U)	-0.159 (U)	-0.0783 (U)	0.283 (U)
4/10/2023						0.442 (U)
4/11/2023	0.469 (U)		0.0651 (U)	0.727	0.678	
4/12/2023		0.775				
9/18/2023		1.48				1.11
9/19/2023	1.03		0.57	0.118 (U)	0.497 (U)	
4/11/2024		0.835				2.48
4/12/2024	0.994				0.0684 (U)	
4/15/2024			1.02	0.157 (U)		
9/10/2024		0.555			0.275 (U)	0.674
9/11/2024	0.4552 (U)		0.343 (U)	0.34 (U)		
4/15/2025						0.665
4/16/2025	0.248 (U)	0.399 (U)			0.0027 (U)	
4/17/2025			0.683	0.428 (U)		
9/8/2025		1.11				0.942
9/9/2025	0.638		1.54		1.13	
9/10/2025				0.626		

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		0.711 (U)	0.665	0.405
8/16/2016		0.938 (U)	0.854	0.876
10/11/2016		0.674	0.428 (U)	0.512
12/12/2016		0.672	1.05	0.894
2/17/2017		0.528		
2/21/2017			0.85	0.314 (U)
4/17/2017		0.309 (U)	1.02	0.298 (U)
6/20/2017		0.368	0.973	
6/21/2017				0.44
8/7/2017		0.443		
8/8/2017			0.507	0.333 (U)
3/6/2018		0.45	0.959	0.618
6/20/2018	0.0129 (U)			
3/19/2019	1	0.436	0.568	0.481
4/7/2020	0.576	0.354 (U)	1.2	0.787
4/5/2021	0.296 (U)	0.0519 (U)	0.982	0.667
9/1/2021	0.794	1.08	1.29	1.12
4/20/2022	1.27	0.55 (U)	0.913	0.901
9/14/2022	-0.195 (U)	0.836	0.363 (U)	0.599
4/12/2023	1.32	0.687	0.556	0.695
9/18/2023	0.606 (U)			
9/20/2023		0.575 (U)	1.15	0.916
4/11/2024	0.402 (U)			
4/15/2024		0.663	1.23	0.522
9/10/2024	0.4284 (U)			
9/12/2024		1.3	1.57	0.876
4/15/2025	0.271 (U)			
4/18/2025		0.0743 (U)	1.11	0.504 (U)
9/8/2025	1.96			
9/10/2025		0.952	1.17	1.33

Time Series

Constituent: Fluoride (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		0.731		<1		
6/7/2016	<1					
6/8/2016			<1		<1	
8/15/2016		<1	<1	0.549	<1	
8/16/2016	<1					
10/10/2016	<1	<1			<1	
10/11/2016			0.867	<1		
12/12/2016					<1	
12/14/2016	0.72	<1	<1	<1		
2/17/2017		<1	<1	<1		
2/21/2017	<1				0.993	
4/17/2017	1.69 (o)	0.774	1.93 (o)	6.7 (o)		
4/18/2017					0.768	
6/19/2017	<1	<1				
6/20/2017					<1	
6/21/2017			<1	<1		
8/7/2017	<1	<1				
8/8/2017			<1	<1	<1	
10/16/2017	<1	<1			<1	
10/17/2017			<1	<1		
3/5/2018		<1				
3/6/2018	<1				<1	<1
3/7/2018			<1	<1		
6/19/2018	0.826	<1			<1	<1
6/20/2018			0.684	<1		
8/27/2018	<1	<1				<1
8/28/2018					<1	
8/29/2018			<1	<1		
3/18/2019	<1					
3/19/2019		<1				<1
3/20/2019			<1	0.523	<1	
8/6/2019	0.643					0.507
8/7/2019		0.596	<1	0.625	<1	
4/7/2020	0.864	<1	<1	<1	<1	<1
9/18/2020	<1	<1	<1	<1	<1	<1
4/5/2021	<1	<1	<1	0.516	<1	<1
9/1/2021	<1	<1	<1	<1	<1	<1
4/20/2022	<1	<1	<1	<1	<1	<1
9/14/2022	<1	<1	<1	<1	<1	<1
4/10/2023						<1
4/11/2023	<1		<1	<1	<1	
4/12/2023		<1				
9/18/2023		<1				<1
9/19/2023	<1		<1	<1	<1	
4/11/2024		<1				<1
4/12/2024	<1				<1	
4/15/2024			<1	<1		
9/10/2024		<1			<1	<1
9/11/2024	<1		<1	<1		
4/15/2025						0.268
4/16/2025	0.312	0.281			0.154	
4/17/2025			0.262	0.257		

Time Series

Constituent: Fluoride (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
9/8/2025		0.218				0.289
9/9/2025	0.311		0.261		0.174	
9/10/2025				0.293		

Time Series

Constituent: Fluoride (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		<1	<1	<1
8/16/2016		<1	<1	<1
10/11/2016		<1	<1	<1
12/12/2016		<1	1.88	2.02
2/17/2017		0.664		
2/21/2017			2.14	1.89
4/17/2017		0.801	0.627	0.814
6/20/2017		<1	<1	
6/21/2017				<1
8/7/2017		<1		
8/8/2017			<1	<1
10/16/2017		<1		
10/17/2017			<1	<1
3/6/2018		<1	<1	<1
6/20/2018	<1			
6/21/2018		<1	<1	<1
8/27/2018	<1			
8/28/2018		<1		
8/29/2018			<1	<1
3/19/2019	<1	0.771	<1	<1
8/6/2019	<1			
8/7/2019		0.525	<1	0.535
4/7/2020	<1	<1	<1	0.652
9/18/2020	<1	<1	<1	<1
4/5/2021	<1	<1	<1	<1
9/1/2021	<1	<1	<1	<1
4/20/2022	<1	<1	<1	<1
9/14/2022	<1	<1	<1	<1
4/12/2023	<1	<1	<1	<1
9/18/2023	<1			
9/20/2023		<1	<1	<1
4/11/2024	<1			
4/15/2024		<1	<1	<1
9/10/2024	<1			
9/12/2024		<1	<1	<1
4/15/2025	0.236			
4/18/2025		0.268	0.193	0.303
9/8/2025	0.281			
9/10/2025		0.274	0.173	0.273

Time Series

Constituent: Lead (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		<0.0005		<0.0005		
6/7/2016	<0.0005					
6/8/2016			<0.0005		<0.0005	
8/15/2016		<0.0005	<0.0005	<0.0005	<0.0005	
8/16/2016	<0.0005					
10/10/2016	<0.0005	<0.0005			<0.0005	
10/11/2016			<0.0005	<0.0005		
12/12/2016					<0.0005	
12/14/2016	<0.0005	<0.0005	<0.0005	<0.0005		
2/17/2017		<0.0005	<0.0005	<0.0005		
2/21/2017	<0.0005				<0.0005	
4/17/2017	<0.0005	<0.0005	<0.0005	<0.0005		
4/18/2017					<0.0005	
6/19/2017	<0.0005	<0.0005				
6/20/2017					<0.0005	
6/21/2017			<0.0005	<0.0005		
8/7/2017	<0.0005	<0.0005				
8/8/2017			<0.0005	<0.0005	<0.0005	
3/5/2018		<0.0005				
3/6/2018	<0.0005				<0.0005	<0.0005
3/7/2018			<0.0005	<0.0005		
6/19/2018	<0.0005	<0.0005			0.000633	<0.0005
6/20/2018			<0.0005	<0.0005		
8/27/2018	<0.0005	<0.0005				<0.0005
8/28/2018					<0.0005	
8/29/2018			<0.0005	<0.0005		
3/18/2019	<0.0005					
3/19/2019		<0.0005				<0.0005
3/20/2019			<0.0005	<0.0005	<0.0005	
8/6/2019	<0.0005					<0.0005
8/7/2019		<0.0005	<0.0005	<0.0005	<0.0005	
4/7/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
9/18/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
4/5/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
9/1/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
4/20/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
9/14/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
4/10/2023						<0.0005
4/11/2023	<0.0005		<0.0005	<0.0005	<0.0005	
4/12/2023		<0.0005				
9/18/2023		<0.0005				<0.0005
9/19/2023	<0.0005		<0.0005	<0.0005	<0.0005	
4/11/2024		<0.0005				<0.0005
4/12/2024	<0.0005				<0.0005	
4/15/2024			<0.0005	<0.0005		
9/10/2024		<0.0005			<0.0005	<0.0005
9/11/2024	<0.0005		<0.0005	<0.0005		
4/15/2025						<0.0005
4/16/2025	<0.0005	<0.0005			<0.0005	
4/17/2025			<0.0005	<0.0005		
9/8/2025		<0.0005				<0.0005
9/9/2025	<0.0005		<0.0005		<0.0005	

Time Series

Constituent: Lead (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
9/10/2025				<0.0005		

Time Series

Constituent: Lead (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		0.00147 (o)	<0.0005	<0.0005
8/16/2016		<0.0005	<0.0005	<0.0005
10/11/2016		<0.0005	<0.0005	<0.0005
12/12/2016		<0.0005	<0.0005	<0.0005
2/17/2017		<0.0005		
2/21/2017			<0.0005	<0.0005
4/17/2017		<0.0005	<0.0005	<0.0005
6/20/2017		<0.0005	<0.0005	
6/21/2017				<0.0005
8/7/2017		<0.0005		
8/8/2017			<0.0005	<0.0005
3/6/2018		<0.0005	<0.0005	<0.0005
6/20/2018	0.00151			
6/21/2018		<0.0005	<0.0005	<0.0005
8/27/2018	0.000626			
8/28/2018		<0.0005		
8/29/2018			<0.0005	<0.0005
3/19/2019	0.00204	<0.0005	<0.0005	<0.0005
8/6/2019	0.000663			
8/7/2019		<0.0005	<0.0005	<0.0005
4/7/2020	0.00116	<0.0005	<0.0005	<0.0005
9/18/2020	<0.0005	0.000532	<0.0005	<0.0005
4/5/2021	0.000624	<0.0005	<0.0005	<0.0005
9/1/2021	<0.0005	<0.0005	<0.0005	<0.0005
4/20/2022	0.000596	<0.0005	<0.0005	<0.0005
9/14/2022	<0.0005	<0.0005	<0.0005	<0.0005
4/12/2023	<0.0005	<0.0005	<0.0005	<0.0005
9/18/2023	<0.0005			
9/20/2023		0.000576	0.000627	<0.0005
4/11/2024	<0.0005			
4/15/2024		<0.0005	<0.0005	<0.0005
9/10/2024	<0.0005			
9/12/2024		<0.0005	<0.0005	<0.0005
4/15/2025	0.00115			
4/18/2025		<0.0005	<0.0005	<0.0005
9/8/2025	<0.0005			
9/10/2025		<0.0005	<0.0005	<0.0005

Time Series

Constituent: Lithium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		<0.01		<0.01		
6/7/2016	<0.01					
6/8/2016			<0.01		<0.01	
8/15/2016		<0.01	<0.01	<0.01	<0.01	
8/16/2016	<0.01					
10/10/2016	<0.01	<0.01			<0.01	
10/11/2016			<0.01	<0.01		
12/12/2016					<0.01	
12/14/2016	<0.01	<0.01	<0.01	<0.01		
2/17/2017		<0.01	<0.01	<0.01		
2/21/2017	<0.01				<0.01	
4/17/2017	<0.01	<0.01	<0.01	<0.01		
4/18/2017					<0.01	
6/19/2017	<0.01	<0.01				
6/20/2017					<0.01	
6/21/2017			<0.01	<0.01		
8/7/2017	<0.01	<0.01				
8/8/2017			<0.01	<0.01	<0.01	
3/5/2018		<0.01				
3/6/2018	<0.01				<0.01	<0.01
3/7/2018			<0.01	<0.01		
6/19/2018	<0.01	<0.01			0.0189	<0.01
6/20/2018			<0.01	<0.01		
8/27/2018	<0.01	<0.01				<0.01
8/28/2018					<0.01	
8/29/2018			<0.01	<0.01		
3/18/2019	<0.01					
3/19/2019		<0.01				<0.01
3/20/2019			<0.01	<0.01	0.0277	
8/6/2019	<0.01					<0.01
8/7/2019		<0.01	<0.01	<0.01	0.0279	
4/7/2020	<0.01	<0.01	<0.01	<0.01	0.0213	<0.01
9/18/2020	<0.01	<0.01	<0.01	<0.01	0.0225	<0.01
4/5/2021	<0.01	<0.01	<0.01	<0.01	0.0198	<0.01
9/1/2021	<0.01	<0.01	<0.01	<0.01	0.0233	<0.01
4/20/2022	<0.01	<0.01	<0.01	<0.01	0.0162	<0.01
9/14/2022	<0.01	<0.01	<0.01	<0.01	0.018	<0.01
4/10/2023						<0.01
4/11/2023	<0.01		<0.01	<0.01	0.0143	
4/12/2023		<0.01				
9/18/2023		<0.01				<0.01
9/19/2023	<0.01		<0.01	<0.01	0.0205	
4/11/2024		<0.01				<0.01
4/12/2024	<0.01				0.0124	
4/15/2024			<0.01	<0.01		
9/10/2024		<0.01			0.0194	<0.01
9/11/2024	<0.01		<0.01	<0.01		
4/15/2025						<0.01
4/16/2025	<0.01	<0.01			0.0185	
4/17/2025			<0.01	<0.01		
9/8/2025		<0.01				<0.01
9/9/2025	<0.01		<0.01		0.0121	

Time Series

Constituent: Lithium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
9/10/2025				<0.01		

Time Series

Constituent: Lithium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		<0.01	<0.01	<0.01
8/16/2016		<0.01	<0.01	<0.01
10/11/2016		<0.01	<0.01	<0.01
12/12/2016		<0.01	<0.01	<0.01
2/17/2017		<0.01		
2/21/2017			<0.01	<0.01
4/17/2017		<0.01	<0.01	<0.01
6/20/2017		<0.01	<0.01	
6/21/2017				<0.01
8/7/2017		<0.01		
8/8/2017			<0.01	<0.01
3/6/2018		<0.01	<0.01	<0.01
6/20/2018	<0.01			
6/21/2018		<0.01	<0.01	<0.01
8/27/2018	<0.01			
8/28/2018		<0.01		
8/29/2018			<0.01	<0.01
3/19/2019	<0.01	<0.01	<0.01	<0.01
8/6/2019	<0.01			
8/7/2019		<0.01	<0.01	<0.01
4/7/2020	<0.01	<0.01	<0.01	<0.01
9/18/2020	<0.01	<0.01	<0.01	<0.01
4/5/2021	<0.01	<0.01	<0.01	<0.01
9/1/2021	<0.01	<0.01	<0.01	<0.01
4/20/2022	<0.01	<0.01	<0.01	<0.01
9/14/2022	<0.01	<0.01	<0.01	<0.01
4/12/2023	<0.01	<0.01	<0.01	<0.01
9/18/2023	<0.01			
9/20/2023		<0.01	<0.01	<0.01
4/11/2024	<0.01			
4/15/2024		<0.01	<0.01	<0.01
9/10/2024	<0.01			
9/12/2024		<0.01	<0.01	<0.01
4/15/2025	<0.01			
4/18/2025		<0.01	<0.01	<0.01
9/8/2025	<0.01			
9/10/2025		<0.01	<0.01	<0.01

Time Series

Constituent: Mercury (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		<0.0002		<0.0002		
6/7/2016	<0.0002					
6/8/2016			<0.0002		<0.0002	
8/15/2016		<0.0002	<0.0002	<0.0002	<0.0002	
8/16/2016	<0.0002					
10/10/2016	<0.0002	<0.0002			<0.0002	
10/11/2016			<0.0002	<0.0002		
12/12/2016					<0.0002	
12/14/2016	<0.0002	<0.0002	<0.0002	<0.0002		
2/17/2017		<0.0002	<0.0002	<0.0002		
2/21/2017	<0.0002				<0.0002	
4/17/2017	<0.0002	<0.0002 (F1)	<0.0002	<0.0002		
4/18/2017					<0.0002	
6/19/2017	<0.0002	<0.0002				
6/20/2017					<0.0002	
6/21/2017			<0.0002	<0.0002		
8/7/2017	<0.0002	<0.0002				
8/8/2017			<0.0002	<0.0002	<0.0002	
3/5/2018		<0.0002				
3/6/2018	<0.0002				<0.0002	<0.0002
3/7/2018			<0.0002	<0.0002		
6/19/2018	<0.0002	<0.0002			<0.0002	<0.0002
6/20/2018			<0.0002	<0.0002		
8/27/2018	<0.0002	<0.0002				<0.0002
8/28/2018					<0.0002	
8/29/2018			<0.0002	<0.0002		
3/18/2019	<0.0002					
3/19/2019		<0.0002				<0.0002
3/20/2019			<0.0002	<0.0002	<0.0002	
8/6/2019	<0.0002					<0.0002
8/7/2019		<0.0002	<0.0002	<0.0002	<0.0002	
4/7/2020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
9/18/2020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
4/5/2021	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
9/1/2021	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
4/20/2022	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
9/14/2022	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
4/10/2023						<0.0002
4/11/2023	<0.0002		<0.0002	<0.0002	<0.0002	
4/12/2023		<0.0002				
9/18/2023		<0.0002				<0.0002
9/19/2023	<0.0002		<0.0002	<0.0002	<0.0002	
4/11/2024		<0.0002				<0.0002
4/12/2024	<0.0002				<0.0002	
4/15/2024			<0.0002	<0.0002		
9/10/2024		<0.0002			<0.0002	<0.0002
9/11/2024	<0.0002		<0.0002	<0.0002		
4/15/2025						<0.0002
4/16/2025	<0.0002	<0.0002			<0.0002	
4/17/2025			<0.0002	<0.0002		
9/8/2025		<0.0002				<0.0002
9/9/2025	<0.0002		<0.0002		<0.0002	

Time Series

Constituent: Mercury (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
9/10/2025				<0.0002		

Time Series

Constituent: Mercury (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		<0.0002	<0.0002	<0.0002
8/16/2016		<0.0002	<0.0002	<0.0002
10/11/2016		<0.0002	<0.0002	<0.0002
12/12/2016		<0.0002	<0.0002	<0.0002
2/17/2017		<0.0002		
2/21/2017			<0.0002	<0.0002
4/17/2017		<0.0002	<0.0002	<0.0002
6/20/2017		<0.0002	<0.0002	
6/21/2017				<0.0002
8/7/2017		<0.0002		
8/8/2017			<0.0002	<0.0002
3/6/2018		<0.0002	<0.0002	<0.0002
6/20/2018	<0.0002			
6/21/2018		<0.0002	<0.0002	<0.0002
8/27/2018	<0.0002			
8/28/2018		<0.0002		
8/29/2018			<0.0002	<0.0002
3/19/2019	<0.0002	<0.0002	<0.0002	<0.0002
8/6/2019	<0.0002			
8/7/2019		<0.0002	<0.0002	<0.0002
4/7/2020	<0.0002	<0.0002	<0.0002	<0.0002
9/18/2020	<0.0002	<0.0002	<0.0002	<0.0002
4/5/2021	<0.0002	<0.0002	<0.0002	<0.0002
9/1/2021	<0.0002	<0.0002	<0.0002	<0.0002
4/20/2022	<0.0002	<0.0002	<0.0002	<0.0002
9/14/2022	<0.0002	<0.0002	0.000813	<0.0002
4/12/2023	<0.0002	<0.0002	<0.0002	<0.0002
9/18/2023	<0.0002			
9/20/2023		<0.0002	<0.0002	<0.0002
4/11/2024	<0.0002			
4/15/2024		<0.0002	<0.0002	<0.0002
9/10/2024	<0.0002			
9/12/2024		<0.0002	<0.0002	<0.0002
4/15/2025	<0.0002			
4/18/2025		<0.0002	<0.0002	<0.0002
9/8/2025	<0.0002			
9/10/2025		<0.0002	<0.0002	<0.0002

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		<0.002		<0.002		
6/7/2016	<0.002					
6/8/2016			<0.002		<0.002	
8/15/2016		<0.002	<0.002	<0.002	<0.002	
8/16/2016	<0.002					
10/10/2016	<0.002	<0.002			<0.002	
10/11/2016			<0.002	<0.002		
12/12/2016					<0.002	
12/14/2016	<0.002	<0.002	<0.002	<0.002		
2/17/2017		<0.002	<0.002	<0.002		
2/21/2017	<0.002				<0.002	
4/17/2017	<0.002	<0.002	<0.002	<0.002		
4/18/2017					<0.002	
6/19/2017	<0.002	<0.002				
6/20/2017					<0.002	
6/21/2017			<0.002	<0.002		
8/7/2017	<0.002	<0.002				
8/8/2017			<0.002	<0.002	<0.002	
3/5/2018		<0.002				
3/6/2018	0.0022				<0.002	0.00568
3/7/2018			<0.002	<0.002		
5/14/2018	<0.002					0.00385
6/19/2018	<0.002	<0.002			0.00383	0.00423
6/20/2018			<0.002	<0.002		
8/27/2018	0.00224	0.0022				0.00424
8/28/2018					<0.002	
8/29/2018			<0.002	<0.002		
3/18/2019	<0.002					
3/19/2019		0.00341				0.00263
3/20/2019			<0.002	<0.002	<0.002	
8/6/2019	<0.002					0.00574
8/7/2019		0.00219	<0.002	<0.002	<0.002	
4/7/2020	<0.002	0.00215	<0.002	<0.002	<0.002	0.00297
9/18/2020	<0.002	<0.002	<0.002	<0.002	<0.002	0.00529
4/5/2021	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
9/1/2021	0.00218	0.00217	<0.002	<0.002	<0.002	0.00558
4/20/2022	<0.002	<0.002	<0.002	<0.002	<0.002	0.0042
9/14/2022	<0.002	<0.002	<0.002	<0.002	<0.002	0.00446
4/10/2023						0.00364
4/11/2023	<0.002		<0.002	<0.002	<0.002	
4/12/2023		<0.002				
9/18/2023		<0.002				0.00661
9/19/2023	<0.002		<0.002	<0.002	<0.002	
4/11/2024		<0.002				0.00217
4/12/2024	<0.002				<0.002	
4/15/2024			<0.002	<0.002		
9/10/2024		0.00287			<0.002	0.00578
9/11/2024	0.00205		<0.002	<0.002		
4/15/2025						0.00415
4/16/2025	<0.002	<0.002			<0.002	
4/17/2025			0.00322	0.0109		
9/8/2025		0.00216				0.0051

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
9/9/2025	<0.002		<0.002		<0.002	
9/10/2025				<0.002		

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		<0.002	<0.002	<0.002
8/16/2016		<0.002	<0.002	<0.002
10/11/2016		<0.002	<0.002	<0.002
12/12/2016		<0.002	<0.002	<0.002
2/17/2017		<0.002		
2/21/2017			<0.002	<0.002
4/17/2017		<0.002	<0.002	<0.002
6/20/2017		<0.002	<0.002	
6/21/2017				<0.002
8/7/2017		<0.002		
8/8/2017			<0.002	<0.002
3/6/2018		<0.002	<0.002	<0.002
6/20/2018	0.00822			
6/21/2018		<0.002	<0.002	<0.002
8/27/2018	0.00617			
8/28/2018		<0.002		
8/29/2018			<0.002	<0.002
3/19/2019	<0.002	<0.002	0.00212	<0.002
8/6/2019	<0.002			
8/7/2019		<0.002	<0.002	<0.002
4/7/2020	<0.002	<0.002	<0.002	<0.002
9/18/2020	<0.002	0.00296	<0.002	<0.002
4/5/2021	<0.002	<0.002	<0.002	<0.002
9/1/2021	<0.002	<0.002	<0.002	<0.002
4/20/2022	<0.002	<0.002	<0.002	<0.002
9/14/2022	<0.002	<0.002	<0.002	<0.002
4/12/2023	<0.002	<0.002	<0.002	<0.002
9/18/2023	<0.002			
9/20/2023		<0.002	<0.002	<0.002
4/11/2024	<0.002			
4/15/2024		<0.002	<0.002	<0.002
9/10/2024	<0.002			
9/12/2024		<0.002	<0.002	<0.002
4/15/2025	<0.002			
4/18/2025		<0.002	<0.002	<0.002
9/8/2025	<0.002			
9/10/2025		<0.002	<0.002	<0.002

Time Series

Constituent: pH (SU) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		7.4		7.3		
6/7/2016	7.2					
6/8/2016			7.1		6.7	
8/15/2016		7.3	7.2	7.3	6.7	
8/16/2016	7.3					
10/10/2016	7.1	7.2			6.7	
10/11/2016			7.1	7.2		
12/12/2016					7	
12/14/2016	7.3	7.3	7.2	7.4		
2/17/2017		7.2	7.3	7.3		
2/21/2017	7.3				7	
4/17/2017	7.1	7.3	7.3	7.3		
4/18/2017					6.9	
6/19/2017	7.1	7.2				
6/20/2017					6.7	
6/21/2017			7.3	7.3		
8/7/2017	7.3	7.9				
8/8/2017			7.2	7.2	6.8	
10/16/2017	7.4	7.3			6.8	
10/17/2017			7.6	7.2		
11/28/2017					6.9 (R)	
3/5/2018		7.04				
3/6/2018	7.3				6.76	7.36
3/7/2018			7.35	7.24		
6/19/2018	7.56	7.72			7.25	7.9
6/20/2018			7.26	7.5		
8/27/2018	7.2	7.23				7.42
8/28/2018					7.07	
8/29/2018			7.09	7.25		
3/19/2019	7.08	7.1				7.21
3/20/2019			6.97	7.76	6.41	
8/6/2019	6.64					7.12
8/7/2019		7.07	7.09	7.11	6.33	
4/7/2020	7.21	7.26	7.32	7.54	6.55	7.32
9/18/2020	7.4	7.33	7.21	7.28	6.8	7.53
4/5/2021	7.63	7.57	7.64	7.92	6.92	7.7
9/1/2021	7.45	7.59	7.48	7.46	7.06	7.97
4/20/2022	7.35	7.35	7.13	6.83	6.69	7.23
9/14/2022	7.43	7.48	7.21	7.4	7.09	7.58
4/10/2023						7.14
4/11/2023	7.24		6.97	7.24	7.24	
4/12/2023		6.96				
9/18/2023		6.86				7.14
9/19/2023	6.81		6.78	6.97	6.55	
4/11/2024		7.3				7.5
4/12/2024	7.4				7	
4/15/2024			7.3	7.6		
9/10/2024		7.3			6.9	7.5
9/11/2024	7.3		7.2	7.2		
4/15/2025						7.4
4/16/2025	7.5	7.2			6.9	
4/17/2025			7.3	7.5		

Time Series

Constituent: pH (SU) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
9/8/2025		7.3				7.6
9/9/2025	7.4		7.3		6.8	
9/10/2025				7.4		

Time Series

Constituent: pH (SU) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		7.6	7.7	7.4
8/16/2016		7.5	7.3	7.4
10/11/2016		7.5	7.2	7.3
12/12/2016		7.6	7.3	7.5
2/17/2017		7.5		
2/21/2017			7.2	7.4
4/17/2017		7.4	7.2	7.3
6/20/2017		7.4	7.2	
6/21/2017				7.3
8/7/2017		7.9		
8/8/2017			7.2	7.3
10/16/2017		7.8		
10/17/2017			7.3	7.8
3/6/2018		7.36	7.23	7.4
6/20/2018	7.69			
6/21/2018		7.53	7.3	7.58
8/27/2018	7.55			
8/28/2018		7.44		
8/29/2018			7.14	7.18
3/19/2019	7.24	7.26	7.05	7.15
8/6/2019	6.75			
8/7/2019		7.22	7.02	7.12
4/7/2020	7.33	7.46	7.24	7.3
9/18/2020	7.53	7.93	7.33	7.24
4/5/2021	7.61	7.94	7.31	7.59
9/1/2021	7.89	7.75	7.22	7.61
4/20/2022	7.39	7.04	7.37	7.35
9/14/2022	7.3	7.52	7.37	7.38
4/12/2023	7.24	7.23	6.96	7.08
9/18/2023	7.05			
9/20/2023		7.03	6.42	6.88
4/11/2024	7.4			
4/15/2024		7.6	7.4	7.3
9/10/2024	7.4			
9/12/2024		7.5	7.3	7.5
4/15/2025	7.4			
4/18/2025		7.5	7.3	7.3
9/8/2025	7.4			
9/10/2025		7.5	7.3	7.3

Time Series

Constituent: Selenium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		<0.005		<0.005		
6/7/2016	<0.005					
6/8/2016			0.0071		0.0165	
8/15/2016		<0.005	0.00811	<0.005	0.0103	
8/16/2016	<0.005					
10/10/2016	<0.005	<0.005			0.0137	
10/11/2016			0.00821	<0.005		
12/12/2016					0.0119	
12/14/2016	<0.005	<0.005	0.00834	<0.005		
2/17/2017		<0.005	0.00752	<0.005		
2/21/2017	<0.005				0.0074	
4/17/2017	<0.005	<0.005	0.00823	<0.005		
4/18/2017					0.00674	
6/19/2017	<0.005	<0.005				
6/20/2017					0.0106	
6/21/2017			0.00829	<0.005		
8/7/2017	<0.005	<0.005				
8/8/2017			0.00759	<0.005	0.0109	
3/5/2018		<0.005				
3/6/2018	<0.005				<0.005	<0.005
3/7/2018			<0.005	0.00502		
6/19/2018	<0.005	<0.005			0.00939	<0.005
6/20/2018			0.00739	<0.005		
8/27/2018	<0.005	<0.005				<0.005
8/28/2018					<0.005	
8/29/2018			0.00827	<0.005		
3/18/2019	<0.005					
3/19/2019		<0.005				<0.005
3/20/2019			0.00569	<0.005	0.0102	
8/6/2019	<0.005					<0.005
8/7/2019		<0.005	<0.005	<0.005	0.0108	
4/7/2020	<0.005	<0.005	<0.005	<0.005	0.00632	<0.005
9/18/2020	<0.005	<0.005	<0.005	<0.005	0.00762	<0.005
4/5/2021	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
9/1/2021	<0.005	<0.005	<0.005	<0.005	0.00617	<0.005
4/20/2022	<0.005	<0.005	<0.005	<0.005	0.00634	<0.005
9/14/2022	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
4/10/2023						<0.005
4/11/2023	<0.005		<0.005	<0.005	<0.005	
4/12/2023		<0.005				
9/18/2023		<0.005				<0.005
9/19/2023	<0.005		<0.005	<0.005	0.0053	
4/11/2024		<0.005				<0.005
4/12/2024	<0.005				<0.005	
4/15/2024			<0.005	<0.005		
9/10/2024		<0.005			0.00666	<0.005
9/11/2024	<0.005		<0.005	<0.005		
4/15/2025						<0.005
4/16/2025	<0.005	<0.005			0.00832	
4/17/2025			<0.005	<0.005		
9/8/2025		<0.005				<0.005
9/9/2025	<0.005		<0.005		<0.005	

Time Series

Constituent: Selenium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
9/10/2025				<0.005		

Time Series

Constituent: Selenium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		<0.005	<0.005	<0.005
8/16/2016		<0.005	<0.005	<0.005
10/11/2016		<0.005	<0.005	<0.005
12/12/2016		<0.005	<0.005	<0.005
2/17/2017		<0.005		
2/21/2017			<0.005	<0.005
4/17/2017		<0.005	<0.005	<0.005
6/20/2017		<0.005	<0.005	
6/21/2017				<0.005
8/7/2017		<0.005		
8/8/2017			<0.005	<0.005
3/6/2018		<0.005	<0.005	<0.005
6/20/2018	<0.005			
6/21/2018		<0.005	<0.005	<0.005
8/27/2018	<0.005			
8/28/2018		<0.005		
8/29/2018			<0.005	<0.005
3/19/2019	<0.005	<0.005	<0.005	<0.005
8/6/2019	<0.005			
8/7/2019		<0.005	<0.005	<0.005
4/7/2020	<0.005	<0.005	<0.005	<0.005
9/18/2020	<0.005	<0.005	<0.005	<0.005
4/5/2021	<0.005	<0.005	<0.005	<0.005
9/1/2021	<0.005	<0.005	<0.005	<0.005
4/20/2022	<0.005	<0.005	<0.005	<0.005
9/14/2022	<0.005	<0.005	<0.005	<0.005
4/12/2023	<0.005	<0.005	<0.005	<0.005
9/18/2023	<0.005			
9/20/2023		<0.005	<0.005	<0.005
4/11/2024	<0.005			
4/15/2024		<0.005	<0.005	<0.005
9/10/2024	<0.005			
9/12/2024		<0.005	<0.005	<0.005
4/15/2025	<0.005			
4/18/2025		<0.005	<0.005	<0.005
9/8/2025	<0.005			
9/10/2025		<0.005	<0.005	<0.005

Time Series

Constituent: Sulfate (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		42.1		827		
6/7/2016	366					
6/8/2016			1050		713	
8/15/2016		33.8	1040	605	520	
8/16/2016	187					
10/10/2016	187	36.4			603	
10/11/2016			1010	607		
12/12/2016					645	
12/14/2016	149	38.4	1140	732		
2/17/2017		47.3	1190	849		
2/21/2017	145				415	
4/17/2017	145	38.3	1200	853		
4/18/2017					461	
6/19/2017	190	35.4				
6/20/2017					541	
6/21/2017			1020	537		
8/7/2017	119	39				
8/8/2017			1110	664	590	
10/16/2017	106	46.9			206	
10/17/2017			1210	835		
11/28/2017			1140 (R)	779 (R)		
3/5/2018		51.4				
3/6/2018	87.3				53.7	123
3/7/2018			1110	824		
6/19/2018	136	37.3			489	134
6/20/2018			1090	210		
8/27/2018	94.7	34.3				125
8/28/2018					96.6	
8/29/2018			1070	400		
3/18/2019	223					
3/19/2019		42.8				134
3/20/2019			1050	351	442	
8/6/2019	276					139
8/7/2019		28.8	837	327	529	
4/7/2020	123	18.6	888	496	373	143
9/18/2020	100	36.5	924	403	356	151
4/5/2021	99.7	27.6	952	338	237	154
9/1/2021	82.7	32.3	1010	333	303	154
4/20/2022	72.8	48.3	1030	297	293	158
9/14/2022	67.1	31.2	978	319	151	220
4/10/2023						147
4/11/2023	72.2		1150	254	215	
4/12/2023		39.8				
9/18/2023		57.4				208
9/19/2023	94.2		1440	365	303	
4/11/2024		49.6				160
4/12/2024	65.7				138	
4/15/2024			1160	256		
9/10/2024		59.9			248	161
9/11/2024	68.9		1110	273		
4/15/2025						143
4/16/2025	63.5	84.7			230	

Time Series

Constituent: Sulfate (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
4/17/2025			808	309		
9/8/2025		57				149
9/9/2025	68.8		953		135	
9/10/2025				162		

Time Series

Constituent: Sulfate (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		32.2	109	<5
8/16/2016		28.4	109	<5
10/11/2016		27.2	105	<5
12/12/2016		32.7	109	<5
2/17/2017		36		
2/21/2017			111	5.94
4/17/2017		39.5	108	<5
6/20/2017		33	108	
6/21/2017				<5
8/7/2017		35.3		
8/8/2017			114	<5
10/16/2017		45.4		
10/17/2017			135	<5
3/6/2018		162	122	<5
6/20/2018	38.4			
6/21/2018		51.3	119	<5
8/27/2018	31.7			
8/28/2018		52.2		
8/29/2018			120	<5
3/19/2019	26.2	48	85	<5
8/6/2019	29.7			
8/7/2019		47	112	<5
4/7/2020	25.5	41.5	58.9	13.6
9/18/2020	25.8	46.9	61.9	19.1
4/5/2021	35.5	60.1	57.4	27.3
9/1/2021	25.8	50.2	53.7	22.7
4/20/2022	25.4	58.4	44.7	18.9
9/14/2022	23	49.5	49.9	16.4
4/12/2023	25	54	45.8	20.5
9/18/2023	28.6			
9/20/2023		53.1	53.4	10.1
4/11/2024	21.8			
4/15/2024		56.1	46.3	18.1
9/10/2024	23.8			
9/12/2024		65.8	50.4	16.3
4/15/2025	23.4			
4/18/2025		50.8	35.7	18.5
9/8/2025	25.7			
9/10/2025		55.8	47.6	20.7

Time Series

Constituent: Thallium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		<0.001		<0.001		
6/7/2016	<0.001					
6/8/2016			<0.001		<0.001	
8/15/2016		<0.001	<0.001	<0.001	<0.001	
8/16/2016	<0.001					
10/10/2016	<0.001	<0.001			<0.001	
10/11/2016			<0.001	<0.001		
12/12/2016					<0.001	
12/14/2016	<0.001	<0.001	<0.001	<0.001		
2/17/2017		<0.001	<0.001	<0.001		
2/21/2017	<0.001				<0.001	
4/17/2017	<0.001	<0.001	<0.001	<0.001		
4/18/2017					<0.001	
6/19/2017	<0.001	<0.001				
6/20/2017					<0.001	
6/21/2017			<0.001	<0.001		
8/7/2017	<0.001	<0.001				
8/8/2017			<0.001	<0.001	<0.001	
3/5/2018		<0.001				
3/6/2018	<0.001				<0.001	<0.001
3/7/2018			<0.001	<0.001		
6/19/2018	<0.001	<0.001			<0.001	<0.001
6/20/2018			<0.001	<0.001		
8/27/2018	<0.001	<0.001				<0.001
8/28/2018					<0.001	
8/29/2018			<0.001	<0.001		
3/18/2019	<0.001					
3/19/2019		<0.001				<0.001
3/20/2019			<0.001	<0.001	<0.001	
8/6/2019	<0.001					<0.001
8/7/2019		<0.001	<0.001	<0.001	<0.001	
4/7/2020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
9/18/2020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
4/5/2021	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
9/1/2021	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
4/20/2022	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
9/14/2022	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
4/10/2023						<0.001
4/11/2023	<0.001		<0.001	<0.001	<0.001	
4/12/2023		<0.001				
9/18/2023		<0.001				<0.001
9/19/2023	<0.001		<0.001	<0.001	<0.001	
4/11/2024		<0.001				<0.001
4/12/2024	<0.001				<0.001	
4/15/2024			<0.001	<0.001		
9/10/2024		<0.001			<0.001	<0.001
9/11/2024	<0.001		<0.001	<0.001		
4/15/2025						<0.001
4/16/2025	<0.001	<0.001			<0.001	
4/17/2025			<0.001	<0.001		
9/8/2025		<0.001				<0.001
9/9/2025	<0.001		<0.001		<0.001	

Time Series

Constituent: Thallium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
9/10/2025				<0.001		

Time Series

Constituent: Thallium (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		<0.001	<0.001	<0.001
8/16/2016		<0.001	<0.001	<0.001
10/11/2016		<0.001	<0.001	<0.001
12/12/2016		<0.001	<0.001	<0.001
2/17/2017		<0.001		
2/21/2017			<0.001	<0.001
4/17/2017		<0.001	<0.001	<0.001
6/20/2017		<0.001	<0.001	
6/21/2017				<0.001
8/7/2017		<0.001		
8/8/2017			<0.001	<0.001
3/6/2018		<0.001	<0.001	<0.001
6/20/2018	<0.001			
6/21/2018		<0.001	<0.001	<0.001
8/27/2018	<0.001			
8/28/2018		<0.001		
8/29/2018			<0.001	<0.001
3/19/2019	<0.001	<0.001	<0.001	<0.001
8/6/2019	<0.001			
8/7/2019		<0.001	<0.001	<0.001
4/7/2020	<0.001	<0.001	<0.001	<0.001
9/18/2020	<0.001	<0.001	<0.001	<0.001
4/5/2021	<0.001	<0.001	<0.001	<0.001
9/1/2021	<0.001	<0.001	<0.001	<0.001
4/20/2022	<0.001	<0.001	<0.001	<0.001
9/14/2022	<0.001	<0.001	<0.001	<0.001
4/12/2023	<0.001	0.00288	0.00393	<0.001
9/18/2023	<0.001			
9/20/2023		0.003	0.00442	<0.001
4/11/2024	<0.001			
4/15/2024		<0.001	<0.001	<0.001
9/10/2024	<0.001			
9/12/2024		<0.001	<0.001	<0.001
4/15/2025	<0.001			
4/18/2025		<0.001	<0.001	<0.001
9/8/2025	<0.001			
9/10/2025		<0.001	<0.001	<0.001

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
6/6/2016		468		1620		
6/7/2016	836					
6/8/2016			2000		1440	
8/15/2016		412	1980	1270	1110	
8/16/2016	664					
10/10/2016	708	444			1420	
10/11/2016			2500	1500		
12/12/2016					1240	
12/14/2016	634	428	2080	1600		
2/17/2017		498	1010	1470		
2/21/2017	578				1010	
4/17/2017	624	538	2260	1780		
4/18/2017					1060	
6/19/2017	656	524				
6/20/2017					1140	
6/21/2017			2250	1280		
8/7/2017	488	458				
8/8/2017			2170	1390	1220	
10/16/2017	470	414			514	
10/17/2017			2080	1520		
11/28/2017			2650 (R)	1670 (R)		
3/5/2018		314				
3/6/2018	376				200	424
3/7/2018			1820	1270		
6/19/2018	502	396			952	434
6/20/2018			1800	676		
8/27/2018	414	392				420
8/28/2018					416	
8/29/2018			1900	948		
3/18/2019	612					
3/19/2019		326				456
3/20/2019			1690	724	872	
8/6/2019	702					428
8/7/2019		320	1510	786	960	
4/7/2020	418	316	1510	942	698	422
9/18/2020	350	344	1620	920	738	398
4/5/2021	382	322	1290	738	540	412
9/1/2021	342	314	1560	736	636	420
4/20/2022	322	344	1530	682	558	388
9/14/2022	350	340	1710	796	524	390
4/10/2023						450
4/11/2023	2390 (o)		2140	646	646	
4/12/2023		410				
9/18/2023		318				404
9/19/2023	260		1800	720	626	
4/11/2024		382				422
4/12/2024	362				366	
4/15/2024			1750	636		
9/10/2024		386			584	396
9/11/2024	320		1830	602		
4/15/2025						430
4/16/2025	390	486			606	

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-08 (bg)	MW-10 (bg)	MW-14A	MW-15A	MW-21	MW-22 (bg)
4/17/2025			1830	766		
9/8/2025		434				426
9/9/2025	384		1870		396	
9/10/2025				518		

Time Series

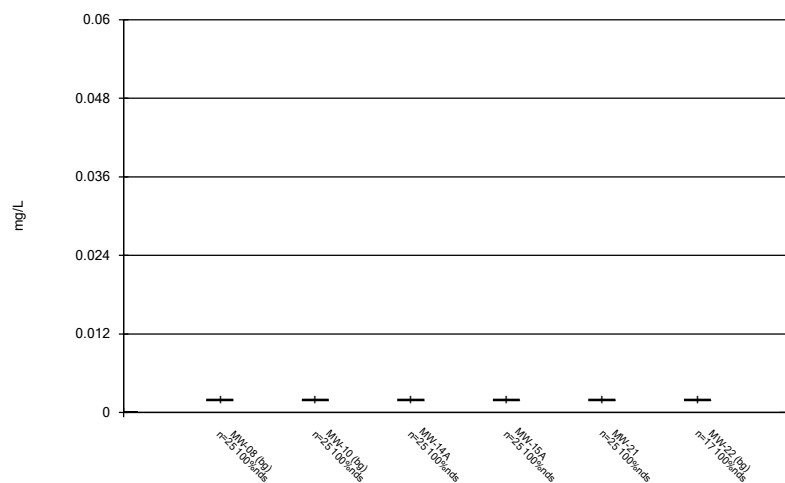
Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)	MW-4B	MW-5B	MW-6A
6/7/2016		507	920	440
8/16/2016		426	672	340
10/11/2016		450	646	370
12/12/2016		450	636	368
2/17/2017		460		
2/21/2017			684	336
4/17/2017		442	680	402
6/20/2017		452	656	
6/21/2017				486
8/7/2017		420		
8/8/2017			734	364
10/16/2017		466		
10/17/2017			688	424
3/6/2018		586	620	292
6/20/2018	384			
6/21/2018		440	828	368
8/27/2018	340			
8/28/2018		420		
8/29/2018			622	298
3/19/2019	296	398	562	320
8/6/2019	336			
8/7/2019		422	596	308
4/7/2020	298	366	494	336
9/18/2020	250	360	436	374
4/5/2021	274	380	434	330
9/1/2021	256	370	448	350
4/20/2022	218	370	428	336
9/14/2022	278	358	484	334
4/12/2023	286	396	478	428
9/18/2023	282			
9/20/2023		364	476	332
4/11/2024	274			
4/15/2024		392	450	376
9/10/2024	260			
9/12/2024		410	520	382
4/15/2025	298			
4/18/2025		424	470	380
9/8/2025	300			
9/10/2025		442	496	380

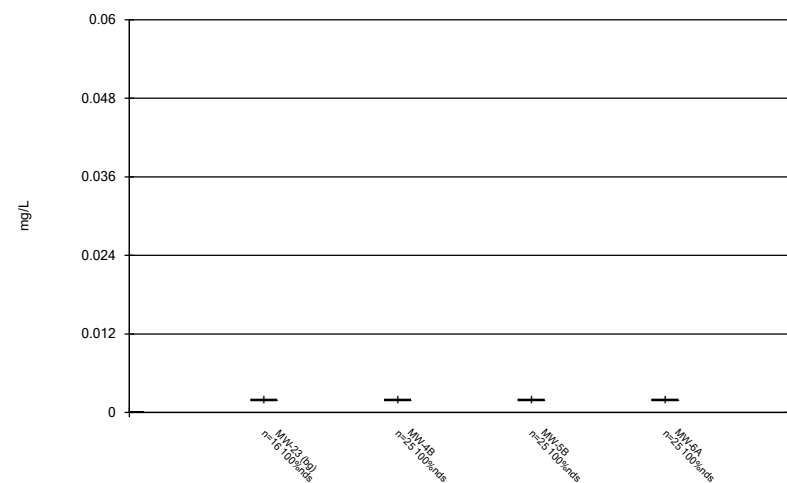
FIGURE B.

Box & Whiskers Plot



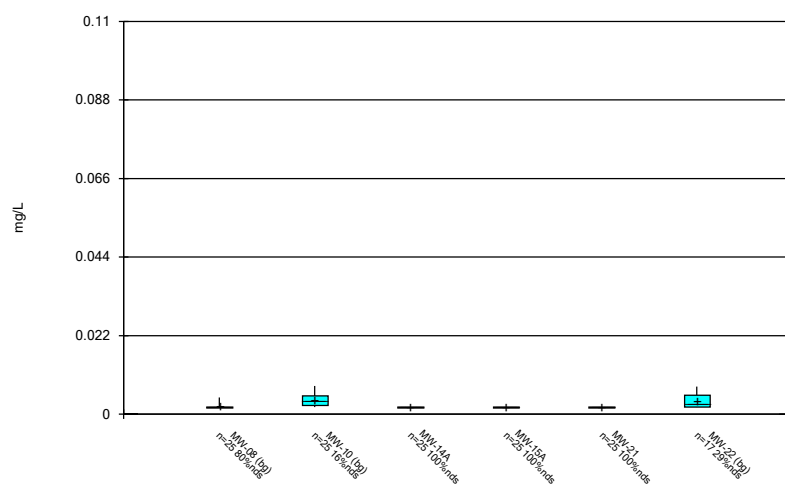
Constituent: Antimony Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



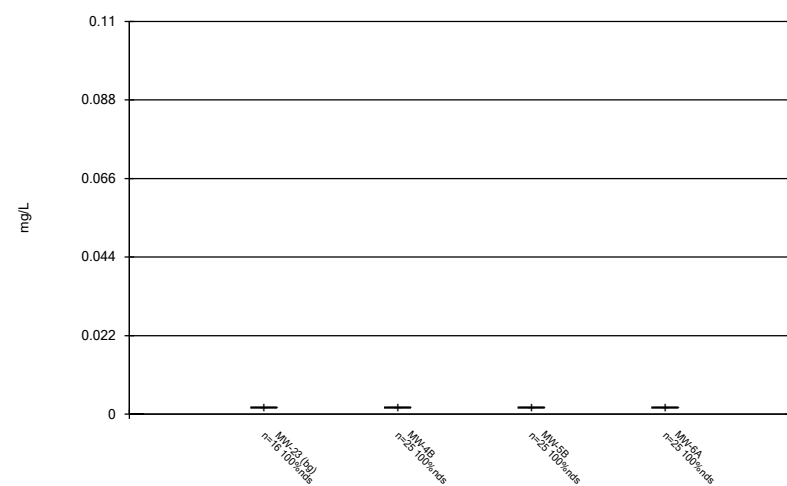
Constituent: Antimony Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



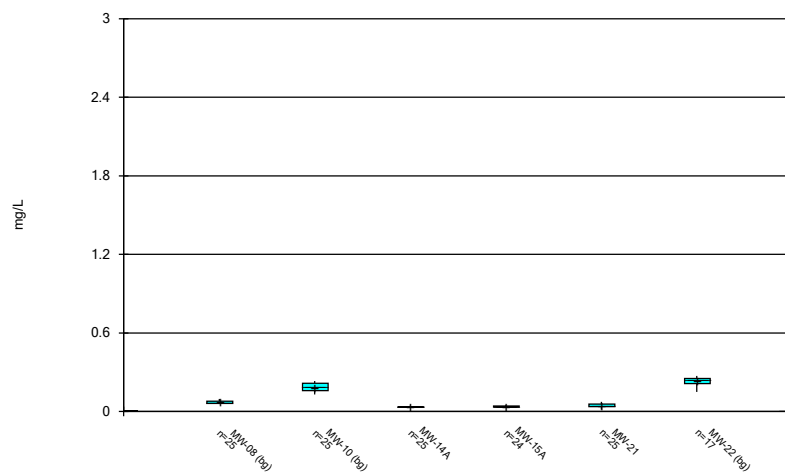
Constituent: Arsenic Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



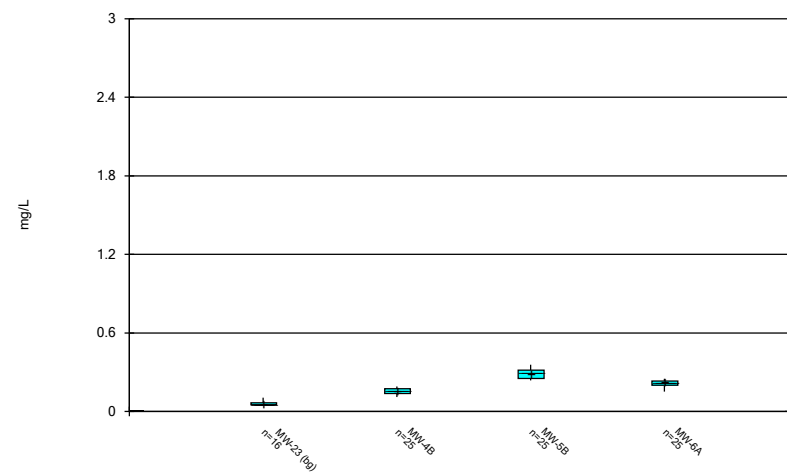
Constituent: Arsenic Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



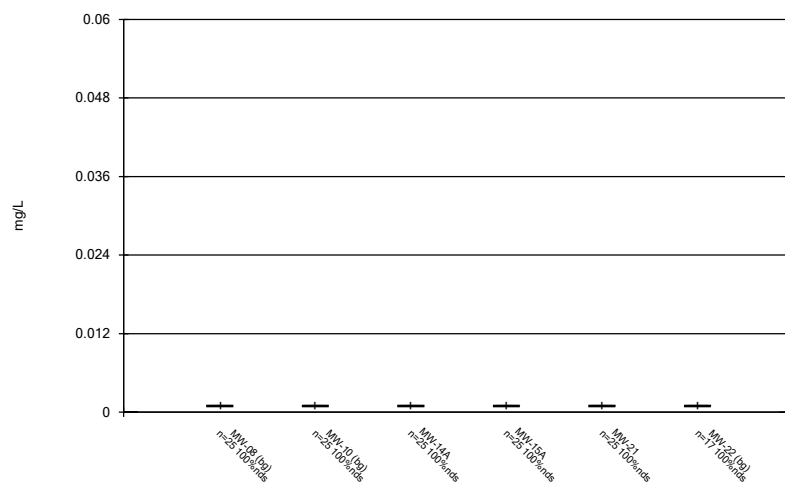
Constituent: Barium Analysis Run 12/12/2025 1:19 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



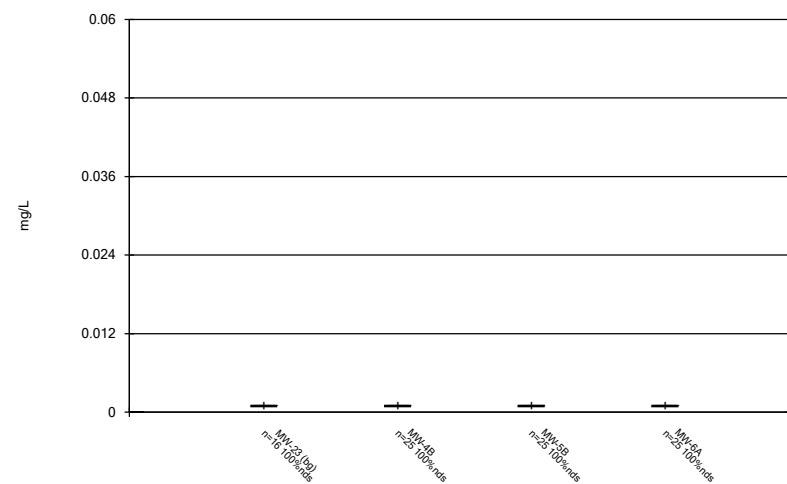
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



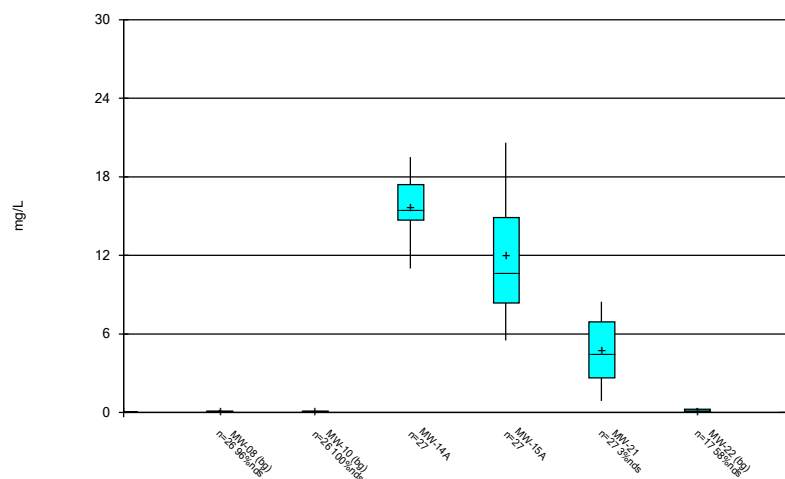
Constituent: Beryllium Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



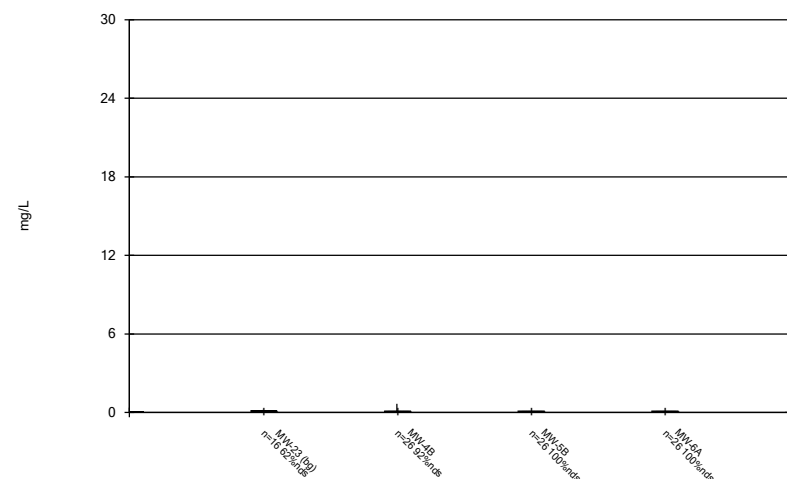
Constituent: Beryllium Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



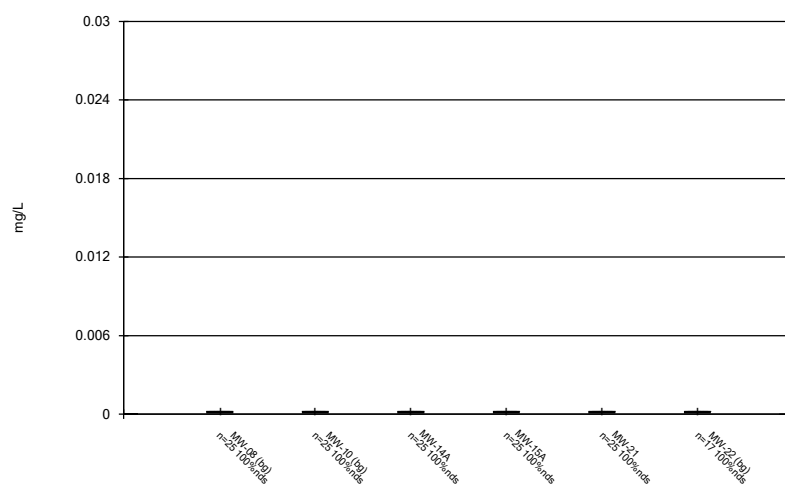
Constituent: Boron Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



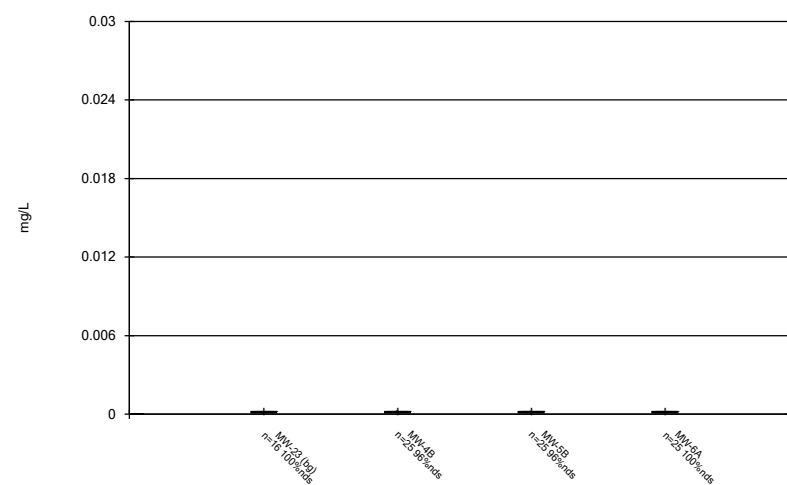
Constituent: Boron Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



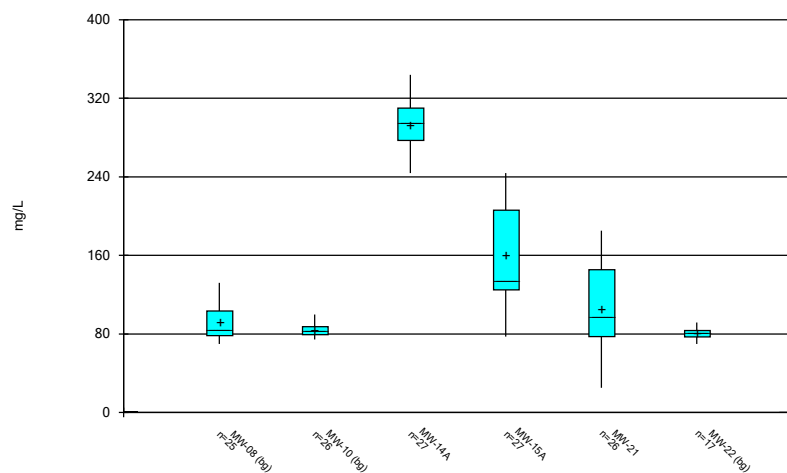
Constituent: Cadmium Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



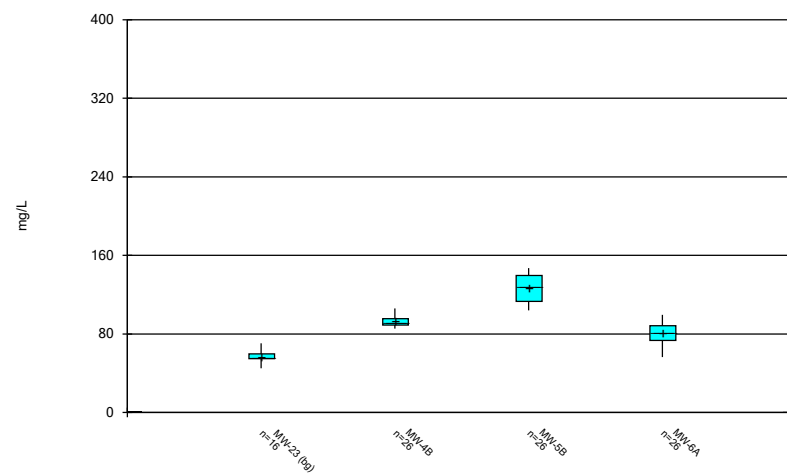
Constituent: Cadmium Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



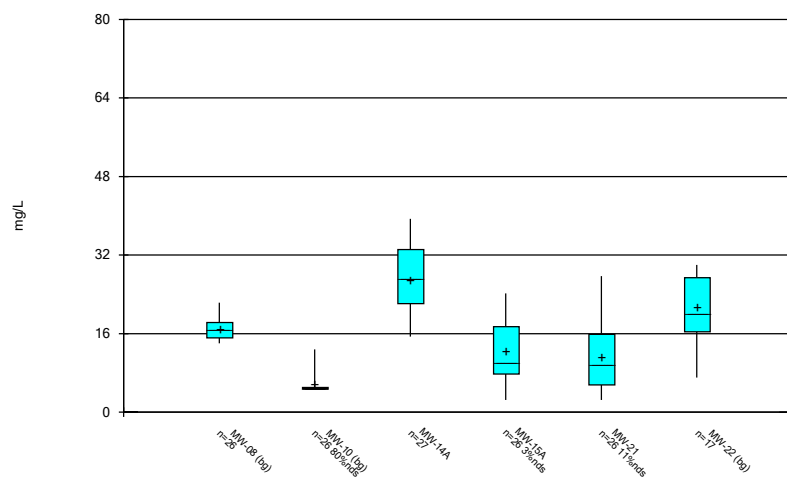
Constituent: Calcium Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



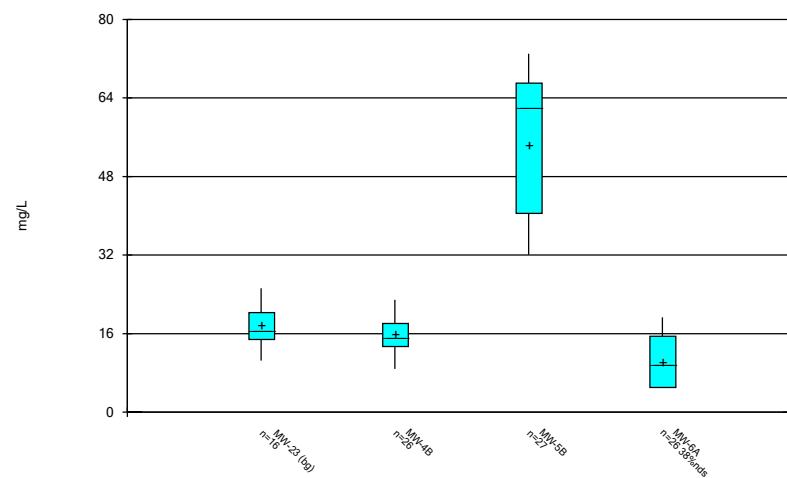
Constituent: Calcium Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



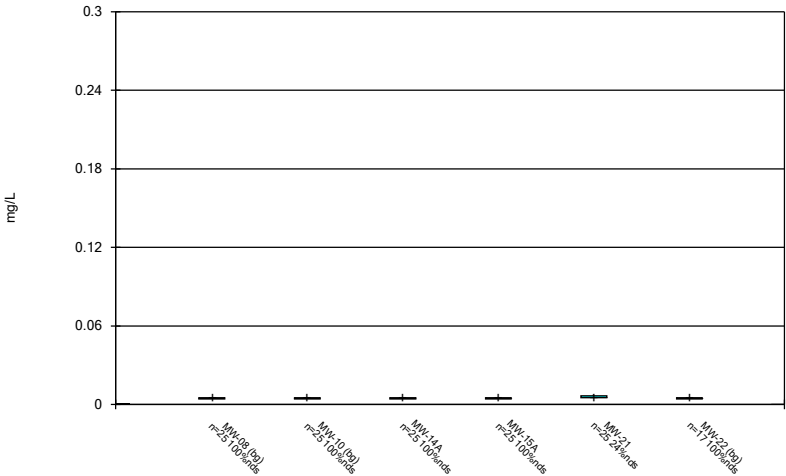
Constituent: Chloride Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



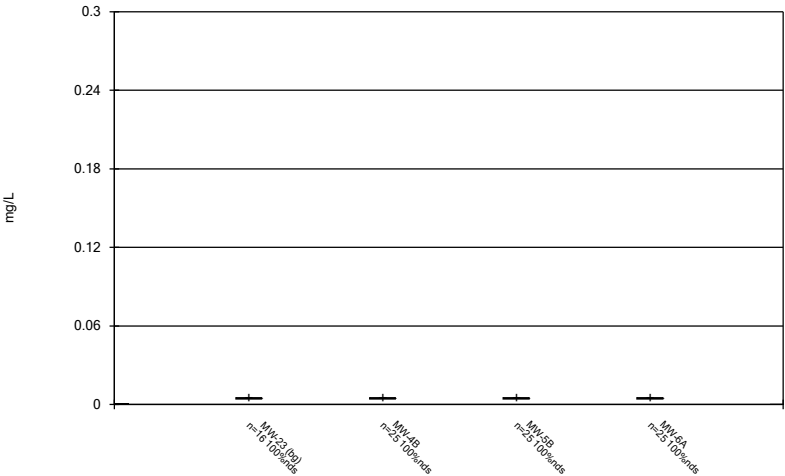
Constituent: Chloride Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



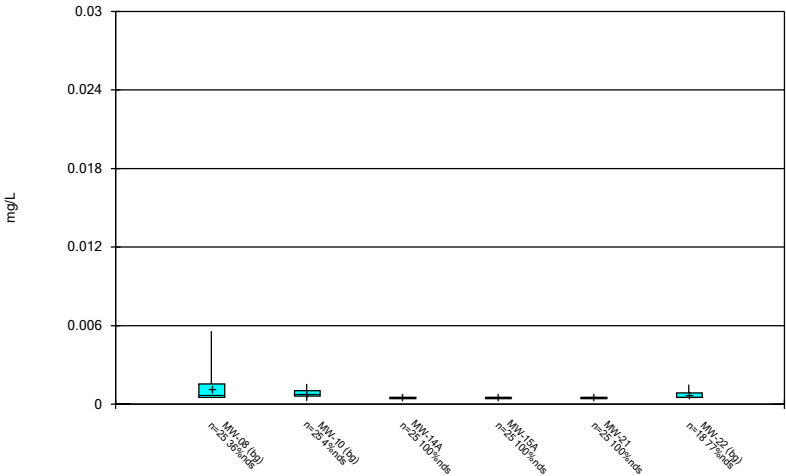
Constituent: Chromium Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



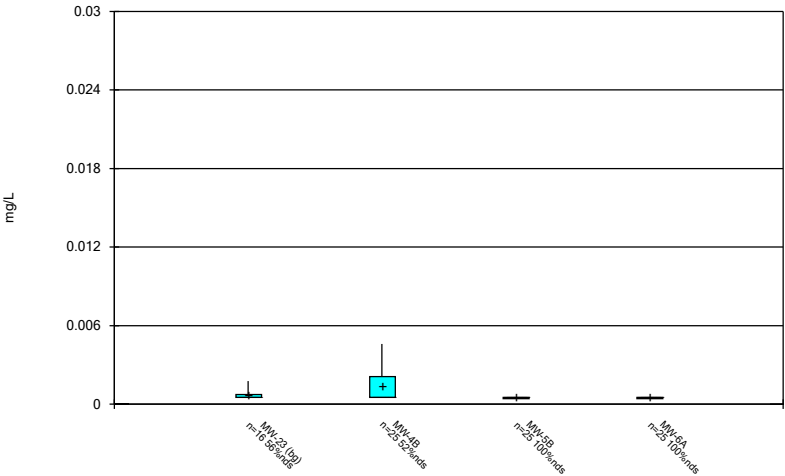
Constituent: Chromium Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



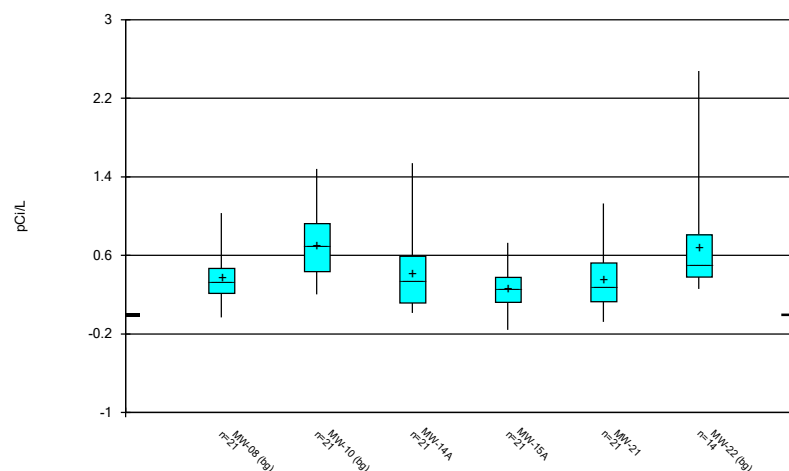
Constituent: Cobalt Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



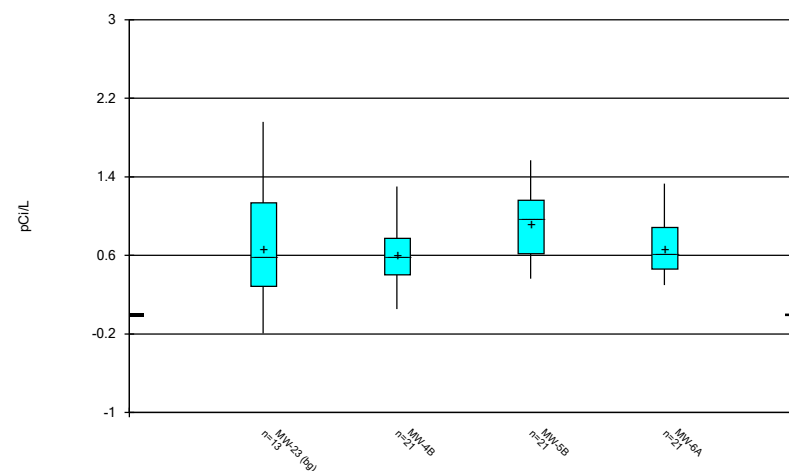
Constituent: Cobalt Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



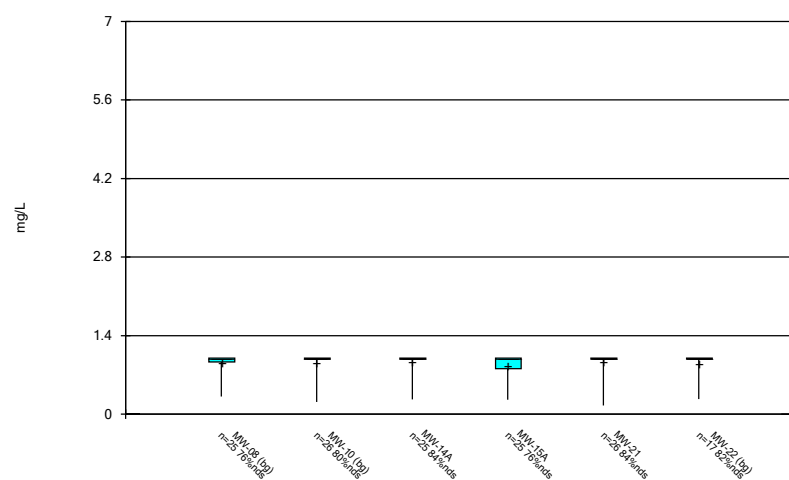
Constituent: Combined Radium 226 + 228 Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



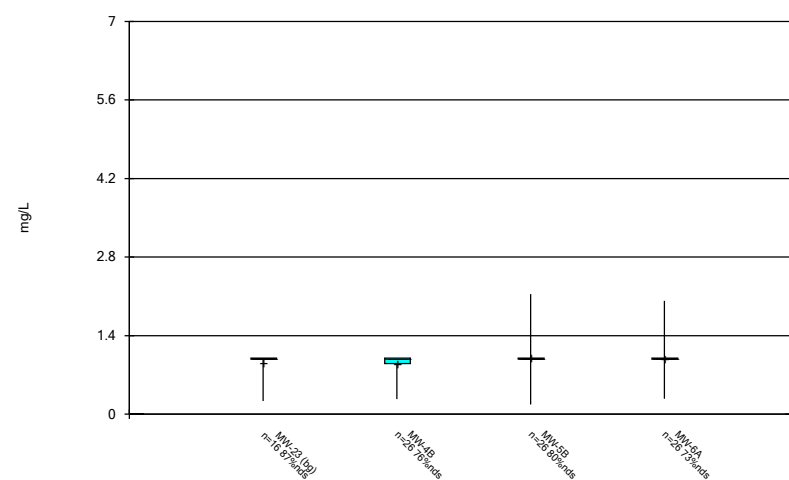
Constituent: Combined Radium 226 + 228 Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



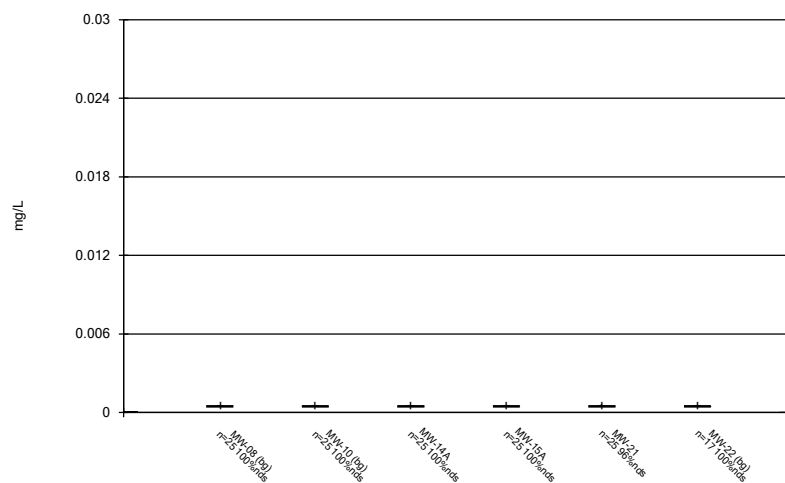
Constituent: Fluoride Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



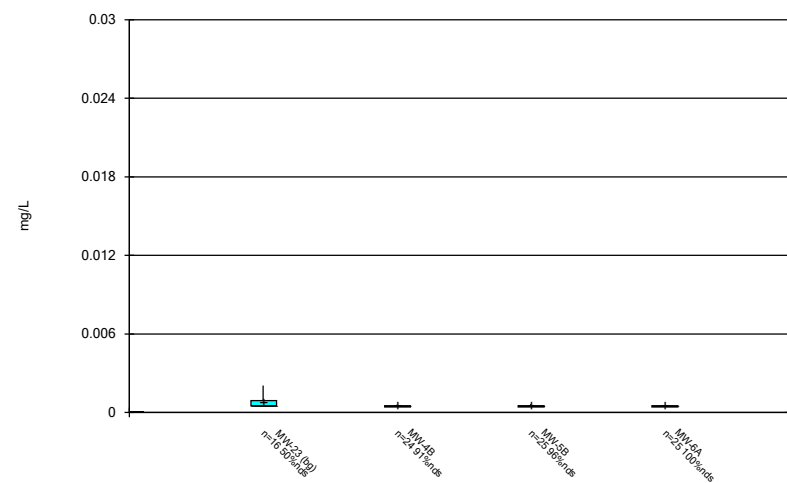
Constituent: Fluoride Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



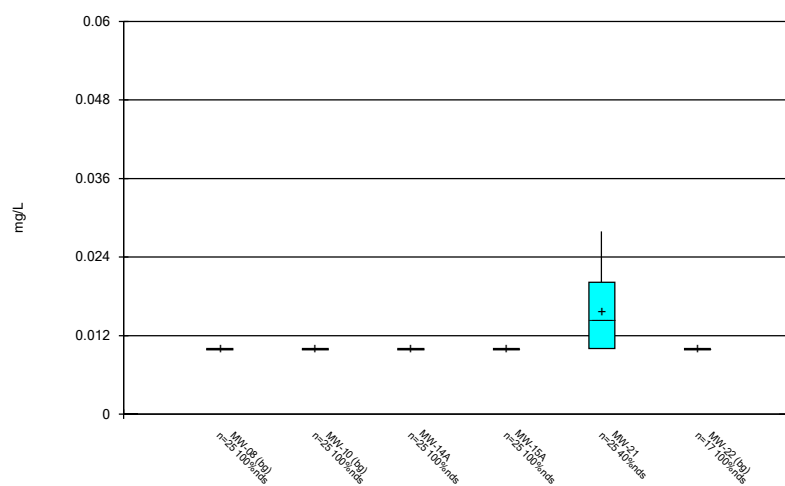
Constituent: Lead Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



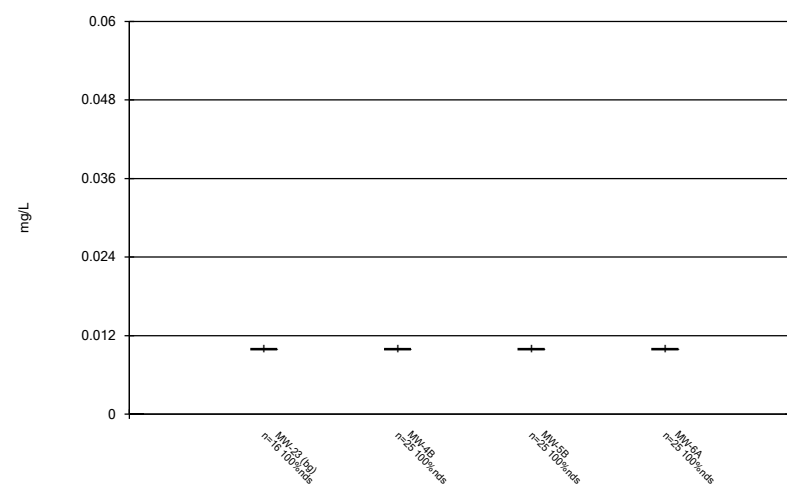
Constituent: Lead Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



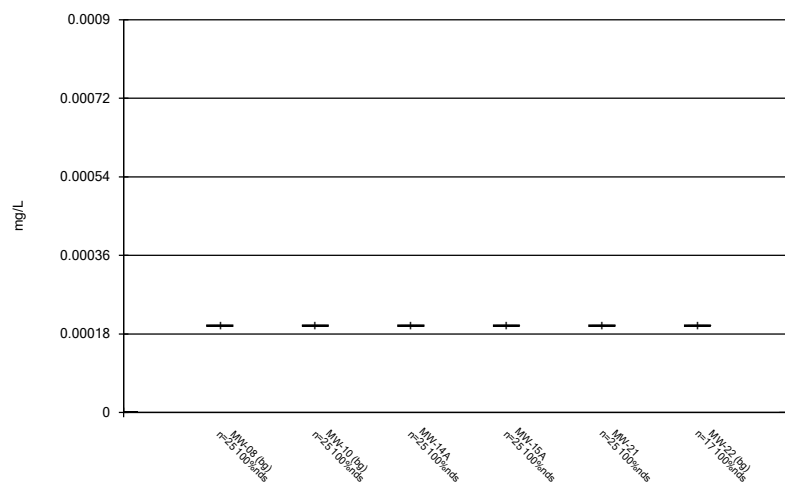
Constituent: Lithium Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



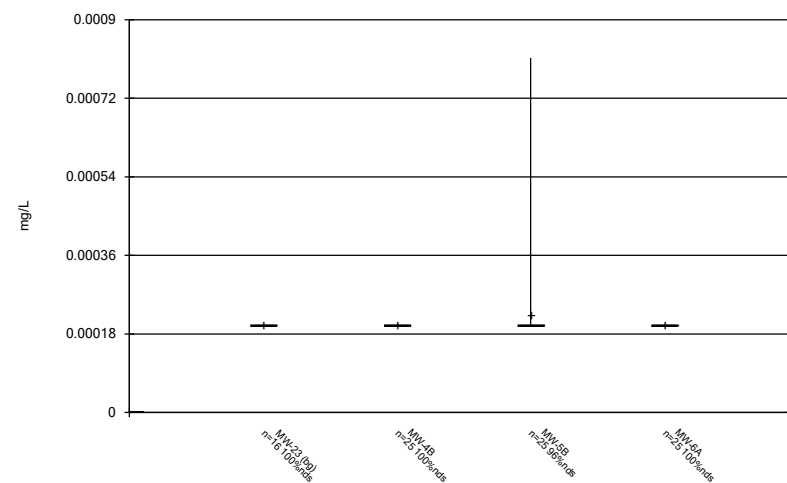
Constituent: Lithium Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



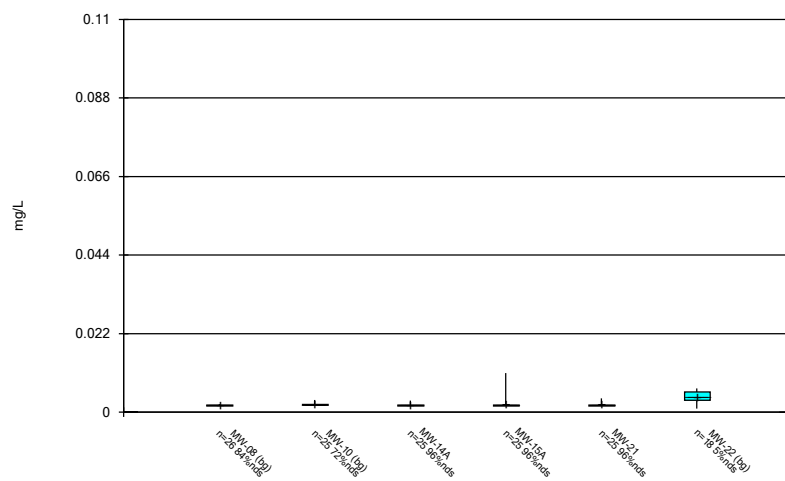
Constituent: Mercury Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



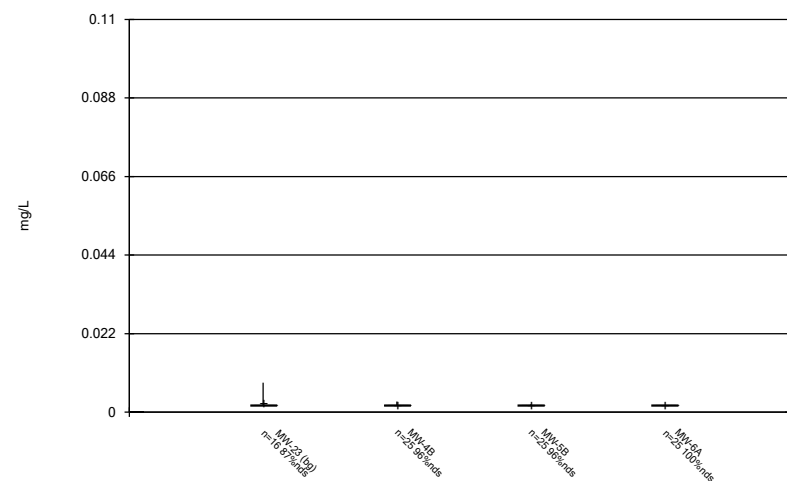
Constituent: Mercury Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



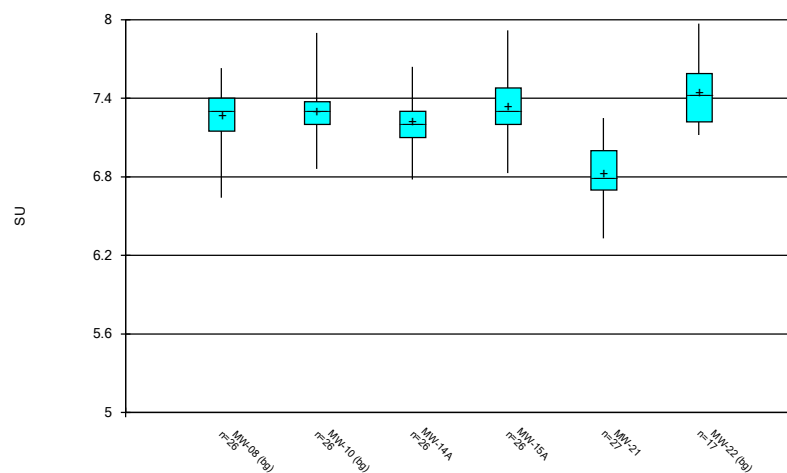
Constituent: Molybdenum Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



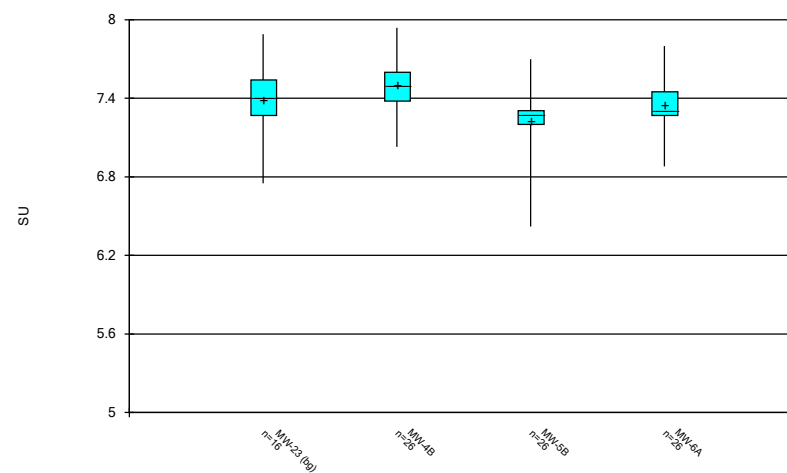
Constituent: Molybdenum Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



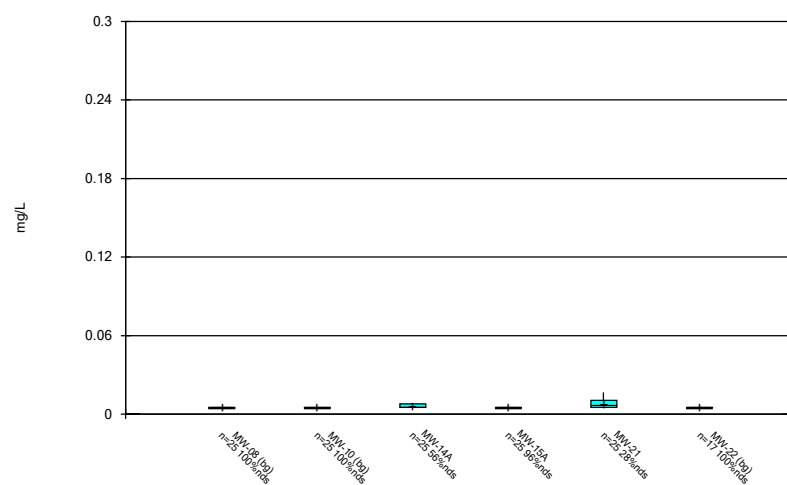
Constituent: pH Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



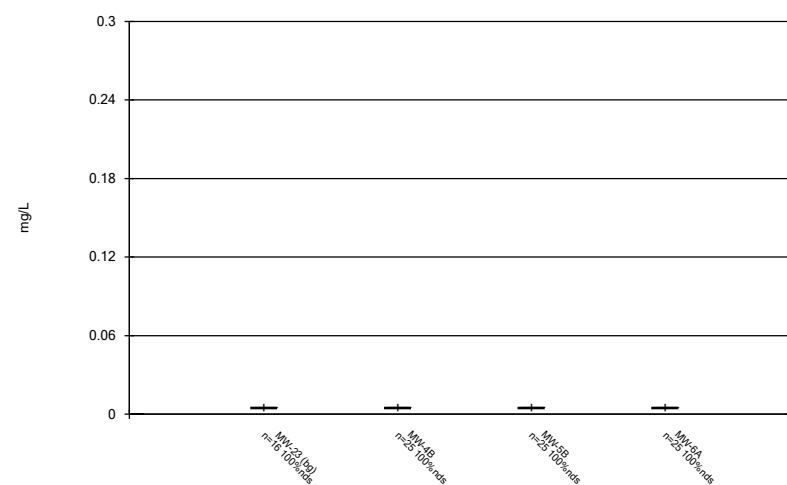
Constituent: pH Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



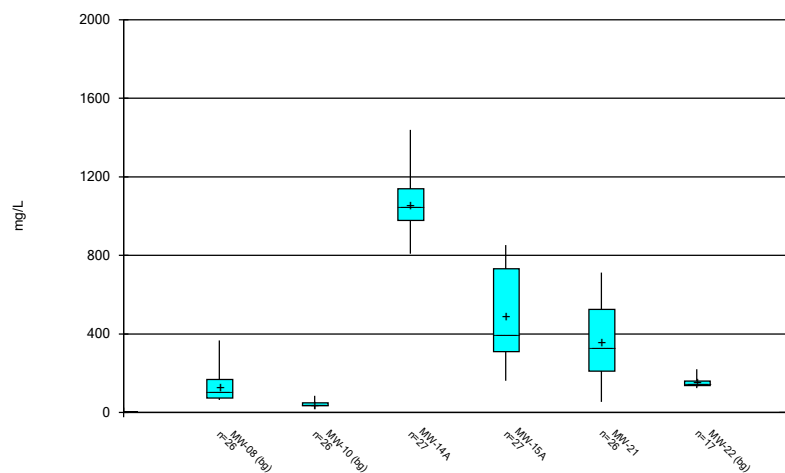
Constituent: Selenium Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



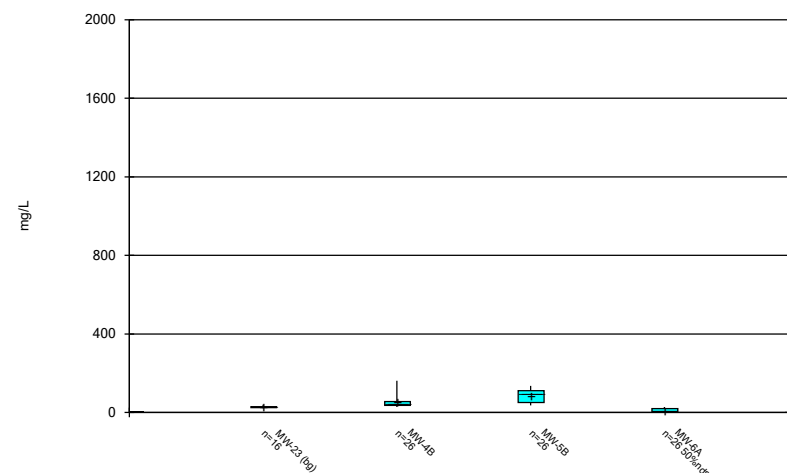
Constituent: Selenium Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



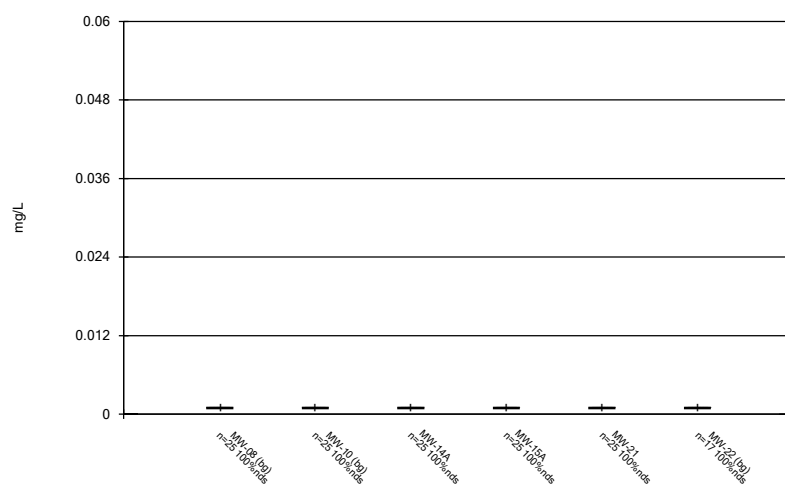
Constituent: Sulfate Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



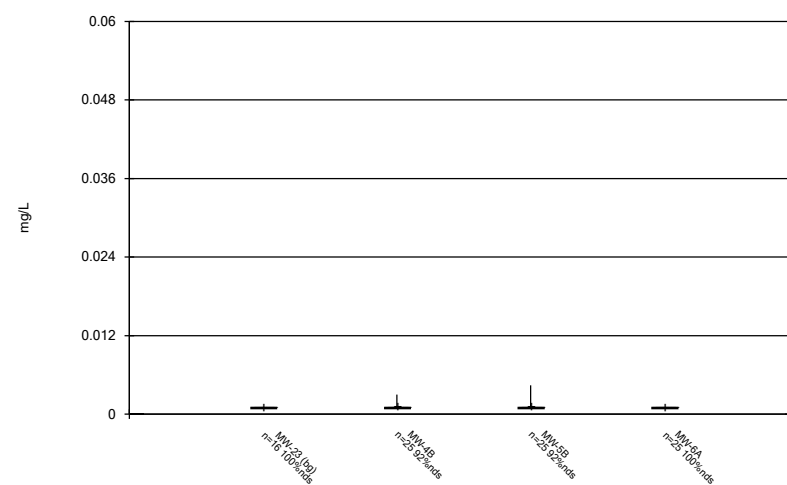
Constituent: Sulfate Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



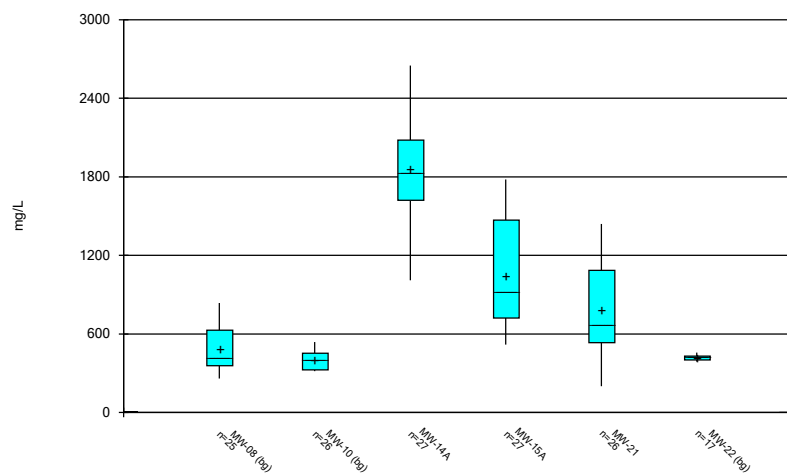
Constituent: Thallium Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



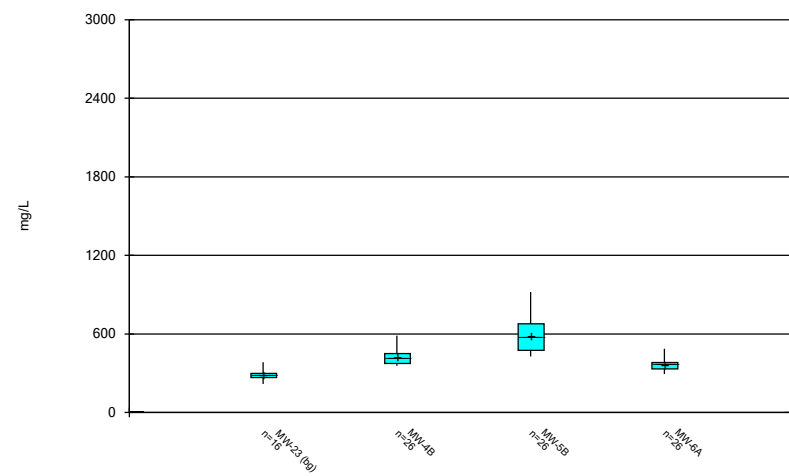
Constituent: Thallium Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 12/12/2025 1:20 PM View: Federal Descriptive
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

FIGURE C.

Outlier Summary

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 12:53 PM

[illegible]

Tukey's Outlier Test - Upgradient Wells - Significant Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/9/2025, 11:28 AM

<u>Constituent</u>	<u>Well</u>	<u>Outlier</u>	<u>Value(s)</u>	<u>Method</u>	<u>Alpha</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Distribution</u>	<u>Normality Test</u>
Calcium (mg/L)	MW-08,MW-10,MW-22...	Yes	152,44.9	NP	NaN	85	81.25	17.47	In(x)	ShapiroFrancia
Combined Radium 226 + 228 (pCi/L)	MW-08,MW-10,MW-22...	Yes	2.48	NP	NaN	69	0.5968	0.4494	normal	ShapiroFrancia
Molybdenum (mg/L)	MW-08,MW-10,MW-22...	Yes	0.00341,0.00568,0.00385,0.00423,0...	NP	NaN	85	0.002665	0.00134	In(x)	ShapiroFrancia
Total Dissolved Solids (mg/L)	MW-08,MW-10,MW-22...	Yes	2390	NP	NaN	85	430.7	243.8	In(x)	ShapiroFrancia

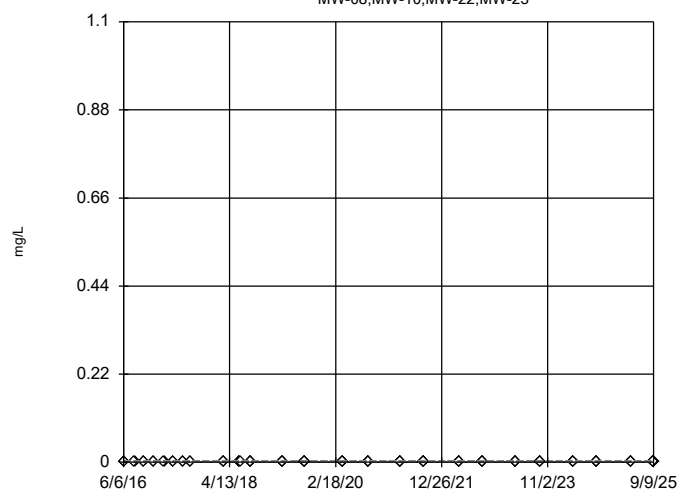
Tukey's Outlier Test - Upgradient Wells - All Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/9/2025, 11:28 AM

Constituent	Well	Outlier	Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony (mg/L)	MW-08,MW-10,MW-22...	No	n/a	NP	NaN	83	0.002	0	normal	ShapiroWilk
Arsenic (mg/L)	MW-08,MW-10,MW-22...	No	n/a	NP	NaN	83	0.003071	0.001671	ln(x)	ShapiroFrancia
Barium (mg/L)	MW-08,MW-10,MW-22...	No	n/a	NP	NaN	83	0.136	0.07383	ln(x)	ShapiroFrancia
Beryllium (mg/L)	MW-08,MW-10,MW-22...	No	n/a	NP	NaN	83	0.001	0	normal	ShapiroFrancia
Boron (mg/L)	MW-08,MW-10,MW-22...	n/a	n/a	NP	NaN	85	0.117	0.04631	unknown	ShapiroFrancia
Cadmium (mg/L)	MW-08,MW-10,MW-22...	No	n/a	NP	NaN	83	0.0002	0	normal	ShapiroFrancia
Calcium (mg/L)	MW-08,MW-10,MW-22...	Yes	152,44.9	NP	NaN	85	81.25	17.47	ln(x)	ShapiroFrancia
Chloride (mg/L)	MW-08,MW-10,MW-22...	No	n/a	NP	NaN	85	14.55	7.135	normal	ShapiroFrancia
Chromium (mg/L)	MW-08,MW-10,MW-22...	No	n/a	NP	NaN	83	0.005	0	normal	ShapiroFrancia
Cobalt (mg/L)	MW-08,MW-10,MW-22...	No	n/a	NP	NaN	84	0.0008752	0.0006689	ln(x)	ShapiroFrancia
Combined Radium 226 + 228 (pCi/L)	MW-08,MW-10,MW-22...	Yes	2.48	NP	NaN	69	0.5968	0.4494	normal	ShapiroFrancia
Fluoride (mg/L)	MW-08,MW-10,MW-22...	n/a	n/a	NP	NaN	85	0.9123	0.2397	unknown	ShapiroFrancia
Lead (mg/L)	MW-08,MW-10,MW-22...	n/a	n/a	NP	NaN	83	0.0005526	0.0002232	unknown	ShapiroFrancia
Lithium (mg/L)	MW-08,MW-10,MW-22...	No	n/a	NP	NaN	83	0.01	0	normal	ShapiroFrancia
Mercury (mg/L)	MW-08,MW-10,MW-22...	No	n/a	NP	NaN	83	0.0002	0	normal	ShapiroFrancia
Molybdenum (mg/L)	MW-08,MW-10,MW-22...	Yes	0.00341,0.00568,0.00385,0.00423,0...	NP	NaN	85	0.002665	0.00134	ln(x)	ShapiroFrancia
pH (SU)	MW-08,MW-10,MW-22...	No	n/a	NP	NaN	85	7.336	0.2402	normal	ShapiroFrancia
Selenium (mg/L)	MW-08,MW-10,MW-22...	No	n/a	NP	NaN	83	0.005	0	normal	ShapiroFrancia
Sulfate (mg/L)	MW-08,MW-10,MW-22...	No	n/a	NP	NaN	85	88.51	67.27	ln(x)	ShapiroFrancia
Thallium (mg/L)	MW-08,MW-10,MW-22...	No	n/a	NP	NaN	83	0.001	0	normal	ShapiroFrancia
Total Dissolved Solids (mg/L)	MW-08,MW-10,MW-22...	Yes	2390	NP	NaN	85	430.7	243.8	ln(x)	ShapiroFrancia

Tukey's Outlier Screening, Pooled Background

MW-08,MW-10,MW-22,MW-23

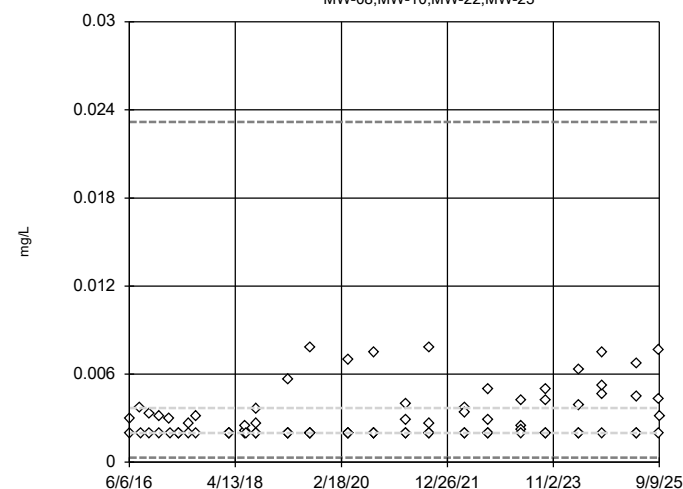


n = 83
No outliers found.
Tukey's method selected by user.
All values are the same.

Constituent: Antimony Analysis Run 12/9/2025 11:26 AM View: Federal Upgradient Outlier Testing
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Tukey's Outlier Screening, Pooled Background

MW-08,MW-10,MW-22,MW-23

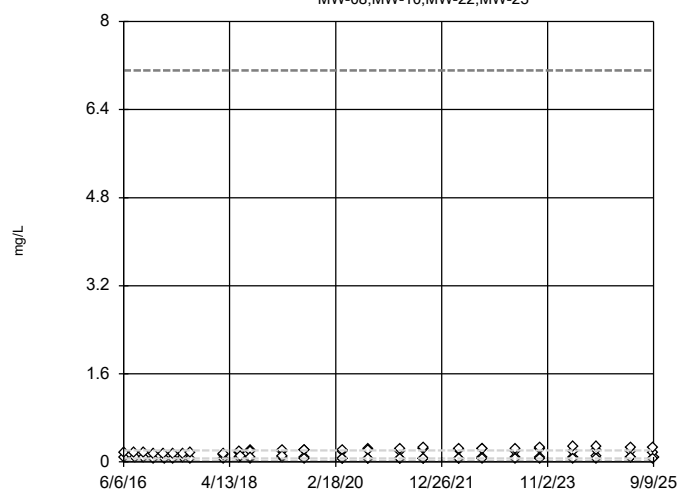


n = 83
No outliers found.
Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.02317, low cutoff = 0.0003184, based on IQR multiplier of 3.

Constituent: Arsenic Analysis Run 12/9/2025 11:26 AM View: Federal Upgradient Outlier Testing
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Tukey's Outlier Screening, Pooled Background

MW-08,MW-10,MW-22,MW-23

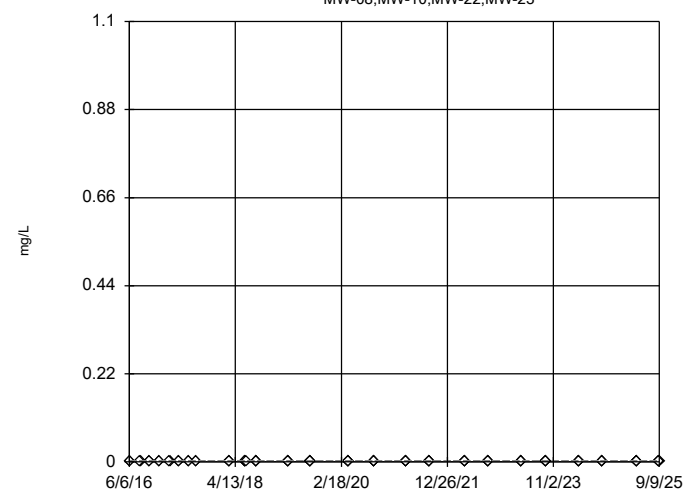


n = 83
No outliers found.
Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 7.111, low cutoff = 0.001896, based on IQR multiplier of 3.

Constituent: Barium Analysis Run 12/9/2025 11:26 AM View: Federal Upgradient Outlier Testing
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

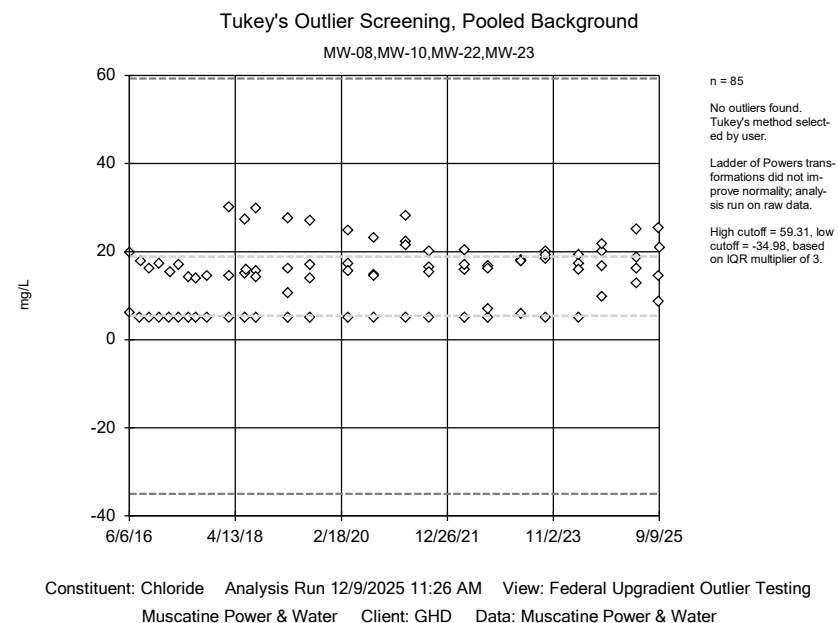
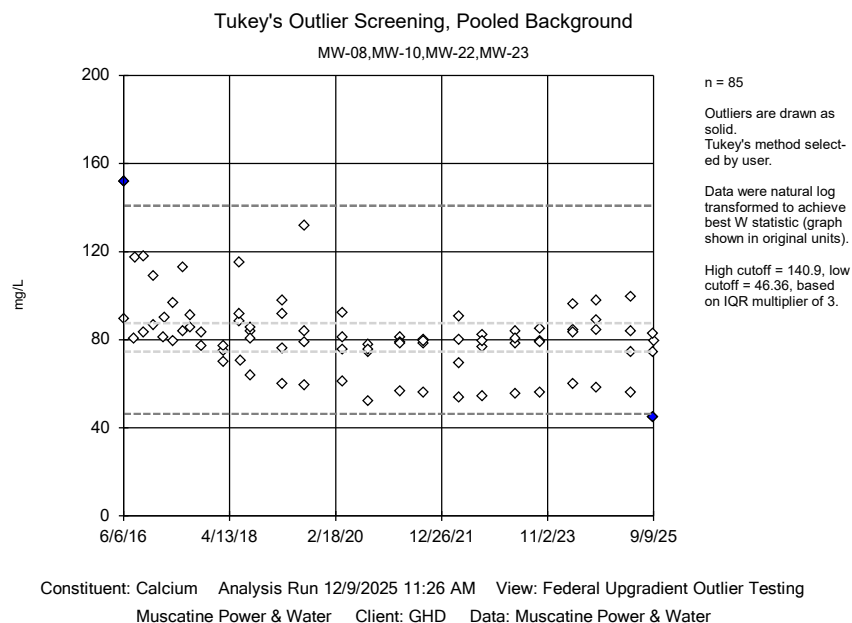
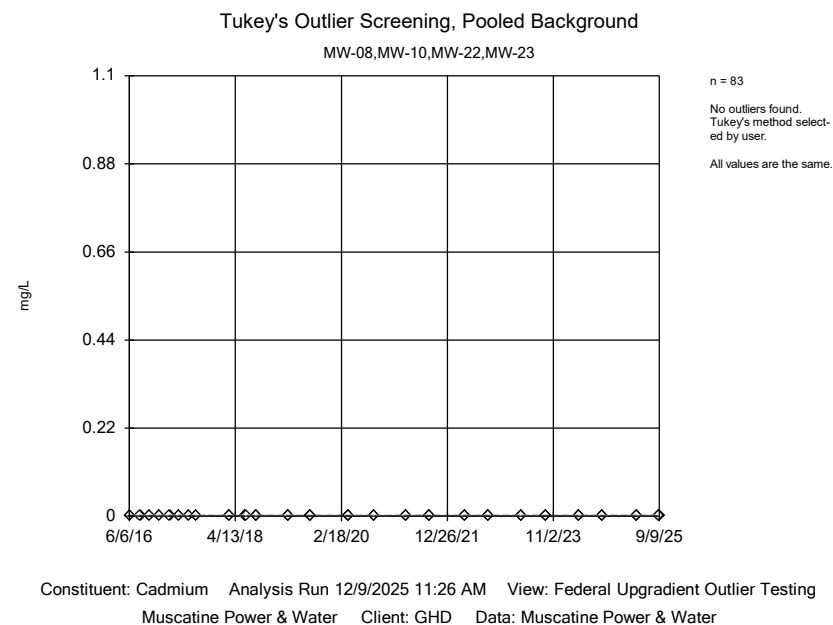
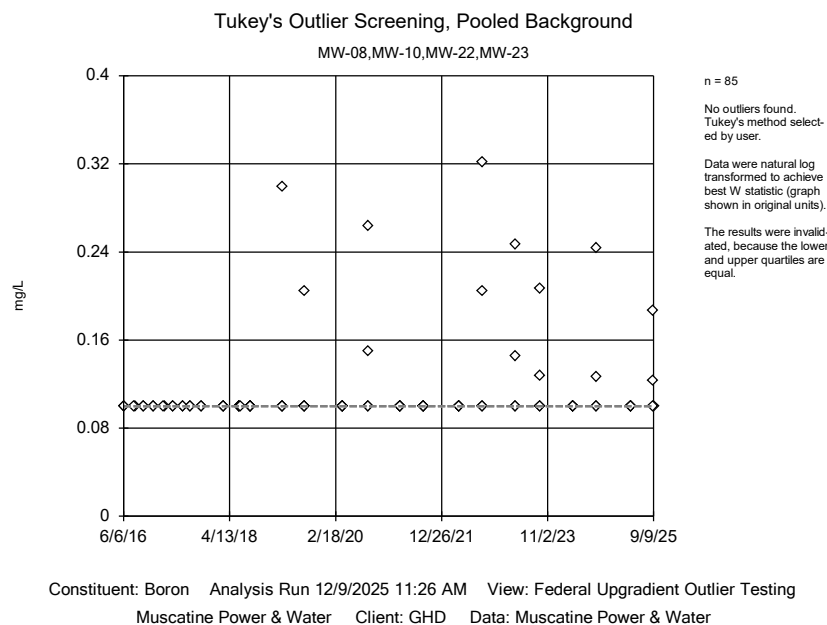
Tukey's Outlier Screening, Pooled Background

MW-08,MW-10,MW-22,MW-23



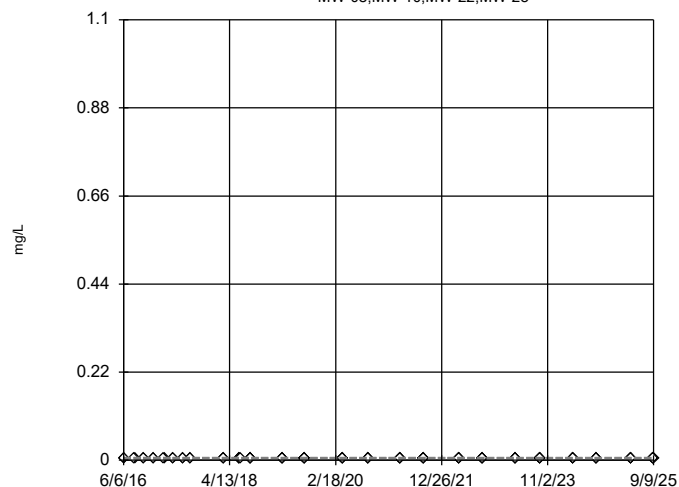
n = 83
No outliers found.
Tukey's method selected by user.
All values are the same.

Constituent: Beryllium Analysis Run 12/9/2025 11:26 AM View: Federal Upgradient Outlier Testing
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Tukey's Outlier Screening, Pooled Background

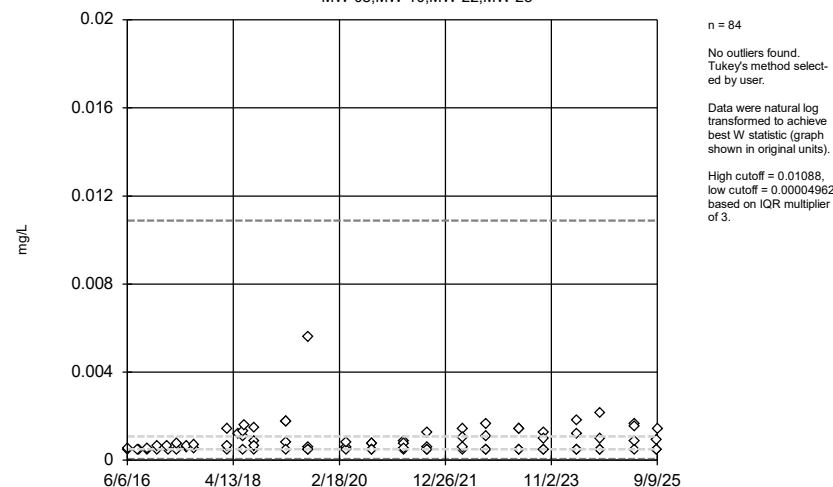
MW-08,MW-10,MW-22,MW-23



Constituent: Chromium Analysis Run 12/9/2025 11:26 AM View: Federal Upgradient Outlier Testing
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Tukey's Outlier Screening, Pooled Background

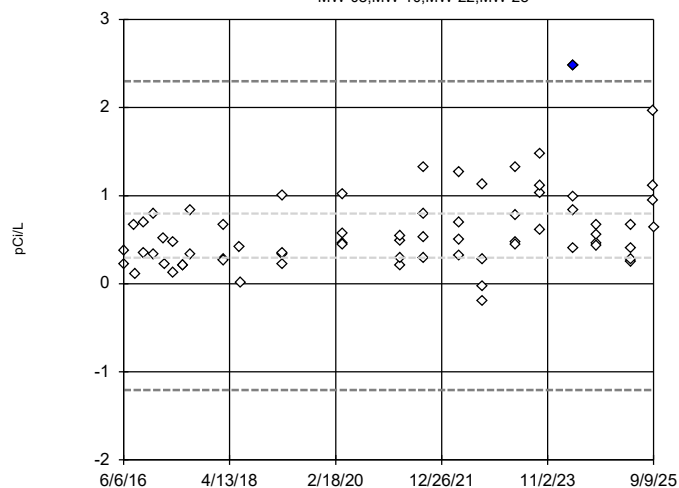
MW-08,MW-10,MW-22,MW-23



Constituent: Cobalt Analysis Run 12/9/2025 11:26 AM View: Federal Upgradient Outlier Testing
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Tukey's Outlier Screening, Pooled Background

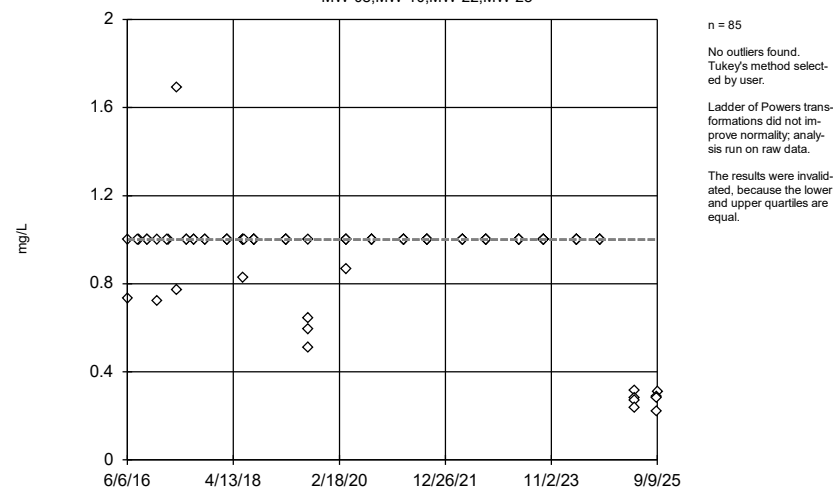
MW-08,MW-10,MW-22,MW-23



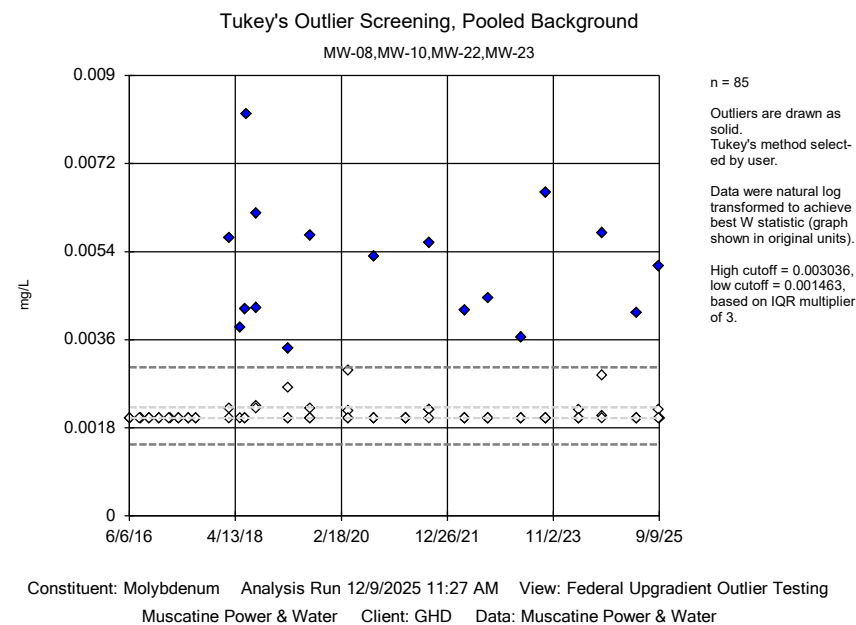
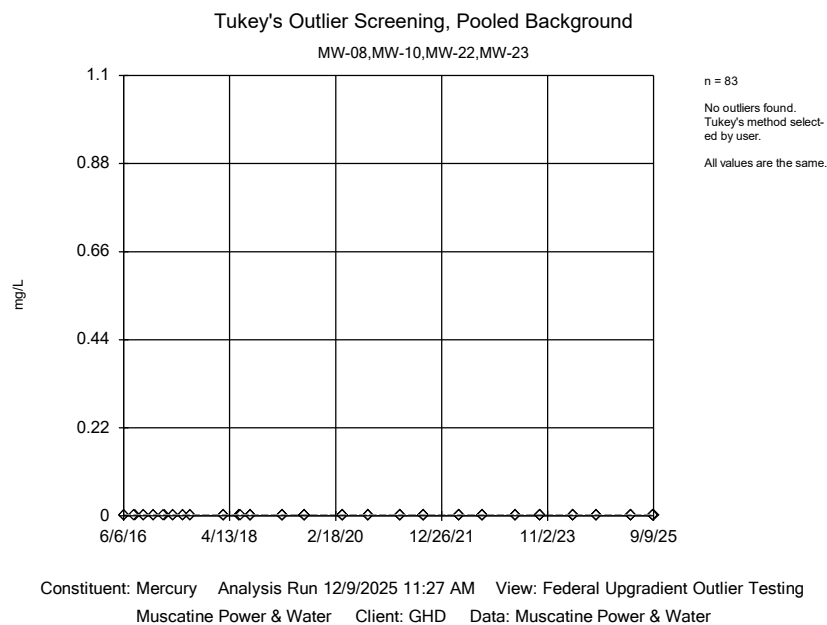
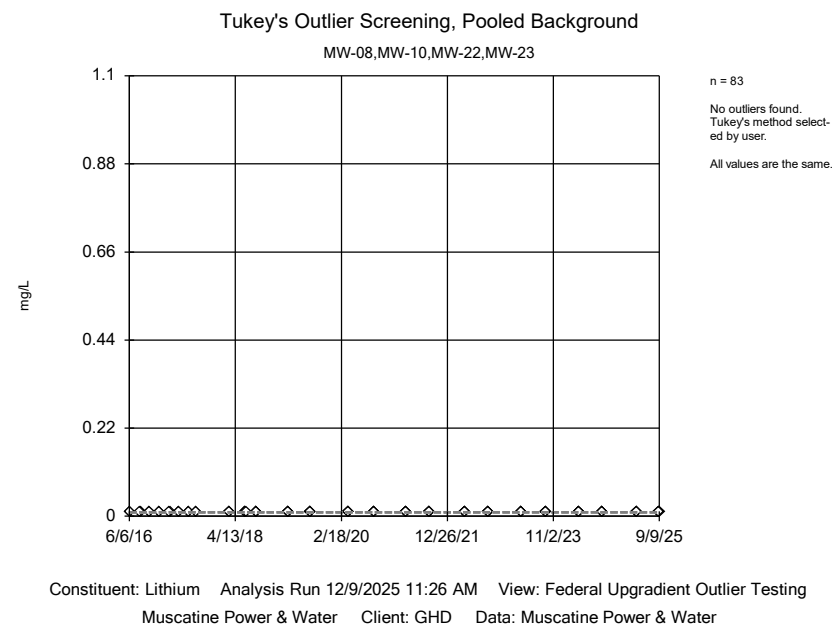
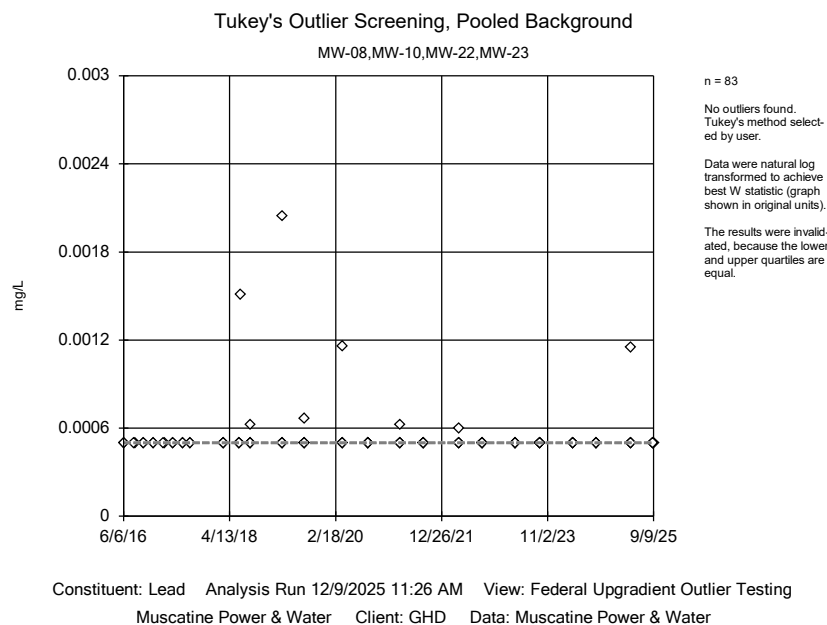
Constituent: Combined Radium 226 + 228 Analysis Run 12/9/2025 11:26 AM View: Federal Upgradient O
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

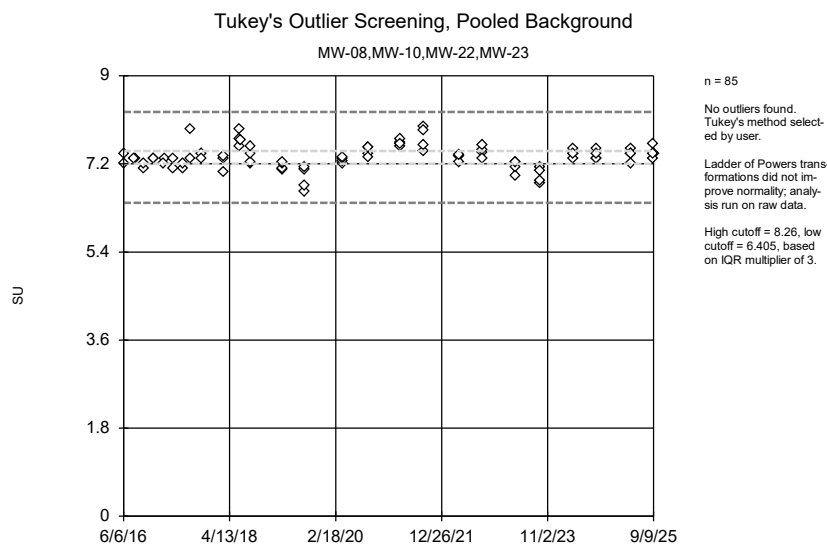
Tukey's Outlier Screening, Pooled Background

MW-08,MW-10,MW-22,MW-23

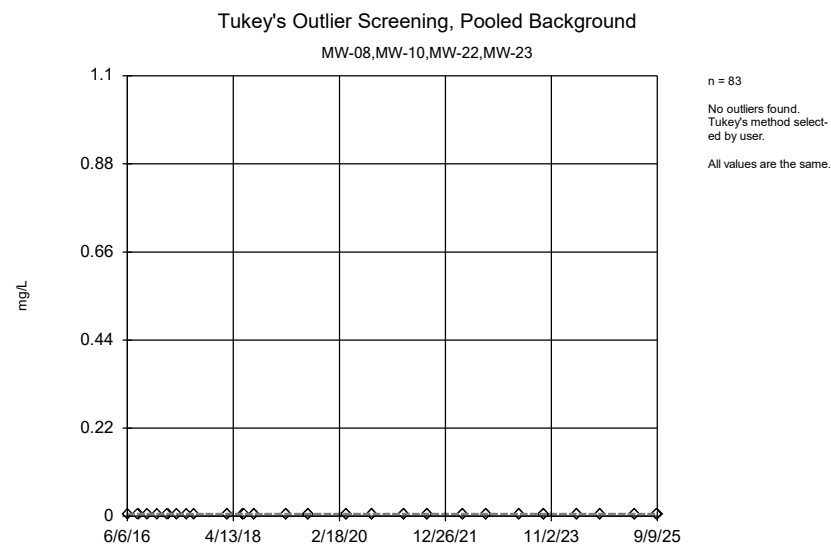


Constituent: Fluoride Analysis Run 12/9/2025 11:26 AM View: Federal Upgradient Outlier Testing
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

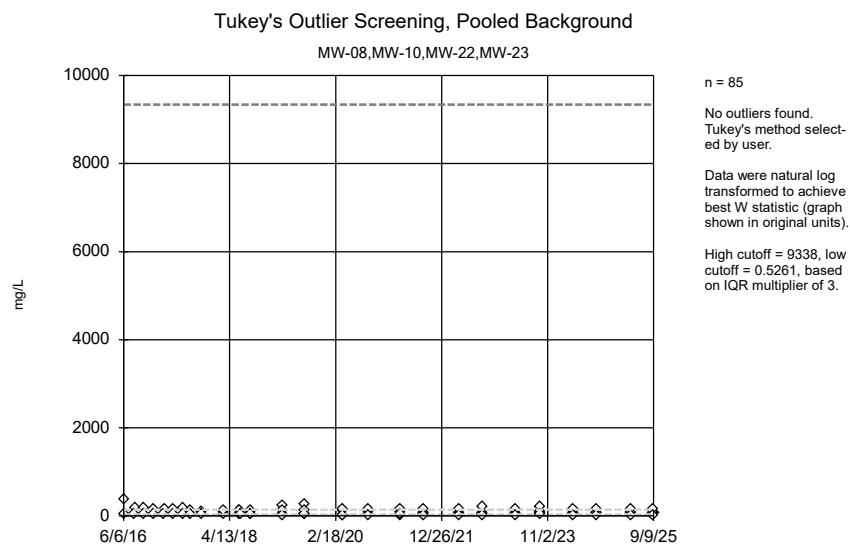




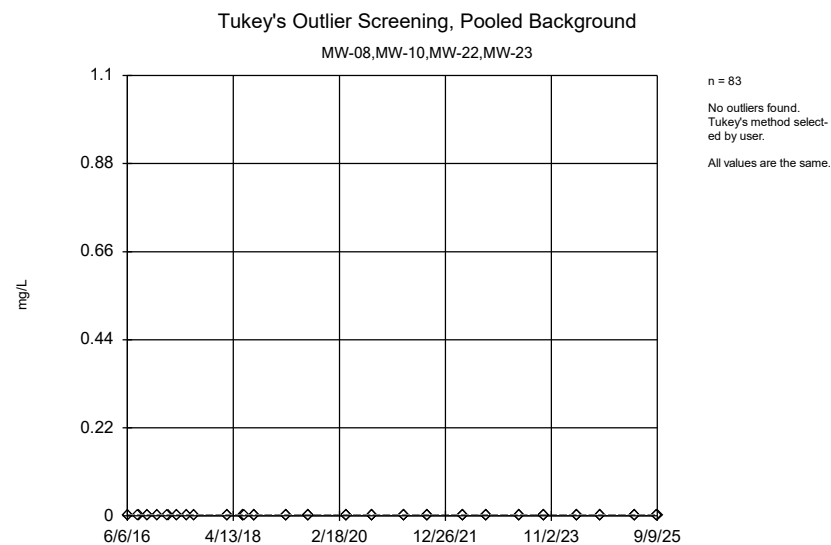
Constituent: pH Analysis Run 12/9/2025 11:27 AM View: Federal Upgradient Outlier Testing
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



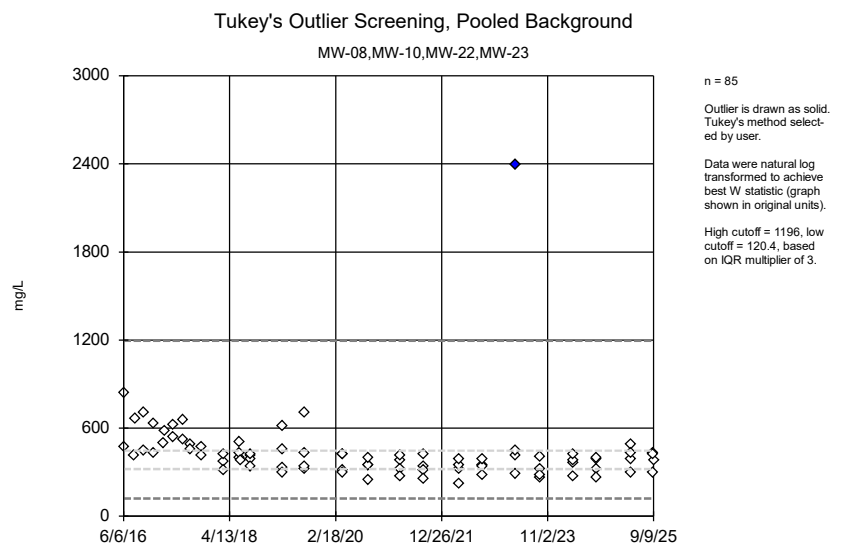
Constituent: Selenium Analysis Run 12/9/2025 11:27 AM View: Federal Upgradient Outlier Testing
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Sulfate Analysis Run 12/9/2025 11:27 AM View: Federal Upgradient Outlier Testing
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Thallium Analysis Run 12/9/2025 11:27 AM View: Federal Upgradient Outlier Testing
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Total Dissolved Solids Analysis Run 12/9/2025 11:27 AM View: Federal Upgradient Outlier T
 Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

FIGURE D.

Appendix III Trend Tests - Upgradient Wells - Significant Results

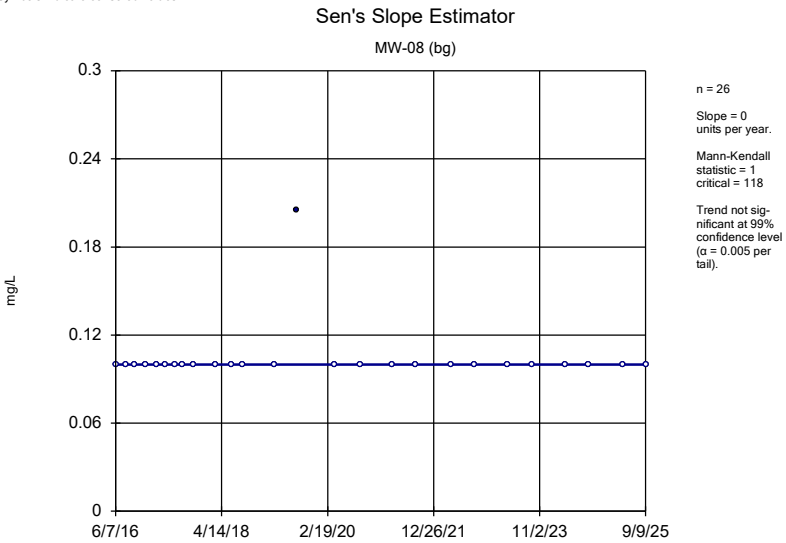
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 1:12 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Chloride (mg/L)	MW-22 (bg)	-2.056	-102	-63	Yes	17	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-23 (bg)	1.516	85	58	Yes	16	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-08 (bg)	-12.86	-221	-118	Yes	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-22 (bg)	4.734	77	63	Yes	17	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-23 (bg)	-0.8498	-65	-58	Yes	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-08 (bg)	-42.47	-187	-111	Yes	25	0	n/a	n/a	0.01	NP

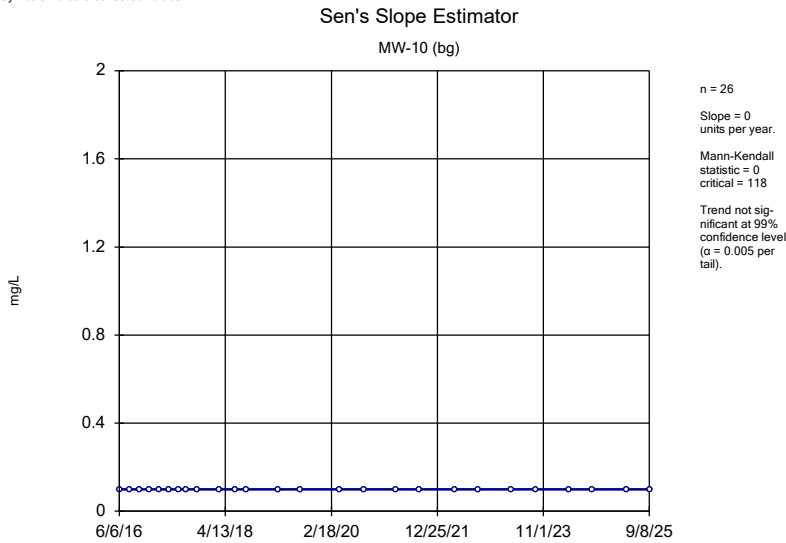
Appendix III Trend Tests - Upgradient Wells - All Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 1:12 PM

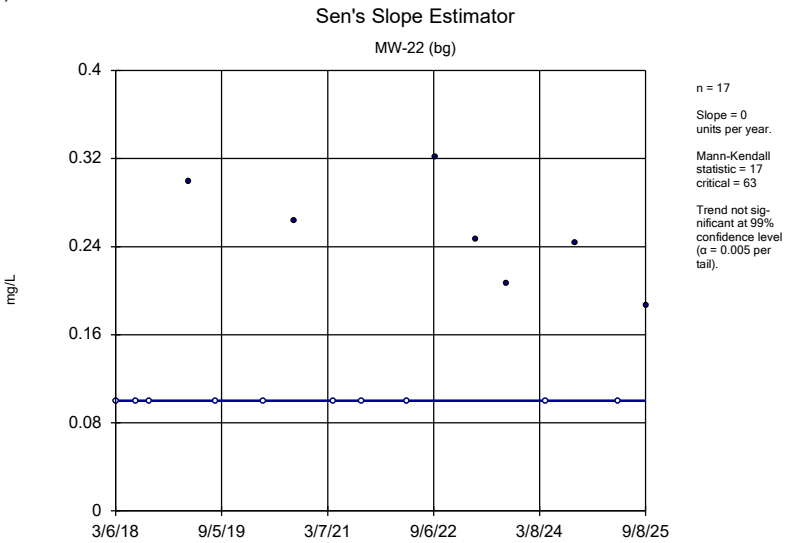
<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	MW-08 (bg)	0	1	118	No	26	96.15	n/a	n/a	0.01	NP
Boron (mg/L)	MW-10 (bg)	0	0	118	No	26	100	n/a	n/a	0.01	NP
Boron (mg/L)	MW-22 (bg)	0	17	63	No	17	58.82	n/a	n/a	0.01	NP
Boron (mg/L)	MW-23 (bg)	0	23	58	No	16	62.5	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-08 (bg)	-2.922	-102	-111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-10 (bg)	0.5172	40	118	No	26	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-22 (bg)	-0.4821	-22	-63	No	17	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-23 (bg)	-1.457	-52	-58	No	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-08 (bg)	0.3471	107	118	No	26	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-10 (bg)	0	63	118	No	26	80.77	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-22 (bg)	-2.056	-102	-63	Yes	17	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-23 (bg)	1.516	85	58	Yes	16	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-08 (bg)	0	-31	-111	No	25	76	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-10 (bg)	0	-17	-118	No	26	80.77	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-22 (bg)	0	-23	-63	No	17	82.35	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-23 (bg)	0	-27	-58	No	16	87.5	n/a	n/a	0.01	NP
pH (SU)	MW-08 (bg)	0.01508	76	118	No	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-10 (bg)	0	-18	-118	No	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-22 (bg)	0.005529	6	63	No	17	0	n/a	n/a	0.01	NP
pH (SU)	MW-23 (bg)	-0.011	-9	-58	No	16	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-08 (bg)	-12.86	-221	-118	Yes	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-10 (bg)	1.617	71	118	No	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-22 (bg)	4.734	77	63	Yes	17	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-23 (bg)	-0.8498	-65	-58	Yes	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-08 (bg)	-42.47	-187	-111	Yes	25	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-10 (bg)	-10.94	-87	-118	No	26	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-22 (bg)	-1.77	-22	-63	No	17	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-23 (bg)	-6.153	-26	-58	No	16	0	n/a	n/a	0.01	NP



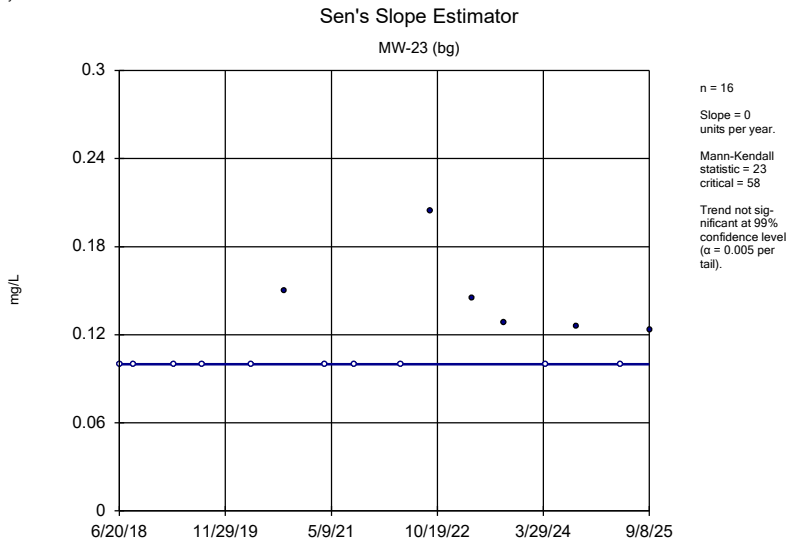
Constituent: Boron Analysis Run 12/12/2025 1:10 PM View: Federal Appendix III Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



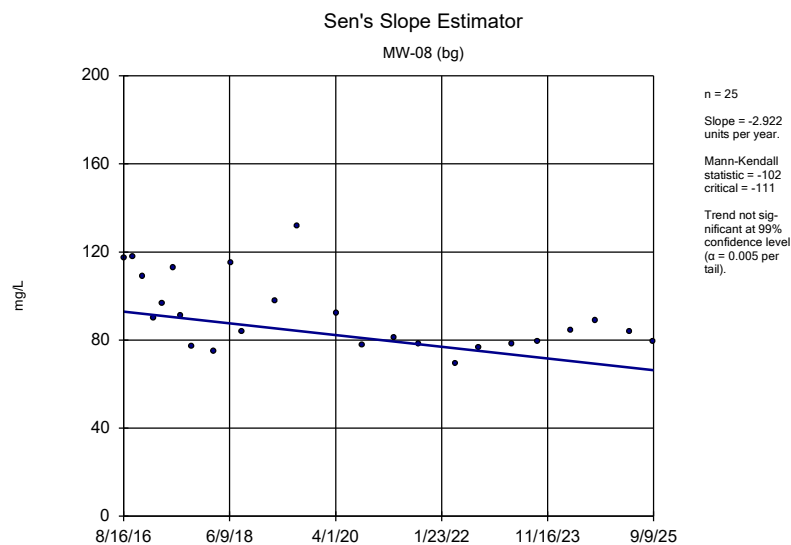
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



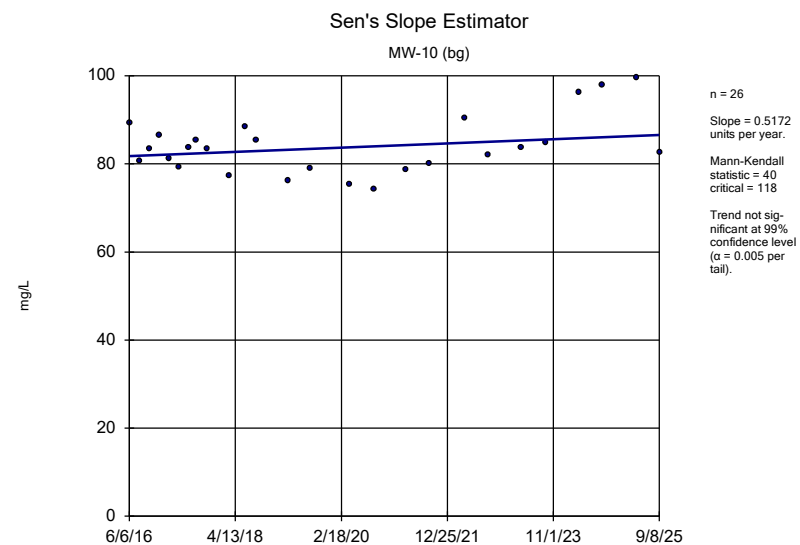
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



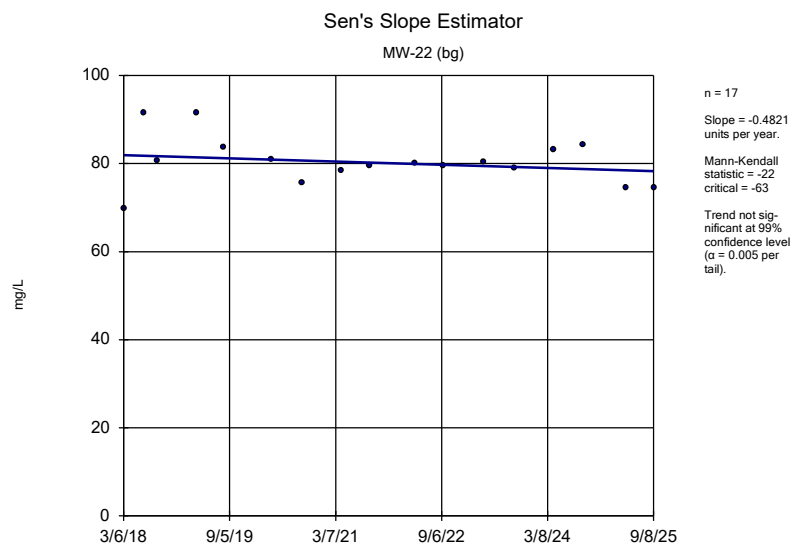
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



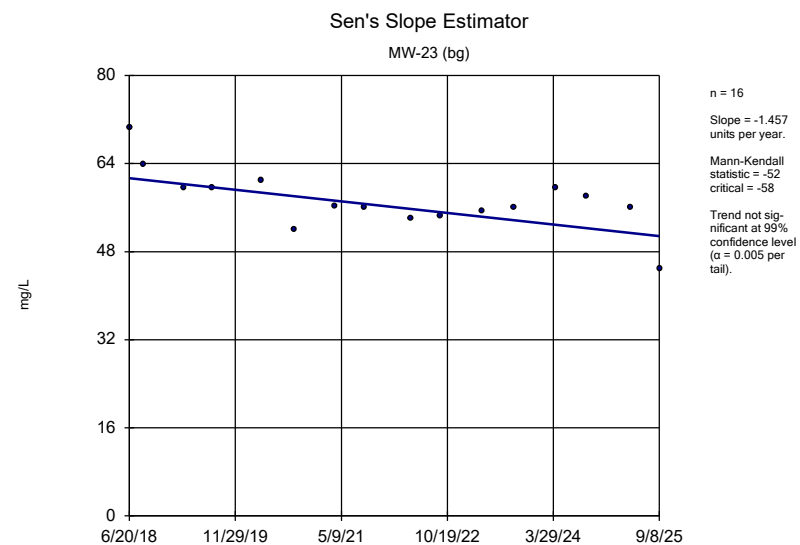
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Calcium Analysis Run 12/12/2025 1:10 PM View: Federal Appendix III Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



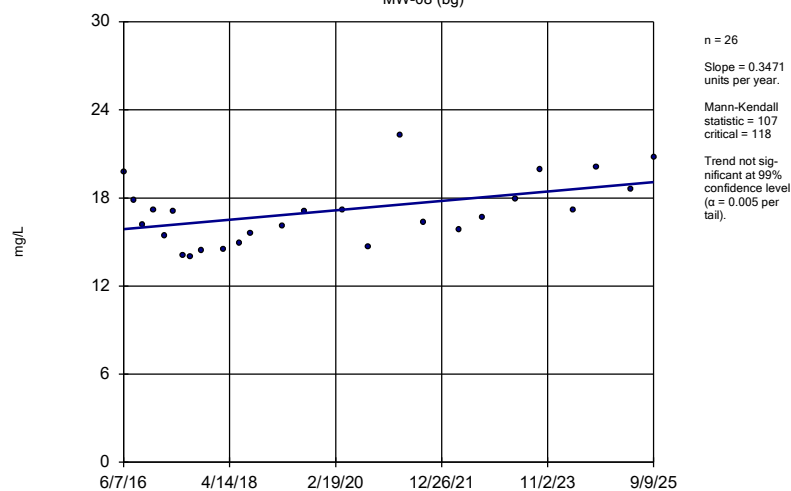
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Calcium Analysis Run 12/12/2025 1:10 PM View: Federal Appendix III Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Sen's Slope Estimator

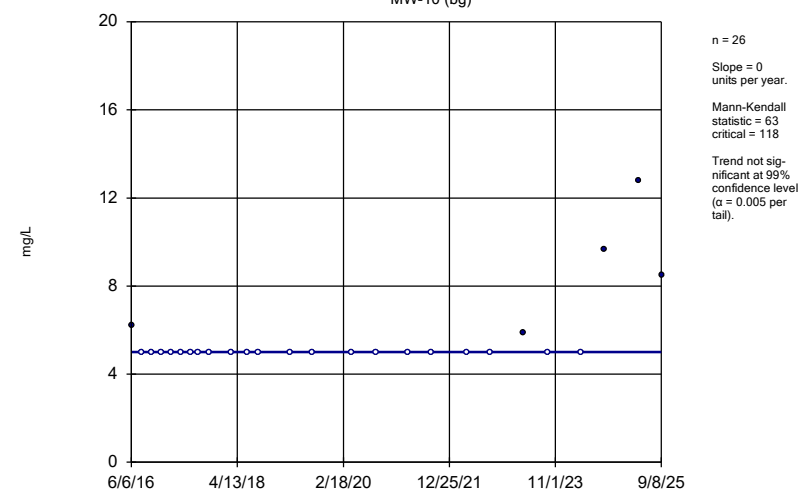
MW-08 (bg)



Constituent: Chloride Analysis Run 12/12/2025 1:10 PM View: Federal Appendix III Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Sen's Slope Estimator

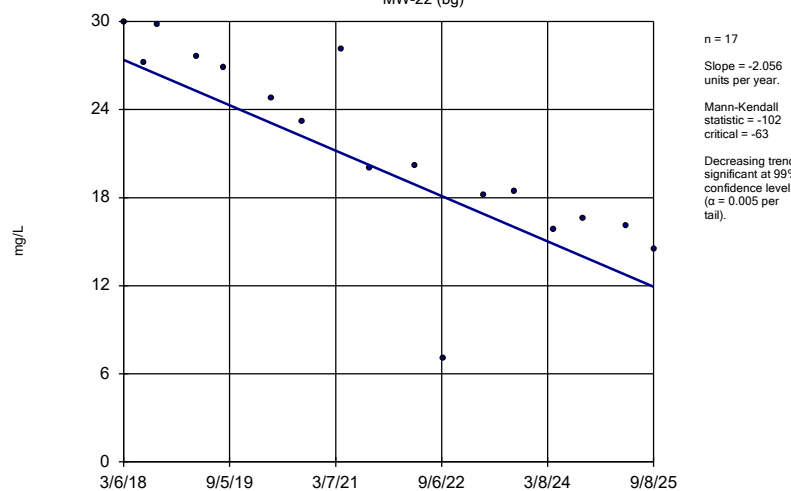
MW-10 (bg)



Constituent: Chloride Analysis Run 12/12/2025 1:10 PM View: Federal Appendix III Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Sen's Slope Estimator

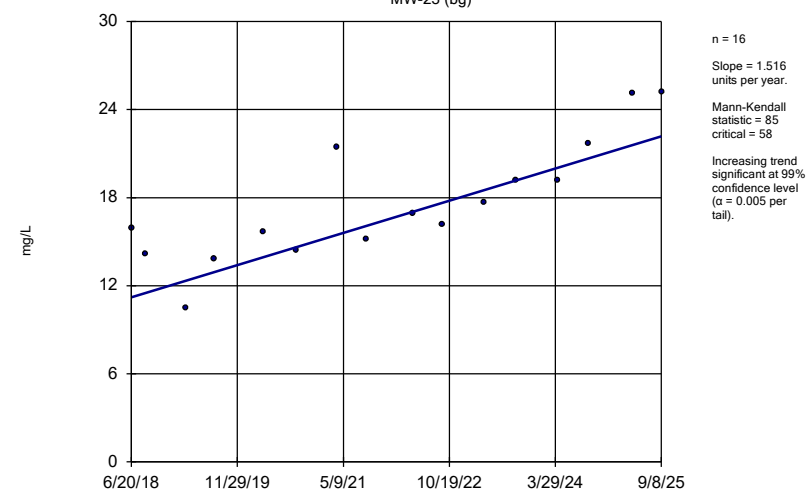
MW-22 (bg)



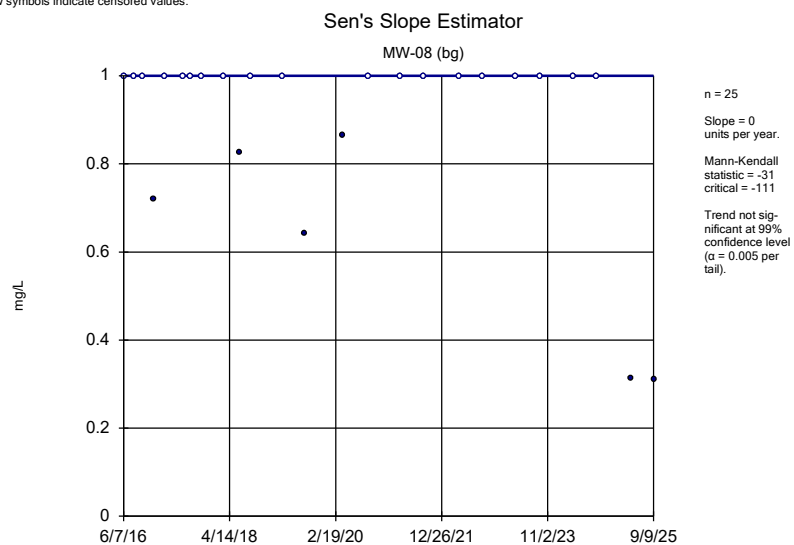
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Sen's Slope Estimator

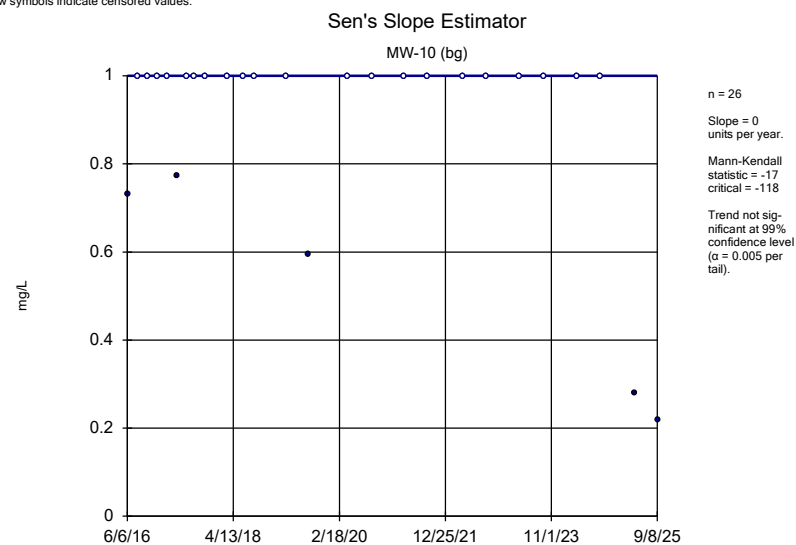
MW-23 (bg)



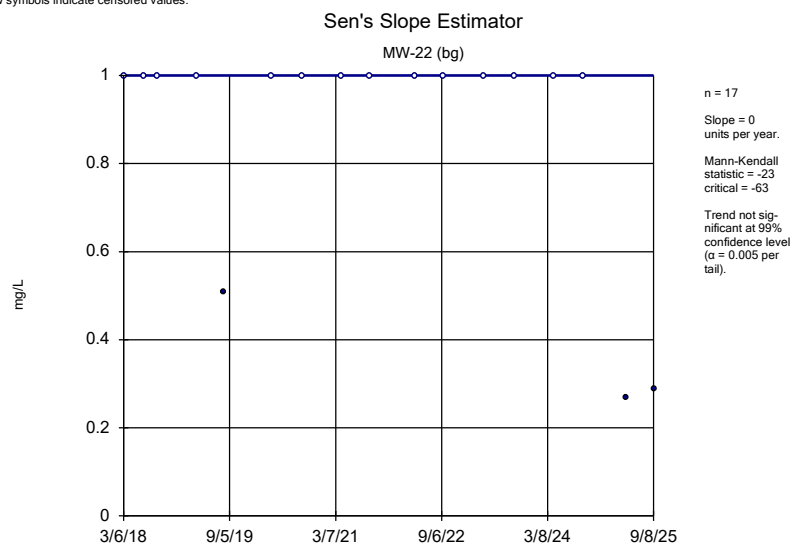
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



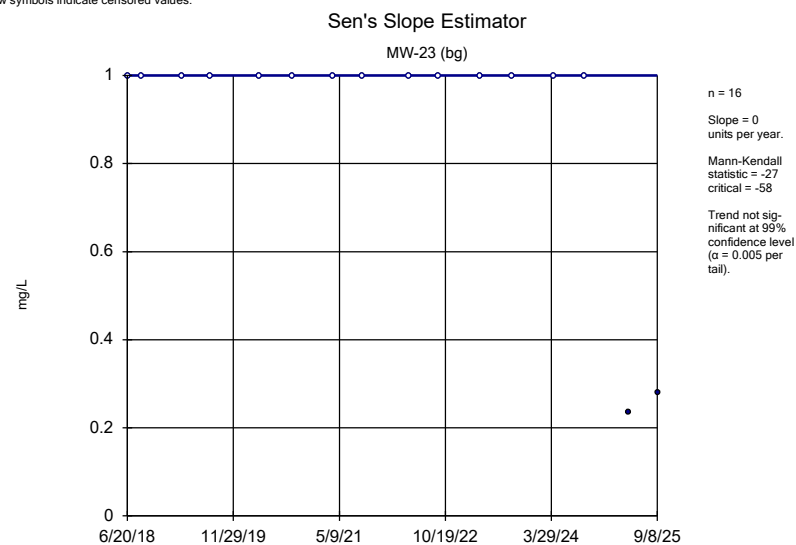
Constituent: Fluoride Analysis Run 12/12/2025 1:10 PM View: Federal Appendix III Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



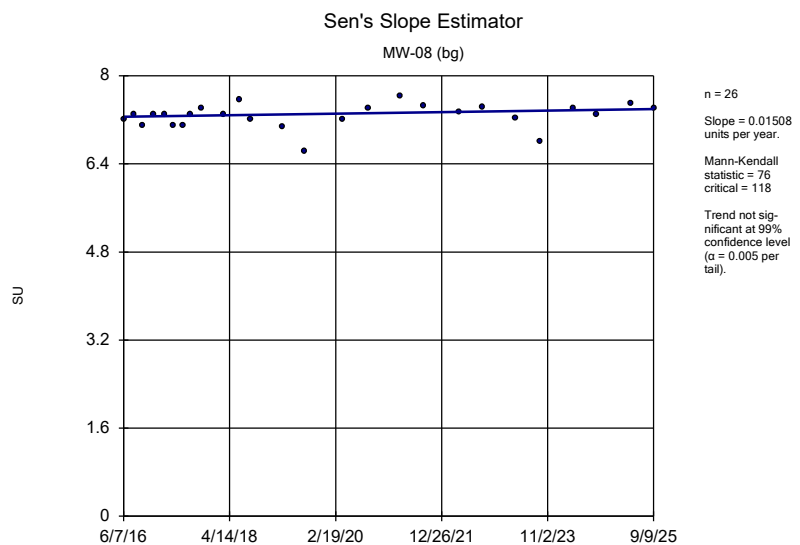
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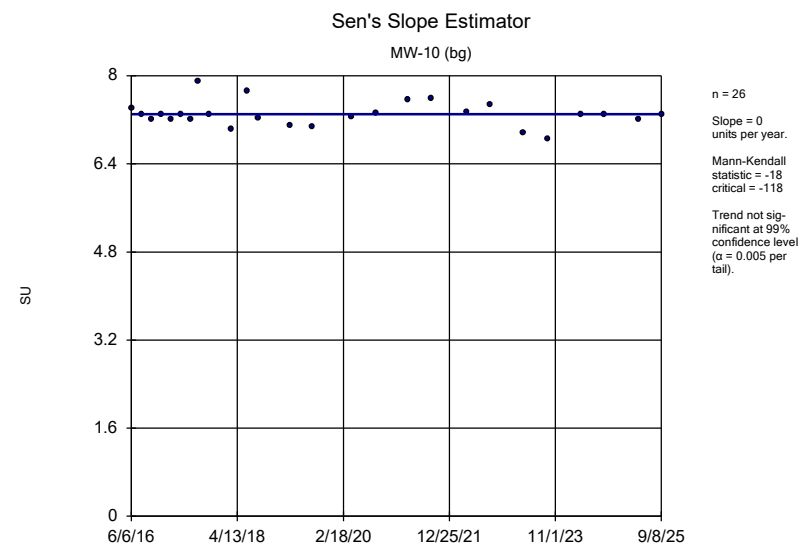
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



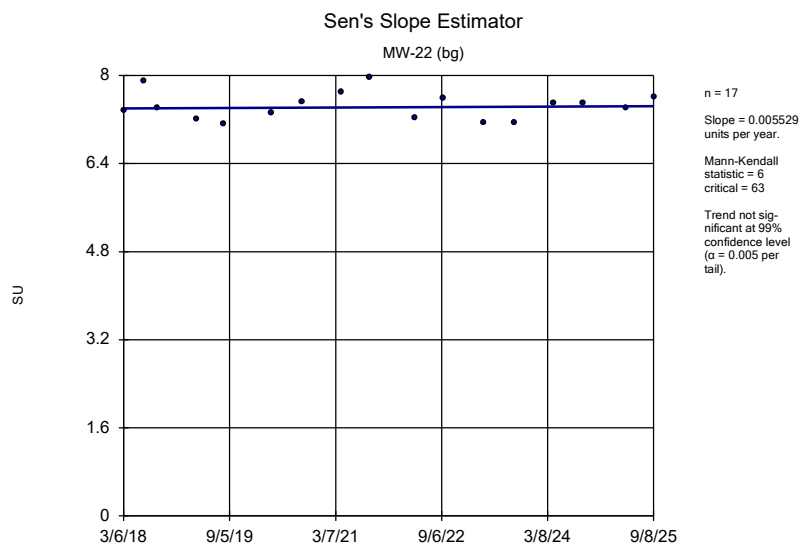
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



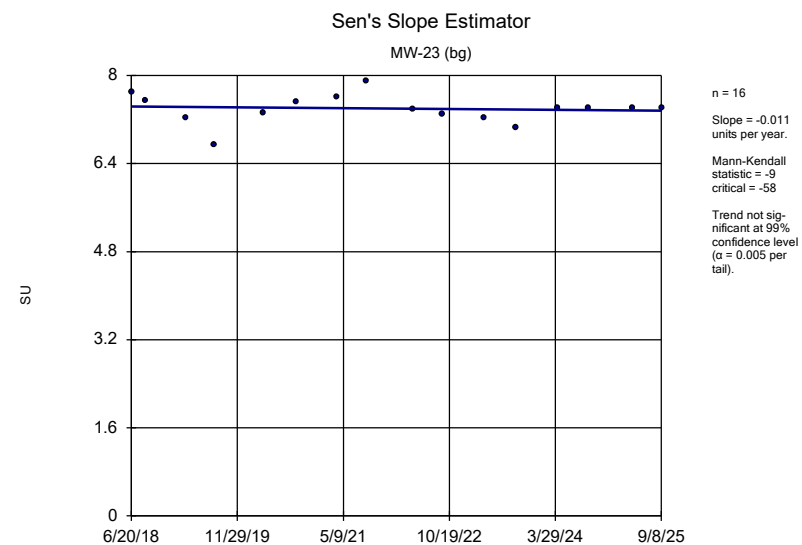
Constituent: pH Analysis Run 12/12/2025 1:10 PM View: Federal Appendix III Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



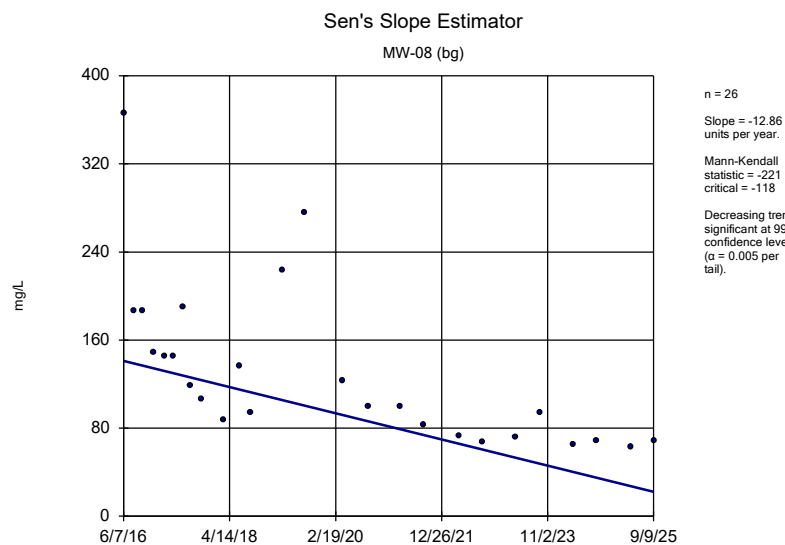
Constituent: pH Analysis Run 12/12/2025 1:10 PM View: Federal Appendix III Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



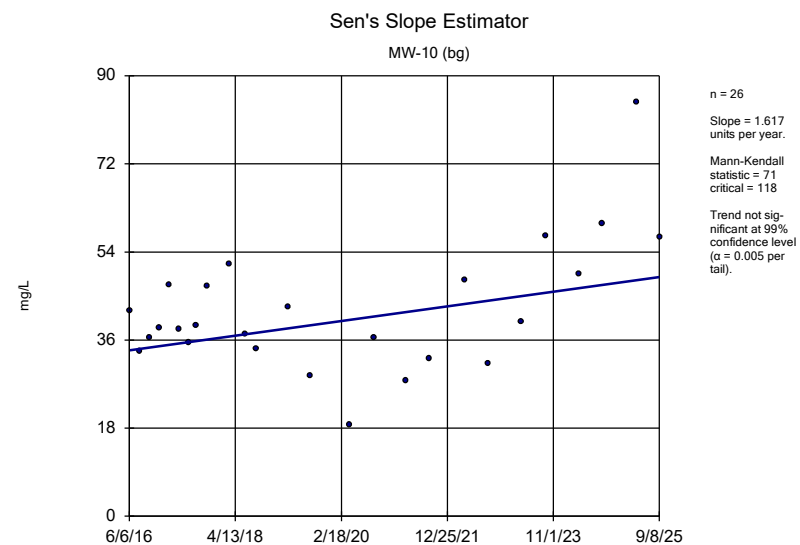
Constituent: pH Analysis Run 12/12/2025 1:10 PM View: Federal Appendix III Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



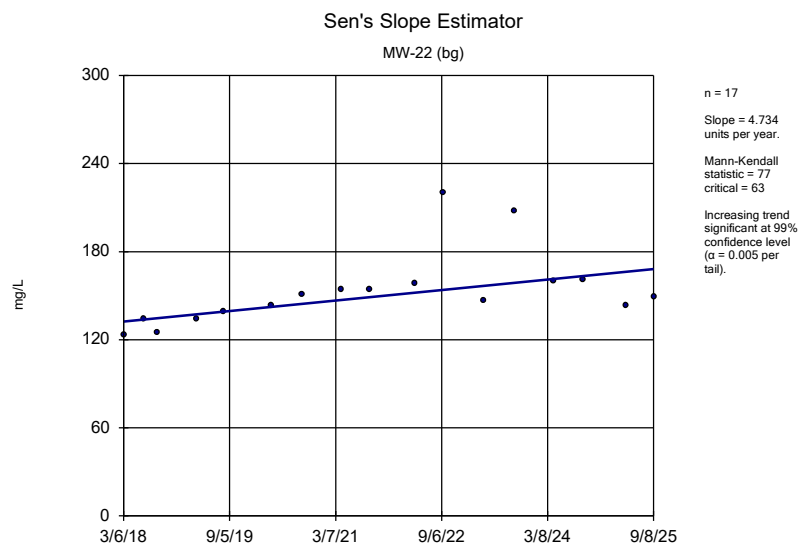
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



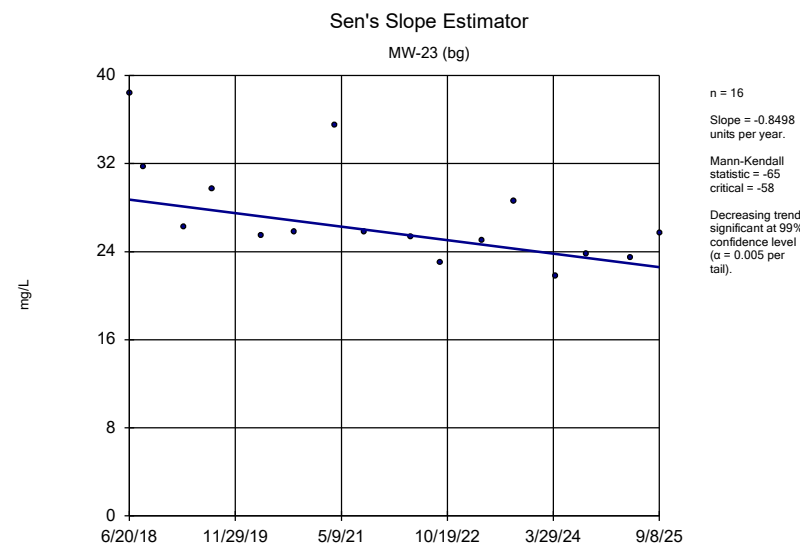
Constituent: Sulfate Analysis Run 12/12/2025 1:10 PM View: Federal Appendix III Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



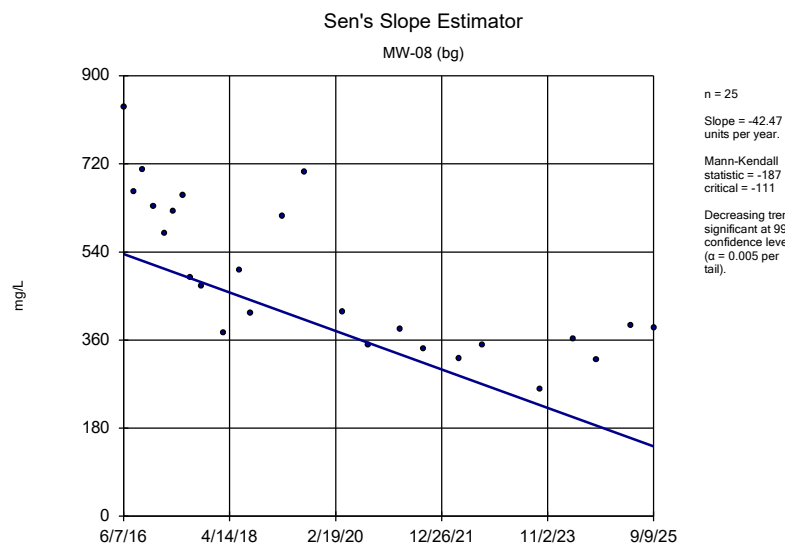
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



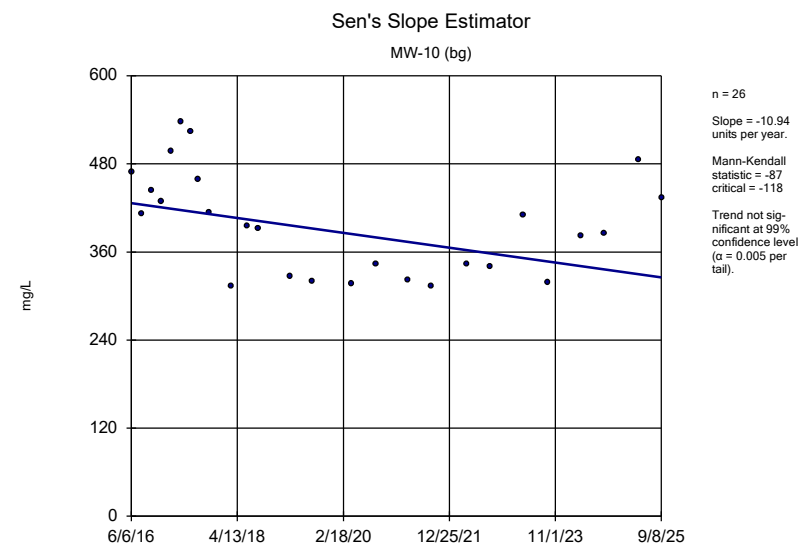
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



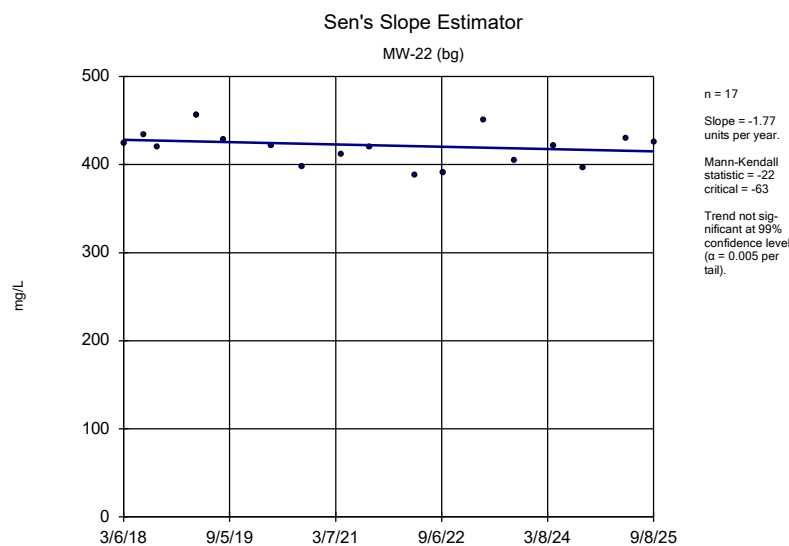
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



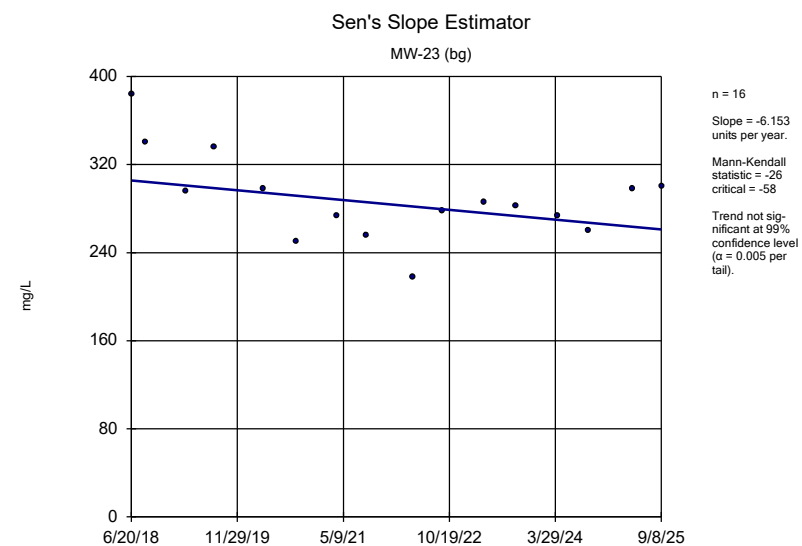
Constituent: Total Dissolved Solids Analysis Run 12/12/2025 1:10 PM View: Federal Appendix III Upgradi
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Total Dissolved Solids Analysis Run 12/12/2025 1:10 PM View: Federal Appendix III Upgradi
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Total Dissolved Solids Analysis Run 12/12/2025 1:10 PM View: Federal Appendix III Upgradi
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Total Dissolved Solids Analysis Run 12/12/2025 1:10 PM View: Federal Appendix III Upgradi
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Appendix IV Trend Tests - Upgradient Wells - Significant Results

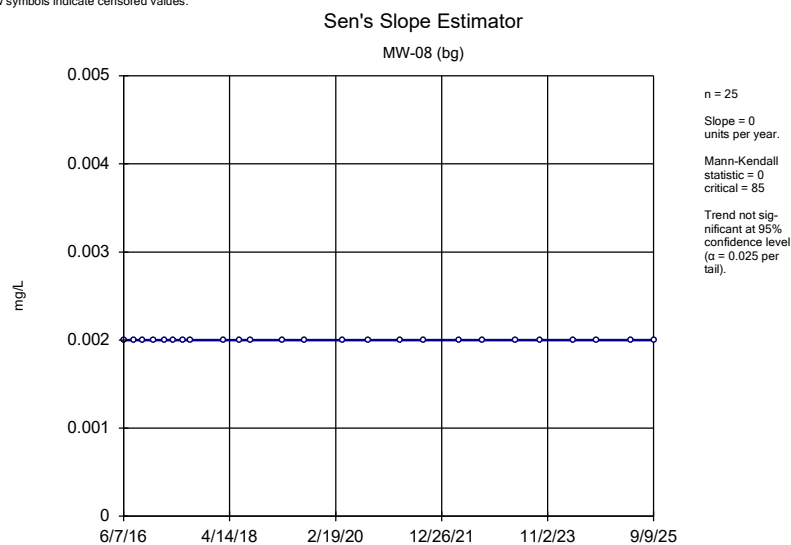
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/9/2025, 10:19 AM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (mg/L)	MW-08 (bg)	0	100	85	Yes	25	80	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-22 (bg)	0.0006658	101	49	Yes	17	29.41	n/a	n/a	0.05	NP
Barium (mg/L)	MW-10 (bg)	0.006419	120	85	Yes	25	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-22 (bg)	0.01142	106	49	Yes	17	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-23 (bg)	-0.003443	-50	-45	Yes	16	0	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-08 (bg)	0.0001305	176	85	Yes	25	36	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-10 (bg)	0.00007216	158	85	Yes	25	4	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-22 (bg)	0	-54	-53	Yes	18	77.78	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	MW-22 (bg)	0.06395	51	37	Yes	14	0	n/a	n/a	0.05	NP
Lead (mg/L)	MW-23 (bg)	-0.00002816	-54	-45	Yes	16	50	n/a	n/a	0.05	NP

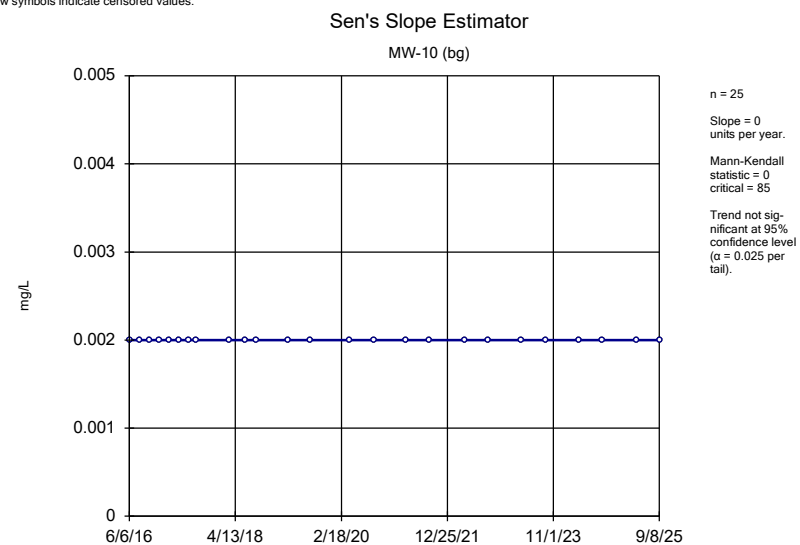
Appendix IV Trend Tests - Upgradient Wells - All Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/9/2025, 10:19 AM

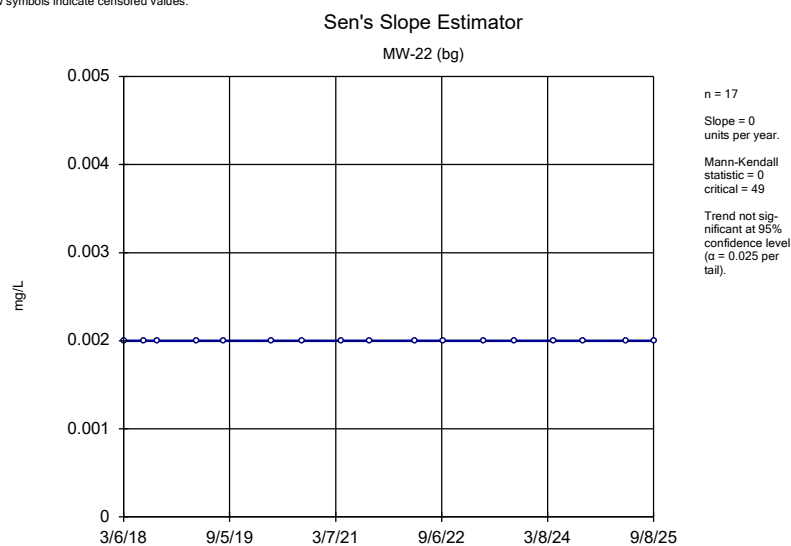
<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Antimony (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Antimony (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Antimony (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-08 (bg)	0	100	85	Yes	25	80	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-10 (bg)	0.0001361	45	85	No	25	16	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-22 (bg)	0.0006658	101	49	Yes	17	29.41	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Barium (mg/L)	MW-08 (bg)	0.001261	67	85	No	25	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-10 (bg)	0.006419	120	85	Yes	25	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-22 (bg)	0.01142	106	49	Yes	17	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-23 (bg)	-0.003443	-50	-45	Yes	16	0	n/a	n/a	0.05	NP
Beryllium (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Beryllium (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Beryllium (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Beryllium (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Cadmium (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Cadmium (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Cadmium (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Cadmium (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Chromium (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Chromium (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Chromium (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Chromium (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-08 (bg)	0.0001305	176	85	Yes	25	36	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-10 (bg)	0.00007216	158	85	Yes	25	4	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-22 (bg)	0	-54	-53	Yes	18	77.78	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-23 (bg)	-0.000005289	-40	-45	No	16	56.25	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	MW-08 (bg)	0.02328	49	66	No	21	0	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	MW-10 (bg)	0.04863	60	66	No	21	0	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	MW-22 (bg)	0.06395	51	37	Yes	14	0	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	MW-23 (bg)	0.04483	8	34	No	13	0	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-08 (bg)	0	-31	-85	No	25	76	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-10 (bg)	0	-17	-90	No	26	80.77	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-22 (bg)	0	-23	-49	No	17	82.35	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-23 (bg)	0	-27	-45	No	16	87.5	n/a	n/a	0.05	NP
Lead (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Lead (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Lead (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Lead (mg/L)	MW-23 (bg)	-0.00002816	-54	-45	Yes	16	50	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Mercury (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Mercury (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Mercury (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Mercury (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Molybdenum (mg/L)	MW-08 (bg)	0	14	90	No	26	84.62	n/a	n/a	0.05	NP
Molybdenum (mg/L)	MW-10 (bg)	0	41	85	No	25	72	n/a	n/a	0.05	NP
Molybdenum (mg/L)	MW-22 (bg)	0.00004331	7	53	No	18	5.556	n/a	n/a	0.05	NP
Molybdenum (mg/L)	MW-23 (bg)	0	-29	-45	No	16	87.5	n/a	n/a	0.05	NP
Selenium (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Selenium (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Selenium (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Selenium (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP
Thallium (mg/L)	MW-08 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Thallium (mg/L)	MW-10 (bg)	0	0	85	No	25	100	n/a	n/a	0.05	NP
Thallium (mg/L)	MW-22 (bg)	0	0	49	No	17	100	n/a	n/a	0.05	NP
Thallium (mg/L)	MW-23 (bg)	0	0	45	No	16	100	n/a	n/a	0.05	NP



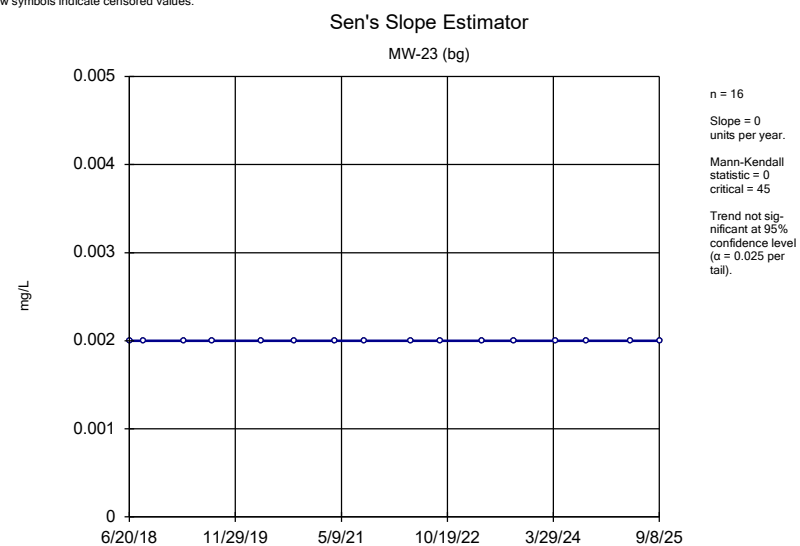
Constituent: Antimony Analysis Run 12/9/2025 10:17 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



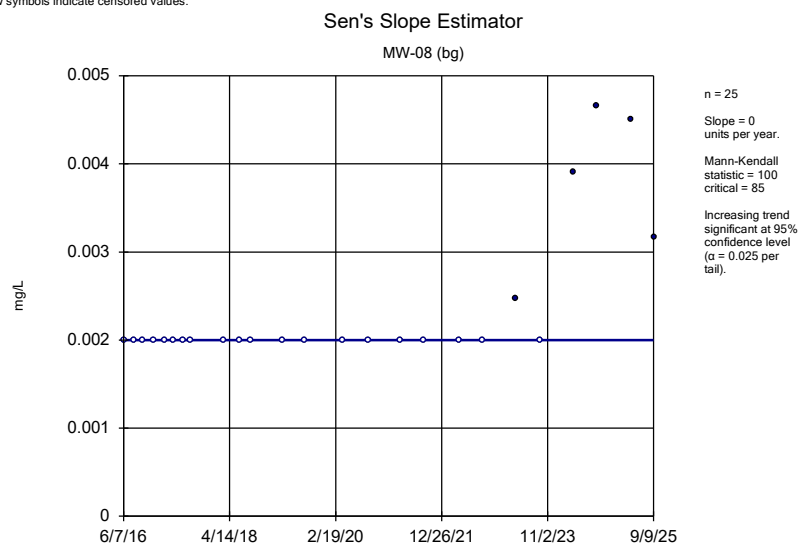
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

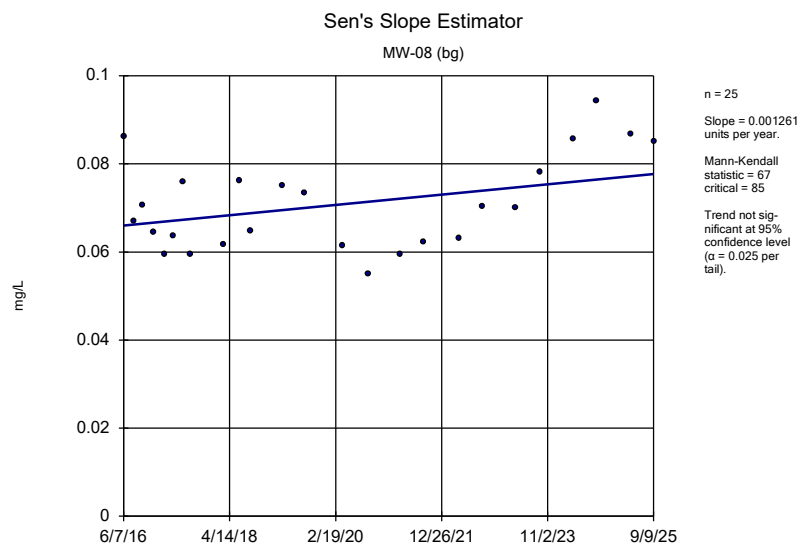


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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

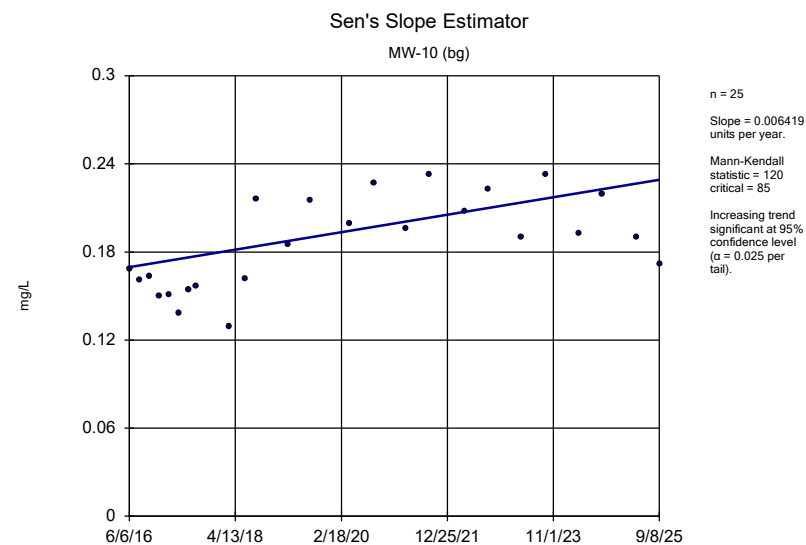


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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

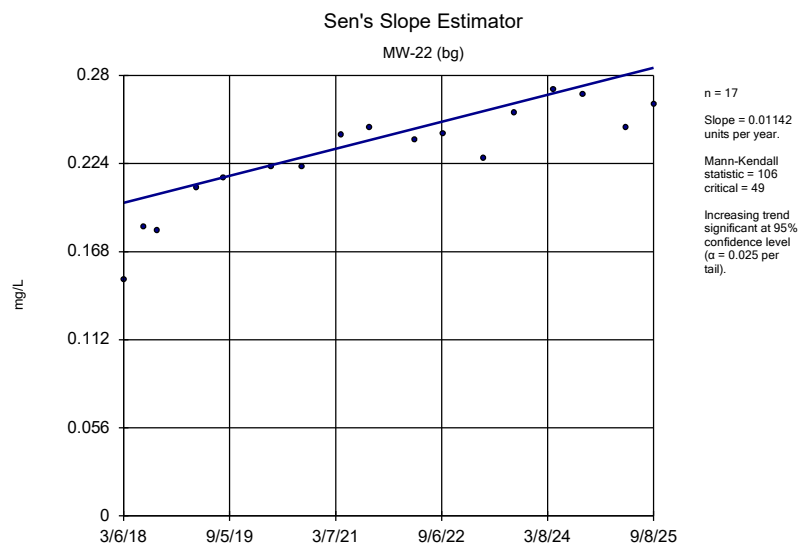




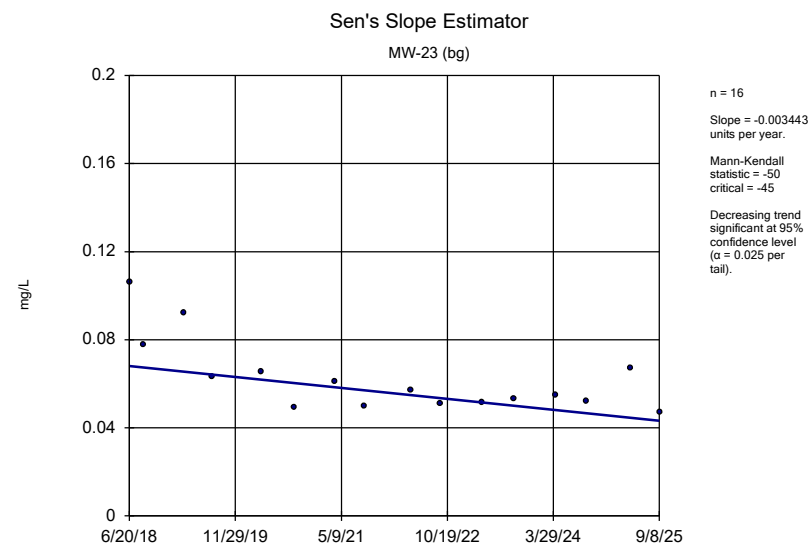
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



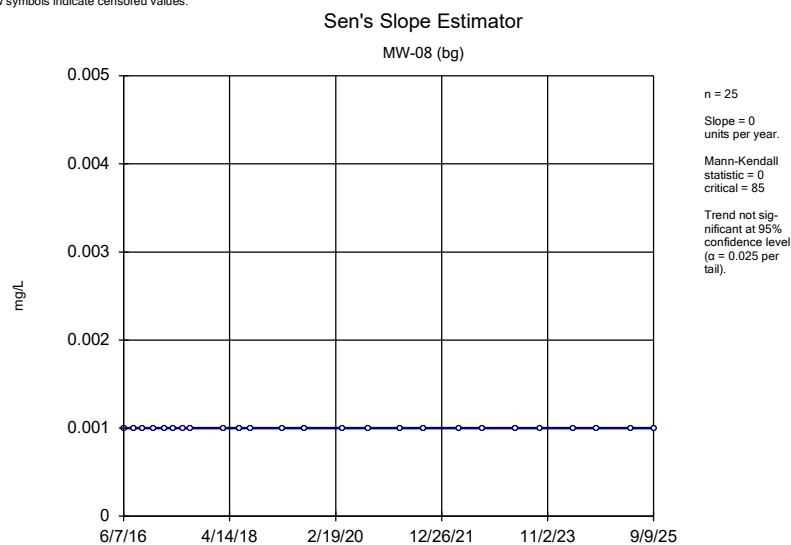
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



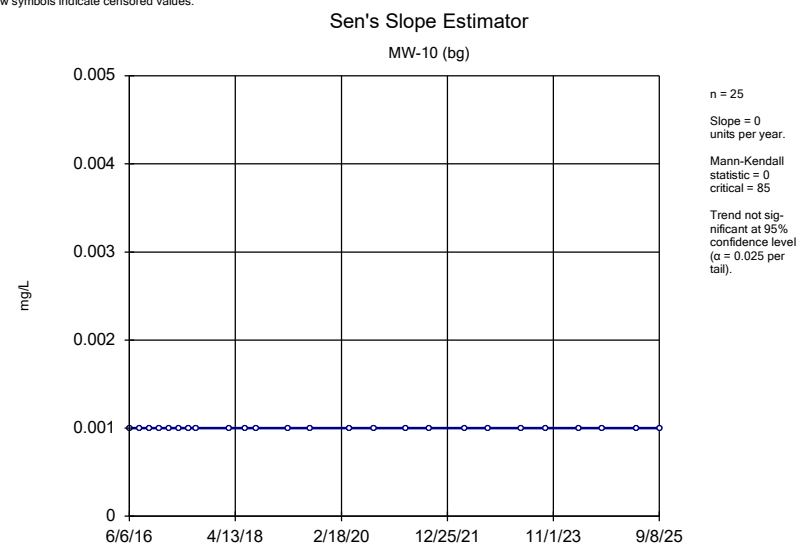
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



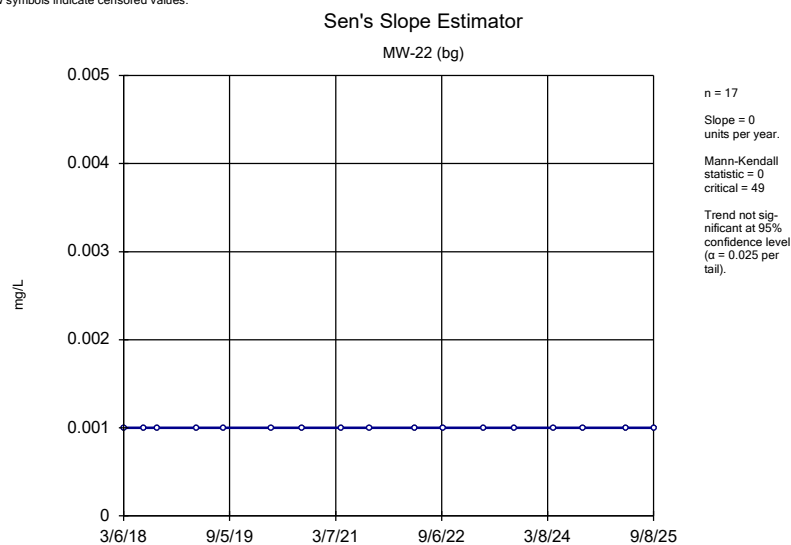
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



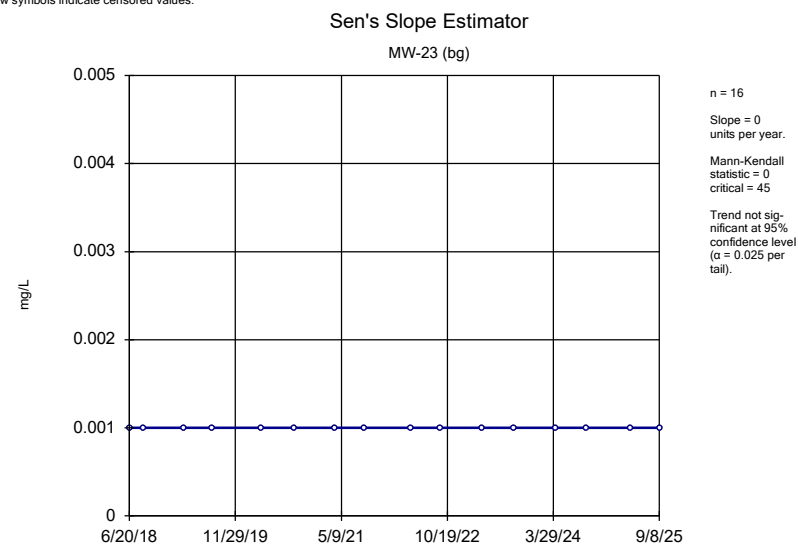
Constituent: Beryllium Analysis Run 12/9/2025 10:17 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



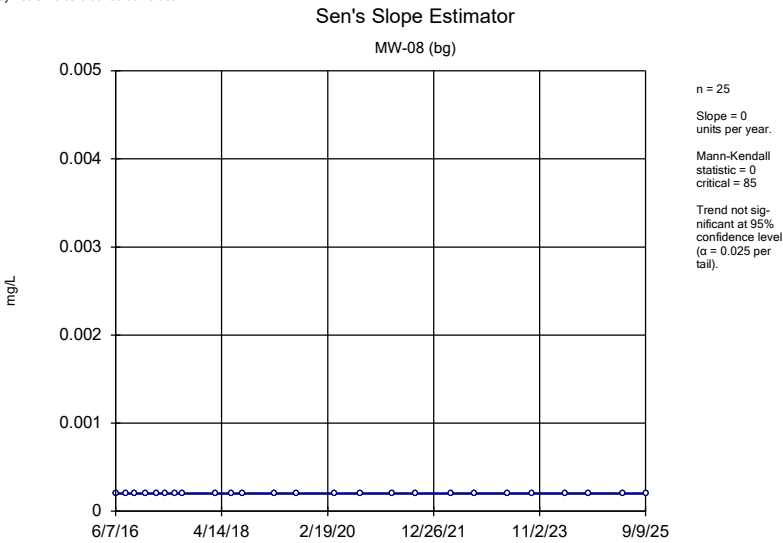
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



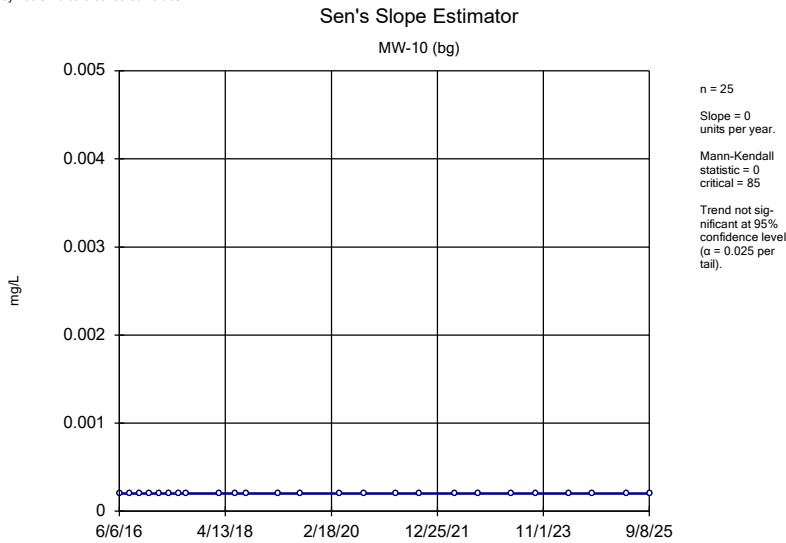
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



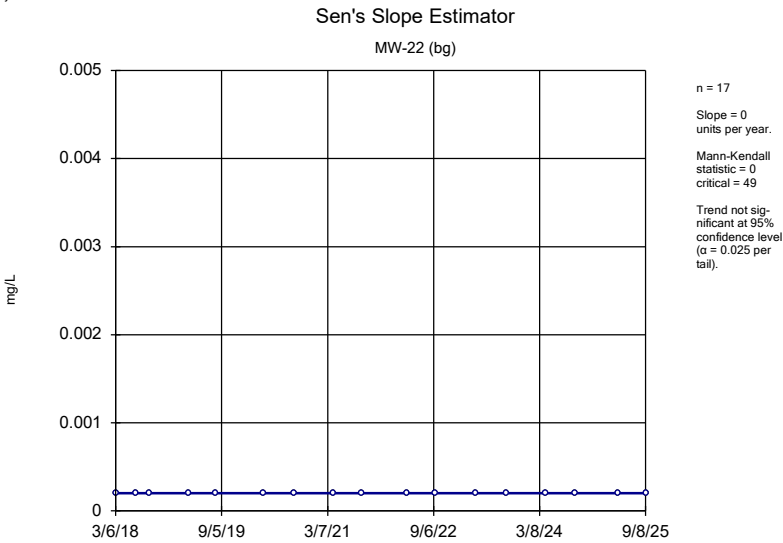
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



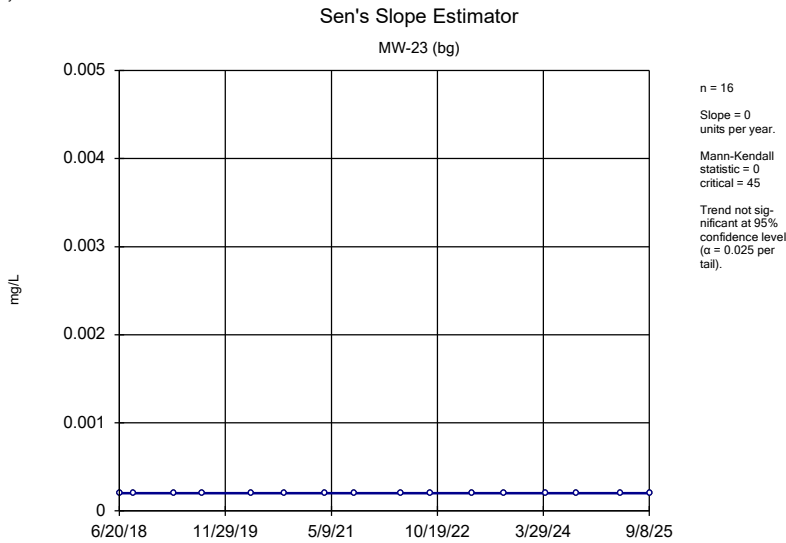
Constituent: Cadmium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Cadmium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



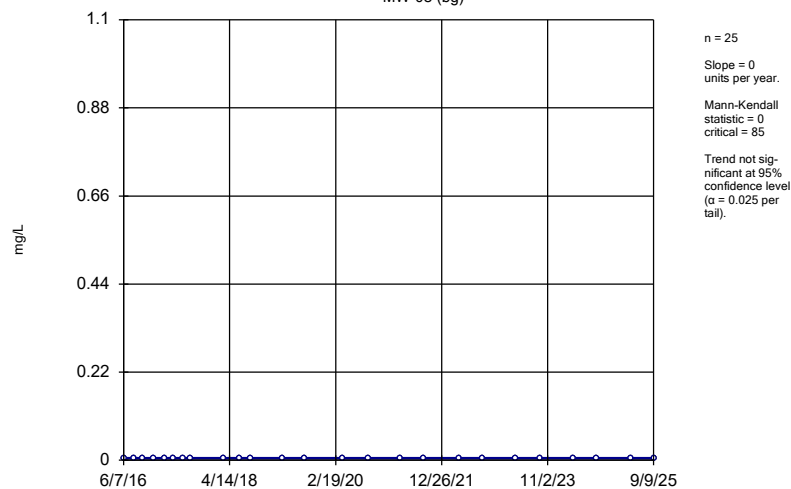
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Cadmium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Sen's Slope Estimator

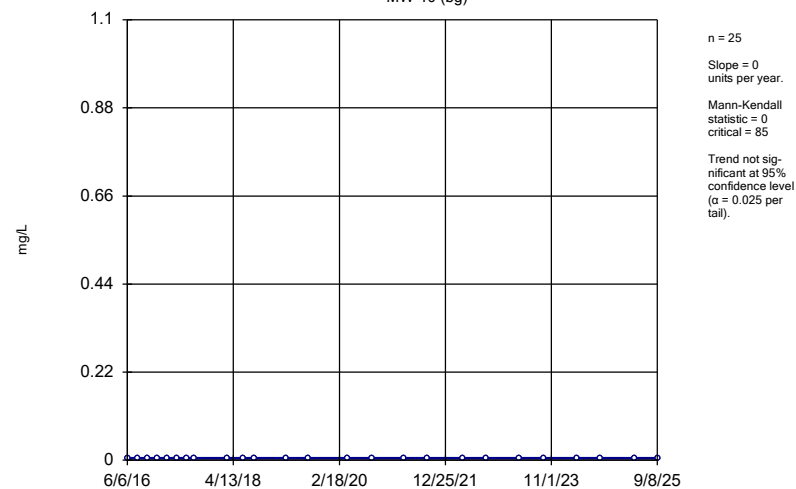
MW-08 (bg)



Constituent: Chromium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Sen's Slope Estimator

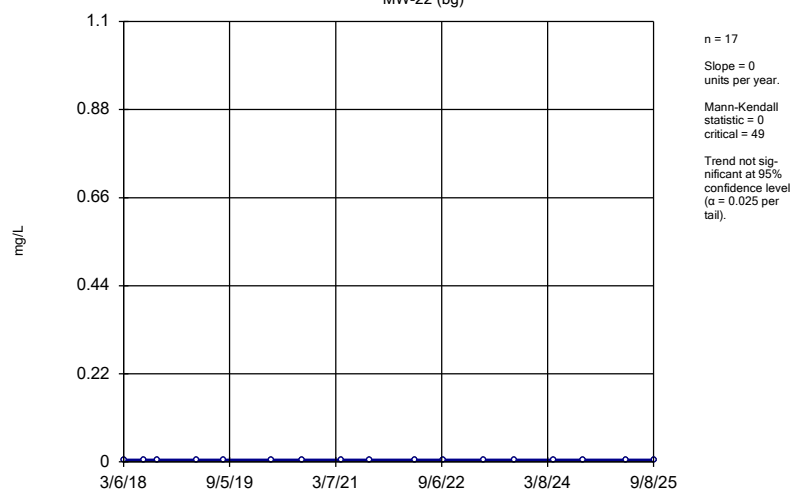
MW-10 (bg)



Constituent: Chromium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Sen's Slope Estimator

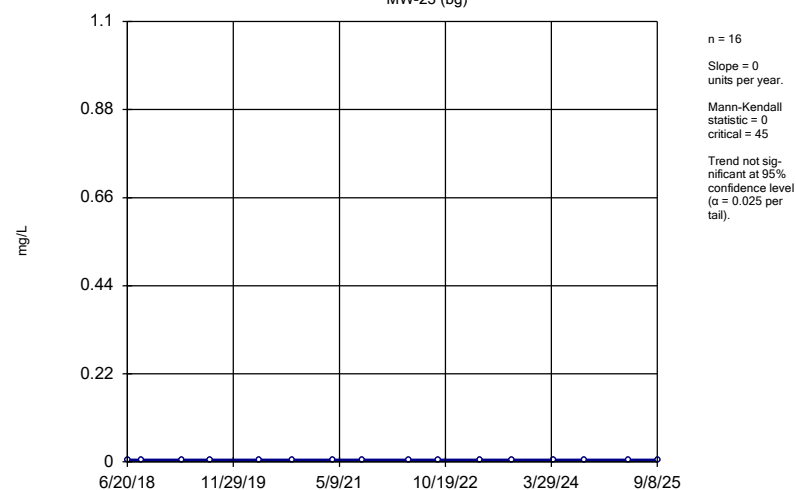
MW-22 (bg)



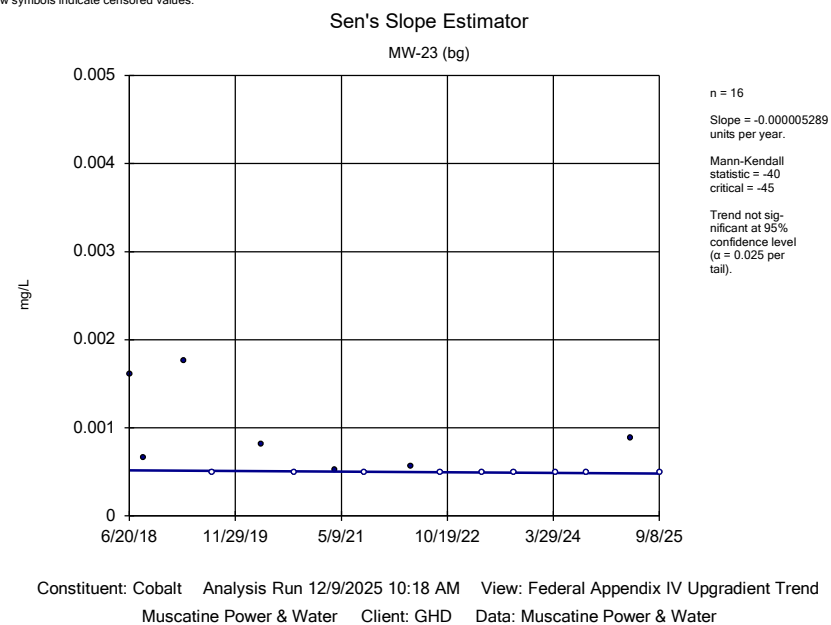
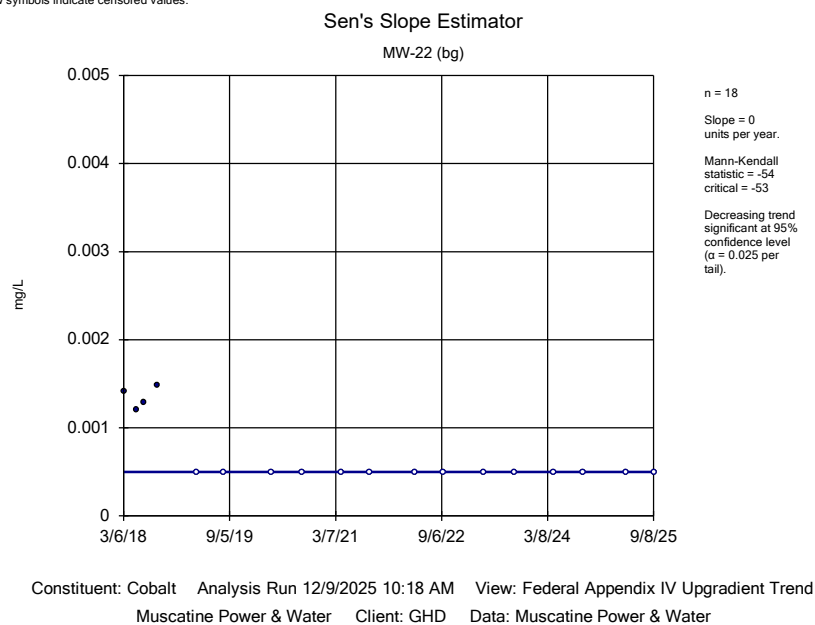
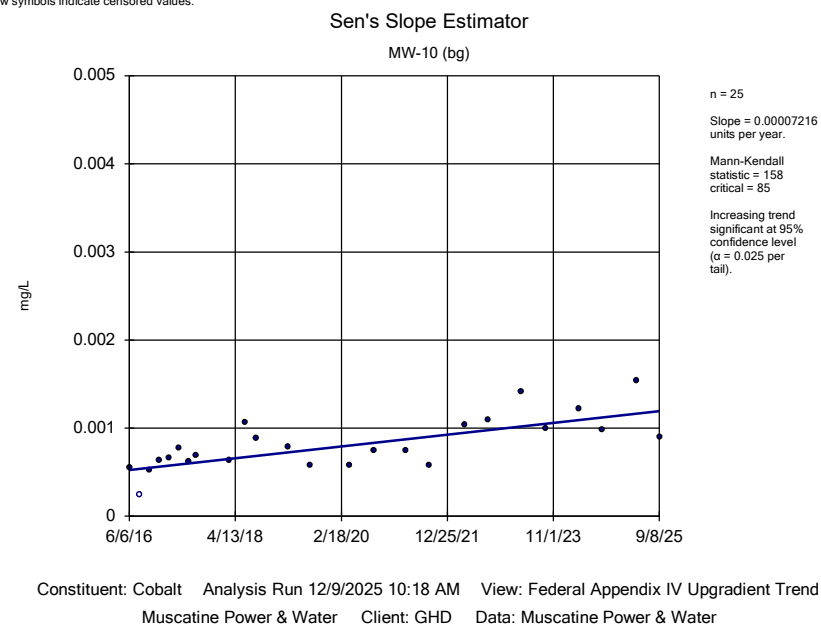
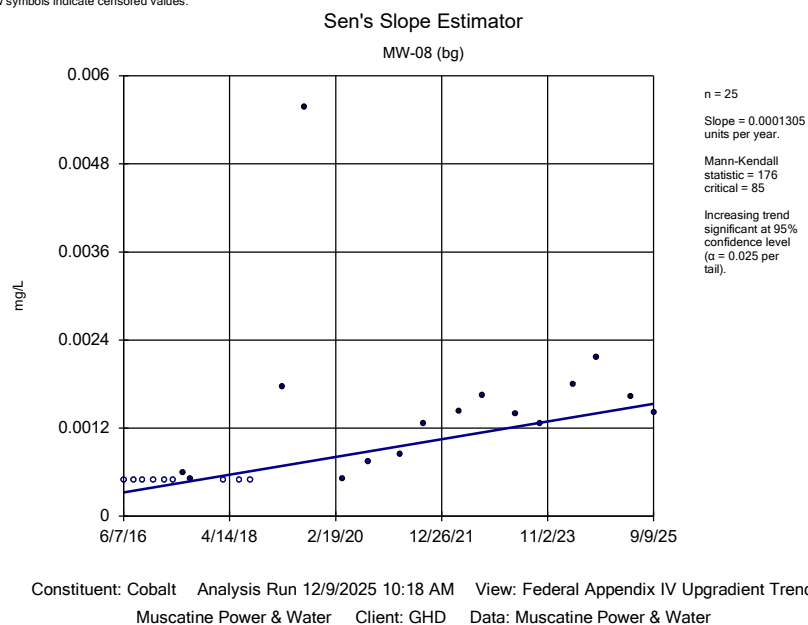
Constituent: Chromium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Sen's Slope Estimator

MW-23 (bg)

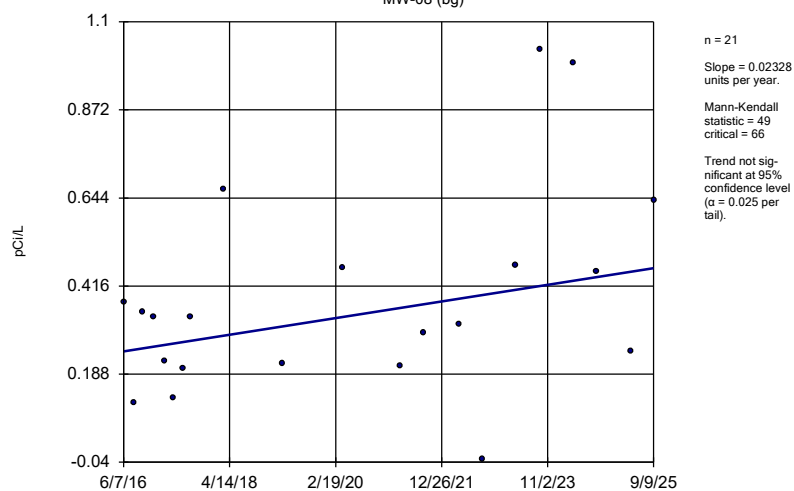


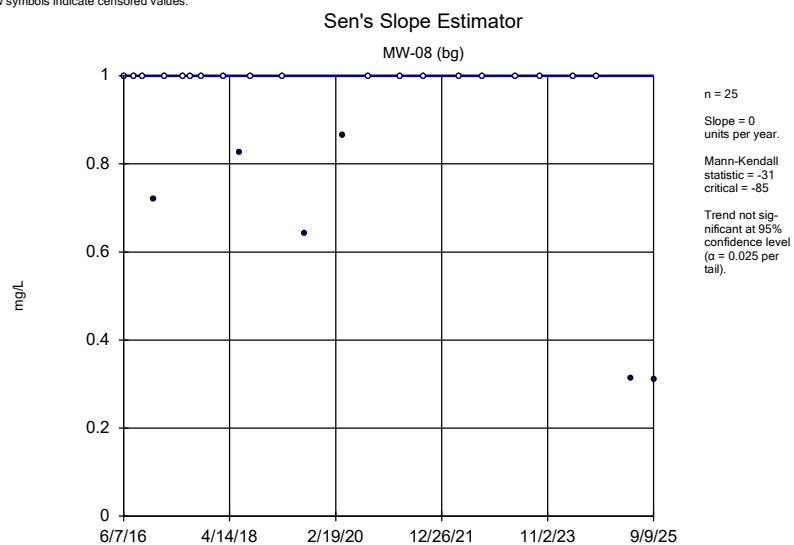
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



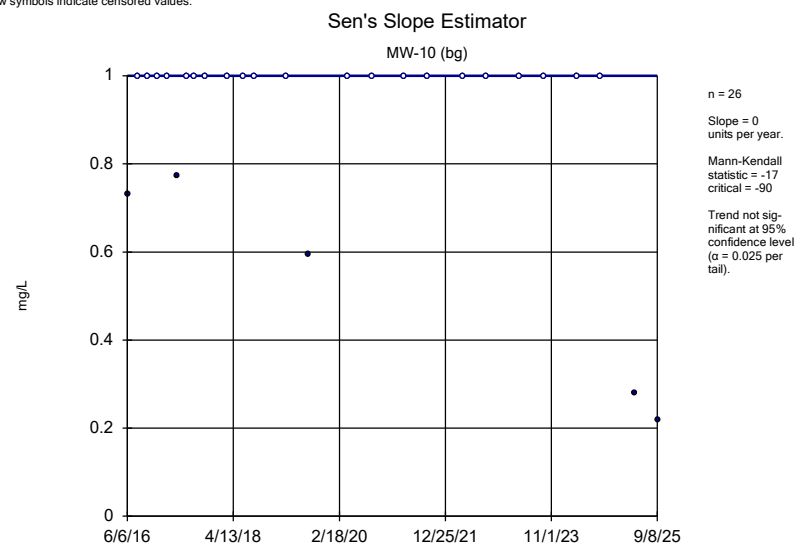
Sen's Slope Estimator

MW-08 (bg)

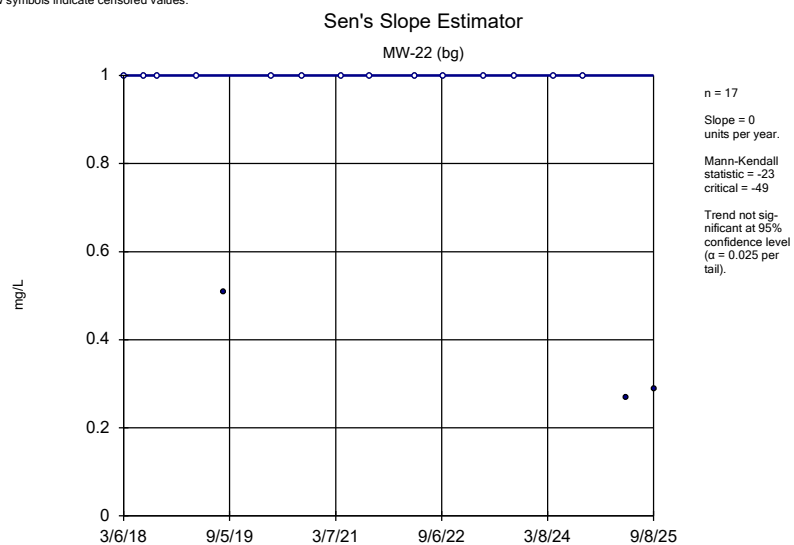




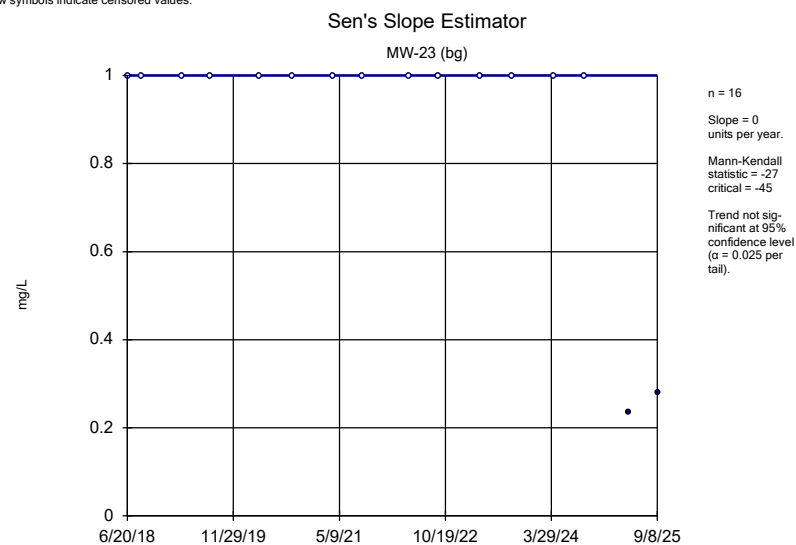
Constituent: Fluoride Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



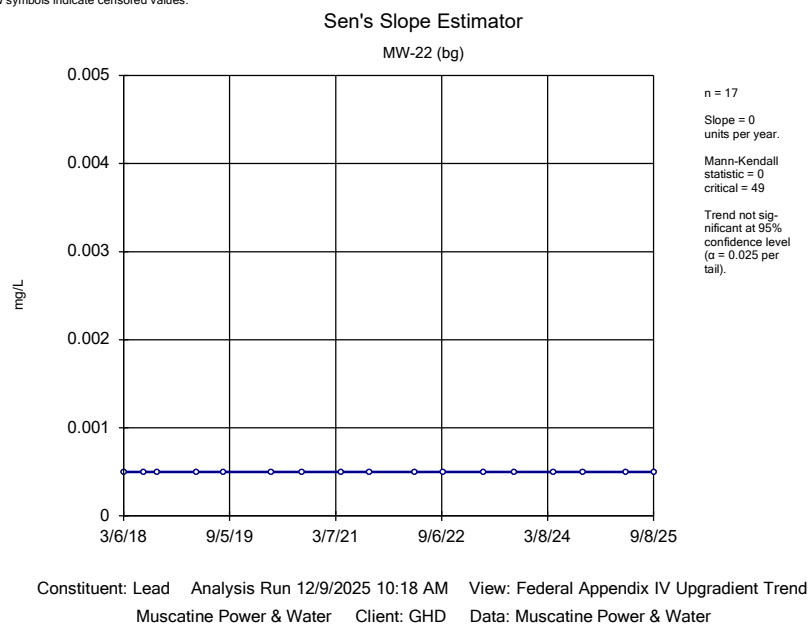
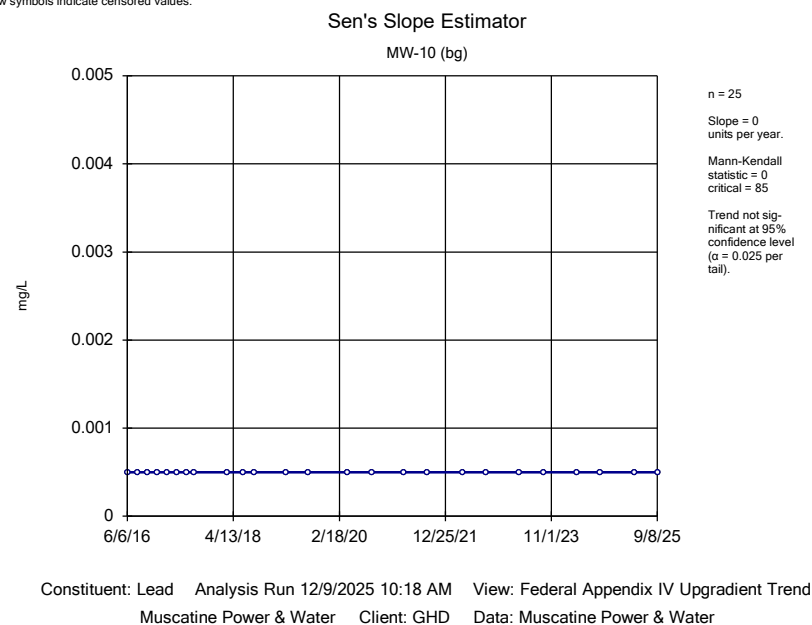
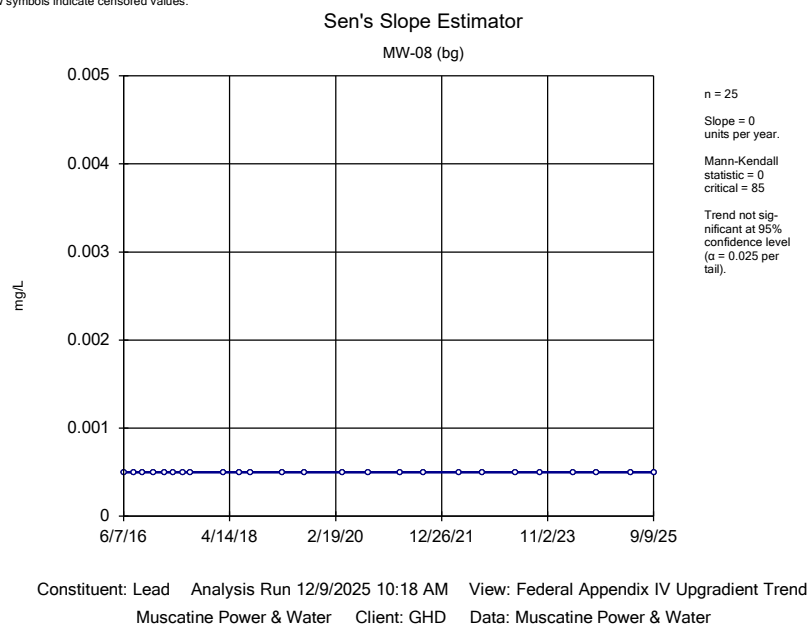
Constituent: Fluoride Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Fluoride Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

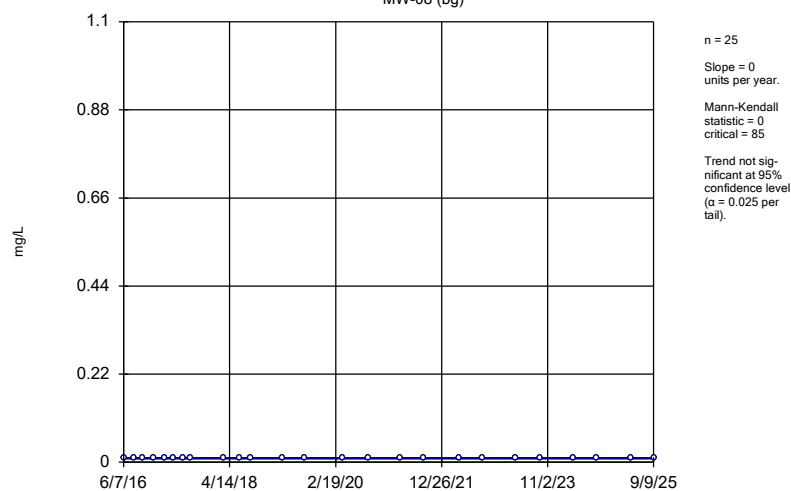


Constituent: Fluoride Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Sen's Slope Estimator

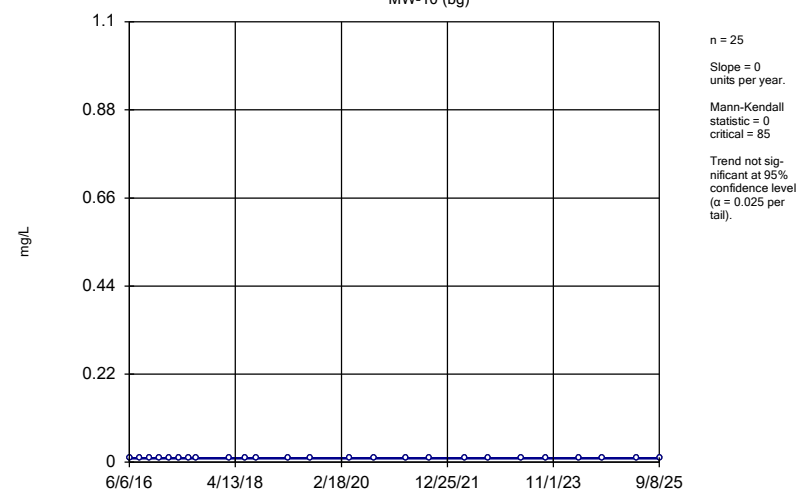
MW-08 (bg)



Constituent: Lithium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Sen's Slope Estimator

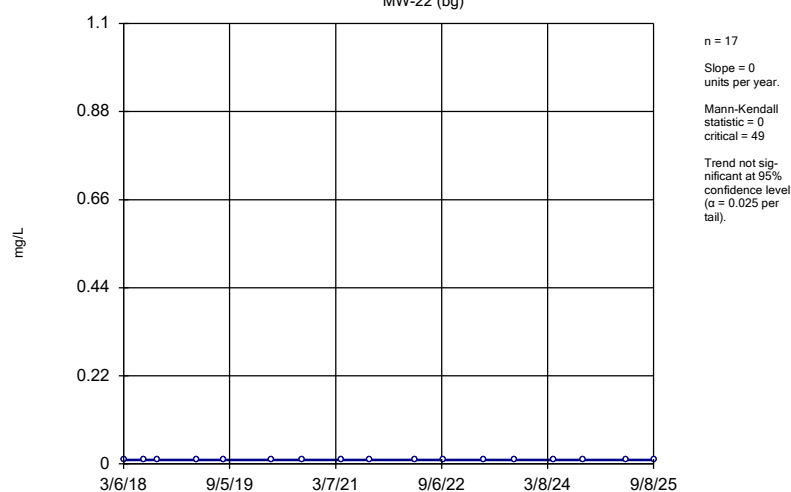
MW-10 (bg)



Constituent: Lithium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Sen's Slope Estimator

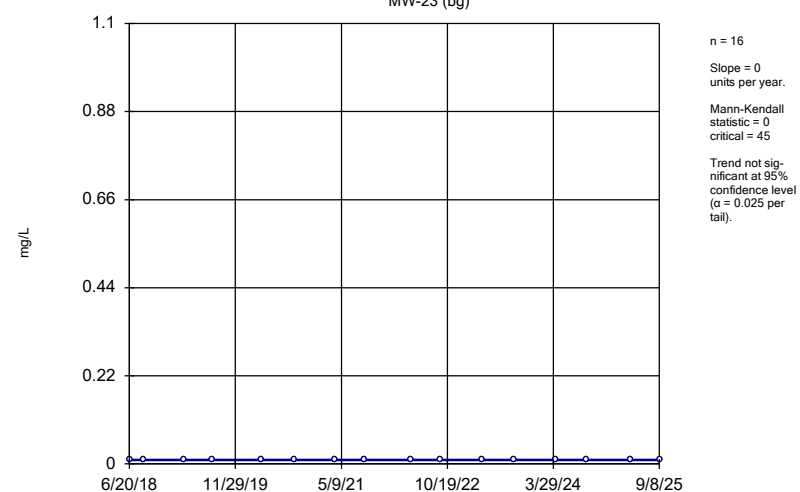
MW-22 (bg)



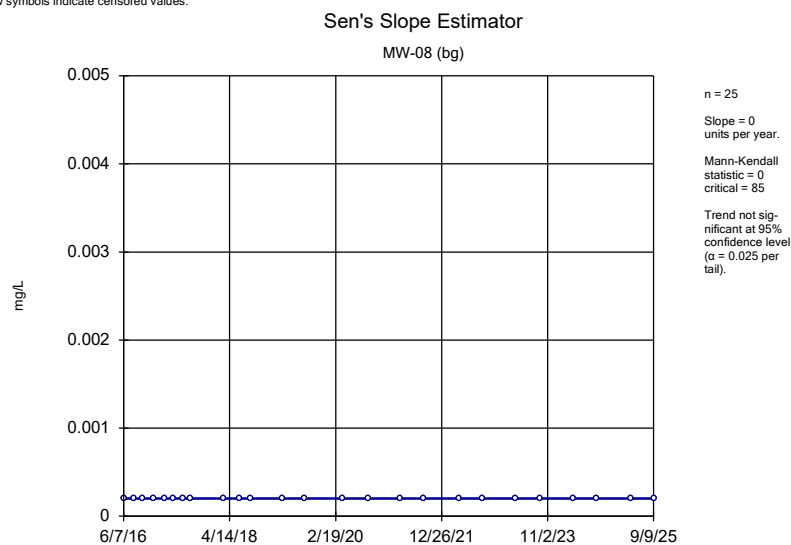
Constituent: Lithium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Sen's Slope Estimator

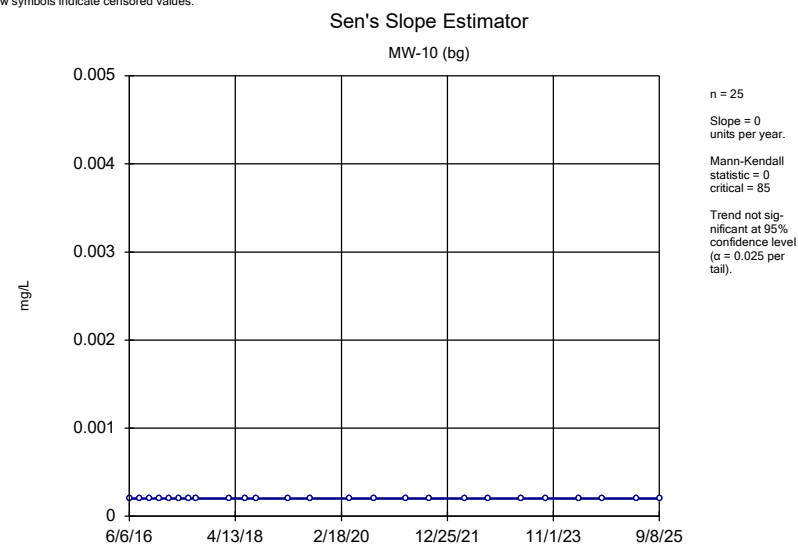
MW-23 (bg)



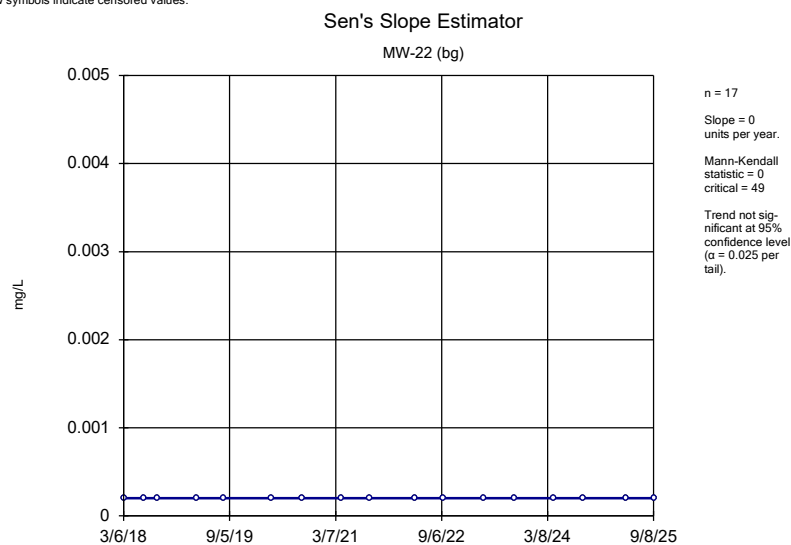
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



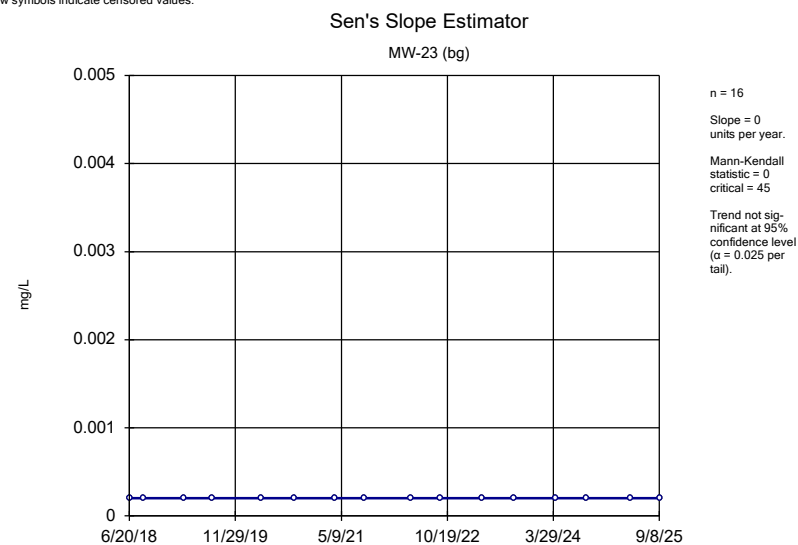
Constituent: Mercury Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



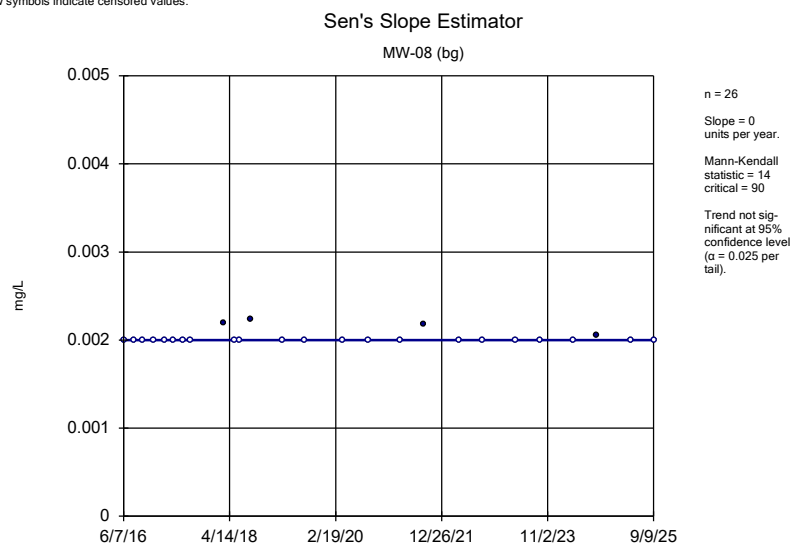
Constituent: Mercury Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

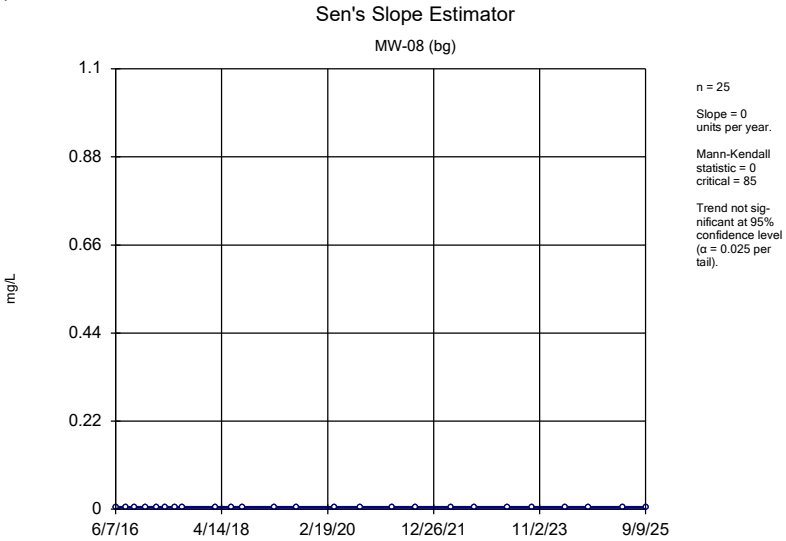


Constituent: Mercury Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

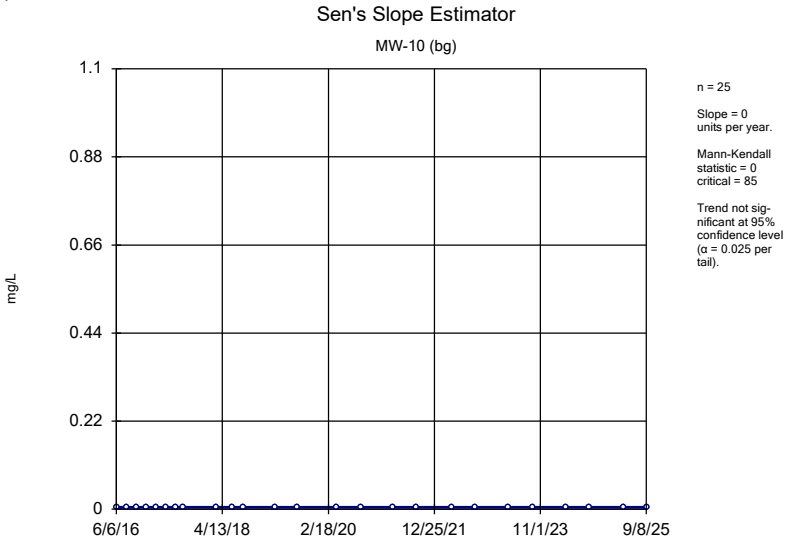


Constituent: Mercury Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

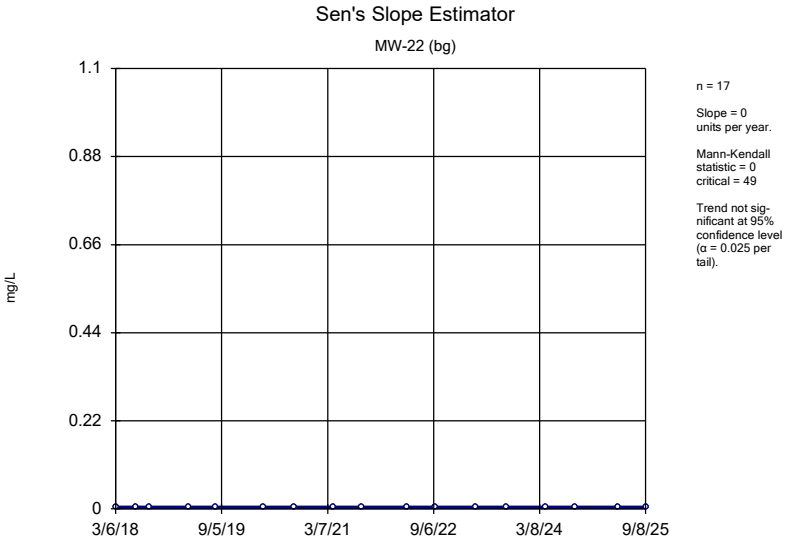




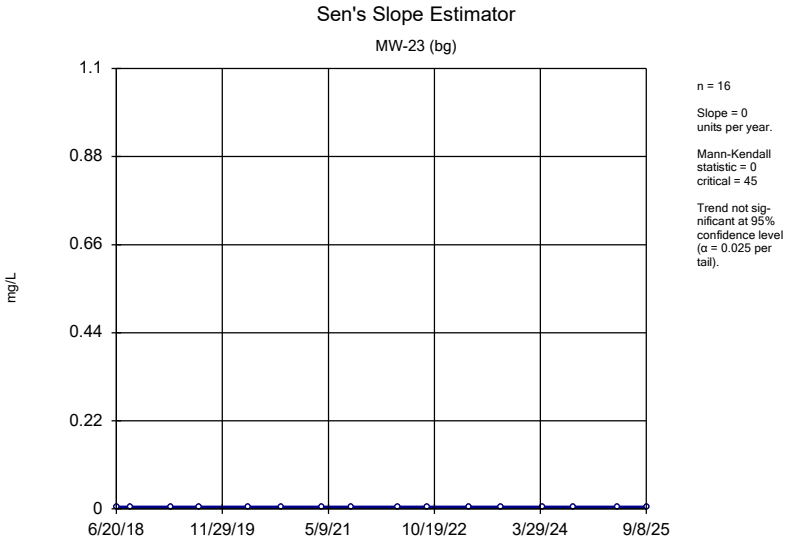
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Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



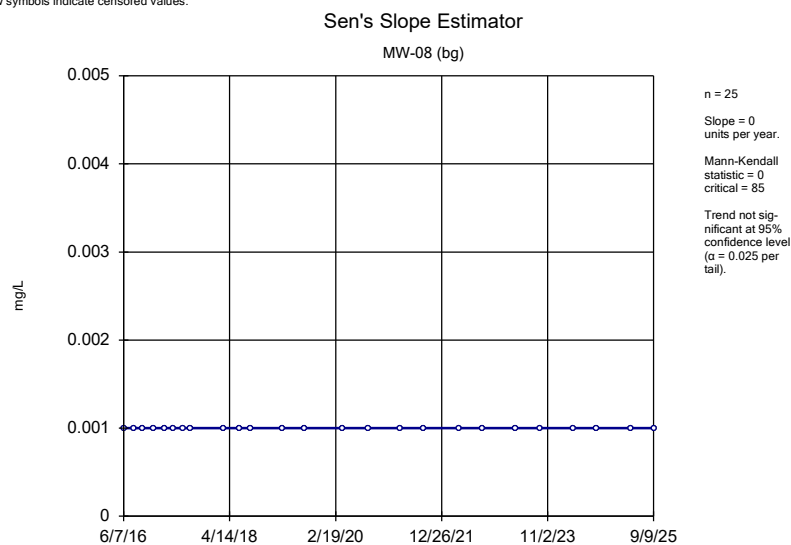
Constituent: Selenium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



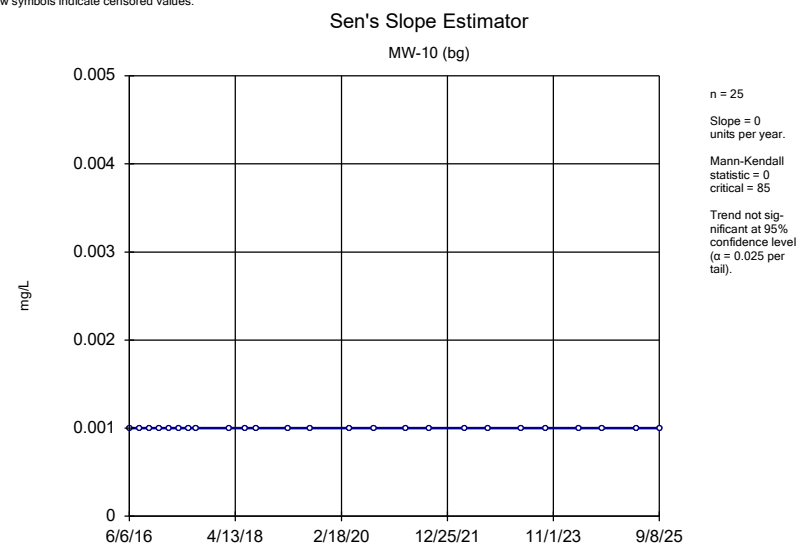
Constituent: Selenium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



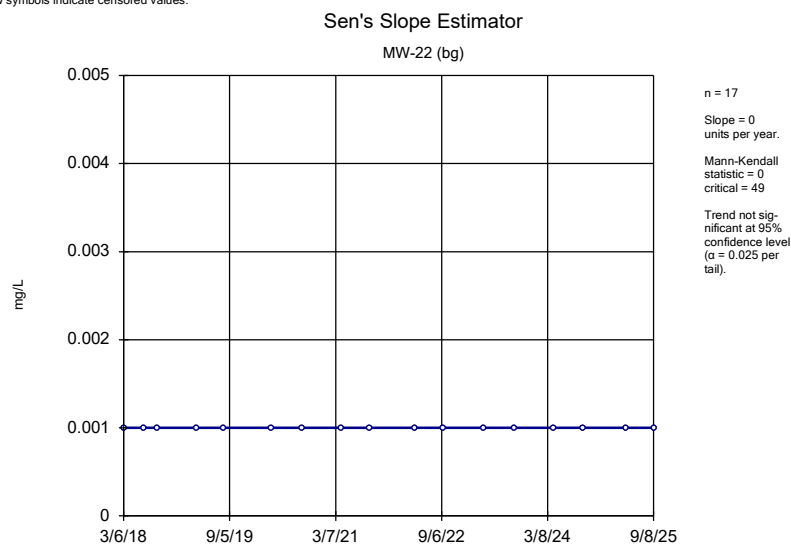
Constituent: Selenium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



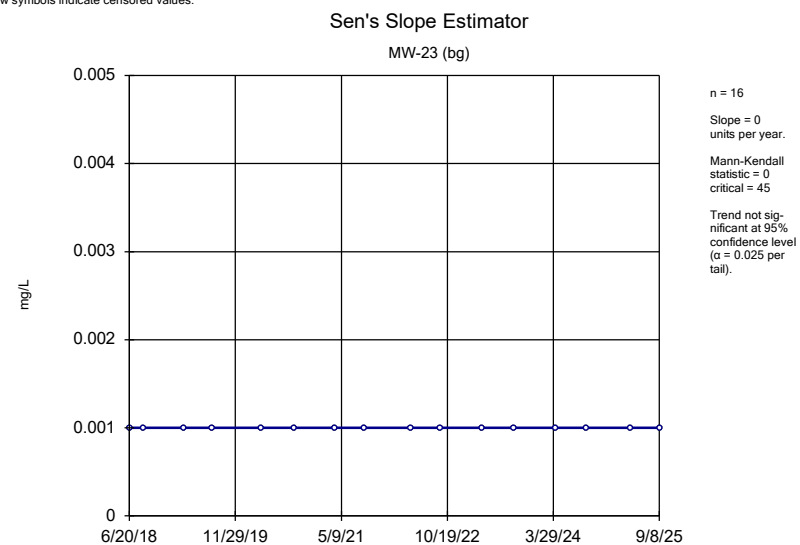
Constituent: Thallium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Thallium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Thallium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Thallium Analysis Run 12/9/2025 10:18 AM View: Federal Appendix IV Upgradient Trend
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

FIGURE E.

Appendix III - Interwell Prediction Limits - April 2025 - Significant Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 12:56 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-14A	0.322	n/a	4/17/2025	15.4	Yes	81	85.19	n/a	0.0002927	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-15A	0.322	n/a	4/17/2025	8.16	Yes	81	85.19	n/a	0.0002927	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-21	0.322	n/a	4/16/2025	2.64	Yes	81	85.19	n/a	0.0002927	NP Inter (NDs) 1 of 2
Calcium (mg/L)	MW-14A	132	n/a	4/17/2025	286	Yes	80	0	n/a	0.0002988	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-5B	30	n/a	4/18/2025	32.1	Yes	81	25.93	n/a	0.0002927	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-14A	366	n/a	4/17/2025	808	Yes	81	0	n/a	0.0002927	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-14A	636.4	n/a	4/17/2025	1830	Yes	80	0	x^(1/3)	0.001254	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-15A	636.4	n/a	4/17/2025	766	Yes	80	0	x^(1/3)	0.001254	Param Inter 1 of 2

Appendix III - Interwell Prediction Limits - April 2025 - All Results

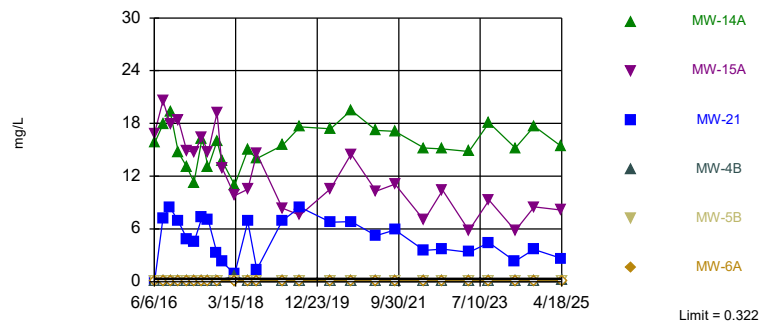
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 12:56 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg	N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-14A	0.322	n/a	4/17/2025	15.4	Yes	81	85.19	n/a	0.0002927		NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-15A	0.322	n/a	4/17/2025	8.16	Yes	81	85.19	n/a	0.0002927		NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-21	0.322	n/a	4/16/2025	2.64	Yes	81	85.19	n/a	0.0002927		NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-4B	0.322	n/a	4/18/2025	0.169	No	81	85.19	n/a	0.0002927		NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-5B	0.322	n/a	4/18/2025	0.1ND	No	81	85.19	n/a	0.0002927		NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-6A	0.322	n/a	4/18/2025	0.1ND	No	81	85.19	n/a	0.0002927		NP Inter (NDs) 1 of 2
Calcium (mg/L)	MW-14A	132	n/a	4/17/2025	286	Yes	80	0	n/a	0.0002988		NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-15A	132	n/a	4/17/2025	125	No	80	0	n/a	0.0002988		NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-21	132	n/a	4/16/2025	87.4	No	80	0	n/a	0.0002988		NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-4B	132	n/a	4/18/2025	86.8	No	80	0	n/a	0.0002988		NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-5B	132	n/a	4/18/2025	106	No	80	0	n/a	0.0002988		NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-6A	132	n/a	4/18/2025	85.2	No	80	0	n/a	0.0002988		NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-14A	30	n/a	4/17/2025	18	No	81	25.93	n/a	0.0002927		NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-15A	30	n/a	4/17/2025	7.79	No	81	25.93	n/a	0.0002927		NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-21	30	n/a	4/16/2025	10.9	No	81	25.93	n/a	0.0002927		NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-4B	30	n/a	4/18/2025	18.9	No	81	25.93	n/a	0.0002927		NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-5B	30	n/a	4/18/2025	32.1	Yes	81	25.93	n/a	0.0002927		NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-6A	30	n/a	4/18/2025	15.8	No	81	25.93	n/a	0.0002927		NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-14A	1	n/a	4/17/2025	0.262	No	80	85	n/a	0.0002988		NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-15A	1	n/a	4/17/2025	0.257	No	80	85	n/a	0.0002988		NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-21	1	n/a	4/16/2025	0.154	No	80	85	n/a	0.0002988		NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-4B	1	n/a	4/18/2025	0.268	No	80	85	n/a	0.0002988		NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-5B	1	n/a	4/18/2025	0.193	No	80	85	n/a	0.0002988		NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-6A	1	n/a	4/18/2025	0.303	No	80	85	n/a	0.0002988		NP Inter (NDs) 1 of 2
pH (SU)	MW-14A	7.784	6.878	4/17/2025	7.3	No	81	0	No	0.0006268		Param Inter 1 of 2
pH (SU)	MW-15A	7.784	6.878	4/17/2025	7.5	No	81	0	No	0.0006268		Param Inter 1 of 2
pH (SU)	MW-21	7.784	6.878	4/16/2025	6.9	No	81	0	No	0.0006268		Param Inter 1 of 2
pH (SU)	MW-4B	7.784	6.878	4/18/2025	7.5	No	81	0	No	0.0006268		Param Inter 1 of 2
pH (SU)	MW-5B	7.784	6.878	4/18/2025	7.3	No	81	0	No	0.0006268		Param Inter 1 of 2
pH (SU)	MW-6A	7.784	6.878	4/18/2025	7.3	No	81	0	No	0.0006268		Param Inter 1 of 2
Sulfate (mg/L)	MW-14A	366	n/a	4/17/2025	808	Yes	81	0	n/a	0.0002927		NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-15A	366	n/a	4/17/2025	309	No	81	0	n/a	0.0002927		NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-21	366	n/a	4/16/2025	230	No	81	0	n/a	0.0002927		NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-4B	366	n/a	4/18/2025	50.8	No	81	0	n/a	0.0002927		NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-5B	366	n/a	4/18/2025	35.7	No	81	0	n/a	0.0002927		NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-6A	366	n/a	4/18/2025	18.5	No	81	0	n/a	0.0002927		NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-14A	636.4	n/a	4/17/2025	1830	Yes	80	0	x^(1/3)	0.001254		Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-15A	636.4	n/a	4/17/2025	766	Yes	80	0	x^(1/3)	0.001254		Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-21	636.4	n/a	4/16/2025	606	No	80	0	x^(1/3)	0.001254		Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-4B	636.4	n/a	4/18/2025	424	No	80	0	x^(1/3)	0.001254		Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-5B	636.4	n/a	4/18/2025	470	No	80	0	x^(1/3)	0.001254		Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-6A	636.4	n/a	4/18/2025	380	No	80	0	x^(1/3)	0.001254		Param Inter 1 of 2

Exceeds Limit: MW-14A, MW-15A, MW-21

Prediction Limit

Interwell Non-parametric



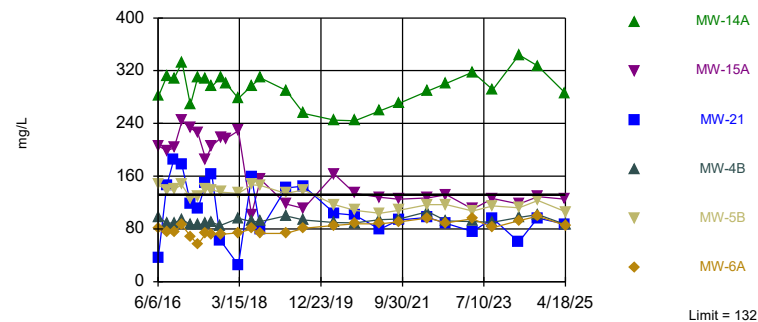
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 81 background values. 85.19% NDs. Annual per-constituent alpha = 0.003507. Individual comparison alpha = 0.0002927 (1 of 2). Comparing 6 points to limit.

Constituent: Boron Analysis Run 12/12/2025 12:54 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Exceeds Limit: MW-14A

Prediction Limit

Interwell Non-parametric



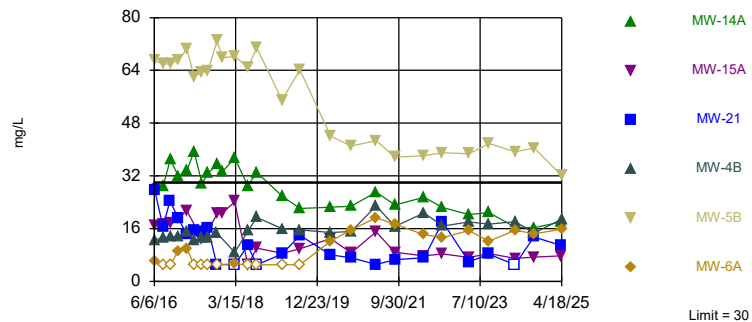
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 80 background values. Annual per-constituent alpha = 0.00358. Individual comparison alpha = 0.0002988 (1 of 2). Comparing 6 points to limit.

Constituent: Calcium Analysis Run 12/12/2025 12:54 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Exceeds Limit: MW-5B

Prediction Limit

Interwell Non-parametric



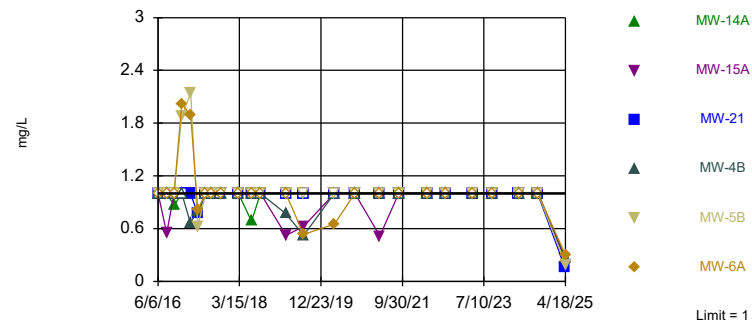
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 81 background values. 25.93% NDs. Annual per-constituent alpha = 0.003507. Individual comparison alpha = 0.0002927 (1 of 2). Comparing 6 points to limit.

Constituent: Chloride Analysis Run 12/12/2025 12:54 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Within Limit

Prediction Limit

Interwell Non-parametric



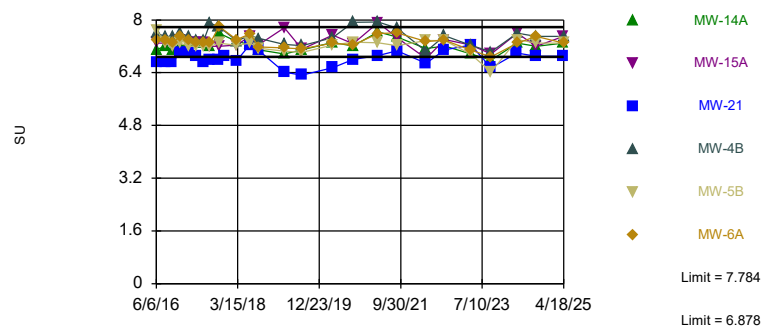
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 80 background values. 85% NDs. Annual per-constituent alpha = 0.00358. Individual comparison alpha = 0.0002988 (1 of 2). Comparing 6 points to limit.

Constituent: Fluoride Analysis Run 12/12/2025 12:54 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Within Limits

Prediction Limit

Interwell Parametric



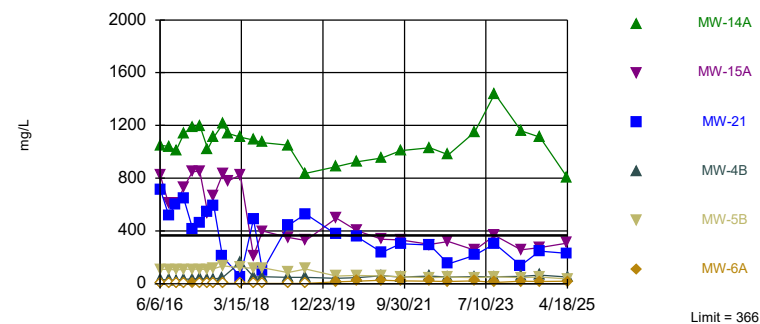
Background Data Summary: Mean=7.331, Std. Dev.=0.2441, n=81. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9643, critical = 0.958. Kappa = 1.856 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.0006268. Comparing 6 points to limit.

Constituent: pH Analysis Run 12/12/2025 12:54 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Exceeds Limit: MW-14A

Prediction Limit

Interwell Non-parametric



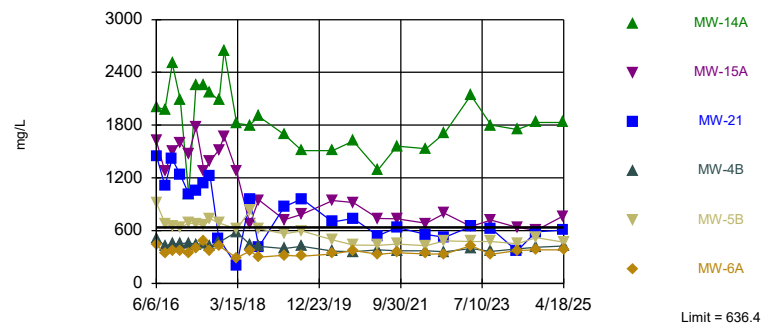
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 81 background values. Annual per-constituent alpha = 0.003507. Individual comparison alpha = 0.0002927 (1 of 2). Comparing 6 points to limit.

Constituent: Sulfate Analysis Run 12/12/2025 12:54 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Exceeds Limit: MW-14A, MW-15A

Prediction Limit

Interwell Parametric



Background Data Summary (based on cube root transformation): Mean=7.359, Std. Dev.=0.6695, n=80. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9574, critical = 0.957. Kappa = 1.857 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001254. Comparing 6 points to limit.

Constituent: Total Dissolved Solids Analysis Run 12/12/2025 12:54 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-15A	MW-4B	MW-6A	MW-5B	MW-08 (bg)	MW-14A	MW-21	MW-22 (bg)
6/6/2016	<0.1	16.8							
6/7/2016			<0.1	<0.1	<0.1	<0.1			
6/8/2016							15.8	<0.1	
8/15/2016	<0.1	20.6					17.9	7.23	
8/16/2016			<0.1	<0.1	<0.1	<0.1			
10/10/2016	<0.1					<0.1		8.45	
10/11/2016		17.9	<0.1	<0.1	<0.1		19.3		
12/12/2016			<0.1	<0.1	<0.1			6.93	
12/14/2016	<0.1	18.4				<0.1	14.7		
2/17/2017	<0.1	14.9	<0.1				13.1		
2/21/2017				<0.1	<0.1	<0.1		4.87	
4/17/2017	<0.1	14.7	<0.1	<0.1	<0.1	<0.1	11.3		
4/18/2017								4.49	
6/19/2017	<0.1					<0.1			
6/20/2017			<0.1		<0.1			7.36	
6/21/2017		16.4		<0.1			16.3		
8/7/2017	<0.1		<0.1			<0.1			
8/8/2017		14.7		<0.1	<0.1		13	7.05	
10/16/2017	<0.1		<0.1			<0.1		3.33	
10/17/2017		19.2		<0.1	<0.1		16		
11/28/2017		12.9 (R)					13.7 (R)	2.24 (R)	
3/5/2018	<0.1								
3/6/2018			0.66	<0.1	<0.1	<0.1		0.885	<0.1
3/7/2018		9.8					11		
6/19/2018	<0.1					<0.1		6.84	<0.1
6/20/2018		10.5					15		
6/21/2018			<0.1	<0.1	<0.1				
8/27/2018	<0.1					<0.1			<0.1
8/28/2018			<0.1					1.36	
8/29/2018		14.6		<0.1	<0.1		14		
3/18/2019						<0.1			
3/19/2019	<0.1		<0.1	<0.1	<0.1				0.299
3/20/2019		8.35					15.5	6.95	
8/6/2019						0.205			<0.1
8/7/2019	<0.1	7.56	<0.1	<0.1	<0.1		17.6	8.46	
4/7/2020	<0.1	10.6	<0.1	<0.1	<0.1	<0.1	17.4	6.76	<0.1
9/18/2020	<0.1	14.5	<0.1	<0.1	<0.1	<0.1	19.5	6.82	0.263
4/5/2021	<0.1	10.3	<0.1	<0.1	<0.1	<0.1	17.2	5.24	<0.1
9/1/2021	<0.1	11.1	<0.1	<0.1	<0.1	<0.1	17.1	5.88	<0.1
4/20/2022	<0.1	6.98	<0.1	<0.1	<0.1	<0.1	15.2	3.57	<0.1
9/14/2022	<0.1	10.4	<0.1	<0.1	<0.1	<0.1	15.1	3.69	0.322
4/10/2023									0.247
4/11/2023		5.8				<0.1	14.8	3.35	
4/12/2023	<0.1		<0.1	<0.1	<0.1				
9/18/2023	<0.1								0.207
9/19/2023		9.28				<0.1	18.1	4.42	
9/20/2023			<0.1	<0.1	<0.1				
4/11/2024	<0.1								<0.1
4/12/2024						<0.1		2.31	
4/15/2024		5.8	<0.1	<0.1	<0.1		15.2		
9/10/2024	<0.1							3.68	0.243
9/11/2024		8.5				<0.1	17.7		

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-15A	MW-4B	MW-6A	MW-5B	MW-08 (bg)	MW-14A	MW-21	MW-22 (bg)
9/12/2024			<0.1	<0.1	<0.1				
4/15/2025									<0.1
4/16/2025	<0.1					<0.1		2.64	
4/17/2025		8.16					15.4		
4/18/2025			0.169	<0.1	<0.1				

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

6/6/2016	
6/7/2016	
6/8/2016	
8/15/2016	
8/16/2016	
10/10/2016	
10/11/2016	
12/12/2016	
12/14/2016	
2/17/2017	
2/21/2017	
4/17/2017	
4/18/2017	
6/19/2017	
6/20/2017	
6/21/2017	
8/7/2017	
8/8/2017	
10/16/2017	
10/17/2017	
11/28/2017	
3/5/2018	
3/6/2018	
3/7/2018	
6/19/2018	
6/20/2018	<0.1
6/21/2018	
8/27/2018	<0.1
8/28/2018	
8/29/2018	
3/18/2019	
3/19/2019	<0.1
3/20/2019	
8/6/2019	<0.1
8/7/2019	
4/7/2020	<0.1
9/18/2020	0.15
4/5/2021	<0.1
9/1/2021	<0.1
4/20/2022	<0.1
9/14/2022	0.204
4/10/2023	
4/11/2023	
4/12/2023	0.145
9/18/2023	0.128
9/19/2023	
9/20/2023	
4/11/2024	<0.1
4/12/2024	
4/15/2024	
9/10/2024	0.126
9/11/2024	

Prediction Limit

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Constituent: Boron (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

9/12/2024
4/15/2025 <0.1
4/16/2025
4/17/2025
4/18/2025

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-5B	MW-6A	MW-4B	MW-14A	MW-21	MW-08 (bg)	MW-22 (bg)
6/6/2016	206	89.3							
6/7/2016			147	81.4	98.2			152 (o)	
6/8/2016						281	37.2		
8/15/2016	199	80.7				311	146		
8/16/2016			139	75.4	88.8			117	
10/10/2016		83.3					185	118	
10/11/2016	203		140	75.7	89.3	308			
12/12/2016			147	85.6	94.5		178		
12/14/2016	244	86.5				333		109	
2/17/2017	233	81.2			86.8	268			
2/21/2017			126	68.8			118	89.9	
4/17/2017	226	79.2	130	56.3	85.9	310		96.5	
4/18/2017							110		
6/19/2017		83.6						113	
6/20/2017			140		88.7		149		
6/21/2017	186			72.9		307			
8/7/2017		85.5			89.7			91.3	
8/8/2017	206		139	71.2		296	163		
10/16/2017		83.3			85.3		62.3	77	
10/17/2017	218		136	71.9		310			
11/28/2017	217 (R)					301 (R)			
3/5/2018		77.3							
3/6/2018			134	74.1	95.8		25.1	74.7	69.8
3/7/2018	229					278			
6/19/2018		88.5					159	115	91.5
6/20/2018	102					297			
6/21/2018			147	80.1	91.4				
8/27/2018		85.4						83.6	80.7
8/28/2018					91.3		78.7		
8/29/2018	155		146	73.3		309			
3/18/2019								97.6	
3/19/2019		76.3	134	73.2	99.7				91.6
3/20/2019	118					290	142		
8/6/2019								132	83.8
8/7/2019	111	78.9	139	80.9	93.8	255	145		
4/7/2020	163	75.4	117	85.1	89.6	245	104	92.4	80.9
9/18/2020	134	74.2	108	87.9	89	244	101	77.7	75.5
4/5/2021	128	78.8	104	87.6	94.1	259	79.5	81.2	78.4
9/1/2021	125	80	108	90.6	95.1	270	93.5	78.3	79.4
4/20/2022	127	90.4	117	96.5	106	289	97.5	69.6	80.2
9/14/2022	132	82	117	89	92.3	301	88.2	76.8	79.6
4/10/2023									80.4
4/11/2023	110					318	76	78.2	
4/12/2023		83.7	107	95.4	91.3				
9/18/2023		84.7							79
9/19/2023	126					291	96	79.4	
9/20/2023			115	82.1	90.4				
4/11/2024		96.2							83.1
4/12/2024							59.9	84.2	
4/15/2024	118		112	92.4	97.7	344			
9/10/2024		97.8					96.6		84.3
9/11/2024	129					327		88.6	

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-5B	MW-6A	MW-4B	MW-14A	MW-21	MW-08 (bg)	MW-22 (bg)
9/12/2024			123	99.4	102				
4/15/2025									74.5
4/16/2025		99.6					87.4	84.1	
4/17/2025	125					286			
4/18/2025			106	85.2	86.8				

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

6/6/2016	
6/7/2016	
6/8/2016	
8/15/2016	
8/16/2016	
10/10/2016	
10/11/2016	
12/12/2016	
12/14/2016	
2/17/2017	
2/21/2017	
4/17/2017	
4/18/2017	
6/19/2017	
6/20/2017	
6/21/2017	
8/7/2017	
8/8/2017	
10/16/2017	
10/17/2017	
11/28/2017	
3/5/2018	
3/6/2018	
3/7/2018	
6/19/2018	
6/20/2018	70.5
6/21/2018	
8/27/2018	63.9
8/28/2018	
8/29/2018	
3/18/2019	
3/19/2019	59.7
3/20/2019	
8/6/2019	59.5
8/7/2019	
4/7/2020	61
9/18/2020	52.1
4/5/2021	56.3
9/1/2021	56.1
4/20/2022	54
9/14/2022	54.5
4/10/2023	
4/11/2023	
4/12/2023	55.3
9/18/2023	56
9/19/2023	
9/20/2023	
4/11/2024	59.7
4/12/2024	
4/15/2024	
9/10/2024	58
9/11/2024	

Prediction Limit

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Constituent: Calcium (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

9/12/2024

4/15/2025

4/16/2025

4/17/2025

4/18/2025

56

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-08 (bg)	MW-5B	MW-6A	MW-4B	MW-14A	MW-21	MW-22 (bg)
6/6/2016	17.1	6.22							
6/7/2016			19.8	67	5.97	12.6			
6/8/2016							28.7	27.7	
8/15/2016	17.2	<5					28.7	16.6	
8/16/2016			17.8	65.9	<5	13.2			
10/10/2016		<5	16.2					24.4	
10/11/2016	17.6			66	<5	13.6	37		
12/12/2016				67	9.08	13.5		19.2	
12/14/2016	19	<5	17.2				31.9		
2/17/2017	21.5	<5				15.1	33.5		
2/21/2017			15.4	70.4	9.93			14.2	
4/17/2017	47.4 (o)	<5	17.1	62.1	<5	12.5	39.4		
4/18/2017								15.6	
6/19/2017		<5	14.1						
6/20/2017				63.4		13.2		15.1	
6/21/2017	12.8				<5		29.7		
8/7/2017		<5	14			13.2			
8/8/2017	15.4			64	<5		32.9	16.1	
10/16/2017		<5	14.4			14.7		5.09	
10/17/2017	20.5			73	<5		35.4		
11/28/2017	20.7 (R)			67.8 (R)			33.2 (R)		
3/5/2018		<5							
3/6/2018			14.5	68.2	5.33	8.81		<5	30
3/7/2018	24.2						37.4		
6/19/2018		<5	14.9					10.9	27.2
6/20/2018	<5						29		
6/21/2018				65	<5	15.3			
8/27/2018		<5	15.6						29.8
8/28/2018						19.4		<5	
8/29/2018	10.1			70.8	<5		33.1		
3/18/2019			16.1						
3/19/2019		<5		55	<5	16			27.6
3/20/2019	8.54						25.8	8.3	
8/6/2019			17.1						26.9
8/7/2019	9.91	<5		64.1	<5	15.6	22.1	14	
4/7/2020	13	<5	17.2	44	12.2	14.8	22.5	8.05	24.8
9/18/2020	8.63	<5	14.7	41	15.6	15.1	22.8	7.21	23.2
4/5/2021	15	<5	22.3	42.7	19.3	22.9	27.1	5.14	28.1
9/1/2021	8.86	<5	16.3	37.6	17.4	16.7	23.2	6.58	20
4/20/2022	7.71	<5	15.8	38.1	14.2	20.8	25.5	7.19	20.2
9/14/2022	8.29	<5	16.7	39	13.3	16.8	22.4	18	7.04
4/10/2023									18.2
4/11/2023	7.3		17.9				20.3	5.93	
4/12/2023		5.86		38.7	15.4	18			
9/18/2023		<5							18.4
9/19/2023	8.41		19.9				20.9	8.23	
9/20/2023				41.8	12.2	17.4			
4/11/2024		<5							15.8
4/12/2024			17.2					<5	
4/15/2024	7.01			39.3	15.5	18.1	16.4		
9/10/2024		9.65						13.5	16.6
9/11/2024	7.41		20.1				16.3		

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-08 (bg)	MW-5B	MW-6A	MW-4B	MW-14A	MW-21	MW-22 (bg)
9/12/2024				40.5	14.4	14.6			
4/15/2025									16.1
4/16/2025		12.8	18.6					10.9	
4/17/2025	7.79						18		
4/18/2025				32.1	15.8	18.9			

Prediction Limit

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Constituent: Chloride (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

6/6/2016	
6/7/2016	
6/8/2016	
8/15/2016	
8/16/2016	
10/10/2016	
10/11/2016	
12/12/2016	
12/14/2016	
2/17/2017	
2/21/2017	
4/17/2017	
4/18/2017	
6/19/2017	
6/20/2017	
6/21/2017	
8/7/2017	
8/8/2017	
10/16/2017	
10/17/2017	
11/28/2017	
3/5/2018	
3/6/2018	
3/7/2018	
6/19/2018	
6/20/2018	15.9
6/21/2018	
8/27/2018	14.2
8/28/2018	
8/29/2018	
3/18/2019	
3/19/2019	10.5
3/20/2019	
8/6/2019	13.8
8/7/2019	
4/7/2020	15.7
9/18/2020	14.4
4/5/2021	21.4
9/1/2021	15.2
4/20/2022	16.9
9/14/2022	16.2
4/10/2023	
4/11/2023	
4/12/2023	17.7
9/18/2023	19.2
9/19/2023	
9/20/2023	
4/11/2024	19.2
4/12/2024	
4/15/2024	
9/10/2024	21.7
9/11/2024	

Prediction Limit

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Constituent: Chloride (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

9/12/2024	
4/15/2025	25.1
4/16/2025	
4/17/2025	
4/18/2025	

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-08 (bg)	MW-6A	MW-5B	MW-4B	MW-21	MW-14A	MW-22 (bg)
6/6/2016	<1	0.731							
6/7/2016			<1	<1	<1	<1			
6/8/2016							<1	<1	
8/15/2016	0.549	<1					<1	<1	
8/16/2016			<1	<1	<1	<1			
10/10/2016		<1	<1				<1		
10/11/2016	<1			<1	<1	<1		0.867	
12/12/2016				2.02	1.88	<1	<1		
12/14/2016	<1	<1	0.72					<1	
2/17/2017	<1	<1				0.664		<1	
2/21/2017			<1	1.89	2.14		0.993		
4/17/2017	6.7 (o)	0.774	1.69 (o)	0.814	0.627	0.801		1.93 (o)	
4/18/2017							0.768		
6/19/2017		<1	<1						
6/20/2017					<1	<1	<1		
6/21/2017	<1			<1				<1	
8/7/2017		<1	<1			<1			
8/8/2017	<1			<1	<1		<1	<1	
10/16/2017		<1	<1			<1	<1		
10/17/2017	<1			<1	<1			<1	
3/5/2018		<1							
3/6/2018			<1	<1	<1	<1	<1		<1
3/7/2018	<1							<1	
6/19/2018		<1	0.826				<1		<1
6/20/2018	<1							0.684	
6/21/2018				<1	<1	<1			
8/27/2018		<1	<1						<1
8/28/2018						<1	<1		
8/29/2018	<1			<1	<1			<1	
3/18/2019			<1						
3/19/2019		<1		<1	<1	0.771			<1
3/20/2019	0.523						<1	<1	
8/6/2019			0.643						0.507
8/7/2019	0.625	0.596		0.535	<1	0.525	<1	<1	
4/7/2020	<1	<1	0.864	0.652	<1	<1	<1	<1	<1
9/18/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1
4/5/2021	0.516	<1	<1	<1	<1	<1	<1	<1	<1
9/1/2021	<1	<1	<1	<1	<1	<1	<1	<1	<1
4/20/2022	<1	<1	<1	<1	<1	<1	<1	<1	<1
9/14/2022	<1	<1	<1	<1	<1	<1	<1	<1	<1
4/10/2023									<1
4/11/2023	<1		<1				<1	<1	
4/12/2023		<1		<1	<1	<1			
9/18/2023		<1							<1
9/19/2023	<1		<1				<1	<1	
9/20/2023				<1	<1	<1			
4/11/2024		<1							<1
4/12/2024			<1				<1		
4/15/2024	<1			<1	<1	<1		<1	
9/10/2024		<1					<1		<1
9/11/2024	<1		<1					<1	
9/12/2024				<1	<1	<1			

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-08 (bg)	MW-6A	MW-5B	MW-4B	MW-21	MW-14A	MW-22 (bg)
4/15/2025									0.268
4/16/2025		0.281	0.312				0.154		
4/17/2025	0.257							0.262	
4/18/2025				0.303	0.193	0.268			

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

6/6/2016	
6/7/2016	
6/8/2016	
8/15/2016	
8/16/2016	
10/10/2016	
10/11/2016	
12/12/2016	
12/14/2016	
2/17/2017	
2/21/2017	
4/17/2017	
4/18/2017	
6/19/2017	
6/20/2017	
6/21/2017	
8/7/2017	
8/8/2017	
10/16/2017	
10/17/2017	
3/5/2018	
3/6/2018	
3/7/2018	
6/19/2018	
6/20/2018	<1
6/21/2018	
8/27/2018	<1
8/28/2018	
8/29/2018	
3/18/2019	
3/19/2019	<1
3/20/2019	
8/6/2019	<1
8/7/2019	
4/7/2020	<1
9/18/2020	<1
4/5/2021	<1
9/1/2021	<1
4/20/2022	<1
9/14/2022	<1
4/10/2023	
4/11/2023	
4/12/2023	<1
9/18/2023	<1
9/19/2023	
9/20/2023	
4/11/2024	<1
4/12/2024	
4/15/2024	
9/10/2024	<1
9/11/2024	
9/12/2024	

Prediction Limit

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Constituent: Fluoride (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

4/15/2025 0.236
4/16/2025
4/17/2025
4/18/2025

Prediction Limit

Constituent: pH (SU) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-5B	MW-6A	MW-4B	MW-08 (bg)	MW-21	MW-14A	MW-22 (bg)
6/6/2016	7.3	7.4							
6/7/2016			7.7	7.4	7.6	7.2			
6/8/2016							6.7	7.1	
8/15/2016	7.3	7.3					6.7	7.2	
8/16/2016			7.3	7.4	7.5	7.3			
10/10/2016		7.2				7.1	6.7		
10/11/2016	7.2		7.2	7.3	7.5			7.1	
12/12/2016			7.3	7.5	7.6		7		
12/14/2016	7.4	7.3				7.3		7.2	
2/17/2017	7.3	7.2			7.5			7.3	
2/21/2017			7.2	7.4		7.3	7		
4/17/2017	7.3	7.3	7.2	7.3	7.4	7.1		7.3	
4/18/2017							6.9		
6/19/2017		7.2				7.1			
6/20/2017			7.2		7.4		6.7		
6/21/2017	7.3			7.3				7.3	
8/7/2017		7.9			7.9	7.3			
8/8/2017	7.2		7.2	7.3			6.8	7.2	
10/16/2017		7.3			7.8	7.4	6.8		
10/17/2017	7.2		7.3	7.8				7.6	
11/28/2017							6.9 (R)		
3/5/2018		7.04							
3/6/2018			7.23	7.4	7.36	7.3	6.76		7.36
3/7/2018	7.24							7.35	
6/19/2018		7.72				7.56	7.25		7.9
6/20/2018	7.5							7.26	
6/21/2018			7.3	7.58	7.53				
8/27/2018		7.23				7.2			7.42
8/28/2018					7.44		7.07		
8/29/2018	7.25		7.14	7.18				7.09	
3/19/2019		7.1	7.05	7.15	7.26	7.08			7.21
3/20/2019	7.76						6.41	6.97	
8/6/2019						6.64			7.12
8/7/2019	7.11	7.07	7.02	7.12	7.22		6.33	7.09	
4/7/2020	7.54	7.26	7.24	7.3	7.46	7.21	6.55	7.32	7.32
9/18/2020	7.28	7.33	7.33	7.24	7.93	7.4	6.8	7.21	7.53
4/5/2021	7.92	7.57	7.31	7.59	7.94	7.63	6.92	7.64	7.7
9/1/2021	7.46	7.59	7.22	7.61	7.75	7.45	7.06	7.48	7.97
4/20/2022	6.83	7.35	7.37	7.35	7.04	7.35	6.69	7.13	7.23
9/14/2022	7.4	7.48	7.37	7.38	7.52	7.43	7.09	7.21	7.58
4/10/2023									7.14
4/11/2023	7.24					7.24	7.24	6.97	
4/12/2023		6.96	6.96	7.08	7.23				
9/18/2023		6.86							7.14
9/19/2023	6.97					6.81	6.55	6.78	
9/20/2023			6.42	6.88	7.03				
4/11/2024		7.3							7.5
4/12/2024						7.4	7		
4/15/2024	7.6		7.4	7.3	7.6			7.3	
9/10/2024		7.3					6.9		7.5
9/11/2024	7.2					7.3		7.2	
9/12/2024			7.3	7.5	7.5				

Prediction Limit

Constituent: pH (SU) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-5B	MW-6A	MW-4B	MW-08 (bg)	MW-21	MW-14A	MW-22 (bg)
4/15/2025									7.4
4/16/2025		7.2				7.5	6.9		
4/17/2025	7.5							7.3	
4/18/2025			7.3	7.3	7.5				

Prediction Limit

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Constituent: pH (SU) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

6/6/2016	
6/7/2016	
6/8/2016	
8/15/2016	
8/16/2016	
10/10/2016	
10/11/2016	
12/12/2016	
12/14/2016	
2/17/2017	
2/21/2017	
4/17/2017	
4/18/2017	
6/19/2017	
6/20/2017	
6/21/2017	
8/7/2017	
8/8/2017	
10/16/2017	
10/17/2017	
11/28/2017	
3/5/2018	
3/6/2018	
3/7/2018	
6/19/2018	
6/20/2018	7.69
6/21/2018	
8/27/2018	7.55
8/28/2018	
8/29/2018	
3/19/2019	7.24
3/20/2019	
8/6/2019	6.75
8/7/2019	
4/7/2020	7.33
9/18/2020	7.53
4/5/2021	7.61
9/1/2021	7.89
4/20/2022	7.39
9/14/2022	7.3
4/10/2023	
4/11/2023	
4/12/2023	7.24
9/18/2023	7.05
9/19/2023	
9/20/2023	
4/11/2024	7.4
4/12/2024	
4/15/2024	
9/10/2024	7.4
9/11/2024	
9/12/2024	

Prediction Limit

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Constituent: pH (SU) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

4/15/2025	7.4
4/16/2025	
4/17/2025	
4/18/2025	

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-5B	MW-6A	MW-4B	MW-08 (bg)	MW-21	MW-14A	MW-22 (bg)
6/6/2016	827	42.1							
6/7/2016			109	<5	32.2	366			
6/8/2016							713	1050	
8/15/2016	605	33.8					520	1040	
8/16/2016			109	<5	28.4	187			
10/10/2016		36.4				187	603		
10/11/2016	607		105	<5	27.2			1010	
12/12/2016			109	<5	32.7		645		
12/14/2016	732	38.4				149		1140	
2/17/2017	849	47.3			36			1190	
2/21/2017			111	5.94		145	415		
4/17/2017	853	38.3	108	<5	39.5	145		1200	
4/18/2017							461		
6/19/2017		35.4				190			
6/20/2017			108		33		541		
6/21/2017	537			<5				1020	
8/7/2017		39			35.3	119			
8/8/2017	664		114	<5			590	1110	
10/16/2017		46.9			45.4	106	206		
10/17/2017	835		135	<5				1210	
11/28/2017	779 (R)							1140 (R)	
3/5/2018		51.4							
3/6/2018			122	<5	162	87.3	53.7		123
3/7/2018	824							1110	
6/19/2018		37.3				136	489		134
6/20/2018	210							1090	
6/21/2018			119	<5	51.3				
8/27/2018		34.3				94.7			125
8/28/2018					52.2		96.6		
8/29/2018	400		120	<5				1070	
3/18/2019						223			
3/19/2019		42.8	85	<5	48				134
3/20/2019	351						442	1050	
8/6/2019						276			139
8/7/2019	327	28.8	112	<5	47		529	837	
4/7/2020	496	18.6	58.9	13.6	41.5	123	373	888	143
9/18/2020	403	36.5	61.9	19.1	46.9	100	356	924	151
4/5/2021	338	27.6	57.4	27.3	60.1	99.7	237	952	154
9/1/2021	333	32.3	53.7	22.7	50.2	82.7	303	1010	154
4/20/2022	297	48.3	44.7	18.9	58.4	72.8	293	1030	158
9/14/2022	319	31.2	49.9	16.4	49.5	67.1	151	978	220
4/10/2023									147
4/11/2023	254					72.2	215	1150	
4/12/2023		39.8	45.8	20.5	54				
9/18/2023		57.4							208
9/19/2023	365					94.2	303	1440	
9/20/2023			53.4	10.1	53.1				
4/11/2024		49.6							160
4/12/2024						65.7	138		
4/15/2024	256		46.3	18.1	56.1			1160	
9/10/2024		59.9					248		161
9/11/2024	273					68.9		1110	

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-5B	MW-6A	MW-4B	MW-08 (bg)	MW-21	MW-14A	MW-22 (bg)
9/12/2024			50.4	16.3	65.8				
4/15/2025									143
4/16/2025		84.7				63.5	230		
4/17/2025	309							808	
4/18/2025			35.7	18.5	50.8				

Prediction Limit

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Constituent: Sulfate (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

6/6/2016	
6/7/2016	
6/8/2016	
8/15/2016	
8/16/2016	
10/10/2016	
10/11/2016	
12/12/2016	
12/14/2016	
2/17/2017	
2/21/2017	
4/17/2017	
4/18/2017	
6/19/2017	
6/20/2017	
6/21/2017	
8/7/2017	
8/8/2017	
10/16/2017	
10/17/2017	
11/28/2017	
3/5/2018	
3/6/2018	
3/7/2018	
6/19/2018	
6/20/2018	38.4
6/21/2018	
8/27/2018	31.7
8/28/2018	
8/29/2018	
3/18/2019	
3/19/2019	26.2
3/20/2019	
8/6/2019	29.7
8/7/2019	
4/7/2020	25.5
9/18/2020	25.8
4/5/2021	35.5
9/1/2021	25.8
4/20/2022	25.4
9/14/2022	23
4/10/2023	
4/11/2023	
4/12/2023	25
9/18/2023	28.6
9/19/2023	
9/20/2023	
4/11/2024	21.8
4/12/2024	
4/15/2024	
9/10/2024	23.8
9/11/2024	

Prediction Limit

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Constituent: Sulfate (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

9/12/2024

4/15/2025

23.4

4/16/2025

4/17/2025

4/18/2025

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-08 (bg)	MW-5B	MW-6A	MW-4B	MW-14A	MW-21	MW-22 (bg)
6/6/2016	1620	468							
6/7/2016			836	920	440	507			
6/8/2016							2000	1440	
8/15/2016	1270	412					1980	1110	
8/16/2016			664	672	340	426			
10/10/2016		444	708					1420	
10/11/2016	1500			646	370	450	2500		
12/12/2016				636	368	450		1240	
12/14/2016	1600	428	634				2080		
2/17/2017	1470	498				460	1010		
2/21/2017			578	684	336			1010	
4/17/2017	1780	538	624	680	402	442	2260		
4/18/2017								1060	
6/19/2017		524	656						
6/20/2017				656		452		1140	
6/21/2017	1280				486		2250		
8/7/2017		458	488			420			
8/8/2017	1390			734	364		2170	1220	
10/16/2017		414	470			466		514	
10/17/2017	1520			688	424		2080		
11/28/2017	1670 (R)						2650 (R)		
3/5/2018		314							
3/6/2018			376	620	292	586		200	424
3/7/2018	1270						1820		
6/19/2018		396	502					952	434
6/20/2018	676						1800		
6/21/2018				828	368	440			
8/27/2018		392	414						420
8/28/2018						420		416	
8/29/2018	948			622	298		1900		
3/18/2019			612						
3/19/2019		326		562	320	398			456
3/20/2019	724						1690	872	
8/6/2019			702						428
8/7/2019	786	320		596	308	422	1510	960	
4/7/2020	942	316	418	494	336	366	1510	698	422
9/18/2020	920	344	350	436	374	360	1620	738	398
4/5/2021	738	322	382	434	330	380	1290	540	412
9/1/2021	736	314	342	448	350	370	1560	636	420
4/20/2022	682	344	322	428	336	370	1530	558	388
9/14/2022	796	340	350	484	334	358	1710	524	390
4/10/2023									450
4/11/2023	646		2390 (o)				2140	646	
4/12/2023		410		478	428	396			
9/18/2023		318							404
9/19/2023	720		260				1800	626	
9/20/2023				476	332	364			
4/11/2024		382							422
4/12/2024			362					366	
4/15/2024	636			450	376	392	1750		
9/10/2024		386						584	396
9/11/2024	602		320				1830		

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-08 (bg)	MW-5B	MW-6A	MW-4B	MW-14A	MW-21	MW-22 (bg)
9/12/2024				520	382	410			
4/15/2025									430
4/16/2025		486	390					606	
4/17/2025	766						1830		
4/18/2025				470	380	424			

Prediction Limit

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Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

6/6/2016	
6/7/2016	
6/8/2016	
8/15/2016	
8/16/2016	
10/10/2016	
10/11/2016	
12/12/2016	
12/14/2016	
2/17/2017	
2/21/2017	
4/17/2017	
4/18/2017	
6/19/2017	
6/20/2017	
6/21/2017	
8/7/2017	
8/8/2017	
10/16/2017	
10/17/2017	
11/28/2017	
3/5/2018	
3/6/2018	
3/7/2018	
6/19/2018	
6/20/2018	384
6/21/2018	
8/27/2018	340
8/28/2018	
8/29/2018	
3/18/2019	
3/19/2019	296
3/20/2019	
8/6/2019	336
8/7/2019	
4/7/2020	298
9/18/2020	250
4/5/2021	274
9/1/2021	256
4/20/2022	218
9/14/2022	278
4/10/2023	
4/11/2023	
4/12/2023	286
9/18/2023	282
9/19/2023	
9/20/2023	
4/11/2024	274
4/12/2024	
4/15/2024	
9/10/2024	260
9/11/2024	

Prediction Limit

Page 4

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/12/2025 12:56 PM View: Federal Prediction Limits April
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

9/12/2024

4/15/2025

298

4/16/2025

4/17/2025

4/18/2025

FIGURE F.

Appendix III - Interwell Prediction Limits - Sep 2025 - Significant Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 12:59 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-14A	0.322	n/a	9/9/2025	16.1	Yes	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-15A	0.322	n/a	9/10/2025	5.51	Yes	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-21	0.322	n/a	9/9/2025	1.65	Yes	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Calcium (mg/L)	MW-14A	132	n/a	9/9/2025	277	Yes	84	0	n/a	0.0002742	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-5B	30	n/a	9/10/2025	42	Yes	85	24.71	n/a	0.0002681	NP Inter (normality) 1 of 2
pH (SU)	MW-21	7.781	6.891	9/9/2025	6.8	Yes	85	0	No	0.0006268	Param Inter 1 of 2
Sulfate (mg/L)	MW-14A	366	n/a	9/9/2025	953	Yes	85	0	n/a	0.0002681	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-14A	639.7	n/a	9/9/2025	1870	Yes	84	0	ln(x)	0.001254	Param Inter 1 of 2

Appendix III - Interwell Prediction Limits - Sep 2025 - All Results

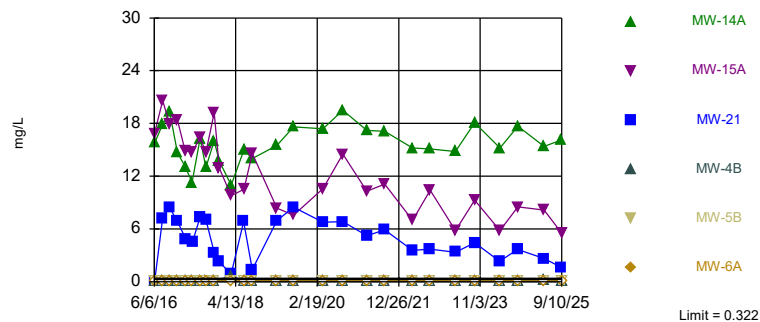
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 12:59 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-14A	0.322	n/a	9/9/2025	16.1	Yes	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-15A	0.322	n/a	9/10/2025	5.51	Yes	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-21	0.322	n/a	9/9/2025	1.65	Yes	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-4B	0.322	n/a	9/10/2025	0.1ND	No	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-5B	0.322	n/a	9/10/2025	0.1ND	No	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-6A	0.322	n/a	9/10/2025	0.1ND	No	85	83.53	n/a	0.0002681	NP Inter (NDs) 1 of 2
Calcium (mg/L)	MW-14A	132	n/a	9/9/2025	277	Yes	84	0	n/a	0.0002742	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-15A	132	n/a	9/10/2025	77.2	No	84	0	n/a	0.0002742	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-21	132	n/a	9/9/2025	52.8	No	84	0	n/a	0.0002742	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-4B	132	n/a	9/10/2025	94.9	No	84	0	n/a	0.0002742	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-5B	132	n/a	9/10/2025	114	No	84	0	n/a	0.0002742	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-6A	132	n/a	9/10/2025	79	No	84	0	n/a	0.0002742	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-14A	30	n/a	9/9/2025	15.4	No	85	24.71	n/a	0.0002681	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-15A	30	n/a	9/10/2025	4.5	No	85	24.71	n/a	0.0002681	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-21	30	n/a	9/9/2025	5.1	No	85	24.71	n/a	0.0002681	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-4B	30	n/a	9/10/2025	18.9	No	85	24.71	n/a	0.0002681	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-5B	30	n/a	9/10/2025	42	Yes	85	24.71	n/a	0.0002681	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-6A	30	n/a	9/10/2025	16.8	No	85	24.71	n/a	0.0002681	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-14A	1	n/a	9/9/2025	0.261	No	84	80.95	n/a	0.0002742	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-15A	1	n/a	9/10/2025	0.293	No	84	80.95	n/a	0.0002742	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-21	1	n/a	9/9/2025	0.174	No	84	80.95	n/a	0.0002742	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-4B	1	n/a	9/10/2025	0.274	No	84	80.95	n/a	0.0002742	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-5B	1	n/a	9/10/2025	0.173	No	84	80.95	n/a	0.0002742	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-6A	1	n/a	9/10/2025	0.273	No	84	80.95	n/a	0.0002742	NP Inter (NDs) 1 of 2
pH (SU)	MW-14A	7.781	6.891	9/9/2025	7.3	No	85	0	No	0.0006268	Param Inter 1 of 2
pH (SU)	MW-15A	7.781	6.891	9/10/2025	7.4	No	85	0	No	0.0006268	Param Inter 1 of 2
pH (SU)	MW-21	7.781	6.891	9/9/2025	6.8	Yes	85	0	No	0.0006268	Param Inter 1 of 2
pH (SU)	MW-4B	7.781	6.891	9/10/2025	7.5	No	85	0	No	0.0006268	Param Inter 1 of 2
pH (SU)	MW-5B	7.781	6.891	9/10/2025	7.3	No	85	0	No	0.0006268	Param Inter 1 of 2
pH (SU)	MW-6A	7.781	6.891	9/10/2025	7.3	No	85	0	No	0.0006268	Param Inter 1 of 2
Sulfate (mg/L)	MW-14A	366	n/a	9/9/2025	953	Yes	85	0	n/a	0.0002681	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-15A	366	n/a	9/10/2025	162	No	85	0	n/a	0.0002681	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-21	366	n/a	9/9/2025	135	No	85	0	n/a	0.0002681	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-4B	366	n/a	9/10/2025	55.8	No	85	0	n/a	0.0002681	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-5B	366	n/a	9/10/2025	47.6	No	85	0	n/a	0.0002681	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-6A	366	n/a	9/10/2025	20.7	No	85	0	n/a	0.0002681	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-14A	639.7	n/a	9/9/2025	1870	Yes	84	0	ln(x)	0.001254	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-15A	639.7	n/a	9/10/2025	518	No	84	0	ln(x)	0.001254	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-21	639.7	n/a	9/9/2025	396	No	84	0	ln(x)	0.001254	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-4B	639.7	n/a	9/10/2025	442	No	84	0	ln(x)	0.001254	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-5B	639.7	n/a	9/10/2025	496	No	84	0	ln(x)	0.001254	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-6A	639.7	n/a	9/10/2025	380	No	84	0	ln(x)	0.001254	Param Inter 1 of 2

Exceeds Limit: MW-14A, MW-15A, MW-21

Prediction Limit

Interwell Non-parametric



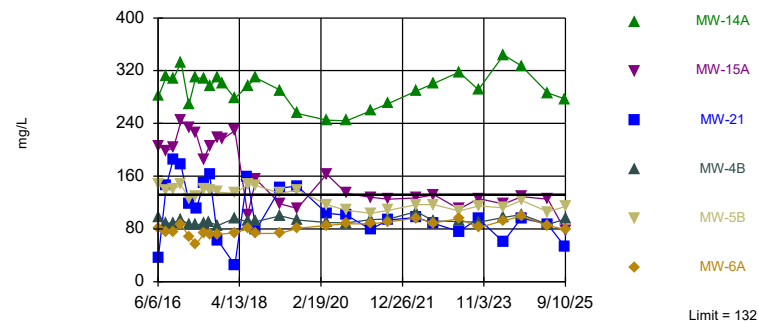
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 85 background values. 83.53% NDs. Annual per-constituent alpha = 0.003213. Individual comparison alpha = 0.0002681 (1 of 2). Comparing 6 points to limit.

Constituent: Boron Analysis Run 12/12/2025 12:57 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Exceeds Limit: MW-14A

Prediction Limit

Interwell Non-parametric



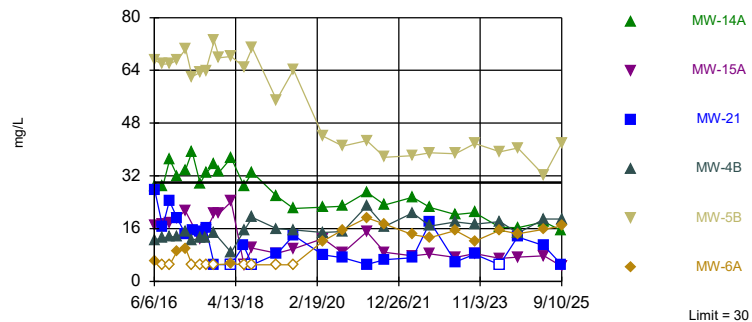
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. Annual per-constituent alpha = 0.003286. Individual comparison alpha = 0.0002742 (1 of 2). Comparing 6 points to limit.

Constituent: Calcium Analysis Run 12/12/2025 12:57 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Exceeds Limit: MW-5B

Prediction Limit

Interwell Non-parametric



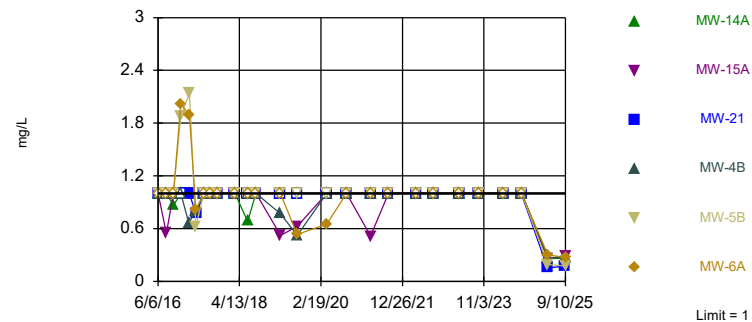
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 85 background values. 24.71% NDs. Annual per-constituent alpha = 0.003213. Individual comparison alpha = 0.0002681 (1 of 2). Comparing 6 points to limit.

Constituent: Chloride Analysis Run 12/12/2025 12:57 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Within Limit

Prediction Limit

Interwell Non-parametric



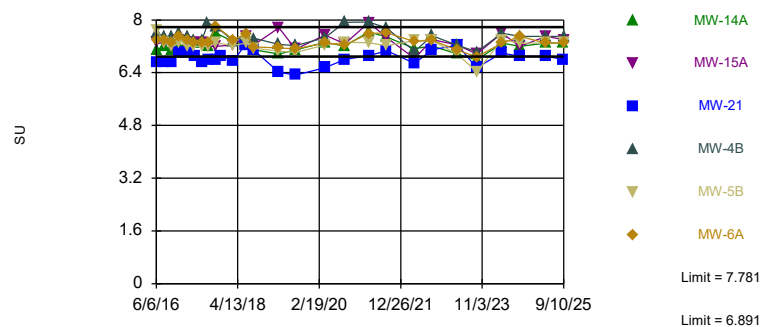
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 84 background values. 80.95% NDs. Annual per-constituent alpha = 0.003286. Individual comparison alpha = 0.0002742 (1 of 2). Comparing 6 points to limit.

Constituent: Fluoride Analysis Run 12/12/2025 12:57 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Exceeds Limits: MW-21

Prediction Limit

Interwell Parametric



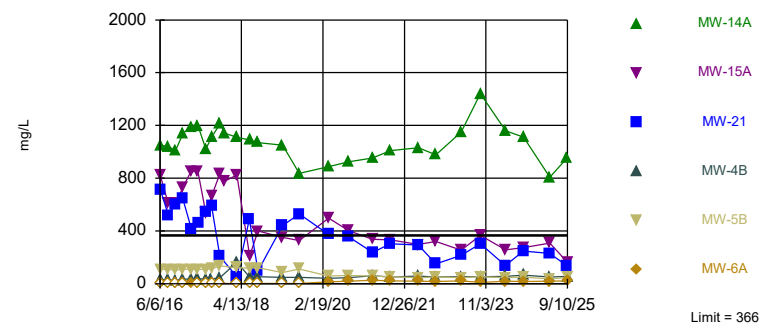
Background Data Summary: Mean=7.336, Std. Dev.=0.2402, n=85. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9635, critical = 0.961. Kappa = 1.852 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.0006268. Comparing 6 points to limit.

Constituent: pH Analysis Run 12/12/2025 12:57 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Exceeds Limit: MW-14A

Prediction Limit

Interwell Non-parametric



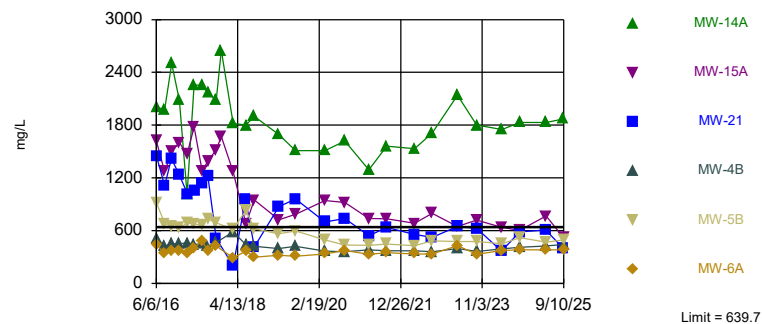
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 85 background values. Annual per-constituent alpha = 0.003213. Individual comparison alpha = 0.0002681 (1 of 2). Comparing 6 points to limit.

Constituent: Sulfate Analysis Run 12/12/2025 12:57 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Exceeds Limit: MW-14A

Prediction Limit

Interwell Parametric



Background Data Summary (based on natural log transformation): Mean=5.974, Std. Dev.=0.2626, n=84. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9737, critical = 0.96. Kappa = 1.853 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001254. Comparing 6 points to limit.

Constituent: Total Dissolved Solids Analysis Run 12/12/2025 12:57 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-15A	MW-4B	MW-5B	MW-6A	MW-08 (bg)	MW-21	MW-14A	MW-22 (bg)
6/6/2016	<0.1	16.8							
6/7/2016			<0.1	<0.1	<0.1	<0.1			
6/8/2016							<0.1	15.8	
8/15/2016	<0.1	20.6					7.23	17.9	
8/16/2016			<0.1	<0.1	<0.1	<0.1			
10/10/2016	<0.1					<0.1	8.45		
10/11/2016		17.9	<0.1	<0.1	<0.1			19.3	
12/12/2016			<0.1	<0.1	<0.1		6.93		
12/14/2016	<0.1	18.4				<0.1		14.7	
2/17/2017	<0.1	14.9	<0.1					13.1	
2/21/2017				<0.1	<0.1	<0.1	4.87		
4/17/2017	<0.1	14.7	<0.1	<0.1	<0.1	<0.1		11.3	
4/18/2017							4.49		
6/19/2017	<0.1					<0.1			
6/20/2017			<0.1	<0.1			7.36		
6/21/2017		16.4			<0.1			16.3	
8/7/2017	<0.1		<0.1			<0.1			
8/8/2017		14.7		<0.1	<0.1		7.05	13	
10/16/2017	<0.1		<0.1			<0.1	3.33		
10/17/2017		19.2		<0.1	<0.1			16	
11/28/2017		12.9 (R)					2.24 (R)	13.7 (R)	
3/5/2018	<0.1								
3/6/2018			0.66	<0.1	<0.1	<0.1	0.885		<0.1
3/7/2018		9.8						11	
6/19/2018	<0.1					<0.1	6.84		<0.1
6/20/2018		10.5						15	
6/21/2018			<0.1	<0.1	<0.1				
8/27/2018	<0.1					<0.1			<0.1
8/28/2018			<0.1				1.36		
8/29/2018		14.6		<0.1	<0.1			14	
3/18/2019						<0.1			
3/19/2019	<0.1		<0.1	<0.1	<0.1				0.299
3/20/2019		8.35					6.95	15.5	
8/6/2019						0.205			<0.1
8/7/2019	<0.1	7.56	<0.1	<0.1	<0.1		8.46	17.6	
4/7/2020	<0.1	10.6	<0.1	<0.1	<0.1	<0.1	6.76	17.4	<0.1
9/18/2020	<0.1	14.5	<0.1	<0.1	<0.1	<0.1	6.82	19.5	0.263
4/5/2021	<0.1	10.3	<0.1	<0.1	<0.1	<0.1	5.24	17.2	<0.1
9/1/2021	<0.1	11.1	<0.1	<0.1	<0.1	<0.1	5.88	17.1	<0.1
4/20/2022	<0.1	6.98	<0.1	<0.1	<0.1	<0.1	3.57	15.2	<0.1
9/14/2022	<0.1	10.4	<0.1	<0.1	<0.1	<0.1	3.69	15.1	0.322
4/10/2023									0.247
4/11/2023		5.8				<0.1	3.35	14.8	
4/12/2023	<0.1		<0.1	<0.1	<0.1				
9/18/2023	<0.1								0.207
9/19/2023		9.28				<0.1	4.42	18.1	
9/20/2023			<0.1	<0.1	<0.1				
4/11/2024	<0.1								<0.1
4/12/2024						<0.1	2.31		
4/15/2024		5.8	<0.1	<0.1	<0.1			15.2	
9/10/2024	<0.1						3.68		0.243
9/11/2024		8.5				<0.1		17.7	

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-15A	MW-4B	MW-5B	MW-6A	MW-08 (bg)	MW-21	MW-14A	MW-22 (bg)
9/12/2024			<0.1	<0.1	<0.1				
4/15/2025									<0.1
4/16/2025	<0.1					<0.1	2.64		
4/17/2025		8.16						15.4	
4/18/2025			0.169	<0.1	<0.1				
9/8/2025	<0.1								0.187
9/9/2025						<0.1	1.65	16.1	
9/10/2025		5.51	<0.1	<0.1	<0.1				

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

6/6/2016	
6/7/2016	
6/8/2016	
8/15/2016	
8/16/2016	
10/10/2016	
10/11/2016	
12/12/2016	
12/14/2016	
2/17/2017	
2/21/2017	
4/17/2017	
4/18/2017	
6/19/2017	
6/20/2017	
6/21/2017	
8/7/2017	
8/8/2017	
10/16/2017	
10/17/2017	
11/28/2017	
3/5/2018	
3/6/2018	
3/7/2018	
6/19/2018	
6/20/2018	<0.1
6/21/2018	
8/27/2018	<0.1
8/28/2018	
8/29/2018	
3/18/2019	
3/19/2019	<0.1
3/20/2019	
8/6/2019	<0.1
8/7/2019	
4/7/2020	<0.1
9/18/2020	0.15
4/5/2021	<0.1
9/1/2021	<0.1
4/20/2022	<0.1
9/14/2022	0.204
4/10/2023	
4/11/2023	
4/12/2023	0.145
9/18/2023	0.128
9/19/2023	
9/20/2023	
4/11/2024	<0.1
4/12/2024	
4/15/2024	
9/10/2024	0.126
9/11/2024	

Prediction Limit

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Constituent: Boron (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-23 (bg)
9/12/2024	
4/15/2025	<0.1
4/16/2025	
4/17/2025	
4/18/2025	
9/8/2025	0.123
9/9/2025	
9/10/2025	

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-15A	MW-6A	MW-5B	MW-4B	MW-14A	MW-21	MW-08 (bg)	MW-22 (bg)
6/6/2016	89.3	206							
6/7/2016			81.4	147	98.2			152 (o)	
6/8/2016						281	37.2		
8/15/2016	80.7	199				311	146		
8/16/2016			75.4	139	88.8			117	
10/10/2016	83.3						185	118	
10/11/2016		203	75.7	140	89.3	308			
12/12/2016			85.6	147	94.5		178		
12/14/2016	86.5	244				333		109	
2/17/2017	81.2	233			86.8	268			
2/21/2017			68.8	126			118	89.9	
4/17/2017	79.2	226	56.3	130	85.9	310		96.5	
4/18/2017							110		
6/19/2017	83.6							113	
6/20/2017				140	88.7		149		
6/21/2017		186	72.9			307			
8/7/2017	85.5				89.7			91.3	
8/8/2017		206	71.2	139		296	163		
10/16/2017	83.3				85.3		62.3	77	
10/17/2017		218	71.9	136		310			
11/28/2017		217 (R)				301 (R)			
3/5/2018	77.3								
3/6/2018			74.1	134	95.8		25.1	74.7	69.8
3/7/2018		229				278			
6/19/2018	88.5						159	115	91.5
6/20/2018		102				297			
6/21/2018			80.1	147	91.4				
8/27/2018	85.4							83.6	80.7
8/28/2018					91.3		78.7		
8/29/2018		155	73.3	146		309			
3/18/2019								97.6	
3/19/2019	76.3		73.2	134	99.7				91.6
3/20/2019		118				290	142		
8/6/2019								132	83.8
8/7/2019	78.9	111	80.9	139	93.8	255	145		
4/7/2020	75.4	163	85.1	117	89.6	245	104	92.4	80.9
9/18/2020	74.2	134	87.9	108	89	244	101	77.7	75.5
4/5/2021	78.8	128	87.6	104	94.1	259	79.5	81.2	78.4
9/1/2021	80	125	90.6	108	95.1	270	93.5	78.3	79.4
4/20/2022	90.4	127	96.5	117	106	289	97.5	69.6	80.2
9/14/2022	82	132	89	117	92.3	301	88.2	76.8	79.6
4/10/2023									80.4
4/11/2023		110				318	76	78.2	
4/12/2023	83.7		95.4	107	91.3				
9/18/2023	84.7								79
9/19/2023		126				291	96	79.4	
9/20/2023			82.1	115	90.4				
4/11/2024	96.2								83.1
4/12/2024							59.9	84.2	
4/15/2024		118	92.4	112	97.7	344			
9/10/2024	97.8						96.6		84.3
9/11/2024		129				327		88.6	

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-15A	MW-6A	MW-5B	MW-4B	MW-14A	MW-21	MW-08 (bg)	MW-22 (bg)
9/12/2024			99.4	123	102				
4/15/2025									74.5
4/16/2025	99.6						87.4	84.1	
4/17/2025		125				286			
4/18/2025			85.2	106	86.8				
9/8/2025	82.6								74.6
9/9/2025						277	52.8	79.6	
9/10/2025		77.2	79	114	94.9				

Prediction Limit

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Constituent: Calcium (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

6/6/2016	
6/7/2016	
6/8/2016	
8/15/2016	
8/16/2016	
10/10/2016	
10/11/2016	
12/12/2016	
12/14/2016	
2/17/2017	
2/21/2017	
4/17/2017	
4/18/2017	
6/19/2017	
6/20/2017	
6/21/2017	
8/7/2017	
8/8/2017	
10/16/2017	
10/17/2017	
11/28/2017	
3/5/2018	
3/6/2018	
3/7/2018	
6/19/2018	
6/20/2018	70.5
6/21/2018	
8/27/2018	63.9
8/28/2018	
8/29/2018	
3/18/2019	
3/19/2019	59.7
3/20/2019	
8/6/2019	59.5
8/7/2019	
4/7/2020	61
9/18/2020	52.1
4/5/2021	56.3
9/1/2021	56.1
4/20/2022	54
9/14/2022	54.5
4/10/2023	
4/11/2023	
4/12/2023	55.3
9/18/2023	56
9/19/2023	
9/20/2023	
4/11/2024	59.7
4/12/2024	
4/15/2024	
9/10/2024	58
9/11/2024	

Prediction Limit

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Constituent: Calcium (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

9/12/2024	
4/15/2025	56
4/16/2025	
4/17/2025	
4/18/2025	
9/8/2025	44.9
9/9/2025	
9/10/2025	

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-15A	MW-6A	MW-5B	MW-4B	MW-08 (bg)	MW-14A	MW-21	MW-22 (bg)
6/6/2016	6.22	17.1							
6/7/2016			5.97	67	12.6	19.8			
6/8/2016							28.7	27.7	
8/15/2016	<5	17.2					28.7	16.6	
8/16/2016			<5	65.9	13.2	17.8			
10/10/2016	<5					16.2		24.4	
10/11/2016		17.6	<5	66	13.6		37		
12/12/2016			9.08	67	13.5			19.2	
12/14/2016	<5	19				17.2	31.9		
2/17/2017	<5	21.5			15.1		33.5		
2/21/2017			9.93	70.4		15.4		14.2	
4/17/2017	<5	47.4 (o)	<5	62.1	12.5	17.1	39.4		
4/18/2017								15.6	
6/19/2017	<5					14.1			
6/20/2017				63.4	13.2			15.1	
6/21/2017		12.8	<5				29.7		
8/7/2017	<5				13.2	14			
8/8/2017		15.4	<5	64			32.9	16.1	
10/16/2017	<5				14.7	14.4		5.09	
10/17/2017		20.5	<5	73			35.4		
11/28/2017		20.7 (R)		67.8 (R)			33.2 (R)		
3/5/2018	<5								
3/6/2018			5.33	68.2	8.81	14.5		<5	30
3/7/2018		24.2					37.4		
6/19/2018	<5					14.9		10.9	27.2
6/20/2018		<5					29		
6/21/2018			<5	65	15.3				
8/27/2018	<5					15.6			29.8
8/28/2018					19.4			<5	
8/29/2018		10.1	<5	70.8			33.1		
3/18/2019						16.1			
3/19/2019	<5		<5	55	16				27.6
3/20/2019		8.54					25.8	8.3	
8/6/2019						17.1			26.9
8/7/2019	<5	9.91	<5	64.1	15.6		22.1	14	
4/7/2020	<5	13	12.2	44	14.8	17.2	22.5	8.05	24.8
9/18/2020	<5	8.63	15.6	41	15.1	14.7	22.8	7.21	23.2
4/5/2021	<5	15	19.3	42.7	22.9	22.3	27.1	5.14	28.1
9/1/2021	<5	8.86	17.4	37.6	16.7	16.3	23.2	6.58	20
4/20/2022	<5	7.71	14.2	38.1	20.8	15.8	25.5	7.19	20.2
9/14/2022	<5	8.29	13.3	39	16.8	16.7	22.4	18	7.04
4/10/2023									18.2
4/11/2023		7.3				17.9	20.3	5.93	
4/12/2023	5.86		15.4	38.7	18				
9/18/2023	<5								18.4
9/19/2023		8.41				19.9	20.9	8.23	
9/20/2023			12.2	41.8	17.4				
4/11/2024	<5								15.8
4/12/2024						17.2		<5	
4/15/2024		7.01	15.5	39.3	18.1		16.4		
9/10/2024	9.65							13.5	16.6
9/11/2024		7.41				20.1	16.3		

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-15A	MW-6A	MW-5B	MW-4B	MW-08 (bg)	MW-14A	MW-21	MW-22 (bg)
9/12/2024			14.4	40.5	14.6				
4/15/2025									16.1
4/16/2025	12.8					18.6		10.9	
4/17/2025		7.79					18		
4/18/2025			15.8	32.1	18.9				
9/8/2025	8.5								14.5
9/9/2025						20.8	15.4	5.1	
9/10/2025		4.5	16.8	42	18.9				

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

6/6/2016	
6/7/2016	
6/8/2016	
8/15/2016	
8/16/2016	
10/10/2016	
10/11/2016	
12/12/2016	
12/14/2016	
2/17/2017	
2/21/2017	
4/17/2017	
4/18/2017	
6/19/2017	
6/20/2017	
6/21/2017	
8/7/2017	
8/8/2017	
10/16/2017	
10/17/2017	
11/28/2017	
3/5/2018	
3/6/2018	
3/7/2018	
6/19/2018	
6/20/2018	15.9
6/21/2018	
8/27/2018	14.2
8/28/2018	
8/29/2018	
3/18/2019	
3/19/2019	10.5
3/20/2019	
8/6/2019	13.8
8/7/2019	
4/7/2020	15.7
9/18/2020	14.4
4/5/2021	21.4
9/1/2021	15.2
4/20/2022	16.9
9/14/2022	16.2
4/10/2023	
4/11/2023	
4/12/2023	17.7
9/18/2023	19.2
9/19/2023	
9/20/2023	
4/11/2024	19.2
4/12/2024	
4/15/2024	
9/10/2024	21.7
9/11/2024	

Prediction Limit

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Constituent: Chloride (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

9/12/2024	
4/15/2025	25.1
4/16/2025	
4/17/2025	
4/18/2025	
9/8/2025	25.2
9/9/2025	
9/10/2025	

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-6A	MW-5B	MW-4B	MW-08 (bg)	MW-14A	MW-21	MW-22 (bg)
6/6/2016	<1	0.731							
6/7/2016			<1	<1	<1	<1			
6/8/2016							<1	<1	
8/15/2016	0.549	<1					<1	<1	
8/16/2016			<1	<1	<1	<1			
10/10/2016		<1				<1		<1	
10/11/2016	<1		<1	<1	<1		0.867		
12/12/2016			2.02	1.88	<1			<1	
12/14/2016	<1	<1				0.72	<1		
2/17/2017	<1	<1			0.664		<1		
2/21/2017			1.89	2.14		<1		0.993	
4/17/2017	6.7 (o)	0.774	0.814	0.627	0.801	1.69 (o)	1.93 (o)		
4/18/2017								0.768	
6/19/2017		<1				<1			
6/20/2017				<1	<1			<1	
6/21/2017	<1		<1				<1		
8/7/2017		<1			<1	<1			
8/8/2017	<1		<1	<1			<1	<1	
10/16/2017		<1			<1	<1		<1	
10/17/2017	<1		<1	<1			<1		
3/5/2018		<1							
3/6/2018			<1	<1	<1	<1		<1	<1
3/7/2018	<1						<1		
6/19/2018		<1				0.826		<1	<1
6/20/2018	<1						0.684		
6/21/2018			<1	<1	<1				
8/27/2018		<1				<1			<1
8/28/2018					<1			<1	
8/29/2018	<1		<1	<1			<1		
3/18/2019						<1			
3/19/2019		<1	<1	<1	0.771				<1
3/20/2019	0.523						<1	<1	
8/6/2019						0.643			0.507
8/7/2019	0.625	0.596	0.535	<1	0.525		<1	<1	
4/7/2020	<1	<1	0.652	<1	<1	0.864	<1	<1	<1
9/18/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1
4/5/2021	0.516	<1	<1	<1	<1	<1	<1	<1	<1
9/1/2021	<1	<1	<1	<1	<1	<1	<1	<1	<1
4/20/2022	<1	<1	<1	<1	<1	<1	<1	<1	<1
9/14/2022	<1	<1	<1	<1	<1	<1	<1	<1	<1
4/10/2023									<1
4/11/2023	<1					<1	<1	<1	
4/12/2023		<1	<1	<1	<1				
9/18/2023		<1							<1
9/19/2023	<1					<1	<1	<1	
9/20/2023			<1	<1	<1				
4/11/2024		<1							<1
4/12/2024						<1		<1	
4/15/2024	<1		<1	<1	<1		<1		
9/10/2024		<1						<1	<1
9/11/2024	<1					<1	<1		
9/12/2024			<1	<1	<1				

Prediction Limit

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Constituent: Fluoride (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-6A	MW-5B	MW-4B	MW-08 (bg)	MW-14A	MW-21	MW-22 (bg)
4/15/2025									0.268
4/16/2025		0.281				0.312		0.154	
4/17/2025	0.257						0.262		
4/18/2025			0.303	0.193	0.268				
9/8/2025		0.218							0.289
9/9/2025						0.311	0.261	0.174	
9/10/2025	0.293		0.273	0.173	0.274				

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

6/6/2016	
6/7/2016	
6/8/2016	
8/15/2016	
8/16/2016	
10/10/2016	
10/11/2016	
12/12/2016	
12/14/2016	
2/17/2017	
2/21/2017	
4/17/2017	
4/18/2017	
6/19/2017	
6/20/2017	
6/21/2017	
8/7/2017	
8/8/2017	
10/16/2017	
10/17/2017	
3/5/2018	
3/6/2018	
3/7/2018	
6/19/2018	
6/20/2018	<1
6/21/2018	
8/27/2018	<1
8/28/2018	
8/29/2018	
3/18/2019	
3/19/2019	<1
3/20/2019	
8/6/2019	<1
8/7/2019	
4/7/2020	<1
9/18/2020	<1
4/5/2021	<1
9/1/2021	<1
4/20/2022	<1
9/14/2022	<1
4/10/2023	
4/11/2023	
4/12/2023	<1
9/18/2023	<1
9/19/2023	
9/20/2023	
4/11/2024	<1
4/12/2024	
4/15/2024	
9/10/2024	<1
9/11/2024	
9/12/2024	

Prediction Limit

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Constituent: Fluoride (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

4/15/2025	0.236
4/16/2025	
4/17/2025	
4/18/2025	
9/8/2025	0.281
9/9/2025	
9/10/2025	

Prediction Limit

Constituent: pH (SU) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-15A	MW-08 (bg)	MW-5B	MW-4B	MW-6A	MW-14A	MW-21	MW-22 (bg)
6/6/2016	7.4	7.3							
6/7/2016			7.2	7.7	7.6	7.4			
6/8/2016							7.1	6.7	
8/15/2016	7.3	7.3					7.2	6.7	
8/16/2016			7.3	7.3	7.5	7.4			
10/10/2016	7.2		7.1					6.7	
10/11/2016		7.2		7.2	7.5	7.3	7.1		
12/12/2016				7.3	7.6	7.5		7	
12/14/2016	7.3	7.4	7.3				7.2		
2/17/2017	7.2	7.3			7.5		7.3		
2/21/2017			7.3	7.2		7.4		7	
4/17/2017	7.3	7.3	7.1	7.2	7.4	7.3	7.3		
4/18/2017								6.9	
6/19/2017	7.2		7.1						
6/20/2017				7.2	7.4			6.7	
6/21/2017		7.3				7.3	7.3		
8/7/2017	7.9		7.3		7.9				
8/8/2017		7.2		7.2		7.3	7.2	6.8	
10/16/2017	7.3		7.4		7.8			6.8	
10/17/2017		7.2		7.3		7.8	7.6		
11/28/2017								6.9 (R)	
3/5/2018	7.04								
3/6/2018			7.3	7.23	7.36	7.4		6.76	7.36
3/7/2018		7.24					7.35		
6/19/2018	7.72		7.56					7.25	7.9
6/20/2018		7.5					7.26		
6/21/2018				7.3	7.53	7.58			
8/27/2018	7.23		7.2						7.42
8/28/2018					7.44			7.07	
8/29/2018		7.25		7.14		7.18	7.09		
3/19/2019	7.1		7.08	7.05	7.26	7.15			7.21
3/20/2019		7.76					6.97	6.41	
8/6/2019			6.64						7.12
8/7/2019	7.07	7.11		7.02	7.22	7.12	7.09	6.33	
4/7/2020	7.26	7.54	7.21	7.24	7.46	7.3	7.32	6.55	7.32
9/18/2020	7.33	7.28	7.4	7.33	7.93	7.24	7.21	6.8	7.53
4/5/2021	7.57	7.92	7.63	7.31	7.94	7.59	7.64	6.92	7.7
9/1/2021	7.59	7.46	7.45	7.22	7.75	7.61	7.48	7.06	7.97
4/20/2022	7.35	6.83	7.35	7.37	7.04	7.35	7.13	6.69	7.23
9/14/2022	7.48	7.4	7.43	7.37	7.52	7.38	7.21	7.09	7.58
4/10/2023									7.14
4/11/2023		7.24	7.24				6.97	7.24	
4/12/2023	6.96			6.96	7.23	7.08			
9/18/2023	6.86								7.14
9/19/2023		6.97	6.81				6.78	6.55	
9/20/2023				6.42	7.03	6.88			
4/11/2024	7.3								7.5
4/12/2024			7.4					7	
4/15/2024		7.6		7.4	7.6	7.3	7.3		
9/10/2024	7.3							6.9	7.5
9/11/2024		7.2	7.3				7.2		
9/12/2024				7.3	7.5	7.5			

Prediction Limit

Constituent: pH (SU) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-15A	MW-08 (bg)	MW-5B	MW-4B	MW-6A	MW-14A	MW-21	MW-22 (bg)
4/15/2025									7.4
4/16/2025	7.2		7.5					6.9	
4/17/2025		7.5					7.3		
4/18/2025				7.3	7.5	7.3			
9/8/2025	7.3								7.6
9/9/2025			7.4				7.3	6.8	
9/10/2025		7.4		7.3	7.5	7.3			

Prediction Limit

Page 3

Constituent: pH (SU) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

6/6/2016	
6/7/2016	
6/8/2016	
8/15/2016	
8/16/2016	
10/10/2016	
10/11/2016	
12/12/2016	
12/14/2016	
2/17/2017	
2/21/2017	
4/17/2017	
4/18/2017	
6/19/2017	
6/20/2017	
6/21/2017	
8/7/2017	
8/8/2017	
10/16/2017	
10/17/2017	
11/28/2017	
3/5/2018	
3/6/2018	
3/7/2018	
6/19/2018	
6/20/2018	7.69
6/21/2018	
8/27/2018	7.55
8/28/2018	
8/29/2018	
3/19/2019	7.24
3/20/2019	
8/6/2019	6.75
8/7/2019	
4/7/2020	7.33
9/18/2020	7.53
4/5/2021	7.61
9/1/2021	7.89
4/20/2022	7.39
9/14/2022	7.3
4/10/2023	
4/11/2023	
4/12/2023	7.24
9/18/2023	7.05
9/19/2023	
9/20/2023	
4/11/2024	7.4
4/12/2024	
4/15/2024	
9/10/2024	7.4
9/11/2024	
9/12/2024	

Prediction Limit

Constituent: pH (SU) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

4/15/2025	7.4
4/16/2025	
4/17/2025	
4/18/2025	
9/8/2025	7.4
9/9/2025	
9/10/2025	

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-08 (bg)	MW-6A	MW-4B	MW-5B	MW-14A	MW-21	MW-22 (bg)
6/6/2016	827	42.1							
6/7/2016			366	<5	32.2	109			
6/8/2016							1050	713	
8/15/2016	605	33.8					1040	520	
8/16/2016			187	<5	28.4	109			
10/10/2016		36.4	187					603	
10/11/2016	607			<5	27.2	105	1010		
12/12/2016				<5	32.7	109		645	
12/14/2016	732	38.4	149				1140		
2/17/2017	849	47.3			36		1190		
2/21/2017			145	5.94		111		415	
4/17/2017	853	38.3	145	<5	39.5	108	1200		
4/18/2017								461	
6/19/2017		35.4	190						
6/20/2017					33	108		541	
6/21/2017	537			<5			1020		
8/7/2017		39	119		35.3				
8/8/2017	664			<5		114	1110	590	
10/16/2017		46.9	106		45.4			206	
10/17/2017	835			<5		135	1210		
11/28/2017	779 (R)						1140 (R)		
3/5/2018		51.4							
3/6/2018			87.3	<5	162	122		53.7	123
3/7/2018	824						1110		
6/19/2018		37.3	136					489	134
6/20/2018	210						1090		
6/21/2018				<5	51.3	119			
8/27/2018		34.3	94.7						125
8/28/2018					52.2			96.6	
8/29/2018	400			<5		120	1070		
3/18/2019			223						
3/19/2019		42.8		<5	48	85			134
3/20/2019	351						1050	442	
8/6/2019			276						139
8/7/2019	327	28.8		<5	47	112	837	529	
4/7/2020	496	18.6	123	13.6	41.5	58.9	888	373	143
9/18/2020	403	36.5	100	19.1	46.9	61.9	924	356	151
4/5/2021	338	27.6	99.7	27.3	60.1	57.4	952	237	154
9/1/2021	333	32.3	82.7	22.7	50.2	53.7	1010	303	154
4/20/2022	297	48.3	72.8	18.9	58.4	44.7	1030	293	158
9/14/2022	319	31.2	67.1	16.4	49.5	49.9	978	151	220
4/10/2023									147
4/11/2023	254		72.2				1150	215	
4/12/2023		39.8		20.5	54	45.8			
9/18/2023		57.4							208
9/19/2023	365		94.2				1440	303	
9/20/2023				10.1	53.1	53.4			
4/11/2024		49.6							160
4/12/2024			65.7					138	
4/15/2024	256			18.1	56.1	46.3	1160		
9/10/2024		59.9						248	161
9/11/2024	273		68.9				1110		

ND substitution: RL or RL/2 if <15% NDs.

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-08 (bg)	MW-6A	MW-4B	MW-5B	MW-14A	MW-21	MW-22 (bg)
9/12/2024				16.3	65.8	50.4			
4/15/2025									143
4/16/2025		84.7	63.5					230	
4/17/2025	309						808		
4/18/2025				18.5	50.8	35.7			
9/8/2025		57							149
9/9/2025			68.8				953	135	
9/10/2025	162			20.7	55.8	47.6			

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

6/6/2016	
6/7/2016	
6/8/2016	
8/15/2016	
8/16/2016	
10/10/2016	
10/11/2016	
12/12/2016	
12/14/2016	
2/17/2017	
2/21/2017	
4/17/2017	
4/18/2017	
6/19/2017	
6/20/2017	
6/21/2017	
8/7/2017	
8/8/2017	
10/16/2017	
10/17/2017	
11/28/2017	
3/5/2018	
3/6/2018	
3/7/2018	
6/19/2018	
6/20/2018	38.4
6/21/2018	
8/27/2018	31.7
8/28/2018	
8/29/2018	
3/18/2019	
3/19/2019	26.2
3/20/2019	
8/6/2019	29.7
8/7/2019	
4/7/2020	25.5
9/18/2020	25.8
4/5/2021	35.5
9/1/2021	25.8
4/20/2022	25.4
9/14/2022	23
4/10/2023	
4/11/2023	
4/12/2023	25
9/18/2023	28.6
9/19/2023	
9/20/2023	
4/11/2024	21.8
4/12/2024	
4/15/2024	
9/10/2024	23.8
9/11/2024	

Prediction Limit

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Constituent: Sulfate (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

9/12/2024	
4/15/2025	23.4
4/16/2025	
4/17/2025	
4/18/2025	
9/8/2025	25.7
9/9/2025	
9/10/2025	

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-08 (bg)	MW-6A	MW-4B	MW-5B	MW-21	MW-14A	MW-22 (bg)
6/6/2016	1620	468							
6/7/2016			836	440	507	920			
6/8/2016							1440	2000	
8/15/2016	1270	412					1110	1980	
8/16/2016			664	340	426	672			
10/10/2016		444	708				1420		
10/11/2016	1500			370	450	646		2500	
12/12/2016				368	450	636	1240		
12/14/2016	1600	428	634					2080	
2/17/2017	1470	498			460			1010	
2/21/2017			578	336		684	1010		
4/17/2017	1780	538	624	402	442	680		2260	
4/18/2017							1060		
6/19/2017		524	656						
6/20/2017					452	656	1140		
6/21/2017	1280			486				2250	
8/7/2017		458	488		420				
8/8/2017	1390			364		734	1220	2170	
10/16/2017		414	470		466		514		
10/17/2017	1520			424		688		2080	
11/28/2017	1670 (R)							2650 (R)	
3/5/2018		314							
3/6/2018			376	292	586	620	200		424
3/7/2018	1270							1820	
6/19/2018		396	502				952		434
6/20/2018	676							1800	
6/21/2018				368	440	828			
8/27/2018		392	414						420
8/28/2018					420		416		
8/29/2018	948			298		622		1900	
3/18/2019			612						
3/19/2019		326		320	398	562			456
3/20/2019	724						872	1690	
8/6/2019			702						428
8/7/2019	786	320		308	422	596	960	1510	
4/7/2020	942	316	418	336	366	494	698	1510	422
9/18/2020	920	344	350	374	360	436	738	1620	398
4/5/2021	738	322	382	330	380	434	540	1290	412
9/1/2021	736	314	342	350	370	448	636	1560	420
4/20/2022	682	344	322	336	370	428	558	1530	388
9/14/2022	796	340	350	334	358	484	524	1710	390
4/10/2023									450
4/11/2023	646		2390 (o)				646	2140	
4/12/2023		410		428	396	478			
9/18/2023		318							404
9/19/2023	720		260				626	1800	
9/20/2023				332	364	476			
4/11/2024		382							422
4/12/2024			362				366		
4/15/2024	636			376	392	450		1750	
9/10/2024		386					584		396
9/11/2024	602		320					1830	

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-08 (bg)	MW-6A	MW-4B	MW-5B	MW-21	MW-14A	MW-22 (bg)
9/12/2024				382	410	520			
4/15/2025									430
4/16/2025		486	390				606		
4/17/2025	766							1830	
4/18/2025				380	424	470			
9/8/2025		434							426
9/9/2025			384				396	1870	
9/10/2025	518			380	442	496			

Prediction Limit

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Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

6/6/2016	
6/7/2016	
6/8/2016	
8/15/2016	
8/16/2016	
10/10/2016	
10/11/2016	
12/12/2016	
12/14/2016	
2/17/2017	
2/21/2017	
4/17/2017	
4/18/2017	
6/19/2017	
6/20/2017	
6/21/2017	
8/7/2017	
8/8/2017	
10/16/2017	
10/17/2017	
11/28/2017	
3/5/2018	
3/6/2018	
3/7/2018	
6/19/2018	
6/20/2018	384
6/21/2018	
8/27/2018	340
8/28/2018	
8/29/2018	
3/18/2019	
3/19/2019	296
3/20/2019	
8/6/2019	336
8/7/2019	
4/7/2020	298
9/18/2020	250
4/5/2021	274
9/1/2021	256
4/20/2022	218
9/14/2022	278
4/10/2023	
4/11/2023	
4/12/2023	286
9/18/2023	282
9/19/2023	
9/20/2023	
4/11/2024	274
4/12/2024	
4/15/2024	
9/10/2024	260
9/11/2024	

Prediction Limit

Page 4

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/12/2025 12:59 PM View: Federal Prediction Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

MW-23 (bg)

9/12/2024	
4/15/2025	298
4/16/2025	
4/17/2025	
4/18/2025	
9/8/2025	300
9/9/2025	
9/10/2025	

FIGURE G.

Appendix III Trend Tests - Prediction Limit Exceedances - Significant Results

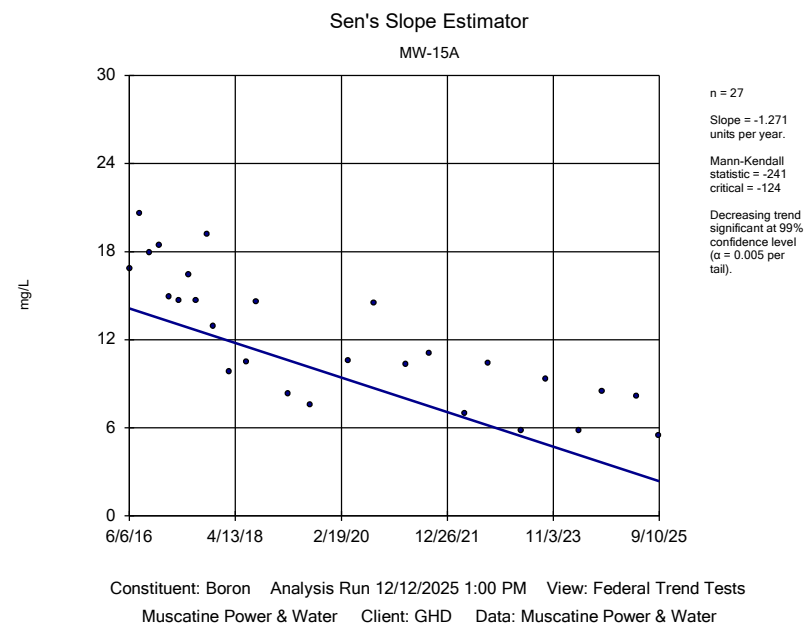
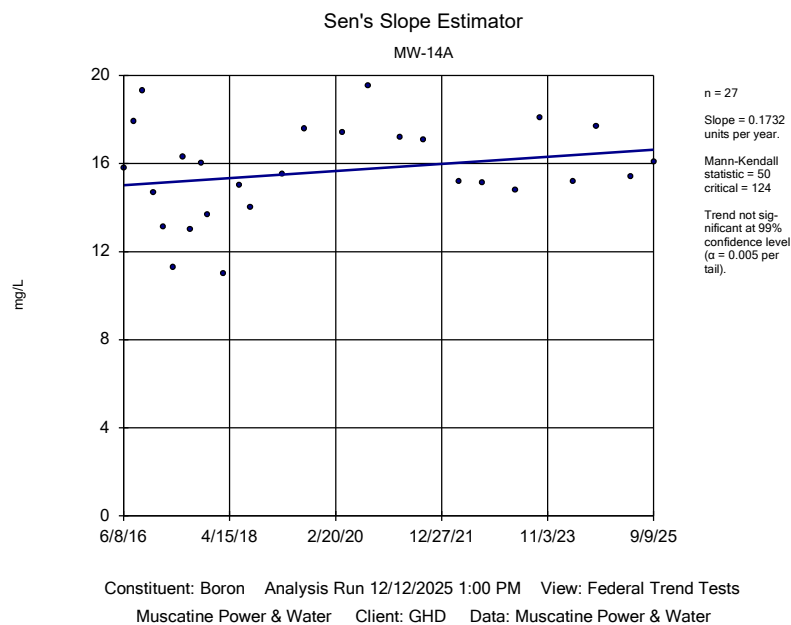
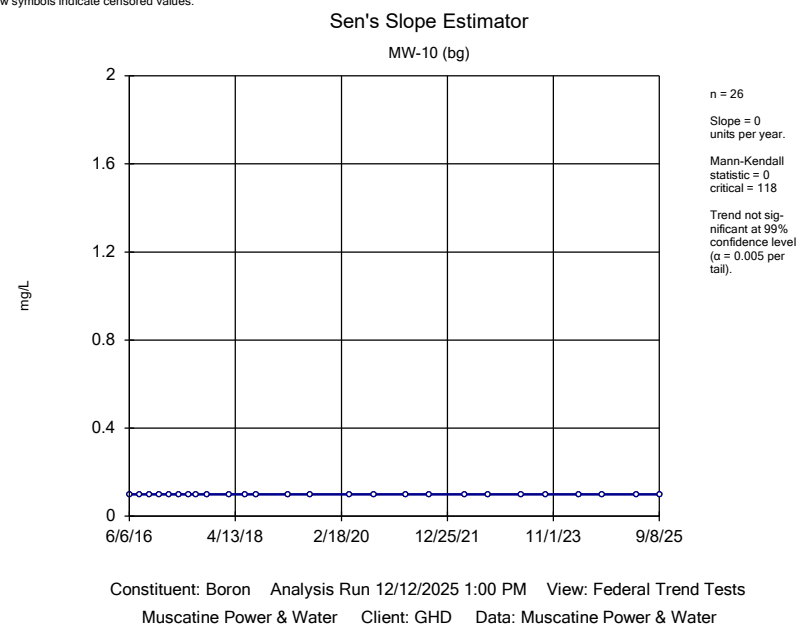
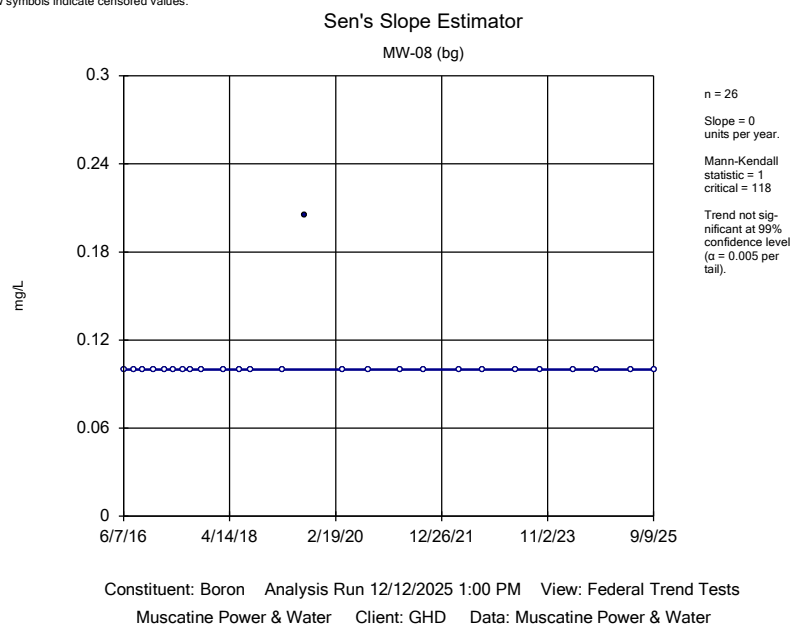
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 1:03 PM

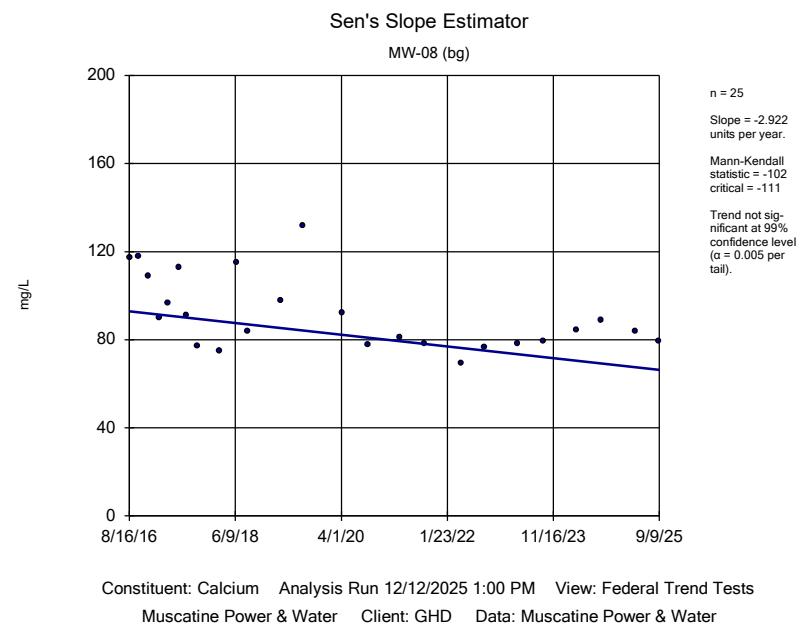
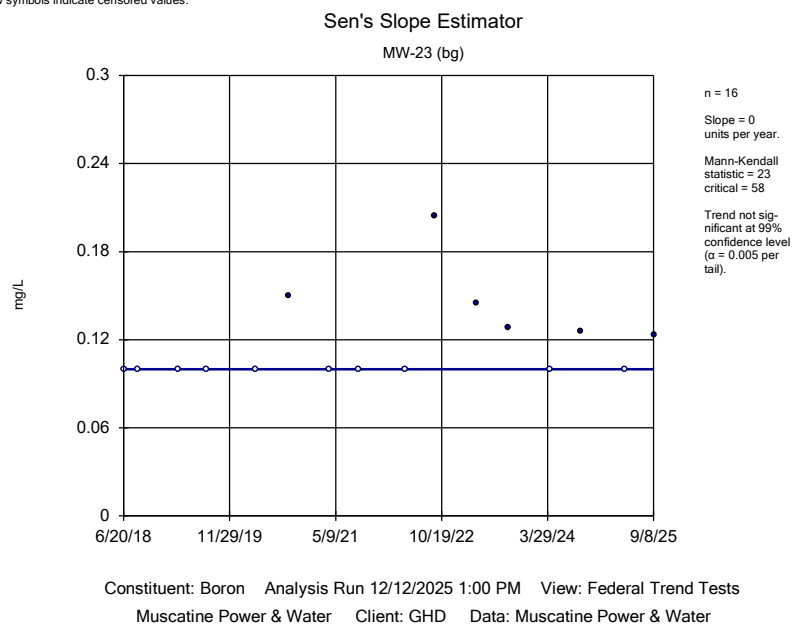
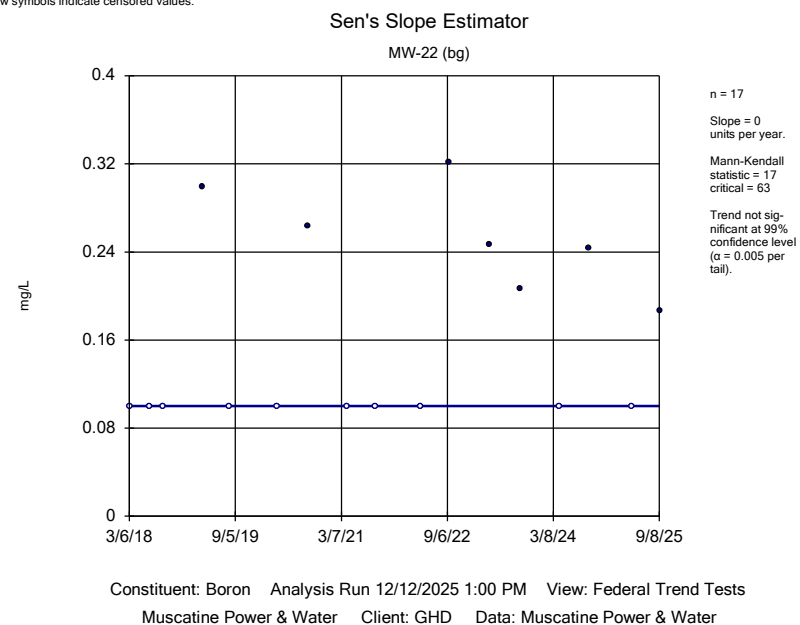
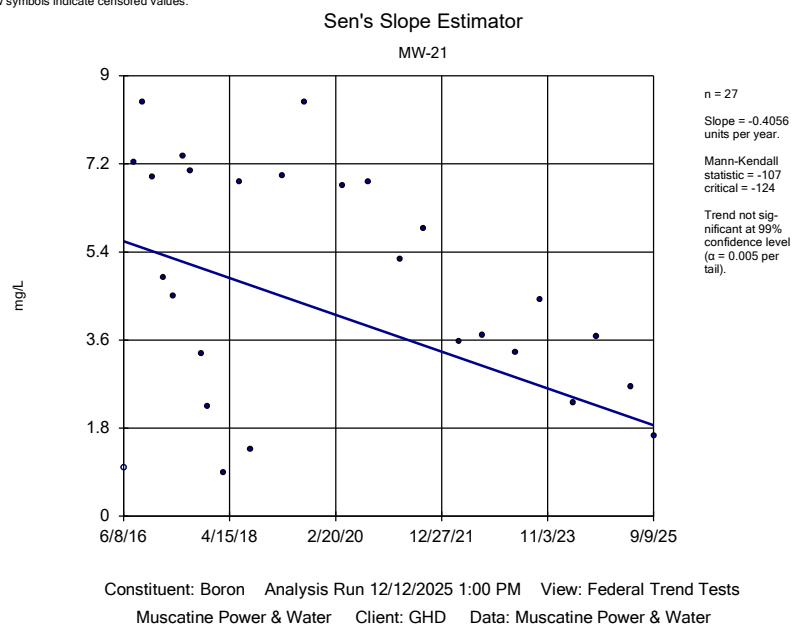
<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	MW-15A	-1.271	-241	-124	Yes	27	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-22 (bg)	-2.056	-102	-63	Yes	17	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-23 (bg)	1.516	85	58	Yes	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-5B	-3.931	-190	-124	Yes	27	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-08 (bg)	-12.86	-221	-118	Yes	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-22 (bg)	4.734	77	63	Yes	17	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-23 (bg)	-0.8498	-65	-58	Yes	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-08 (bg)	-42.47	-187	-111	Yes	25	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-15A	-112.4	-234	-124	Yes	27	0	n/a	n/a	0.01	NP

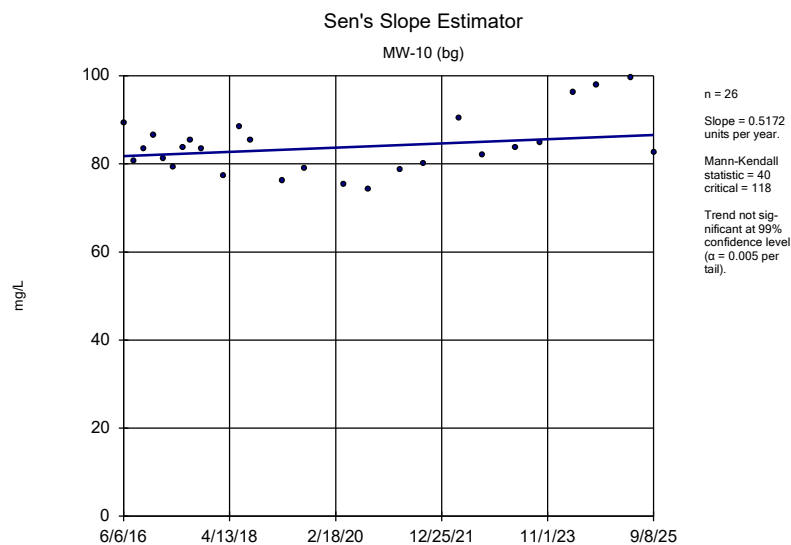
Appendix III Trend Tests - Prediction Limit Exceedances - All Results

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/12/2025, 1:03 PM

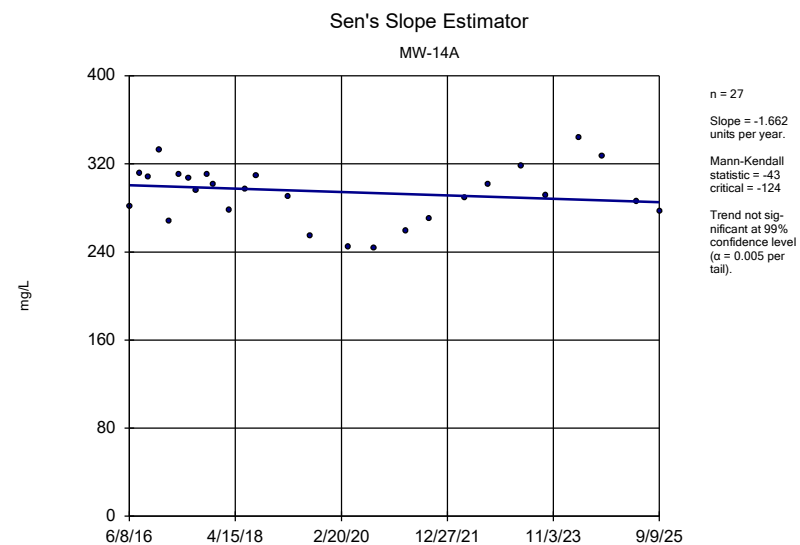
<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	MW-08 (bg)	0	1	118	No	26	96.15	n/a	n/a	0.01	NP
Boron (mg/L)	MW-10 (bg)	0	0	118	No	26	100	n/a	n/a	0.01	NP
Boron (mg/L)	MW-14A	0.1732	50	124	No	27	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-15A	-1.271	-241	-124	Yes	27	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-21	-0.4056	-107	-124	No	27	3.704	n/a	n/a	0.01	NP
Boron (mg/L)	MW-22 (bg)	0	17	63	No	17	58.82	n/a	n/a	0.01	NP
Boron (mg/L)	MW-23 (bg)	0	23	58	No	16	62.5	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-08 (bg)	-2.922	-102	-111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-10 (bg)	0.5172	40	118	No	26	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-14A	-1.662	-43	-124	No	27	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-22 (bg)	-0.4821	-22	-63	No	17	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-23 (bg)	-1.457	-52	-58	No	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-08 (bg)	0.3471	107	118	No	26	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-10 (bg)	0	63	118	No	26	80.77	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-22 (bg)	-2.056	-102	-63	Yes	17	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-23 (bg)	1.516	85	58	Yes	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-5B	-3.931	-190	-124	Yes	27	0	n/a	n/a	0.01	NP
pH (SU)	MW-08 (bg)	0.01508	76	118	No	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-10 (bg)	0	-18	-118	No	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-21	0.0127	39	124	No	27	0	n/a	n/a	0.01	NP
pH (SU)	MW-22 (bg)	0.005529	6	63	No	17	0	n/a	n/a	0.01	NP
pH (SU)	MW-23 (bg)	-0.011	-9	-58	No	16	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-08 (bg)	-12.86	-221	-118	Yes	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-10 (bg)	1.617	71	118	No	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-14A	-11.48	-57	-124	No	27	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-22 (bg)	4.734	77	63	Yes	17	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-23 (bg)	-0.8498	-65	-58	Yes	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-08 (bg)	-42.47	-187	-111	Yes	25	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-10 (bg)	-10.94	-87	-118	No	26	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-14A	-46.95	-85	-124	No	27	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-15A	-112.4	-234	-124	Yes	27	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-22 (bg)	-1.77	-22	-63	No	17	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-23 (bg)	-6.153	-26	-58	No	16	0	n/a	n/a	0.01	NP



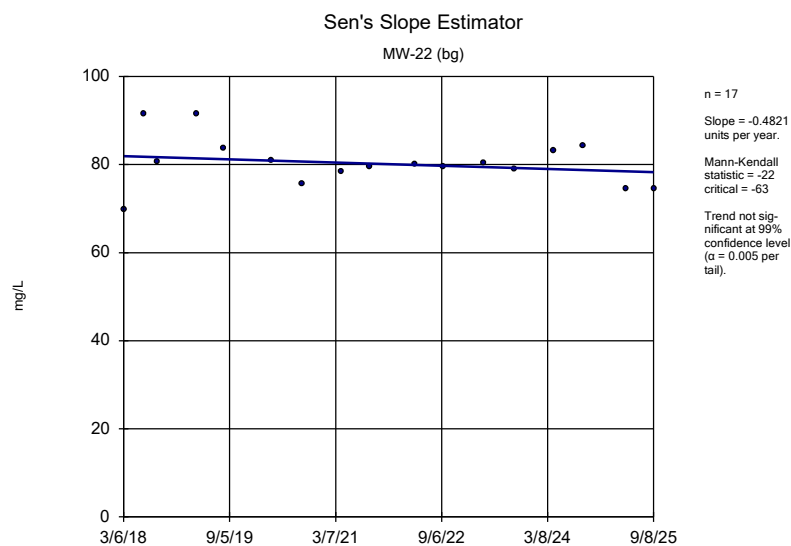




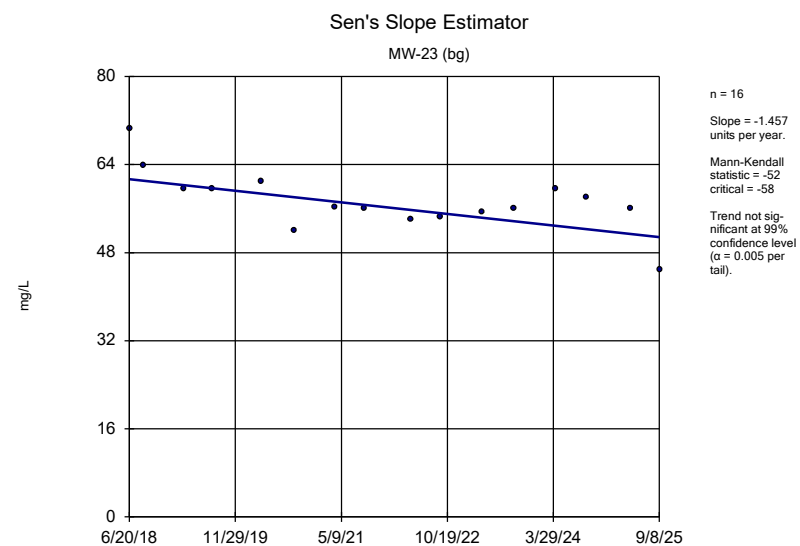
Constituent: Calcium Analysis Run 12/12/2025 1:00 PM View: Federal Trend Tests
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Calcium Analysis Run 12/12/2025 1:00 PM View: Federal Trend Tests
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



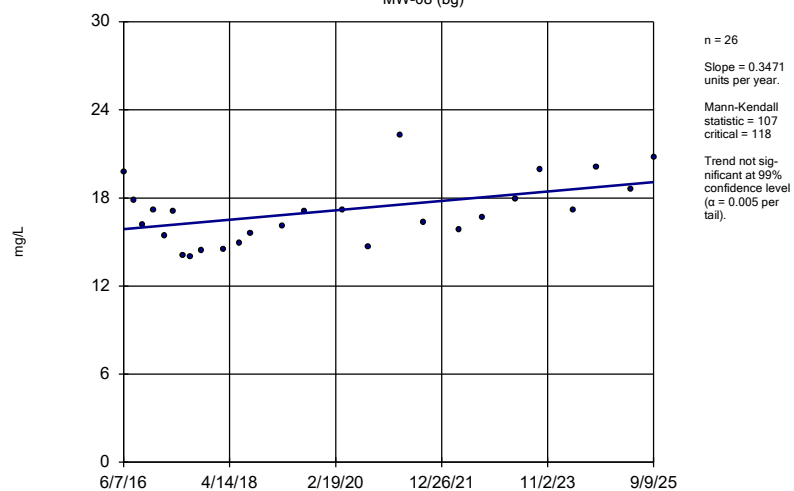
Constituent: Calcium Analysis Run 12/12/2025 1:00 PM View: Federal Trend Tests
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Calcium Analysis Run 12/12/2025 1:00 PM View: Federal Trend Tests
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Sen's Slope Estimator

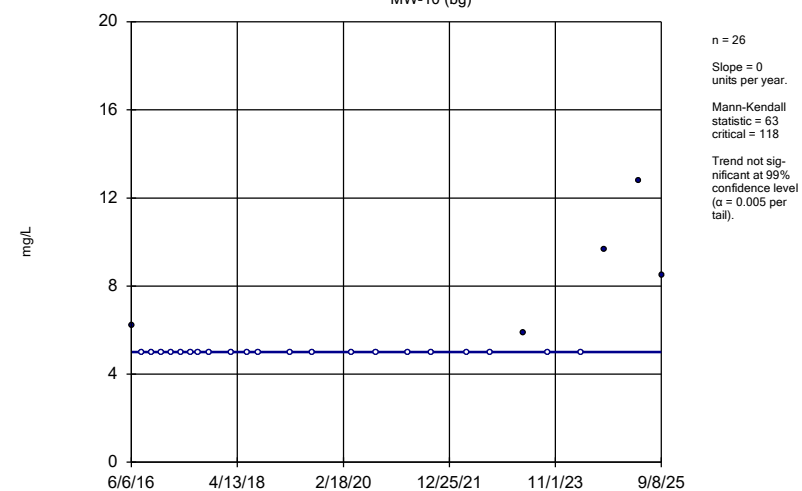
MW-08 (bg)



Constituent: Chloride Analysis Run 12/12/2025 1:00 PM View: Federal Trend Tests
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Sen's Slope Estimator

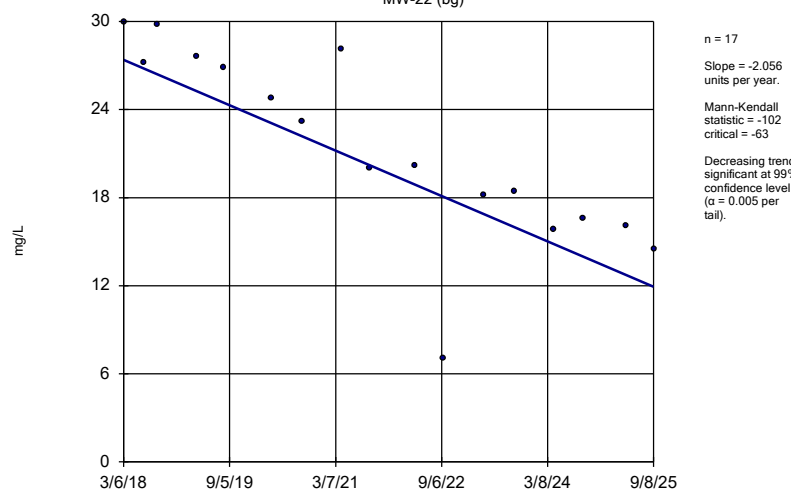
MW-10 (bg)



Constituent: Chloride Analysis Run 12/12/2025 1:00 PM View: Federal Trend Tests
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Sen's Slope Estimator

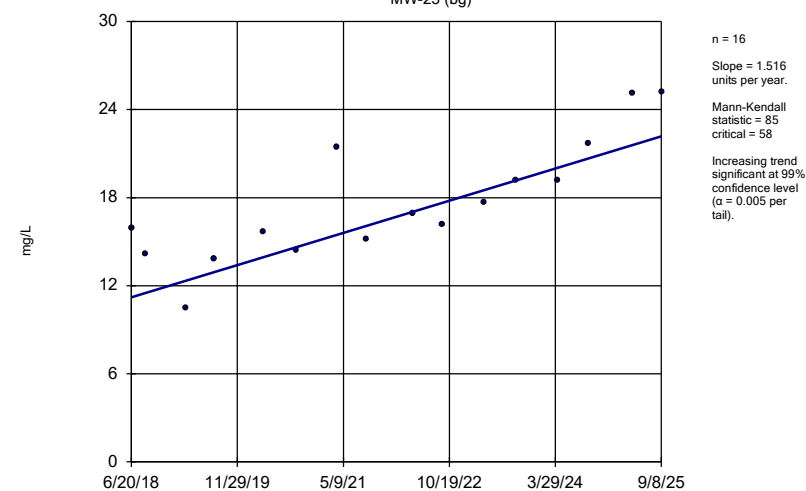
MW-22 (bg)



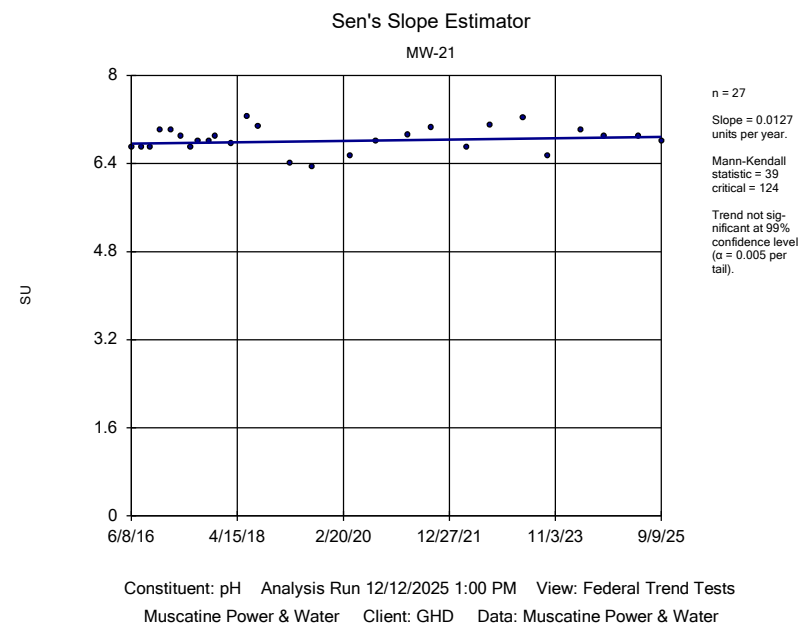
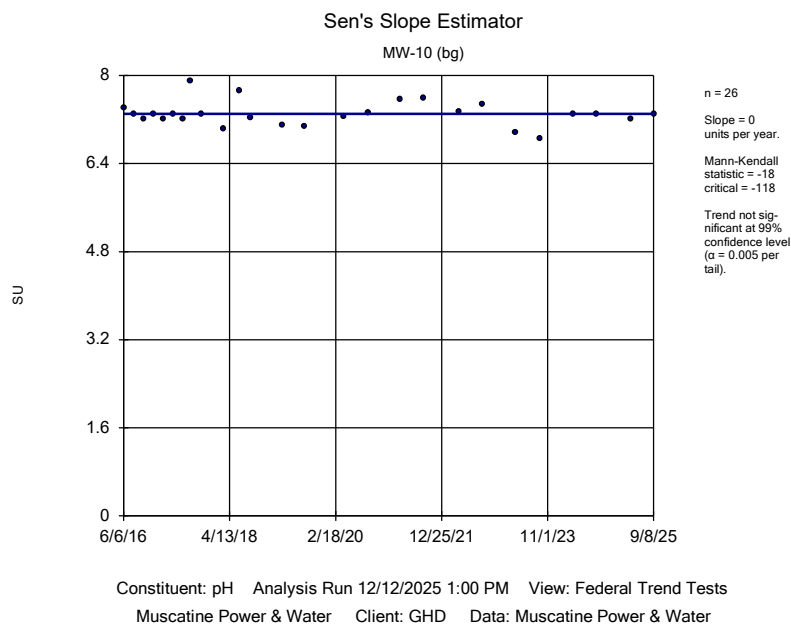
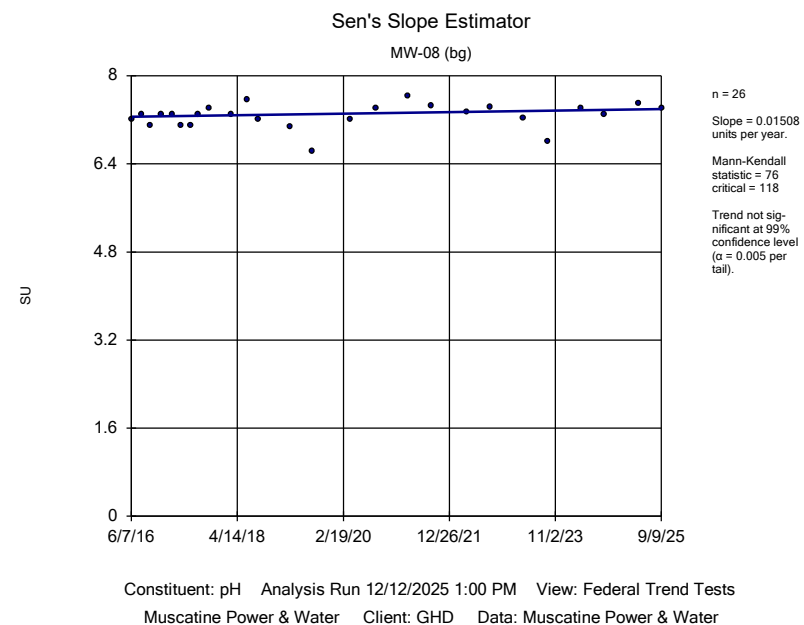
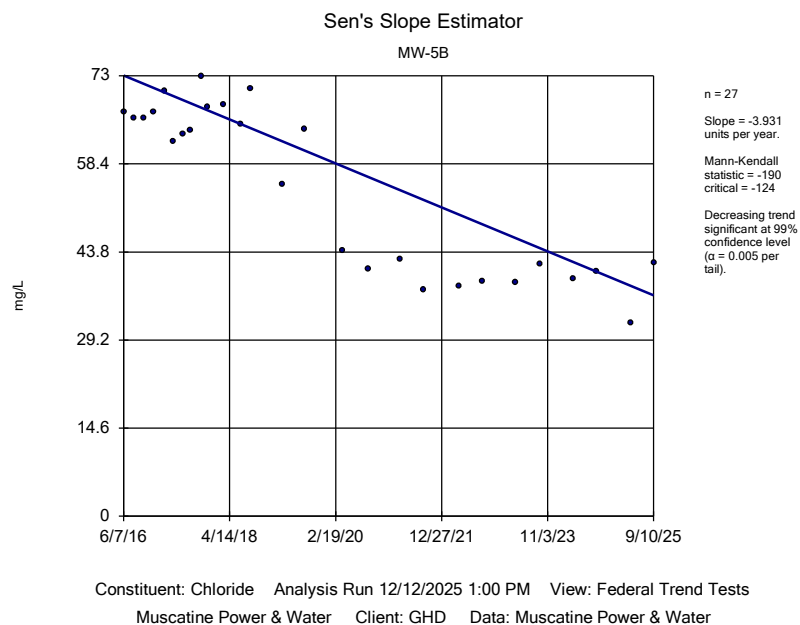
Constituent: Chloride Analysis Run 12/12/2025 1:00 PM View: Federal Trend Tests
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

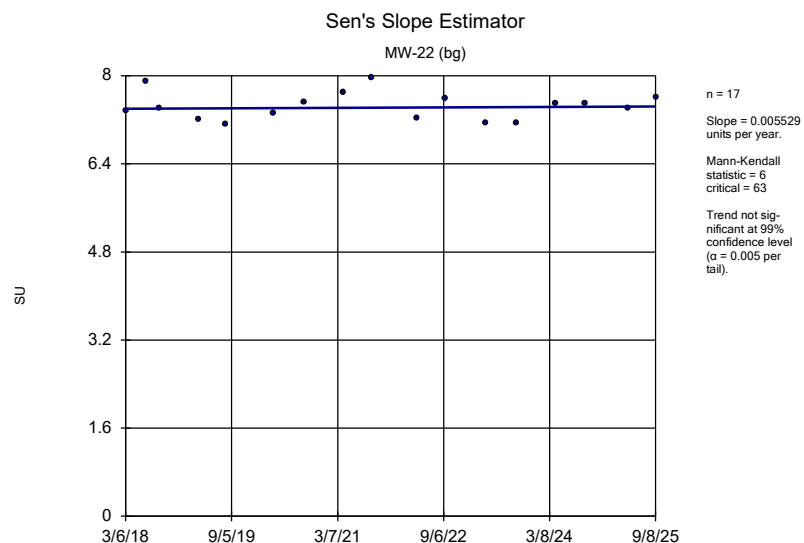
Sen's Slope Estimator

MW-23 (bg)

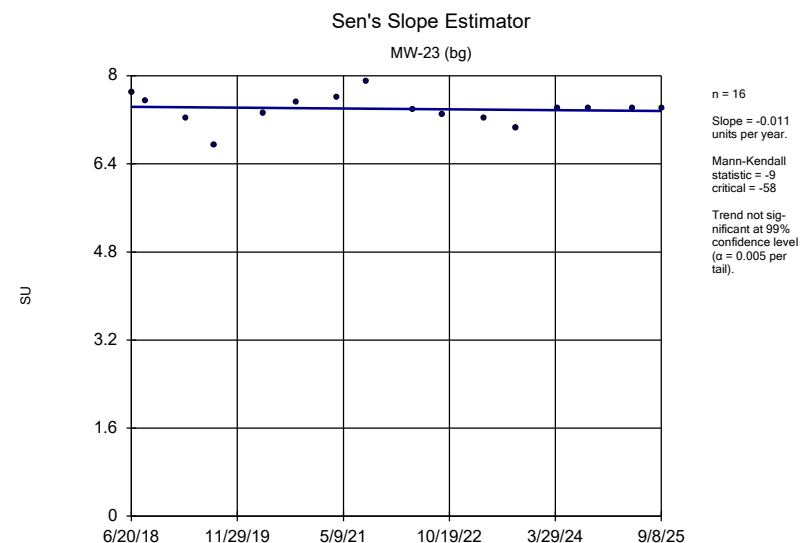


Constituent: Chloride Analysis Run 12/12/2025 1:00 PM View: Federal Trend Tests
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

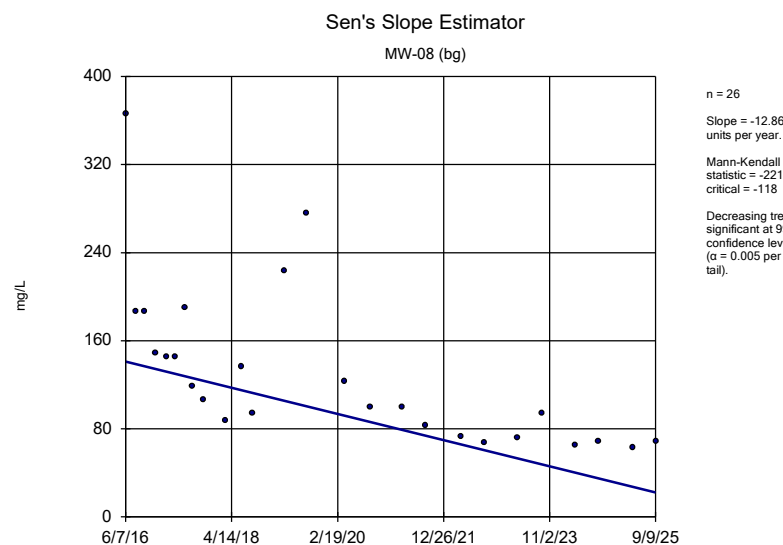




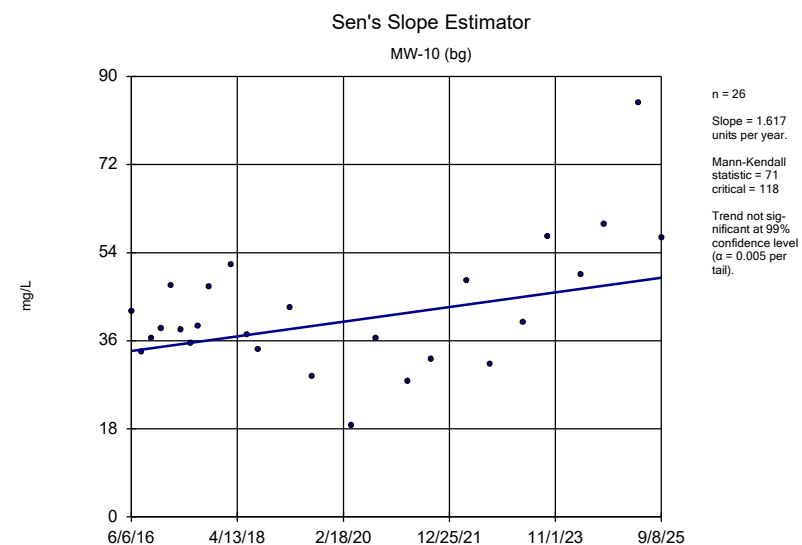
Constituent: pH Analysis Run 12/12/2025 1:00 PM View: Federal Trend Tests
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



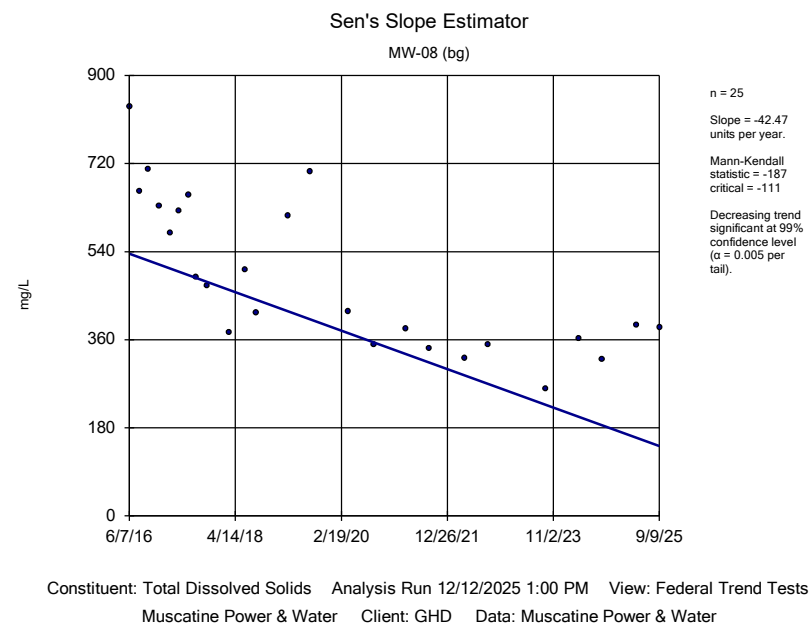
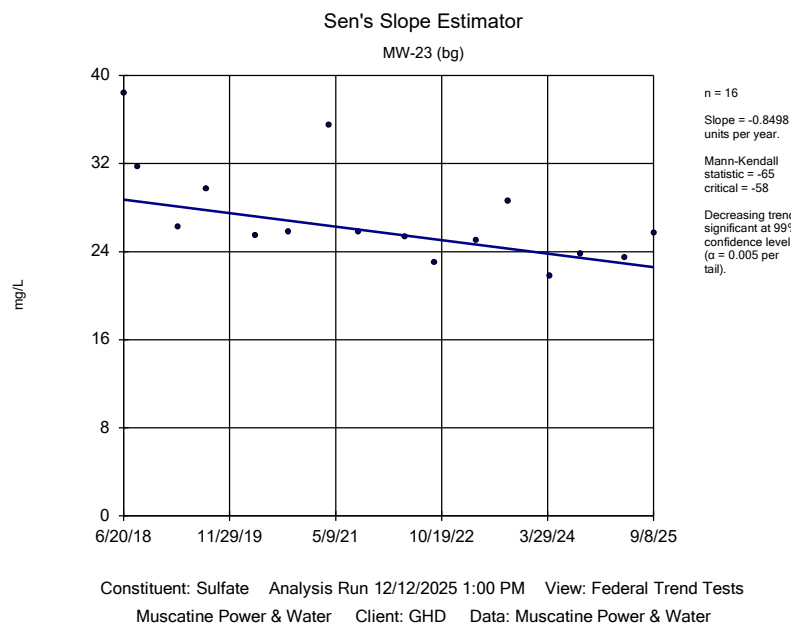
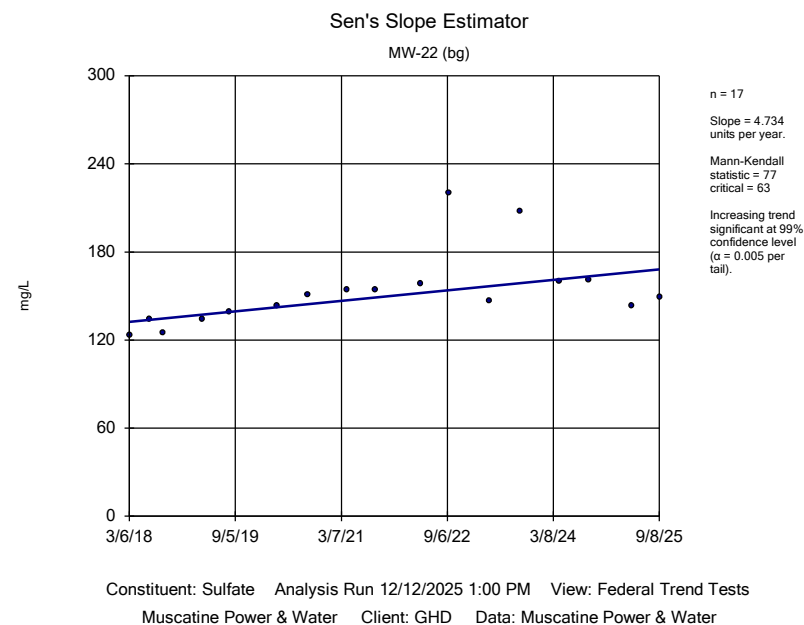
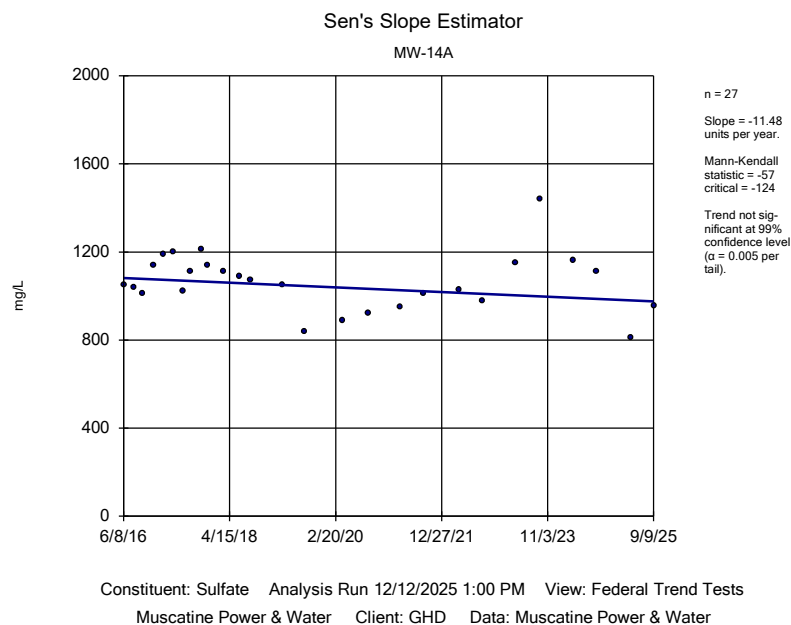
Constituent: pH Analysis Run 12/12/2025 1:00 PM View: Federal Trend Tests
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

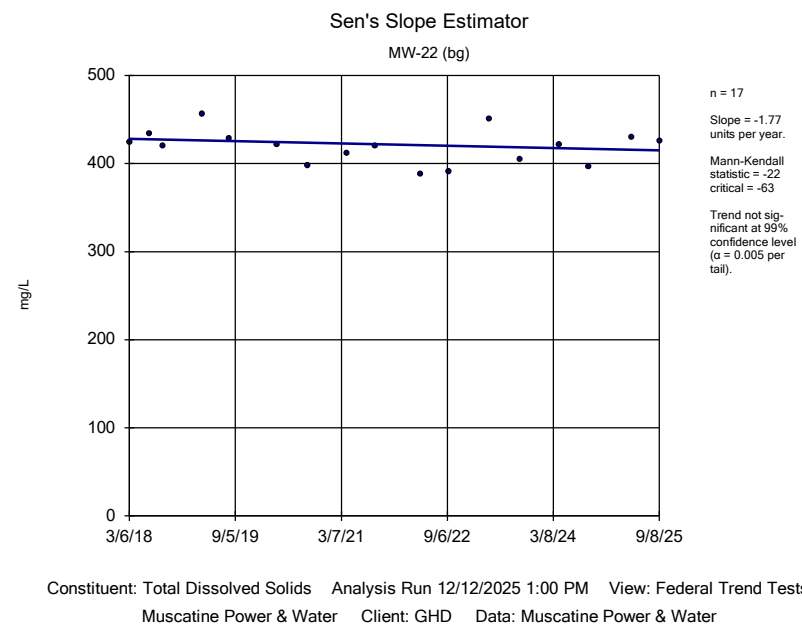
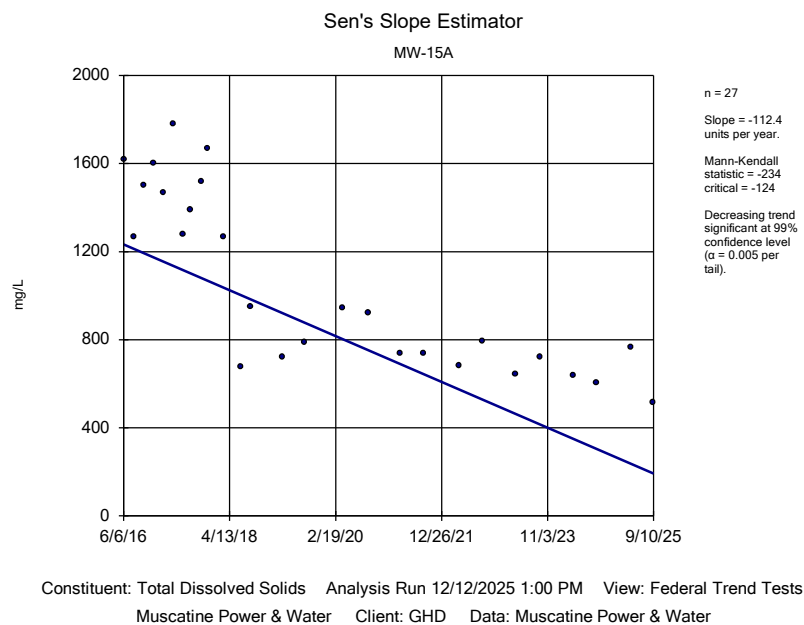
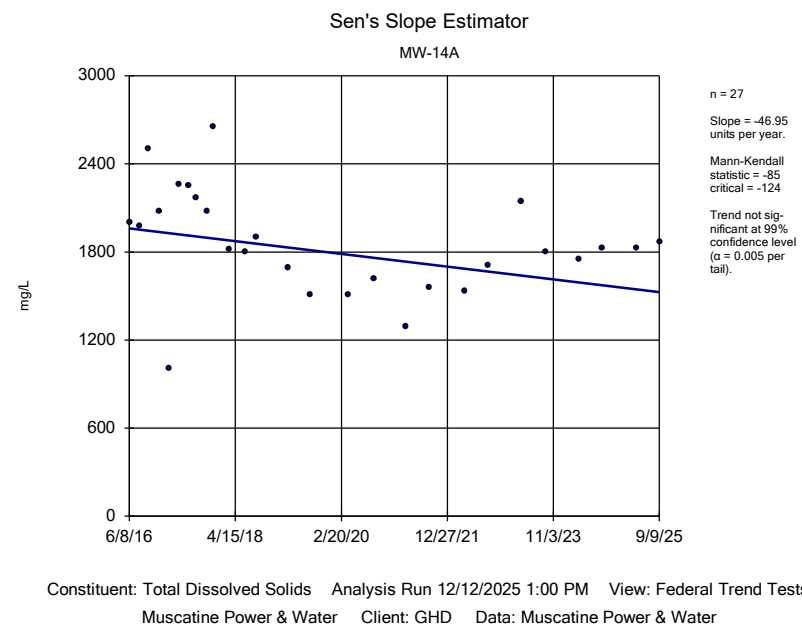
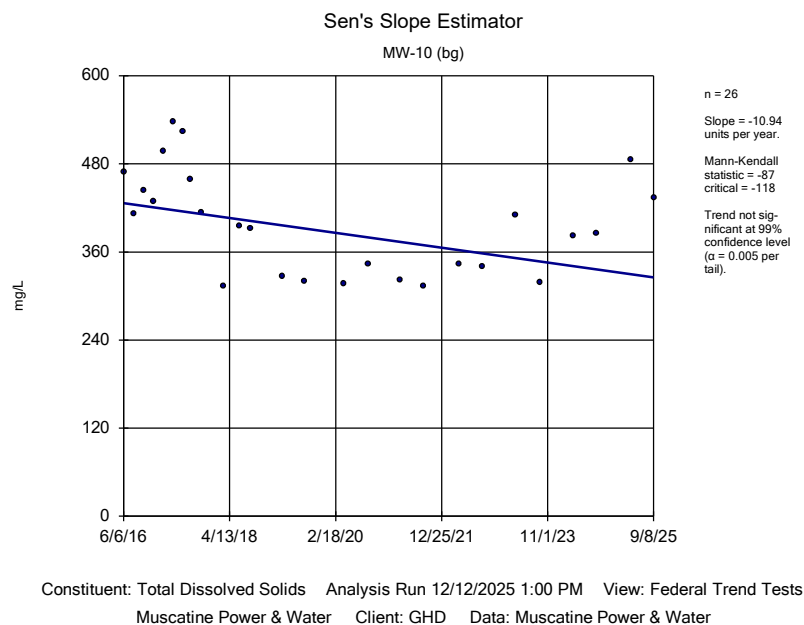


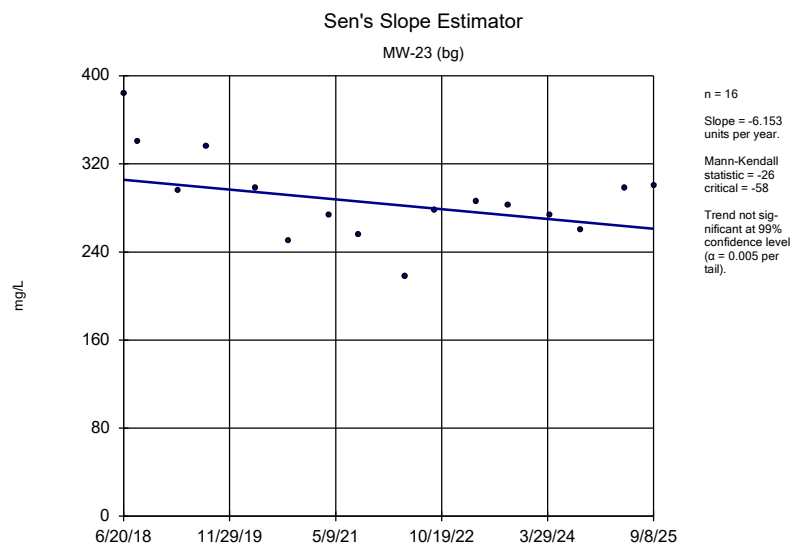
Constituent: Sulfate Analysis Run 12/12/2025 1:00 PM View: Federal Trend Tests
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Sulfate Analysis Run 12/12/2025 1:00 PM View: Federal Trend Tests
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water







Constituent: Total Dissolved Solids Analysis Run 12/12/2025 1:01 PM View: Federal Trend Tests
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

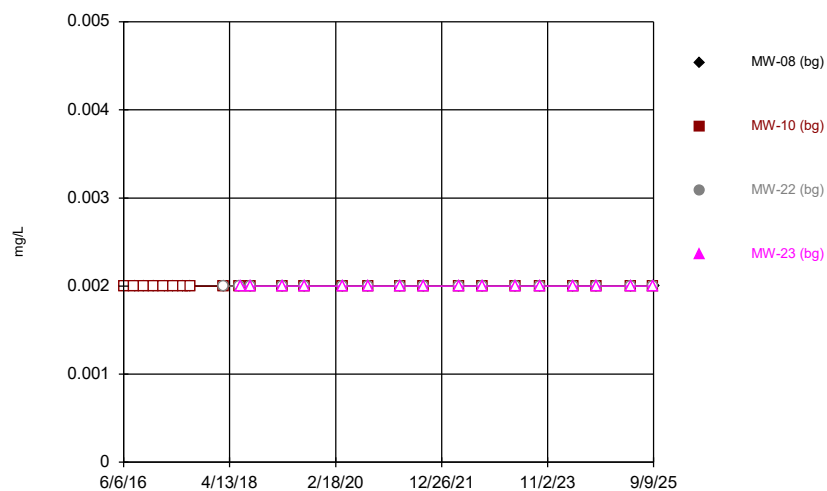
FIGURE H.

Upper Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/9/2025, 11:04 AM

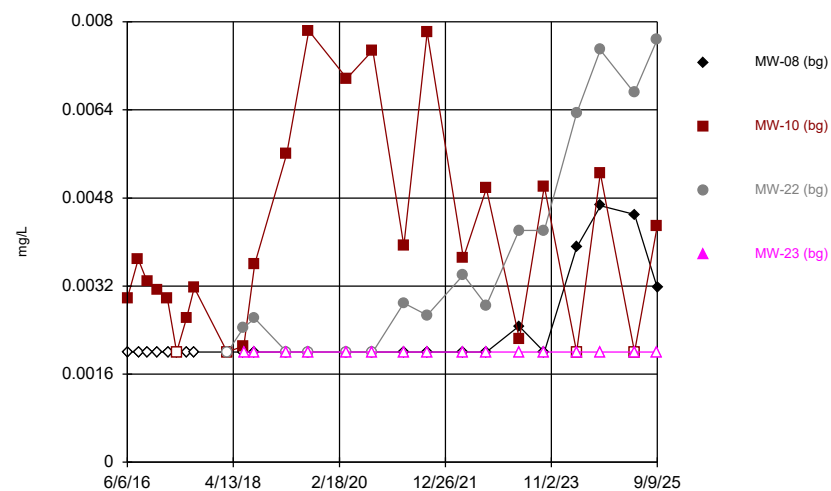
<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	n/a	0.002	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)
Arsenic (mg/L)	n/a	0.00784	n/a	n/a	n/a	83	54.22	n/a	0.01416	NP Inter(NDs)
Barium (mg/L)	n/a	0.271	n/a	n/a	n/a	83	0	n/a	0.01416	NP Inter(normality)
Beryllium (mg/L)	n/a	0.001	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)
Cadmium (mg/L)	n/a	0.0002	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)
Chromium (mg/L)	n/a	0.005	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)
Cobalt (mg/L)	n/a	0.00558	n/a	n/a	n/a	84	39.29	n/a	0.01345	NP Inter(normality)
Combined Radium 226 + 228 (pCi/L)	n/a	2.48	n/a	n/a	n/a	69	0	n/a	0.02904	NP Inter(normality)
Fluoride (mg/L)	n/a	1	n/a	n/a	n/a	84	80.95	n/a	0.01345	NP Inter(NDs)
Lead (mg/L)	n/a	0.00204	n/a	n/a	n/a	83	90.36	n/a	0.01416	NP Inter(NDs)
Lithium (mg/L)	n/a	0.01	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)
Mercury (mg/L)	n/a	0.0002	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)
Molybdenum (mg/L)	n/a	0.00822	n/a	n/a	n/a	85	64.71	n/a	0.01278	NP Inter(NDs)
Selenium (mg/L)	n/a	0.005	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)
Thallium (mg/L)	n/a	0.001	n/a	n/a	n/a	83	100	n/a	0.01416	NP Inter(NDs)

Time Series



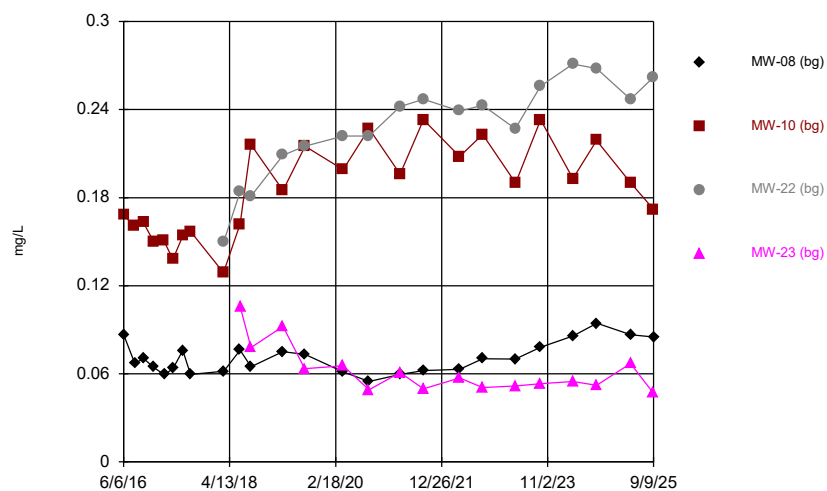
Constituent: Antimony Analysis Run 12/9/2025 11:02 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



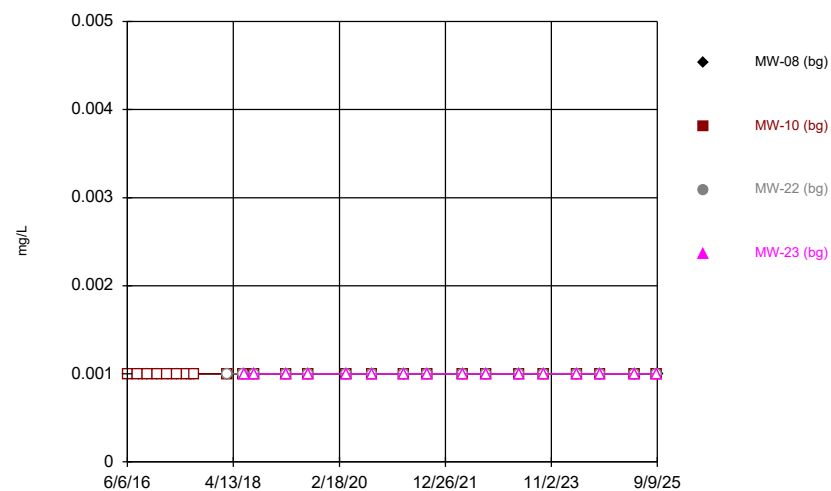
Constituent: Arsenic Analysis Run 12/9/2025 11:02 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



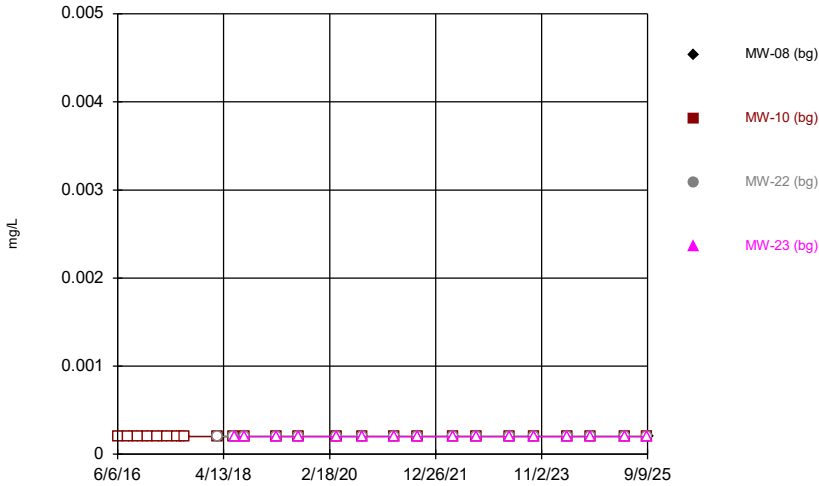
Constituent: Barium Analysis Run 12/9/2025 11:02 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



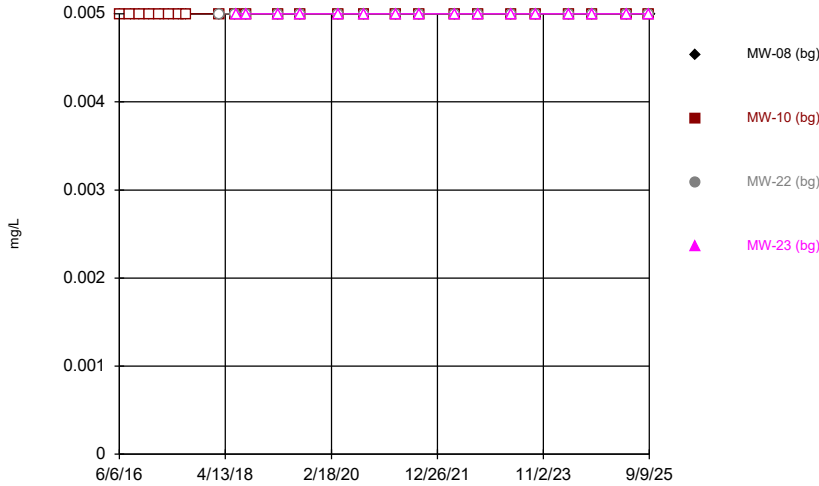
Constituent: Beryllium Analysis Run 12/9/2025 11:02 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



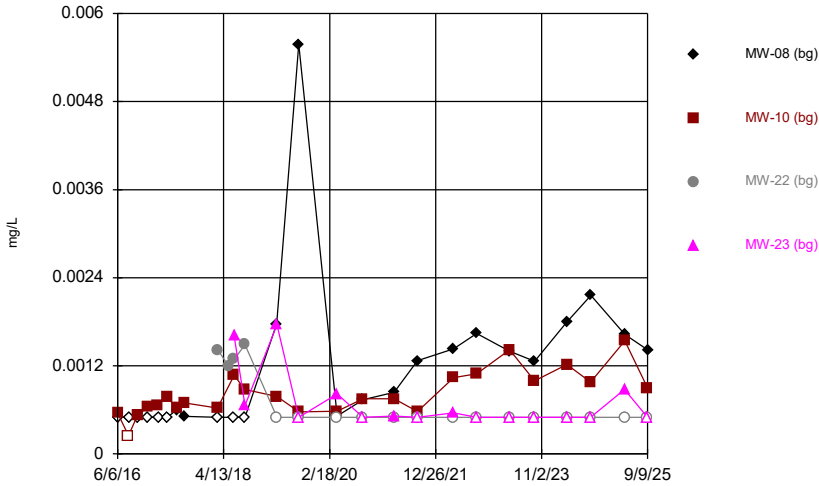
Constituent: Cadmium Analysis Run 12/9/2025 11:02 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



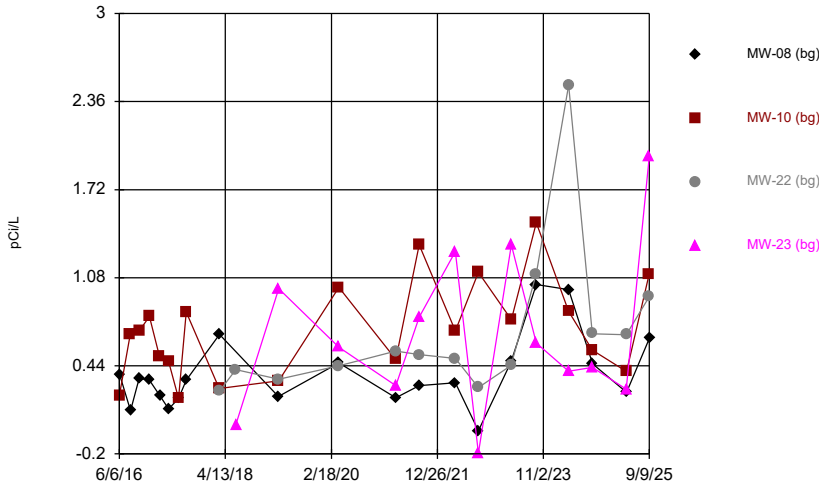
Constituent: Chromium Analysis Run 12/9/2025 11:02 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



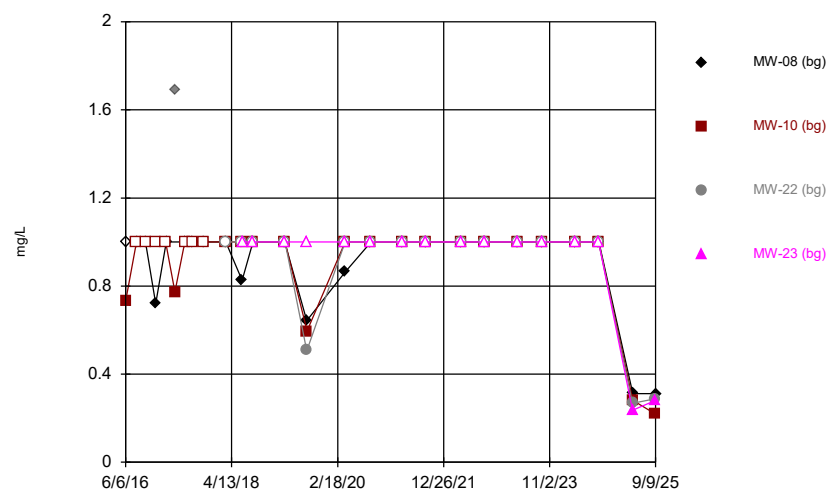
Constituent: Cobalt Analysis Run 12/9/2025 11:02 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



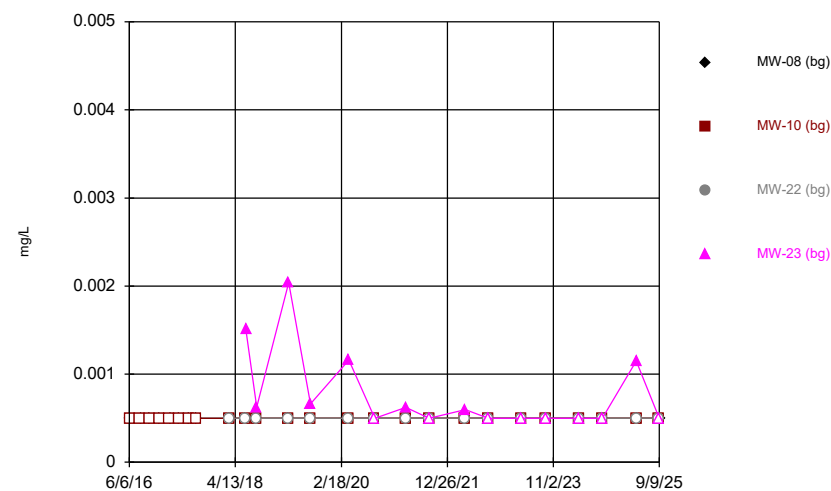
Constituent: Combined Radium 226 + 228 Analysis Run 12/9/2025 11:02 AM View: Federal Tolerance Lim
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



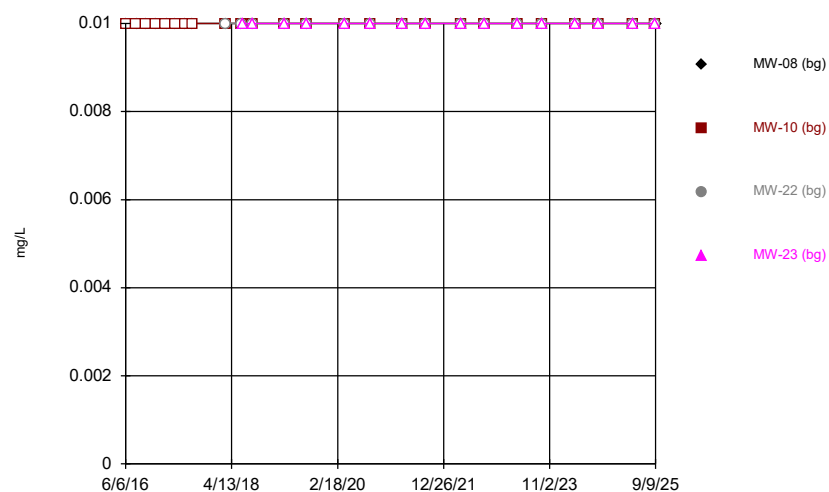
Constituent: Fluoride Analysis Run 12/9/2025 11:02 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



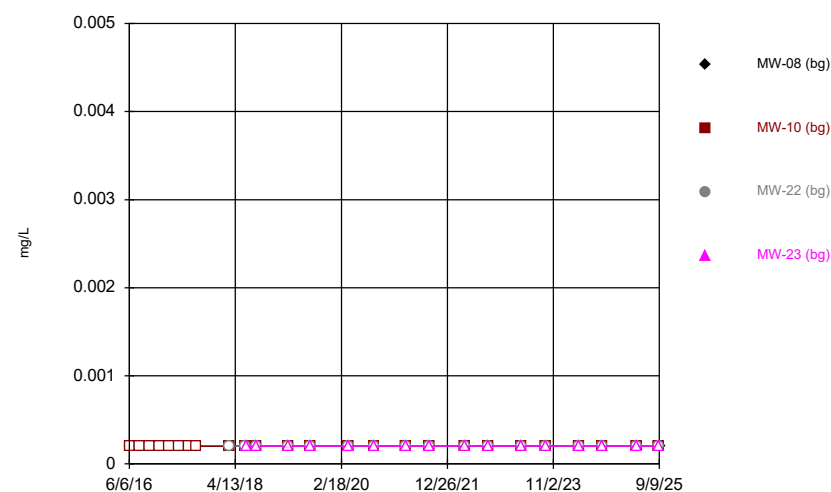
Constituent: Lead Analysis Run 12/9/2025 11:02 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



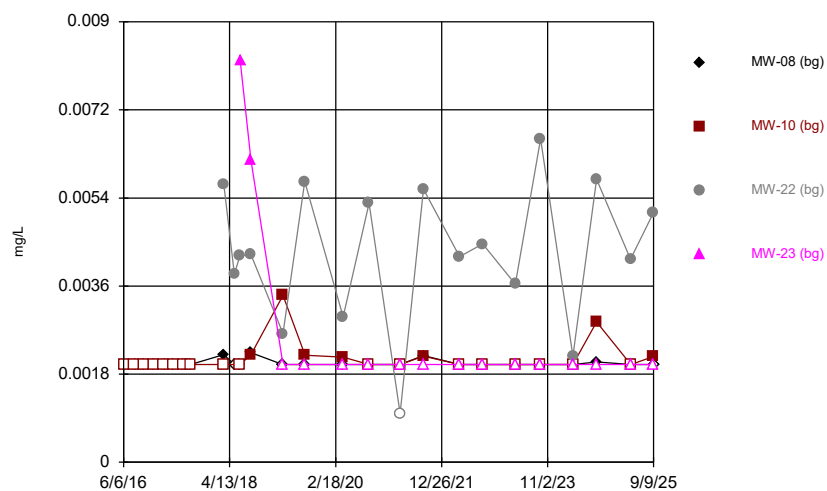
Constituent: Lithium Analysis Run 12/9/2025 11:02 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



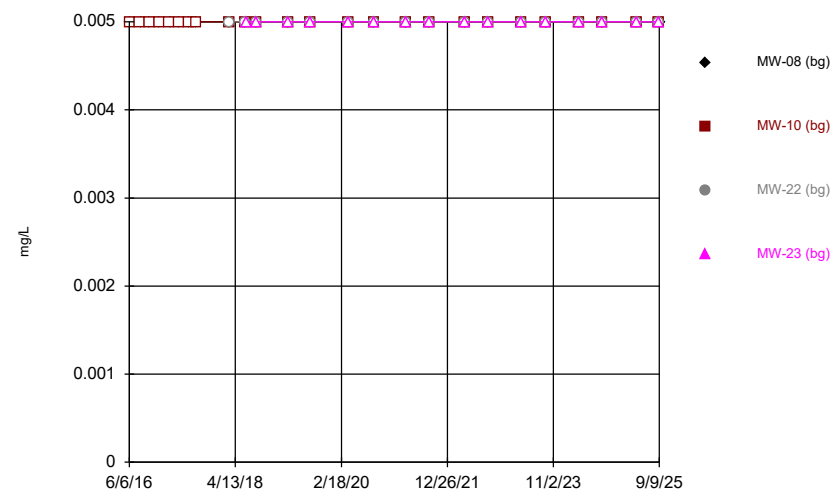
Constituent: Mercury Analysis Run 12/9/2025 11:02 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series



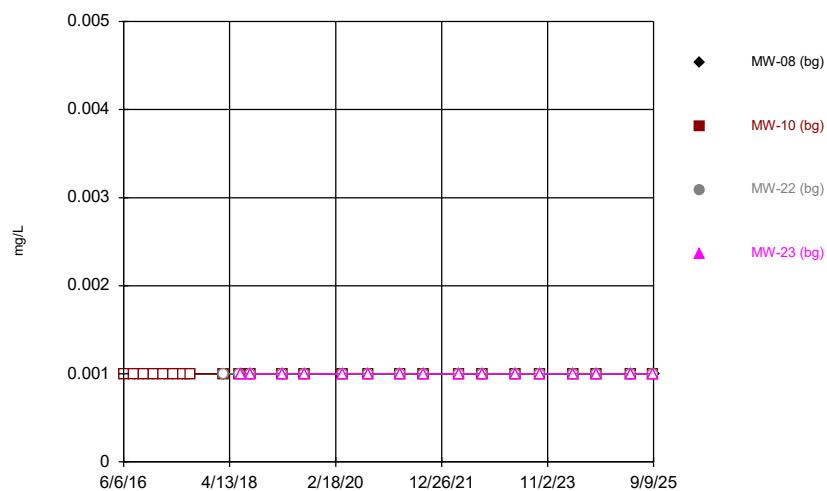
Constituent: Molybdenum Analysis Run 12/9/2025 11:02 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series

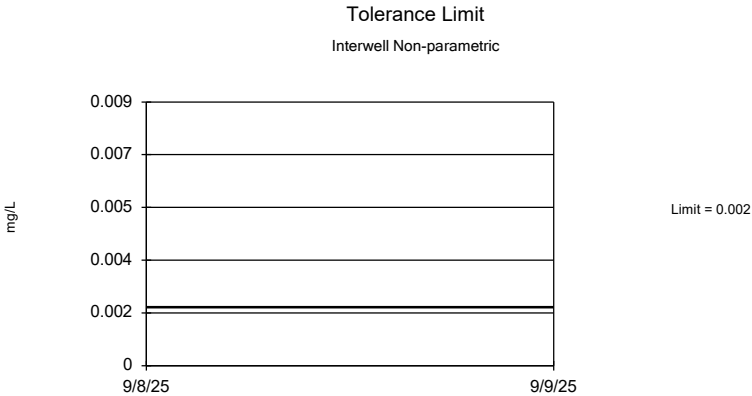


Constituent: Selenium Analysis Run 12/9/2025 11:02 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Time Series

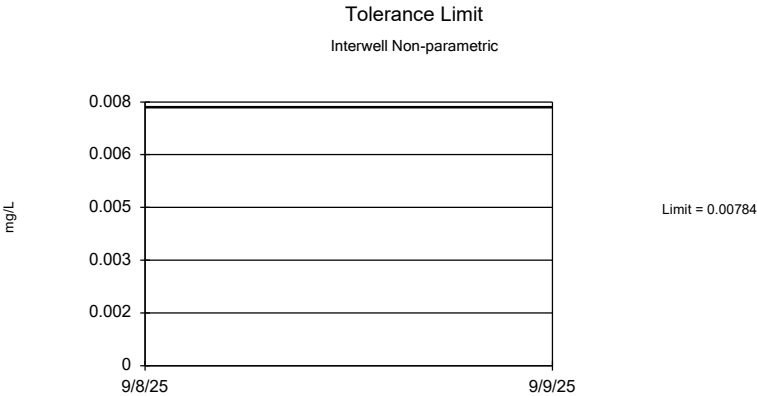


Constituent: Thallium Analysis Run 12/9/2025 11:02 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



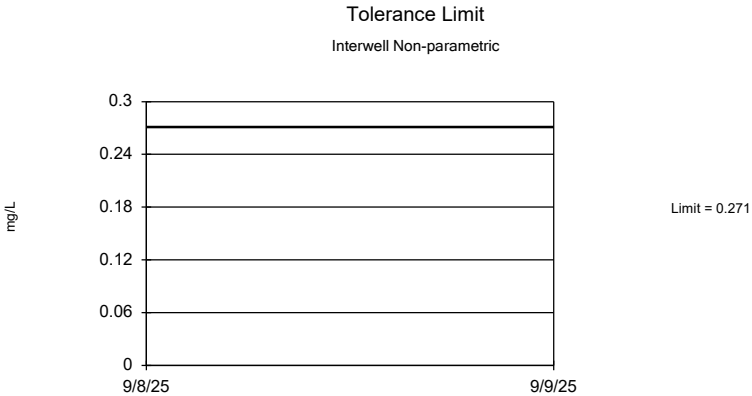
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. All background values were censored; limit is most recent reporting limit. 94.73% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01416.

Constituent: Antimony Analysis Run 12/9/2025 10:56 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



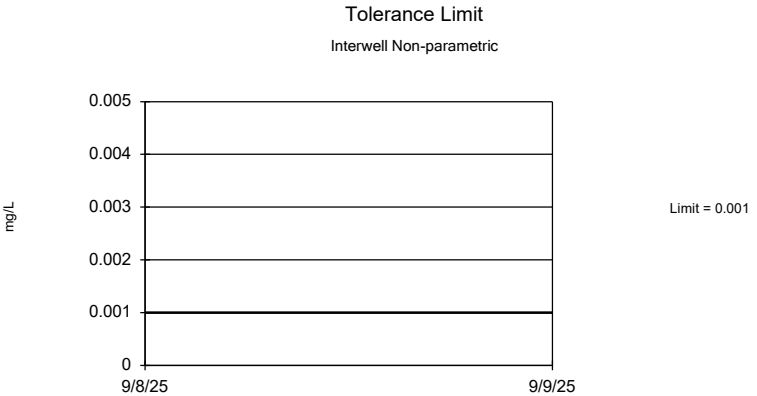
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 83 background values. 54.22% NDs. 94.73% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01416.

Constituent: Arsenic Analysis Run 12/9/2025 10:57 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



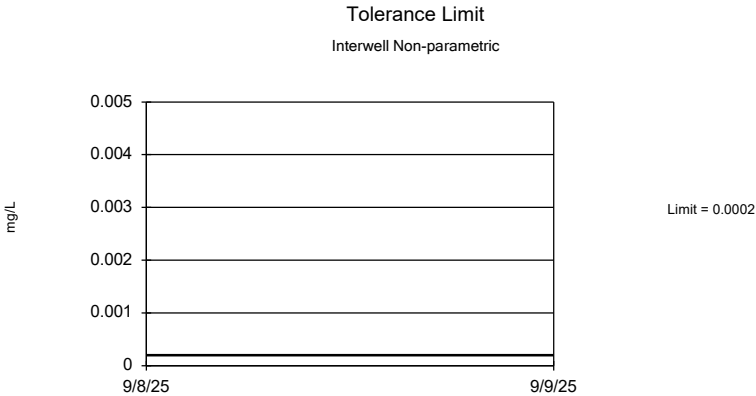
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 83 background values. 94.73% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01416.

Constituent: Barium Analysis Run 12/9/2025 10:57 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



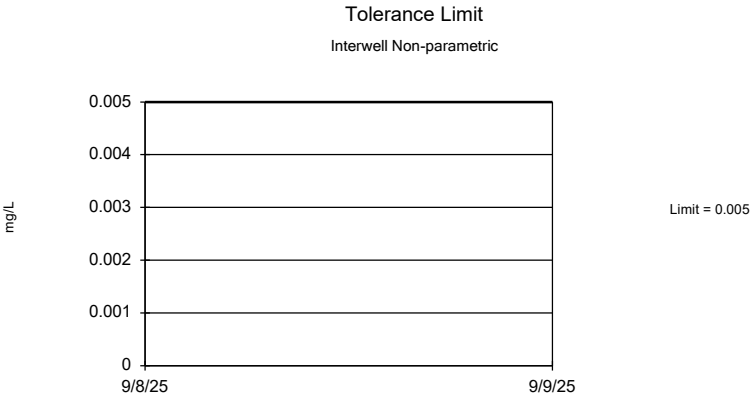
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. All background values were censored; limit is most recent reporting limit. 94.73% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01416.

Constituent: Beryllium Analysis Run 12/9/2025 10:57 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



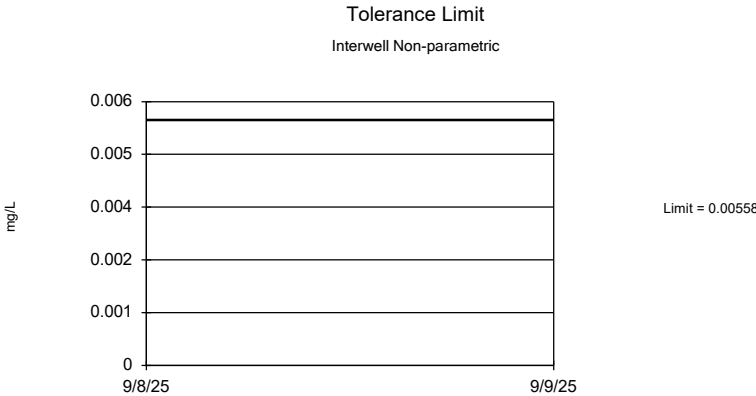
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. All background values were censored; limit is most recent reporting limit. 94.73% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01416.

Constituent: Cadmium Analysis Run 12/9/2025 10:57 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



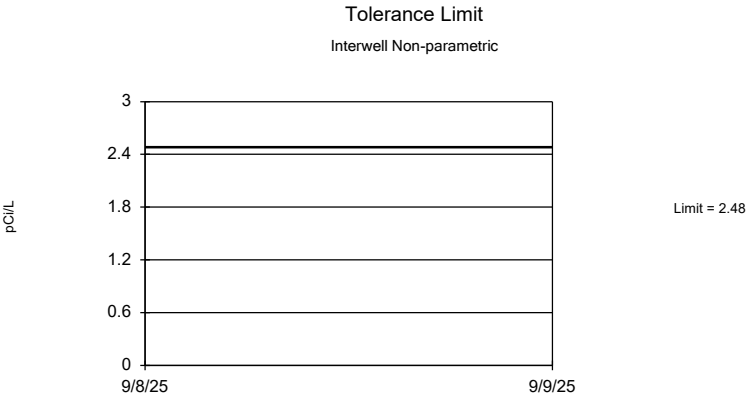
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. All background values were censored; limit is most recent reporting limit. 94.73% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01416.

Constituent: Chromium Analysis Run 12/9/2025 10:57 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



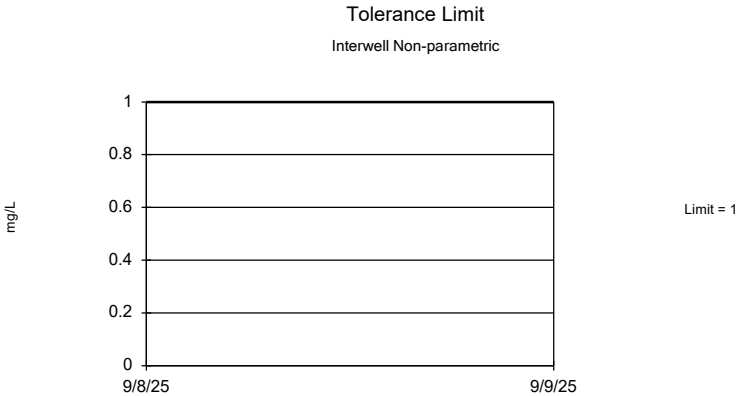
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. 39.29% NDs. 94.73% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01345.

Constituent: Cobalt Analysis Run 12/9/2025 10:57 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



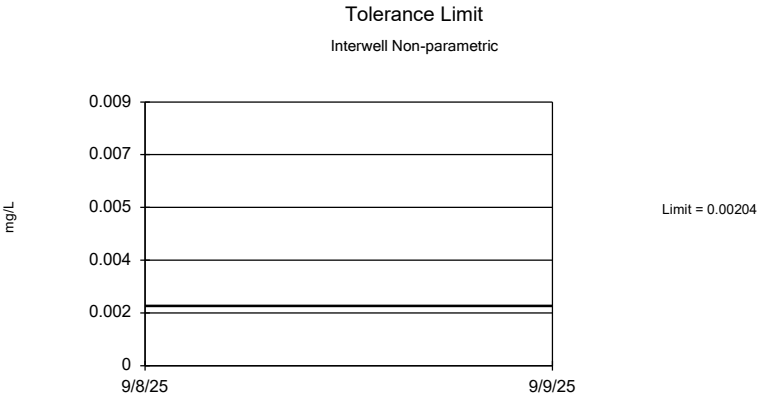
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 69 background values. 93.55% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02904.

Constituent: Combined Radium 226 + 228 Analysis Run 12/9/2025 10:57 AM View: Federal Tolerance Lim
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



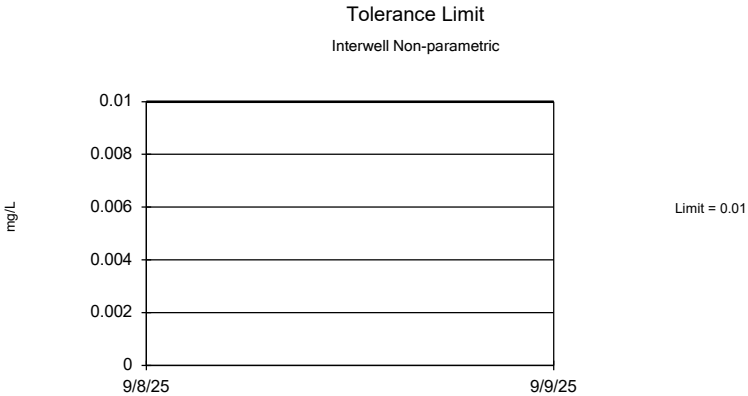
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 84 background values. 80.95% NDs. 94.73% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01345.

Constituent: Fluoride Analysis Run 12/9/2025 10:57 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



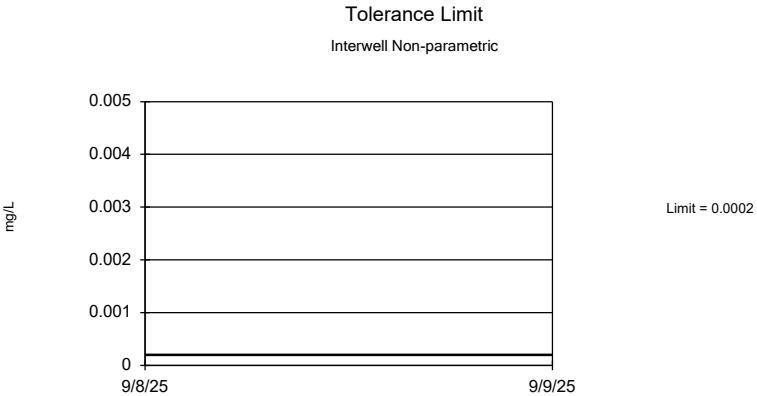
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 83 background values. 90.36% NDs. 94.73% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01416.

Constituent: Lead Analysis Run 12/9/2025 10:57 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. All background values were censored; limit is most recent reporting limit. 94.73% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01416.

Constituent: Lithium Analysis Run 12/9/2025 10:57 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. All background values were censored; limit is most recent reporting limit. 94.73% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01416.

Constituent: Mercury Analysis Run 12/9/2025 10:57 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 85 background values. 64.71% NDs. 94.73% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01278.

Constituent: Molybdenum Analysis Run 12/9/2025 10:57 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. All background values were censored; limit is most recent reporting limit. 94.73% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01416.

Constituent: Selenium Analysis Run 12/9/2025 10:57 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. All background values were censored; limit is most recent reporting limit. 94.73% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01416.

Constituent: Thallium Analysis Run 12/9/2025 10:57 AM View: Federal Tolerance Limits
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Tolerance Limit

Constituent: Antimony (mg/L) Analysis Run 12/9/2025 11:04 AM View: Federal Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-08 (bg)	MW-22 (bg)	MW-23 (bg)
6/6/2016	<0.002			
6/7/2016		<0.002		
8/15/2016	<0.002			
8/16/2016		<0.002		
10/10/2016	<0.002	<0.002		
12/14/2016	<0.002	<0.002		
2/17/2017	<0.002			
2/21/2017		<0.002		
4/17/2017	<0.002	<0.002		
6/19/2017	<0.002	<0.002		
8/7/2017	<0.002	<0.002		
3/5/2018	<0.002			
3/6/2018		<0.002	<0.002	
6/19/2018	<0.002	<0.002	<0.002	
6/20/2018				<0.002
8/27/2018	<0.002	<0.002	<0.002	<0.002
3/18/2019		<0.002		
3/19/2019	<0.002		<0.002	<0.002
8/6/2019		<0.002	<0.002	<0.002
8/7/2019	<0.002			
4/7/2020	<0.002	<0.002	<0.002	<0.002
9/18/2020	<0.002	<0.002	<0.002	<0.002
4/5/2021	<0.002	<0.002	<0.002	<0.002
9/1/2021	<0.002	<0.002	<0.002	<0.002
4/20/2022	<0.002	<0.002	<0.002	<0.002
9/14/2022	<0.002	<0.002	<0.002	<0.002
4/10/2023			<0.002	
4/11/2023		<0.002		
4/12/2023	<0.002			<0.002
9/18/2023	<0.002		<0.002	<0.002
9/19/2023		<0.002		
4/11/2024	<0.002		<0.002	<0.002
4/12/2024		<0.002		
9/10/2024	<0.002		<0.002	<0.002
9/11/2024		<0.002		
4/15/2025			<0.002	<0.002
4/16/2025	<0.002	<0.002		
9/8/2025	<0.002		<0.002	<0.002
9/9/2025		<0.002		

Tolerance Limit

Constituent: Arsenic (mg/L) Analysis Run 12/9/2025 11:04 AM View: Federal Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-08 (bg)	MW-22 (bg)	MW-23 (bg)
6/6/2016	0.00298			
6/7/2016		<0.002		
8/15/2016	0.00369			
8/16/2016		<0.002		
10/10/2016	0.00328	<0.002		
12/14/2016	0.00312	<0.002		
2/17/2017	0.00298			
2/21/2017		<0.002		
4/17/2017	<0.002	<0.002		
6/19/2017	0.00262	<0.002		
8/7/2017	0.00317	<0.002		
3/5/2018	<0.002			
3/6/2018		<0.002	<0.002	
6/19/2018	0.00211	<0.002	0.00245	
6/20/2018				<0.002
8/27/2018	0.0036	<0.002	0.00261	<0.002
3/18/2019		<0.002		
3/19/2019	0.0056		<0.002	<0.002
8/6/2019		<0.002	<0.002	<0.002
8/7/2019	0.00784			
4/7/2020	0.00697	<0.002	<0.002	<0.002
9/18/2020	0.00748	<0.002	<0.002	<0.002
4/5/2021	0.00393	<0.002	0.00289	<0.002
9/1/2021	0.00781	<0.002	0.00267	<0.002
4/20/2022	0.00371	<0.002	0.0034	<0.002
9/14/2022	0.00497	<0.002	0.00285	<0.002
4/10/2023			0.00421	
4/11/2023		0.00247		
4/12/2023	0.00224			<0.002
9/18/2023	0.00501		0.00421	<0.002
9/19/2023		<0.002		
4/11/2024	<0.002		0.00634	<0.002
4/12/2024		0.0039		
9/10/2024	0.00525		0.00749	<0.002
9/11/2024		0.00466		
4/15/2025			0.00671	<0.002
4/16/2025	<0.002	0.0045		
9/8/2025	0.00429		0.00768	<0.002
9/9/2025		0.00317		

Tolerance Limit

Constituent: Barium (mg/L) Analysis Run 12/9/2025 11:04 AM View: Federal Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-08 (bg)	MW-22 (bg)	MW-23 (bg)
6/6/2016	0.168			
6/7/2016		0.0861		
8/15/2016	0.161			
8/16/2016		0.0671		
10/10/2016	0.163	0.0706		
12/14/2016	0.15	0.0645		
2/17/2017	0.151			
2/21/2017		0.0594 (F1)		
4/17/2017	0.138	0.0636		
6/19/2017	0.154	0.076		
8/7/2017	0.157	0.0596		
3/5/2018	0.129			
3/6/2018		0.0617	0.15	
6/19/2018	0.162	0.0761	0.184	
6/20/2018				0.106
8/27/2018	0.216	0.0649	0.181	0.0779
3/18/2019		0.0751		
3/19/2019	0.185		0.209	0.0922
8/6/2019		0.0733	0.215	0.0635
8/7/2019	0.215			
4/7/2020	0.199	0.0613	0.222	0.0654
9/18/2020	0.227	0.0549	0.222	0.0491
4/5/2021	0.196	0.0596	0.242	0.0608
9/1/2021	0.233	0.0623	0.247	0.0497
4/20/2022	0.208	0.0631	0.239	0.0572
9/14/2022	0.223	0.0703	0.243	0.0507
4/10/2023			0.227	
4/11/2023		0.07		
4/12/2023	0.19			0.0518
9/18/2023	0.233		0.256	0.0533
9/19/2023		0.0782		
4/11/2024	0.193		0.271	0.0547
4/12/2024		0.0857		
9/10/2024	0.219		0.268	0.0521
9/11/2024		0.0944		
4/15/2025			0.247	0.067
4/16/2025	0.19	0.0867		
9/8/2025	0.172		0.262	0.0468
9/9/2025		0.0852		

Tolerance Limit

Constituent: Beryllium (mg/L) Analysis Run 12/9/2025 11:04 AM View: Federal Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-08 (bg)	MW-22 (bg)	MW-23 (bg)
6/6/2016	<0.001			
6/7/2016		<0.001		
8/15/2016	<0.001			
8/16/2016		<0.001		
10/10/2016	<0.001	<0.001		
12/14/2016	<0.001	<0.001		
2/17/2017	<0.001			
2/21/2017		<0.001		
4/17/2017	<0.001	<0.001		
6/19/2017	<0.001	<0.001		
8/7/2017	<0.001	<0.001		
3/5/2018	<0.001			
3/6/2018		<0.001	<0.001	
6/19/2018	<0.001	<0.001	<0.001	
6/20/2018				<0.001
8/27/2018	<0.001	<0.001	<0.001	<0.001
3/18/2019		<0.001		
3/19/2019	<0.001		<0.001	<0.001
8/6/2019		<0.001	<0.001	<0.001
8/7/2019	<0.001			
4/7/2020	<0.001	<0.001	<0.001	<0.001
9/18/2020	<0.001	<0.001	<0.001	<0.001
4/5/2021	<0.001	<0.001	<0.001	<0.001
9/1/2021	<0.001	<0.001	<0.001	<0.001
4/20/2022	<0.001	<0.001	<0.001	<0.001
9/14/2022	<0.001	<0.001	<0.001	<0.001
4/10/2023			<0.001	
4/11/2023		<0.001		
4/12/2023	<0.001			<0.001
9/18/2023	<0.001		<0.001	<0.001
9/19/2023		<0.001		
4/11/2024	<0.001		<0.001	<0.001
4/12/2024		<0.001		
9/10/2024	<0.001		<0.001	<0.001
9/11/2024		<0.001		
4/15/2025			<0.001	<0.001
4/16/2025	<0.001	<0.001		
9/8/2025	<0.001		<0.001	<0.001
9/9/2025		<0.001		

Tolerance Limit

Constituent: Cadmium (mg/L) Analysis Run 12/9/2025 11:04 AM View: Federal Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-08 (bg)	MW-22 (bg)	MW-23 (bg)
6/6/2016	<0.0002			
6/7/2016		<0.0002		
8/15/2016	<0.0002			
8/16/2016		<0.0002		
10/10/2016	<0.0002	<0.0002		
12/14/2016	<0.0002	<0.0002		
2/17/2017	<0.0002			
2/21/2017		<0.0002		
4/17/2017	<0.0002	<0.0002		
6/19/2017	<0.0002	<0.0002		
8/7/2017	<0.0002	<0.0002		
3/5/2018	<0.0002			
3/6/2018		<0.0002	<0.0002	
6/19/2018	<0.0002	<0.0002	<0.0002	
6/20/2018				<0.0002
8/27/2018	<0.0002	<0.0002	<0.0002	<0.0002
3/18/2019		<0.0002		
3/19/2019	<0.0002		<0.0002	<0.0002
8/6/2019		<0.0002	<0.0002	<0.0002
8/7/2019	<0.0002			
4/7/2020	<0.0002	<0.0002	<0.0002	<0.0002
9/18/2020	<0.0002	<0.0002	<0.0002	<0.0002
4/5/2021	<0.0002	<0.0002	<0.0002	<0.0002
9/1/2021	<0.0002	<0.0002	<0.0002	<0.0002
4/20/2022	<0.0002	<0.0002	<0.0002	<0.0002
9/14/2022	<0.0002	<0.0002	<0.0002	<0.0002
4/10/2023			<0.0002	
4/11/2023		<0.0002		
4/12/2023	<0.0002			<0.0002
9/18/2023	<0.0002		<0.0002	<0.0002
9/19/2023		<0.0002		
4/11/2024	<0.0002		<0.0002	<0.0002
4/12/2024		<0.0002		
9/10/2024	<0.0002		<0.0002	<0.0002
9/11/2024		<0.0002		
4/15/2025			<0.0002	<0.0002
4/16/2025	<0.0002	<0.0002		
9/8/2025	<0.0002		<0.0002	<0.0002
9/9/2025		<0.0002		

Tolerance Limit

Constituent: Chromium (mg/L) Analysis Run 12/9/2025 11:04 AM View: Federal Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-08 (bg)	MW-22 (bg)	MW-23 (bg)
6/6/2016	<0.005			
6/7/2016		<0.005		
8/15/2016	<0.005			
8/16/2016		<0.005		
10/10/2016	<0.005	<0.005		
12/14/2016	<0.005	<0.005		
2/17/2017	<0.005			
2/21/2017		<0.005		
4/17/2017	<0.005	<0.005		
6/19/2017	<0.005	<0.005		
8/7/2017	<0.005	<0.005		
3/5/2018	<0.005			
3/6/2018		<0.005	<0.005	
6/19/2018	<0.005	<0.005	<0.005	
6/20/2018				<0.005
8/27/2018	<0.005	<0.005	<0.005	<0.005
3/18/2019		<0.005		
3/19/2019	<0.005		<0.005	<0.005
8/6/2019		<0.005	<0.005	<0.005
8/7/2019	<0.005			
4/7/2020	<0.005	<0.005	<0.005	<0.005
9/18/2020	<0.005	<0.005	<0.005	<0.005
4/5/2021	<0.005	<0.005	<0.005	<0.005
9/1/2021	<0.005	<0.005	<0.005	<0.005
4/20/2022	<0.005	<0.005	<0.005	<0.005
9/14/2022	<0.005	<0.005	<0.005	<0.005
4/10/2023			<0.005	
4/11/2023		<0.005		
4/12/2023	<0.005			<0.005
9/18/2023	<0.005		<0.005	<0.005
9/19/2023		<0.005		
4/11/2024	<0.005		<0.005	<0.005
4/12/2024		<0.005		
9/10/2024	<0.005		<0.005	<0.005
9/11/2024		<0.005		
4/15/2025			<0.005	<0.005
4/16/2025	<0.005	<0.005		
9/8/2025	<0.005		<0.005	<0.005
9/9/2025		<0.005		

Tolerance Limit

Constituent: Cobalt (mg/L) Analysis Run 12/9/2025 11:04 AM View: Federal Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-08 (bg)	MW-22 (bg)	MW-23 (bg)
6/6/2016	0.000555			
6/7/2016		<0.0005		
8/15/2016	<0.0005			
8/16/2016		<0.0005		
10/10/2016	0.000523	<0.0005		
12/14/2016	0.000638	<0.0005		
2/17/2017	0.000663			
2/21/2017		<0.0005		
4/17/2017	0.000779	<0.0005		
6/19/2017	0.000621	0.000601		
8/7/2017	0.000695	0.00051		
3/5/2018	0.000627			
3/6/2018		<0.0005	0.00142	
5/14/2018			0.0012	
6/19/2018	0.00107	<0.0005	0.00129	
6/20/2018				0.00161
8/27/2018	0.00088	<0.0005	0.00149	0.00066
3/18/2019		0.00177		
3/19/2019	0.000783		<0.0005	0.00176
8/6/2019		0.00558	<0.0005	<0.0005
8/7/2019	0.000572			
4/7/2020	0.000581	0.000517	<0.0005	0.000817
9/18/2020	0.000751	0.000738	<0.0005	<0.0005
4/5/2021	0.000752	0.000839	<0.0005	0.000517
9/1/2021	0.000576	0.00127	<0.0005	<0.0005
4/20/2022	0.00104	0.00143	<0.0005	0.000561
9/14/2022	0.00109	0.00164	<0.0005	<0.0005
4/10/2023			<0.0005	
4/11/2023		0.0014		
4/12/2023	0.00142			<0.0005
9/18/2023	0.000995		<0.0005	<0.0005
9/19/2023		0.00126		
4/11/2024	0.00122		<0.0005	<0.0005
4/12/2024		0.0018		
9/10/2024	0.000977		<0.0005	<0.0005
9/11/2024		0.00216		
4/15/2025			<0.0005	0.000879
4/16/2025	0.00154	0.00163		
9/8/2025	0.0009		<0.0005	<0.0005
9/9/2025		0.00142		

Tolerance Limit

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 12/9/2025 11:04 AM View: Federal Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-08 (bg)	MW-22 (bg)	MW-23 (bg)
6/6/2016	0.223 (U)			
6/7/2016		0.375 (U)		
8/15/2016	0.668			
8/16/2016		0.115 (U)		
10/10/2016	0.694	0.35 (U)		
12/14/2016	0.799	0.336 (U)		
2/17/2017	0.513			
2/21/2017		0.221 (U)		
4/17/2017	0.47	0.126 (U)		
6/19/2017	0.204 (U)	0.204 (U)		
8/7/2017	0.831	0.336 (U)		
3/5/2018	0.276 (U)			
3/6/2018		0.668	0.257 (U)	
6/19/2018			0.412 (U)	
6/20/2018				0.0129 (U)
3/18/2019		0.217 (U)		
3/19/2019	0.331 (U)		0.343 (U)	1
4/7/2020	1.01	0.462	0.44	0.576
4/5/2021	0.488	0.208 (U)	0.547	0.296 (U)
9/1/2021	1.32	0.296 (U)	0.522	0.794
4/20/2022	0.693	0.316 (U)	0.494	1.27
9/14/2022	1.12	-0.0309 (U)	0.283 (U)	-0.195 (U)
4/10/2023			0.442 (U)	
4/11/2023		0.469 (U)		
4/12/2023	0.775			1.32
9/18/2023	1.48		1.11	0.606 (U)
9/19/2023		1.03		
4/11/2024	0.835		2.48	0.402 (U)
4/12/2024		0.994		
9/10/2024	0.555		0.674	0.4284 (U)
9/11/2024		0.4552 (U)		
4/15/2025			0.665	0.271 (U)
4/16/2025	0.399 (U)	0.248 (U)		
9/8/2025	1.11		0.942	1.96
9/9/2025		0.638		

Tolerance Limit

Constituent: Fluoride (mg/L) Analysis Run 12/9/2025 11:04 AM View: Federal Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-08 (bg)	MW-22 (bg)	MW-23 (bg)
6/6/2016	0.731			
6/7/2016		<1		
8/15/2016	<1			
8/16/2016		<1		
10/10/2016	<1	<1		
12/14/2016	<1	0.72		
2/17/2017	<1			
2/21/2017		<1		
4/17/2017	0.774	1.69 (o)		
6/19/2017	<1	<1		
8/7/2017	<1	<1		
10/16/2017	<1	<1		
3/5/2018	<1			
3/6/2018		<1	<1	
6/19/2018	<1	0.826	<1	
6/20/2018				<1
8/27/2018	<1	<1	<1	<1
3/18/2019		<1		
3/19/2019	<1		<1	<1
8/6/2019		0.643	0.507	<1
8/7/2019	0.596			
4/7/2020	<1	0.864	<1	<1
9/18/2020	<1	<1	<1	<1
4/5/2021	<1	<1	<1	<1
9/1/2021	<1	<1	<1	<1
4/20/2022	<1	<1	<1	<1
9/14/2022	<1	<1	<1	<1
4/10/2023			<1	
4/11/2023		<1		
4/12/2023	<1			<1
9/18/2023	<1		<1	<1
9/19/2023		<1		
4/11/2024	<1		<1	<1
4/12/2024		<1		
9/10/2024	<1		<1	<1
9/11/2024		<1		
4/15/2025			0.268	0.236
4/16/2025	0.281	0.312		
9/8/2025	0.218		0.289	0.281
9/9/2025		0.311		

Tolerance Limit

Constituent: Lead (mg/L) Analysis Run 12/9/2025 11:05 AM View: Federal Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-08 (bg)	MW-22 (bg)	MW-23 (bg)
6/6/2016	<0.0005			
6/7/2016		<0.0005		
8/15/2016	<0.0005			
8/16/2016		<0.0005		
10/10/2016	<0.0005	<0.0005		
12/14/2016	<0.0005	<0.0005		
2/17/2017	<0.0005			
2/21/2017		<0.0005		
4/17/2017	<0.0005	<0.0005		
6/19/2017	<0.0005	<0.0005		
8/7/2017	<0.0005	<0.0005		
3/5/2018	<0.0005			
3/6/2018		<0.0005	<0.0005	
6/19/2018	<0.0005	<0.0005	<0.0005	
6/20/2018				0.00151
8/27/2018	<0.0005	<0.0005	<0.0005	0.000626
3/18/2019		<0.0005		
3/19/2019	<0.0005		<0.0005	0.00204
8/6/2019		<0.0005	<0.0005	0.000663
8/7/2019	<0.0005			
4/7/2020	<0.0005	<0.0005	<0.0005	0.00116
9/18/2020	<0.0005	<0.0005	<0.0005	<0.0005
4/5/2021	<0.0005	<0.0005	<0.0005	0.000624
9/1/2021	<0.0005	<0.0005	<0.0005	<0.0005
4/20/2022	<0.0005	<0.0005	<0.0005	0.000596
9/14/2022	<0.0005	<0.0005	<0.0005	<0.0005
4/10/2023			<0.0005	
4/11/2023		<0.0005		
4/12/2023	<0.0005			<0.0005
9/18/2023	<0.0005		<0.0005	<0.0005
9/19/2023		<0.0005		
4/11/2024	<0.0005		<0.0005	<0.0005
4/12/2024		<0.0005		
9/10/2024	<0.0005		<0.0005	<0.0005
9/11/2024		<0.0005		
4/15/2025			<0.0005	0.00115
4/16/2025	<0.0005	<0.0005		
9/8/2025	<0.0005		<0.0005	<0.0005
9/9/2025		<0.0005		

Tolerance Limit

Constituent: Lithium (mg/L) Analysis Run 12/9/2025 11:05 AM View: Federal Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-08 (bg)	MW-22 (bg)	MW-23 (bg)
6/6/2016	<0.01			
6/7/2016		<0.01		
8/15/2016	<0.01			
8/16/2016		<0.01		
10/10/2016	<0.01	<0.01		
12/14/2016	<0.01	<0.01		
2/17/2017	<0.01			
2/21/2017		<0.01		
4/17/2017	<0.01	<0.01		
6/19/2017	<0.01	<0.01		
8/7/2017	<0.01	<0.01		
3/5/2018	<0.01			
3/6/2018		<0.01	<0.01	
6/19/2018	<0.01	<0.01	<0.01	
6/20/2018				<0.01
8/27/2018	<0.01	<0.01	<0.01	<0.01
3/18/2019		<0.01		
3/19/2019	<0.01		<0.01	<0.01
8/6/2019		<0.01	<0.01	<0.01
8/7/2019	<0.01			
4/7/2020	<0.01	<0.01	<0.01	<0.01
9/18/2020	<0.01	<0.01	<0.01	<0.01
4/5/2021	<0.01	<0.01	<0.01	<0.01
9/1/2021	<0.01	<0.01	<0.01	<0.01
4/20/2022	<0.01	<0.01	<0.01	<0.01
9/14/2022	<0.01	<0.01	<0.01	<0.01
4/10/2023			<0.01	
4/11/2023		<0.01		
4/12/2023	<0.01			<0.01
9/18/2023	<0.01		<0.01	<0.01
9/19/2023		<0.01		
4/11/2024	<0.01		<0.01	<0.01
4/12/2024		<0.01		
9/10/2024	<0.01		<0.01	<0.01
9/11/2024		<0.01		
4/15/2025			<0.01	<0.01
4/16/2025	<0.01	<0.01		
9/8/2025	<0.01		<0.01	<0.01
9/9/2025		<0.01		

Tolerance Limit

Constituent: Mercury (mg/L) Analysis Run 12/9/2025 11:05 AM View: Federal Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-08 (bg)	MW-22 (bg)	MW-23 (bg)
6/6/2016	<0.0002			
6/7/2016		<0.0002		
8/15/2016	<0.0002			
8/16/2016		<0.0002		
10/10/2016	<0.0002	<0.0002		
12/14/2016	<0.0002	<0.0002		
2/17/2017	<0.0002			
2/21/2017		<0.0002		
4/17/2017	<0.0002 (F1)	<0.0002		
6/19/2017	<0.0002	<0.0002		
8/7/2017	<0.0002	<0.0002		
3/5/2018	<0.0002			
3/6/2018		<0.0002	<0.0002	
6/19/2018	<0.0002	<0.0002	<0.0002	
6/20/2018				<0.0002
8/27/2018	<0.0002	<0.0002	<0.0002	<0.0002
3/18/2019		<0.0002		
3/19/2019	<0.0002		<0.0002	<0.0002
8/6/2019		<0.0002	<0.0002	<0.0002
8/7/2019	<0.0002			
4/7/2020	<0.0002	<0.0002	<0.0002	<0.0002
9/18/2020	<0.0002	<0.0002	<0.0002	<0.0002
4/5/2021	<0.0002	<0.0002	<0.0002	<0.0002
9/1/2021	<0.0002	<0.0002	<0.0002	<0.0002
4/20/2022	<0.0002	<0.0002	<0.0002	<0.0002
9/14/2022	<0.0002	<0.0002	<0.0002	<0.0002
4/10/2023			<0.0002	
4/11/2023		<0.0002		
4/12/2023	<0.0002			<0.0002
9/18/2023	<0.0002		<0.0002	<0.0002
9/19/2023		<0.0002		
4/11/2024	<0.0002		<0.0002	<0.0002
4/12/2024		<0.0002		
9/10/2024	<0.0002		<0.0002	<0.0002
9/11/2024		<0.0002		
4/15/2025			<0.0002	<0.0002
4/16/2025	<0.0002	<0.0002		
9/8/2025	<0.0002		<0.0002	<0.0002
9/9/2025		<0.0002		

Tolerance Limit

Constituent: Molybdenum (mg/L) Analysis Run 12/9/2025 11:05 AM View: Federal Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-08 (bg)	MW-22 (bg)	MW-23 (bg)
6/6/2016	<0.002			
6/7/2016		<0.002		
8/15/2016	<0.002			
8/16/2016		<0.002		
10/10/2016	<0.002	<0.002		
12/14/2016	<0.002	<0.002		
2/17/2017	<0.002			
2/21/2017		<0.002		
4/17/2017	<0.002	<0.002		
6/19/2017	<0.002	<0.002		
8/7/2017	<0.002	<0.002		
3/5/2018	<0.002			
3/6/2018		0.0022	0.00568	
5/14/2018		<0.002	0.00385	
6/19/2018	<0.002	<0.002	0.00423	
6/20/2018				0.00822
8/27/2018	0.0022	0.00224	0.00424	0.00617
3/18/2019		<0.002		
3/19/2019	0.00341		0.00263	<0.002
8/6/2019		<0.002	0.00574	<0.002
8/7/2019	0.00219			
4/7/2020	0.00215	<0.002	0.00297	<0.002
9/18/2020	<0.002	<0.002	0.00529	<0.002
4/5/2021	<0.002	<0.002	<0.002	<0.002
9/1/2021	0.00217	0.00218	0.00558	<0.002
4/20/2022	<0.002	<0.002	0.0042	<0.002
9/14/2022	<0.002	<0.002	0.00446	<0.002
4/10/2023			0.00364	
4/11/2023		<0.002		
4/12/2023	<0.002			<0.002
9/18/2023	<0.002		0.00661	<0.002
9/19/2023		<0.002		
4/11/2024	<0.002		0.00217	<0.002
4/12/2024		<0.002		
9/10/2024	0.00287		0.00578	<0.002
9/11/2024		0.00205		
4/15/2025			0.00415	<0.002
4/16/2025	<0.002	<0.002		
9/8/2025	0.00216		0.0051	<0.002
9/9/2025		<0.002		

Tolerance Limit

Constituent: Selenium (mg/L) Analysis Run 12/9/2025 11:05 AM View: Federal Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-08 (bg)	MW-22 (bg)	MW-23 (bg)
6/6/2016	<0.005			
6/7/2016		<0.005		
8/15/2016	<0.005			
8/16/2016		<0.005		
10/10/2016	<0.005	<0.005		
12/14/2016	<0.005	<0.005		
2/17/2017	<0.005			
2/21/2017		<0.005		
4/17/2017	<0.005	<0.005		
6/19/2017	<0.005	<0.005		
8/7/2017	<0.005	<0.005		
3/5/2018	<0.005			
3/6/2018		<0.005	<0.005	
6/19/2018	<0.005	<0.005	<0.005	
6/20/2018				<0.005
8/27/2018	<0.005	<0.005	<0.005	<0.005
3/18/2019		<0.005		
3/19/2019	<0.005		<0.005	<0.005
8/6/2019		<0.005	<0.005	<0.005
8/7/2019	<0.005			
4/7/2020	<0.005	<0.005	<0.005	<0.005
9/18/2020	<0.005	<0.005	<0.005	<0.005
4/5/2021	<0.005	<0.005	<0.005	<0.005
9/1/2021	<0.005	<0.005	<0.005	<0.005
4/20/2022	<0.005	<0.005	<0.005	<0.005
9/14/2022	<0.005	<0.005	<0.005	<0.005
4/10/2023			<0.005	
4/11/2023		<0.005		
4/12/2023	<0.005			<0.005
9/18/2023	<0.005		<0.005	<0.005
9/19/2023		<0.005		
4/11/2024	<0.005		<0.005	<0.005
4/12/2024		<0.005		
9/10/2024	<0.005		<0.005	<0.005
9/11/2024		<0.005		
4/15/2025			<0.005	<0.005
4/16/2025	<0.005	<0.005		
9/8/2025	<0.005		<0.005	<0.005
9/9/2025		<0.005		

Tolerance Limit

Constituent: Thallium (mg/L) Analysis Run 12/9/2025 11:05 AM View: Federal Tolerance Limits

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-10 (bg)	MW-08 (bg)	MW-22 (bg)	MW-23 (bg)
6/6/2016	<0.001			
6/7/2016		<0.001		
8/15/2016	<0.001			
8/16/2016		<0.001		
10/10/2016	<0.001	<0.001		
12/14/2016	<0.001	<0.001		
2/17/2017	<0.001			
2/21/2017		<0.001		
4/17/2017	<0.001	<0.001		
6/19/2017	<0.001	<0.001		
8/7/2017	<0.001	<0.001		
3/5/2018	<0.001			
3/6/2018		<0.001	<0.001	
6/19/2018	<0.001	<0.001	<0.001	
6/20/2018				<0.001
8/27/2018	<0.001	<0.001	<0.001	<0.001
3/18/2019		<0.001		
3/19/2019	<0.001		<0.001	<0.001
8/6/2019		<0.001	<0.001	<0.001
8/7/2019	<0.001			
4/7/2020	<0.001	<0.001	<0.001	<0.001
9/18/2020	<0.001	<0.001	<0.001	<0.001
4/5/2021	<0.001	<0.001	<0.001	<0.001
9/1/2021	<0.001	<0.001	<0.001	<0.001
4/20/2022	<0.001	<0.001	<0.001	<0.001
9/14/2022	<0.001	<0.001	<0.001	<0.001
4/10/2023			<0.001	
4/11/2023		<0.001		
4/12/2023	<0.001			<0.001
9/18/2023	<0.001		<0.001	<0.001
9/19/2023		<0.001		
4/11/2024	<0.001		<0.001	<0.001
4/12/2024		<0.001		
9/10/2024	<0.001		<0.001	<0.001
9/11/2024		<0.001		
4/15/2025			<0.001	<0.001
4/16/2025	<0.001	<0.001		
9/8/2025	<0.001		<0.001	<0.001
9/9/2025		<0.001		

FIGURE I.

MUSCATINE POWER & WATER GWPS				
Constituent Name	MCL	CCR Rule-Specified	Background Limit	GWPS
Antimony, Total (mg/L)	0.006		0.002	0.006
Arsenic, Total (mg/L)	0.01		0.0078	0.01
Barium, Total (mg/L)	2		0.27	2
Beryllium, Total (mg/L)	0.004		0.001	0.004
Cadmium, Total (mg/L)	0.005		0.0002	0.005
Chromium, Total (mg/L)	0.1		0.005	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.0056	0.006
Combined Radium, Total (pCi/L)	5		2.48	5
Fluoride, Total (mg/L)	4		1	4
Lead, Total (mg/L)	0.015		0.002	0.015
Lithium, Total (mg/L)	n/a	0.04	0.01	0.04
Mercury, Total (mg/L)	0.002		0.0002	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.0082	0.1
Selenium, Total (mg/L)	0.05		0.005	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002

*MCL = Maximum Contaminant Level

*CCR = Coal Combustion Residual

*GWPS = Groundwater Protection Standard

FIGURE J.

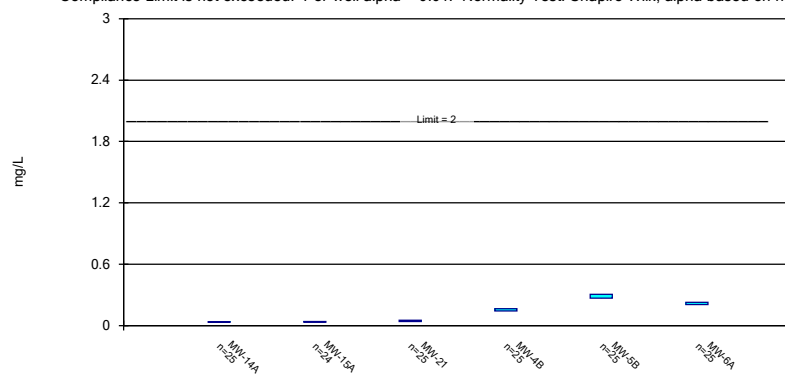
Appendix IV - Confidence Intervals - All Results (No Significant)

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water Printed 12/9/2025, 11:13 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Barium (mg/L)	MW-14A	0.03595	0.03203	2	No	25	0	No	0.01	Param.
Barium (mg/L)	MW-15A	0.03906	0.03419	2	No	24	0	No	0.01	Param.
Barium (mg/L)	MW-21	0.05288	0.03997	2	No	25	0	No	0.01	Param.
Barium (mg/L)	MW-4B	0.1657	0.1431	2	No	25	0	No	0.01	Param.
Barium (mg/L)	MW-5B	0.3042	0.2671	2	No	25	0	No	0.01	Param.
Barium (mg/L)	MW-6A	0.2281	0.2051	2	No	25	0	No	0.01	Param.
Cadmium (mg/L)	MW-4B	0.000285	0.0002	0.005	No	25	96	No	0.01	NP (NDs)
Cadmium (mg/L)	MW-5B	0.000255	0.0002	0.005	No	25	96	No	0.01	NP (NDs)
Chromium (mg/L)	MW-21	0.00632	0.00554	0.1	No	25	24	No	0.01	Param.
Cobalt (mg/L)	MW-4B	0.00172	0.0005	0.006	No	25	52	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MW-14A	0.5445	0.1773	5	No	21	0	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-15A	0.3914	0.158	5	No	21	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-21	0.5217	0.1796	5	No	21	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-4B	0.7728	0.4322	5	No	21	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5B	1.097	0.7509	5	No	21	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6A	0.823	0.5187	5	No	21	0	No	0.01	Param.
Fluoride (mg/L)	MW-14A	1	0.867	4	No	25	84	No	0.01	NP (NDs)
Fluoride (mg/L)	MW-15A	1	0.625	4	No	25	76	No	0.01	NP (NDs)
Fluoride (mg/L)	MW-21	1	0.993	4	No	26	84.62	No	0.01	NP (NDs)
Fluoride (mg/L)	MW-4B	1	0.801	4	No	26	76.92	No	0.01	NP (NDs)
Fluoride (mg/L)	MW-5B	1.88	0.627	4	No	26	80.77	No	0.01	NP (NDs)
Fluoride (mg/L)	MW-6A	1	0.814	4	No	26	73.08	No	0.01	NP (NDs)
Lead (mg/L)	MW-21	0.000633	0.0005	0.015	No	25	96	No	0.01	NP (NDs)
Lead (mg/L)	MW-4B	0.000532	0.0005	0.015	No	24	91.67	No	0.01	NP (NDs)
Lead (mg/L)	MW-5B	0.000627	0.0005	0.015	No	25	96	No	0.01	NP (NDs)
Lithium (mg/L)	MW-21	0.0198	0.01	0.04	No	25	40	No	0.01	NP (normality)
Mercury (mg/L)	MW-5B	0.000813	0.0002	0.002	No	25	96	No	0.01	NP (NDs)
Molybdenum (mg/L)	MW-14A	0.00322	0.002	0.1	No	25	96	No	0.01	NP (NDs)
Molybdenum (mg/L)	MW-15A	0.0109	0.002	0.1	No	25	96	No	0.01	NP (NDs)
Molybdenum (mg/L)	MW-21	0.00383	0.002	0.1	No	25	96	No	0.01	NP (NDs)
Molybdenum (mg/L)	MW-4B	0.00296	0.002	0.1	No	25	96	No	0.01	NP (NDs)
Molybdenum (mg/L)	MW-5B	0.00212	0.002	0.1	No	25	96	No	0.01	NP (NDs)
Selenium (mg/L)	MW-14A	0.00759	0.005	0.05	No	25	56	No	0.01	NP (NDs)
Selenium (mg/L)	MW-15A	0.00502	0.005	0.05	No	25	96	No	0.01	NP (NDs)
Selenium (mg/L)	MW-21	0.009244	0.006363	0.05	No	25	28	sqrt(x)	0.01	Param.
Thallium (mg/L)	MW-4B	0.00288	0.001	0.002	No	25	92	No	0.01	NP (NDs)
Thallium (mg/L)	MW-5B	0.00393	0.001	0.002	No	25	92	No	0.01	NP (NDs)

Parametric Confidence Interval

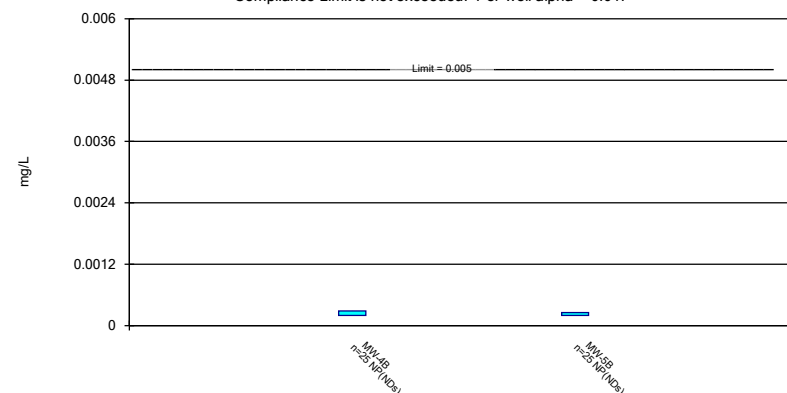
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 12/9/2025 11:11 AM View: Federal Confidence Intervals
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Non-Parametric Confidence Interval

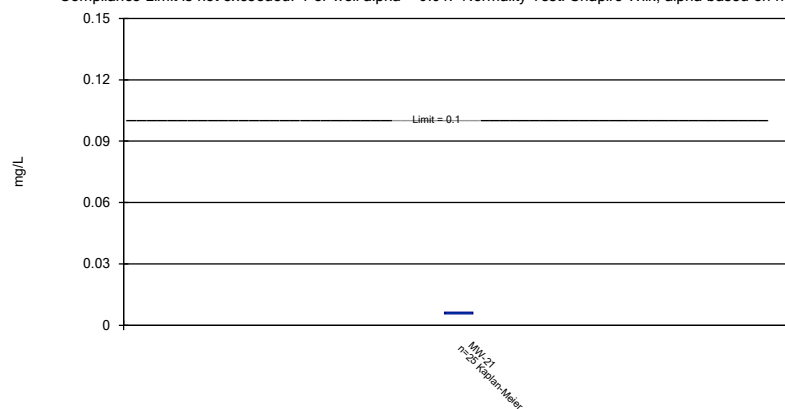
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Cadmium Analysis Run 12/9/2025 11:11 AM View: Federal Confidence Intervals
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Parametric Confidence Interval

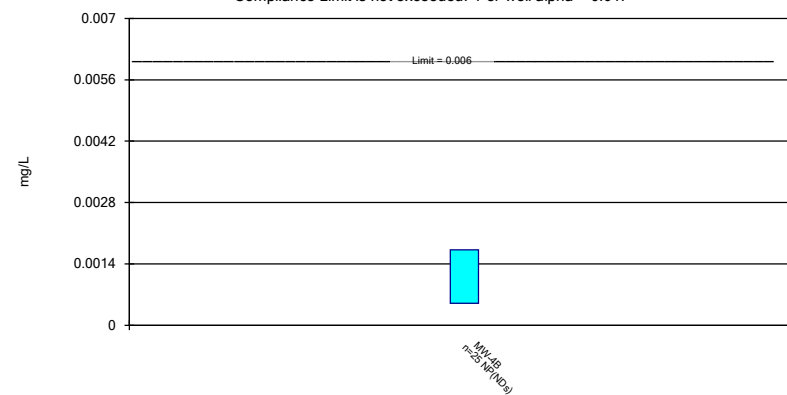
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Chromium Analysis Run 12/9/2025 11:11 AM View: Federal Confidence Intervals
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Non-Parametric Confidence Interval

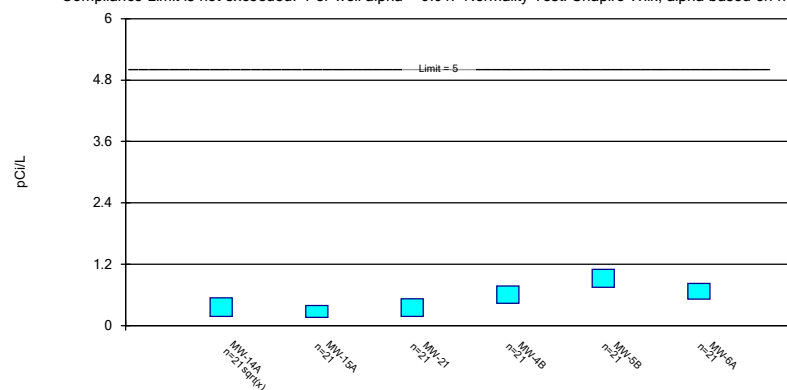
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Cobalt Analysis Run 12/9/2025 11:12 AM View: Federal Confidence Intervals
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Parametric Confidence Interval

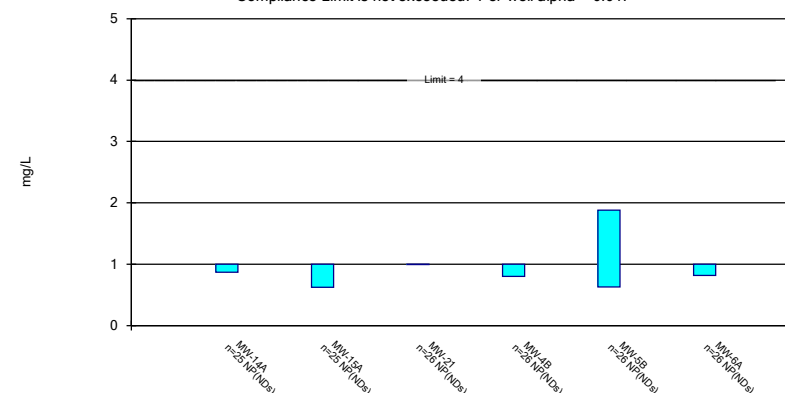
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 12/9/2025 11:12 AM View: Federal Confidence In
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Non-Parametric Confidence Interval

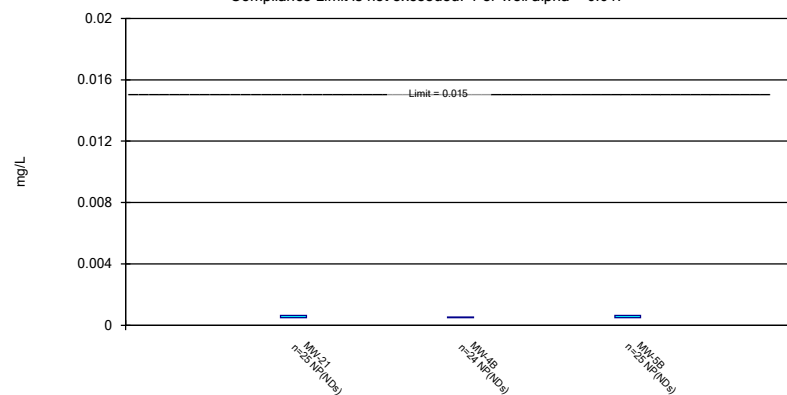
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Fluoride Analysis Run 12/9/2025 11:12 AM View: Federal Confidence Intervals
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Non-Parametric Confidence Interval

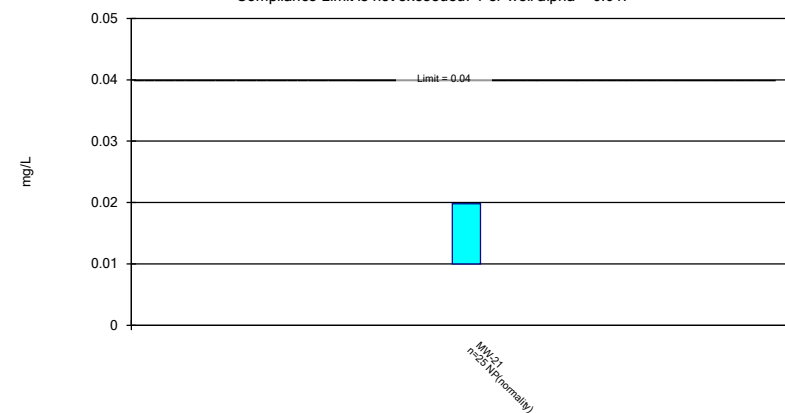
Compliance Limit is not exceeded. Per-well alpha = 0.01.



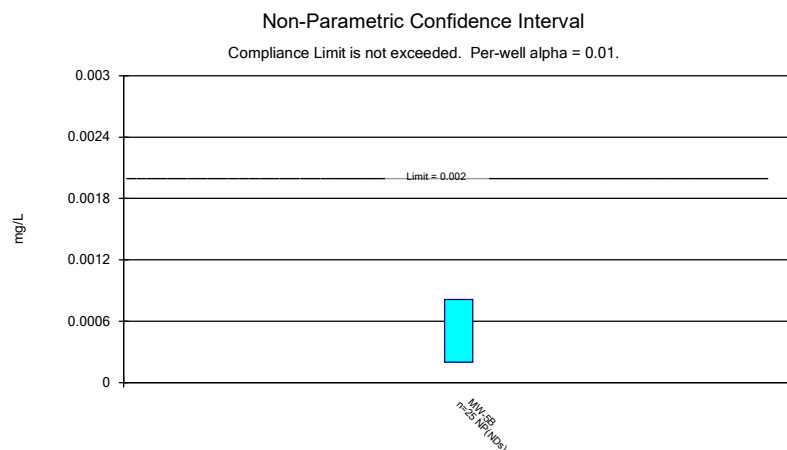
Constituent: Lead Analysis Run 12/9/2025 11:12 AM View: Federal Confidence Intervals
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Non-Parametric Confidence Interval

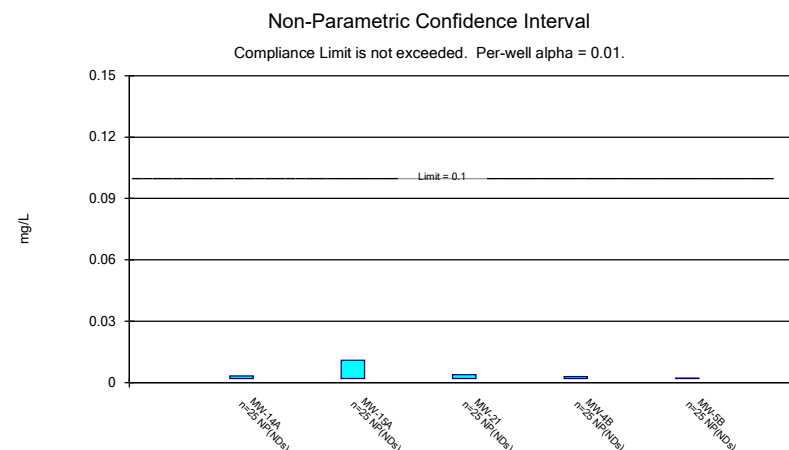
Compliance Limit is not exceeded. Per-well alpha = 0.01.



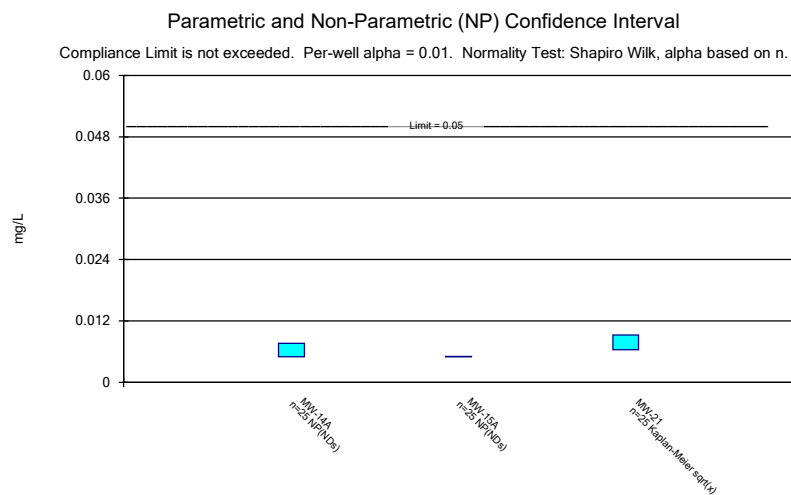
Constituent: Lithium Analysis Run 12/9/2025 11:12 AM View: Federal Confidence Intervals
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



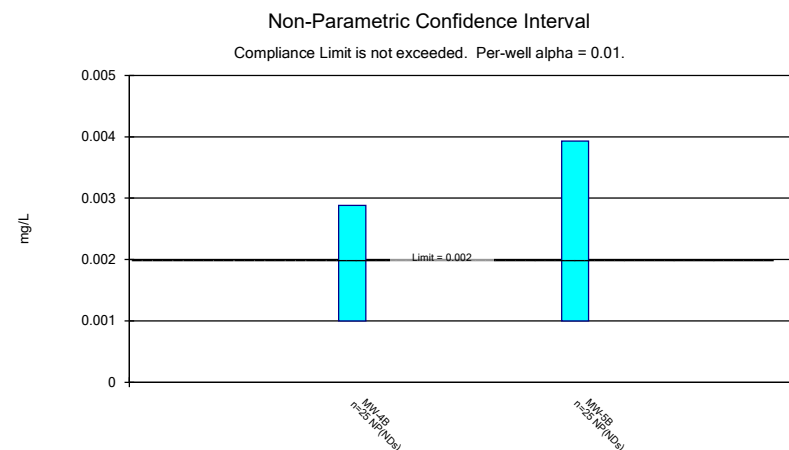
Constituent: Mercury Analysis Run 12/9/2025 11:12 AM View: Federal Confidence Intervals
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Molybdenum Analysis Run 12/9/2025 11:12 AM View: Federal Confidence Intervals
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Selenium Analysis Run 12/9/2025 11:12 AM View: Federal Confidence Intervals
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water



Constituent: Thallium Analysis Run 12/9/2025 11:12 AM View: Federal Confidence Intervals
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

Confidence Interval

Constituent: Barium (mg/L) Analysis Run 12/9/2025 11:13 AM View: Federal Confidence Intervals

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-14A	MW-15A	MW-21	MW-4B	MW-5B	MW-6A
6/6/2016		2.13 (o)				
6/7/2016				0.15	0.331	0.209
6/8/2016	0.0443		0.0573			
8/15/2016	0.0402	0.044	0.0482			
8/16/2016				0.128	0.295	0.199
10/10/2016			0.0606			
10/11/2016	0.0391	0.0426		0.131	0.304	0.196
12/12/2016			0.056	0.139	0.315	0.216
12/14/2016	0.0383	0.0406				
2/17/2017	0.0306	0.0402		0.143		
2/21/2017			0.0735		0.316	0.197
4/17/2017	0.0341	0.0364		0.111	0.296	0.152
4/18/2017			0.0356			
6/20/2017			0.0461	0.133	0.31	
6/21/2017	0.0338	0.0327				0.197
8/7/2017				0.133		
8/8/2017	0.031	0.0338	0.0499		0.3	0.19
3/6/2018			0.0148	0.117	0.341	0.206
3/7/2018	0.0285	0.0352				
6/19/2018			0.0515			
6/20/2018	0.0314	0.0338				
6/21/2018				0.144	0.336	0.222
8/28/2018			0.0622	0.149		
8/29/2018	0.0344	0.0335			0.357	0.206
3/19/2019				0.161	0.326	0.2
3/20/2019	0.0328	0.037	0.0511			
8/7/2019	0.0398	0.047	0.0624	0.147	0.301	0.211
4/7/2020	0.0266	0.0389	0.0352	0.156	0.25	0.216
9/18/2020	0.0328	0.0416	0.0407	0.147	0.239	0.231
4/5/2021	0.0355	0.0365	0.0309	0.169	0.252	0.245
9/1/2021	0.0345	0.0355	0.0434	0.186	0.241	0.248
4/20/2022	0.0327	0.0443	0.036	0.191	0.258	0.249
9/14/2022	0.034	0.0327	0.0447	0.188	0.253	0.229
4/11/2023	0.032	0.0299	0.031			
4/12/2023				0.173	0.237	0.246
9/19/2023	0.0348	0.0338	0.0559			
9/20/2023				0.181	0.274	0.222
4/12/2024			0.031			
4/15/2024	0.0323	0.0353		0.168	0.243	0.235
9/10/2024			0.0555			
9/11/2024	0.0338	0.0335				
9/12/2024				0.184	0.258	0.249
4/16/2025			0.046			
4/17/2025	0.0294	0.03				
4/18/2025				0.157	0.256	0.231
9/9/2025	0.0331		0.0412			
9/10/2025		0.0302		0.175	0.252	0.213
Mean	0.03399	0.03663	0.04643	0.1544	0.2856	0.2166
Std. Dev.	0.003936	0.004778	0.01295	0.02268	0.03721	0.02301
Upper Lim.	0.03595	0.03906	0.05288	0.1657	0.3042	0.2281
Lower Lim.	0.03203	0.03419	0.03997	0.1431	0.2671	0.2051

Confidence Interval

Constituent: Cadmium (mg/L) Analysis Run 12/9/2025 11:13 AM View: Federal Confidence Intervals

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-4B	MW-5B
6/7/2016	<0.0002	<0.0002
8/16/2016	<0.0002	<0.0002
10/11/2016	<0.0002	<0.0002
12/12/2016	<0.0002	<0.0002
2/17/2017	<0.0002	
2/21/2017		<0.0002
4/17/2017	<0.0002	<0.0002
6/20/2017	<0.0002	<0.0002
8/7/2017	<0.0002	
8/8/2017		<0.0002
3/6/2018	<0.0002	<0.0002
6/21/2018	<0.0002	<0.0002
8/28/2018	<0.0002	
8/29/2018		<0.0002
3/19/2019	<0.0002	<0.0002
8/7/2019	<0.0002	<0.0002
4/7/2020	<0.0002	<0.0002
9/18/2020	<0.0002	<0.0002
4/5/2021	<0.0002	<0.0002
9/1/2021	<0.0002	<0.0002
4/20/2022	<0.0002	<0.0002
9/14/2022	<0.0002	<0.0002
4/12/2023	<0.0002	<0.0002
9/20/2023	0.000285	0.000255
4/15/2024	<0.0002	<0.0002
9/12/2024	<0.0002	<0.0002
4/18/2025	<0.0002	<0.0002
9/10/2025	<0.0002	<0.0002
Mean	0.0002034	0.0002022
Std. Dev.	1.7E-05	1.1E-05
Upper Lim.	0.000285	0.000255
Lower Lim.	0.0002	0.0002

Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 12/9/2025 11:13 AM View: Federal Confidence Intervals

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-21
6/8/2016	0.00694
8/15/2016	0.00538
10/10/2016	0.00582
12/12/2016	0.00561
2/21/2017	<0.005
4/18/2017	<0.005
6/20/2017	0.00586
8/8/2017	0.00572
3/6/2018	<0.005
6/19/2018	0.00726
8/28/2018	<0.005
3/20/2019	0.00647
8/7/2019	0.00637
4/7/2020	0.00644
9/18/2020	0.00589
4/5/2021	0.00708
9/1/2021	0.00659
4/20/2022	0.00636
9/14/2022	0.00505
4/11/2023	0.00577
9/19/2023	0.00752
4/12/2024	<0.005
9/10/2024	0.00657
4/16/2025	0.00647
9/9/2025	<0.005
Mean	0.005967
Std. Dev.	0.000794
Upper Lim.	0.00632
Lower Lim.	0.00554

Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 12/9/2025 11:13 AM View: Federal Confidence Intervals

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-4B
6/7/2016	0.000681
8/16/2016	<0.0005
10/11/2016	<0.0005
12/12/2016	<0.0005
2/17/2017	<0.0005
4/17/2017	<0.0005
6/20/2017	<0.0005
8/7/2017	<0.0005
3/6/2018	<0.0005
6/21/2018	<0.0005
8/28/2018	<0.0005
3/19/2019	<0.0005
8/7/2019	<0.0005
4/7/2020	<0.0005
9/18/2020	0.00147
4/5/2021	0.00132
9/1/2021	0.00335
4/20/2022	0.00135
9/14/2022	0.00459
4/12/2023	0.00271
9/20/2023	0.00374
4/15/2024	0.00172
9/12/2024	0.0028
4/18/2025	0.00119
9/10/2025	0.00247
Mean	0.001356
Std. Dev.	0.001215
Upper Lim.	0.00172
Lower Lim.	0.0005

Confidence Interval

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 12/9/2025 11:13 AM View: Federal Confidence Intervals

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-14A	MW-15A	MW-21	MW-4B	MW-5B	MW-6A
6/6/2016		0.31 (U)				
6/7/2016				0.711 (U)	0.665	0.405
6/8/2016	0.145 (U)		0.253 (U)			
8/15/2016	0.202 (U)	0.251 (U)	0.159 (U)			
8/16/2016				0.938 (U)	0.854	0.876
10/10/2016			0.817			
10/11/2016	0.523	0.286 (U)		0.674	0.428 (U)	0.512
12/12/2016			0.306 (U)	0.672	1.05	0.894
12/14/2016	0.26 (U)	0.251 (U)				
2/17/2017	0.293 (U)	0.103 (U)		0.528		
2/21/2017			-0.000573 (U)		0.85	0.314 (U)
4/17/2017	0.48	0.0966 (U)		0.309 (U)	1.02	0.298 (U)
4/18/2017			0.0953 (U)			
6/20/2017			0.545	0.368	0.973	
6/21/2017	0.0131 (U)	0.221 (U)				0.44
8/7/2017				0.443		
8/8/2017	0.456	0.244 (U)	0.814		0.507	0.333 (U)
3/6/2018			0.358	0.45	0.959	0.618
3/7/2018	0.258 (U)	0.123 (U)				
3/19/2019				0.436	0.568	0.481
3/20/2019	0.0223 (U)	0.391 (U)	0.287 (U)			
4/7/2020	0.397 (U)	0.645	0.305 (U)	0.354 (U)	1.2	0.787
4/5/2021	0.614	0.219 (U)	0.182 (U)	0.0519 (U)	0.982	0.667
9/1/2021	0.684	0.362 (U)	0.499	1.08	1.29	1.12
4/20/2022	0.0486 (U)	0.0289 (U)	0.171 (U)	0.55 (U)	0.913	0.901
9/14/2022	0.0843 (U)	-0.159 (U)	-0.0783 (U)	0.836	0.363 (U)	0.599
4/11/2023	0.0651 (U)	0.727	0.678			
4/12/2023				0.687	0.556	0.695
9/19/2023	0.57	0.118 (U)	0.497 (U)			
9/20/2023				0.575 (U)	1.15	0.916
4/12/2024			0.0684 (U)			
4/15/2024	1.02	0.157 (U)		0.663	1.23	0.522
9/10/2024			0.275 (U)			
9/11/2024	0.343 (U)	0.34 (U)				
9/12/2024				1.3	1.57	0.876
4/16/2025			0.0027 (U)			
4/17/2025	0.683	0.428 (U)				
4/18/2025				0.0743 (U)	1.11	0.504 (U)
9/9/2025	1.54		1.13			
9/10/2025		0.626		0.952	1.17	1.33
Mean	0.4144	0.2747	0.3506	0.6025	0.9242	0.6709
Std. Dev.	0.3692	0.2115	0.31	0.3088	0.3141	0.2758
Upper Lim.	0.5445	0.3914	0.5217	0.7728	1.097	0.823
Lower Lim.	0.1773	0.158	0.1796	0.4322	0.7509	0.5187

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 12/9/2025 11:13 AM View: Federal Confidence Intervals

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-14A	MW-15A	MW-21	MW-4B	MW-5B	MW-6A
6/6/2016		<1				
6/7/2016				<1	<1	<1
6/8/2016	<1		<1			
8/15/2016	<1	0.549	<1			
8/16/2016				<1	<1	<1
10/10/2016			<1			
10/11/2016	0.867	<1		<1	<1	<1
12/12/2016			<1	<1	1.88	2.02
12/14/2016	<1	<1				
2/17/2017	<1	<1		0.664		
2/21/2017			0.993		2.14	1.89
4/17/2017	1.93 (o)	6.7 (o)		0.801	0.627	0.814
4/18/2017			0.768			
6/20/2017			<1	<1	<1	
6/21/2017	<1	<1				<1
8/7/2017				<1		
8/8/2017	<1	<1	<1		<1	<1
10/16/2017			<1	<1		
10/17/2017	<1	<1			<1	<1
3/6/2018			<1	<1	<1	<1
3/7/2018	<1	<1				
6/19/2018			<1			
6/20/2018	0.684	<1				
6/21/2018				<1	<1	<1
8/28/2018			<1	<1		
8/29/2018	<1	<1			<1	<1
3/19/2019				0.771	<1	<1
3/20/2019	<1	0.523	<1			
8/7/2019	<1	0.625	<1	0.525	<1	0.535
4/7/2020	<1	<1	<1	<1	<1	0.652
9/18/2020	<1	<1	<1	<1	<1	<1
4/5/2021	<1	0.516	<1	<1	<1	<1
9/1/2021	<1	<1	<1	<1	<1	<1
4/20/2022	<1	<1	<1	<1	<1	<1
9/14/2022	<1	<1	<1	<1	<1	<1
4/11/2023	<1	<1	<1			
4/12/2023				<1	<1	<1
9/19/2023	<1	<1	<1			
9/20/2023				<1	<1	<1
4/12/2024			<1			
4/15/2024	<1	<1		<1	<1	<1
9/10/2024			<1			
9/11/2024	<1	<1				
9/12/2024				<1	<1	<1
4/16/2025			0.154			
4/17/2025	0.262	0.257				
4/18/2025				0.268	0.193	0.303
9/9/2025	0.261		0.174			
9/10/2025		0.293		0.274	0.173	0.273
Mean	0.923	0.8705	0.9265	0.8963	1.001	0.9803
Std. Dev.	0.2102	0.2448	0.229	0.2203	0.3767	0.3583
Upper Lim.	1	1	1	1	1.88	1

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 12/9/2025 11:13 AM View: Federal Confidence Intervals
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-14A	MW-15A	MW-21	MW-4B	MW-5B	MW-6A
Lower Lim.	0.867	0.625	0.993	0.801	0.627	0.814

Confidence Interval

Constituent: Lead (mg/L) Analysis Run 12/9/2025 11:13 AM View: Federal Confidence Intervals

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-21	MW-4B	MW-5B
6/7/2016		0.00147 (o)	<0.0005
6/8/2016	<0.0005		
8/15/2016	<0.0005		
8/16/2016		<0.0005	<0.0005
10/10/2016	<0.0005		
10/11/2016		<0.0005	<0.0005
12/12/2016	<0.0005	<0.0005	<0.0005
2/17/2017		<0.0005	
2/21/2017	<0.0005		<0.0005
4/17/2017		<0.0005	<0.0005
4/18/2017	<0.0005		
6/20/2017	<0.0005	<0.0005	<0.0005
8/7/2017		<0.0005	
8/8/2017	<0.0005		<0.0005
3/6/2018	<0.0005	<0.0005	<0.0005
6/19/2018	0.000633		
6/21/2018		<0.0005	<0.0005
8/28/2018	<0.0005	<0.0005	
8/29/2018			<0.0005
3/19/2019		<0.0005	<0.0005
3/20/2019	<0.0005		
8/7/2019	<0.0005	<0.0005	<0.0005
4/7/2020	<0.0005	<0.0005	<0.0005
9/18/2020	<0.0005	0.000532	<0.0005
4/5/2021	<0.0005	<0.0005	<0.0005
9/1/2021	<0.0005	<0.0005	<0.0005
4/20/2022	<0.0005	<0.0005	<0.0005
9/14/2022	<0.0005	<0.0005	<0.0005
4/11/2023	<0.0005		
4/12/2023		<0.0005	<0.0005
9/19/2023	<0.0005		
9/20/2023		0.000576	0.000627
4/12/2024	<0.0005		
4/15/2024		<0.0005	<0.0005
9/10/2024	<0.0005		
9/12/2024		<0.0005	<0.0005
4/16/2025	<0.0005		
4/18/2025		<0.0005	<0.0005
9/9/2025	<0.0005		
9/10/2025		<0.0005	<0.0005
Mean	0.0005053	0.0005045	0.0005051
Std. Dev.	2.66E-05	1.657E-05	2.54E-05
Upper Lim.	0.000633	0.000532	0.000627
Lower Lim.	0.0005	0.0005	0.0005

Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 12/9/2025 11:13 AM View: Federal Confidence Intervals

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-21
6/8/2016	<0.01
8/15/2016	<0.01
10/10/2016	<0.01
12/12/2016	<0.01
2/21/2017	<0.01
4/18/2017	<0.01
6/20/2017	<0.01
8/8/2017	<0.01
3/6/2018	<0.01
6/19/2018	0.0189
8/28/2018	<0.01
3/20/2019	0.0277
8/7/2019	0.0279
4/7/2020	0.0213
9/18/2020	0.0225
4/5/2021	0.0198
9/1/2021	0.0233
4/20/2022	0.0162
9/14/2022	0.018
4/11/2023	0.0143
9/19/2023	0.0205
4/12/2024	0.0124
9/10/2024	0.0194
4/16/2025	0.0185
9/9/2025	0.0121
Mean	0.01571
Std. Dev.	0.005972
Upper Lim.	0.0198
Lower Lim.	0.01

Confidence Interval

Constituent: Mercury (mg/L) Analysis Run 12/9/2025 11:13 AM View: Federal Confidence Intervals
Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-5B
6/7/2016	<0.0002
8/16/2016	<0.0002
10/11/2016	<0.0002
12/12/2016	<0.0002
2/21/2017	<0.0002
4/17/2017	<0.0002
6/20/2017	<0.0002
8/8/2017	<0.0002
3/6/2018	<0.0002
6/21/2018	<0.0002
8/29/2018	<0.0002
3/19/2019	<0.0002
8/7/2019	<0.0002
4/7/2020	<0.0002
9/18/2020	<0.0002
4/5/2021	<0.0002
9/1/2021	<0.0002
4/20/2022	<0.0002
9/14/2022	0.000813
4/12/2023	<0.0002
9/20/2023	<0.0002
4/15/2024	<0.0002
9/12/2024	<0.0002
4/18/2025	<0.0002
9/10/2025	<0.0002
Mean	0.0002245
Std. Dev.	0.0001226
Upper Lim.	0.000813
Lower Lim.	0.0002

Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 12/9/2025 11:13 AM View: Federal Confidence Intervals

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-14A	MW-15A	MW-21	MW-4B	MW-5B
6/6/2016		<0.002			
6/7/2016				<0.002	<0.002
6/8/2016	<0.002		<0.002		
8/15/2016	<0.002	<0.002	<0.002		
8/16/2016				<0.002	<0.002
10/10/2016			<0.002		
10/11/2016	<0.002	<0.002		<0.002	<0.002
12/12/2016			<0.002	<0.002	<0.002
12/14/2016	<0.002	<0.002			
2/17/2017	<0.002	<0.002		<0.002	
2/21/2017			<0.002		<0.002
4/17/2017	<0.002	<0.002		<0.002	<0.002
4/18/2017			<0.002		
6/20/2017			<0.002	<0.002	<0.002
6/21/2017	<0.002	<0.002			
8/7/2017				<0.002	
8/8/2017	<0.002	<0.002	<0.002		<0.002
3/6/2018			<0.002	<0.002	<0.002
3/7/2018	<0.002	<0.002			
6/19/2018			0.00383		
6/20/2018	<0.002	<0.002			
6/21/2018				<0.002	<0.002
8/28/2018			<0.002	<0.002	
8/29/2018	<0.002	<0.002			<0.002
3/19/2019				<0.002	0.00212
3/20/2019	<0.002	<0.002	<0.002		
8/7/2019	<0.002	<0.002	<0.002	<0.002	<0.002
4/7/2020	<0.002	<0.002	<0.002	<0.002	<0.002
9/18/2020	<0.002	<0.002	<0.002	0.00296	<0.002
4/5/2021	<0.002	<0.002	<0.002	<0.002	<0.002
9/1/2021	<0.002	<0.002	<0.002	<0.002	<0.002
4/20/2022	<0.002	<0.002	<0.002	<0.002	<0.002
9/14/2022	<0.002	<0.002	<0.002	<0.002	<0.002
4/11/2023	<0.002	<0.002	<0.002		
4/12/2023				<0.002	<0.002
9/19/2023	<0.002	<0.002	<0.002		
9/20/2023				<0.002	<0.002
4/12/2024			<0.002		
4/15/2024	<0.002	<0.002		<0.002	<0.002
9/10/2024			<0.002		
9/11/2024	<0.002	<0.002			
9/12/2024				<0.002	<0.002
4/16/2025			<0.002		
4/17/2025	0.00322	0.0109			
4/18/2025				<0.002	<0.002
9/9/2025	<0.002		<0.002		
9/10/2025		<0.002		<0.002	<0.002
Mean	0.002049	0.002356	0.002073	0.002038	0.002005
Std. Dev.	0.000244	0.00178	0.000366	0.000192	2.4E-05
Upper Lim.	0.00322	0.0109	0.00383	0.00296	0.00212
Lower Lim.	0.002	0.002	0.002	0.002	0.002

Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 12/9/2025 11:13 AM View: Federal Confidence Intervals

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-14A	MW-15A	MW-21
6/6/2016		<0.005	
6/8/2016	0.0071		0.0165
8/15/2016	0.00811	<0.005	0.0103
10/10/2016			0.0137
10/11/2016	0.00821	<0.005	
12/12/2016			0.0119
12/14/2016	0.00834	<0.005	
2/17/2017	0.00752	<0.005	
2/21/2017			0.0074
4/17/2017	0.00823	<0.005	
4/18/2017			0.00674
6/20/2017			0.0106
6/21/2017	0.00829	<0.005	
8/8/2017	0.00759	<0.005	0.0109
3/6/2018			<0.005
3/7/2018	<0.005	0.00502	
6/19/2018			0.00939
6/20/2018	0.00739	<0.005	
8/28/2018			<0.005
8/29/2018	0.00827	<0.005	
3/20/2019	0.00569	<0.005	0.0102
8/7/2019	<0.005	<0.005	0.0108
4/7/2020	<0.005	<0.005	0.00632
9/18/2020	<0.005	<0.005	0.00762
4/5/2021	<0.005	<0.005	<0.005
9/1/2021	<0.005	<0.005	0.00617
4/20/2022	<0.005	<0.005	0.00634
9/14/2022	<0.005	<0.005	<0.005
4/11/2023	<0.005	<0.005	<0.005
9/19/2023	<0.005	<0.005	0.0053
4/12/2024			<0.005
4/15/2024	<0.005	<0.005	
9/10/2024			0.00666
9/11/2024	<0.005	<0.005	
4/16/2025			0.00832
4/17/2025	<0.005	<0.005	
9/9/2025	<0.005		<0.005
9/10/2025		<0.005	
Mean	0.00619	0.005001	0.008006
Std. Dev.	0.001463	4E-06	0.003151
Upper Lim.	0.00759	0.00502	0.009244
Lower Lim.	0.005	0.005	0.006363

Confidence Interval

Constituent: Thallium (mg/L) Analysis Run 12/9/2025 11:13 AM View: Federal Confidence Intervals

Muscatine Power & Water Client: GHD Data: Muscatine Power & Water

	MW-4B	MW-5B
6/7/2016	<0.001	<0.001
8/16/2016	<0.001	<0.001
10/11/2016	<0.001	<0.001
12/12/2016	<0.001	<0.001
2/17/2017	<0.001	
2/21/2017		<0.001
4/17/2017	<0.001	<0.001
6/20/2017	<0.001	<0.001
8/7/2017	<0.001	
8/8/2017		<0.001
3/6/2018	<0.001	<0.001
6/21/2018	<0.001	<0.001
8/28/2018	<0.001	
8/29/2018		<0.001
3/19/2019	<0.001	<0.001
8/7/2019	<0.001	<0.001
4/7/2020	<0.001	<0.001
9/18/2020	<0.001	<0.001
4/5/2021	<0.001	<0.001
9/1/2021	<0.001	<0.001
4/20/2022	<0.001	<0.001
9/14/2022	<0.001	<0.001
4/12/2023	0.00288	0.00393
9/20/2023	0.003	0.00442
4/15/2024	<0.001	<0.001
9/12/2024	<0.001	<0.001
4/18/2025	<0.001	<0.001
9/10/2025	<0.001	<0.001
Mean	0.001155	0.001254
Std. Dev.	0.0005374	0.000882
Upper Lim.	0.00288	0.00393
Lower Lim.	0.001	0.001

