



2025 Annual Water Quality Report, Leachate Control System Performance Evaluation Report, and Landfill Inspection Report

Cargill Sweeteners - North America - CCR Landfill
Solid Waste Permit No. 62-SDP-04-89C

Prepared for:

Cargill Corn Milling, Inc.

SCS ENGINEERS

27225040.00 | November 2025

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CERTIFICATION

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	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.	
	<u></u>	Date: <u>11/21/2025</u>
	Timothy C. Buelow, P.E.	
	License No. 14445	
	My license renewal date is December 31, 2025.	
Pages or sheets covered by this seal:		
<u>All except Appendix B-1.</u>		
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EXECUTIVE SUMMARY

ES.1 PERIOD OF REPORT COVERAGE

SCS Engineers (SCS), on behalf of Cargill Corn Milling, Inc., has completed the required groundwater sampling and analysis of the Cargill Sweeteners North America Coal Combustion Residue (CCR) Landfill (Landfill). The purpose of this AWQR is to document and statistically evaluate the groundwater sampling results since the 2024 AWQR up to and including the 2025 annual sampling event. This AWQR was prepared in accordance with the requirements of Iowa Administrative Code (IAC) 567-103, the site permit, and current requirements for implementation of the Hydrologic Monitoring System Plan (HMSP).

ES.2 REPORT PRIORITY

The following summarizes report priorities associated with groundwater compliance at the Landfill:

- Department review urgency: None.
- Department review impact on rules schedule: In the DNR site visit report dated July 23, 2025 (Doc # 113517), DNR stated a revised permit would be issued to reduce the frequency of inspections to semi-annually. To date, that revised permit has not been received.
- Actions or activities on hold pending Department review or comment: None.
- Actions and/or permit amendments needed: None.

ES.3 SITE STATUS AND APPLICABLE RULES

- Landfill Status: Closed, Closure Permit
- Types of waste previously accepted: Coal Combustion Residue (CCR) and Gypsum Waste
- Applicable IAC rules: 567-103

ES.4 COMMENTS

The following summarizes points of special emphasis:

- Samples for geochemical analyses were not collected from the planned leachate manholes or the groundwater underdrains due to insufficient water or lack of flow. Therefore, geochemical comparisons for these more critical points could not be adequately performed, however, data from past sampling events was incorporated into the geochemical evaluation in Section 5.3. Consequently, further sampling will be needed from the underdrains and leachate collection systems from the respective fill areas to determine if the underdrains and monitoring wells are being impacted by past mining-related activities, landfill leachate, or other source(s). During 2026, additional manholes will be considered for geochemical sampling in order to increase the possibility of obtaining leachate samples.
- In response to the “Leachate System” Item of the DNR comment email for the 2024 AWQR dated October 9, 2025 (Doc # 114443), Leachate head levels have only been measured once a year during sampling since at least the 2014 AWQR. Special Provision 8.d. of the landfill permit says “Leachate head levels and elevations shall be measured regularly at all piezometers/manholes and the volume of leachate collected and transported to the treatment works recorded.” To our knowledge, DNR has not commented or provided further

direction on the collection of leachate levels until now. If a change in frequency of leachate level measurements is required, we request that the required frequency be incorporated into the landfill permit. Leachate measurements were obtained in October 2025 in addition to the sampling event in May 2025 and displayed little to no variation. The two sets of leachate level measurements are included in Table H1.

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1.0 ACRONYMS/ABBREVIATIONS

AL = Action Level
CCV = Continuing Calibration Verification
CL = Control Limit - Mean plus Two Standard Deviations (+/- for pH)
DNR = Iowa Department of Natural Resources
DO = Dissolved Oxygen
GWPS = Groundwater Protection Standard
GWQAP = Groundwater Quality Assessment Plan
LEL = Lower Explosive Limit
LCL = Lower Confidence Limit
LCS = Laboratory Control Sample
LN = Lognormal
M+/-2SD = Mean Plus/Minus Two Standard Deviations
MCL = EPA Maximum Contaminant Level
MDL = Method Detection Limit
N = Normal
NC = No Change
NM = Not Measured
ORP = Oxidation-Reduction Potential
PL = Prediction Limit
QA = Quality Assurance
QC = Quality Control
RL = Reporting Limit
SWS = DNR Statewide Standard for a Protected Groundwater Source
SSI = Statistically Significant Increase Above Background
SSL = Statistically Significant Level Above Groundwater Protection Standard
SSS = Site-Specific Standard (Site-Specific GWPS)
TSS = Total Suspended Solids
UCL = Upper Confidence Limit

2.0 SITE BACKGROUND

2.1 SITE LOCATION

The Cargill Sweeteners North America Coal Combustion Residue CCR Landfill (Landfill) is depicted on **Figure 1**, Approved Monitoring Network. The Landfill property is located approximately 6.5 miles northwest of the City of Eddyville, Iowa. The legal description is as follows: SW $\frac{1}{4}$, NE $\frac{1}{4}$, and NW $\frac{1}{4}$, SE $\frac{1}{4}$, Section 30, Township 74 North, Range 16 West, Mahaska County, Iowa.

2.2 FACILITY

The site was originally the location of an open pit coal mine, operated by a previous owner. The east walls of the pit are shale bedrock, and spoils are deposited along the west side. An abandoned underground coal tunnel-mine is also located on the property.

Landfilling of CCR and gypsum waste was initiated in 1990 at two separate locations at the site; the North Landfill (CCR) and the West Landfill (Gypsum) units. It should be noted that lime sludge was also deposited in the North Landfill and CCR was also deposited in the West Landfill. The two landfill units were initially regulated under separate permits. Disposal operations in the West Landfill and North Landfill were discontinued in 1991 and 2000, respectively. Landfill cover was then applied and both units were maintained under interim status. The West Landfill unit was reopened and accepted CCR from January 2014 through January 2017. Closure of both landfill units was completed in early 2024 and a closure permit was issued by DNR on July 12, 2024.

2.3 GEOLOGY OF THE SITE

The following information pertaining to this section was obtained from the *Hydrogeologic Investigation Report* prepared by H. R. Green Company, October 1989:

The upland divides are covered by a soil derived from thick loess. (Ladoga Silt Loam). This loess thins on the upper sideslopes (Clinton Silt Loam), grading into a shale-derived soil (Gosport Silt Loam) on the lower sideslopes, with alluvium-derived soils (Humeston Silt Loam) in the bottoms. This is a typical soil association for steep hillsides eroded into shale with only a minor glacial till component between the loess cap and shale bedrock.

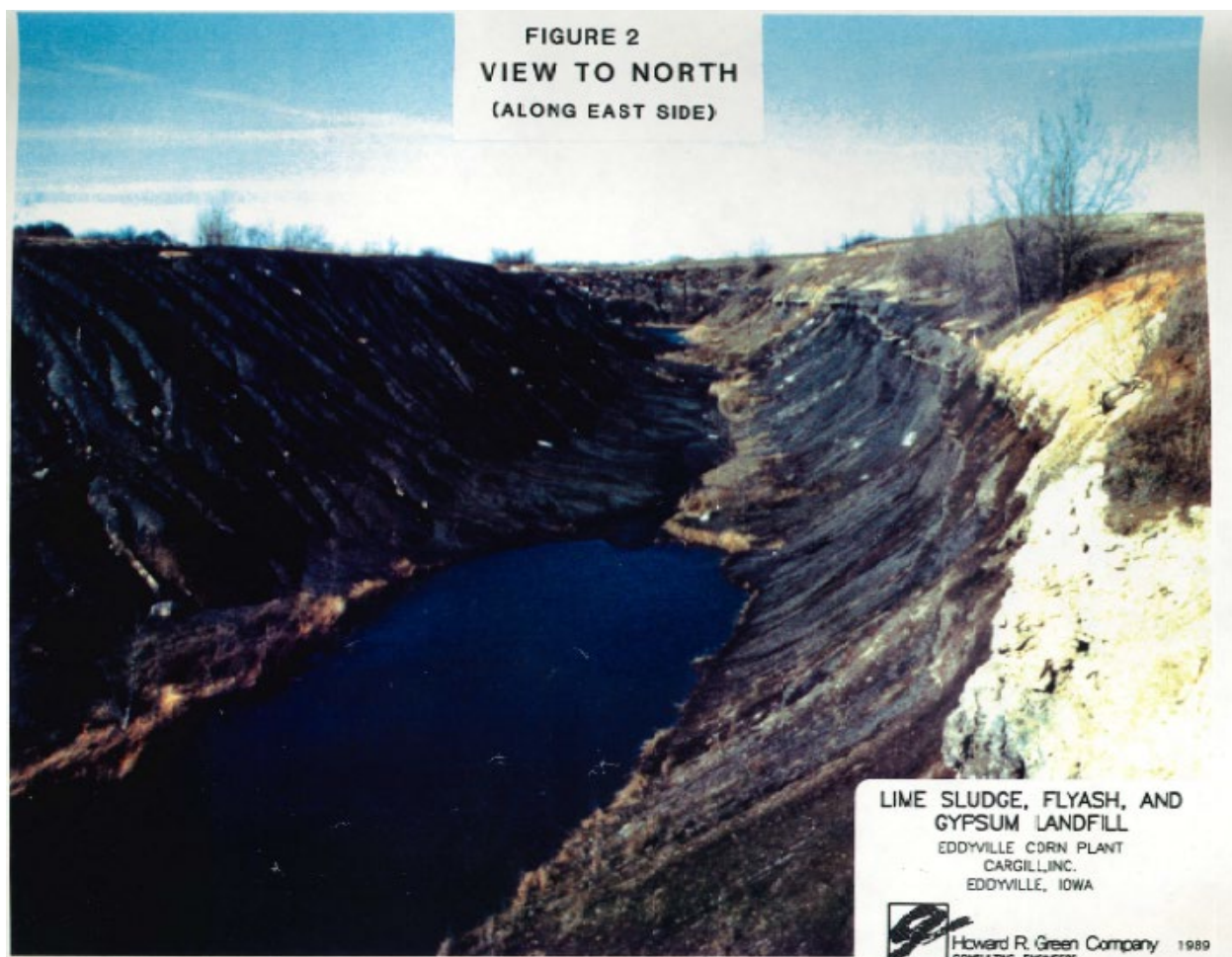
Numerous roadcuts and strip mines in the area indicate that the total Pleistocene cover of unconsolidated sediment is quite thin and that the ridge and valley topography of much of the area is generally a reflection of the configuration of the bedrock surface.

The uppermost bedrock of the area is Pennsylvanian Age – Cherokee Group cyclothemic deposits which includes shales, siltstones, sandstones, coals and sometimes thin limestone. Because of the repetitive nature of the cyclothems, the internal stratigraphy of the Cherokee Group is still largely unresolved. However, because the site is near the eastern edge of the Cherokee subcrop and the regional dip is toward the southwest, the site is probably in the lower part of the Cherokee package. Exposures in the mine headwall show the upper bedrock to be predominantly a dense organic rich black shale; overlain by a thin sandstone and multicolored shales; and underlain by a coal seam. A geologic profile of the east side

of the headwall exposure is illustrated on Figure 9, as exposed in the foreground of Figure 2 (photograph).

The Mississippian Aquifer is the first bedrock aquifer beneath the site (Horick and Steinhilber, 1973). In this area, the aquifer is approximately 400 feet thick, dominated by limestone and dolomite lithologies and containing minor siltstone, shale and traces of gypsum. The top of the aquifer, below the Cargill site, is contoured at 600 feet elevation. Our soil borings indicate that the mining operation extended to an elevation of about 710 feet elevation on the west side of the property (details to follow), providing about 110 feet of Pennsylvanian Aquitard between the bottom of the strip mine and the top of the Mississippian Aquifer.

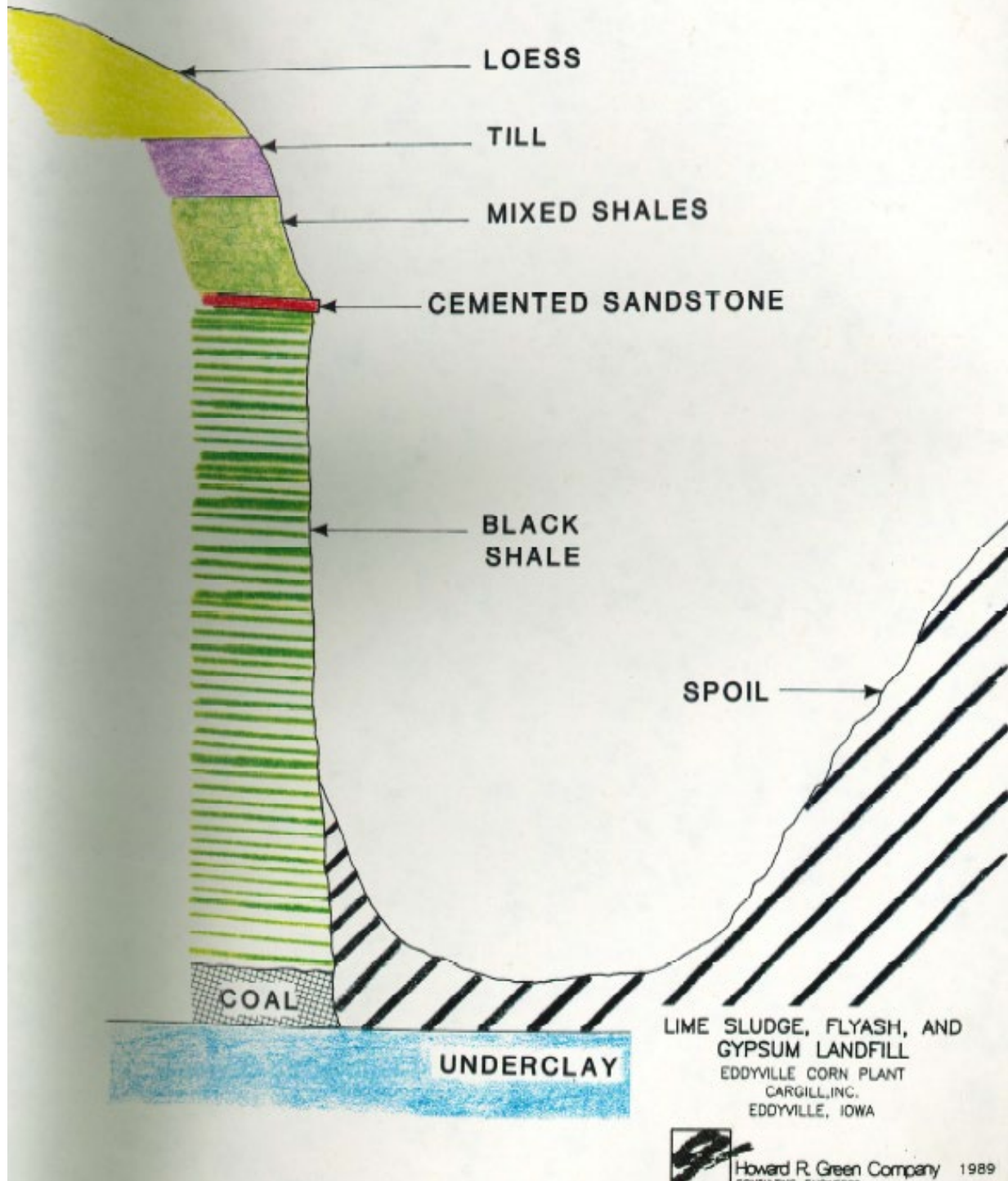
Copies of Figures 2 and 9 referenced above are included below.



For explanation, the headwall is shown on the right side of the photograph and mine spoils are shown on the left side of the photograph.

FIGURE 9

GEOLOGIC PROFILE IN HEADWALL



The following additional information was obtained from the CCR Waste Disposal Area Supplemental Sampling Work Plan Gypsum/Fly Ash Landfill prepared by Howard R. Green Company, March 29, 2007.

The two Cargill landfills areas under consideration in this Work Plan were constructed within an area formerly occupied by an abandoned tunnel/strip mine site. Tunnel mining (Thompson Mine) was being practiced on this site in the 1930s, and continued until at least 1942. Historical records are unclear, but it is known strip mining (currently known as the McGlothlen Abandoned Mine Land by the Iowa Department of Agriculture and Land Stewardship (IDALS) occurred subsequent to the demise of the tunnel mines, likely from the mid-1950s to the mid-1970s. As strip mining progressed across the site from west to east, the high-wall (bedrock outcrop) was exposed along the easterly boundary of the two landfill areas. The high-wall was left exposed along the easterly boundary of what is the current fly ash cell, and at the old tunnel mine areas easterly of what is the former gypsum fill cell. As strip mining progressed, shale-derived mine spoils were chaotically pushed westward, behind the active mining operation. These spoils remain today within the landfill areas, and form a ridge along the westerly edge of the landfill cells.

2.4 HYDROLOGY OF THE SITE

The following information pertaining to this section was obtained from the Hydrogeologic Investigation Report prepared by H. R. Green Company, October 1989:

In this shallow upland system, the groundwater flow directions are clearly patterned after the surface water drainage. Since the excavation of the strip mine, which created free drainage to the headwall cuts, the shallow groundwater divide beneath the ridge crest has probably shifted a few tens of feet to the east and south. A few damp spots could be found along the basal loess outcrops in the east highwall in November, 1988. In wet years these would be expected to expand laterally and become an extensive damp zone, evaporating slow groundwater discharge.

Groundwater piezometry for the Cargill site, for early 1989, is illustrated on Figure 36. Data is combined from monitoring wells plus available ponds and seeps. Note that the gradients are very steep across the property, indicating low permeability materials. The steepest gradients are near the northeast edge, where the upper geologic units have been completely stripped away in the highwall. This forms an exceedingly "impermeable" boundary because groundwater flow evaporates at the face of the highwall and cannot continue to flow at the upper levels. However, the gradient and minor flow continues down and northwestward through the shales below. The gradient is more gentle through the spoil area in the north-central part of the site because the spoils are made from crushed shale and are somewhat more permeable. The most gentle gradients are in the southeast corner of the property where still more permeable loess ($k \sim 10^{-4}$ cm/sec) permits more rapid lateral flow of groundwater. Overall, the shallow groundwater flow system is still northwestward toward the valley of Little Bluff Creek.

The following information pertaining to this section was obtained from the CCR Landfill 2023 Annual Water Quality Report prepared by HR Green, Inc., November 30, 2023.

The groundwater flow directions at the site reflect surface topography. Overall, the shallow groundwater flow system is west-northwest toward the valley of Little Bluff Creek, which is likely unchanged from the pre-mining times. Excavation of the strip mine created free drainage of the high wall cuts resulting in a shifting of the shallow groundwater divide beneath the ridge crest toward the east and south, though this shift has been somewhat mitigated by subsequent filling.

The following information pertaining to this section was obtained from the CCR Waste Disposal Area Supplemental Sampling Work Plan Gypsum/Fly Ash Landfill prepared by Howard R. Green Company, March 29, 2007.

The Mississippian Aquifer is the first bedrock aquifer occurring beneath the Pennsylvanian formation. The potentiometric surface of this aquifer indicates a strong upward hydraulic gradient, which serves as added protection to the aquifer below. The aquifer is separated from the surficial deposits in most places by an aquiclude of Pennsylvanian shales.

3.0 FIGURES DISCUSSION

The following figures are attached.

3.1 FIGURE 1 – APPROVED MONITORING NETWORK

The Landfill property and hydrological monitoring system plan (HMSP) network is depicted in **Figure 1**. **Figure 1** indicates the locations of each monitoring well.

3.2 FIGURE 2 – GROUNDWATER CONTOURS

A groundwater contour map based on water levels measured in the monitoring wells during the May 2025 groundwater sampling event is included as **Figure 2**. **Figure 2** indicates a generally westerly flow direction through the North Fill Area and a generally northwesterly flow direction through the West Fill Area. Potential influence from the groundwater underdrains was not considered as the groundwater underdrains were either dry or very minimally flowing at the time of groundwater level measurements, indicating that the groundwater underdrains were likely having very limited influence on groundwater levels at that time.

4.0 QA/QC SUMMARY

Date indicates the date(s) of sampling.

4.1 MAY 28, 2025 (2025 ANNUAL SAMPLING EVENT)

Based on the QA review, no samples were rejected as unusable due to QC failures. In general, the quality of the analytical data for this reporting period does not appear to have been compromised by analytical irregularities, and results affected by QC anomalies are qualified with the appropriate data flags, which are listed in the laboratory report in **Appendix B-1**. Data validation documentation can be found in **Appendix B-2**.

5.0 DATA EVALUATION

Statistical analysis in accordance with the requirements of IAC 567-103, the closure permit, and subsequent permit amendments and correspondence were conducted for the groundwater analytical data collected during the 2025 annual sampling event. The statistical evaluation for samples collected during the 2025 annual sampling event is located in **Appendix D** of this report.

5.1 DATA EVALUATION

Groundwater monitoring for the Landfill consists of samples from two background monitoring wells located on the northwest and southeast corners of the Landfill property and from six compliance monitoring wells, four located west of the North Landfill Unit and two located west of the West Landfill Unit. Monitoring for the landfill also consists of samples collected from groundwater underdrains, one for the North Landfill Unit (Fly Ash North #002) and one for the West Landfill Unit (Gypsum West #005), as well as from the Tunnel Mine Drain (#004) which exits from the West Landfill Unit.

There were six intrawell prediction limit exceedances detected based on 2025 sampling results as listed in **Table 1**. A majority of the prediction limit exceedances detected based on 2025 sampling results were attributed to monitoring wells MW-8 and MW-10. The monitoring well MW-8 exceedances appear attributable to a total suspended solids influence.

Based on a review of concentrations listed in the Summary of Groundwater Chemistry in **Appendix C**, exceedances of action or advisory levels were largely associated with cobalt, lithium, and manganese as listed in **Table 9**.

Cobalt, lithium, and manganese have generally exceeded the established regulatory action or advisory levels at most monitoring wells associated with the North Landfill Unit since sampling for these constituents began, including background monitoring well MW-26. Lithium, and only occasionally manganese, have generally exceeded the established regulatory action or advisory levels at most monitoring wells associated with the West Landfill Unit since sampling for these constituents began, including background monitoring well MW-6 for lithium.

5.2 TRENDING IN MONITORING WELLS

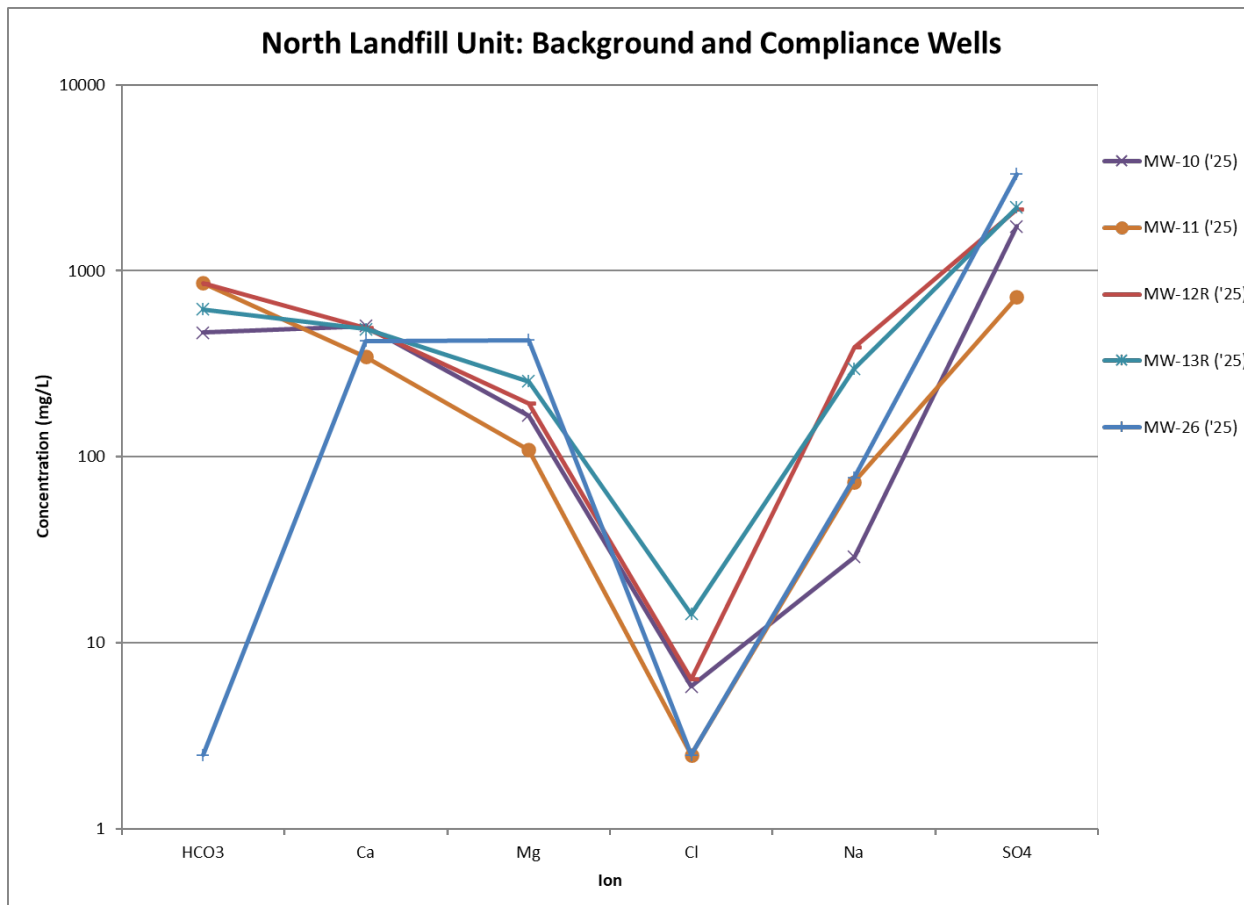
Trend analysis conducted at a 99% confidence level ($\alpha=0.01$) for the groundwater monitoring wells / constituent pairs that were identified as intrawell prediction limit exceedances indicated no statistically significant trends were present in the data sets during this reporting period. The trend analysis is included in **Appendix D, Attachment D**.

5.3 GEOCHEMICAL EVALUATION

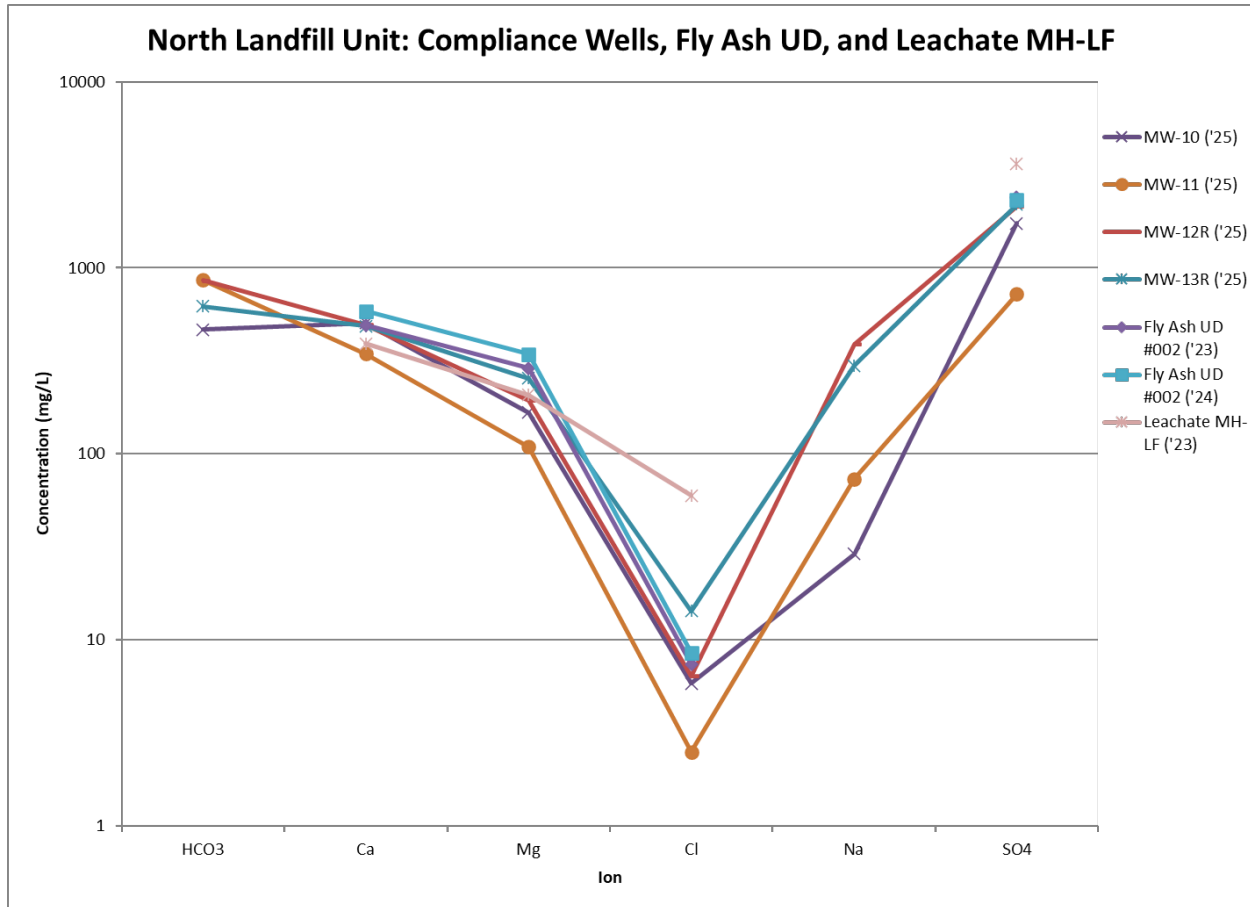
Comparisons of intrawell prediction limits and geochemical parameters are believed to be better methods for determining whether a release from the landfill units is occurring at this site. With the exception of background monitoring well MW-6, all site monitoring wells are believed to be located in and/or screened in areas of previous mining and/or mining spoil deposits as evidenced by the pictures and figures contained in the Hydrogeologic Investigation Report prepared by H. R. Green Company, dated October 1989, and presented in the 2024 AWQR.

Geochemical parameters were collected from background and compliance monitoring wells and the tunnel mine discharge (#004) in spring 2025. Samples could not be obtained from the underdrains

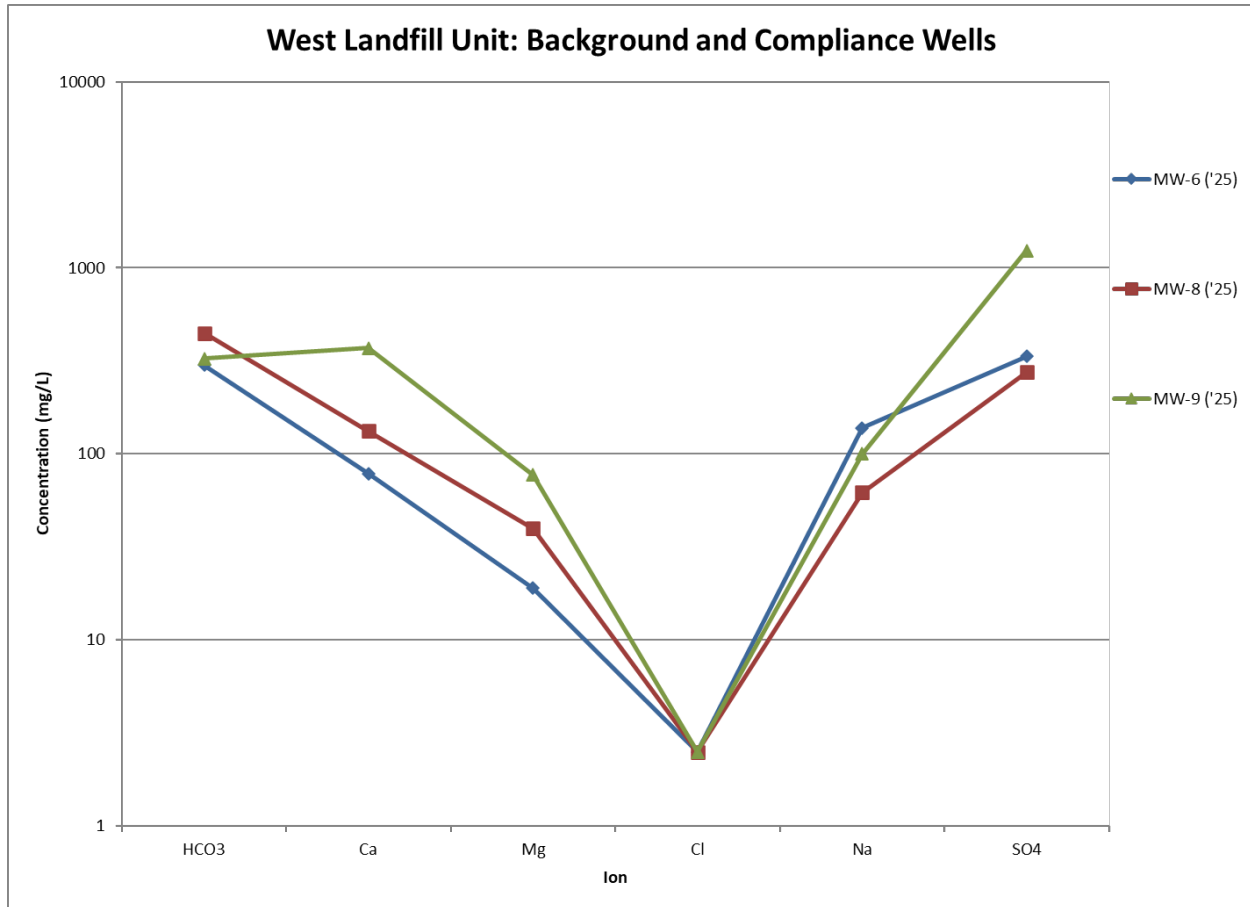
and the respective leachate manholes for the two different fill areas due to insufficient water. The geochemical parameters collected in 2025 were compared to incomplete geochemical parameters collected from the underdrains in 2023 and 2024 and leachate collection point MH-LF in 2023 in the following figures.



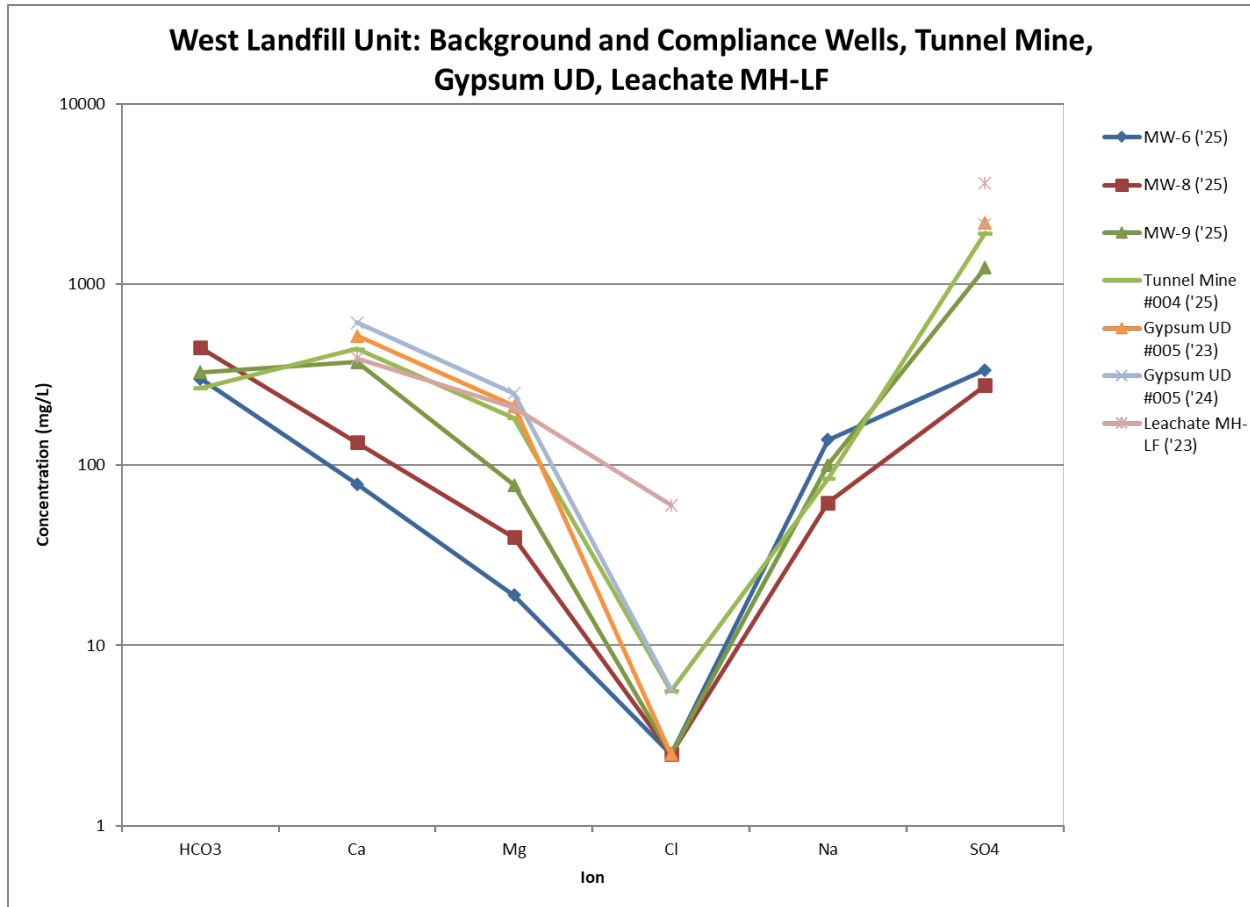
When comparing the full geochemical signatures in the North Landfill Unit background and compliance monitoring wells collected in 2025, the signatures appear to generally correlate with one another with the exception of bicarbonate in background monitoring well MW-26 and sodium across the selected monitoring wells. Levels of magnesium and sulfate collected in 2025 were also slightly higher in background monitoring well MW-26 than the compliance monitoring wells associated with the North Landfill Unit. Field measurements of groundwater collected in background monitoring well MW-26 indicate consistently acidic groundwater (pH: 4.2 - 5.9) while the compliance monitoring wells for the North Landfill Unit were measured as having more neutral pH levels (pH: 6.0 - 7.0). It appears that groundwater at monitoring well MW-26 is more strongly influenced by previous mining activity compared to the compliance monitoring wells closer to the North Landfill Unit as evidenced by the significantly lower pH measurements and lack of alkalinity.



When comparing the full geochemical signatures in the North Landfill Unit compliance monitoring wells collected in 2025 to the incomplete fly ash underdrain signatures collected in 2023 and 2024 and the incomplete mixed leachate signature collected from MH-LF in 2023, the signatures appear to correlate with one another with the previously mentioned exception of sodium and higher chloride and slightly higher sulfate in leachate. Further sampling is recommended to analyze the full geochemical signature of the Fly Ash Underdrain (#002) and leachate from the North Landfill Unit (MH #8) prior to mixing with leachate from the West Landfill Unit.

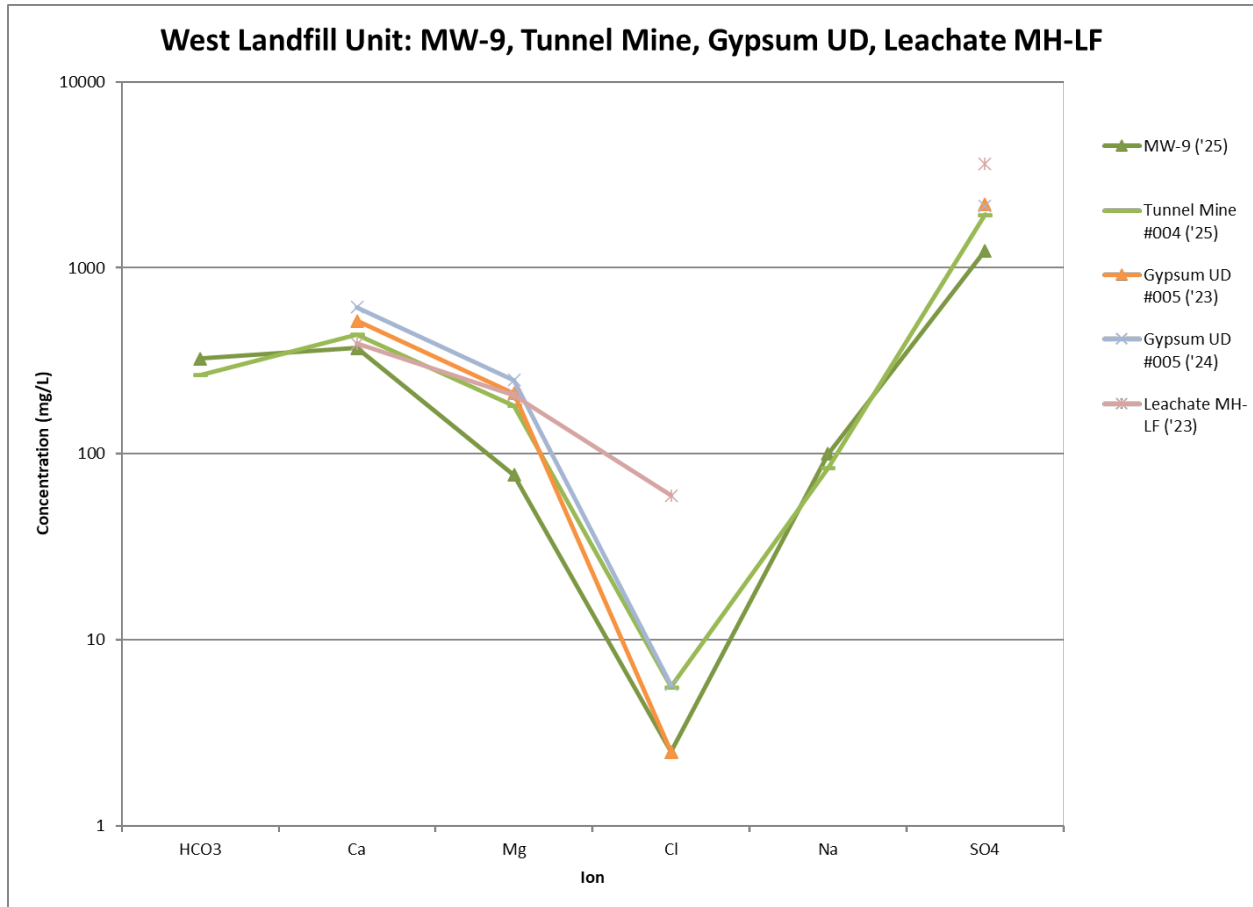


When comparing the geochemical signatures in the West Landfill Unit, it appears there are two somewhat different signatures - background monitoring well MW-6 and downgradient monitoring well MW-8 which are closer to the West Landfill Unit, and downgradient monitoring well MW-9 at the very west boundary of the site. Monitoring wells MW-6 and MW-8 also had similar specific conductivity levels, which were far lower than the other monitoring wells sampled at the site in 2025.



When comparing the full geochemical signatures in the West Landfill Unit background and compliance monitoring wells collected in 2025 to the Tunnel Mine Discharge (#004) and the incomplete Gypsum Underdrain (#005) signatures collected in 2023 and 2024 and the incomplete mixed leachate signature collected from MH-LF in 2023, the signatures in monitoring wells MW-6 and MW-8 appear to be somewhat different than the other signatures in this comparison.

Exceedances of action levels in monitoring wells MW-6 and MW-8 during the 2025 sampling event were limited to lithium in both and manganese in monitoring well MW-8; however, high levels of total suspended solids were measured in the 2025 sample collected from monitoring well MW-8 and the concentration of manganese in monitoring well MW-8 has only exceeded the respective action level twice since 2016. In general, the groundwater quality in monitoring wells MW-6 and MW-8 does not appear to be influenced by past mining activities to the same extent the other monitoring points associated with the West Landfill Unit have been influenced.



When comparing the full geochemical signatures in the West Landfill Unit in compliance monitoring well MW-9 and the Tunnel Mine Discharge (#004) collected in 2025 to the incomplete Gypsum Underdrain (#005) signatures collected in 2023 and 2024 and the incomplete mixed leachate signature collected from MH-LF in 2023, the signatures appear to correlate with one another with the exception of higher chloride and higher sulfate in the leachate. Further sampling is recommended to analyze the full geochemical signature of the Gypsum Underdrain (#002) and leachate from the West Landfill Unit (MH #5) prior to mixing with leachate from the North Landfill Unit.

Based on a limited review of the geochemical signatures recently collected at the landfill, it appears that further information will be needed from the underdrains and leachate collection systems from the respective fill areas to determine if the underdrains and monitoring wells are being impacted by past mining-related activities, landfill leachate, or other source(s). At this time, it does not appear that the landfill has had a notable impact on groundwater quality as measured in the compliance monitoring wells.

6.0 RECOMMENDATIONS

6.1 SITE IMPACT ON GROUNDWATER

Based on the monitoring results and the previous discussion, it appears that past mining activities pre-dating Landfill development have had a significant influence on the character of groundwater at the site. Future geochemical and statistical analysis will be conducted to better determine the source of groundwater quality influences at the site.

6.2 PROPOSED MONITORING

The groundwater monitoring program is summarized in **Table 1**. No changes to the HMSP monitoring program are recommended at this time. It is recommended that sampling continue for calendar year 2026 as summarized in **Table 2**.

6.3 PROPOSED MONITORING WELL CHANGES

Monitoring well performance is summarized in **Table 4**. No proposed changes to the existing monitoring wells are recommended at this time.

Tables

- 1 Monitoring Program Summary
- 2 Monitoring Program Implementation Schedule
- 4 Monitoring Well Performance and Maintenance Summary
- 5 Background and GWPS Summary
- 6 Summary of Well/Detected Constituent Pairs with No Immediately Preceding Control Limit Exceedances
- 7 Summary Table of Ongoing and Newly Identified Control Limit Exceedances
- 8 Summary of Groundwater Chemistry (The Summary of Groundwater Chemistry is Located in Appendix C)
- 9 Historical Control and Action Level Exceedances

Table 1
Monitoring Program Summary
2025 Annual Water Quality Report
Cargill CCR Landfill
Permit No. 62-SDP-04-89C

Monitoring Well	Formation	Current Monitoring Program	Change for Next Sampling Event	Prediction Limit Exceedances	Total Number of Samples in Each Monitoring Program Since January 1, 2016		
					Routine	Supplemental	Remedial Action
MW-6 (u)	Weathered Till	Background	None	None	10	-	-
MW-8	Weathered Till	Detection	None	Iron, Manganese	10	-	-
MW-9	Weathered Till	Detection	None	Manganese	10	-	-
MW-10	Mine Spoil	Detection	None	Chloride, Iron	10	-	-
MW-11	Mine Spoil	Detection	None	Zinc	10	-	-
MW-12R	Mine Spoil	Detection	None	None	9	-	-
MW-13R	Mine Spoil	Detection	None	None	10	-	-
MW-26 (u)	Mine Spoil	Background	None	None	10	-	-
Other							
Fly Ash North #002	Groundwater Drain Line	Detection	None	None - Not Sampled in 2025	9	-	-
Gypsum West #005	Groundwater Drain Line	Detection	None	None - Not Sampled in 2025	9	-	-
Tunnel Mine #004	Tunnel Mine Drainage	Detection	None	None	6	-	-

Notes: None.

Table 2
Monitoring Program Implementation Schedule
2025 Annual Water Quality Report
Cargill CCR Landfill
Permit No. 62-SDP-04-89C

Monitoring Well	Recent Sampling Dates and Constituents	Upcoming Sampling Dates and Constituents
	5/28/2025	Spring 2026
MW-6 (u)	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters
MW-8	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters
MW-9	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters
MW-26 (u)	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters
MW-10	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters
MW-11	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters
MW-12R	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters
MW-13R	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters
Fly Ash North #002 Underdrain	None - Insufficient Water	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters
Gypsum West #005 Underdrain	None - Insufficient Water	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters
North Fill Area Leachate (MH #8)	None - Insufficient Water	Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters
West Fill Area Leachate (MH#5)	None - Insufficient Water	Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters
Tunnel Mine #004	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters	Chloride, Fluoride, Sulfate, Arsenic, Barium, Beryllium, Boron, Calcium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Selenium, Zinc, Total Suspended Solids, Total Dissolved Solids, Geochemical Parameters

Notes: Geochemical Parameters: Bicarbonate, Carbonate, Calcium, Magnesium, Potassium, Chloride, Sodium, and Sulfate.

Table 4
Monitoring Well Performance and Maintenance Summary
2025 Annual Water Quality Report
Cargill CCR Landfill
Permit No. 62-SDP-04-89C

Well	Top of Casing	Top of Screen	Total Depth	Description	Date of Measurements	Maximum Depth Discrepancy (ft)
					5/28/2025	
MW-6	810.52	743.10	77.4	Groundwater Level (ft)	51.02	-0.9
				Groundwater Elevation (Ft MSL)	759.50	
				Measured Well Depth (ft)	78.3	
				Submerged screen	Y	
MW-8	808.01	758.10	60.0	Groundwater Level (ft)	41.92	-0.2
				Groundwater Elevation (Ft MSL)	766.09	
				Measured Well Depth (ft)	60.2	
				Submerged screen	Y	
MW-9	748.75	723.10	35.6	Groundwater Level (ft)	20.33	0.0
				Groundwater Elevation (Ft MSL)	728.42	
				Measured Well Depth (ft)	35.6	
				Submerged screen	Y	
MW-10	771.49	735.20	43.3	Groundwater Level (ft)	33.63	-3.6
				Groundwater Elevation (Ft MSL)	737.86	
				Measured Well Depth (ft)	46.9	
				Submerged screen	Y	
MW-11	755.25	738.43	32.3	Groundwater Level (ft)	23.31	-2.0
				Groundwater Elevation (Ft MSL)	731.94	
				Measured Well Depth (ft)	34.3	
				Submerged screen	N	
MW-12R	811.53	741.42	76.7	Groundwater Level (ft)	63.96	-1.8
				Groundwater Elevation (Ft MSL)	747.57	
				Measured Well Depth (ft)	78.5	
				Submerged screen	Y	
MW-13R	812.54	747.34	74.0	Groundwater Level (ft)	59.07	-3.8
				Groundwater Elevation (Ft MSL)	753.47	
				Measured Well Depth (ft)	77.8	
				Submerged screen	Y	
MW-26	749.20	732.30	26.9	Groundwater Level (ft)	18.88	-0.1
				Groundwater Elevation (Ft MSL)	730.32	
				Measured Well Depth (ft)	27.0	
				Submerged screen	N	

Comments:

- 1) Measured well depths were less than 1.0 foot shallower than the installed depths where measured; however, several monitoring wells have consistently measured more than 1.0 foot deeper than the installed depth. It is likely either the well construction information was recorded incorrectly or the wells were extended post-installation and the extensions were not recorded.

Table 5
Background and GWPS Summary
2025 Annual Water Quality Report
Cargill CCR Landfill
Permit No. 62-SDP-04-89C

Note: Background datasets for intrawell statistical analyses are provided in Appendix D, Attachment C.

Comments:

- 1) **Water quality results and effectiveness of the statistical data evaluation criteria:** Statistical evaluations consist of intrawell prediction limits.
- 2) **Changes to the previous statistical method during reporting period:** None.

Table 6
Summary of Well/Detected Constituent Pairs With No Immediately Preceding Prediction Limit Exceedances
2025 Annual Water Quality Report
Cargill CCR Landfill
Permit No. 62-SDP-04-89C

Well	Constituent	Units	Result	Background Standard
MW-8	Iron	mg/L	0.954	0.308
	Manganese	mg/L	0.378	0.157
MW-10	Iron	mg/L	6.35	6.02

Note: Table includes prediction limit exceedances identified during the 2025 sampling event that were not identified as prediction limit exceedances in the previous year.

Comments:

- 1) **Problems with the current HMSP network:** None.
- 2) **Schedule to implement remedies:** Not applicable.
- 3) **Alternative constituent or sample frequency changes:** None.
- 4) **Significant changes to prediction limits:** None.

Table 7
2025 Prediction Limit Exceedances
2025 Annual Water Quality Report
Cargill CCR Landfill
Permit No. 62-SDP-04-89C

Key

	Denotes ongoing prediction limit exceedances that were identified as prediction limit exceedances during this reporting period and the previous reporting period at least once during each reporting period.
	Denotes newly identified prediction limit exceedances in the 2025 reporting period. Newly identified is defined as occurring at least once in the current reporting period but not in the immediately preceding reporting period.

Well	Constituent	Units	Result	Background Standard	Action Level/ Statewide Standard
MW-8	Iron	mg/L	0.296	0.308	-
	Manganese	mg/L	0.233	0.157	0.3
MW-9	Manganese	mg/L	0.021	0.01	0.3
MW-10	Chloride	mg/L	5.82	5.18	-
	Iron	mg/L	6.35	6.02	-
MW-11	Zinc	mg/L	0.15	0.074	2.0

Notes: None.

Comments:

- 1) **Problems with the current HMSP network:** None.
- 2) **Proposed remedies:** None.
- 3) **Alternative constituent or sample frequency changes:** None.
- 4) **Plume delineation strategies:** Not Applicable.
- 5) **Property owner notifications:** Not applicable.

Table 8
Summary of Groundwater Chemistry
2025 Annual Water Quality Report
Cargill CCR Landfill
Permit No. 62-SDP-04-89C

The Summary of Groundwater Chemistry is located in Appendix C.

Table 9
2025 Prediction Limit & Action Level Exceedances
2025 Annual Water Quality Report
Cargill CCR Landfill
Permit No. 62-SDP-04-89C

Key

	Prediction/Control Limit Exceedance
X	Action Level Exceedance

Well	Constituent	2022	2023	2024	2025
MW-6 (u)	Lithium		X	X	X
	Lithium		X	X	X
MW-8	Iron				
	Magnesium				
	Manganese				X
	Zinc				
MW-9	Lithium		X	X	X
	Iron				
	Magnesium				
	Manganese		X		
	Sulfate				
	Zinc				
MW-10	Arsenic				
	Chloride				
	Cobalt	X	X	X	X
	Iron				
	Lithium		X	X	X
	Magnesium				
	Manganese	X	X	X	X
	Sulfate				
MW-11	Arsenic				
	Barium				
	Chloride				
	Cobalt	X	X	X	X
	Iron				
	Lithium		X	X	X
	Magnesium				
	Manganese	X	X	X	X
	pH				
	Sulfate				
	Zinc				
MW-12R	Chloride				
	Cobalt	X	X	X	X
	Iron				
	Lithium		X	X	X
	Magnesium				
	Manganese	X	X	X	X
	Sulfate				
MW-13R	Arsenic				
	Chloride				
	Cobalt	X	X	X	X
	Iron				
	Lithium		X	X	X
	Lead				
	Magnesium				
	Manganese	X	X	X	X
	pH				
	Sulfate				
	Zinc				
MW-26 (u)	Beryllium				X
	Cobalt		X	X	X
	Lithium		X		X
	Magnesium				
	Manganese	X	X	X	X
	pH				
	Sulfate				
#002 - Fly Ash North Underdrain	Cobalt		X	X	NS
	Iron				NS
	Lithium		X	X	NS
	Magnesium				NS
	Manganese	X	X	X	NS
	Sulfate				NS
#005 - Gypsum West Underdrain	Cobalt		X	X	NS
	Iron				NS
	Lithium		X	X	NS
	Magnesium				NS
	Manganese	X	X	X	NS
	Sulfate				NS
#004 - Tunnel Mine	Arsenic	NS	NS	NS	X
	Beryllium	NS	NS	NS	X
	Cobalt	NS	NS	NS	X
	Lithium	NS	NS	NS	X
	Manganese	NS	NS	NS	X
	Selenium	NS	NS	NS	X

NS - Not Sampled

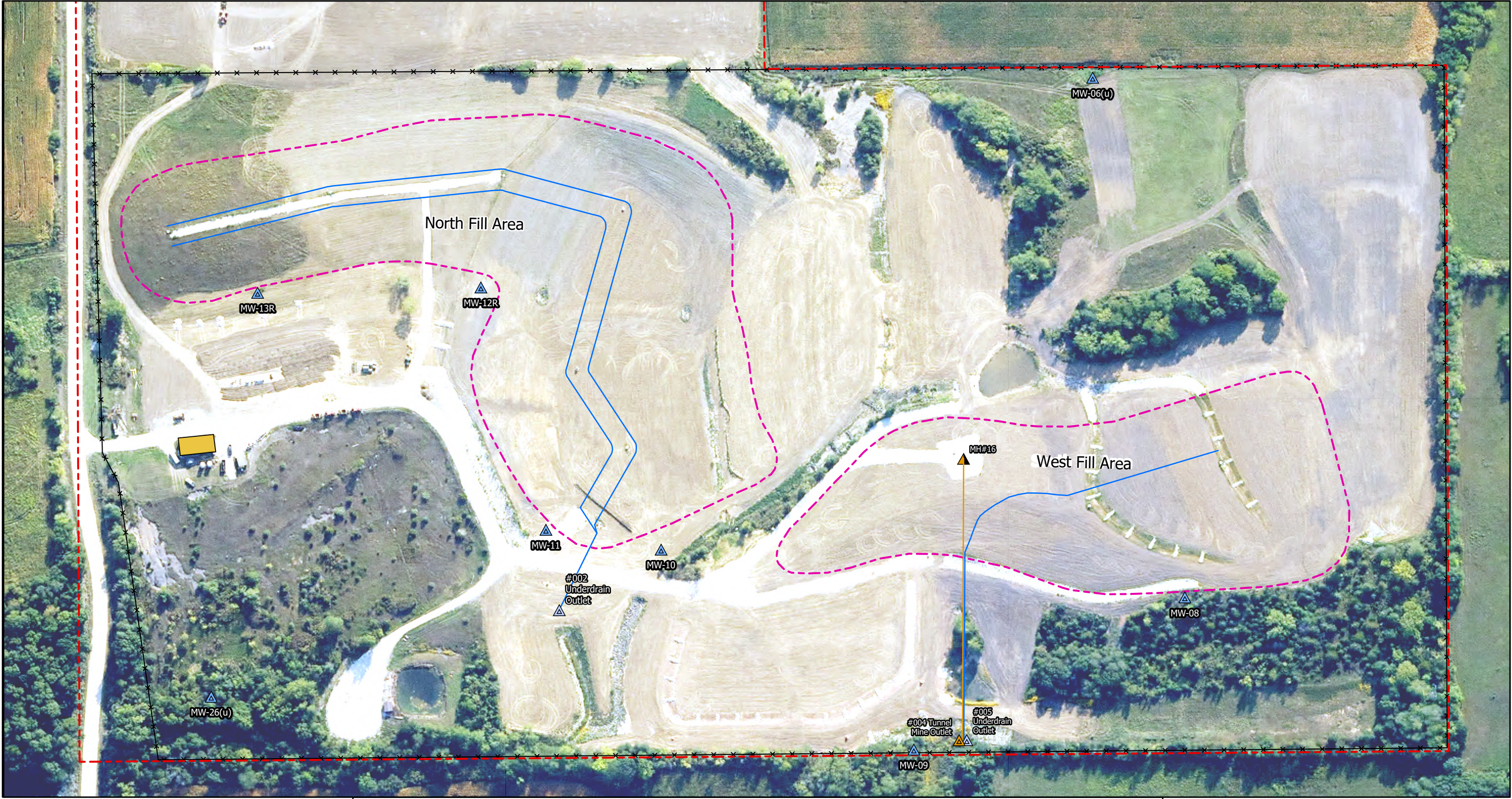
Comments: 1) Statistical analysis for prediction limits began in 2023. Control limit exceedances shown for 2022.



Figures

- 1 Approved Monitoring Network
- 2 Groundwater Contours

Path: C:\Users\hmadon\OneDrive - SCS Engineers\Desktop\GIS\Map\Drawn\Office\Carroll - Eddyville 2024\AWQ\envr
Date Saved: 7/17/2025 9:07 AM
User: hmadon

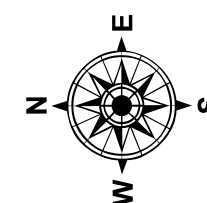


Approved Monitoring Network

Legend

- | | | |
|------------------------|---|---|
| Monitoring Well | Approximate Location of Groundwater Underdrain Pipe | Approximate Location of Fence |
| Groundwater Underdrain | Approximate Location of Mine Drainage Line | Approximate Location of Waste Boundary |
| Mine Drainage Manhole | Office Structure | Approximate Location of Property Boundary |
| Mine Drainage Outlet | | |

Cargill CCR Landfill
Eddyville, IA
Project No: 27225040.00
Drawing Date:
November 2025



0 145 290 580
Feet

Figure 1



Groundwater Contours

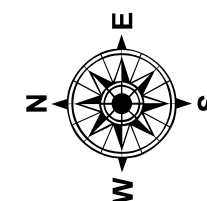
Legend

Approximate Groundwater Contours Based on Field Measurements Taken May 27 & 28, 2025

- Monitoring Well
- Approximate Location of Fence
- Approximate Location of Waste Boundary

- Approximate Location of Property Boundary
- Office Structure

Cargill CCR Landfill
Eddyville, IA
Project No: 27225040.00
Drawing Date:
November 2025



0 145 290 580 Feet

Figure 2



Appendix A

Field Sampling Forms

FORM FOR GROUNDWATER SAMPLING

Project: Cargill Sweeteners - North America CCR Landfill	
Monitoring Well/Piezometer ID: MW-6	Date: 5/28/2025
Gradient: Up	Sampler: Michael Morgan

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped? Yes	
Litter/Standing Water? No	

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet):	78.3
Initial Static Water Level (feet):	51.02
Initial Groundwater Elevation (ft-amsl):	759.50
Equipment Used:	Non-Dedicated Submersible

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
11:24 AM	Purging start time.						
11:27 AM	13.4	0.6	1143.1	7.30	281.6	11.0	
11:30 AM	13.6	0.4	1138.2	7.29	282.0	11.1	
11:33 AM	14.2	0.4	1137.0	7.27	282.4	11.1	
11:36 AM	13.8	0.3	1134.6	7.27	283.6	9.3	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	2.8
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	233.33

D. WELL MAINTENANCE

Does the well require any future maintenance? No	
If yes, explain:	
Additional Comments:	

FORM FOR GROUNDWATER SAMPLING

Project: Cargill Sweeteners - North America CCR Landfill	
Monitoring Well/Piezometer ID: MW-8	Date: 5/28/2025
Gradient: Down	Sampler: Michael Morgan

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet):	60.2
Initial Static Water Level (feet):	41.92
Initial Groundwater Elevation (ft-amsl):	766.09
Equipment Used:	Non-Dedicated Submersible

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
12:48 PM	Purging start time.						
12:51 PM	14.0	1.9	1201.0	6.84	262.3	122.5	
12:54 PM	14.2	1.4	1203.4	6.83	269.2	176.4	
12:57 PM	14.6	1.4	1204.8	6.82	273.1	201.8	
1:00 PM	14.2	1.4	1206.0	6.82	277.2	183.4	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	2.5
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	208.33

D. WELL MAINTENANCE

Does the well require any future maintenance?		No
If yes, explain:		
Additional Comments:	Color: slightly cloudy light brown Odor: none	

FORM FOR GROUNDWATER SAMPLING

[illegible]

FORM FOR GROUNDWATER SAMPLING

Project:	Cargill Sweeteners - North America CCR Landfill		
Monitoring Well/Piezometer ID:	MW-10	Date:	5/28/2025
Gradient:	Down	Sampler:	Michael Morgan

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet):	46.9
Initial Static Water Level (feet):	33.63
Initial Groundwater Elevation (ft-amsl):	737.86
Equipment Used:	Non-Dedicated Submersible

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
2:50 PM	Purging start time.						
2:53 PM	14.4	2.0	2959.2	6.41	263.1	422.3	
2:56 PM	14.3	1.3	2979.4	6.38	261.4	352.3	
2:59 PM	14.3	1.0	2968.8	6.36	258.9	245.8	
3:02 PM	14.6	1.2	2965.1	6.37	256.8	181.2	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	4.7
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	391.67

D. WELL MAINTENANCE

Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: grey Odor: slightly earthy

FORM FOR GROUNDWATER SAMPLING

Project: Cargill Sweeteners - North America CCR Landfill	
Monitoring Well/Piezometer ID: MW-11	Date: 5/28/2025
Gradient: Down	Sampler: Michael Morgan

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped? Yes	
Litter/Standing Water? No	

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet):	34.3
Initial Static Water Level (feet):	23.31
Initial Groundwater Elevation (ft-amsl):	731.94
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
9:52 AM	Purging start time.						
9:55 AM	15.1	1.6	2674.2	6.06	299.3	22.2	
9:58 AM	14.6	0.7	2486.3	6.08	297.3	22.4	
10:01 AM	14.4	0.4	2363.7	6.09	291.7	30.0	
10:04 AM	14.4	0.2	2322.7	6.10	282.9	30.2	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	1.4
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	116.67

D. WELL MAINTENANCE

Does the well require any future maintenance? No	
If yes, explain:	
Additional Comments:	Color: clear the light brown tint Odor: very slight ocean

FORM FOR GROUNDWATER SAMPLING

Project:	Cargill Sweeteners - North America CCR Landfill		
Monitoring Well/Piezometer ID:	MW-12R	Date:	5/27/2025
Gradient:	Down	Sampler:	Michael Morgan

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet):	78.5
Initial Static Water Level (feet):	63.96
Initial Groundwater Elevation (ft-amsl):	747.57
Equipment Used:	Non-Dedicated Submersible

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
1:10 PM	Purging start time.						
1:13 PM	16.4	0.9	4141.1	6.29	273.6	67.5	
1:16 PM	16.0	0.6	4159.2	6.30	272.2	40.2	
1:19 PM	15.8	0.4	4149.5	6.29	262.0	38.3	
1:22 PM	16.4	0.3	4152.1	6.28	245.7	44.2	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	3.4
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	283.33

D. WELL MAINTENANCE

Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: light brown tint Odor: none

FORM FOR GROUNDWATER SAMPLING

Project: Cargill Sweeteners - North America CCR Landfill	
Monitoring Well/Piezometer ID: MW-13R	Date: 5/27/2025
Gradient: Down	Sampler: Michael Morgan

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet):	77.8
Initial Static Water Level (feet):	59.07
Initial Groundwater Elevation (ft-amsl):	753.47
Equipment Used:	Non-Dedicated Submersible

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
2:39 PM	Purging start time.						
2:42 PM	15.8	0.9	3928.6	6.27	238.1	450.0	
2:45 PM	15.1	0.5	3904.9	6.28	233.5	462.8	
2:48 PM	15.9	0.4	3881.8	6.27	229.8	512.8	
2:51 PM	16.3	0.4	3906.1	6.26	228.1	427.6	
2:54 PM	15.8	3.3	3916.8	6.34	226.1	522.5	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	4.3
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	15:00
Average Purge Rate (mL/min):	286.67

D. WELL MAINTENANCE

Does the well require any future maintenance?		No
If yes, explain:		
Additional Comments:	Color: light brown/grey Odor: none	

FORM FOR GROUNDWATER SAMPLING

[illegible]

FORM FOR SURFACE WATER SAMPLING

Site Name	Cargill Sweeteners - North America CCR Landfill	Permit No.	62-SDP-04-89C
Surface Monitoring Point No.	Fly Ash North #002 Underdrain	Date	5/28/2025
Name of Person Sampling	Michael Morgan		

A. TYPE OF MOINITORING POINT

Stream		Open Tile	X
Road Ditch		Tile with Riser	
Drainage Ditch		Other (describe)	

B. PURPOSE OF MONITORING POINT

Upstream		feet	Downstream	
Within Landfill		feet	Other	X

C. MONITORING POINT CONDITIONS

General description/condition of monitoring point:

Underdrain outlet for North Fly Ash Fill Area

Was monitoring point dry?	Yes	Was water discolored?	N/A
Too little water to sample?	Yes	Does water have odor?	N/A
Was water flowing?	No	Was ground discolored?	No
If yes, estimate quantity (ft^3ps)		Litter present?	No
If yes, estimate depth (in)			

Comments

No water discharge at drainage point

D. FIELD MEASUREMENTS

Weather Conditions

Field Measurements (after stabilization):

Temperature		Units	Celsius
Equipment Used			
pH		Units	Standard Units
Equipment Used			
Spec.Conductance		Units	uS/cm
Equipment Used			
Diss. Oxygen = _____ mg/L ; ORP = _____ mV ; Turbidity = _____ NTU			

FORM FOR SURFACE WATER SAMPLING

Site Name	Cargill Sweeteners - North America CCR Landfill	Permit No.	62-SDP-04-89C
Surface Monitoring Point No.	Gypsum West #005 Underdrain	Date	5/27/2025
Name of Person Sampling	Michael Morgan		

A. TYPE OF MOINITORING POINT

Stream	_____	Open Tile	X
Road Ditch	_____	Tile with Riser	_____
Drainage Ditch	_____	Other (describe)	_____

B. PURPOSE OF MONITORING POINT

Upstream	_____ feet	Downstream	_____
Within Landfill	_____ feet	Other	X

C. MONITORING POINT CONDITIONS

General description/condition of monitoring point:

Underdrain outlet for West Gypsum Fill Area

Was monitoring point dry?	No	Was water discolored?	No
Too little water to sample?	Yes	Does water have odor?	No
Was water flowing?	Yes	Was ground discolored?	No
If yes, estimate quantity (ft^3ps)	<0.001	Litter present?	No
If yes, estimate depth (in)	No*		

Comments

Insufficient water discharge at drainage point

*-No pooling at monitoring point

D. FIELD MEASUREMENTS

Weather Conditions _____

Field Measurements (after stabilization):

Temperature	_____	Units	Celsius
Equipment Used	_____		
pH	_____	Units	Standard Units
Equipment Used	_____		
Spec.Conductance	_____	Units	uS/cm
Equipment Used	_____		
Diss. Oxygen = _____ mg/L ; ORP = _____ mV ; Turbidity = _____ NTU			

FORM FOR SURFACE WATER SAMPLING

Site Name	Cargill Sweeteners - North America CCR Landfill	Permit No.	62-SDP-04-89C
Surface Monitoring Point No.	Tunnel Mine Outlet #004	Date	5/27/2025
Name of Person Sampling	Michael Morgan		

A. TYPE OF MOINITORING POINT

Stream	Open Tile
Road Ditch	Tile with Riser
Drainage Ditch	Other (describe)

B. PURPOSE OF MONITORING POINT

Upstream	Downstream
Within Landfill	Other

C. MONITORING POINT CONDITIONS

General description/condition of monitoring point:

Outlet for Tunnel Mine

Was monitoring point dry?	Was water discolored?
Too little water to sample?	Does water have odor?
Was water flowing?	Was ground discolored?
If yes, estimate quantity (ft^3ps)	Litter present?
If yes, estimate depth (in)	

Comments

White pipe discharges into reed bed - water has metallic sheen on surface and orange color.

D. FIELD MEASUREMENTS

Weather Conditions Cloudy, 71°F, Wind 5 mph N

Field Measurements (after stabilization):

Temperature	17.0 C°	Units	Celsius
Equipment Used			
pH	6.13	Units	Standard Units
Equipment Used			
Spec.Conductance	3,204	Units	uS/cm
Equipment Used			

Diss. Oxygen = 2.24 mg/L ; ORP = 215.6 mV ; Turbidity = 577.64 NTU

Appendix B-1

Laboratory Analytical Data Sheets

ANALYTICAL REPORT

PREPARED FOR

Attn: Kevin Jensen
SCS Engineers
1690 All State Court
Suite 100
West Des Moines, Iowa 50265

Generated 6/12/2025 9:28:20 AM

JOB DESCRIPTION

Cargill CCR Landfill Sampling 2025
Cargill CCR Landfill

JOB NUMBER

310-307504-1

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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6/12/2025 9:28:20 AM

Authorized for release by
Samuel Miller, Project Management Assistant I
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(319)595-2008

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Case Narrative

Client: SCS Engineers
Project: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1

Job ID: 310-307504-1

Eurofins Cedar Falls

Job Narrative 310-307504-1

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

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

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

Receipt

The samples were received on 5/29/2025 4:30 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were -0.4°C and 0.4°C.

HPLC/IC

Method 9056A_ORGFM_28D: The following samples were diluted due to the nature of the sample matrix: MW-6 (310-307504-1), MW-8 (310-307504-2), MW-9 (310-307504-3), MW-10 (310-307504-4), MW-11 (310-307504-5), MW-12R (310-307504-6), MW-13R (310-307504-7) and MW-26 (310-307504-8). Elevated reporting limits (RLs) are provided.

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

Metals

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

General Chemistry

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

Eurofins Cedar Falls

Sample Summary

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-307504-1	MW-6	Water	05/28/25 11:36	05/29/25 16:30
310-307504-2	MW-8	Water	05/28/25 13:00	05/29/25 16:30
310-307504-3	MW-9	Water	05/28/25 14:03	05/29/25 16:30
310-307504-4	MW-10	Water	05/28/25 15:02	05/29/25 16:30
310-307504-5	MW-11	Water	05/28/25 10:04	05/29/25 16:30
310-307504-6	MW-12R	Water	05/27/25 13:22	05/29/25 16:30
310-307504-7	MW-13R	Water	05/27/25 14:54	05/29/25 16:30
310-307504-8	MW-26	Water	05/28/25 08:54	05/29/25 16:30
310-307504-9	Tunnel Mine #004 Outlet	Water	05/27/25 17:00	05/29/25 16:30

Detection Summary

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: MW-6

Lab Sample ID: 310-307504-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	335		5.00		mg/L	5		9056A	Total/NA
Barium	0.0204		0.00200		mg/L	1		6020B	Total/NA
Iron	0.254		0.100		mg/L	1		6020B	Total/NA
Magnesium	19.0		0.500		mg/L	1		6020B	Total/NA
Manganese	0.0752		0.0100		mg/L	1		6020B	Total/NA
Boron	0.367		0.100		mg/L	1		6020B	Total/NA
Calcium	78.2		0.500		mg/L	1		6020B	Total/NA
Lithium	0.0573		0.0100		mg/L	1		6020B	Total/NA
Sodium	138		1.00		mg/L	1		6020B	Total/NA
Potassium	5.14		0.500		mg/L	1		6020B	Total/NA
Total Suspended Solids	3.1		1.9		mg/L	1		I-3765-85	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	300		5.00		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	300		5.00		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	790		50.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-8

Lab Sample ID: 310-307504-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	275		5.00		mg/L	5		9056A	Total/NA
Barium	0.0502		0.00200		mg/L	1		6020B	Total/NA
Cobalt	0.00112		0.000500		mg/L	1		6020B	Total/NA
Iron	0.954		0.100		mg/L	1		6020B	Total/NA
Lead	0.00109		0.000500		mg/L	1		6020B	Total/NA
Magnesium	39.8		0.500		mg/L	1		6020B	Total/NA
Manganese	0.378		0.0100		mg/L	1		6020B	Total/NA
Boron	0.645		0.100		mg/L	1		6020B	Total/NA
Calcium	133		0.500		mg/L	1		6020B	Total/NA
Lithium	0.111		0.0100		mg/L	1		6020B	Total/NA
Sodium	61.9		1.00		mg/L	1		6020B	Total/NA
Potassium	6.87		0.500		mg/L	1		6020B	Total/NA
Total Suspended Solids	122		5.0		mg/L	1		I-3765-85	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	447		5.00		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	447		5.00		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	798		50.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-9

Lab Sample ID: 310-307504-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	1240		20.0		mg/L	20		9056A	Total/NA
Barium	0.0217		0.00200		mg/L	1		6020B	Total/NA
Magnesium	77.2		0.500		mg/L	1		6020B	Total/NA
Manganese	0.0210		0.0100		mg/L	1		6020B	Total/NA
Boron	1.19		0.100		mg/L	1		6020B	Total/NA
Calcium	371		0.500		mg/L	1		6020B	Total/NA
Lithium	0.117		0.0100		mg/L	1		6020B	Total/NA
Sodium	100		1.00		mg/L	1		6020B	Total/NA
Potassium	9.30		0.500		mg/L	1		6020B	Total/NA
Total Suspended Solids	2.1		1.9		mg/L	1		I-3765-85	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	326		5.00		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	326		5.00		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	2170		50.0		mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: MW-10

Lab Sample ID: 310-307504-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	5.82		5.00		mg/L		5		9056A	Total/NA
Sulfate	1740		20.0		mg/L		20		9056A	Total/NA
Arsenic	0.00345		0.00200		mg/L		1		6020B	Total/NA
Barium	0.0159		0.00200		mg/L		1		6020B	Total/NA
Cobalt	0.0183		0.000500		mg/L		1		6020B	Total/NA
Iron	6.35		0.100		mg/L		1		6020B	Total/NA
Lead	0.000903		0.000500		mg/L		1		6020B	Total/NA
Magnesium	167		2.00		mg/L		4		6020B	Total/NA
Manganese	6.95		0.0100		mg/L		1		6020B	Total/NA
Boron	0.786		0.400		mg/L		4		6020B	Total/NA
Calcium	504		2.00		mg/L		4		6020B	Total/NA
Lithium	0.143		0.0400		mg/L		4		6020B	Total/NA
Sodium	29.0		4.00		mg/L		4		6020B	Total/NA
Potassium	8.55		0.500		mg/L		1		6020B	Total/NA
Total Suspended Solids	140		15.0		mg/L		1		I-3765-85	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	467		5.00		mg/L		1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	467		5.00		mg/L		1		SM 2320B	Total/NA
Total Dissolved Solids	3010		250		mg/L		1		SM 2540C	Total/NA

Client Sample ID: MW-11

Lab Sample ID: 310-307504-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Sulfate	723		10.0		mg/L		10		9056A	Total/NA
Arsenic	0.00502		0.00200		mg/L		1		6020B	Total/NA
Barium	0.0307		0.00200		mg/L		1		6020B	Total/NA
Cobalt	0.0383		0.000500		mg/L		1		6020B	Total/NA
Iron	20.3		0.100		mg/L		1		6020B	Total/NA
Magnesium	109		2.00		mg/L		4		6020B	Total/NA
Manganese	6.85		0.0100		mg/L		1		6020B	Total/NA
Boron	0.552		0.400		mg/L		4		6020B	Total/NA
Zinc	0.150		0.0200		mg/L		1		6020B	Total/NA
Calcium	346		2.00		mg/L		4		6020B	Total/NA
Lithium	0.0571		0.0400		mg/L		4		6020B	Total/NA
Sodium	73.4		4.00		mg/L		4		6020B	Total/NA
Potassium	4.30		0.500		mg/L		1		6020B	Total/NA
Total Suspended Solids	23.5		7.5		mg/L		1		I-3765-85	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	861		5.00		mg/L		1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	861		5.00		mg/L		1		SM 2320B	Total/NA
Total Dissolved Solids	1940		250		mg/L		1		SM 2540C	Total/NA

Client Sample ID: MW-12R

Lab Sample ID: 310-307504-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloride	6.39		5.00		mg/L		5		9056A	Total/NA
Sulfate	2140		100		mg/L		100		9056A	Total/NA
Barium	0.0136		0.00200		mg/L		1		6020B	Total/NA
Cobalt	0.00360		0.000500		mg/L		1		6020B	Total/NA
Iron	3.76		0.100		mg/L		1		6020B	Total/NA
Magnesium	194		2.00		mg/L		4		6020B	Total/NA
Manganese	0.664		0.0100		mg/L		1		6020B	Total/NA
Boron	1.46		0.400		mg/L		4		6020B	Total/NA
Calcium	495		2.00		mg/L		4		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: MW-12R (Continued)

Lab Sample ID: 310-307504-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.312		0.0400		mg/L	4		6020B	Total/NA
Sodium	390		4.00		mg/L	4		6020B	Total/NA
Potassium	18.9		0.500		mg/L	1		6020B	Total/NA
Total Suspended Solids	11.8		3.8		mg/L	1		I-3765-85	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	854		5.00		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	854		5.00		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	3840		50.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-13R

Lab Sample ID: 310-307504-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	14.3		5.00		mg/L	5		9056A	Total/NA
Sulfate	2190		100		mg/L	100		9056A	Total/NA
Arsenic	0.00404		0.00200		mg/L	1		6020B	Total/NA
Barium	0.0329		0.00200		mg/L	1		6020B	Total/NA
Cobalt	0.0494		0.000500		mg/L	1		6020B	Total/NA
Copper	0.00911		0.00500		mg/L	1		6020B	Total/NA
Iron	11.6		0.100		mg/L	1		6020B	Total/NA
Lead	0.00542		0.000500		mg/L	1		6020B	Total/NA
Magnesium	255		2.00		mg/L	4		6020B	Total/NA
Manganese	14.5		0.0400		mg/L	4		6020B	Total/NA
Boron	0.725		0.400		mg/L	4		6020B	Total/NA
Zinc	0.0553		0.0200		mg/L	1		6020B	Total/NA
Calcium	487		2.00		mg/L	4		6020B	Total/NA
Lithium	0.226		0.0400		mg/L	4		6020B	Total/NA
Sodium	298		4.00		mg/L	4		6020B	Total/NA
Potassium	8.75		0.500		mg/L	1		6020B	Total/NA
Total Suspended Solids	1000		60.0		mg/L	1		I-3765-85	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	622		5.00		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	622		5.00		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	3850		50.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-26

Lab Sample ID: 310-307504-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	11.6		1.00		mg/L	5		9056A	Total/NA
Sulfate	3310		100		mg/L	100		9056A	Total/NA
Arsenic	0.00353		0.00200		mg/L	1		6020B	Total/NA
Barium	0.00916		0.00200		mg/L	1		6020B	Total/NA
Beryllium	0.0107		0.00500		mg/L	5		6020B	Total/NA
Cobalt	0.155		0.000500		mg/L	1		6020B	Total/NA
Iron	0.246		0.100		mg/L	1		6020B	Total/NA
Lead	0.000727		0.000500		mg/L	1		6020B	Total/NA
Magnesium	425		2.50		mg/L	5		6020B	Total/NA
Manganese	39.3		0.0500		mg/L	5		6020B	Total/NA
Selenium	0.0165		0.00500		mg/L	1		6020B	Total/NA
Zinc	0.930		0.0200		mg/L	1		6020B	Total/NA
Calcium	421		2.50		mg/L	5		6020B	Total/NA
Lithium	0.151		0.0500		mg/L	5		6020B	Total/NA
Sodium	77.4		5.00		mg/L	5		6020B	Total/NA
Potassium	3.41		0.500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	4970		250		mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: Tunnel Mine #004 Outlet

Lab Sample ID: 310-307504-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.58		5.00		mg/L	5		9056A	Total/NA
Fluoride	1.31		1.00		mg/L	5		9056A	Total/NA
Sulfate	1930		50.0		mg/L	50		9056A	Total/NA
Arsenic	0.0357		0.00200		mg/L	1		6020B	Total/NA
Barium	0.0325		0.00200		mg/L	1		6020B	Total/NA
Beryllium	0.00953		0.00400		mg/L	4		6020B	Total/NA
Cobalt	0.0564		0.000500		mg/L	1		6020B	Total/NA
Iron	283		0.400		mg/L	4		6020B	Total/NA
Magnesium	182		2.00		mg/L	4		6020B	Total/NA
Manganese	11.6		0.0400		mg/L	4		6020B	Total/NA
Selenium	0.0632		0.00500		mg/L	1		6020B	Total/NA
Boron	0.862		0.400		mg/L	4		6020B	Total/NA
Zinc	0.287		0.0200		mg/L	1		6020B	Total/NA
Calcium	438		2.00		mg/L	4		6020B	Total/NA
Lithium	0.179		0.0400		mg/L	4		6020B	Total/NA
Molybdenum	0.00320		0.00200		mg/L	1		6020B	Total/NA
Sodium	84.2		4.00		mg/L	4		6020B	Total/NA
Potassium	8.56		0.500		mg/L	1		6020B	Total/NA
Total Suspended Solids	1270		60.0		mg/L	1		I-3765-85	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	266		5.00		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	266		5.00		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	3010		50.0		mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: MW-6

Lab Sample ID: 310-307504-1

Date Collected: 05/28/25 11:36

Matrix: Water

Date Received: 05/29/25 16:30

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00		5.00		mg/L			06/09/25 17:30	5
Fluoride	<1.00		1.00		mg/L			06/09/25 17:30	5
Sulfate	335		5.00		mg/L			06/10/25 09:51	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		06/02/25 08:40	06/05/25 15:30	1
Barium	0.0204		0.00200		mg/L		06/02/25 08:40	06/05/25 15:30	1
Beryllium	<0.00100		0.00100		mg/L		06/02/25 08:40	06/06/25 16:38	1
Cobalt	<0.000500		0.000500		mg/L		06/02/25 08:40	06/05/25 15:30	1
Copper	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 15:30	1
Iron	0.254		0.100		mg/L		06/02/25 08:40	06/05/25 15:30	1
Lead	<0.000500		0.000500		mg/L		06/02/25 08:40	06/05/25 15:30	1
Magnesium	19.0		0.500		mg/L		06/02/25 08:40	06/06/25 16:38	1
Manganese	0.0752		0.0100		mg/L		06/02/25 08:40	06/05/25 15:30	1
Selenium	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 15:30	1
Boron	0.367		0.100		mg/L		06/02/25 08:40	06/06/25 16:38	1
Zinc	<0.0200		0.0200		mg/L		06/02/25 08:40	06/05/25 15:30	1
Calcium	78.2		0.500		mg/L		06/02/25 08:40	06/06/25 16:38	1
Lithium	0.0573		0.0100		mg/L		06/02/25 08:40	06/09/25 15:06	1
Molybdenum	<0.00200		0.00200		mg/L		06/02/25 08:40	06/05/25 15:30	1
Sodium	138		1.00		mg/L		06/02/25 08:40	06/06/25 16:38	1
Potassium	5.14		0.500		mg/L		06/02/25 08:40	06/06/25 16:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	3.1		1.9		mg/L			05/30/25 13:30	1
Total Alkalinity as CaCO3 to pH 4.5 (SM 2320B)	300		5.00		mg/L			05/30/25 11:32	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	300		5.00		mg/L			05/30/25 11:32	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.00		5.00		mg/L			05/30/25 11:32	1
Total Dissolved Solids (SM 2540C)	790		50.0		mg/L			05/30/25 19:05	1

Client Sample Results

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: MW-8

Lab Sample ID: 310-307504-2

Date Collected: 05/28/25 13:00

Matrix: Water

Date Received: 05/29/25 16:30

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00		5.00		mg/L			06/09/25 17:44	5
Fluoride	<1.00		1.00		mg/L			06/09/25 17:44	5
Sulfate	275		5.00		mg/L			06/10/25 10:04	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		06/02/25 08:40	06/05/25 15:33	1
Barium	0.0502		0.00200		mg/L		06/02/25 08:40	06/05/25 15:33	1
Beryllium	<0.00100		0.00100		mg/L		06/02/25 08:40	06/06/25 16:40	1
Cobalt	0.00112		0.000500		mg/L		06/02/25 08:40	06/05/25 15:33	1
Copper	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 15:33	1
Iron	0.954		0.100		mg/L		06/02/25 08:40	06/05/25 15:33	1
Lead	0.00109		0.000500		mg/L		06/02/25 08:40	06/05/25 15:33	1
Magnesium	39.8		0.500		mg/L		06/02/25 08:40	06/06/25 16:40	1
Manganese	0.378		0.0100		mg/L		06/02/25 08:40	06/05/25 15:33	1
Selenium	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 15:33	1
Boron	0.645		0.100		mg/L		06/02/25 08:40	06/06/25 16:40	1
Zinc	<0.0200		0.0200		mg/L		06/02/25 08:40	06/05/25 15:33	1
Calcium	133		0.500		mg/L		06/02/25 08:40	06/06/25 16:40	1
Lithium	0.111		0.0100		mg/L		06/02/25 08:40	06/09/25 15:09	1
Molybdenum	<0.00200		0.00200		mg/L		06/02/25 08:40	06/05/25 15:33	1
Sodium	61.9		1.00		mg/L		06/02/25 08:40	06/06/25 16:40	1
Potassium	6.87		0.500		mg/L		06/02/25 08:40	06/06/25 16:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	122		5.0		mg/L			05/30/25 13:30	1
Total Alkalinity as CaCO3 to pH 4.5 (SM 2320B)	447		5.00		mg/L			05/30/25 11:42	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	447		5.00		mg/L			05/30/25 11:42	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.00		5.00		mg/L			05/30/25 11:42	1
Total Dissolved Solids (SM 2540C)	798		50.0		mg/L			05/30/25 19:05	1

Client Sample Results

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: MW-9

Lab Sample ID: 310-307504-3

Date Collected: 05/28/25 14:03

Matrix: Water

Date Received: 05/29/25 16:30

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00		5.00		mg/L			06/09/25 17:57	5
Fluoride	<1.00		1.00		mg/L			06/09/25 17:57	5
Sulfate	1240		20.0		mg/L			06/10/25 10:17	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		06/02/25 08:40	06/05/25 15:36	1
Barium	0.0217		0.00200		mg/L		06/02/25 08:40	06/05/25 15:36	1
Beryllium	<0.00100		0.00100		mg/L		06/02/25 08:40	06/09/25 15:16	1
Cobalt	<0.000500		0.000500		mg/L		06/02/25 08:40	06/05/25 15:36	1
Copper	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 15:36	1
Iron	<0.100		0.100		mg/L		06/02/25 08:40	06/05/25 15:36	1
Lead	<0.000500		0.000500		mg/L		06/02/25 08:40	06/05/25 15:36	1
Magnesium	77.2		0.500		mg/L		06/02/25 08:40	06/09/25 15:16	1
Manganese	0.0210		0.0100		mg/L		06/02/25 08:40	06/05/25 15:36	1
Selenium	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 15:36	1
Boron	1.19		0.100		mg/L		06/02/25 08:40	06/09/25 15:16	1
Zinc	<0.0200		0.0200		mg/L		06/02/25 08:40	06/05/25 15:36	1
Calcium	371		0.500		mg/L		06/02/25 08:40	06/09/25 15:16	1
Lithium	0.117		0.0100		mg/L		06/02/25 08:40	06/09/25 15:16	1
Molybdenum	<0.00200		0.00200		mg/L		06/02/25 08:40	06/05/25 15:36	1
Sodium	100		1.00		mg/L		06/02/25 08:40	06/09/25 15:16	1
Potassium	9.30		0.500		mg/L		06/02/25 08:40	06/06/25 16:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	2.1		1.9		mg/L			05/30/25 13:30	1
Total Alkalinity as CaCO3 to pH 4.5 (SM 2320B)	326		5.00		mg/L			05/30/25 12:00	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	326		5.00		mg/L			05/30/25 12:00	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.00		5.00		mg/L			05/30/25 12:00	1
Total Dissolved Solids (SM 2540C)	2170		50.0		mg/L			05/30/25 19:05	1

Client Sample Results

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: MW-10

Lab Sample ID: 310-307504-4

Date Collected: 05/28/25 15:02

Matrix: Water

Date Received: 05/29/25 16:30

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.82		5.00		mg/L			06/09/25 18:10	5
Fluoride	<1.00		1.00		mg/L			06/09/25 18:10	5
Sulfate	1740		20.0		mg/L			06/10/25 10:30	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00345		0.00200		mg/L		06/02/25 08:40	06/05/25 15:42	1
Barium	0.0159		0.00200		mg/L		06/02/25 08:40	06/05/25 15:42	1
Beryllium	<0.00400		0.00400		mg/L		06/02/25 08:40	06/09/25 15:21	4
Cobalt	0.0183		0.000500		mg/L		06/02/25 08:40	06/05/25 15:42	1
Copper	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 15:42	1
Iron	6.35		0.100		mg/L		06/02/25 08:40	06/05/25 15:42	1
Lead	0.000903		0.000500		mg/L		06/02/25 08:40	06/05/25 15:42	1
Magnesium	167		2.00		mg/L		06/02/25 08:40	06/09/25 15:21	4
Manganese	6.95		0.0100		mg/L		06/02/25 08:40	06/05/25 15:42	1
Selenium	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 15:42	1
Boron	0.786		0.400		mg/L		06/02/25 08:40	06/09/25 15:21	4
Zinc	<0.0200		0.0200		mg/L		06/02/25 08:40	06/05/25 15:42	1
Calcium	504		2.00		mg/L		06/02/25 08:40	06/09/25 15:21	4
Lithium	0.143		0.0400		mg/L		06/02/25 08:40	06/09/25 15:21	4
Molybdenum	<0.00200		0.00200		mg/L		06/02/25 08:40	06/05/25 15:42	1
Sodium	29.0		4.00		mg/L		06/02/25 08:40	06/09/25 15:21	4
Potassium	8.55		0.500		mg/L		06/02/25 08:40	06/06/25 16:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	140		15.0		mg/L			05/30/25 13:30	1
Total Alkalinity as CaCO3 to pH 4.5 (SM 2320B)	467		5.00		mg/L			05/30/25 12:10	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	467		5.00		mg/L			05/30/25 12:10	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.00		5.00		mg/L			05/30/25 12:10	1
Total Dissolved Solids (SM 2540C)	3010		250		mg/L			06/03/25 18:26	1

Client Sample Results

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: MW-11

Lab Sample ID: 310-307504-5

Date Collected: 05/28/25 10:04

Matrix: Water

Date Received: 05/29/25 16:30

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00		5.00		mg/L			06/09/25 18:49	5
Fluoride	<1.00		1.00		mg/L			06/09/25 18:49	5
Sulfate	723		10.0		mg/L			06/10/25 10:43	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00502		0.00200		mg/L		06/02/25 08:40	06/05/25 15:45	1
Barium	0.0307		0.00200		mg/L		06/02/25 08:40	06/05/25 15:45	1
Beryllium	<0.00400		0.00400		mg/L		06/02/25 08:40	06/09/25 15:23	4
Cobalt	0.0383		0.000500		mg/L		06/02/25 08:40	06/05/25 15:45	1
Copper	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 15:45	1
Iron	20.3		0.100		mg/L		06/02/25 08:40	06/05/25 15:45	1
Lead	<0.000500		0.000500		mg/L		06/02/25 08:40	06/05/25 15:45	1
Magnesium	109		2.00		mg/L		06/02/25 08:40	06/09/25 15:23	4
Manganese	6.85		0.0100		mg/L		06/02/25 08:40	06/05/25 15:45	1
Selenium	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 15:45	1
Boron	0.552		0.400		mg/L		06/02/25 08:40	06/09/25 15:23	4
Zinc	0.150		0.0200		mg/L		06/02/25 08:40	06/05/25 15:45	1
Calcium	346		2.00		mg/L		06/02/25 08:40	06/09/25 15:23	4
Lithium	0.0571		0.0400		mg/L		06/02/25 08:40	06/09/25 15:23	4
Molybdenum	<0.00200		0.00200		mg/L		06/02/25 08:40	06/05/25 15:45	1
Sodium	73.4		4.00		mg/L		06/02/25 08:40	06/09/25 15:23	4
Potassium	4.30		0.500		mg/L		06/02/25 08:40	06/06/25 16:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	23.5		7.5		mg/L			05/30/25 13:30	1
Total Alkalinity as CaCO3 to pH 4.5 (SM 2320B)	861		5.00		mg/L			05/30/25 12:22	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	861		5.00		mg/L			05/30/25 12:22	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.00		5.00		mg/L			05/30/25 12:22	1
Total Dissolved Solids (SM 2540C)	1940		250		mg/L			06/03/25 18:26	1

Client Sample Results

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: MW-12R

Lab Sample ID: 310-307504-6

Date Collected: 05/27/25 13:22

Matrix: Water

Date Received: 05/29/25 16:30

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.39		5.00		mg/L			06/09/25 19:02	5
Fluoride	<1.00		1.00		mg/L			06/09/25 19:02	5
Sulfate	2140		100		mg/L			06/10/25 10:56	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		06/02/25 08:40	06/05/25 15:48	1
Barium	0.0136		0.00200		mg/L		06/02/25 08:40	06/05/25 15:48	1
Beryllium	<0.00400		0.00400		mg/L		06/02/25 08:40	06/09/25 15:25	4
Cobalt	0.00360		0.000500		mg/L		06/02/25 08:40	06/05/25 15:48	1
Copper	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 15:48	1
Iron	3.76		0.100		mg/L		06/02/25 08:40	06/05/25 15:48	1
Lead	<0.000500		0.000500		mg/L		06/02/25 08:40	06/05/25 15:48	1
Magnesium	194		2.00		mg/L		06/02/25 08:40	06/09/25 15:25	4
Manganese	0.664		0.0100		mg/L		06/02/25 08:40	06/05/25 15:48	1
Selenium	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 15:48	1
Boron	1.46		0.400		mg/L		06/02/25 08:40	06/09/25 15:25	4
Zinc	<0.0200		0.0200		mg/L		06/02/25 08:40	06/05/25 15:48	1
Calcium	495		2.00		mg/L		06/02/25 08:40	06/09/25 15:25	4
Lithium	0.312		0.0400		mg/L		06/02/25 08:40	06/09/25 15:25	4
Molybdenum	<0.00200		0.00200		mg/L		06/02/25 08:40	06/05/25 15:48	1
Sodium	390		4.00		mg/L		06/02/25 08:40	06/09/25 15:25	4
Potassium	18.9		0.500		mg/L		06/02/25 08:40	06/06/25 16:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	11.8		3.8		mg/L			05/30/25 13:30	1
Total Alkalinity as CaCO3 to pH 4.5 (SM 2320B)	854		5.00		mg/L			05/30/25 12:51	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	854		5.00		mg/L			05/30/25 12:51	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.00		5.00		mg/L			05/30/25 12:51	1
Total Dissolved Solids (SM 2540C)	3840		50.0		mg/L			05/30/25 19:05	1

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: MW-13R

Lab Sample ID: 310-307504-7

Date Collected: 05/27/25 14:54

Matrix: Water

Date Received: 05/29/25 16:30

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14.3		5.00		mg/L			06/09/25 19:15	5
Fluoride	<1.00		1.00		mg/L			06/09/25 19:15	5
Sulfate	2190		100		mg/L			06/10/25 11:36	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00404		0.00200		mg/L		06/02/25 08:40	06/05/25 15:51	1
Barium	0.0329		0.00200		mg/L		06/02/25 08:40	06/05/25 15:51	1
Beryllium	<0.00400		0.00400		mg/L		06/02/25 08:40	06/09/25 15:28	4
Cobalt	0.0494		0.000500		mg/L		06/02/25 08:40	06/05/25 15:51	1
Copper	0.00911		0.00500		mg/L		06/02/25 08:40	06/05/25 15:51	1
Iron	11.6		0.100		mg/L		06/02/25 08:40	06/05/25 15:51	1
Lead	0.00542		0.000500		mg/L		06/02/25 08:40	06/05/25 15:51	1
Magnesium	255		2.00		mg/L		06/02/25 08:40	06/09/25 15:28	4
Manganese	14.5		0.0400		mg/L		06/02/25 08:40	06/09/25 15:28	4
Selenium	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 15:51	1
Boron	0.725		0.400		mg/L		06/02/25 08:40	06/09/25 15:28	4
Zinc	0.0553		0.0200		mg/L		06/02/25 08:40	06/05/25 15:51	1
Calcium	487		2.00		mg/L		06/02/25 08:40	06/09/25 15:28	4
Lithium	0.226		0.0400		mg/L		06/02/25 08:40	06/09/25 15:28	4
Molybdenum	<0.00200		0.00200		mg/L		06/02/25 08:40	06/05/25 15:51	1
Sodium	298		4.00		mg/L		06/02/25 08:40	06/09/25 15:28	4
Potassium	8.75		0.500		mg/L		06/02/25 08:40	06/06/25 17:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	1000		60.0		mg/L			05/30/25 13:30	1
Total Alkalinity as CaCO3 to pH 4.5 (SM 2320B)	622		5.00		mg/L			05/30/25 13:21	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	622		5.00		mg/L			05/30/25 13:21	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.00		5.00		mg/L			05/30/25 13:21	1
Total Dissolved Solids (SM 2540C)	3850		50.0		mg/L			05/30/25 19:05	1

Client Sample Results

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: MW-26

Lab Sample ID: 310-307504-8

Date Collected: 05/28/25 08:54

Matrix: Water

Date Received: 05/29/25 16:30

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00		5.00		mg/L			06/09/25 19:28	5
Fluoride	11.6		1.00		mg/L			06/09/25 19:28	5
Sulfate	3310		100		mg/L			06/10/25 11:49	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00353		0.00200		mg/L		06/02/25 08:40	06/05/25 15:54	1
Barium	0.00916		0.00200		mg/L		06/02/25 08:40	06/05/25 15:54	1
Beryllium	0.0107		0.00500		mg/L		06/02/25 08:40	06/09/25 15:30	5
Cobalt	0.155		0.000500		mg/L		06/02/25 08:40	06/05/25 15:54	1
Copper	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 15:54	1
Iron	0.246		0.100		mg/L		06/02/25 08:40	06/05/25 15:54	1
Lead	0.000727		0.000500		mg/L		06/02/25 08:40	06/05/25 15:54	1
Magnesium	425		2.50		mg/L		06/02/25 08:40	06/09/25 15:30	5
Manganese	39.3		0.0500		mg/L		06/02/25 08:40	06/09/25 15:30	5
Selenium	0.0165		0.00500		mg/L		06/02/25 08:40	06/05/25 15:54	1
Boron	<0.500		0.500		mg/L		06/02/25 08:40	06/09/25 15:30	5
Zinc	0.930		0.0200		mg/L		06/02/25 08:40	06/05/25 15:54	1
Calcium	421		2.50		mg/L		06/02/25 08:40	06/09/25 15:30	5
Lithium	0.151		0.0500		mg/L		06/02/25 08:40	06/09/25 15:30	5
Molybdenum	<0.00200		0.00200		mg/L		06/02/25 08:40	06/05/25 15:54	1
Sodium	77.4		5.00		mg/L		06/02/25 08:40	06/09/25 15:30	5
Potassium	3.41		0.500		mg/L		06/02/25 08:40	06/06/25 17:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	<1.9		1.9		mg/L			05/30/25 13:30	1
Total Alkalinity as CaCO3 to pH 4.5 (SM 2320B)	<5.00		5.00		mg/L			05/30/25 13:33	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	<5.00		5.00		mg/L			05/30/25 13:33	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.00		5.00		mg/L			05/30/25 13:33	1
Total Dissolved Solids (SM 2540C)	4970		250		mg/L			06/03/25 18:26	1

Client Sample Results

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: Tunnel Mine #004 Outlet

Lab Sample ID: 310-307504-9

Date Collected: 05/27/25 17:00

Matrix: Water

Date Received: 05/29/25 16:30

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.58		5.00		mg/L			06/10/25 09:39	5
Fluoride	1.31		1.00		mg/L			06/10/25 09:39	5
Sulfate	1930		50.0		mg/L			06/11/25 13:43	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0357		0.00200		mg/L		06/02/25 08:40	06/05/25 15:57	1
Barium	0.0325		0.00200		mg/L		06/02/25 08:40	06/05/25 15:57	1
Beryllium	0.00953		0.00400		mg/L		06/02/25 08:40	06/09/25 15:33	4
Cobalt	0.0564		0.000500		mg/L		06/02/25 08:40	06/05/25 15:57	1
Copper	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 15:57	1
Iron	283		0.400		mg/L		06/02/25 08:40	06/09/25 15:33	4
Lead	<0.000500		0.000500		mg/L		06/02/25 08:40	06/05/25 15:57	1
Magnesium	182		2.00		mg/L		06/02/25 08:40	06/09/25 15:33	4
Manganese	11.6		0.0400		mg/L		06/02/25 08:40	06/09/25 15:33	4
Selenium	0.0632		0.00500		mg/L		06/02/25 08:40	06/05/25 15:57	1
Boron	0.862		0.400		mg/L		06/02/25 08:40	06/09/25 15:33	4
Zinc	0.287		0.0200		mg/L		06/02/25 08:40	06/05/25 15:57	1
Calcium	438		2.00		mg/L		06/02/25 08:40	06/09/25 15:33	4
Lithium	0.179		0.0400		mg/L		06/02/25 08:40	06/09/25 15:33	4
Molybdenum	0.00320		0.00200		mg/L		06/02/25 08:40	06/05/25 15:57	1
Sodium	84.2		4.00		mg/L		06/02/25 08:40	06/09/25 15:33	4
Potassium	8.56		0.500		mg/L		06/02/25 08:40	06/06/25 17:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	1270		60.0		mg/L			05/30/25 13:30	1
Total Alkalinity as CaCO3 to pH 4.5 (SM 2320B)	266		5.00		mg/L			05/30/25 13:37	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	266		5.00		mg/L			05/30/25 13:37	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.00		5.00		mg/L			05/30/25 13:37	1
Total Dissolved Solids (SM 2540C)	3010		50.0		mg/L			05/30/25 19:05	1

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Definitions/Glossary

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Qualifiers

HPLC/IC

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

Metals

Qualifier	Qualifier Description
E	Result exceeded calibration range.

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: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-457143/3

Matrix: Water

Analysis Batch: 457143

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.00		1.00		mg/L			06/09/25 13:22	1
Fluoride	<0.200		0.200		mg/L			06/09/25 13:22	1
Sulfate	<1.00		1.00		mg/L			06/09/25 13:22	1

Lab Sample ID: LCS 310-457143/4

Matrix: Water

Analysis Batch: 457143

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.678		mg/L		97	90 - 110
Fluoride	2.00	2.003		mg/L		100	90 - 110
Sulfate	10.0	9.913		mg/L		99	90 - 110

Lab Sample ID: MB 310-457346/3

Matrix: Water

Analysis Batch: 457346

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.00		1.00		mg/L			06/10/25 09:10	1
Fluoride	<0.200		0.200		mg/L			06/10/25 09:10	1
Sulfate	<1.00		1.00		mg/L			06/10/25 09:10	1

Lab Sample ID: LCS 310-457346/4

Matrix: Water

Analysis Batch: 457346

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.554		mg/L		96	90 - 110
Fluoride	2.00	2.038		mg/L		102	90 - 110
Sulfate	10.0	10.01		mg/L		100	90 - 110

Lab Sample ID: 310-307504-9 MS

Matrix: Water

Analysis Batch: 457346

Client Sample ID: Tunnel Mine #004 Outlet

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	5.58		25.0	27.84		mg/L		89	80 - 120
Fluoride	1.31		5.00	6.347		mg/L		101	80 - 120

Lab Sample ID: 310-307504-9 MS

Matrix: Water

Analysis Batch: 457346

Client Sample ID: Tunnel Mine #004 Outlet

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	1930		250	2131	4	mg/L		78	80 - 120

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QC Sample Results

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: 310-307504-9 MSD

Matrix: Water

Analysis Batch: 457346

Client Sample ID: Tunnel Mine #004 Outlet

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	5.58		25.0	27.85		mg/L		89	80 - 120	0	15
Fluoride	1.31		5.00	6.362		mg/L		101	80 - 120	0	15

Lab Sample ID: 310-307504-9 MSD

Matrix: Water

Analysis Batch: 457346

Client Sample ID: Tunnel Mine #004 Outlet

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	1930		250	2120	4	mg/L		74	80 - 120	1	15

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-456237/1-A

Matrix: Water

Analysis Batch: 456772

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 456237

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		06/02/25 08:40	06/05/25 14:36	1
Barium	<0.00200		0.00200		mg/L		06/02/25 08:40	06/05/25 14:36	1
Beryllium	<0.00100		0.00100		mg/L		06/02/25 08:40	06/05/25 14:36	1
Cobalt	<0.000500		0.000500		mg/L		06/02/25 08:40	06/05/25 14:36	1
Copper	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 14:36	1
Iron	<0.100		0.100		mg/L		06/02/25 08:40	06/05/25 14:36	1
Lead	<0.000500		0.000500		mg/L		06/02/25 08:40	06/05/25 14:36	1
Magnesium	<0.500		0.500		mg/L		06/02/25 08:40	06/05/25 14:36	1
Manganese	<0.0100		0.0100		mg/L		06/02/25 08:40	06/05/25 14:36	1
Selenium	<0.00500		0.00500		mg/L		06/02/25 08:40	06/05/25 14:36	1
Boron	<0.100		0.100		mg/L		06/02/25 08:40	06/05/25 14:36	1
Zinc	<0.0200		0.0200		mg/L		06/02/25 08:40	06/05/25 14:36	1
Calcium	<0.500		0.500		mg/L		06/02/25 08:40	06/05/25 14:36	1
Lithium	<0.0100		0.0100		mg/L		06/02/25 08:40	06/05/25 14:36	1
Molybdenum	<0.00200		0.00200		mg/L		06/02/25 08:40	06/05/25 14:36	1
Potassium	<0.500		0.500		mg/L		06/02/25 08:40	06/05/25 14:36	1

Lab Sample ID: MB 310-456237/1-A

Matrix: Water

Analysis Batch: 456942

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 456237

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	<1.00		1.00		mg/L		06/02/25 08:40	06/06/25 16:26	1

Lab Sample ID: LCS 310-456237/2-A

Matrix: Water

Analysis Batch: 456772

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 456237

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.600	0.5708		mg/L		95	80 - 120
Barium	0.300	0.2783		mg/L		93	80 - 120
Beryllium	0.300	0.3041		mg/L		101	80 - 120
Cobalt	0.300	0.2784		mg/L		93	80 - 120

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QC Sample Results

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

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

Lab Sample ID: LCS 310-456237/2-A
Matrix: Water
Analysis Batch: 456772

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 456237

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Copper	0.600	0.5685		mg/L		95	80 - 120
Iron	0.600	0.5664		mg/L		94	80 - 120
Lead	0.600	0.5970		mg/L		99	80 - 120
Magnesium	6.00	5.381		mg/L		90	80 - 120
Manganese	0.300	0.2781		mg/L		93	80 - 120
Selenium	1.20	1.099	E	mg/L		92	80 - 120
Boron	0.600	0.5607		mg/L		93	80 - 120
Zinc	0.600	0.5438		mg/L		91	80 - 120
Calcium	6.00	4.805		mg/L		80	80 - 120
Lithium	0.600	0.5419		mg/L		90	80 - 120
Molybdenum	0.600	0.5703		mg/L		95	80 - 120
Potassium	6.00	5.359		mg/L		89	80 - 120

Lab Sample ID: LCS 310-456237/2-A
Matrix: Water
Analysis Batch: 456942

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 456237

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	6.00	5.445		mg/L		91	80 - 120

Lab Sample ID: 310-307504-3 DU
Matrix: Water
Analysis Batch: 456772

Client Sample ID: MW-9
Prep Type: Total/NA
Prep Batch: 456237

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	<0.00200		<0.00200		mg/L		NC	20
Barium	0.0217		0.02125		mg/L		2	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
Manganese	0.0210		0.02053		mg/L		2	20
Selenium	<0.00500		<0.00500		mg/L		NC	20
Zinc	<0.0200		<0.0200		mg/L		NC	20
Molybdenum	<0.00200		<0.00200		mg/L		NC	20

Lab Sample ID: 310-307504-3 DU
Matrix: Water
Analysis Batch: 456942

Client Sample ID: MW-9
Prep Type: Total/NA
Prep Batch: 456237

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Potassium	9.30		9.390		mg/L		1	20

Lab Sample ID: 310-307504-3 DU
Matrix: Water
Analysis Batch: 457064

Client Sample ID: MW-9
Prep Type: Total/NA
Prep Batch: 456237

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Beryllium	<0.00100		<0.00100		mg/L		NC	20
Magnesium	77.2		75.89		mg/L		2	20

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QC Sample Results

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

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

Lab Sample ID: 310-307504-3 DU

Matrix: Water

Analysis Batch: 457064

Client Sample ID: MW-9

Prep Type: Total/NA

Prep Batch: 456237

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Boron	1.19		1.203		mg/L		1	20
Calcium	371		362.0		mg/L		2	20
Lithium	0.117		0.1146		mg/L		2	20
Sodium	100		97.45		mg/L		3	20

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

Lab Sample ID: MB 310-456214/1

Matrix: Water

Analysis Batch: 456214

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Suspended Solids	<5.0		5.0		mg/L			05/30/25 13:30	1

Lab Sample ID: LCS 310-456214/2

Matrix: Water

Analysis Batch: 456214

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Total Suspended Solids	100	102.0		mg/L		102	82 - 117

Method: SM 2320B - Alkalinity

Lab Sample ID: LCS 310-456219/2

Matrix: Water

Analysis Batch: 456219

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Total Alkalinity as CaCO ₃ to pH 4.5	1000	998.6		mg/L		100	85 - 115

Lab Sample ID: LCS 310-456219/25

Matrix: Water

Analysis Batch: 456219

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Total Alkalinity as CaCO ₃ to pH 4.5	1000	1010		mg/L		101	85 - 115

Lab Sample ID: 310-307504-6 DU

Matrix: Water

Analysis Batch: 456219

Client Sample ID: MW-12R

Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Total Alkalinity as CaCO ₃ to pH 4.5	854		859.2		mg/L		0.6	13
Bicarbonate Alkalinity as CaCO ₃	854		859.2		mg/L		0.6	
Carbonate Alkalinity as CaCO ₃	<5.00		<5.00		mg/L		NC	

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QC Sample Results

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

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

Lab Sample ID: MB 310-456246/1

Matrix: Water

Analysis Batch: 456246

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<50.0		50.0		mg/L			05/30/25 19:05	1

Lab Sample ID: LCS 310-456246/2

Matrix: Water

Analysis Batch: 456246

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	984.0		mg/L		98	89 - 110

Lab Sample ID: MB 310-456511/1

Matrix: Water

Analysis Batch: 456511

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			06/03/25 18:26	1

Lab Sample ID: LCS 310-456511/2

Matrix: Water

Analysis Batch: 456511

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	1008		mg/L		101	89 - 110

QC Association Summary

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

HPLC/IC

Analysis Batch: 457143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-307504-1	MW-6	Total/NA	Water	9056A	
310-307504-1	MW-6	Total/NA	Water	9056A	
310-307504-2	MW-8	Total/NA	Water	9056A	
310-307504-2	MW-8	Total/NA	Water	9056A	
310-307504-3	MW-9	Total/NA	Water	9056A	
310-307504-3	MW-9	Total/NA	Water	9056A	
310-307504-4	MW-10	Total/NA	Water	9056A	
310-307504-4	MW-10	Total/NA	Water	9056A	
310-307504-5	MW-11	Total/NA	Water	9056A	
310-307504-5	MW-11	Total/NA	Water	9056A	
310-307504-6	MW-12R	Total/NA	Water	9056A	
310-307504-6	MW-12R	Total/NA	Water	9056A	
310-307504-7	MW-13R	Total/NA	Water	9056A	
310-307504-7	MW-13R	Total/NA	Water	9056A	
310-307504-8	MW-26	Total/NA	Water	9056A	
310-307504-8	MW-26	Total/NA	Water	9056A	
MB 310-457143/3	Method Blank	Total/NA	Water	9056A	
LCS 310-457143/4	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 457346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-307504-9	Tunnel Mine #004 Outlet	Total/NA	Water	9056A	
310-307504-9	Tunnel Mine #004 Outlet	Total/NA	Water	9056A	
MB 310-457346/3	Method Blank	Total/NA	Water	9056A	
LCS 310-457346/4	Lab Control Sample	Total/NA	Water	9056A	
310-307504-9 MS	Tunnel Mine #004 Outlet	Total/NA	Water	9056A	
310-307504-9 MS	Tunnel Mine #004 Outlet	Total/NA	Water	9056A	
310-307504-9 MSD	Tunnel Mine #004 Outlet	Total/NA	Water	9056A	
310-307504-9 MSD	Tunnel Mine #004 Outlet	Total/NA	Water	9056A	

Metals

Prep Batch: 456237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-307504-1	MW-6	Total/NA	Water	3005A	
310-307504-2	MW-8	Total/NA	Water	3005A	
310-307504-3	MW-9	Total/NA	Water	3005A	
310-307504-4	MW-10	Total/NA	Water	3005A	
310-307504-5	MW-11	Total/NA	Water	3005A	
310-307504-6	MW-12R	Total/NA	Water	3005A	
310-307504-7	MW-13R	Total/NA	Water	3005A	
310-307504-8	MW-26	Total/NA	Water	3005A	
310-307504-9	Tunnel Mine #004 Outlet	Total/NA	Water	3005A	
MB 310-456237/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-456237/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-307504-3 DU	MW-9	Total/NA	Water	3005A	

Analysis Batch: 456772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-307504-1	MW-6	Total/NA	Water	6020B	456237
310-307504-2	MW-8	Total/NA	Water	6020B	456237

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Metals (Continued)

Analysis Batch: 456772 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-307504-3	MW-9	Total/NA	Water	6020B	456237
310-307504-4	MW-10	Total/NA	Water	6020B	456237
310-307504-5	MW-11	Total/NA	Water	6020B	456237
310-307504-6	MW-12R	Total/NA	Water	6020B	456237
310-307504-7	MW-13R	Total/NA	Water	6020B	456237
310-307504-8	MW-26	Total/NA	Water	6020B	456237
310-307504-9	Tunnel Mine #004 Outlet	Total/NA	Water	6020B	456237
MB 310-456237/1-A	Method Blank	Total/NA	Water	6020B	456237
LCS 310-456237/2-A	Lab Control Sample	Total/NA	Water	6020B	456237
310-307504-3 DU	MW-9	Total/NA	Water	6020B	456237

Analysis Batch: 456942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-307504-1	MW-6	Total/NA	Water	6020B	456237
310-307504-2	MW-8	Total/NA	Water	6020B	456237
310-307504-3	MW-9	Total/NA	Water	6020B	456237
310-307504-4	MW-10	Total/NA	Water	6020B	456237
310-307504-5	MW-11	Total/NA	Water	6020B	456237
310-307504-6	MW-12R	Total/NA	Water	6020B	456237
310-307504-7	MW-13R	Total/NA	Water	6020B	456237
310-307504-8	MW-26	Total/NA	Water	6020B	456237
310-307504-9	Tunnel Mine #004 Outlet	Total/NA	Water	6020B	456237
MB 310-456237/1-A	Method Blank	Total/NA	Water	6020B	456237
LCS 310-456237/2-A	Lab Control Sample	Total/NA	Water	6020B	456237
310-307504-3 DU	MW-9	Total/NA	Water	6020B	456237

Analysis Batch: 457064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-307504-1	MW-6	Total/NA	Water	6020B	456237
310-307504-2	MW-8	Total/NA	Water	6020B	456237
310-307504-3	MW-9	Total/NA	Water	6020B	456237
310-307504-4	MW-10	Total/NA	Water	6020B	456237
310-307504-5	MW-11	Total/NA	Water	6020B	456237
310-307504-6	MW-12R	Total/NA	Water	6020B	456237
310-307504-7	MW-13R	Total/NA	Water	6020B	456237
310-307504-8	MW-26	Total/NA	Water	6020B	456237
310-307504-9	Tunnel Mine #004 Outlet	Total/NA	Water	6020B	456237
310-307504-3 DU	MW-9	Total/NA	Water	6020B	456237

General Chemistry

Analysis Batch: 456214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-307504-1	MW-6	Total/NA	Water	I-3765-85	
310-307504-2	MW-8	Total/NA	Water	I-3765-85	
310-307504-3	MW-9	Total/NA	Water	I-3765-85	
310-307504-4	MW-10	Total/NA	Water	I-3765-85	
310-307504-5	MW-11	Total/NA	Water	I-3765-85	
310-307504-6	MW-12R	Total/NA	Water	I-3765-85	
310-307504-7	MW-13R	Total/NA	Water	I-3765-85	
310-307504-8	MW-26	Total/NA	Water	I-3765-85	

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

General Chemistry (Continued)

Analysis Batch: 456214 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-307504-9	Tunnel Mine #004 Outlet	Total/NA	Water	I-3765-85	
MB 310-456214/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-456214/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 456219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-307504-1	MW-6	Total/NA	Water	SM 2320B	
310-307504-2	MW-8	Total/NA	Water	SM 2320B	
310-307504-3	MW-9	Total/NA	Water	SM 2320B	
310-307504-4	MW-10	Total/NA	Water	SM 2320B	
310-307504-5	MW-11	Total/NA	Water	SM 2320B	
310-307504-6	MW-12R	Total/NA	Water	SM 2320B	
310-307504-7	MW-13R	Total/NA	Water	SM 2320B	
310-307504-8	MW-26	Total/NA	Water	SM 2320B	
310-307504-9	Tunnel Mine #004 Outlet	Total/NA	Water	SM 2320B	
LCS 310-456219/2	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 310-456219/25	Lab Control Sample	Total/NA	Water	SM 2320B	
310-307504-6 DU	MW-12R	Total/NA	Water	SM 2320B	

Analysis Batch: 456246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-307504-1	MW-6	Total/NA	Water	SM 2540C	
310-307504-2	MW-8	Total/NA	Water	SM 2540C	
310-307504-3	MW-9	Total/NA	Water	SM 2540C	
310-307504-6	MW-12R	Total/NA	Water	SM 2540C	
310-307504-7	MW-13R	Total/NA	Water	SM 2540C	
310-307504-9	Tunnel Mine #004 Outlet	Total/NA	Water	SM 2540C	
MB 310-456246/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-456246/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 456511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-307504-4	MW-10	Total/NA	Water	SM 2540C	
310-307504-5	MW-11	Total/NA	Water	SM 2540C	
310-307504-8	MW-26	Total/NA	Water	SM 2540C	
MB 310-456511/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-456511/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: MW-6

Lab Sample ID: 310-307504-1

Date Collected: 05/28/25 11:36

Matrix: Water

Date Received: 05/29/25 16:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	457143	QTZ5	EET CF	06/09/25 17:30
Total/NA	Analysis	9056A		5	457143	QTZ5	EET CF	06/10/25 09:51
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456942	NFT2	EET CF	06/06/25 16:38
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	457064	NFT2	EET CF	06/09/25 15:06
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456772	ZRI4	EET CF	06/05/25 15:30
Total/NA	Analysis	I-3765-85		1	456214	E6KR	EET CF	05/30/25 13:30
Total/NA	Analysis	SM 2320B		1	456219	WZC8	EET CF	05/30/25 11:32
Total/NA	Analysis	SM 2540C		1	456246	MDU9	EET CF	05/30/25 19:05

Client Sample ID: MW-8

Lab Sample ID: 310-307504-2

Date Collected: 05/28/25 13:00

Matrix: Water

Date Received: 05/29/25 16:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	457143	QTZ5	EET CF	06/09/25 17:44
Total/NA	Analysis	9056A		5	457143	QTZ5	EET CF	06/10/25 10:04
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456942	NFT2	EET CF	06/06/25 16:40
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	457064	NFT2	EET CF	06/09/25 15:09
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456772	ZRI4	EET CF	06/05/25 15:33
Total/NA	Analysis	I-3765-85		1	456214	E6KR	EET CF	05/30/25 13:30
Total/NA	Analysis	SM 2320B		1	456219	WZC8	EET CF	05/30/25 11:42
Total/NA	Analysis	SM 2540C		1	456246	MDU9	EET CF	05/30/25 19:05

Client Sample ID: MW-9

Lab Sample ID: 310-307504-3

Date Collected: 05/28/25 14:03

Matrix: Water

Date Received: 05/29/25 16:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	457143	QTZ5	EET CF	06/09/25 17:57
Total/NA	Analysis	9056A		20	457143	QTZ5	EET CF	06/10/25 10:17
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456942	NFT2	EET CF	06/06/25 16:50
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	457064	NFT2	EET CF	06/09/25 15:16
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456772	ZRI4	EET CF	06/05/25 15:36
Total/NA	Analysis	I-3765-85		1	456214	E6KR	EET CF	05/30/25 13:30

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: MW-9

Date Collected: 05/28/25 14:03

Date Received: 05/29/25 16:30

Lab Sample ID: 310-307504-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2320B		1	456219	WZC8	EET CF	05/30/25 12:00
Total/NA	Analysis	SM 2540C		1	456246	MDU9	EET CF	05/30/25 19:05

Client Sample ID: MW-10

Date Collected: 05/28/25 15:02

Date Received: 05/29/25 16:30

Lab Sample ID: 310-307504-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	457143	QTZ5	EET CF	06/09/25 18:10
Total/NA	Analysis	9056A		20	457143	QTZ5	EET CF	06/10/25 10:30
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456942	NFT2	EET CF	06/06/25 16:55
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		4	457064	NFT2	EET CF	06/09/25 15:21
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456772	ZRI4	EET CF	06/05/25 15:42
Total/NA	Analysis	I-3765-85		1	456214	E6KR	EET CF	05/30/25 13:30
Total/NA	Analysis	SM 2320B		1	456219	WZC8	EET CF	05/30/25 12:10
Total/NA	Analysis	SM 2540C		1	456511	MDU9	EET CF	06/03/25 18:26

Client Sample ID: MW-11

Date Collected: 05/28/25 10:04

Date Received: 05/29/25 16:30

Lab Sample ID: 310-307504-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	457143	QTZ5	EET CF	06/09/25 18:49
Total/NA	Analysis	9056A		10	457143	QTZ5	EET CF	06/10/25 10:43
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456942	NFT2	EET CF	06/06/25 16:57
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		4	457064	NFT2	EET CF	06/09/25 15:23
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456772	ZRI4	EET CF	06/05/25 15:45
Total/NA	Analysis	I-3765-85		1	456214	E6KR	EET CF	05/30/25 13:30
Total/NA	Analysis	SM 2320B		1	456219	WZC8	EET CF	05/30/25 12:22
Total/NA	Analysis	SM 2540C		1	456511	MDU9	EET CF	06/03/25 18:26

Client Sample ID: MW-12R

Date Collected: 05/27/25 13:22

Date Received: 05/29/25 16:30

Lab Sample ID: 310-307504-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	457143	QTZ5	EET CF	06/09/25 19:02
Total/NA	Analysis	9056A		100	457143	QTZ5	EET CF	06/10/25 10:56

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: MW-12R

Lab Sample ID: 310-307504-6

Date Collected: 05/27/25 13:22

Matrix: Water

Date Received: 05/29/25 16:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456942	NFT2	EET CF	06/06/25 16:59
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		4	457064	NFT2	EET CF	06/09/25 15:25
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456772	ZRI4	EET CF	06/05/25 15:48
Total/NA	Analysis	I-3765-85		1	456214	E6KR	EET CF	05/30/25 13:30
Total/NA	Analysis	SM 2320B		1	456219	WZC8	EET CF	05/30/25 12:51
Total/NA	Analysis	SM 2540C		1	456246	MDU9	EET CF	05/30/25 19:05

Client Sample ID: MW-13R

Lab Sample ID: 310-307504-7

Date Collected: 05/27/25 14:54

Matrix: Water

Date Received: 05/29/25 16:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	457143	QTZ5	EET CF	06/09/25 19:15
Total/NA	Analysis	9056A		100	457143	QTZ5	EET CF	06/10/25 11:36
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456942	NFT2	EET CF	06/06/25 17:02
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		4	457064	NFT2	EET CF	06/09/25 15:28
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456772	ZRI4	EET CF	06/05/25 15:51
Total/NA	Analysis	I-3765-85		1	456214	E6KR	EET CF	05/30/25 13:30
Total/NA	Analysis	SM 2320B		1	456219	WZC8	EET CF	05/30/25 13:21
Total/NA	Analysis	SM 2540C		1	456246	MDU9	EET CF	05/30/25 19:05

Client Sample ID: MW-26

Lab Sample ID: 310-307504-8

Date Collected: 05/28/25 08:54

Matrix: Water

Date Received: 05/29/25 16:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	457143	QTZ5	EET CF	06/09/25 19:28
Total/NA	Analysis	9056A		100	457143	QTZ5	EET CF	06/10/25 11:49
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456942	NFT2	EET CF	06/06/25 17:04
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		5	457064	NFT2	EET CF	06/09/25 15:30
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456772	ZRI4	EET CF	06/05/25 15:54
Total/NA	Analysis	I-3765-85		1	456214	E6KR	EET CF	05/30/25 13:30
Total/NA	Analysis	SM 2320B		1	456219	WZC8	EET CF	05/30/25 13:33
Total/NA	Analysis	SM 2540C		1	456511	MDU9	EET CF	06/03/25 18:26

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Client Sample ID: Tunnel Mine #004 Outlet
Date Collected: 05/27/25 17:00
Date Received: 05/29/25 16:30

Lab Sample ID: 310-307504-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	457346	QTZ5	EET CF	06/10/25 09:39
Total/NA	Analysis	9056A		50	457346	QTZ5	EET CF	06/11/25 13:43
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456942	NFT2	EET CF	06/06/25 17:07
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		4	457064	NFT2	EET CF	06/09/25 15:33
Total/NA	Prep	3005A			456237	WK2X	EET CF	06/02/25 08:40
Total/NA	Analysis	6020B		1	456772	ZRI4	EET CF	06/05/25 15:57
Total/NA	Analysis	I-3765-85		1	456214	E6KR	EET CF	05/30/25 13:30
Total/NA	Analysis	SM 2320B		1	456219	WZC8	EET CF	05/30/25 13:37
Total/NA	Analysis	SM 2540C		1	456246	MDU9	EET CF	05/30/25 19:05

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

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

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: SCS Engineers
Project/Site: Cargill CCR Landfill Sampling 2025

Job ID: 310-307504-1
SDG: Cargill CCR Landfill

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
SM 2320B	Alkalinity	SM	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
3005A	Preparation, Total Metals	SW846	EET CF

Protocol References:

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

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

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



Environment Testing
America



310-307504 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SES</u>			
City/State:	<u>W. Des Moines</u>	STATE: <u>IA</u>	Project:
Receipt Information			
Date/Time Received	DATE: <u>5-29-25</u>	TIME: <u>1630</u>	Received By: <u>PH</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>0.4</u>		Corrected Temp (°C): <u>0.4</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>ScS</u>			
City/State:	CITY <u>W. Des Moines</u>	STATE <u>IA</u>	Project.
Receipt Information			
Date/Time Received:	DATE <u>5-29-25</u>	TIME <u>1630</u>	Received By. <u>PH</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>-0.4</u>		Corrected Temp (°C): <u>-0.4</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

Eurofins TestAmerica, Cedar Falls
3019 Venture Way

Cedar Falls, IA 50613-6907
phone 319 277 2401 fax 319 277 2425

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Groundwater

Other

RCRA

NPDES

DW

Regulatory Program:

Project Manager:		Site Contact:		Date:		COC No:	
Email:		Lab Contact:		Carrier:		1 of 2 COCs	
Cell:		Analysis Turnaround Time		Total Dissolved Solids		Total Suspended Solids	
1690 All-State Court, Suite 100		CALENDAR DAYS WORKING DAYS		Total Lead		Total Zinc	
West Des Moines, Iowa 50265		Other:		Total Iron		Total Manganese	
515-631-6154		2 weeks		Total Copper		Total Selenium	
KJensen@scsengr.com		1 week		Total Cobalt		Total Molybdenum	
Project Name: Cargill CCR Landfill Sampling 2025		2 days		Total Beryllium		Total Arsenic	
Site Cargill CCR Landfill		1 day		Total Barium		Fluoride	
PO #		Sample Date		Sample Time		Sample Type (C-Comp, G-Grab)	
Sample Identification		Sample Date		Sample Time		Sample Type (C-Comp, G-Grab)	
MW-6		5/28/25		11:36		G	
MW-8		5/28/25		13:00		G	
MW-9		5/28/25		4:03		G	
MW-10		5/28/25		5:02		G	
MW-11		5/28/25		10:04		G	
MW-12R		5/27/25		3:42		G	
MW-13R		5/27/25		14:54		G	
MW-26		5/24/25		8:54		G	
Fly Ash North #002 Underdrain						G	
Tunnel Mine #004 Outlet		5/27/25		17:00		G	
Gypsum West #005 Underdrain						G	
North Fill Area Leachate (MH #8)						G	
South Fill Area Leachate (MH #5)						G	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other							
Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the							
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the							
Comments Section if the lab is to dispose of the sample							
Non-Hazardous		Hazardous		Skin Irritant		Poison B	
Special Instructions/QC Requirements & Comments:							
Custody Seals Intact: Yes No		Custody Seal No.		Cooler Temp. (°C)		Obs'd	
Relinquished by: <i>Shirley Morgan</i>		Company: SCS		Received by:		Company:	
Relinquished by:		Company:		Received by:		Company:	
Relinquished by:		Company:		Received in Laboratory by:		Company:	
						Date/Time: 5.27.25 16:30	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-307504-1
SDG Number: Cargill CCR Landfill

Login Number: 307504

List Number: 1

Creator: Hirsch, Preston

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



Appendix B-2

Data Validation

Completed by: Semir Omerovic
Sampling Date: 5/28/2025
Lab Report Date: 6/12/2025
Site Name: Cargill-Eddyville CCR Landfill
Lab Report Number: 310-307504-1

OK NO N/A NOTES

Sample Collection and Sample Handling

Chain of Custody
Temperature
Preservation
Condition
Case Narrative

X			
X			
X			
X			
X			
	X		Method 9056A_ORGFM_28D: The following samples were diluted due to the nature of the sample matrix: MW-6, MW-8, MW-9, MW-10, MW-11, MW-12R, MW-13R and MW-26. Elevated reporting limits (RLs) were provided.
X			

Reporting Limits

Holding Times

Analytical Sensitivity and Blanks

Method Blank Detections
Trip Blank Detections

X			
		X	

Accuracy

ICV/CCV
LCS/LCSD
MS/MSD
Surrogates (organics only)

X			
X			
X			
		X	

Precision

QA/QC Sample RPDs
Field Duplicates

X			
		X	No duplicate samples were collected during the 2025 sampling event.



Appendix C

Summary of Groundwater Chemistry

SCS ENGINEERS

Summary of Groundwater Chemistry
Cargill Sweeteners - North America - CCR Landfill (62-SOP-04-89C)

Total Metals Constituents	Sample Date	MW-6 UPG	MW-26 UPG	FlyAshNorth#002 DNG	GypsumWest005 DNG	MW-8 DNG	MW-9 DNG	MW-10 DNG	MW-11 DNG	MW-12R DNG	MW-13R DNG	TunnelMine004 DNG
Arsenic, mg/L (CAS NO - 7440-38-2)	10/4/2016	< 0.002	N/A	N/A	N/A	< 0.002	< 0.002	0.0034	< 0.002	N/A	< 0.002	N/A
	8/10/2017	< 0.002	N/A	N/A	N/A	< 0.002	< 0.002	0.00253	< 0.002	< 0.002	0.00246	N/A
	9/26/2018	< 0.002	N/A	N/A	N/A	< 0.002	< 0.002	0.00301	< 0.002	< 0.002	0.00422	N/A
	7/8/2019	< 0.002	N/A	N/A	N/A	< 0.002	< 0.002	< 0.008	< 0.008	< 0.008	< 0.008	N/A
	9/1/2020	< 0.002	N/A	N/A	N/A	< 0.002	< 0.002	0.0031	< 0.008	< 0.008	< 0.008	N/A
	5/25/2021	< 0.002	N/A	N/A	N/A	< 0.002	< 0.002	0.00279	0.00284	< 0.002	0.00268	N/A
	9/7/2022	< 0.002	N/A	N/A	N/A	< 0.002	< 0.002	0.00323	0.0035	< 0.002	0.00825	N/A
	9/5/2023	< 0.002	< 0.002	< 0.002	0.00434	< 0.002	< 0.002	0.00306	0.00267	< 0.002	< 0.002	N/A
	4/17/2024	< 0.002	< 0.002	< 0.002	0.00503	< 0.002	< 0.002	0.00322	< 0.002	< 0.002	< 0.002	N/A
	5/27/2025	< 0.002	0.00353	N/A	N/A	N/A	< 0.002	0.00345	0.00502	< 0.002	0.00404	0.0357
Barium, mg/L (CAS NO - 7440-39-3)	10/4/2016	0.0317	N/A	N/A	N/A	0.0458	0.0237	0.0137	0.0325	N/A	0.00446	N/A
	8/10/2017	0.0334	N/A	N/A	N/A	0.0425	0.0224	0.0148	0.0299	0.0313	0.0665	N/A
	9/26/2018	0.024	N/A	N/A	N/A	0.0438	0.0217	0.0158	0.0311	0.016	0.0322	N/A
	7/8/2019	0.0261	N/A	N/A	N/A	0.0438	0.0236	0.016	0.0489	0.0182	0.0338	N/A
	9/1/2020	0.0291	N/A	N/A	N/A	0.0923	0.0202	0.0146	0.0315	0.0189	0.0255	N/A
	5/25/2021	0.021	N/A	N/A	N/A	0.0358	0.0211	0.0141	0.0314	0.0157	0.0265	N/A
	9/7/2022	0.0213	N/A	N/A	N/A	0.0291	0.0213	0.016	0.0388	0.0144	0.0217	N/A
	9/5/2023	0.0207	0.00972	0.015	0.00896	0.0281	0.0313	0.015	0.0329	0.0144	0.0188	N/A
	4/17/2024	0.0239	0.0107	0.0166	0.0108	0.0272	0.0311	0.0148	0.0306	0.0153	0.0202	N/A
	5/27/2025	0.0204	0.00916	N/A	N/A	0.0502	0.0217	0.0159	0.0307	0.0136	0.0329	0.0325
Beryllium, mg/L (CAS NO - 7440-41-7)	10/4/2016	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	N/A	< 0.001	N/A
	8/10/2017	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A
	9/26/2018	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A
	7/8/2019	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.004	< 0.004	< 0.004	< 0.004	N/A
	9/1/2020	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.004	< 0.004	< 0.004	< 0.004	N/A
	5/25/2021	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A
	9/7/2022	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A
	9/5/2023	< 0.001	0.00174	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A
	4/17/2024	< 0.001	0.00132	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A
	5/27/2025	< 0.001	0.0107	< 0.001	< 0.001	< 0.001	< 0.001	< 0.004	< 0.004	< 0.004	< 0.004	0.00953
Boron, mg/L (CAS NO - 7440-42-8)	9/5/2023	0.364	0.154	0.894	0.785	0.356	0.992	0.634	0.407	1.42	0.56	N/A
	4/17/2024	0.368	< 0.7	1.06	0.968	0.315	0.966	0.602	0.459	1.4	0.735	N/A
	5/27/2025	0.367	< 0.5	N/A	N/A	0.445	1.19	0.786	0.552	1.46	0.725	0.862
	10/4/2016	< 5	N/A	N/A	N/A	< 5	< 5	< 5	8.08	N/A	< 5	N/A
	8/10/2017	< 5	N/A	N/A	N/A	< 5	< 5	< 5	5.26	8.06	17.5	N/A
	9/26/2018	< 5	N/A	N/A	N/A	< 5	< 5	< 5	5.12	7	8.41	N/A
	7/8/2019	< 5	N/A	N/A	N/A	< 5	< 5	< 5	6.03	7.64	8.75	N/A
	9/1/2020	< 5	N/A	N/A	N/A	< 5	< 5	< 5	5.18	5.15	8.22	8.33
	5/25/2021	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5	7.01	10.5	N/A
	9/7/2022	< 5	N/A	N/A	N/A	< 5	< 5	< 5	10.8	6.33	11.3	N/A
Cobalt, mg/L (CAS NO - 7440-48-4)	9/5/2023	< 5	< 5	7.42	< 5	< 5	< 5	< 5	6.47	6.72	14.3	N/A
	4/17/2024	< 5	< 5	8.52	5.72	< 5	< 5	< 5	6.76	5.56	7.57	78
	5/27/2025	< 5	< 5	N/A	N/A	< 5	< 5	< 5	5.82	6.39	14.3	5.58
	10/4/2016	< 0.0005	N/A	N/A	N/A	< 0.0005	< 0.0005	0.0188	0.0277	N/A	< 0.0005	N/A
	8/10/2017	< 0.0005	N/A	N/A	N/A	< 0.0005	< 0.0005	0.0181	0.0343	0.00528	0.044	N/A
	9/26/2018	< 0.0005	N/A	N/A	N/A	< 0.0005	< 0.0005	0.0185	0.0324	0.0043	0.0571	N/A
	7/8/2019	< 0.0005	N/A	N/A	N/A	0.00189	< 0.0005	0.0187	0.0478	0.00544	0.0703	N/A
	9/1/2020	< 0.0005	N/A	N/A	N/A	< 0.0005	< 0.0005	0.0181	0.0354	0.00696	0.0597	N/A
	5/25/2021	< 0.0005	N/A	N/A	N/A	< 0.0005	< 0.0005	0.0192	0.0311	0.00919	0.0541	N/A
	9/7/2022	< 0.0005	N/A	N/A	N/A	< 0.0005	< 0.0005	0.0176	0.0409	0.00423	0.0528	N/A
Copper, mg/L (CAS NO - 7440-50-8)	9/5/2023	< 0.0005	0.002	0.0068	0.0122	0.0068	< 0.0005	0.00118	0.0188	0.00416	0.0579	N/A
	4/17/2024	< 0.0005	0.0572	0.0114	0.0638	< 0.0005	0.000994	0.0189	0.0441	0.0034	0.0322	N/A
	5/27/2025	< 0.0005	0.155	N/A	N/A	0.00112	< 0.0005	0.0183	0.0383	0.0036	0.0494	0.0564
	10/4/2016	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	N/A	< 0.005	N/A
	8/10/2017	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A
	9/26/2018	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0194	N/A
	7/8/2019	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A
	9/1/2020	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A
	5/25/2021	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A
	9/7/2022	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A
Fluoride, mg/L (CAS NO - 16984-48-8)	9/5/2023	< 1	1.12	< 1	1.33	< 1	< 1	< 1	< 1	< 1	< 1	N/A
	4/17/2024	< 1	< 1	< 1	1.23	< 1	< 1	< 1	< 1	< 1	< 1	N/A
	5/27/2025	< 1	1.18	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	1.31
	10/4/2016	< 0.1	0.685	4.76	4.17	0.137	< 0.1	4.39	4.33	N/A	0.569	< 0.1
	8/10/2017	0.148	< 0.1	71.7	4.95	0.238	0.107	4.35	3.25	3.12	6.85	N/A
	9/26/2018	0.909	1.2	7.12	65.3	0.308	< 0.1	4.7	10.7	3.76	12	N/A
	7/8/2019	0.951	2.88	11.1	61.5	< 0.1	< 0.1	4.59	35.9	4.68	10.4	286
	9/1/2020	0.706	< 1	15.3	45.6	< 0.1	< 0.1	4.65	14.3	4.88	9.25	262
	5/25/2021	0.877	0.123	5.44	43.1	< 0.1	< 0.1	4.65	17	4.48	7.34	313
	9/7/2022	0.847	0.38	16.3	52.4	< 0.1	< 0.1	6.02	36.7	3.79	8.8	N/A
Iron, mg/L (CAS NO - 7439-89-6)	9/5/2023	0.403	0.216	5.38	78.34	1.27	0.97	5.97	22	3.73	7.06	7.94
	4/17/2024	< 0.1	0.111	5.84	72	< 0.1	0.286	5.83	16.9	1.6	1.05	N/A
	5/27/2025	0.234	0.246	N/A	N/A	0.954	< 0.1	6.35	20.3	3.76	11.6	283
	10/4/2016	< 0.0005	N/A	N/A	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005	N/A	< 0.0005	N/A
	8/10/2017	< 0.0005	N/A	N/A	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000591	0.00395	N/A
	9/26/2018	< 0.0005	N/A	N/A	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.00989	N/A
	7/8/2019	< 0.0005	N/A	N/A	N/A	< 0.0005	< 0.0005	< 0.002	< 0.002	< 0.002	0.00241	N/A
	9/1/2020	< 0.0005	N/A	N/A	N/A	0.00111	< 0.0005	< 0.0005	< 0.0005	0.000708	0.0028	N/A
	5/25/2021	< 0.0005	N/A	N/A	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	N/A
	9/7/2022	< 0.0005	N/A	N/A	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.00096	N/A
Magnesium, mg/L (CAS NO - 7439-95-4)	9/5/2023	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005</			

SCS ENGINEERS

Summary of Groundwater Chemistry
Cargill Sweeteners - North America - CCR Landfill (62-SDP-04-89C)

	Sample Date	MW-6 UPG	MW-26 UPG	FlyAshNorth#002 DNG	GypsumWest005 DNG	MW-8 DNG	MW-9 DNG	MW-10 DNG	MW-11 DNG	MW-12R DNG	MW-13R DNG	TunnelMine004 DNG
Total Metals Constituents Sulfate, mg/L (CAS NO - 14808-79-8)	10/4/2016	295	1750	2140	1740	175	1030	1740	802	N/A	1340	3500
	8/10/2017	304	2010	2310	1950	243	1100	3600	681	2240	2260	N/A
	9/26/2018	403	2050	2500	2000	227	1210	1890	743	2220	1720	N/A
	7/8/2019	467	2400	2680	1890	265	1220	1910	733	2290	1870	3130
	9/1/2020	464	2410	2730	2110	262	1130	1830	680	2510	1760	3150
	5/25/2021	429	2450	2470	1850	307	1140	1770	744	2740	2030	3140
	9/7/2022	373	348	2590	2000	236	1170	1760	1300	2220	2000	N/A
	9/5/2023	373	2370	2410	2200	216	1290	1800	762	2230	2160	N/A
	4/17/2024	368	2240	2320	2140	187	1190	1800	751	2200	2380	N/A
	5/27/2025	335	3310	N/A	N/A	275	1240	1740	723	2140	2190	1930
	10/4/2016	< 0.01	N/A	N/A	N/A	< 0.01	< 0.01	< 0.01	0.0556	N/A	0.0111	N/A
	8/10/2017	< 0.02	N/A	N/A	N/A	< 0.02	< 0.02	< 0.02	0.0554	< 0.02	0.0413	N/A
	9/26/2018	< 0.02	N/A	N/A	N/A	< 0.02	< 0.02	< 0.02	0.0521	< 0.02	0.0911	N/A
	7/8/2019	< 0.02	N/A	N/A	N/A	< 0.02	< 0.02	< 0.08	< 0.08	< 0.08	< 0.08	N/A
Zinc, mg/L (CAS NO - 7440-66-6)	9/1/2020	< 0.02	N/A	N/A	N/A	< 0.02	< 0.02	< 0.02	0.0392	< 0.02	0.0316	N/A
	5/25/2021	< 0.02	N/A	N/A	N/A	< 0.02	< 0.02	< 0.02	0.0935	< 0.02	< 0.02	N/A
	9/7/2022	< 0.02	N/A	N/A	N/A	< 0.02	< 0.02	< 0.02	0.32	< 0.02	0.029	N/A
	9/5/2023	< 0.02	0.32	< 0.02	0.131	0.0214	< 0.02	< 0.02	0.438	< 0.02	< 0.02	N/A
	4/17/2024	< 0.02	0.25	< 0.02	0.107	< 0.02	0.0232	< 0.02	0.235	< 0.02	0.0233	N/A
	5/27/2025	< 0.02	0.93	N/A	N/A	< 0.02	< 0.02	< 0.02	0.15	< 0.02	0.0553	0.287
Total Suspended Solids, mg/L (CAS NO - TSS)	9/5/2023	6.63	1.88	6.67	83	13.3	14	17.8	110	9	103	N/A
	4/17/2024	2.5	< 1.9	< 5	46.7	5.1	8.3	20.7	49	3	18.6	N/A
	5/27/2025	3.1	< 1.9	N/A	N/A	122	2.1	140	23.5	11.8	1000	1270

Note: * Indicates 'J' flag'. Detection is below the reporting limit, but greater than the MDL (Method Detection Limit). The concentration is estimated.

Denotes Detection.
Denotes Confirmed Outlier. Statistically Excluded.
Sampling performed over multiple dates is recorded on the first date sampled. Refer to field forms for exact sample date.

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Summary of Groundwater Chemistry
Cargill Sweeteners - North America - CCR Landfill (62-SDP-04-89C)

Other Constituents	Sample Date	MW-6 UPG	MW-26 UPG	FlyAshNorth#002 DNG	GypsumWest005 DNG	MW-8 DNG	MW-9 DNG	MW-10 DNG	MW-11 DNG	MW-12R DNG	MW-13R DNG	TunnelMine004 DNG
Alkalinity, Total [CaCO3], mg/L (CAS NO - TALK)	5/27/2025	300	< 5	N/A	N/A	447	326	467	861	854	622	266
Bicarbonate, mg/L (CAS NO - BICARB)	5/27/2025	300	< 5	N/A	N/A	447	326	467	861	854	622	266
	4/17/2024	83.7	437	585	613	129	370	593	401	547	558	N/A
	5/27/2025	78.2	421	N/A	N/A	133	371	504	346	495	487	438
Carbonate, mg/L (CAS NO - CARB)	5/27/2025	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Calcium, mg/L (CAS NO - 7440-70-2)	9/5/2023	112	417	491	518	137	348	651	395	602	505	N/A
Potassium, mg/L (CAS NO - 7440-09-7)	5/27/2025	5.14	3.41	N/A	N/A	6.87	9.3	8.55	4.3	18.9	8.75	8.56
Sodium, mg/L (CAS NO - 7440-23-5)	5/27/2025	130	77.4	N/A	N/A	61.9	100	29	73.4	390	298	84.2
pH, SU (CAS NO - PH)	10/4/2016	7.71	5.91	6.68	6.44	6.86	7.1	6.45	6.14	N/A	6.89	6.4
	8/10/2017	7.32	5.06	6.44	6.45	6.83	6.73	6.55	6.2	6.41	6.42	N/A
	9/26/2018	6.39	5.54	6.59	6.2	6.94	6.54	6.18	5.99	6.12	6.52	N/A
	7/8/2019	7.12	4.54	6.84	6.39	7.22	7.08	6.49	6.1	6.38	6.26	6.26
	9/1/2020	7.11	4.41	7.15	6.56	7.01	6.91	6.35	6.09	6.21	6.15	6.44
	5/25/2021	7.4	5.74	6.76	6.8	7.7	7.21	6.46	6.13	6.31	6.25	6.62
	9/7/2022	7.75	4.54	6.91	7	7.61	7.41	6.99	6.41	6.83	6.74	N/A
	9/5/2023	7.54	5.28	6.83	6.79	7.16	7.11	6.82	6.58	6.54	6.54	N/A
	4/17/2024	7.16	5.09	6.56	6.39	6.99	6.92	6.5	6.3	6.38	6.46	N/A
	5/27/2025	7.27	4.21	N/A	N/A	6.82	6.82	6.37	6.1	6.28	6.34	6.13
Specific Conductance, uS/cm (CAS NO - SPECCON)	5/27/2025	1134.6	4032.9	N/A	N/A	1206	2311.7	2965.1	2322.7	4152.1	3916.8	3204
Total Dissolved Solids, mg/L (CAS NO - TDS)	9/5/2023	778	3280	3700	3240	632	1890	2440	1560	3750	3370	N/A
	4/17/2024	774	3080	3700	3140	624	1830	2840	1780	4160	3630	N/A
	5/27/2025	790	4970	N/A	N/A	798	2170	3010	1940	3840	3850	3010

Note: * Indicates 'J' flag'. Detection is below the reporting limit, but greater than the MDL (Method Detection Limit). The concentration is estimated.

Denotes Detection.
Denotes Confirmed Outlier, Statistically Excluded.

Sampling performed over multiple dates is recorded on the first date sampled. Refer to field forms for exact sample date.

Appendix D

Statistical Report

Statistical Method and Output

Purpose

The purpose of this document is to provide the process of statistical evaluation of groundwater analytical data collected from the monitoring network.

Diagnostic and Exploratory Evaluations and Tests of Assumptions

The detection and assessment monitoring statistical programs include diagnostic and exploratory evaluations and statistical tests of assumptions, as appropriate, including the following:

- Time Series Plots
- Shapiro-Wilk test for normality
- Ohio Environmental Protection Agency (EPA) Method for outliers
- Mann-Kendall/Sen's Slope trend test

Management of Non-Detect Data

Non-detect values in the dataset are managed using simple substitution or the Kaplan-Meier estimator. If less than 15% of the data were non-detects, simple substitution is used, where non-detect values are assigned a concentration of one-half ($\frac{1}{2}$) of the practical quantification limit (PQL). If greater than 15% but less than 50% of the data are non-detects, the Kaplan-Meier estimator is used to define the distribution for the dataset. If non-detects comprise greater than 50% of the available data, non-parametric statistical methods are used.

Management of Outliers

Background datasets are evaluated for outliers using the Ohio EPA Method as included in the Sanitas™ statistical software program and described below, which includes the use of Dixon's, Rosner's, and Tukey's outlier tests, as appropriate based on the diagnostic tests, for the datasets that contain less than 75% of the measured concentrations below the PQL. Outliers are not confirmed unless a physical cause or explanation for the outlier is determined.

Management of Data (ND data < 75%)

If less than 75% of the background dataset is below the PQL, outliers are statistically evaluated using the following guidelines.

- A parametric dataset with $n < 20$ was evaluated with the Dixon's outlier test.
- A parametric dataset with $n \geq 20$ was evaluated with the Rosner's outlier test.
- A non-parametric dataset was evaluated with the Tukey's outlier test.

In accordance with the Ohio EPA Method, if a statistically significant outlier is not found using the above tests, but the highest value data point exceeds the second highest data point by an order of magnitude, the highest point is considered an outlier.

Management of Data (ND data $\geq$ 75%)

If greater than or equal to 75% of the background dataset is less than the PQL, outliers are statistically evaluated using the following guidelines.

- Single detection $\geq$ the PQL:

- o If $\geq 50\%$ of the background dataset has detections $\geq$ the method detection limit (MDL), any value $\geq$ two times the PQL of background is considered an outlier.
- o If $< 50\%$ of the background dataset has detections $\geq$ the MDL, any value $\geq$ the PQL of background is considered an outlier.
- Two or more detections $\geq$ the PQL:
 - o If $\geq 50\%$ of the background dataset has detections $\geq$ the MDL, any value $\geq$ three times the PQL of background is considered an outlier.
 - o If $< 50\%$ of the background dataset has detections $\geq$ the MDL, any value $\geq$ two times the PQL of background is considered an outlier.

Confirmed outliers, if any, are shown in the Summary of Groundwater Chemistry included in the Annual Water Quality Report.

Detection Monitoring Statistical Program

The detection monitoring statistical program for the Cargill Sweeteners - North America - CCR Landfill is based on the EPA's Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities (EPA 530/R-09-007). Intrawell prediction limits were selected as the appropriate statistical method for the determination of constituents statistically above background for inorganic constituents with historical detections in the background dataset. Prediction limits are established using the process below. Data from the most recent sampling event is compared to the prediction limits for the determination of constituents above background.

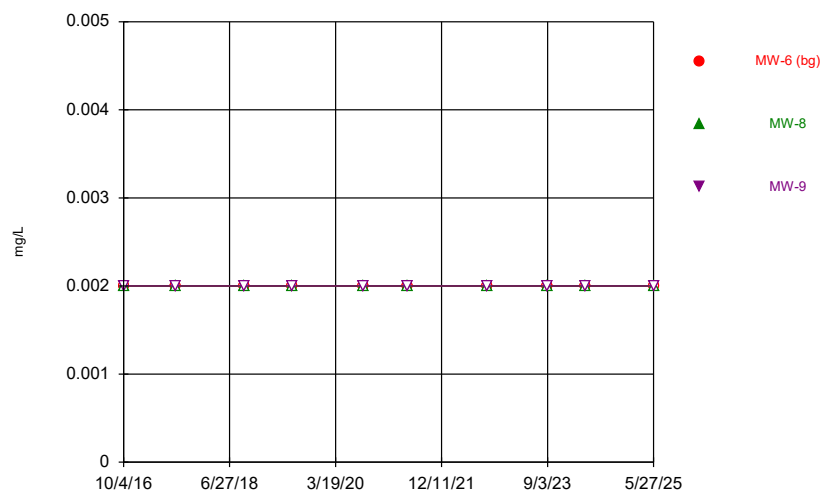
Intrawell Prediction Limits

- If the dataset has a normal distribution (or can be transformed to a normal distribution using Ladder of Powers), parametric intrawell prediction limits are calculated if at least six datasets have been collected.
- If the dataset does not have a normal distribution (and cannot be transformed to a normal distribution using Ladder of Powers) or has greater than 50% non-detects, nonparametric intrawell prediction limits are calculated if at least six datasets have been collected.

Attachment A

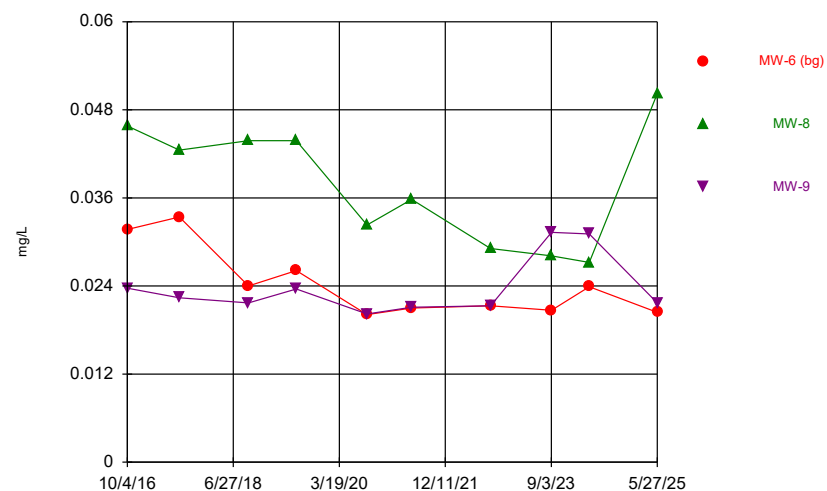
Time Series Graphs

Time Series



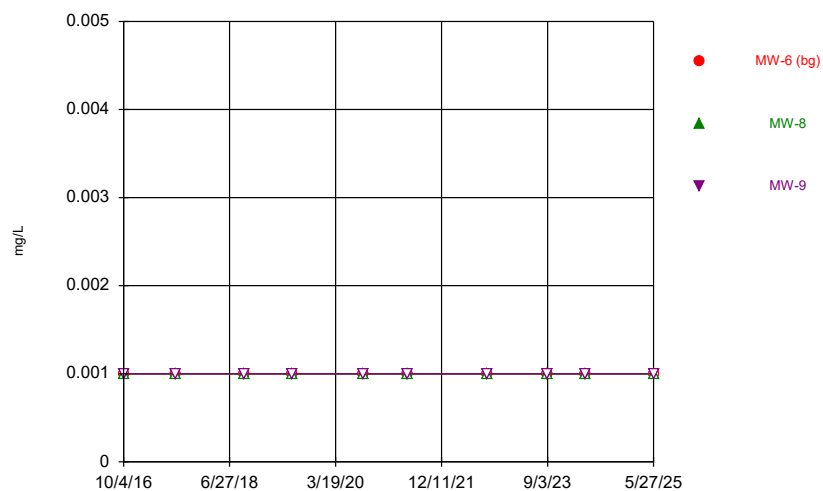
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Cargill-Eddyville Data: Cargill CCR Landfill

Time Series



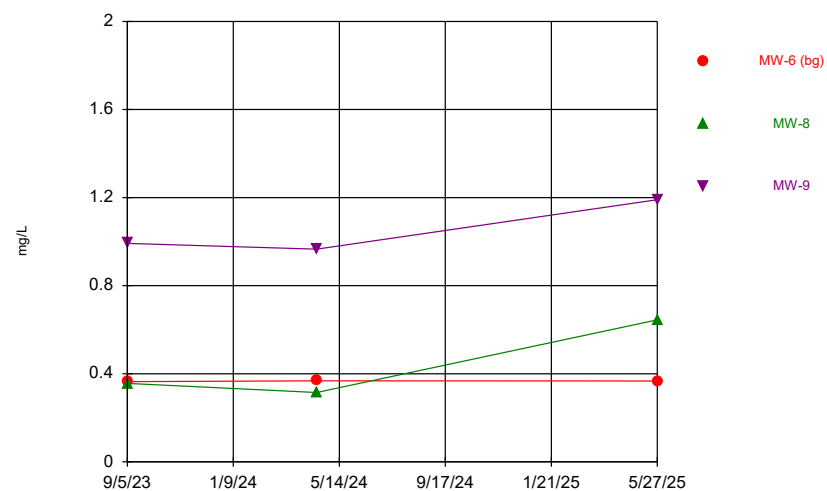
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Cargill-Eddyville Data: Cargill CCR Landfill

Time Series



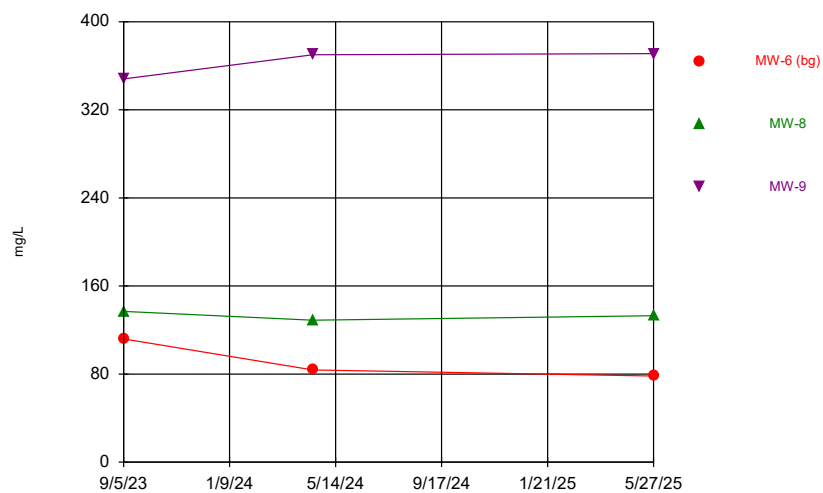
Constituent: Beryllium Analysis Run 8/13/2025 10:56 AM View: 2025_SSN-Time_Series Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Time Series

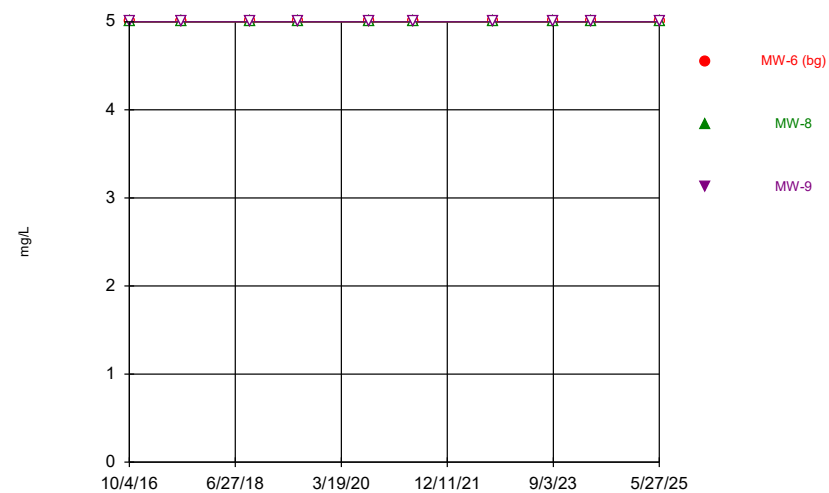


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Cargill-Eddyville Data: Cargill CCR Landfill

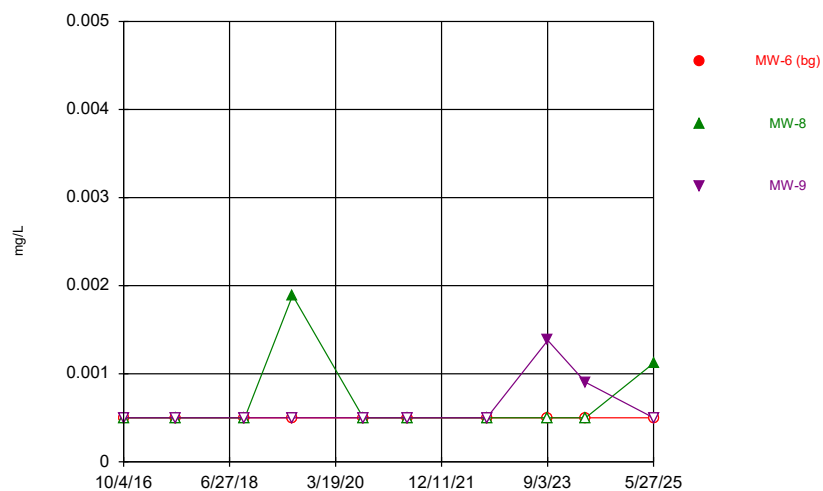
Time Series



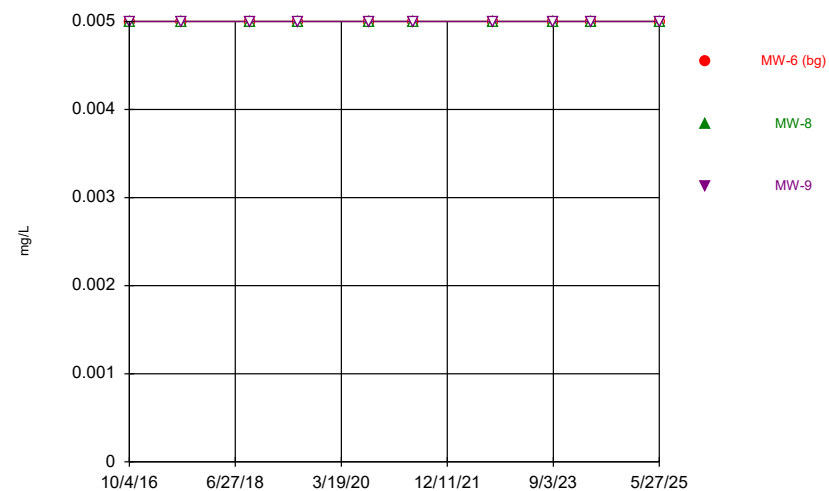
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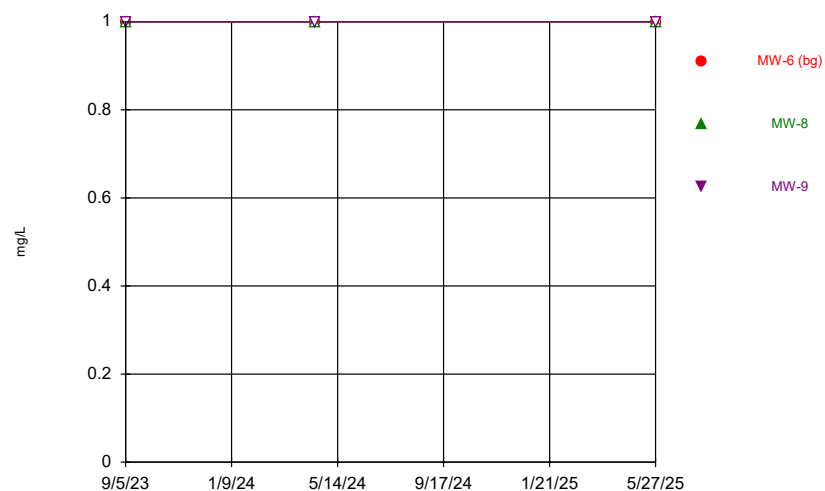
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Time Series

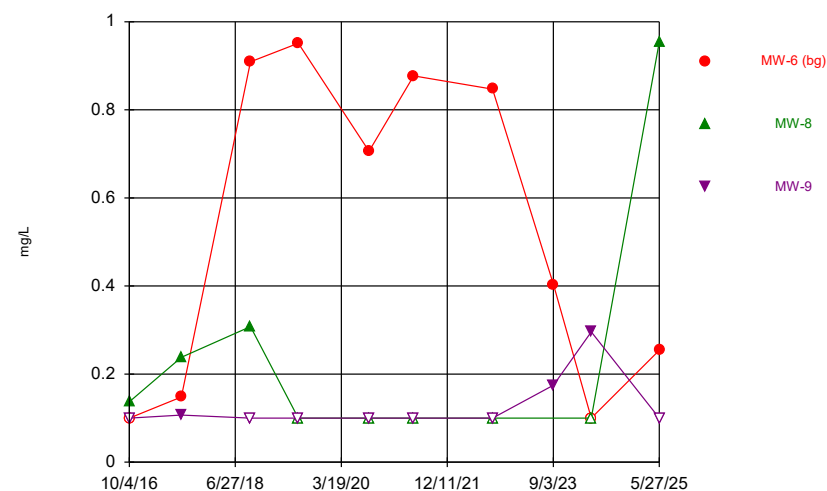


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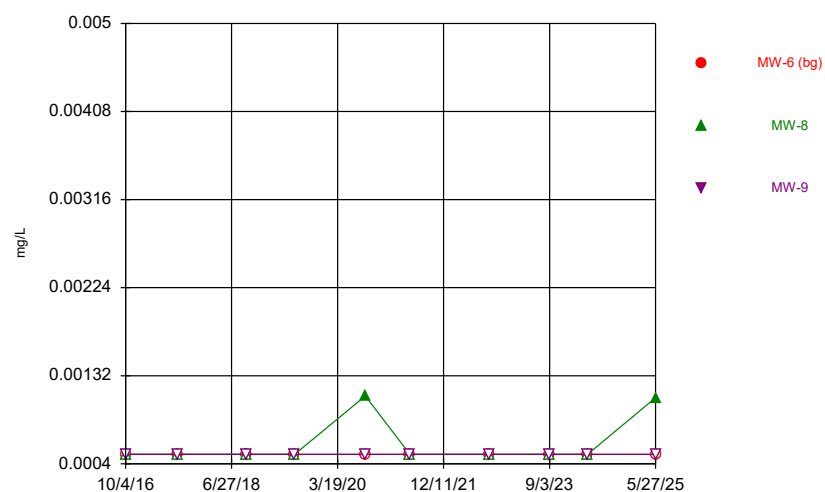
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Cargill-Eddyville Data: Cargill CCR Landfill

Time Series



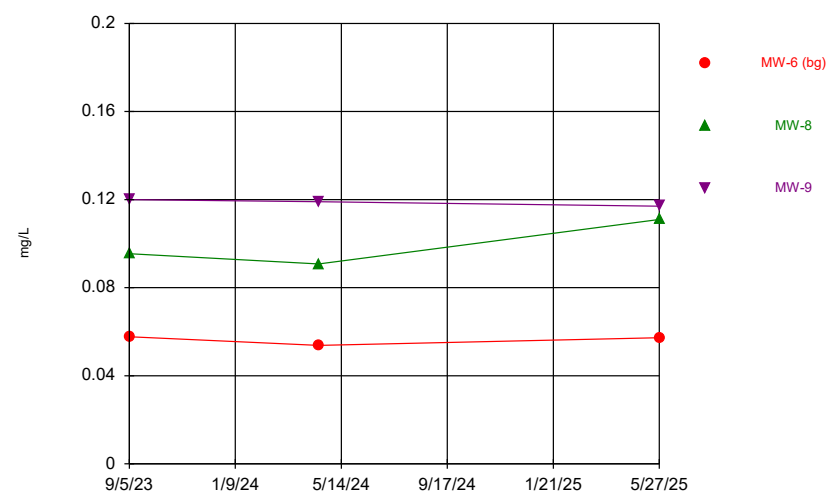
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Cargill-Eddyville Data: Cargill CCR Landfill

Time Series



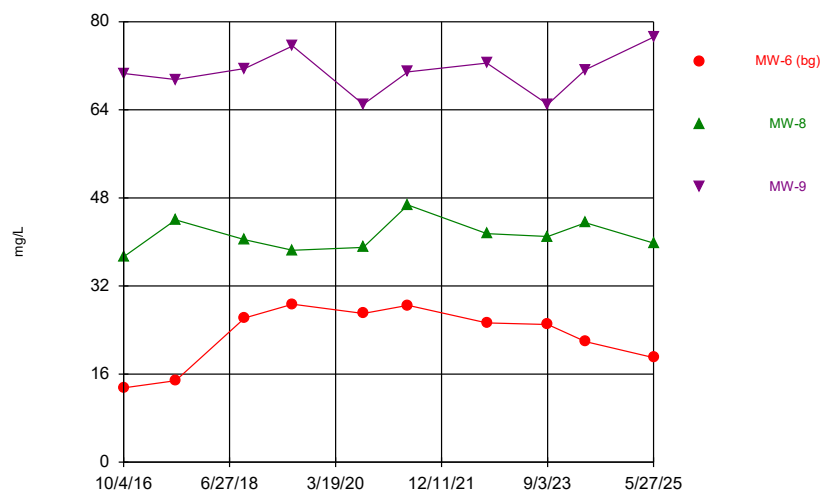
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Cargill-Eddyville Data: Cargill CCR Landfill

Time Series



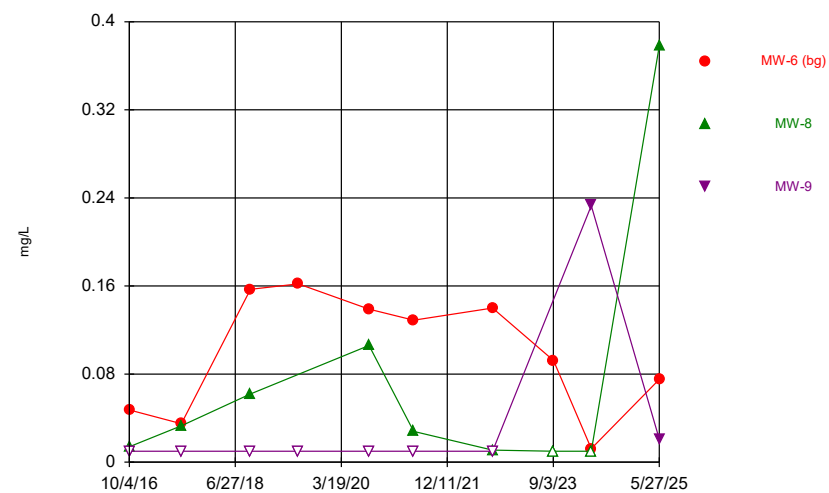
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Cargill-Eddyville Data: Cargill CCR Landfill

Time Series



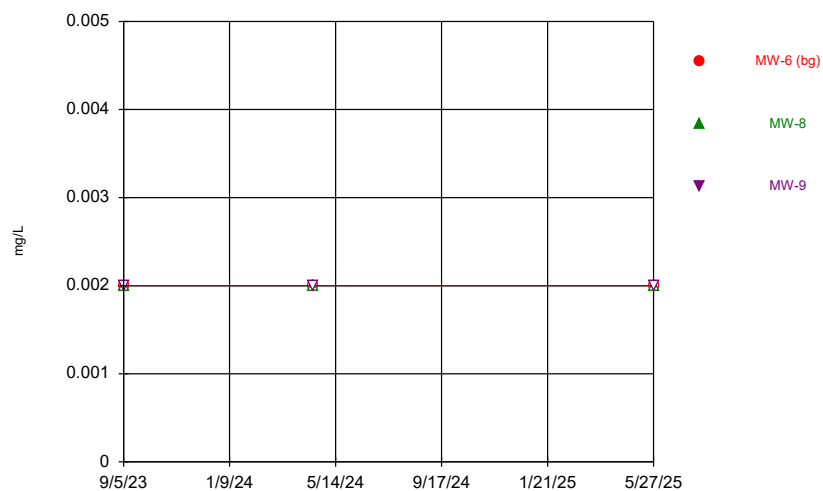
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Cargill-Eddyville Data: Cargill CCR Landfill

Time Series



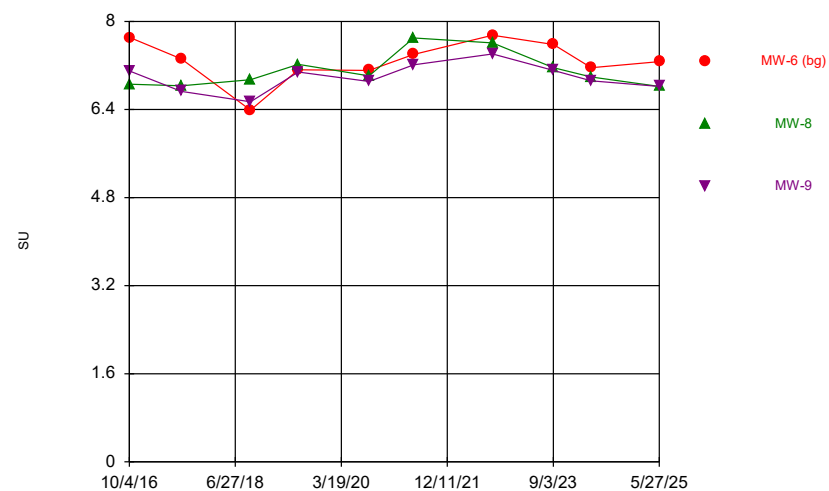
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Cargill-Eddyville Data: Cargill CCR Landfill

Time Series



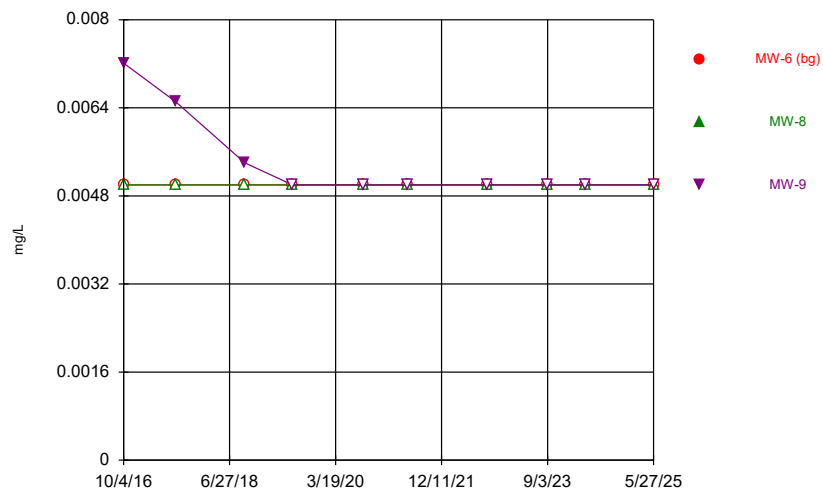
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Cargill-Eddyville Data: Cargill CCR Landfill

Time Series



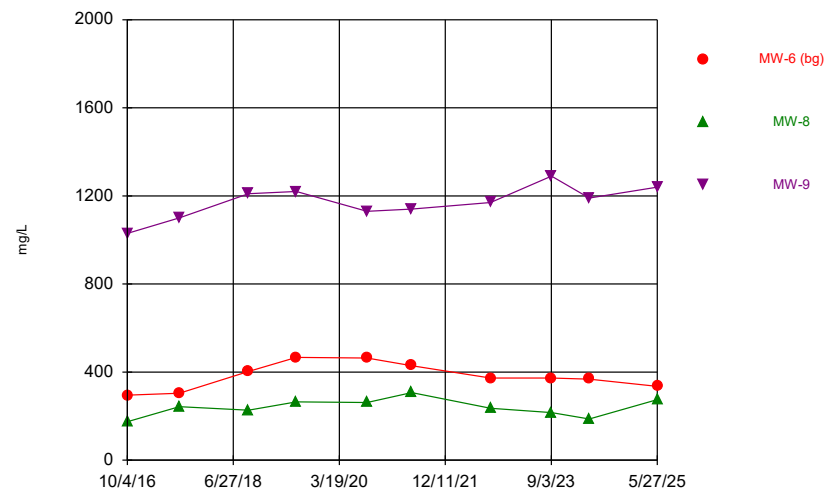
Constituent: pH Analysis Run 8/13/2025 10:56 AM View: 2025_SSN-Time_Series Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Time Series



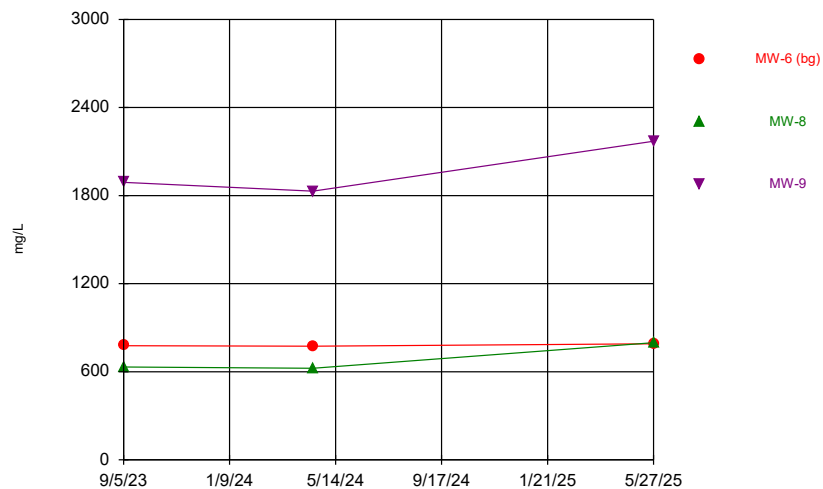
Constituent: Selenium Analysis Run 8/13/2025 10:56 AM View: 2025_SSN-Time_Series Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Time Series



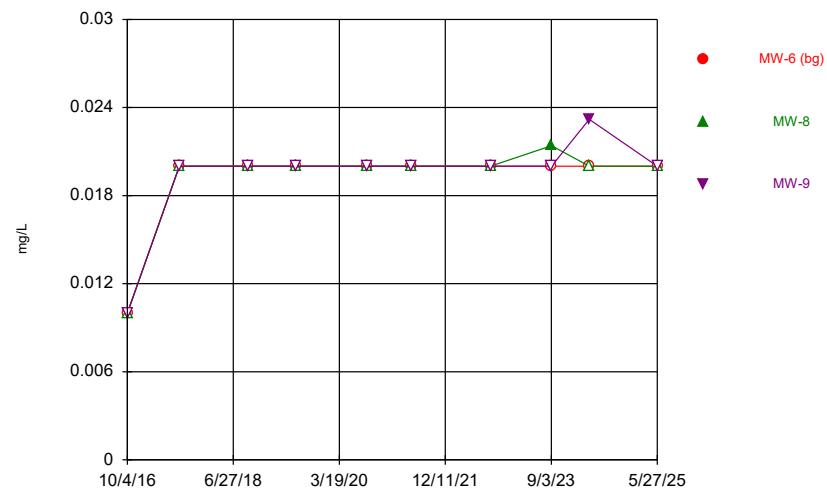
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Cargill-Eddyville Data: Cargill CCR Landfill

Time Series



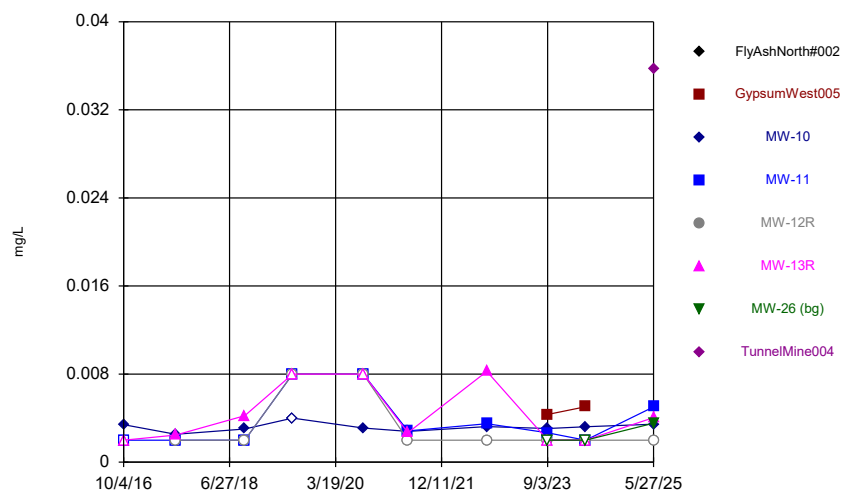
Constituent: Total Dissolved Solids Analysis Run 8/13/2025 10:56 AM View: 2025_SSN-Time_Series Unit
Cargill-Eddyville Data: Cargill CCR Landfill

Time Series

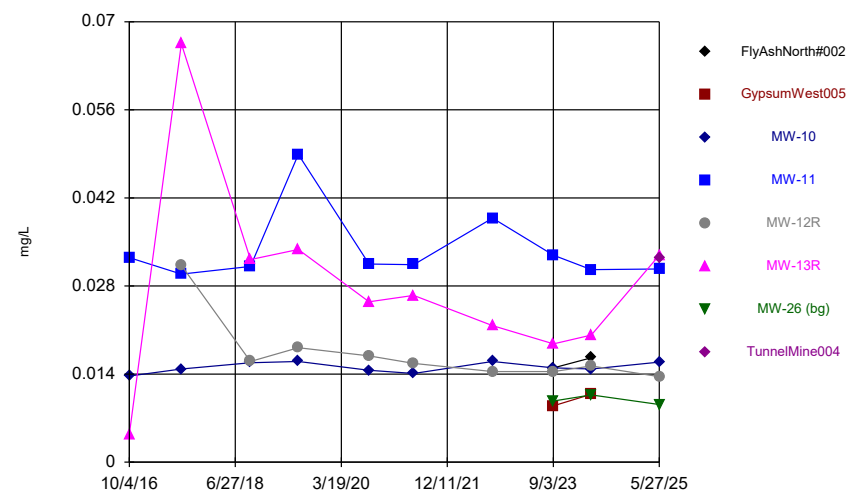


Constituent: Zinc Analysis Run 8/13/2025 10:56 AM View: 2025_SSN-Time_Series Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

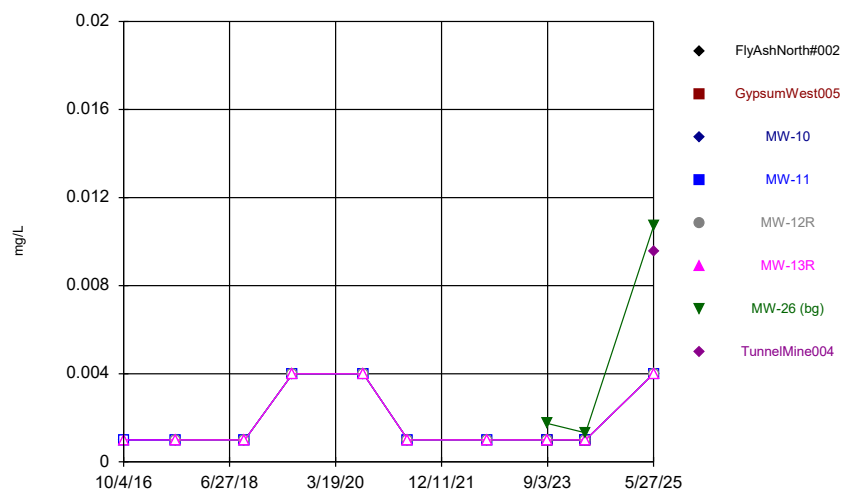
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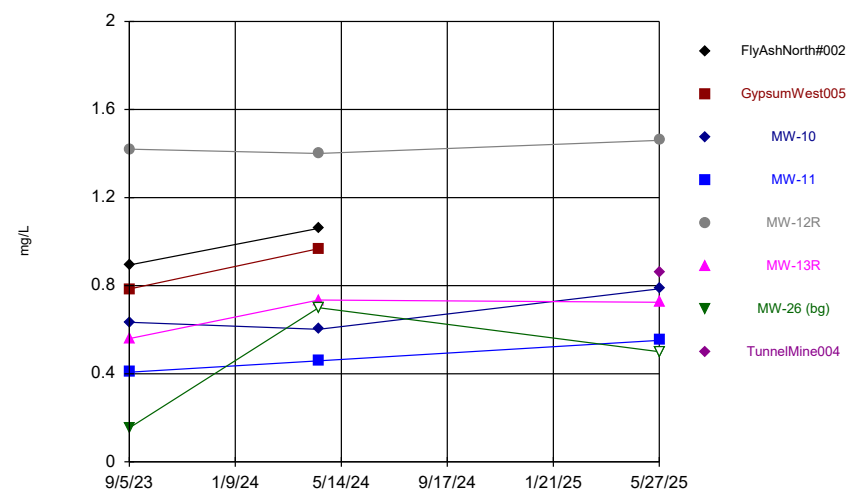
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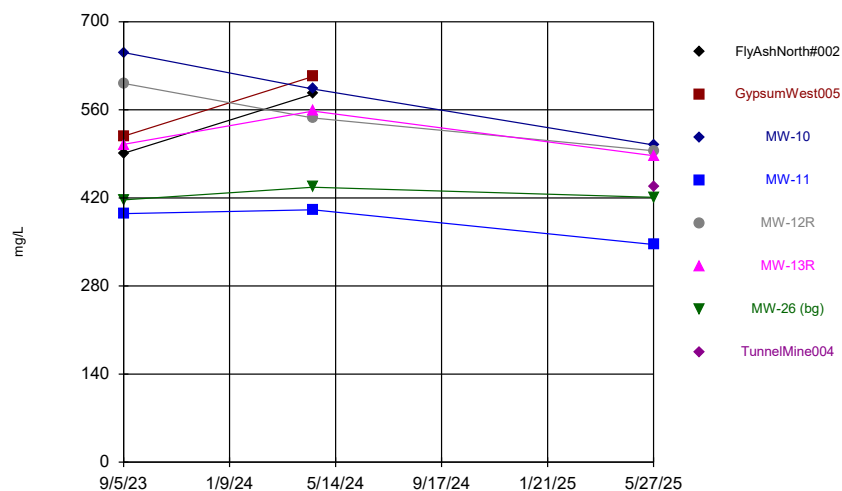
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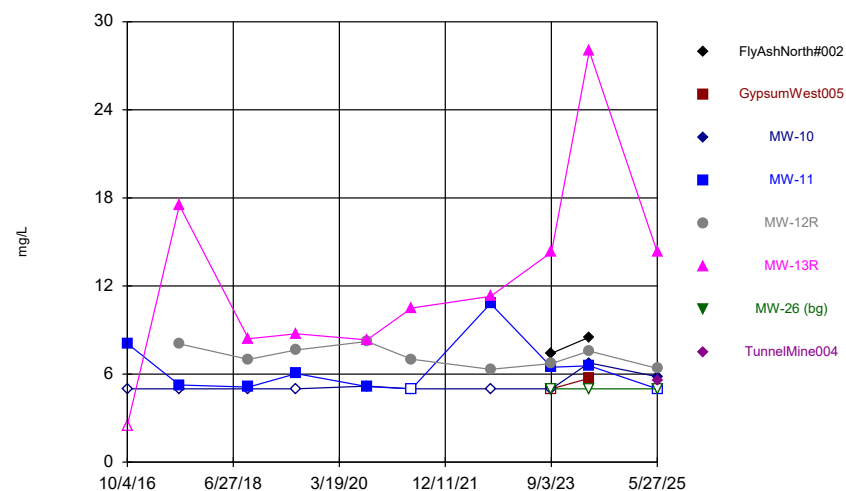
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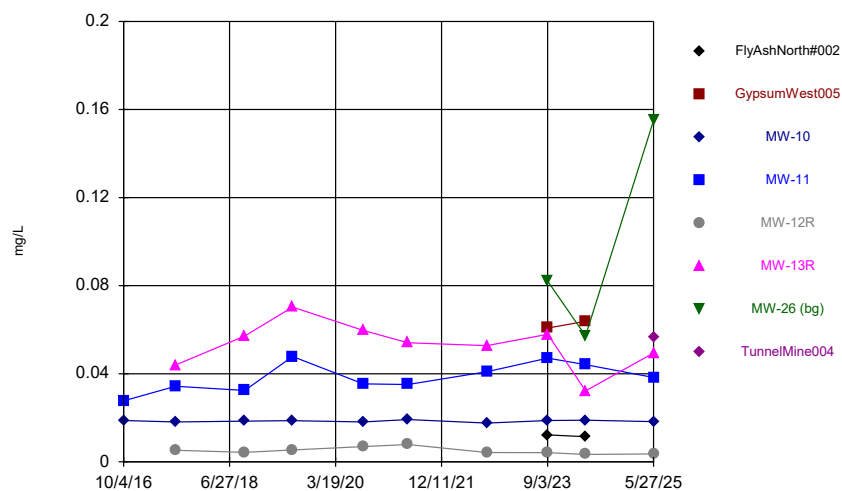
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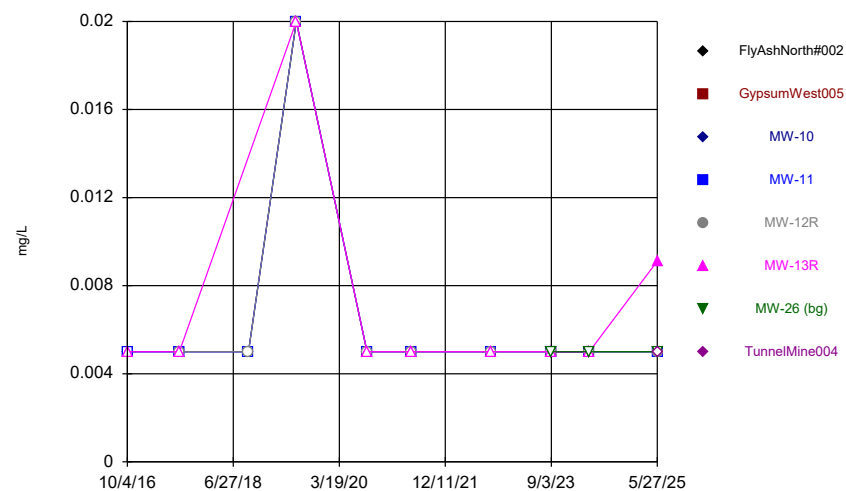
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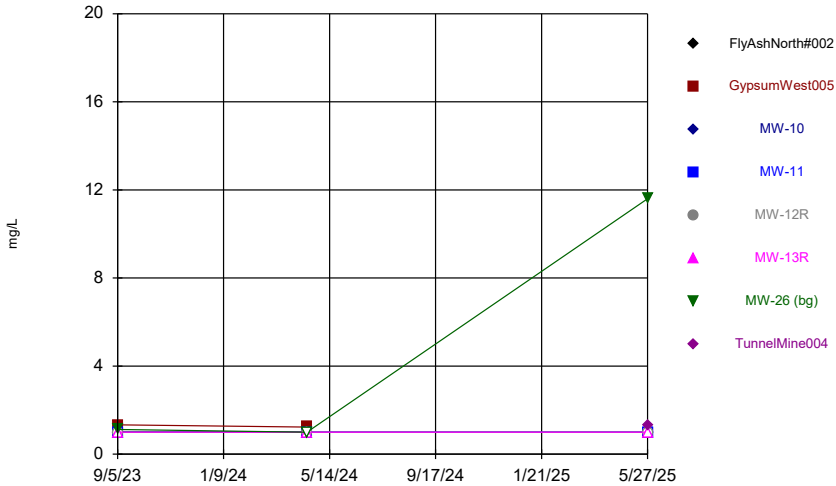
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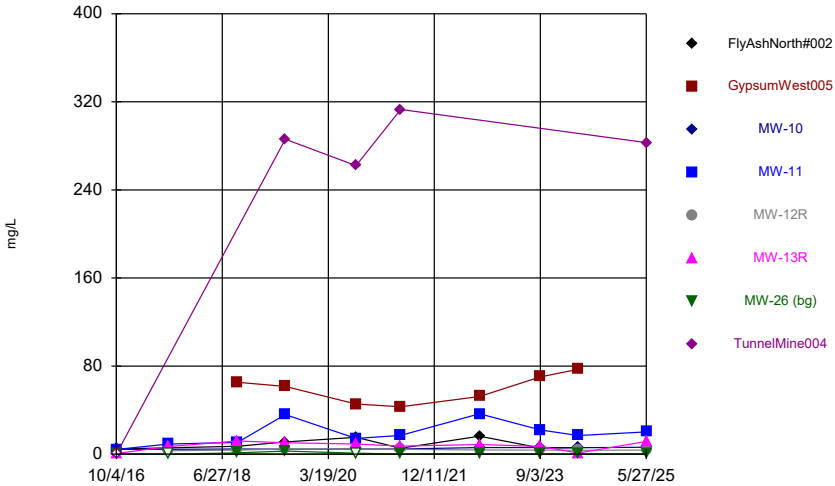
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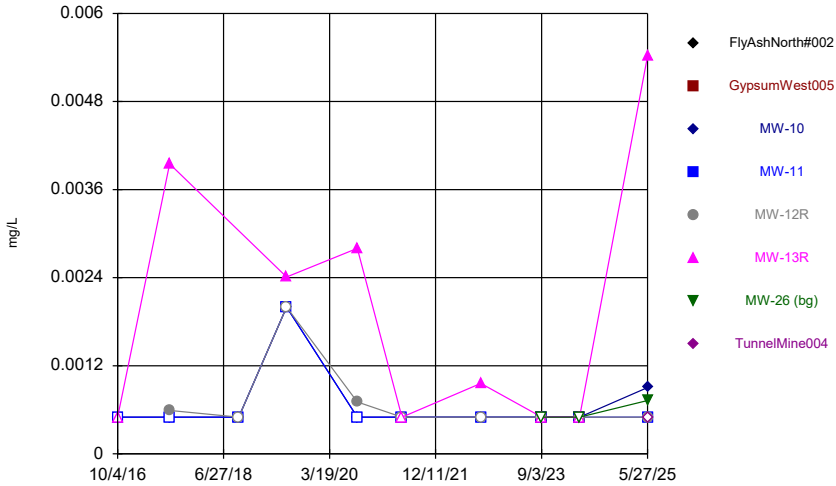
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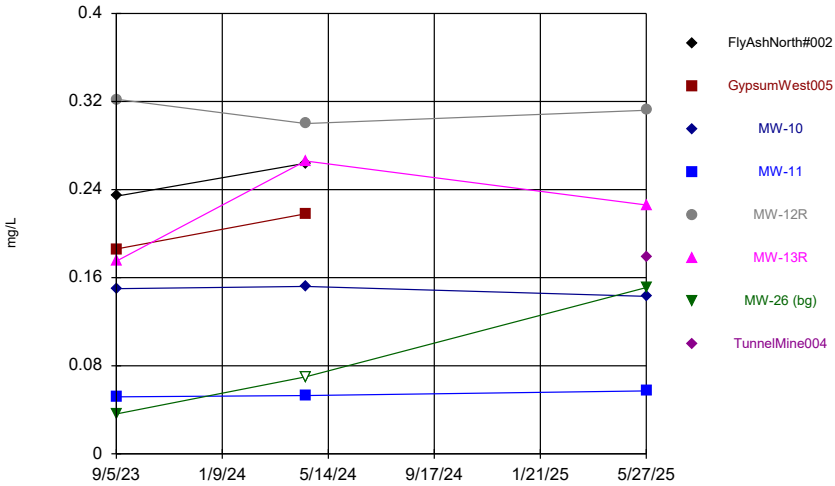
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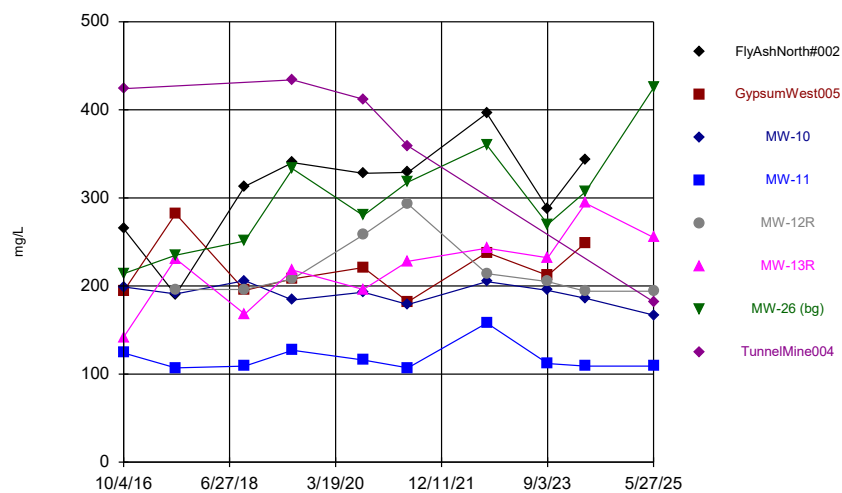
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Time Series

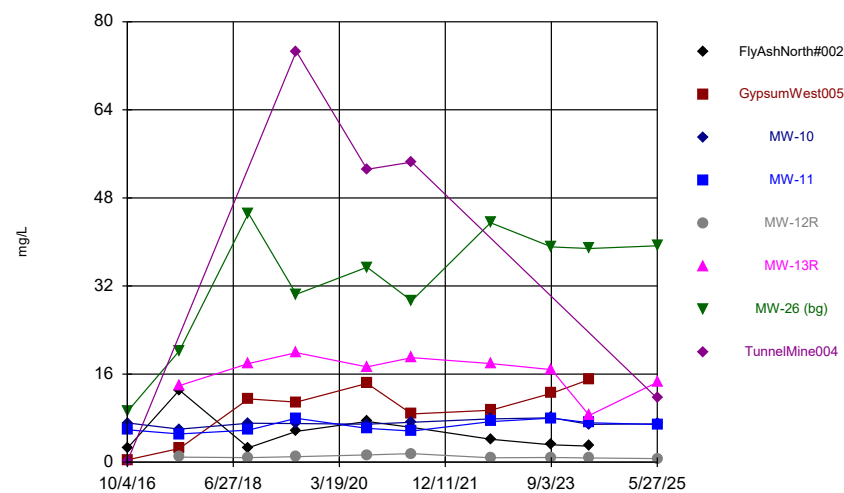


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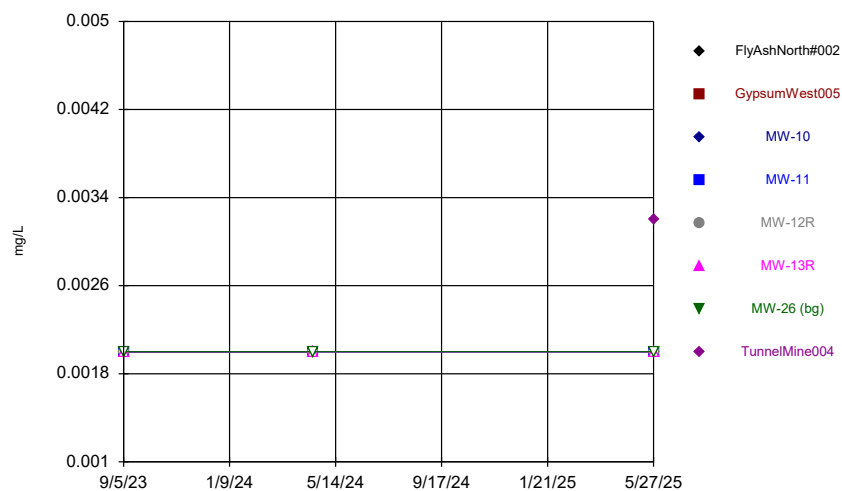
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Cargill-Eddyville Data: Cargill CCR Landfill

Time Series



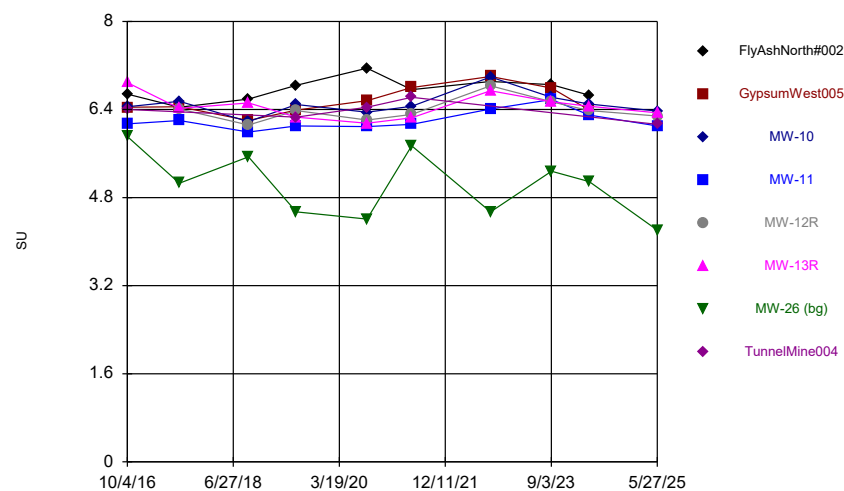
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Cargill-Eddyville Data: Cargill CCR Landfill

Time Series



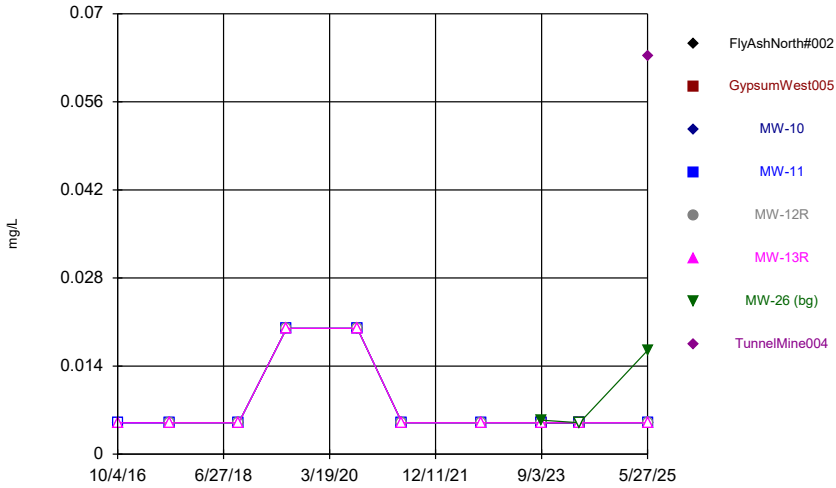
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Cargill-Eddyville Data: Cargill CCR Landfill

Time Series

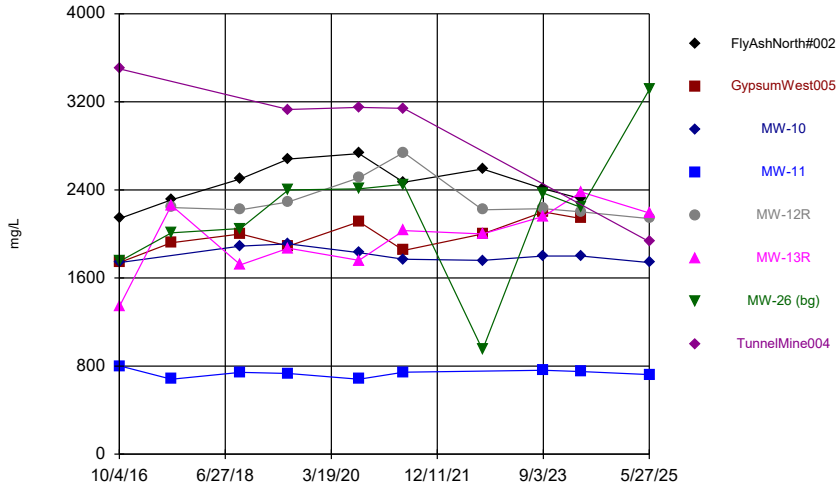


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Cargill-Eddyville Data: Cargill CCR Landfill

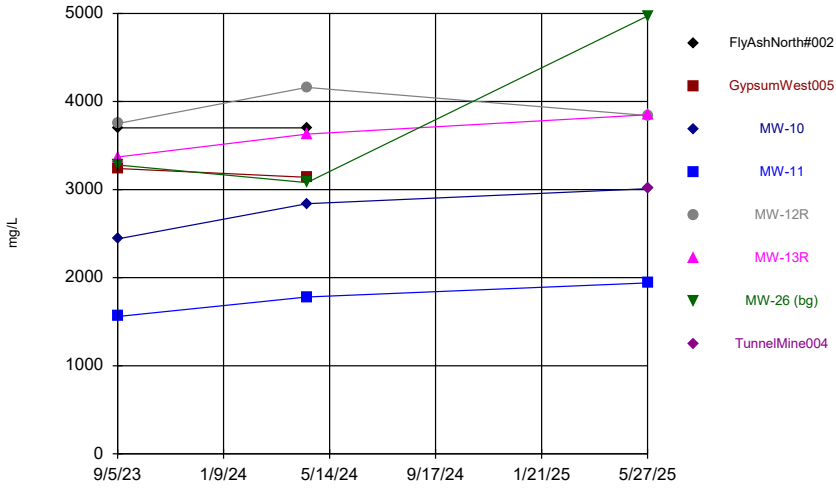
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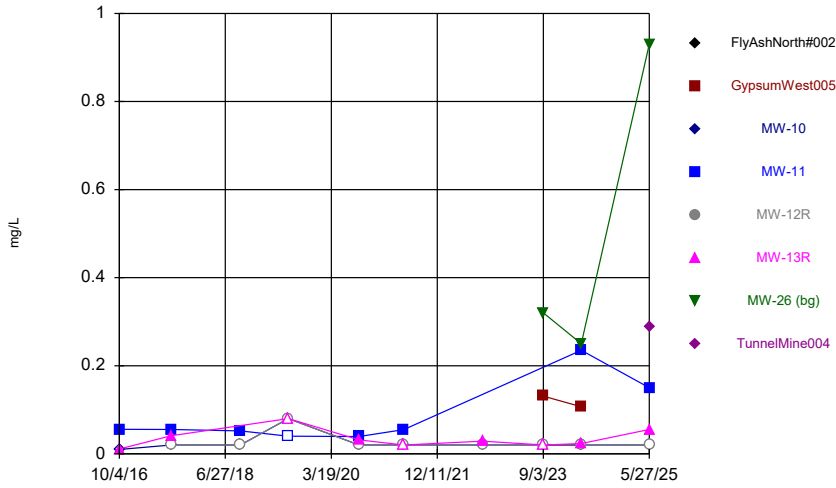
Time Series



Time Series



Time Series



Attachment B

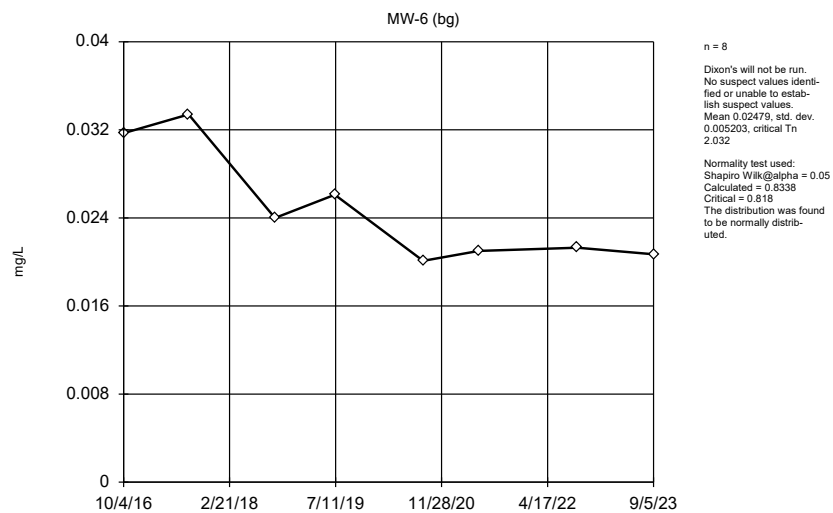
Outliers

Unit01 BG Outlier Analysis

Cargill-Eddyville Data: Cargill CCR Landfill Printed 8/13/2025, 11:12 AM

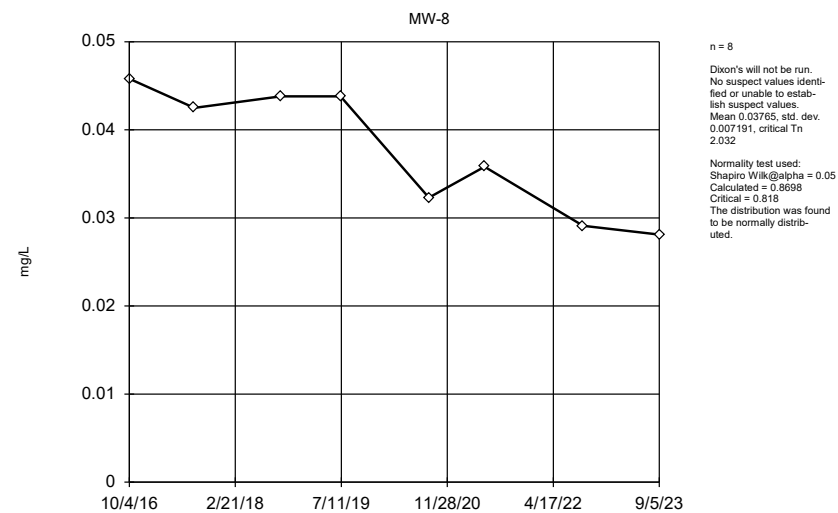
<u>Constituent</u>	<u>Well</u>	<u>Outlier</u>	<u>Value(s)</u>	<u>Date(s)</u>	<u>Method</u>	<u>Alpha</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Distribution</u>	<u>Normality Test</u>
Barium (mg/L)	MW-6 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.02479	0.005203	normal	ShapiroWilk
Barium (mg/L)	MW-8	No	n/a	n/a	EPA 1989	0.05	8	0.03765	0.007191	normal	ShapiroWilk
Barium (mg/L)	MW-9	Yes	0.0313	9/5/2023	Dixon`s	0.05	8	0.02316	0.003503	normal	ShapiroWilk
Cobalt (mg/L)	MW-8	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0006738	0.0004914	unknown	ShapiroWilk
Cobalt (mg/L)	MW-9	n/a	n/a	n/a	NP (nrm)	NaN	8	0.00061	0.0003111	unknown	ShapiroWilk
Iron (mg/L)	MW-6 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.6114	0.361	normal	ShapiroWilk
Iron (mg/L)	MW-8	Yes	1.27	9/5/2023	NP (nrm)	NaN	8	0.2941	0.402	unknown	ShapiroWilk
Iron (mg/L)	MW-9	Yes	0.175	9/5/2023	NP (nrm)	NaN	8	0.1103	0.02628	unknown	ShapiroWilk
Lead (mg/L)	MW-8	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0005763	0.0002157	unknown	ShapiroWilk
Magnesium (mg/L)	MW-6 (bg)	No	n/a	n/a	NP (nrm)	NaN	8	23.63	6.008	unknown	ShapiroWilk
Magnesium (mg/L)	MW-8	No	n/a	n/a	EPA 1989	0.05	8	41.05	3.071	normal	ShapiroWilk
Magnesium (mg/L)	MW-9	No	n/a	n/a	EPA 1989	0.05	8	70.08	3.61	normal	ShapiroWilk
Manganese (mg/L)	MW-6 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.1127	0.049	normal	ShapiroWilk
Manganese (mg/L)	MW-8	No	n/a	n/a	EPA 1989	0.05	8	0.1262	0.2546	ln(x)	ShapiroWilk
Manganese (mg/L)	MW-9	n/a	n/a	n/a	NP (nrm)	NaN	8	0.05137	0.117	unknown	ShapiroWilk
pH (SU)	MW-6 (bg)	No	n/a	n/a	Dixon`s	0.05	8	7.298	0.4401	normal	ShapiroWilk
pH (SU)	MW-8	No	n/a	n/a	EPA 1989	0.05	8	7.166	0.3311	normal	ShapiroWilk
pH (SU)	MW-9	No	n/a	n/a	EPA 1989	0.05	8	7.011	0.2758	normal	ShapiroWilk
Selenium (mg/L)	MW-9	No	n/a	n/a	NP (nrm)	NaN	8	0.005515	0.0008621	unknown	ShapiroWilk
Sulfate (mg/L)	MW-6 (bg)	No	n/a	n/a	EPA 1989	0.05	8	388.5	65.55	normal	ShapiroWilk
Sulfate (mg/L)	MW-8	No	n/a	n/a	EPA 1989	0.05	8	241.4	38.87	normal	ShapiroWilk
Sulfate (mg/L)	MW-9	No	n/a	n/a	EPA 1989	0.05	8	1161	80.08	normal	ShapiroWilk
Zinc (mg/L)	MW-8	n/a	n/a	n/a	NP (nrm)	NaN	8	0.01892	0.003639	unknown	ShapiroWilk

EPA Screening (suspected outliers for Dixon's Test)



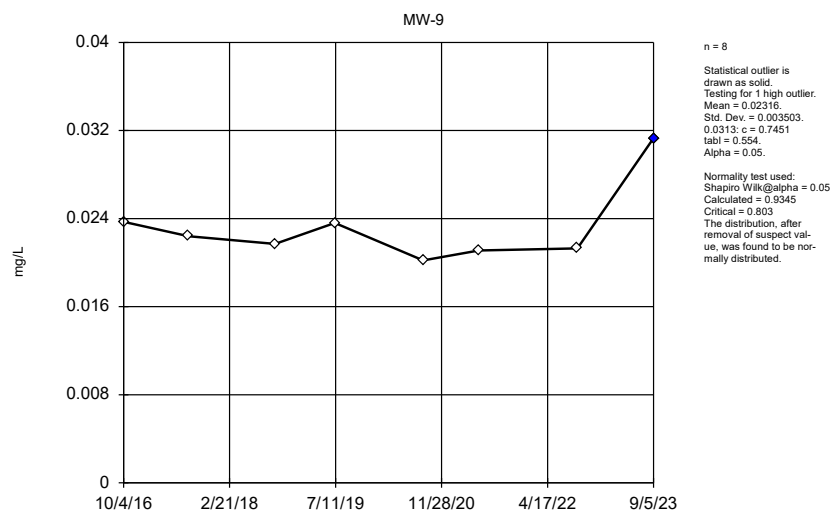
Constituent: Barium Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



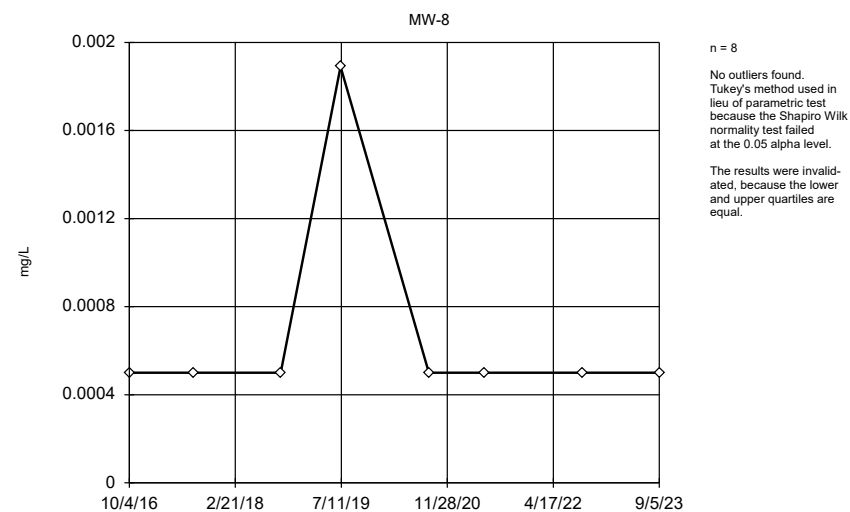
Constituent: Barium Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Dixon's Outlier Test



Constituent: Barium Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

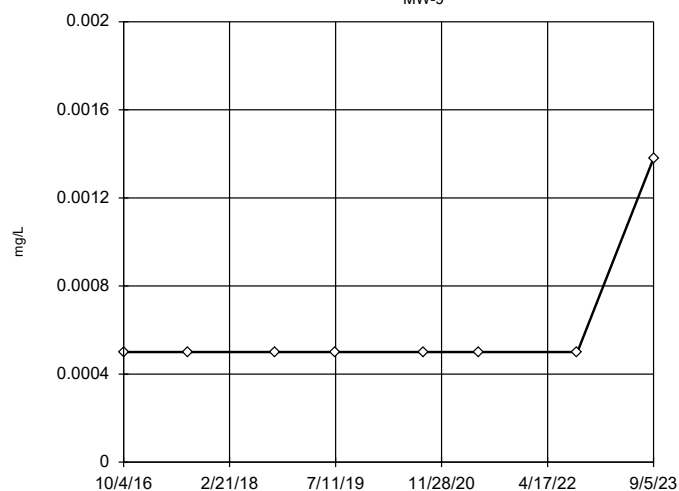
Tukey's Outlier Screening



Constituent: Cobalt Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Tukey's Outlier Screening

MW-9



n = 8

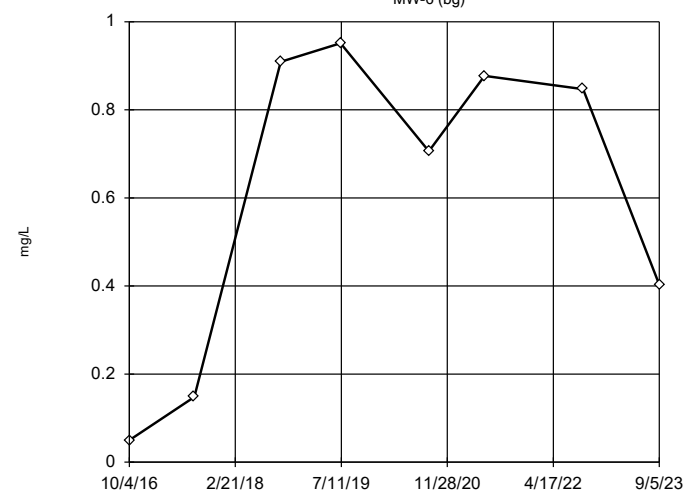
No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.05 alpha level.

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Cobalt Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)

MW-6 (bg)



n = 8

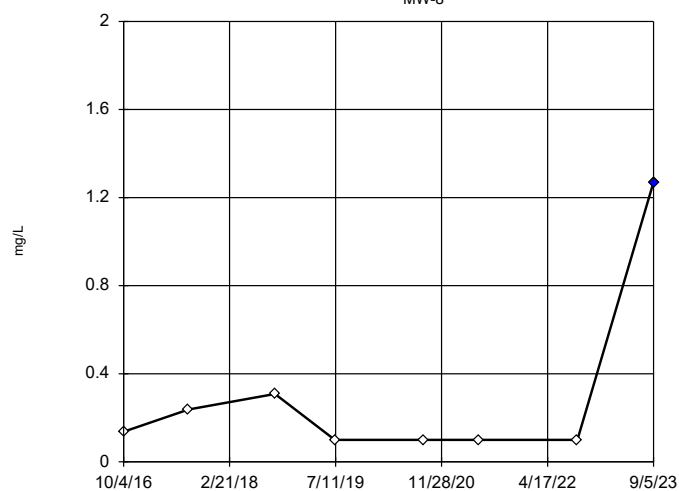
Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.6114, std. dev. 0.361, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8423
Critical = 0.818
The distribution was found to be normally distributed.

Constituent: Iron Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Tukey's Outlier Screening

MW-8



n = 8

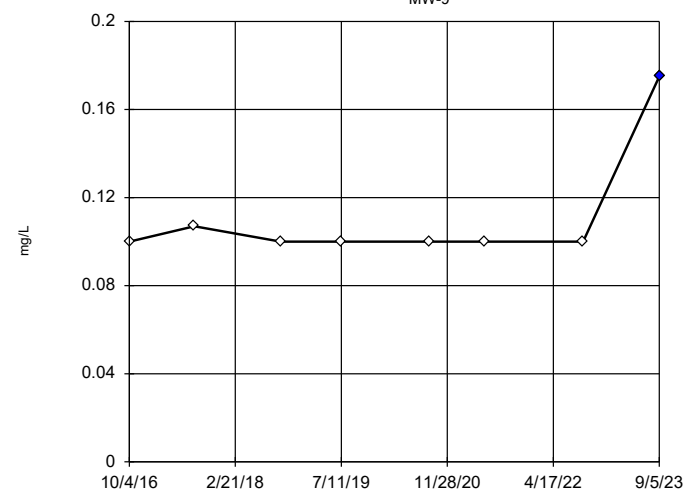
Outlier is drawn as solid.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.05 alpha level.

High cutoff = 0.792, low cutoff = -0.419, based on IQR multiplier of 3.

Constituent: Iron Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Tukey's Outlier Screening

MW-9



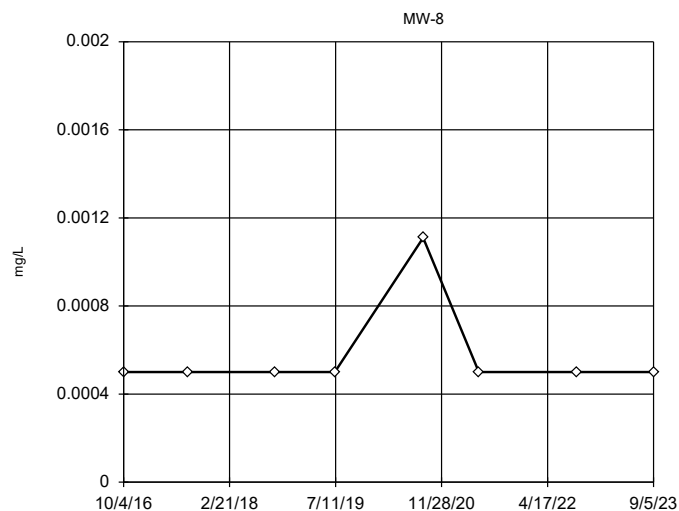
n = 8

Outlier is drawn as solid.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.05 alpha level.

High cutoff = 0.114, low cutoff = 0.0895, based on IQR multiplier of 3.

Constituent: Iron Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Tukey's Outlier Screening



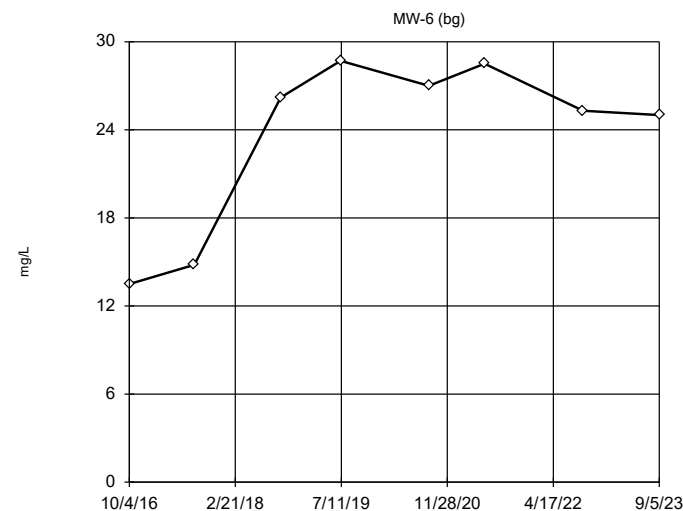
n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.05 alpha level.

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Lead Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Tukey's Outlier Screening



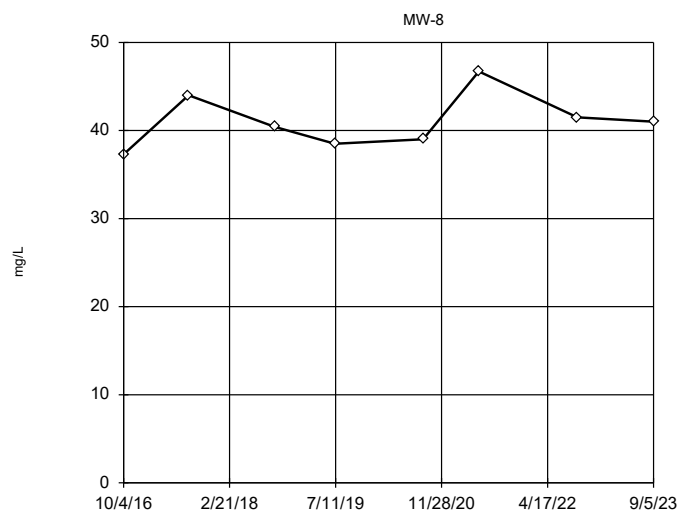
n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.05 alpha level.

High cutoff = 51.3, low cutoff = -3.65, based on IQR multiplier of 3.

Constituent: Magnesium Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



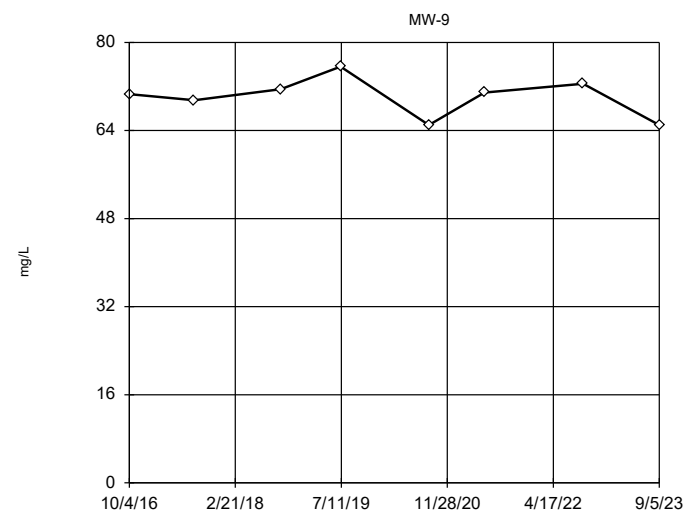
n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 41.05, std. dev. 3.071, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.945
Critical = 0.918
The distribution was found to be normally distributed.

Constituent: Magnesium Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



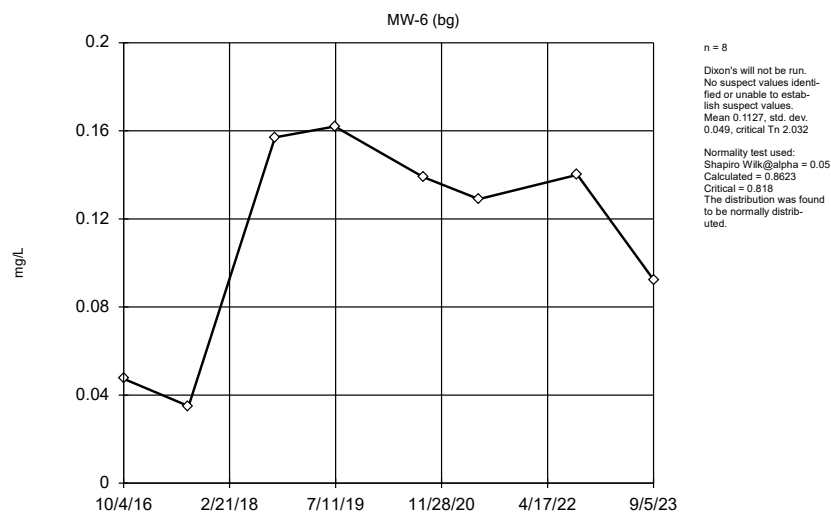
n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 70.08, std. dev. 3.61, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9184
Critical = 0.918
The distribution was found to be normally distributed.

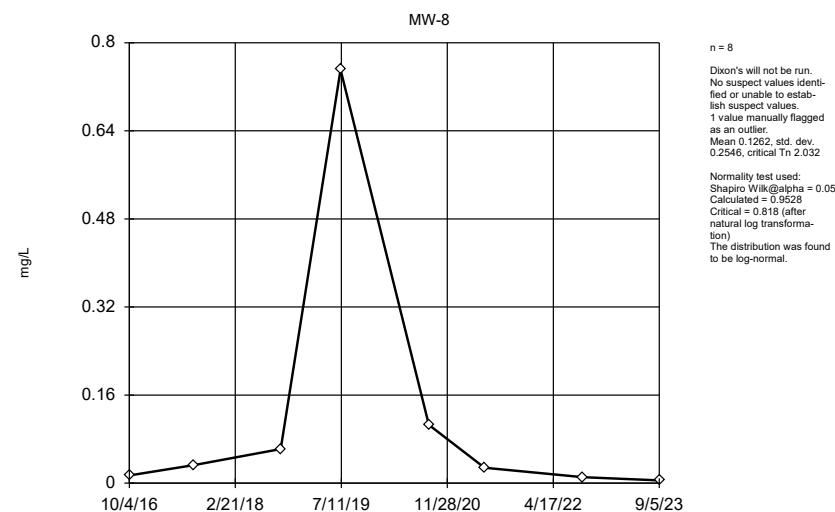
Constituent: Magnesium Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



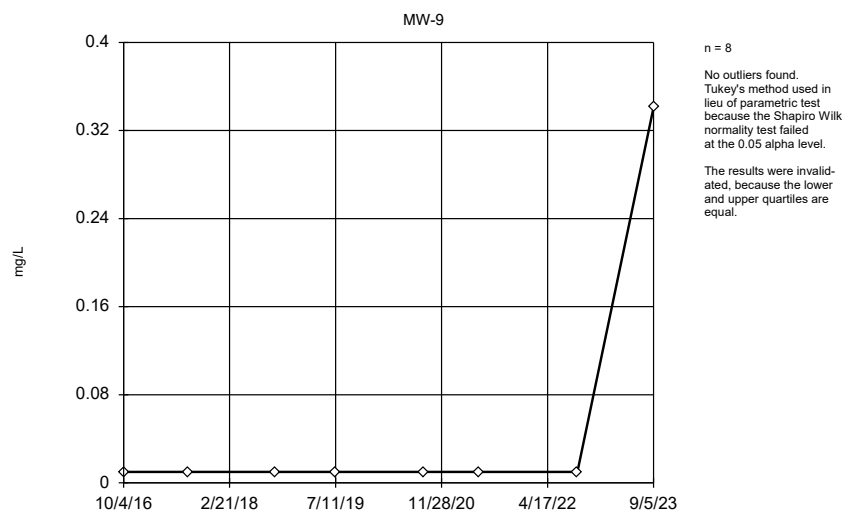
Constituent: Manganese Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



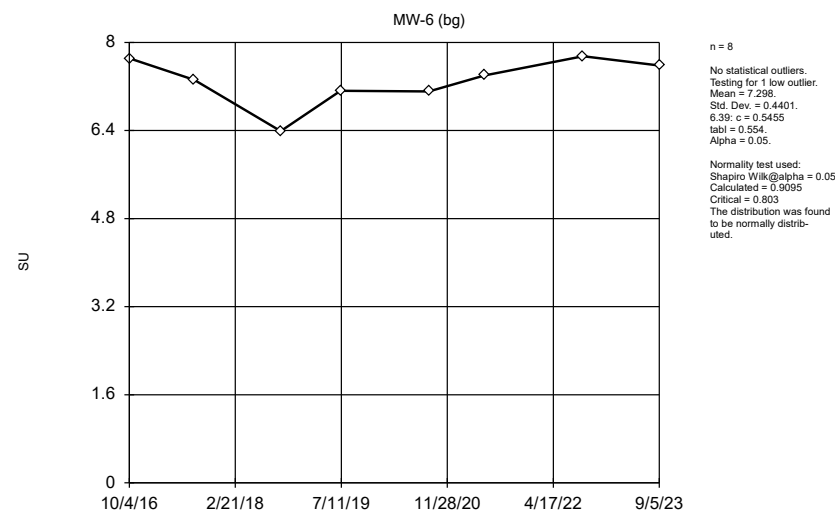
Constituent: Manganese Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Tukey's Outlier Screening



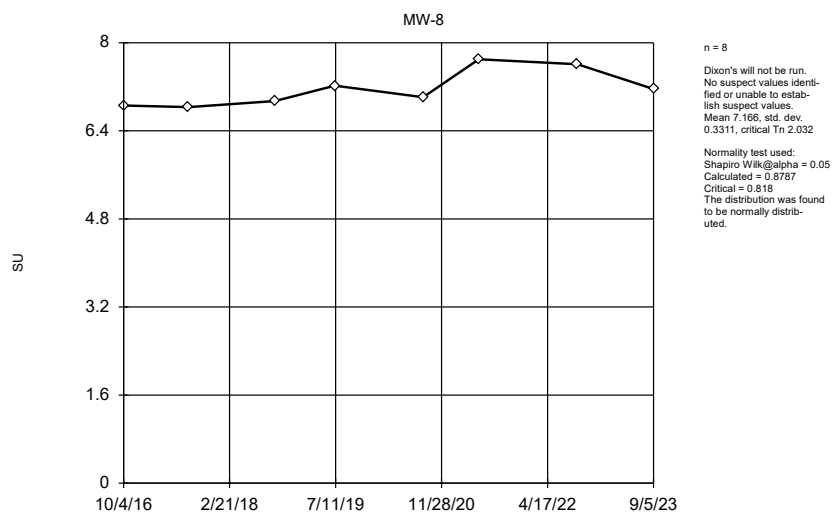
Constituent: Manganese Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Dixon's Outlier Test



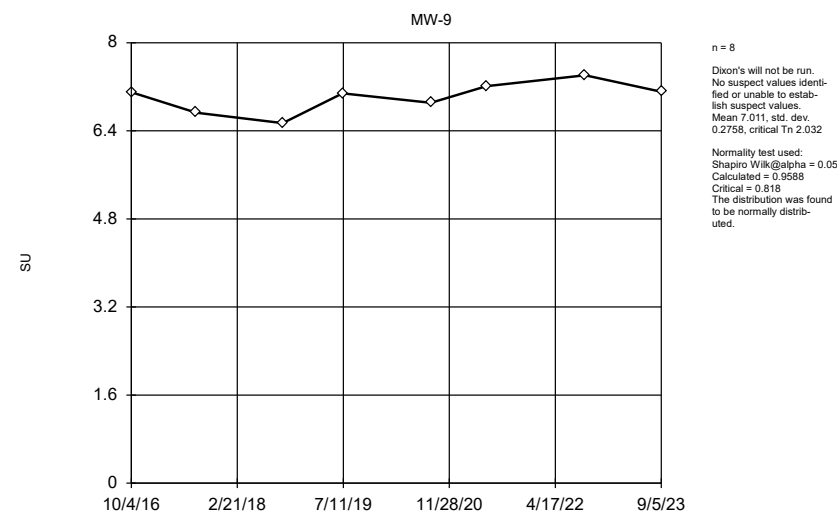
Constituent: pH Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



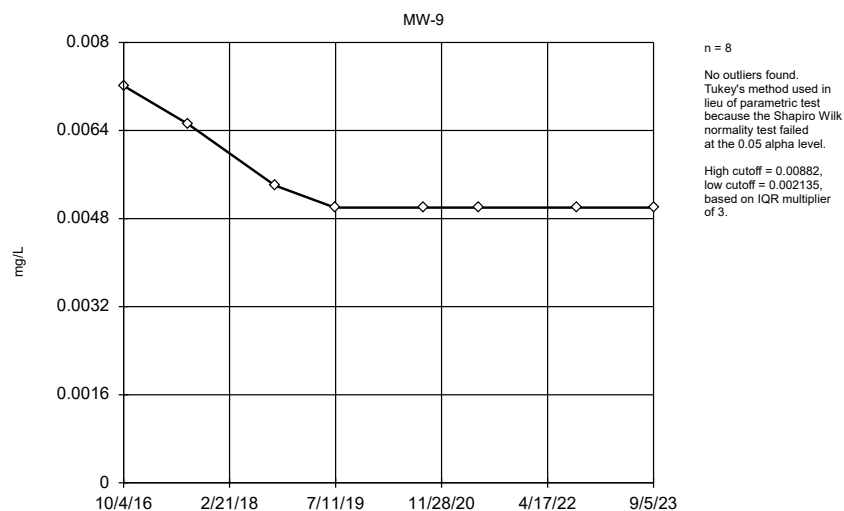
Constituent: pH Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



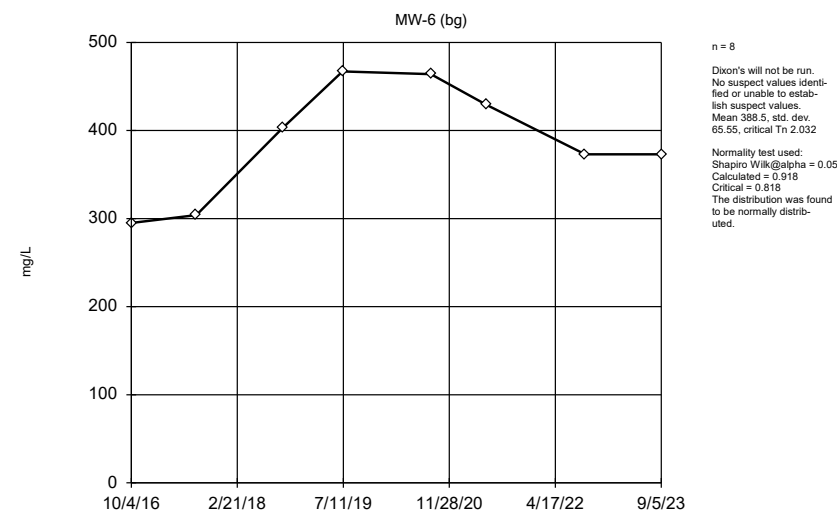
Constituent: pH Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Tukey's Outlier Screening



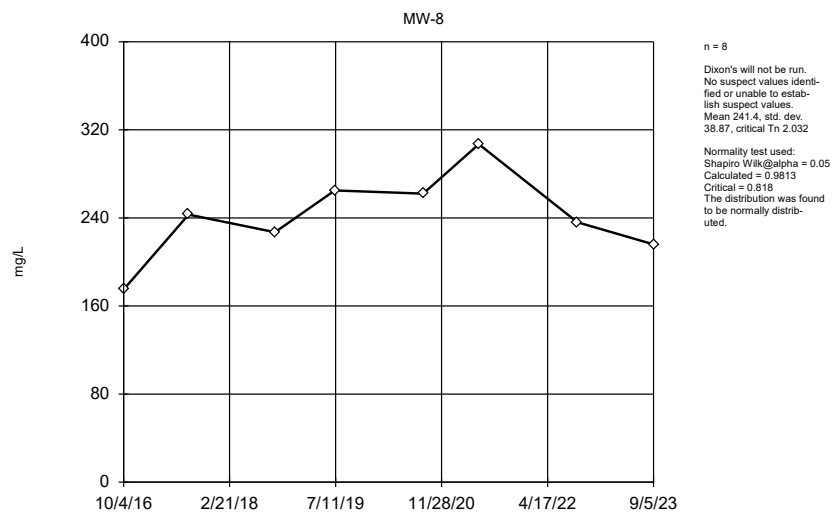
Constituent: Selenium Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



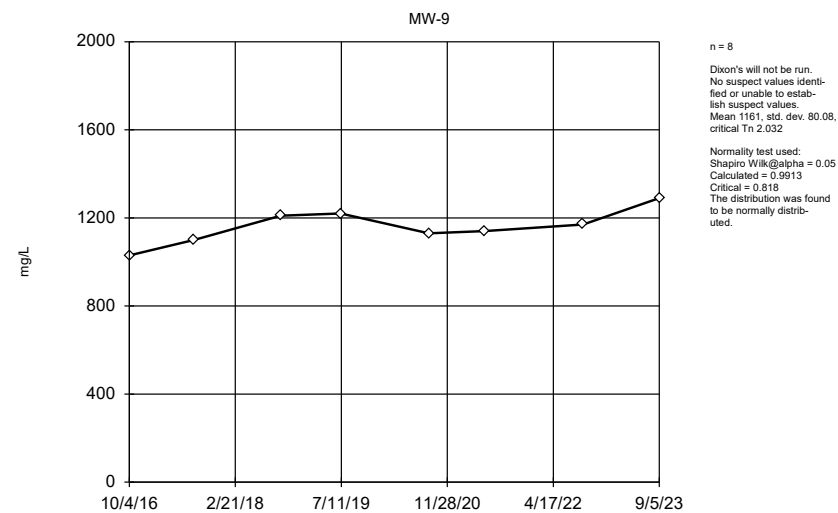
Constituent: Sulfate Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



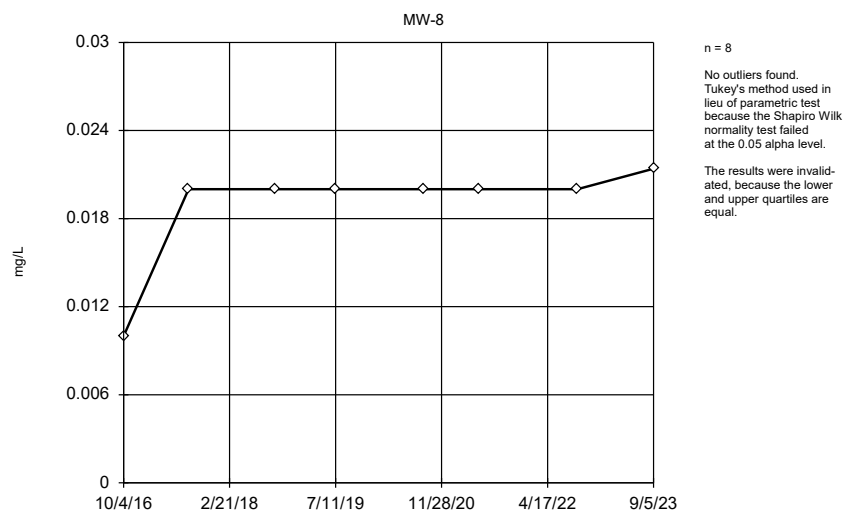
Constituent: Sulfate Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



Constituent: Sulfate Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Tukey's Outlier Screening



Constituent: Zinc Analysis Run 8/13/2025 11:10 AM View: 2025_SSN-Outliers Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Unit02 BG Outlier Analysis

Cargill-Eddyville Data: Cargill CCR Landfill Printed 8/13/2025, 11:31 AM

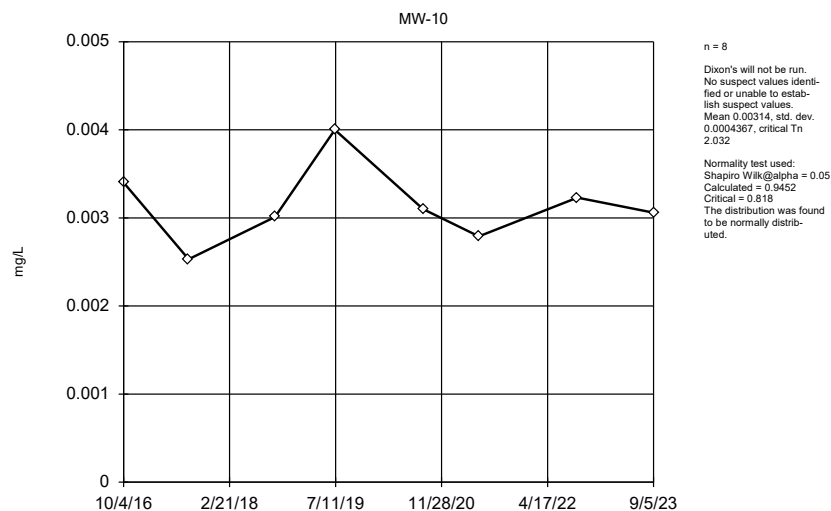
Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Arsenic (mg/L)	MW-10	No	n/a	n/a	EPA 1989	0.05	8	0.00314	0.0004367	normal	ShapiroWilk
Arsenic (mg/L)	MW-11	No	n/a	n/a	NP (nrm)	NaN	8	0.003876	0.002598	unknown	ShapiroWilk
Arsenic (mg/L)	MW-13R	No	n/a	n/a	EPA 1989	0.05	8	0.004701	0.002886	ln(x)	ShapiroWilk
Barium (mg/L)	MW-10	No	n/a	n/a	EPA 1989	0.05	8	0.015	0.0008734	normal	ShapiroWilk
Barium (mg/L)	MW-11	Yes	0.0388,0.0489	9/7/2022,7/8/2019	Dixon`s	0.05	8	0.03463	0.006365	normal	ShapiroWilk
Barium (mg/L)	MW-12R	Yes	0.0313	8/10/2017	Dixon`s	0.05	7	0.01813	0.005961	normal	ShapiroWilk
Barium (mg/L)	MW-13R	Yes	0.0665	8/10/2017	Dixon`s	0.05	8	0.02868	0.0178	normal	ShapiroWilk
Chloride (mg/L)	MW-10	n/a	n/a	n/a	NP (nrm)	NaN	8	5.023	0.06364	unknown	ShapiroWilk
Chloride (mg/L)	MW-11	No	n/a	n/a	EPA 1989	0.05	8	6.176	2.439	normal	ShapiroWilk
Chloride (mg/L)	MW-12R	No	n/a	n/a	EPA 1989	0.05	7	7.283	0.7058	normal	ShapiroWilk
Chloride (mg/L)	MW-13R	No	n/a	n/a	Dixon`s	0.05	8	10.2	4.464	normal	ShapiroWilk
Cobalt (mg/L)	MW-10	No	n/a	n/a	EPA 1989	0.05	8	0.01848	0.000512	normal	ShapiroWilk
Cobalt (mg/L)	MW-11	No	n/a	n/a	EPA 1989	0.05	8	0.03759	0.007093	normal	ShapiroWilk
Cobalt (mg/L)	MW-12R	No	n/a	n/a	EPA 1989	0.05	7	0.005467	0.00146	normal	ShapiroWilk
Cobalt (mg/L)	MW-13R	Yes	0.00025	10/4/2016	Dixon`s	0.05	8	0.04952	0.02122	normal	ShapiroWilk
Copper (mg/L)	MW-13R	No	n/a	n/a	NP (nrm)	NaN	8	0.008675	0.006807	unknown	ShapiroWilk
Iron (mg/L)	FlyAshNorth#002	Yes	71.7	8/10/2017	Dixon`s	0.05	8	17.16	22.49	normal	ShapiroWilk
Iron (mg/L)	GypsumWest005	No	n/a	n/a	EPA 1989	0.05	8	43.42	25.73	normal	ShapiroWilk
Iron (mg/L)	MW-10	No	n/a	n/a	NP (nrm)	NaN	8	4.915	0.6784	unknown	ShapiroWilk
Iron (mg/L)	MW-11	No	n/a	n/a	EPA 1989	0.05	8	18.77	12.03	normal	ShapiroWilk
Iron (mg/L)	MW-12R	No	n/a	n/a	EPA 1989	0.05	7	4.063	0.6309	normal	ShapiroWilk
Iron (mg/L)	MW-13R	Yes	0.569	10/4/2016	Dixon`s	0.05	8	7.784	3.411	normal	ShapiroWilk
Iron (mg/L)	MW-26 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.823	0.9259	ln(x)	ShapiroWilk
Iron (mg/L)	TunnelMine004	Yes	0.1	10/4/2016	Dixon`s	0.05	4	215.3	145	normal	ShapiroWilk
Lead (mg/L)	MW-12R	Yes	0.002	7/8/2019	NP (nrm)	NaN	7	0.000757	0.0005537	unknown	ShapiroWilk
Lead (mg/L)	MW-13R	No	n/a	n/a	EPA 1989	0.05	8	0.002689	0.003183	ln(x)	ShapiroWilk
Magnesium (mg/L)	FlyAshNorth#002	No	n/a	n/a	Dixon`s	0.05	8	306.1	60.69	normal	ShapiroWilk
Magnesium (mg/L)	GypsumWest005	No	n/a	n/a	EPA 1989	0.05	8	216.5	31.68	normal	ShapiroWilk
Magnesium (mg/L)	MW-10	No	n/a	n/a	EPA 1989	0.05	8	194	9.457	normal	ShapiroWilk
Magnesium (mg/L)	MW-11	Yes	158	9/7/2022	Dixon`s	0.05	8	120	17.1	normal	ShapiroWilk
Magnesium (mg/L)	MW-12R	No	n/a	n/a	EPA 1989	0.05	7	224.3	36.97	ln(x)	ShapiroWilk
Magnesium (mg/L)	MW-13R	No	n/a	n/a	EPA 1989	0.05	8	207.3	35.71	normal	ShapiroWilk
Magnesium (mg/L)	MW-26 (bg)	No	n/a	n/a	EPA 1989	0.05	8	282.6	50.6	normal	ShapiroWilk
Magnesium (mg/L)	TunnelMine004	No	n/a	n/a	EPA 1989	0.05	4	407.3	33.4	normal	ShapiroWilk
Manganese (mg/L)	FlyAshNorth#002	No	n/a	n/a	EPA 1989	0.05	8	5.608	3.509	normal	ShapiroWilk
Manganese (mg/L)	GypsumWest005	Yes	2.47,0.411	8/10/2017,10/4/2016	Dixon`s	0.05	8	8.781	4.877	normal	ShapiroWilk
Manganese (mg/L)	MW-10	No	n/a	n/a	EPA 1989	0.05	8	7.163	0.6252	normal	ShapiroWilk
Manganese (mg/L)	MW-11	No	n/a	n/a	EPA 1989	0.05	8	6.495	1.124	normal	ShapiroWilk
Manganese (mg/L)	MW-12R	No	n/a	n/a	EPA 1989	0.05	7	1.04	0.2843	normal	ShapiroWilk
Manganese (mg/L)	MW-13R	Yes	13.9,1.74	8/10/2017,10/4/2016	Dixon`s	0.05	8	15.56	5.855	normal	ShapiroWilk
Manganese (mg/L)	MW-26 (bg)	No	n/a	n/a	Dixon`s	0.05	8	31.55	12.16	normal	ShapiroWilk
Manganese (mg/L)	TunnelMine004	No	n/a	n/a	Dixon`s	0.05	4	45.61	31.86	normal	ShapiroWilk
pH (SU)	FlyAshNorth#002	No	n/a	n/a	EPA 1989	0.05	8	6.778	0.2153	normal	ShapiroWilk
pH (SU)	GypsumWest005	No	n/a	n/a	EPA 1989	0.05	8	6.579	0.2636	normal	ShapiroWilk
pH (SU)	MW-10	No	n/a	n/a	EPA 1989	0.05	8	6.511	0.2345	normal	ShapiroWilk
pH (SU)	MW-11	No	n/a	n/a	EPA 1989	0.05	8	6.205	0.1938	normal	ShapiroWilk
pH (SU)	MW-12R	No	n/a	n/a	EPA 1989	0.05	7	6.4	0.2337	normal	ShapiroWilk
pH (SU)	MW-13R	No	n/a	n/a	EPA 1989	0.05	8	6.471	0.2547	normal	ShapiroWilk
pH (SU)	MW-26 (bg)	No	n/a	n/a	EPA 1989	0.05	8	5.128	0.5844	normal	ShapiroWilk
pH (SU)	TunnelMine004	No	n/a	n/a	EPA 1989	0.05	4	6.43	0.1483	normal	ShapiroWilk

Unit02 BG Outlier Analysis

Cargill-Eddyville Data: Cargill CCR Landfill Printed 8/13/2025, 11:31 AM

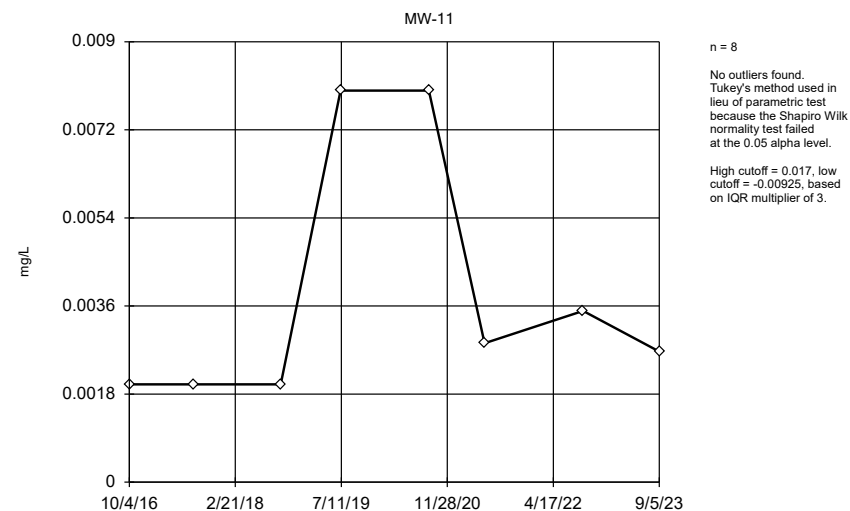
<u>Constituent</u>	<u>Well</u>	<u>Outlier</u>	<u>Value(s)</u>	<u>Date(s)</u>	<u>Method</u>	<u>Alpha</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Distribution</u>	<u>Normality Test</u>
Sulfate (mg/L)	FlyAshNorth#002	No	n/a	n/a	EPA 1989	0.05	8	2479	194.4	normal	ShapiroWilk
Sulfate (mg/L)	GypsumWest005	No	n/a	n/a	EPA 1989	0.05	8	1964	146.5	normal	ShapiroWilk
Sulfate (mg/L)	MW-10	Yes	3600	8/10/2017	Dixon`s	0.05	8	2038	634.3	normal	ShapiroWilk
Sulfate (mg/L)	MW-11	Yes	1300	9/7/2022	Dixon`s	0.05	8	805.6	203.8	normal	ShapiroWilk
Sulfate (mg/L)	MW-12R	No	n/a	n/a	NP (nrm)	NaN	7	2350	200.7	unknown	ShapiroWilk
Sulfate (mg/L)	MW-13R	No	n/a	n/a	EPA 1989	0.05	8	1893	290.4	normal	ShapiroWilk
Sulfate (mg/L)	MW-26 (bg)	No	n/a	n/a	Dixon`s	0.05	8	2049	510	normal	ShapiroWilk
Sulfate (mg/L)	TunnelMine004	Yes	3500	10/4/2016	Dixon`s	0.05	4	3230	180.2	normal	ShapiroWilk
Zinc (mg/L)	MW-11	No	n/a	n/a	NP (nrm)	NaN	8	0.1944	0.2871	unknown	ShapiroWilk
Zinc (mg/L)	MW-13R	No	n/a	n/a	EPA 1989	0.05	8	0.04051	0.02937	normal	ShapiroWilk

EPA Screening (suspected outliers for Dixon's Test)



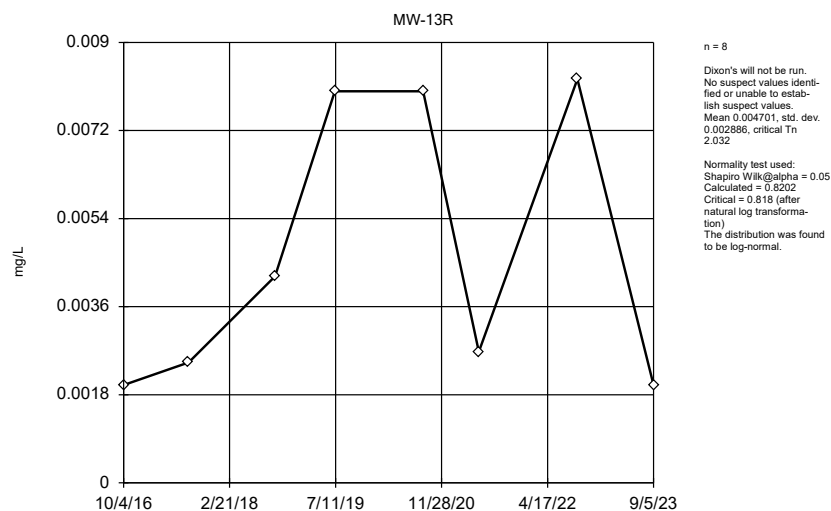
Constituent: Arsenic Analysis Run 8/13/2025 11:27 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

Tukey's Outlier Screening



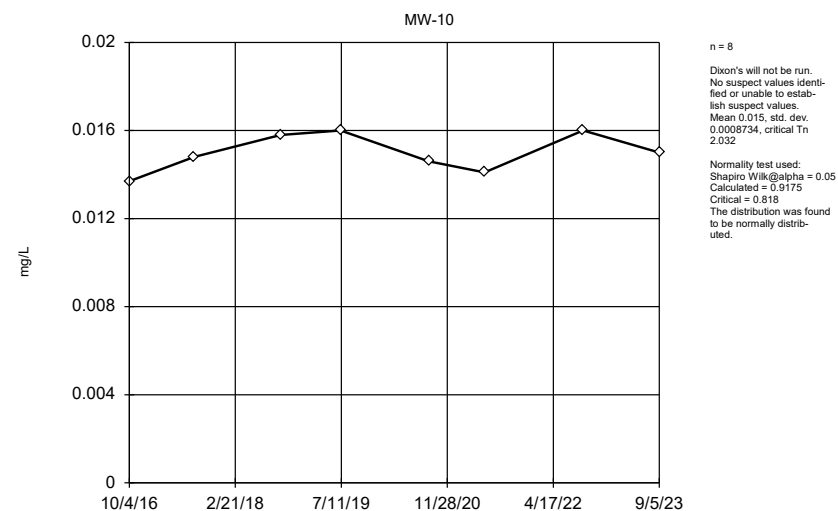
Constituent: Arsenic Analysis Run 8/13/2025 11:27 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)

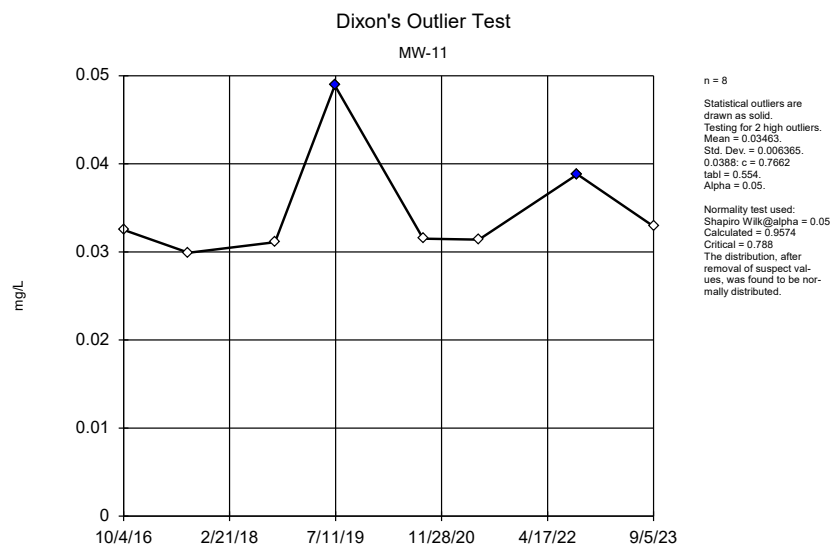


Constituent: Arsenic Analysis Run 8/13/2025 11:27 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

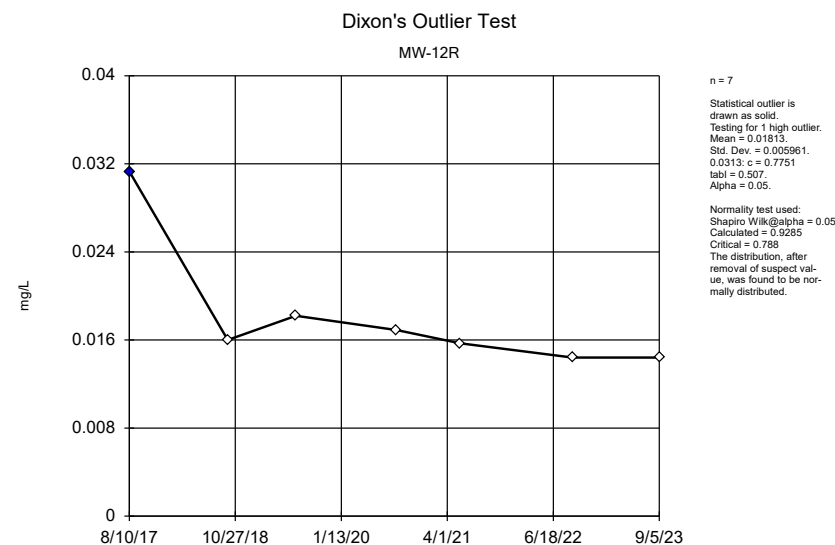
EPA Screening (suspected outliers for Dixon's Test)



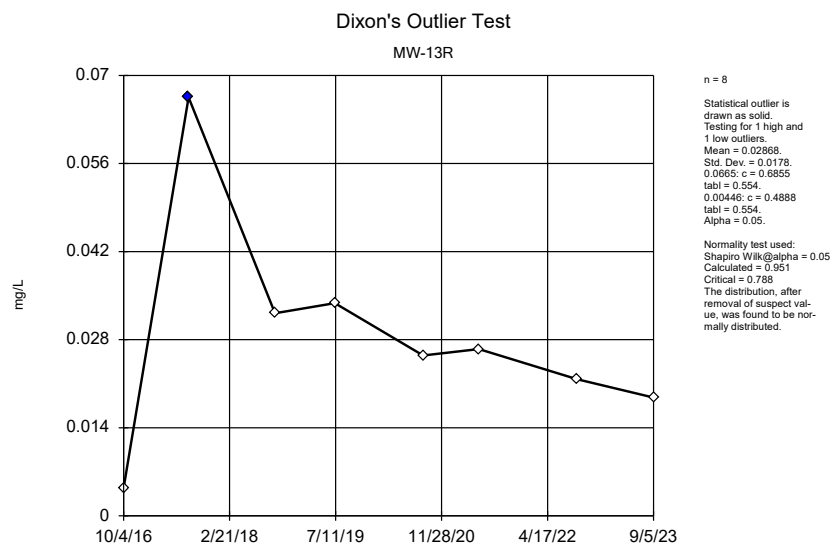
Constituent: Barium Analysis Run 8/13/2025 11:27 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill



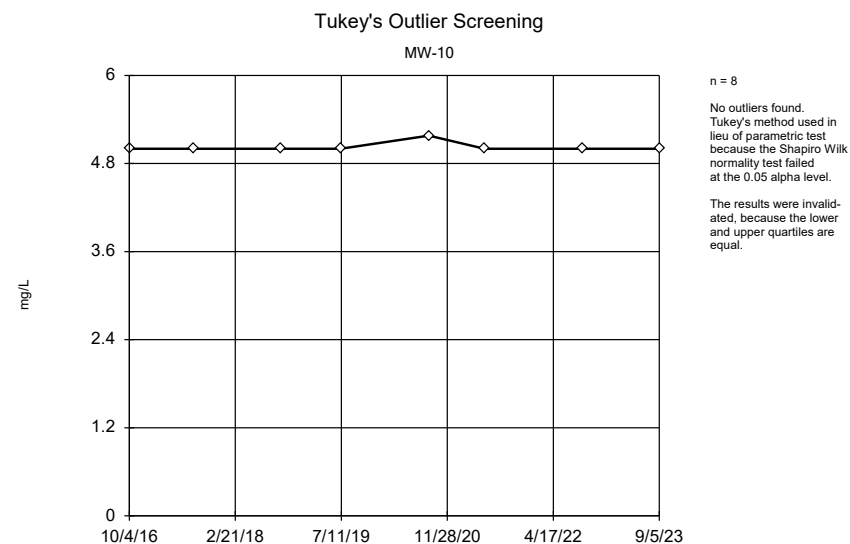
Constituent: Barium Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill



Constituent: Barium Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

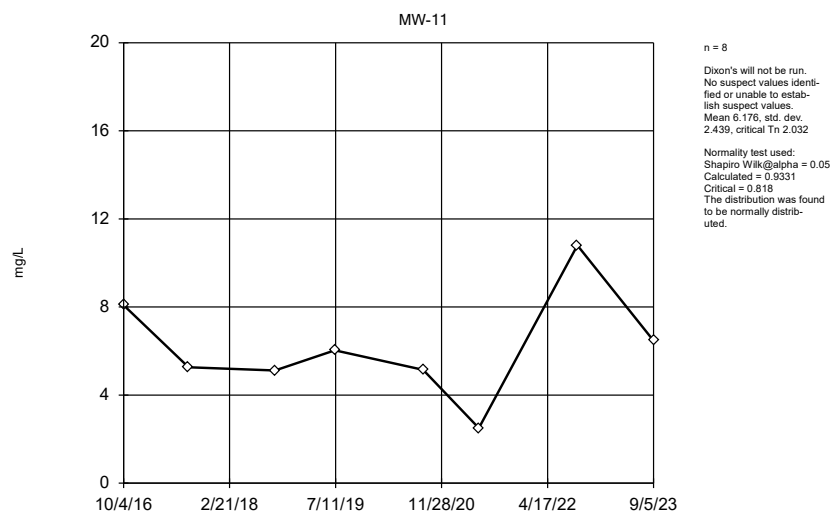


Constituent: Barium Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill



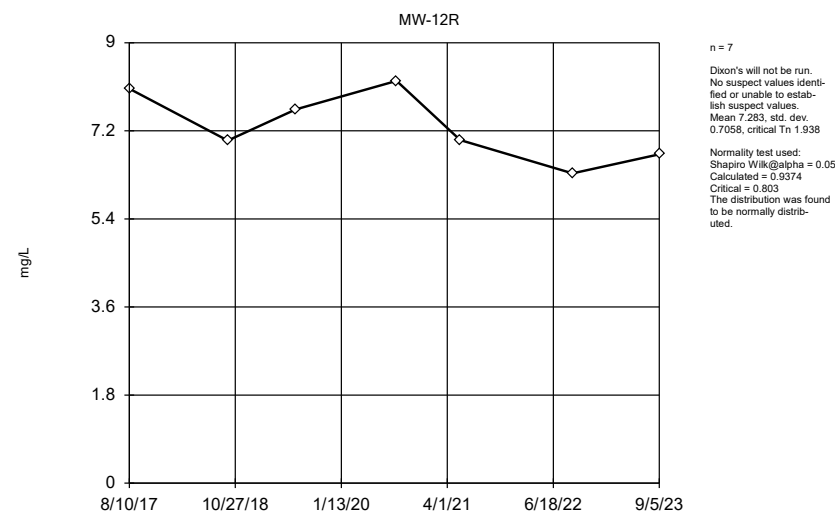
Constituent: Chloride Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



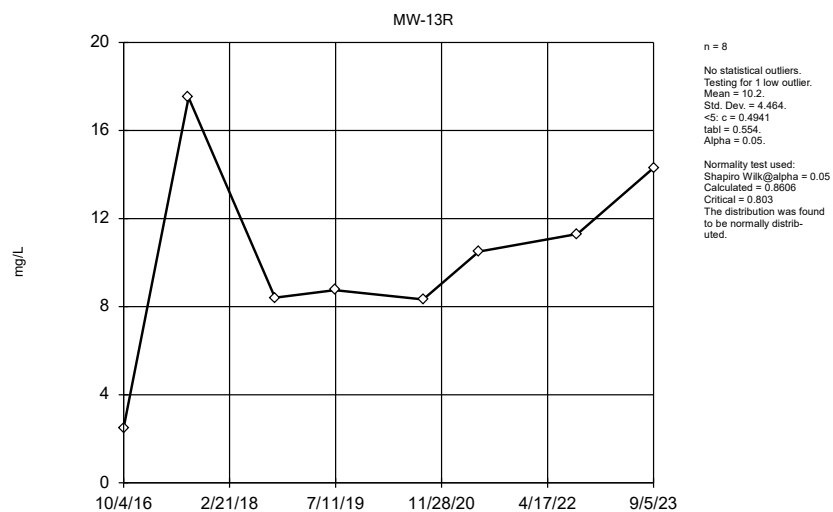
Constituent: Chloride Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



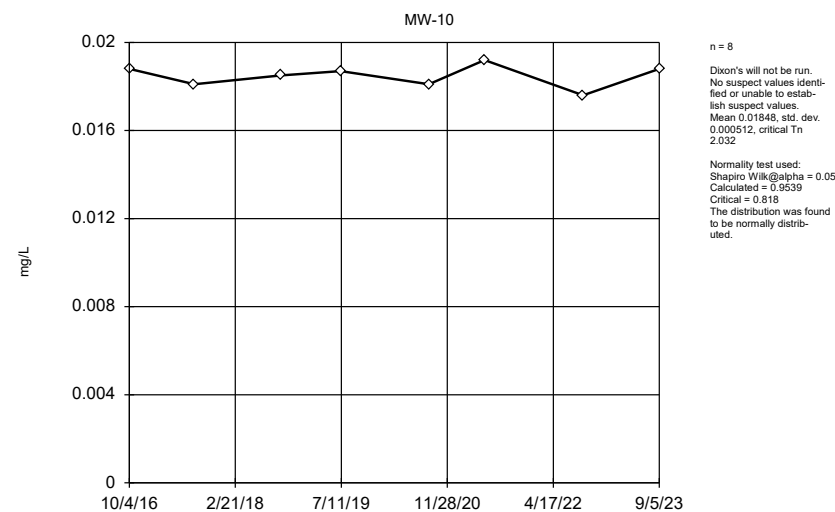
Constituent: Chloride Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

Dixon's Outlier Test

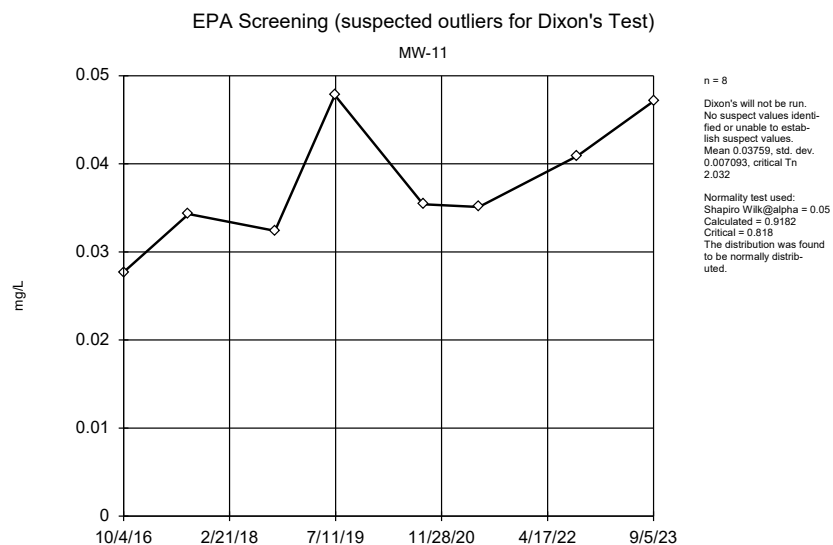


Constituent: Chloride Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

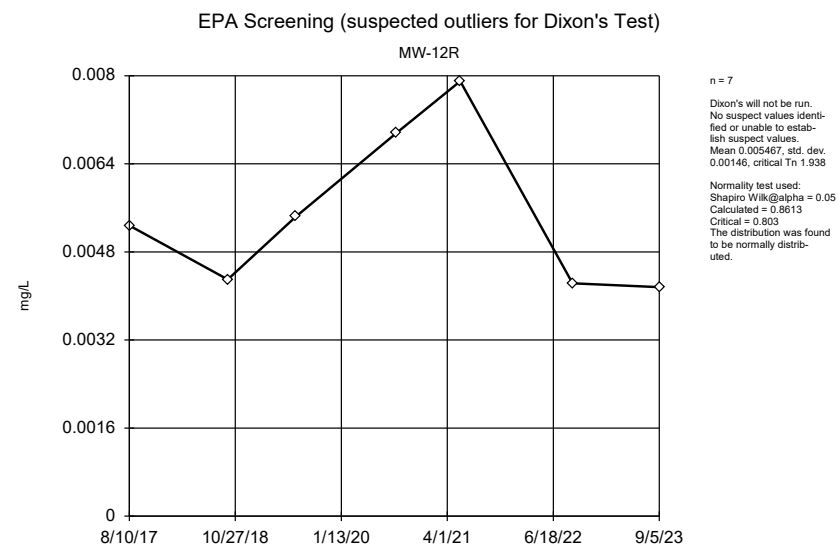
EPA Screening (suspected outliers for Dixon's Test)



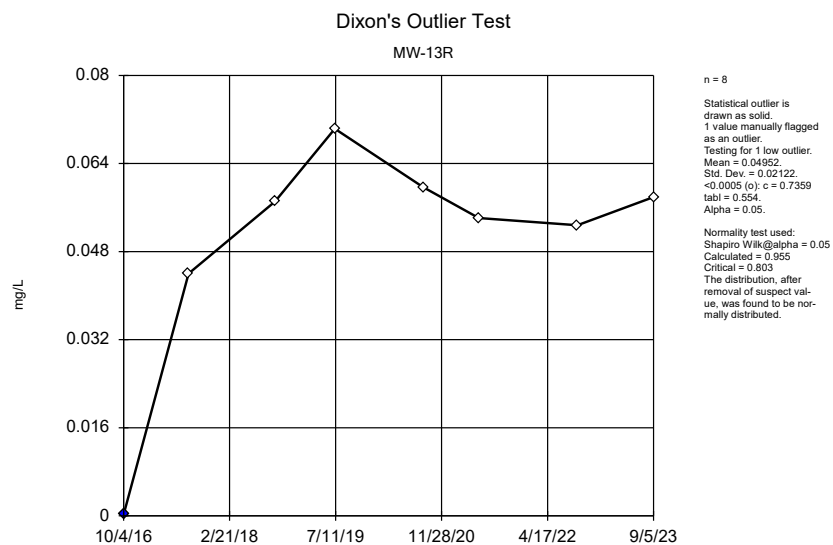
Constituent: Cobalt Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill



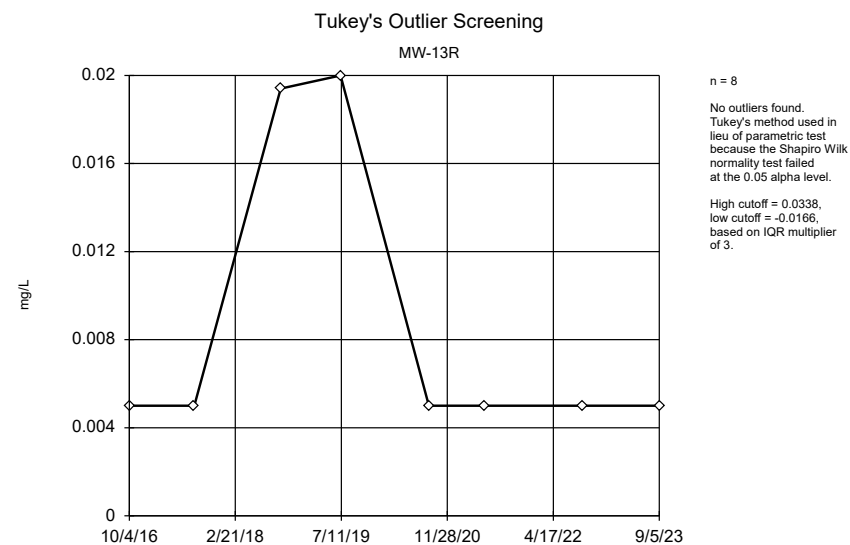
Constituent: Cobalt Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill



Constituent: Cobalt Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill



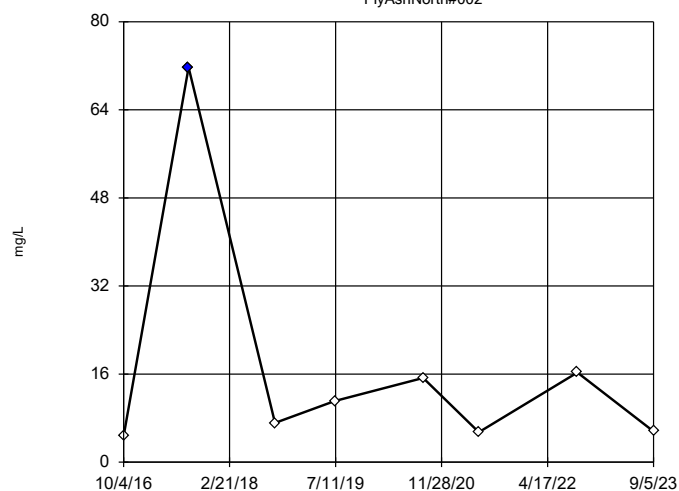
Constituent: Cobalt Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill



Constituent: Copper Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

Dixon's Outlier Test

FlyAshNorth#002

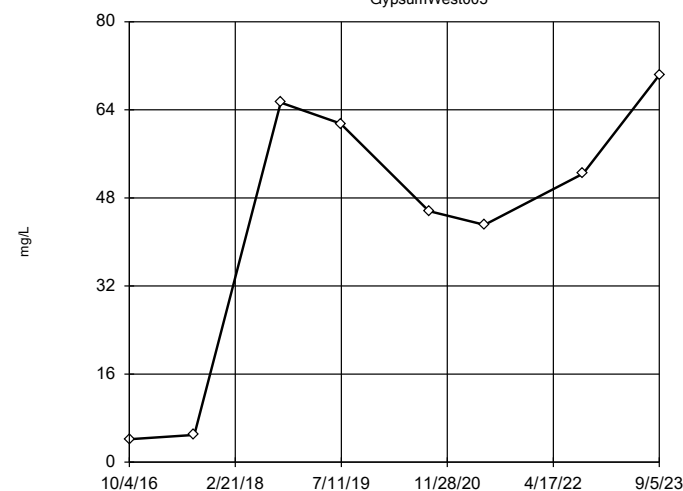


n = 8
Statistical outlier is drawn as solid.
1 value manually flagged as an outlier.
Testing for 1 high outlier.
Mean = 17.16
Std. Dev. = 22.49
71.7 (O); c = 0.8361
tab1 = 0.554
Alpha = 0.05.
Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8433
Critical = 0.803
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Iron Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)

GypsumWest005

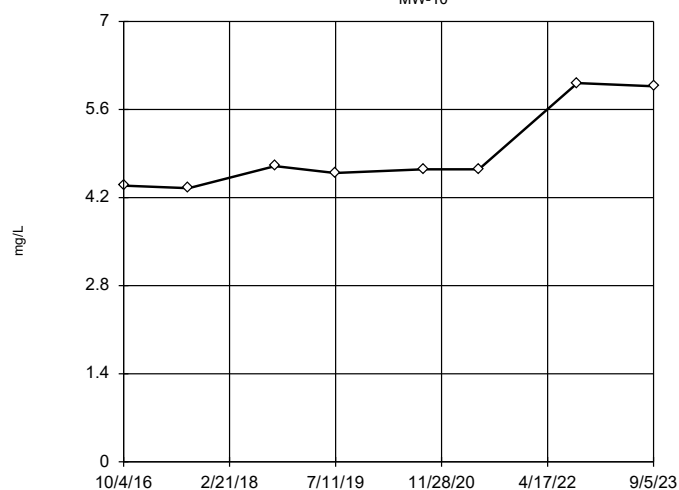


n = 8
Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
2 values manually flagged as outliers.
Mean 43.42, std. dev. 25.73, critical Tn 2.032
Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8485
Critical = 0.818
The distribution was found to be normally distributed.

Constituent: Iron Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

Tukey's Outlier Screening

MW-10

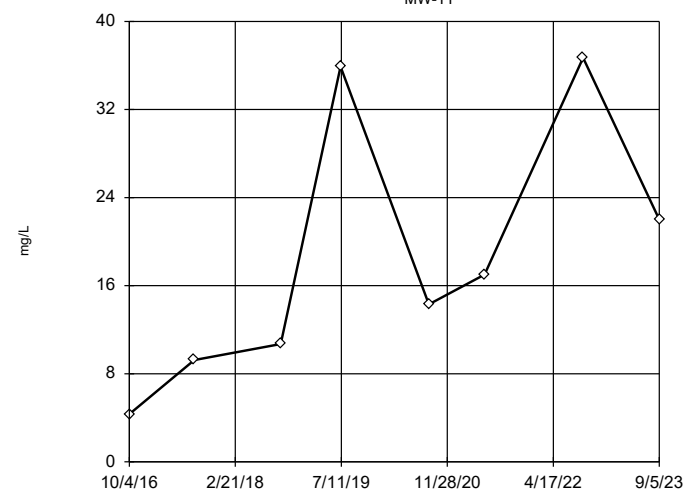


n = 8
No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.05 alpha level.
High cutoff = 7.87, low cutoff = 1.955, based on IQR multiplier of 3.

Constituent: Iron Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)

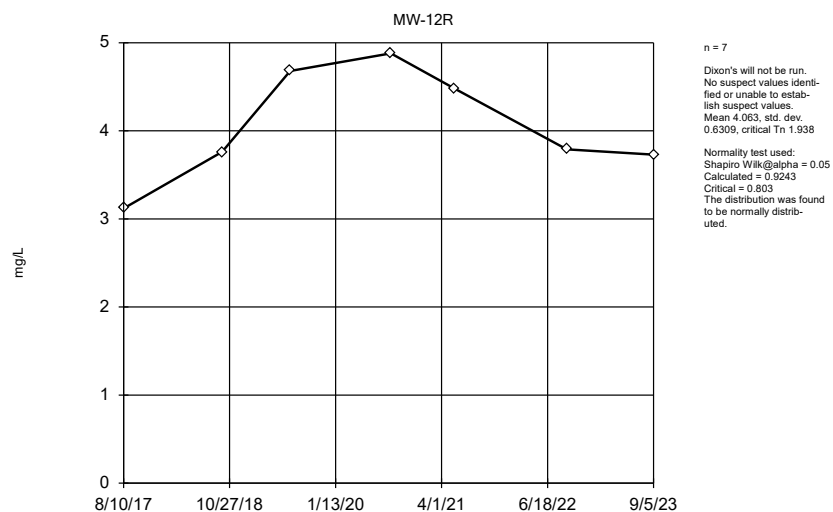
MW-11



n = 8
Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 18.77, std. dev. 12.03, critical Tn 2.032
Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8972
Critical = 0.818
The distribution was found to be normally distributed.

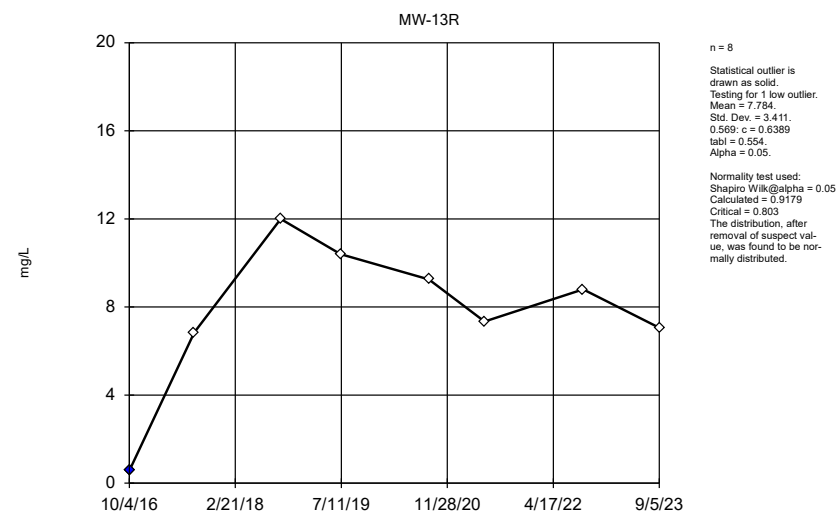
Constituent: Iron Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



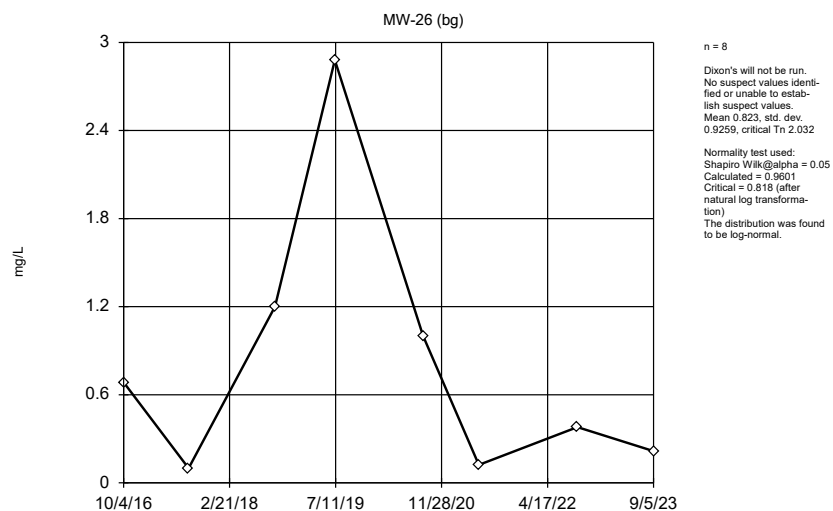
Constituent: Iron Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

Dixon's Outlier Test



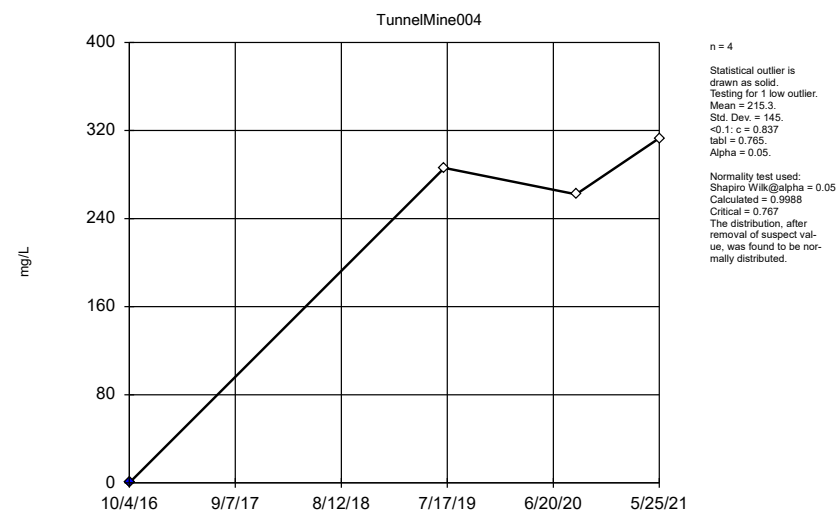
Constituent: Iron Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



Constituent: Iron Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

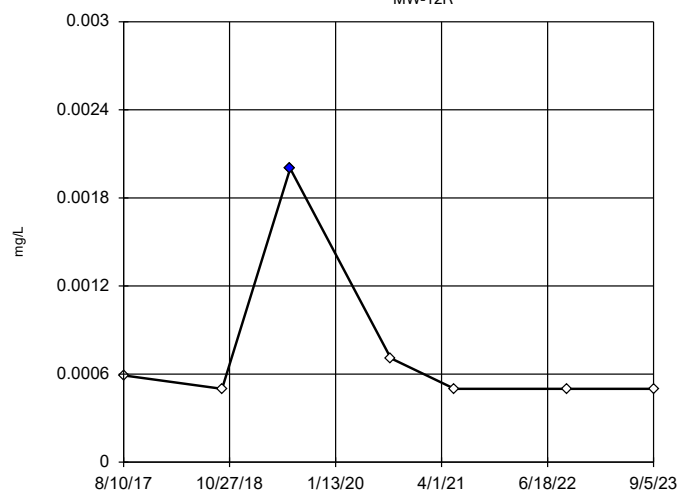
Dixon's Outlier Test



Constituent: Iron Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

Tukey's Outlier Screening

MW-12R



n = 7

Outlier is drawn as solid.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.05 alpha level.

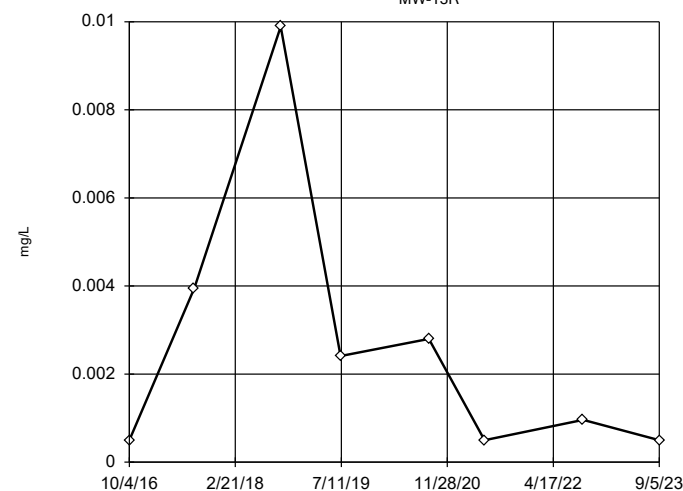
High cutoff = 0.001332,
low cutoff = -0.000124,
based on IQR multiplier of 3.

Constituent: Lead Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02

Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)

MW-13R



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
1 value manually flagged as an outlier.
Mean 0.002689, std. dev. 0.003183, critical Tn 2.032

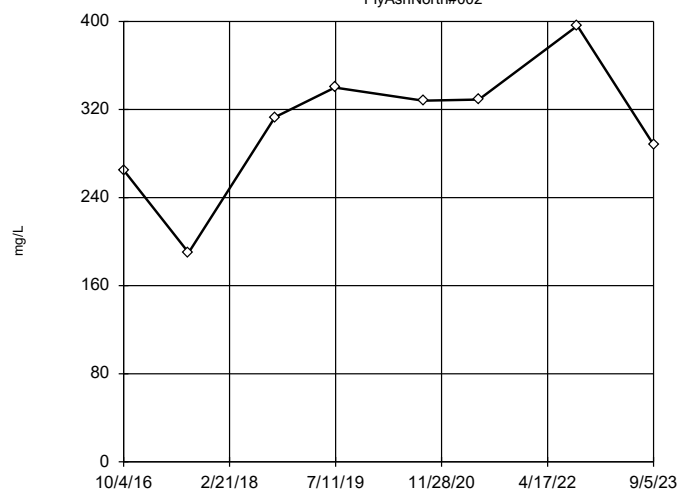
Normality test used:
Shapiro Wilk(alpha = 0.05)
Calculated = 0.8862
Critical = 0.818 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Lead Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02

Cargill-Eddyville Data: Cargill CCR Landfill

Dixon's Outlier Test

FlyAshNorth#002



n = 8

No statistical outliers.
Testing for 1 low outlier.
Mean = 305.1,
Std. Dev. = 60.69,
190: c = 0.5,
tab1 = 0.554,
Alpha = 0.05.

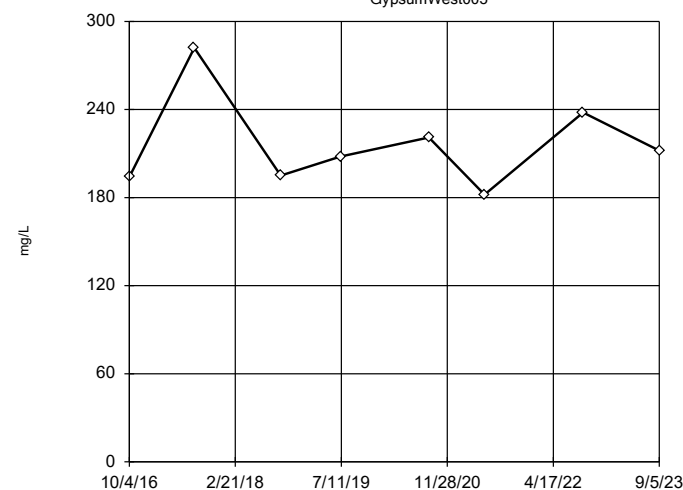
Normality test used:
Shapiro Wilk(alpha = 0.05)
Calculated = 0.9579
Critical = 0.803
The distribution was found to be normally distributed.

Constituent: Magnesium Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02

Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)

GypsumWest005



n = 8

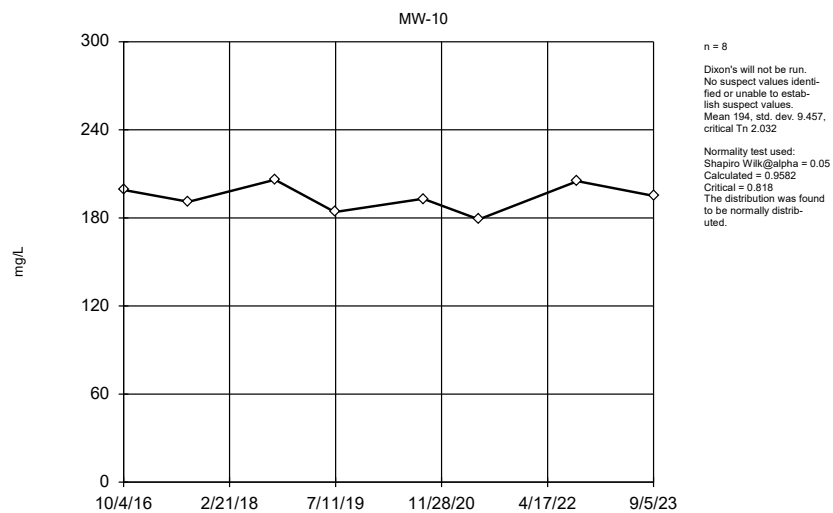
Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 216.5, std. dev. 31.68, critical Tn 2.032

Normality test used:
Shapiro Wilk(alpha = 0.05)
Calculated = 0.893
Critical = 0.818
The distribution was found to be normally distributed.

Constituent: Magnesium Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02

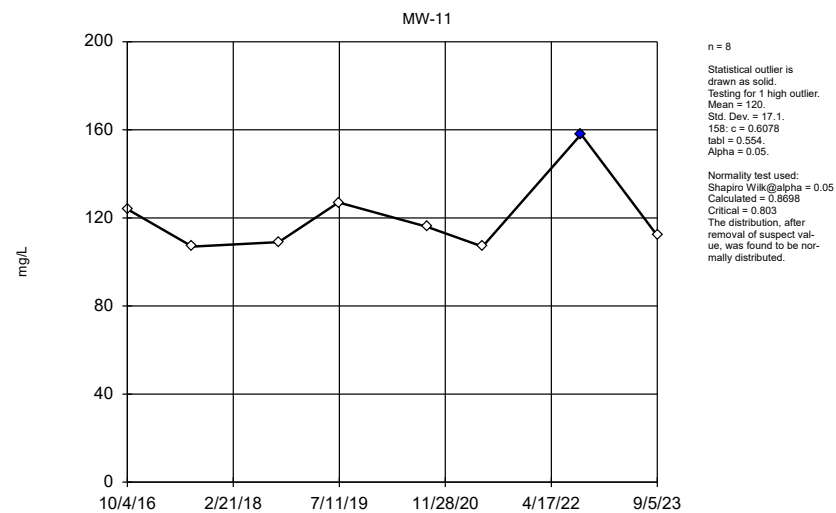
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



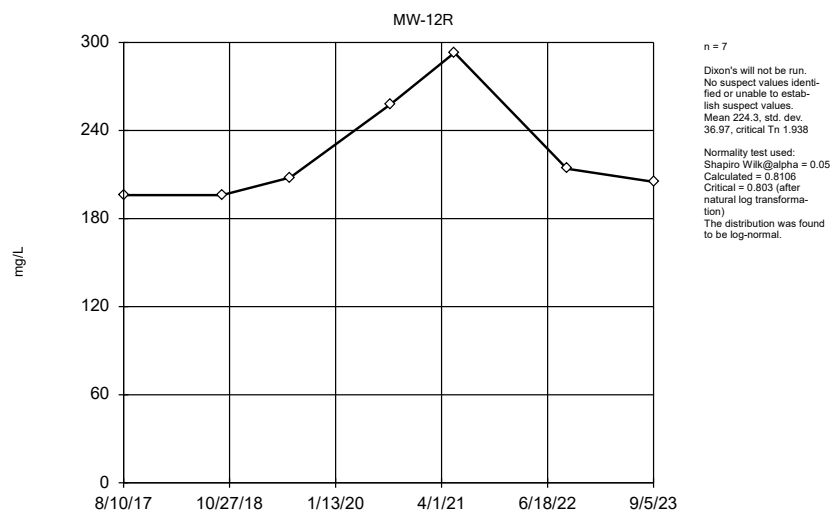
Constituent: Magnesium Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

Dixon's Outlier Test



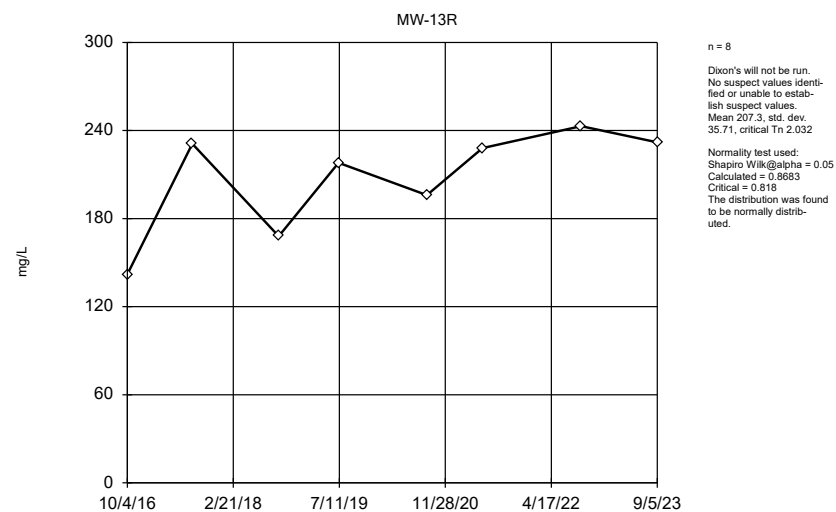
Constituent: Magnesium Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



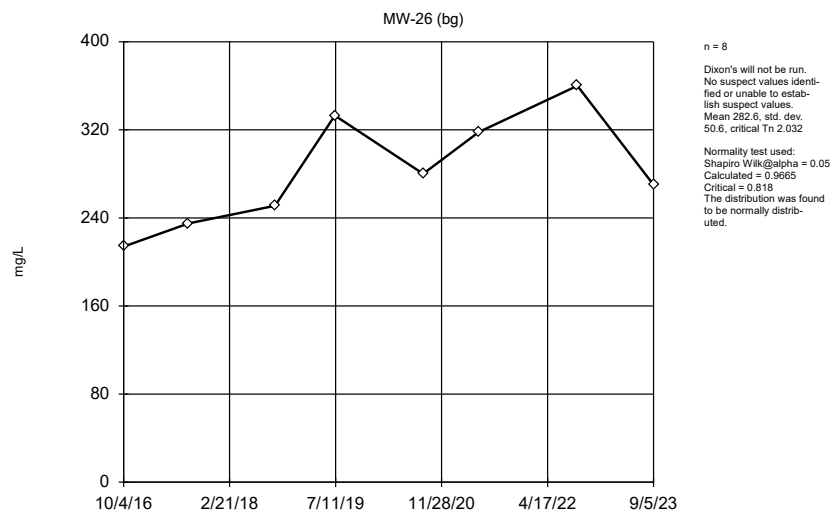
Constituent: Magnesium Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



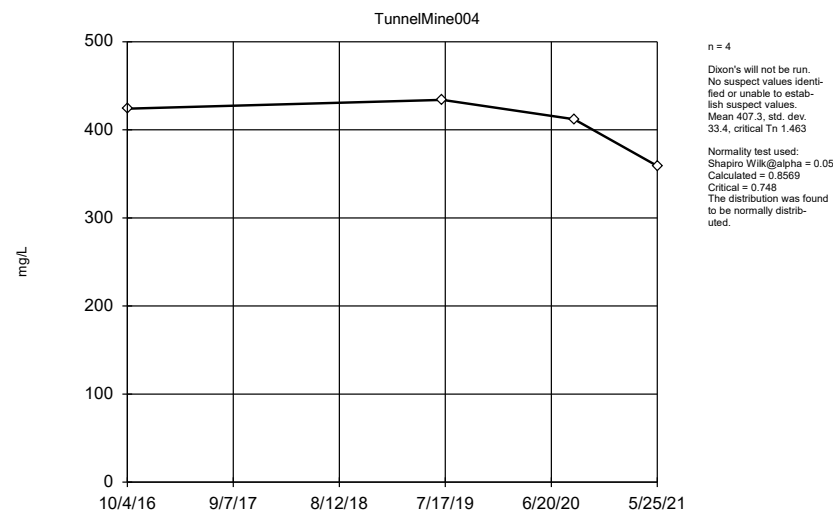
Constituent: Magnesium Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



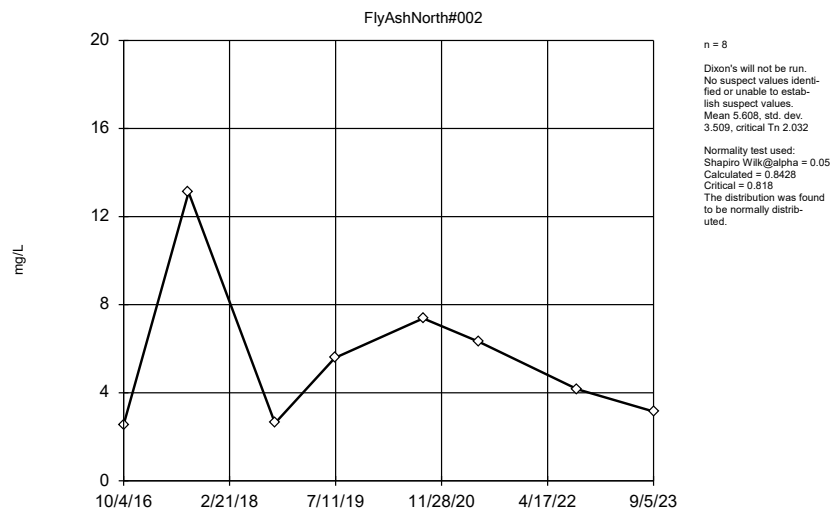
Constituent: Magnesium Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



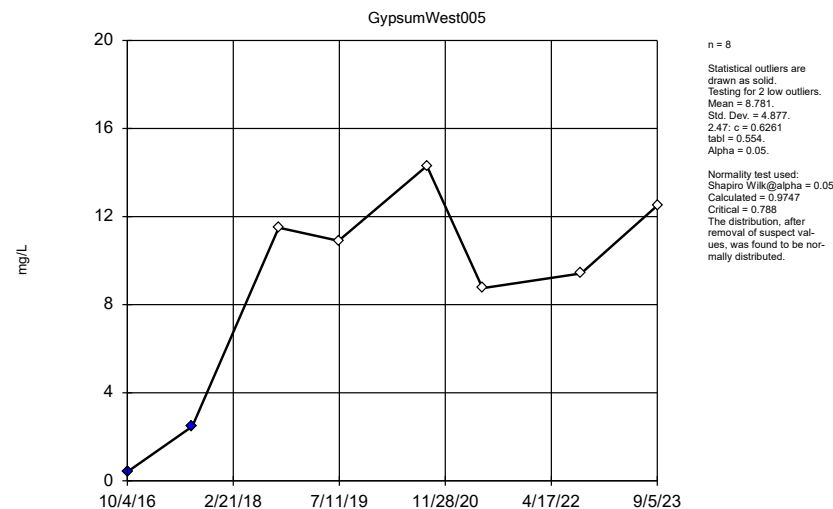
Constituent: Magnesium Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



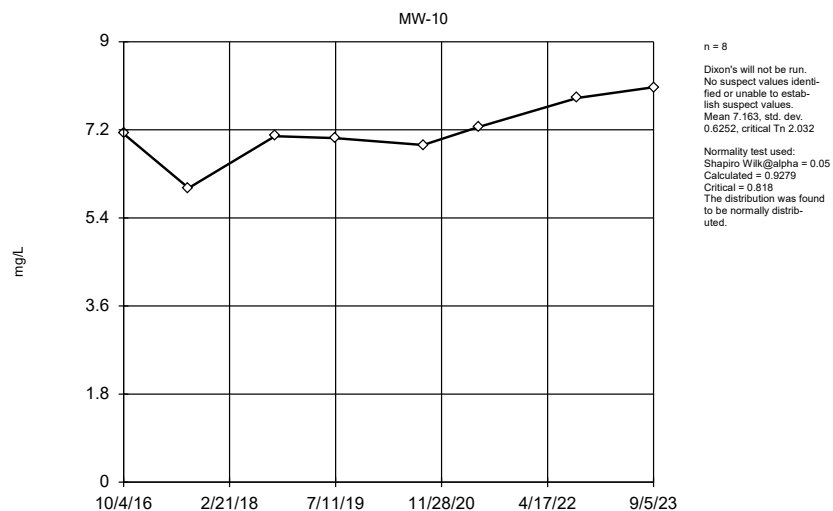
Constituent: Manganese Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

Dixon's Outlier Test



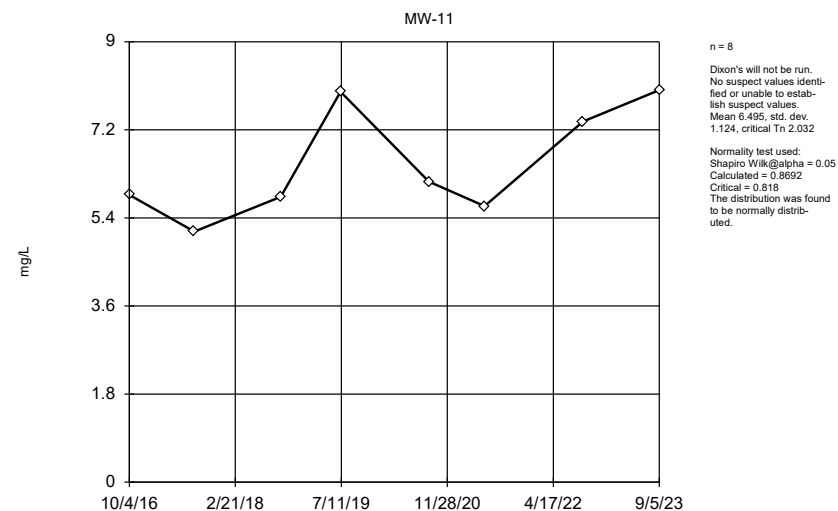
Constituent: Manganese Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



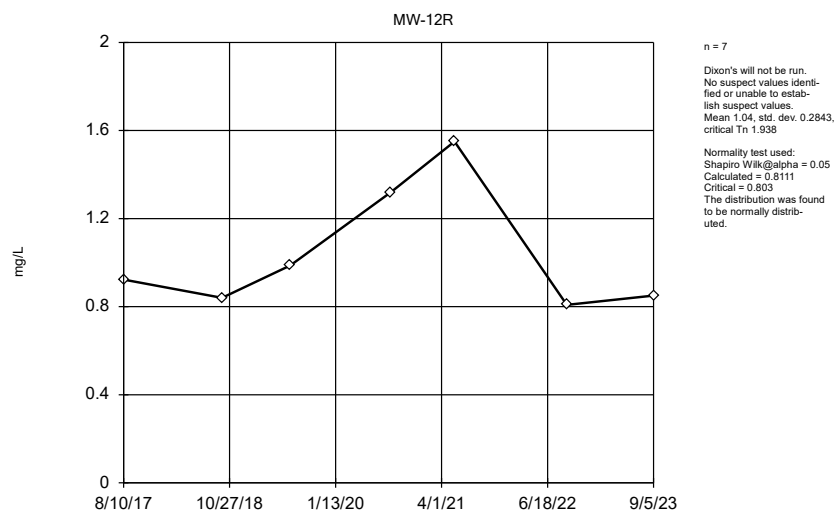
Constituent: Manganese Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



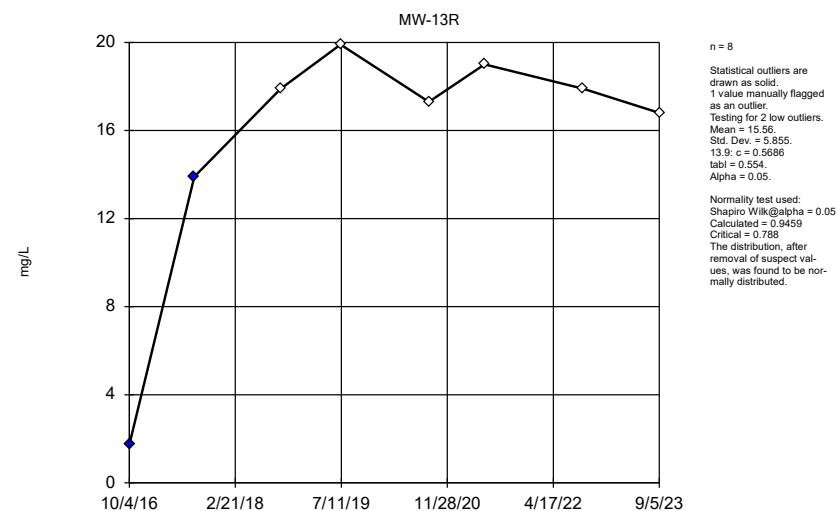
Constituent: Manganese Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)

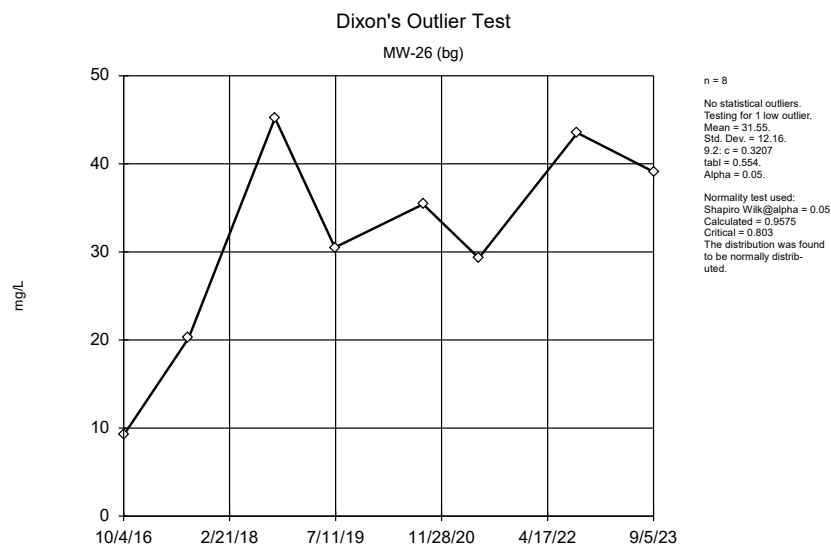


Constituent: Manganese Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

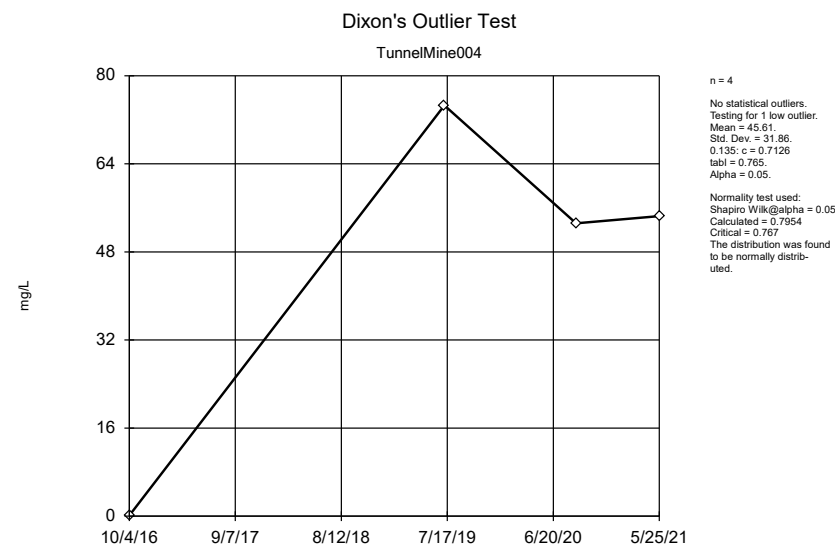
Dixon's Outlier Test



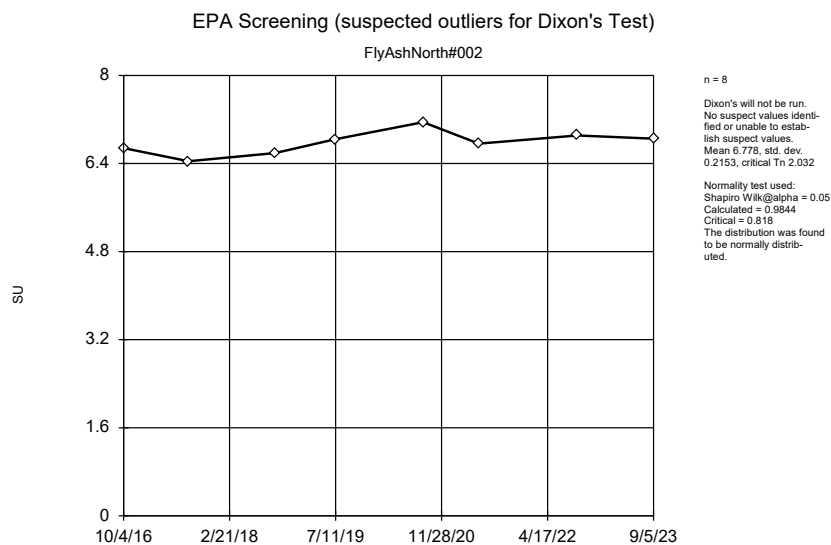
Constituent: Manganese Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill



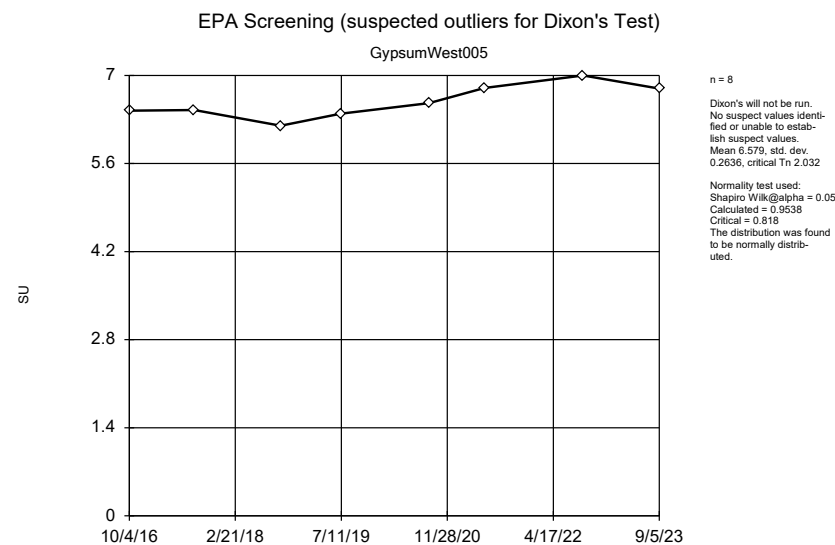
Constituent: Manganese Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill



Constituent: Manganese Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

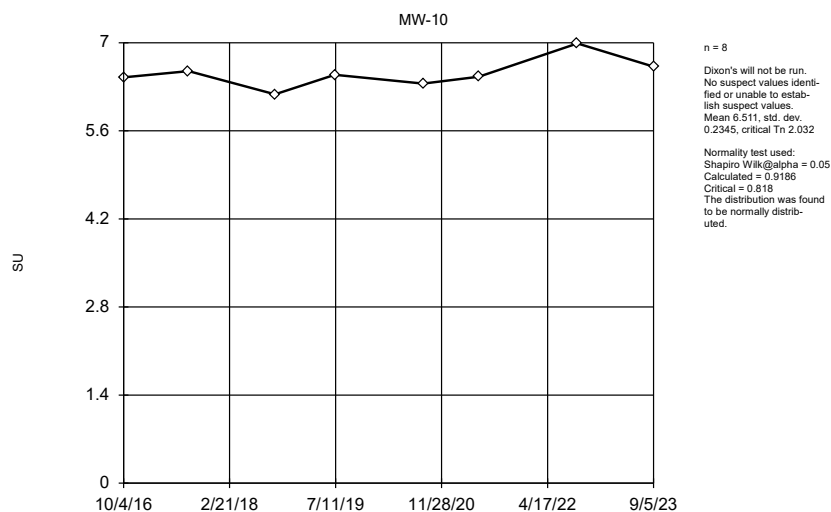


Constituent: pH Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill



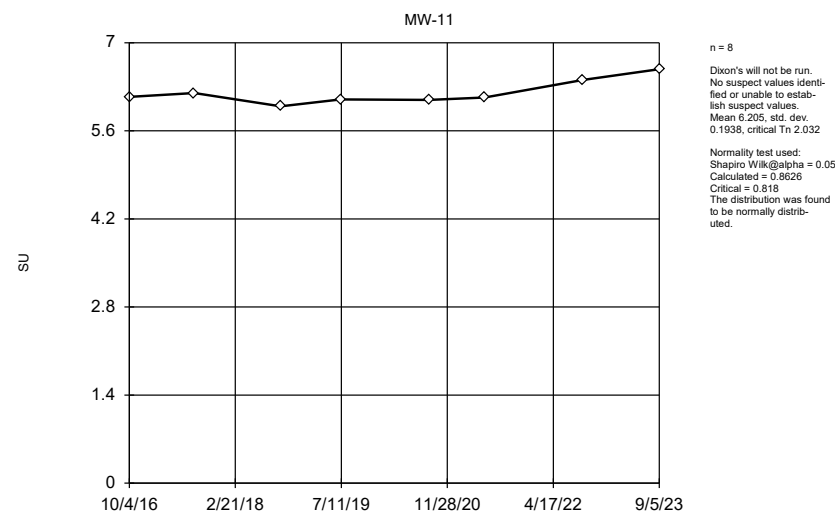
Constituent: pH Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



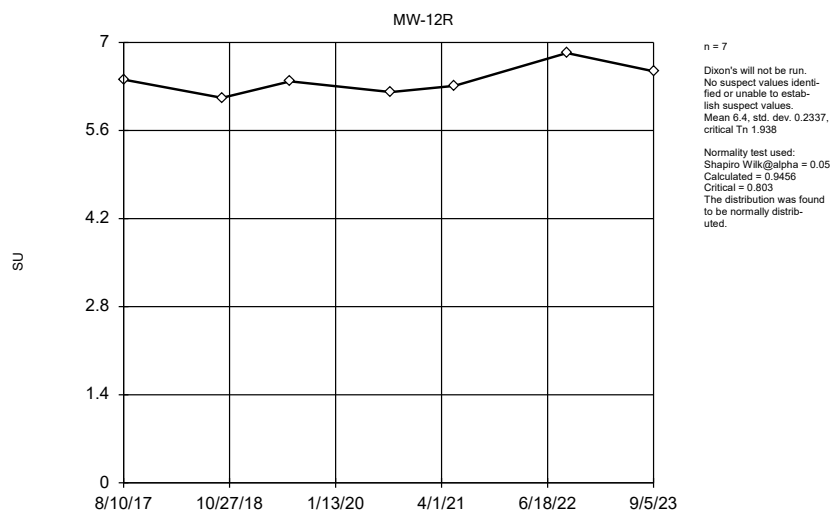
Constituent: pH Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



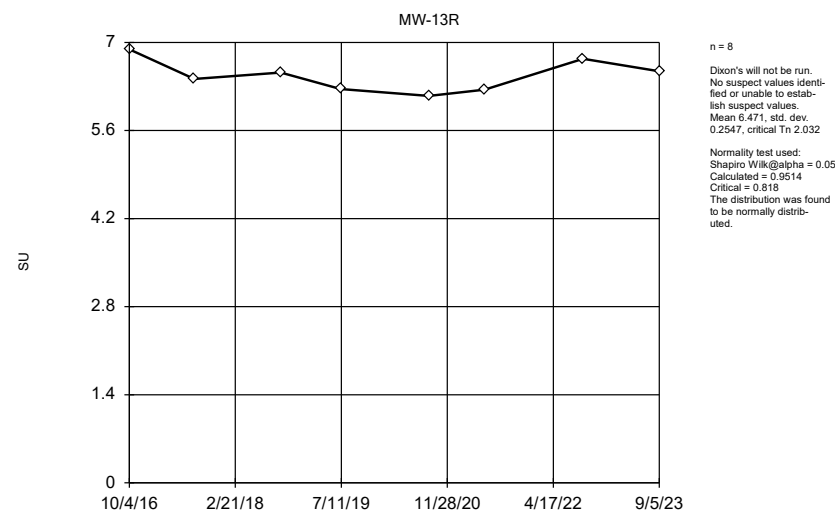
Constituent: pH Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



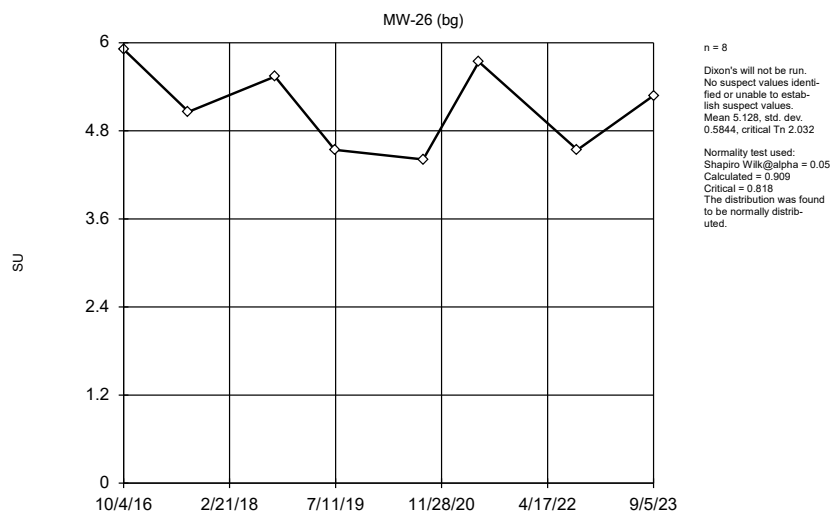
Constituent: pH Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



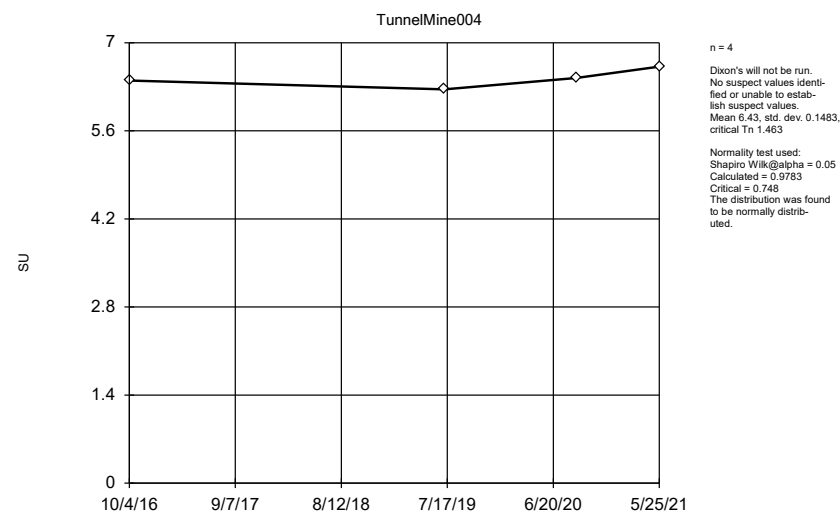
Constituent: pH Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



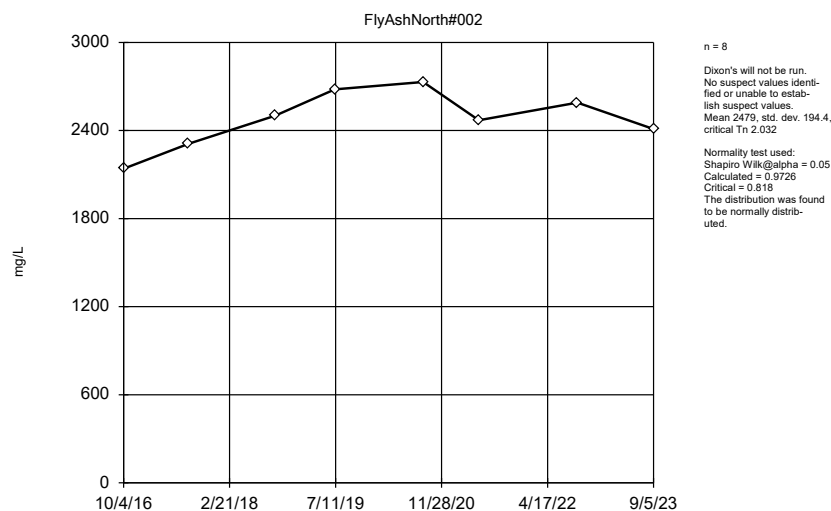
Constituent: pH Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)



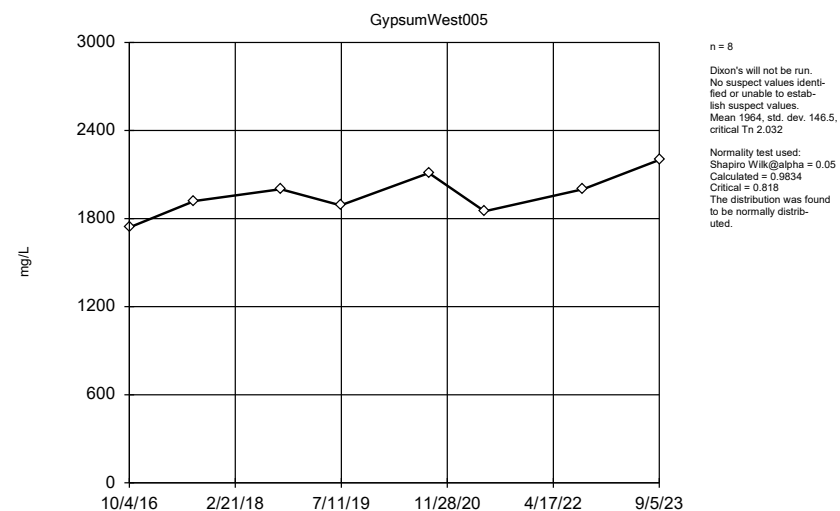
Constituent: pH Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)

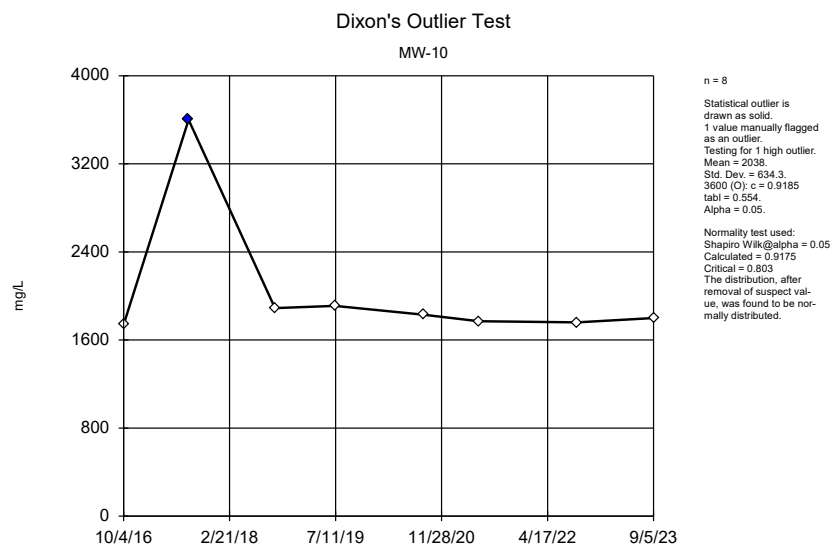


Constituent: Sulfate Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

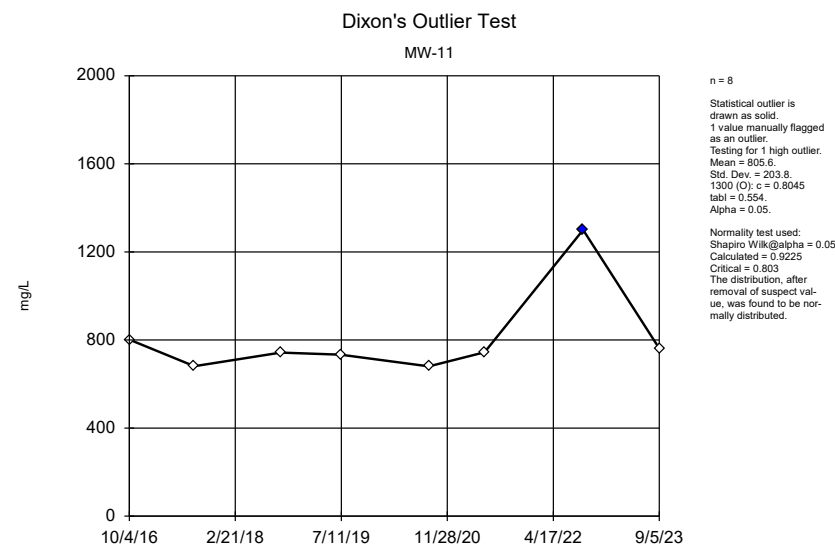
EPA Screening (suspected outliers for Dixon's Test)



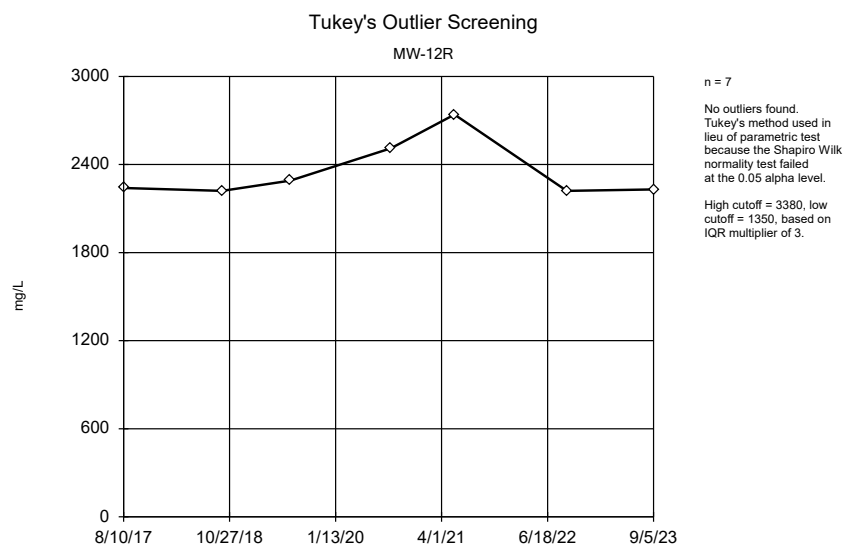
Constituent: Sulfate Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill



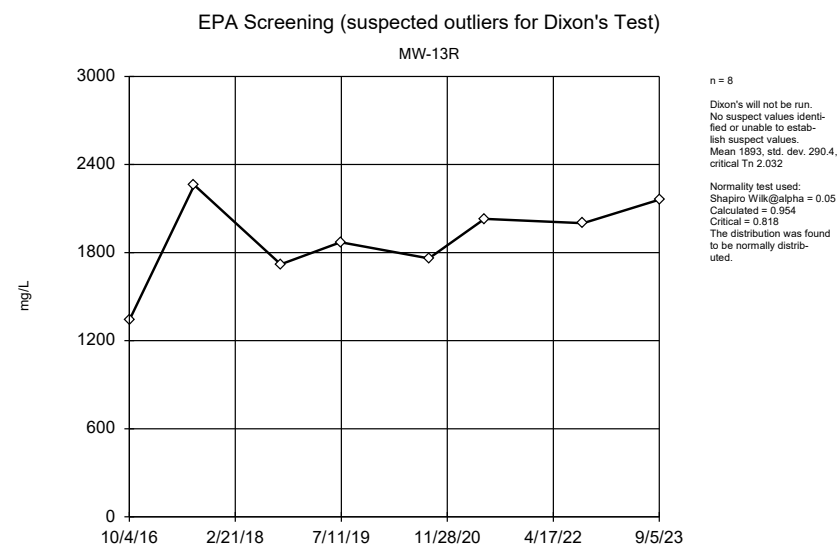
Constituent: Sulfate Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill



Constituent: Sulfate Analysis Run 8/13/2025 11:28 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill



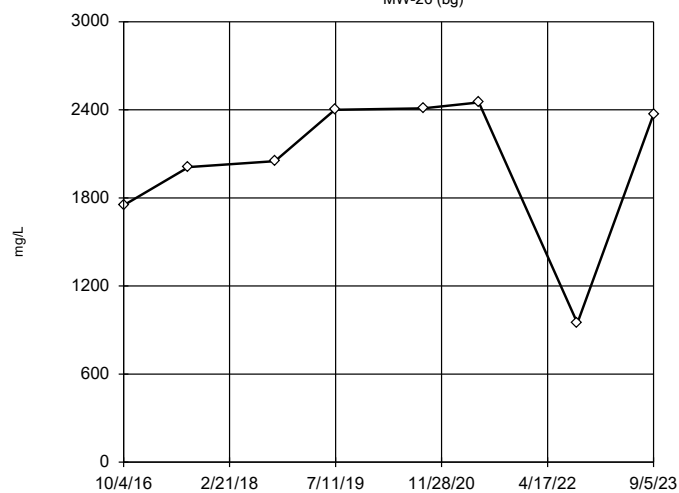
Constituent: Sulfate Analysis Run 8/13/2025 11:29 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill



Constituent: Sulfate Analysis Run 8/13/2025 11:29 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

Dixon's Outlier Test

MW-26 (bg)



n = 8

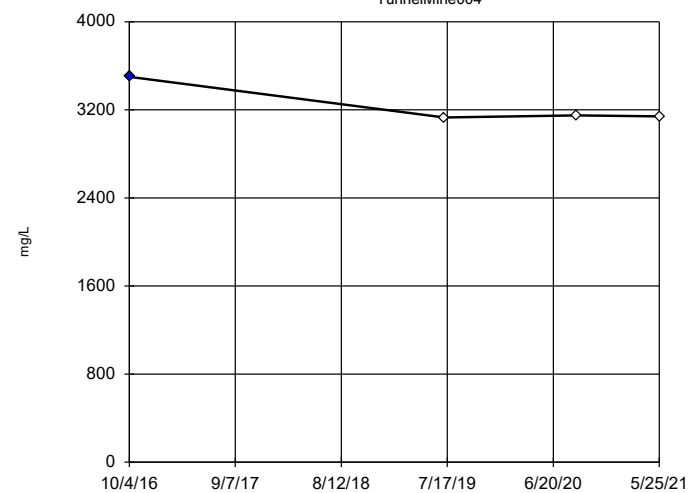
No statistical outliers.
Testing for 1 low outlier.
Mean = 2049.
Std. Dev. = 510.
948: c = 0.5486
tab1 = 0.554.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8432
Critical = 0.803
The distribution was found
to be normally distributed.

Constituent: Sulfate Analysis Run 8/13/2025 11:29 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

Dixon's Outlier Test

TunnelMine004



n = 4

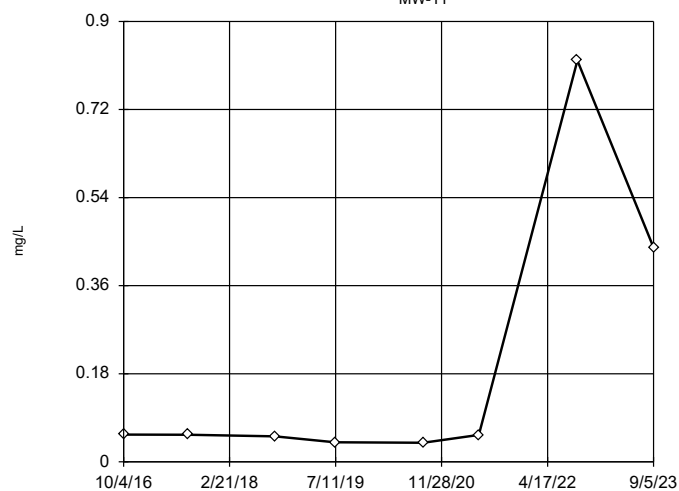
Statistical outlier is
drawn as solid.
Testing for 1 high outlier.
Mean = 3230.
Std. Dev. = 180.2
3500: c = 0.9459
tab1 = 0.765.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 1
Critical = 0.767
The distribution, after
removal of suspect val-
ue, was found to be nor-
mally distributed.

Constituent: Sulfate Analysis Run 8/13/2025 11:29 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

Tukey's Outlier Screening

MW-11



n = 8

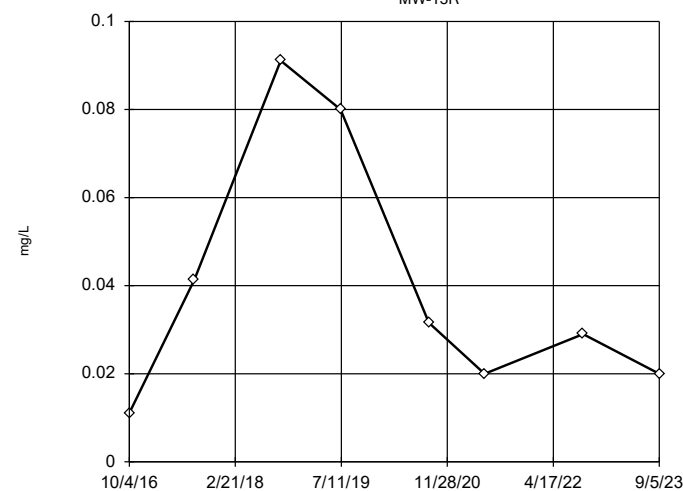
No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.05 alpha level.

High cutoff = 0.8491,
low cutoff = -0.5562,
based on IQR multiplier
of 3.

Constituent: Zinc Analysis Run 8/13/2025 11:29 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

EPA Screening (suspected outliers for Dixon's Test)

MW-13R



n = 8

Dixon's will not be run.
No suspect values identi-
fied or unable to estab-
lish suspect values.
1 value manually flagged
as an outlier.
Mean 0.04051, std. dev.
0.02937, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.841
Critical = 0.818
The distribution was found
to be normally distrib-
uted.

Constituent: Zinc Analysis Run 8/13/2025 11:29 AM View: 2025_SSN-Outliers Unit 02
Cargill-Eddyville Data: Cargill CCR Landfill

Attachment C

Prediction Limits

Unit01 Intra Prediction Limit

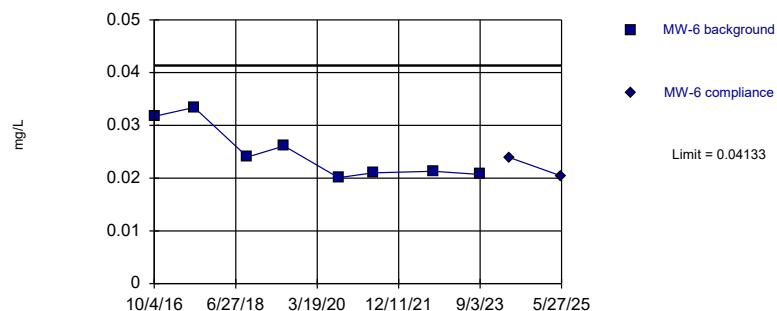
Cargill-Eddyville Data: Cargill CCR Landfill Printed 8/13/2025, 11:18 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Wells</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Barium (mg/L)	MW-6	0.04133	n/a	5/27/2025	0.0204	No	8	n/a	0.02479	0.005203	0	None	No	0.01	Param Intra
Barium (mg/L)	MW-8	0.06051	n/a	5/27/2025	0.0502	No	8	n/a	0.03765	0.007191	0	None	No	0.01	Param Intra
Barium (mg/L)	MW-9	0.03481	n/a	5/27/2025	0.0217	No	8	n/a	0.1518	0.01092	0	None	sqrt(x)	0.01	Param Intra
Cobalt (mg/L)	MW-8	0.00189	n/a	5/27/2025	0.00112	No	8	n/a	n/a	n/a	87.5	n/a	n/a	0.1111	NP Intra (NDs)
Cobalt (mg/L)	MW-9	0.00138	n/a	5/27/2025	0.0005ND	No	8	n/a	n/a	n/a	87.5	n/a	n/a	0.1111	NP Intra (NDs)
Iron (mg/L)	MW-6	1.759	n/a	5/27/2025	0.254	No	8	n/a	0.6114	0.361	12.5	None	No	0.01	Param Intra
Iron (mg/L)	MW-8	0.308	n/a	5/27/2025	0.954	Yes	7	n/a	n/a	n/a	57.14	n/a	n/a	0.125	NP Intra (NDs)
Iron (mg/L)	MW-9	0.175	n/a	5/27/2025	0.1ND	No	8	n/a	n/a	n/a	75	n/a	n/a	0.1111	NP Intra (NDs)
Lead (mg/L)	MW-8	0.00111	n/a	5/27/2025	0.00109	No	8	n/a	n/a	n/a	87.5	n/a	n/a	0.1111	NP Intra (NDs)
Magnesium (mg/L)	MW-6	42.73	n/a	5/27/2025	19	No	8	n/a	23.63	6.008	0	None	No	0.01	Param Intra
Magnesium (mg/L)	MW-8	50.82	n/a	5/27/2025	39.8	No	8	n/a	41.05	3.071	0	None	No	0.01	Param Intra
Magnesium (mg/L)	MW-9	81.55	n/a	5/27/2025	77.2	No	8	n/a	70.08	3.61	0	None	No	0.01	Param Intra
Manganese (mg/L)	MW-6	0.2685	n/a	5/27/2025	0.0752	No	8	n/a	0.1127	0.049	0	None	No	0.01	Param Intra
Manganese (mg/L)	MW-8	0.1574	n/a	5/27/2025	0.378	Yes	7	n/a	0.037	0.03585	14.29	None	No	0.01	Param Intra
Manganese (mg/L)	MW-9	0.01	n/a	5/27/2025	0.021	Yes	7	n/a	n/a	n/a	100	n/a	n/a	0.125	NP Intra (NDs)
pH (SU)	MW-6	8.931	5.664	5/27/2025	7.27	No	8	n/a	7.298	0.4401	0	None	No	0.005	Param Intra
pH (SU)	MW-8	8.395	5.937	5/27/2025	6.82	No	8	n/a	7.166	0.3311	0	None	No	0.005	Param Intra
pH (SU)	MW-9	8.035	5.988	5/27/2025	6.82	No	8	n/a	7.011	0.2758	0	None	No	0.005	Param Intra
Selenium (mg/L)	MW-9	0.00721	n/a	5/27/2025	0.005ND	No	8	n/a	n/a	n/a	62.5	n/a	n/a	0.1111	NP Intra (NDs)
Sulfate (mg/L)	MW-6	596.9	n/a	5/27/2025	335	No	8	n/a	388.5	65.55	0	None	No	0.01	Param Intra
Sulfate (mg/L)	MW-8	365	n/a	5/27/2025	275	No	8	n/a	241.4	38.87	0	None	No	0.01	Param Intra
Sulfate (mg/L)	MW-9	1416	n/a	5/27/2025	1240	No	8	n/a	1161	80.08	0	None	No	0.01	Param Intra
Zinc (mg/L)	MW-8	0.0214	n/a	5/27/2025	0.02ND	No	8	n/a	n/a	n/a	87.5	n/a	n/a	0.1111	NP Intra (NDs)
Zinc (mg/L)	MW-9	0.02	n/a	5/27/2025	0.02ND	No	8	n/a	n/a	n/a	100	n/a	n/a	0.1111	NP Intra (NDs)

Within Limit

Prediction Limit

Intrawell Parametric



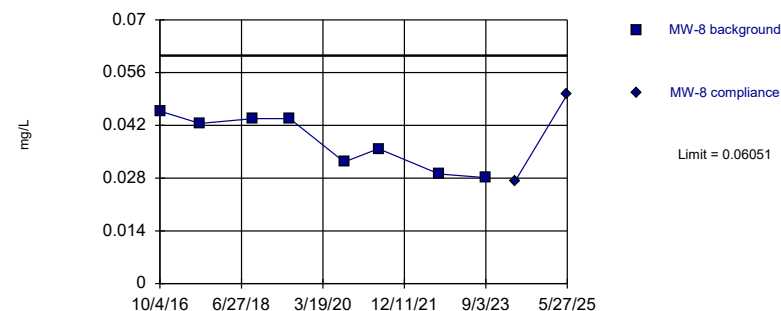
Background Data Summary: Mean=0.02479, Std. Dev.=0.005203, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8338, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Barium Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



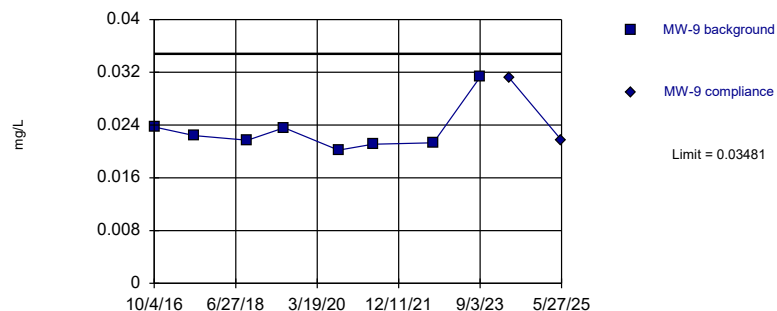
Background Data Summary: Mean=0.03765, Std. Dev.=0.007191, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8698, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Barium Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



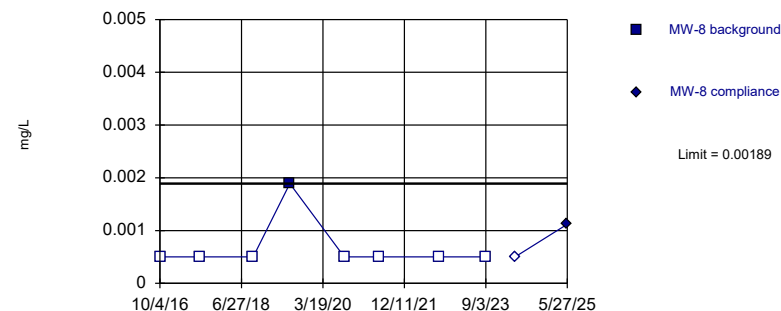
Background Data Summary (based on square root transformation): Mean=0.01518, Std. Dev.=0.01092, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7658, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Barium Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



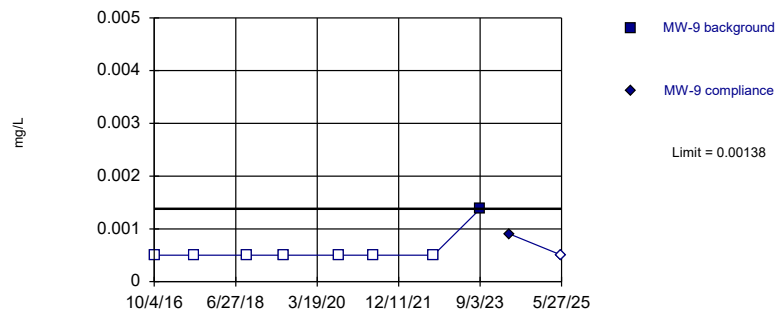
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 87.5% NDs. Report alpha = 0.1111. Most recent point compared to limit.

Constituent: Cobalt Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



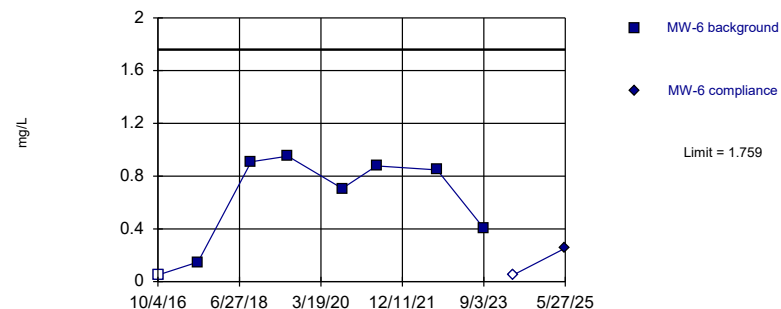
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 87.5% NDs. Report alpha = 0.1111. Most recent point compared to limit.

Constituent: Cobalt Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



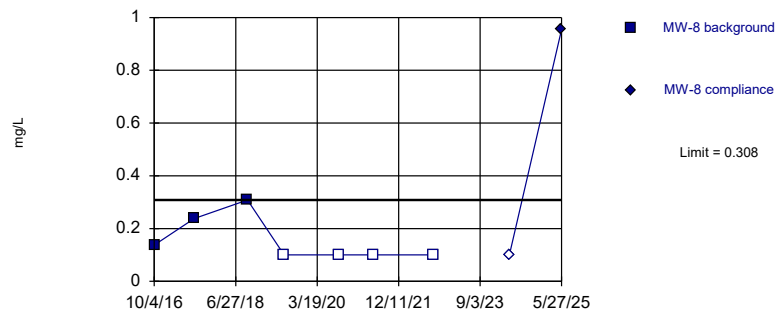
Background Data Summary: Mean=0.6114, Std. Dev.=0.361, n=8, 12.5% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8423, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Iron Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Exceeds Limit

Prediction Limit

Intrawell Non-parametric



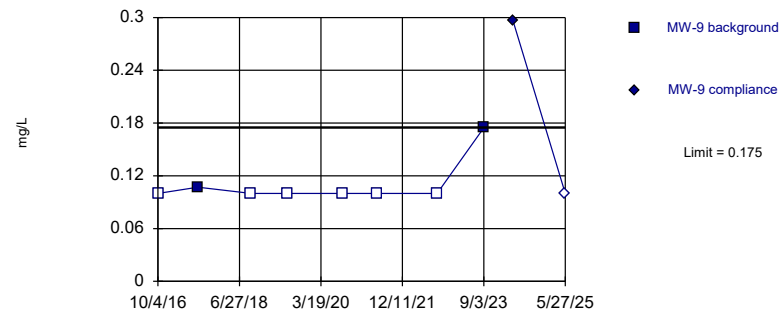
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 7 background values. 57.14% NDs. Report alpha = 0.125. Most recent point compared to limit.

Constituent: Iron Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



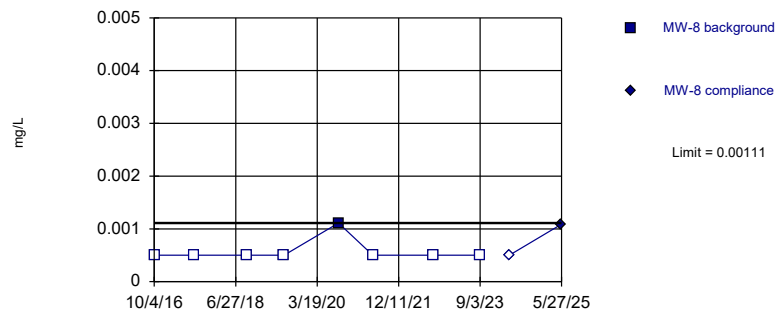
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 75% NDs. Report alpha = 0.1111. Most recent point compared to limit.

Constituent: Iron Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



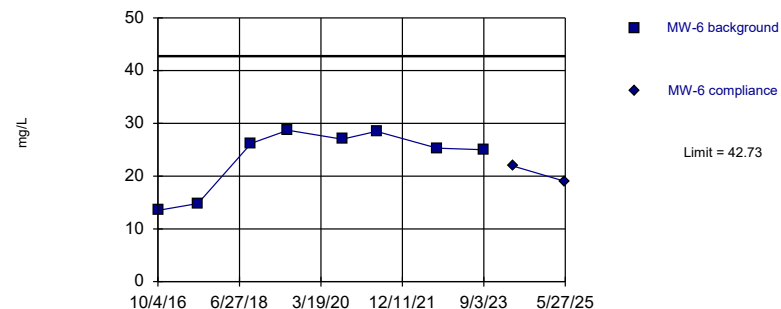
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 87.5% NDs. Report alpha = 0.1111. Most recent point compared to limit.

Constituent: Lead Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



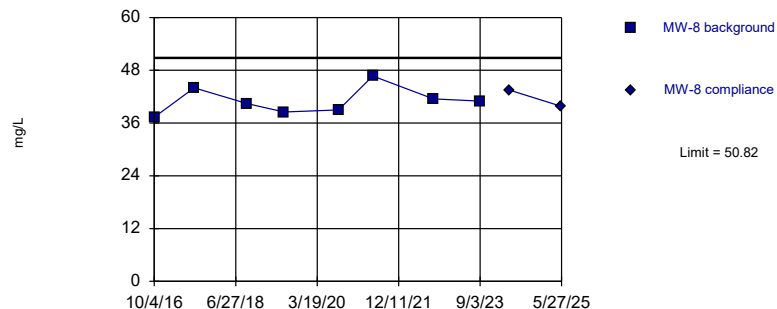
Background Data Summary: Mean=23.63, Std. Dev.=6.008, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7684, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Magnesium Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



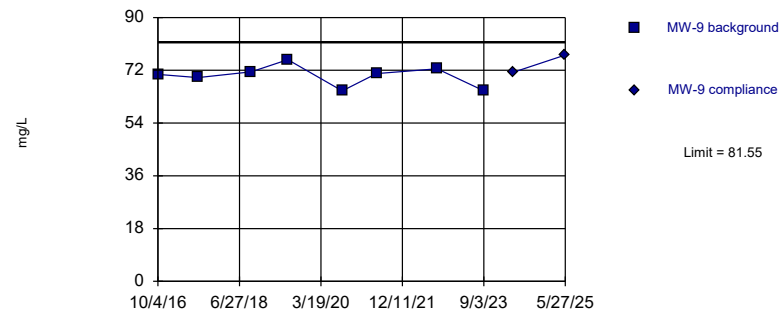
Background Data Summary: Mean=41.05, Std. Dev.=3.071, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.945, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Magnesium Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



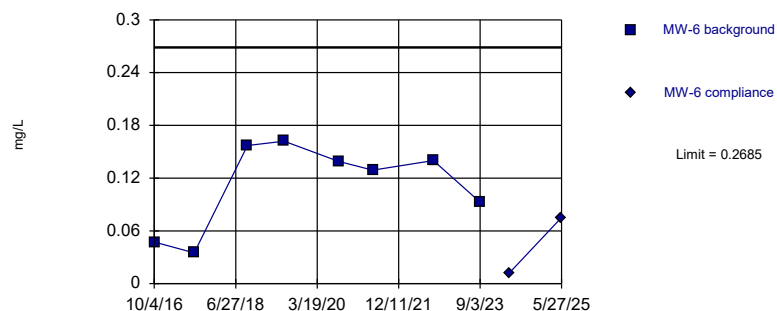
Background Data Summary: Mean=70.08, Std. Dev.=3.61, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9184, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Magnesium Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



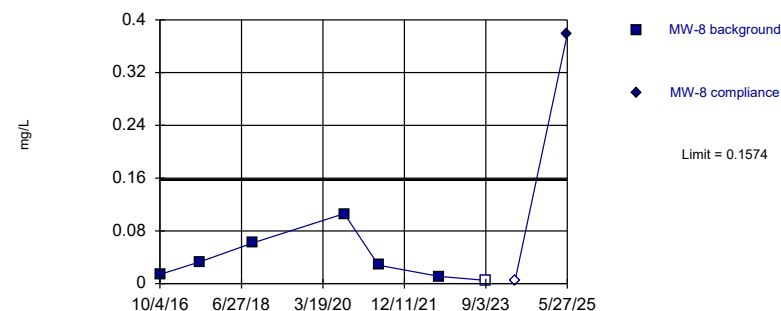
Background Data Summary: Mean=0.1127, Std. Dev.=0.049, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8623, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Manganese Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Exceeds Limit

Prediction Limit

Intrawell Parametric



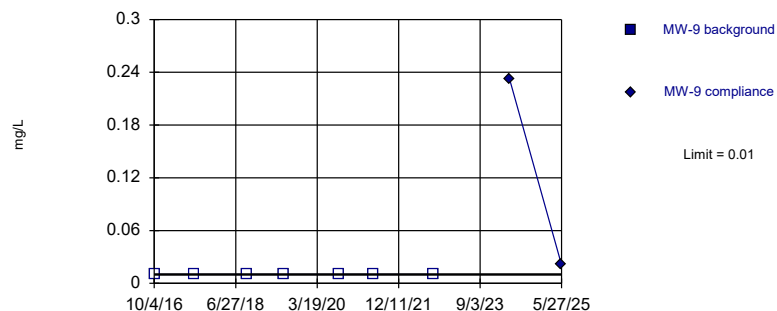
Background Data Summary: Mean=0.037, Std. Dev.=0.03585, n=7, 14.29% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8523, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Manganese Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Exceeds Limit

Prediction Limit

Intrawell Non-parametric



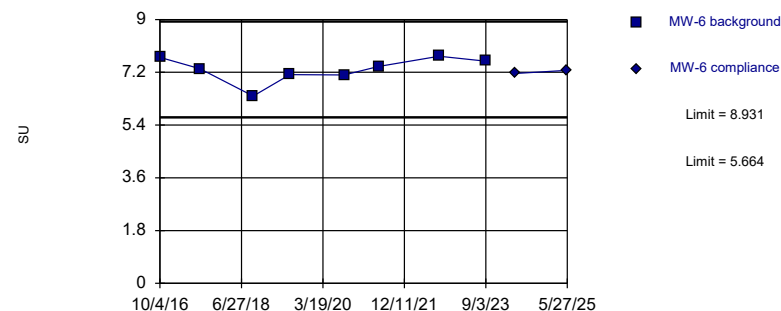
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 7 background values. 100% NDs. Report alpha = 0.125. Most recent point compared to limit.

Constituent: Manganese Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limits

Prediction Limit

Intrawell Parametric



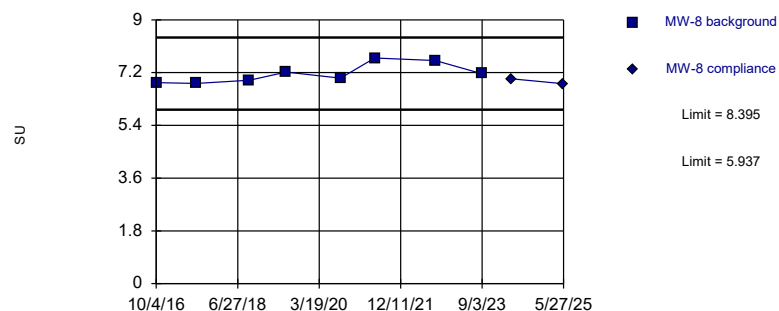
Background Data Summary: Mean=7.298, Std. Dev.=0.4401, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8884, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: pH Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limits

Prediction Limit

Intrawell Parametric

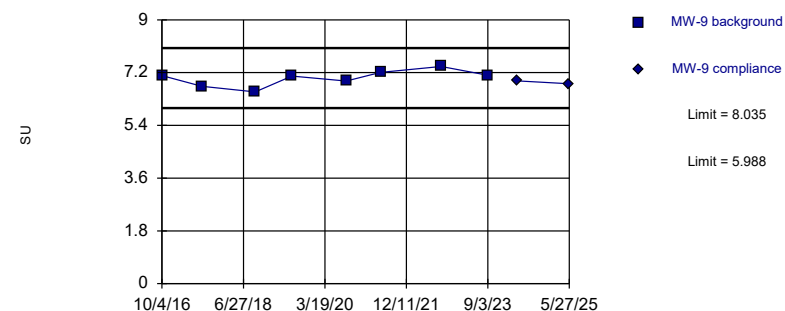


Background Data Summary: Mean=7.166, Std. Dev.=0.3311, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8787, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.011, Std. Dev.=0.2758, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9588, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

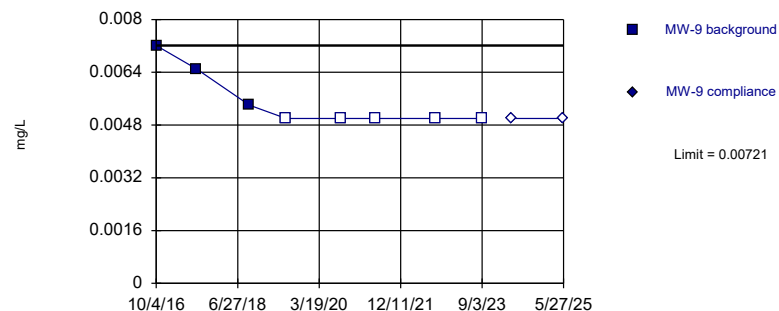
Constituent: pH Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Constituent: pH Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric

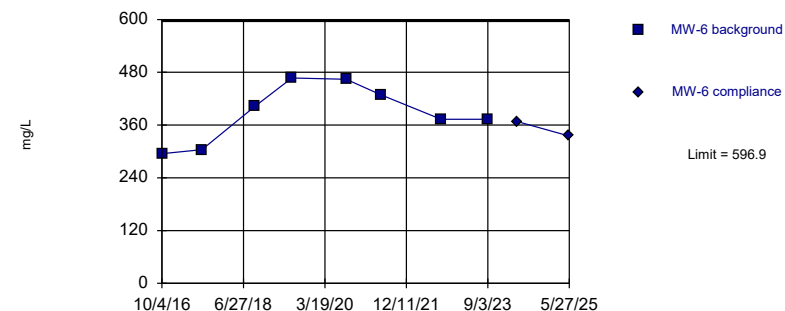


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 62.5% NDs. Report alpha = 0.1111. Most recent point compared to limit.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=388.5, Std. Dev.=65.55, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.918, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

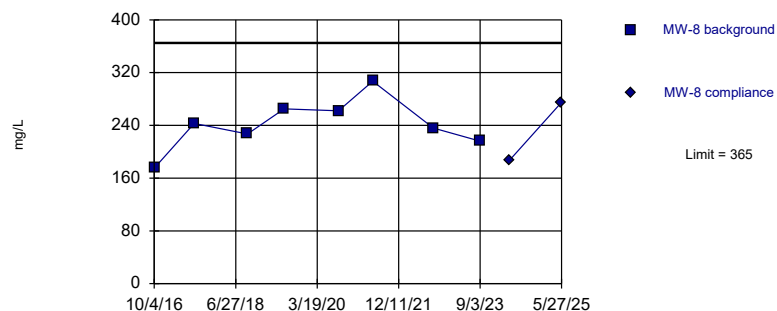
Constituent: Selenium Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Constituent: Sulfate Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



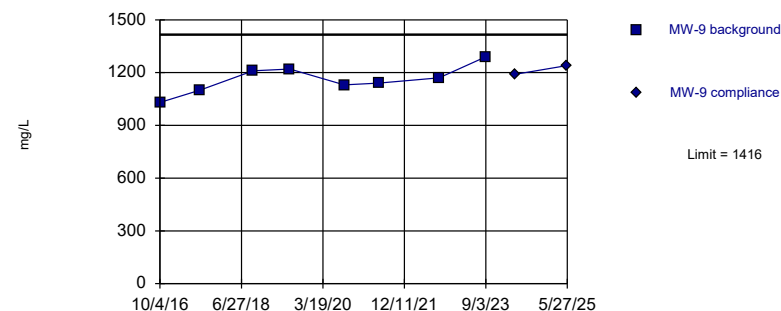
Background Data Summary: Mean=241.4, Std. Dev.=38.87, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9813, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Sulfate Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



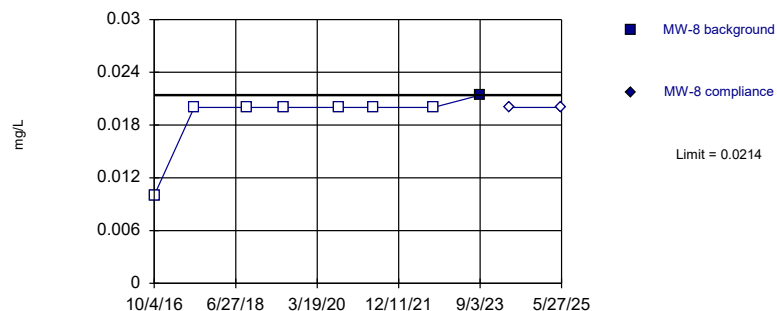
Background Data Summary: Mean=1161, Std. Dev.=80.08, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9913, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Sulfate Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



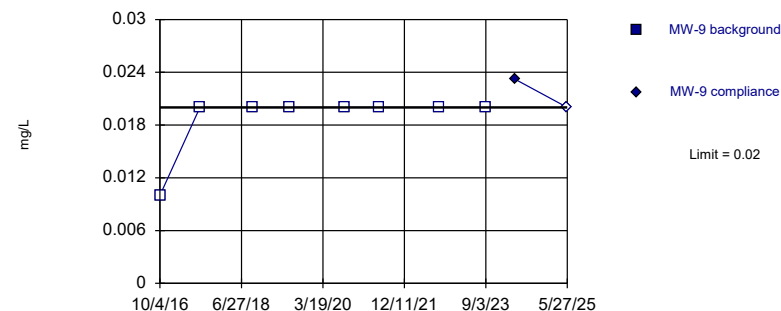
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 87.5% NDs. Report alpha = 0.1111. Most recent point compared to limit.

Constituent: Zinc Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 100% NDs. Report alpha = 0.1111. Most recent point compared to limit.

Constituent: Zinc Analysis Run 8/13/2025 11:17 AM View: 2025_SSN-IntraPL Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Unit02 Intra Prediction Limit

Cargill-Eddyville Data: Cargill CCR Landfill Printed 8/13/2025, 11:40 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Wells</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (mg/L)	MW-10	0.004529	n/a	5/27/2025	0.00345	No	8	n/a	0.00314	0.0004367	12.5	None	No	0.01	Param Intra
Arsenic (mg/L)	MW-11	0.008	n/a	5/27/2025	0.00502	No	8	n/a	n/a	n/a	62.5	n/a	n/a	0.1111	NP Intra (NDs)
Arsenic (mg/L)	MW-13R	0.00972	n/a	5/27/2025	0.00404	No	8	n/a	0.003369	0.001997	50	Kaplan-Meier	No	0.01	Param Intra
Barium (mg/L)	MW-10	0.01778	n/a	5/27/2025	0.0159	No	8	n/a	0.015	0.0008734	0	None	No	0.01	Param Intra
Barium (mg/L)	MW-11	0.05765	n/a	5/27/2025	0.0307	No	8	n/a	-3.376	0.1643	0	None	ln(x)	0.01	Param Intra
Barium (mg/L)	MW-12R	0.0433	n/a	5/27/2025	0.0136	No	7	n/a	-4.046	0.2698	0	None	ln(x)	0.01	Param Intra
Barium (mg/L)	MW-13R	0.08527	n/a	5/27/2025	0.0329	No	8	n/a	0.02868	0.0178	0	None	No	0.01	Param Intra
Chloride (mg/L)	MW-10	5.18	n/a	5/27/2025	5.82	Yes	8	n/a	n/a	n/a	87.5	n/a	n/a	0.1111	NP Intra (NDs)
Chloride (mg/L)	MW-11	13.93	n/a	5/27/2025	2.5ND	No	8	n/a	6.176	2.439	12.5	None	No	0.01	Param Intra
Chloride (mg/L)	MW-12R	9.654	n/a	5/27/2025	6.39	No	7	n/a	7.283	0.7058	0	None	No	0.01	Param Intra
Chloride (mg/L)	MW-13R	24.39	n/a	5/27/2025	14.3	No	8	n/a	10.2	4.464	12.5	None	No	0.01	Param Intra
Cobalt (mg/L)	MW-10	0.0201	n/a	5/27/2025	0.0183	No	8	n/a	0.01848	0.000512	0	None	No	0.01	Param Intra
Cobalt (mg/L)	MW-11	0.06014	n/a	5/27/2025	0.0383	No	8	n/a	0.03759	0.007093	0	None	No	0.01	Param Intra
Cobalt (mg/L)	MW-12R	0.01037	n/a	5/27/2025	0.0036	No	7	n/a	0.005467	0.00146	0	None	No	0.01	Param Intra
Cobalt (mg/L)	MW-13R	0.08325	n/a	5/27/2025	0.0494	No	7	n/a	0.05656	0.007944	0	None	No	0.01	Param Intra
Copper (mg/L)	MW-13R	0.02	n/a	5/27/2025	0.00911	No	7	n/a	n/a	n/a	100	n/a	n/a	0.125	NP Intra (NDs)
Iron (mg/L)	FlyAshNorth#002	25.73	n/a	4/17/2024	5.84	No	7	n/a	9.371	4.87	0	None	No	0.01	Param Intra
Iron (mg/L)	GypsumWest005	96.44	n/a	4/17/2024	77.1	No	6	n/a	56.37	11.03	0	None	No	0.01	Param Intra
Iron (mg/L)	MW-10	6.02	n/a	5/27/2025	6.35	Yes	8	n/a	n/a	n/a	0	n/a	n/a	0.1111	NP Intra (normality)
Iron (mg/L)	MW-11	57.02	n/a	5/27/2025	20.3	No	8	n/a	18.77	12.03	0	None	No	0.01	Param Intra
Iron (mg/L)	MW-12R	6.183	n/a	5/27/2025	3.76	No	7	n/a	4.063	0.6309	0	None	No	0.01	Param Intra
Iron (mg/L)	MW-13R	18.63	n/a	5/27/2025	11.6	No	8	n/a	7.784	3.411	0	None	No	0.01	Param Intra
Iron (mg/L)	MW-26	3.541	n/a	5/27/2025	0.246	No	8	n/a	0.7356	0.8823	25	Kaplan-Meier	No	0.01	Param Intra
Iron (mg/L)	TunnelMine004	852.6	n/a	5/27/2025	283	No	4	n/a	215.3	125.5	25	Kaplan-Meier	No	0.01	Param Intra
Lead (mg/L)	MW-10	0.002	n/a	5/27/2025	0.000903	No	8	n/a	n/a	n/a	100	n/a	n/a	0.1111	NP Intra (NDs)
Lead (mg/L)	MW-12R	0.002	n/a	5/27/2025	0.0005ND	No	7	n/a	n/a	n/a	71.43	n/a	n/a	0.125	NP Intra (NDs)
Lead (mg/L)	MW-13R	0.005991	n/a	5/27/2025	0.00542	No	7	n/a	0.00166	0.001289	42.86	Kaplan-Meier	No	0.01	Param Intra
Magnesium (mg/L)	FlyAshNorth#002	499.1	n/a	4/17/2024	344	No	8	n/a	306.1	60.69	0	None	No	0.01	Param Intra
Magnesium (mg/L)	GypsumWest005	317.2	n/a	4/17/2024	249	No	8	n/a	216.5	31.68	0	None	No	0.01	Param Intra
Magnesium (mg/L)	MW-10	224.1	n/a	5/27/2025	167	No	8	n/a	194	9.457	0	None	No	0.01	Param Intra
Magnesium (mg/L)	MW-11	174.4	n/a	5/27/2025	109	No	8	n/a	120	17.1	0	None	No	0.01	Param Intra
Magnesium (mg/L)	MW-12R	348.5	n/a	5/27/2025	194	No	7	n/a	224.3	36.97	0	None	No	0.01	Param Intra
Magnesium (mg/L)	MW-13R	320.8	n/a	5/27/2025	255	No	8	n/a	207.3	35.71	0	None	No	0.01	Param Intra
Magnesium (mg/L)	MW-26	443.5	n/a	5/27/2025	425	No	8	n/a	282.6	50.6	0	None	No	0.01	Param Intra
Magnesium (mg/L)	TunnelMine004	576.8	n/a	5/27/2025	182	No	4	n/a	407.3	33.4	0	None	No	0.01	Param Intra
Manganese (mg/L)	FlyAshNorth#002	16.77	n/a	4/17/2024	2.92	No	8	n/a	5.608	3.509	0	None	No	0.01	Param Intra
Manganese (mg/L)	GypsumWest005	24.29	n/a	4/17/2024	15	No	8	n/a	8.781	4.877	0	None	No	0.01	Param Intra
Manganese (mg/L)	MW-10	9.151	n/a	5/27/2025	6.95	No	8	n/a	7.163	0.6252	0	None	No	0.01	Param Intra
Manganese (mg/L)	MW-11	10.07	n/a	5/27/2025	6.85	No	8	n/a	6.495	1.124	0	None	No	0.01	Param Intra
Manganese (mg/L)	MW-12R	1.995	n/a	5/27/2025	0.664	No	7	n/a	1.04	0.2843	0	None	No	0.01	Param Intra
Manganese (mg/L)	MW-13R	23.93	n/a	5/27/2025	14.5	No	7	n/a	17.53	1.907	0	None	No	0.01	Param Intra
Manganese (mg/L)	MW-26	70.22	n/a	5/27/2025	39.3	No	8	n/a	31.55	12.16	0	None	No	0.01	Param Intra
Manganese (mg/L)	TunnelMine004	207.3	n/a	5/27/2025	11.6	No	4	n/a	45.61	31.86	0	None	No	0.01	Param Intra
pH (SU)	FlyAshNorth#002	7.576	5.979	4/17/2024	6.66	No	8	n/a	6.778	0.2153	0	None	No	0.005	Param Intra
pH (SU)	GypsumWest005	7.557	5.6	4/17/2024	6.39	No	8	n/a	6.579	0.2636	0	None	No	0.005	Param Intra
pH (SU)	MW-10	7.382	5.641	5/27/2025	6.37	No	8	n/a	6.511	0.2345	0	None	No	0.005	Param Intra
pH (SU)	MW-11	6.924	5.486	5/27/2025	6.1	No	8	n/a	6.205	0.1938	0	None	No	0.005	Param Intra
pH (SU)	MW-12R	7.326	5.474	5/27/2025	6.28	No	7	n/a	6.4	0.2337	0	None	No	0.005	Param Intra
pH (SU)	MW-13R	7.417	5.526	5/27/2025	6.34	No	8	n/a	6.471	0.2547	0	None	No	0.005	Param Intra
pH (SU)	MW-26	7.297	2.958	5/27/2025	4.21	No	8	n/a	5.128	0.5844	0	None	No	0.005	Param Intra

Unit02 Intra Prediction Limit

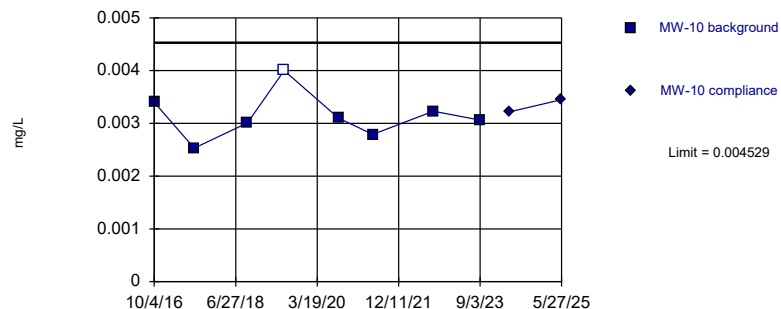
Cargill-Eddyville Data: Cargill CCR Landfill Printed 8/13/2025, 11:40 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Wells</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
pH (SU)	TunnelMine004	7.399	5.461	5/27/2025	6.13	No	4	n/a	6.43	0.1483	0	None	No	0.005	Param Intra
Sulfate (mg/L)	FlyAshNorth#002	3097	n/a	4/17/2024	2320	No	8	n/a	2479	194.4	0	None	No	0.01	Param Intra
Sulfate (mg/L)	GypsumWest005	2430	n/a	4/17/2024	2140	No	8	n/a	1964	146.5	0	None	No	0.01	Param Intra
Sulfate (mg/L)	MW-10	2034	n/a	5/27/2025	1740	No	7	n/a	1814	65.54	0	None	No	0.01	Param Intra
Sulfate (mg/L)	MW-11	880.9	n/a	5/27/2025	723	No	7	n/a	735	43.41	0	None	No	0.01	Param Intra
Sulfate (mg/L)	MW-12R	3024	n/a	5/27/2025	2140	No	7	n/a	2350	200.7	0	None	No	0.01	Param Intra
Sulfate (mg/L)	MW-13R	2816	n/a	5/27/2025	2190	No	8	n/a	1893	290.4	0	None	No	0.01	Param Intra
Sulfate (mg/L)	MW-26	3670	n/a	5/27/2025	3310	No	8	n/a	2049	510	0	None	No	0.01	Param Intra
Sulfate (mg/L)	TunnelMine004	3500	n/a	5/27/2025	1930	No	4	n/a	n/a	n/a	0	n/a	n/a	0.2	NP Intra (normality)
Zinc (mg/L)	MW-11	0.07421	n/a	5/27/2025	0.15	Yes	6	n/a	0.05146	0.00626	16.67	Kaplan-Meier	No	0.01	Param Intra
Zinc (mg/L)	MW-13R	0.06295	n/a	5/27/2025	0.0553	No	7	n/a	0.02253	0.01203	42.86	Kaplan-Meier	No	0.01	Param Intra

Within Limit

Prediction Limit

Intrawell Parametric



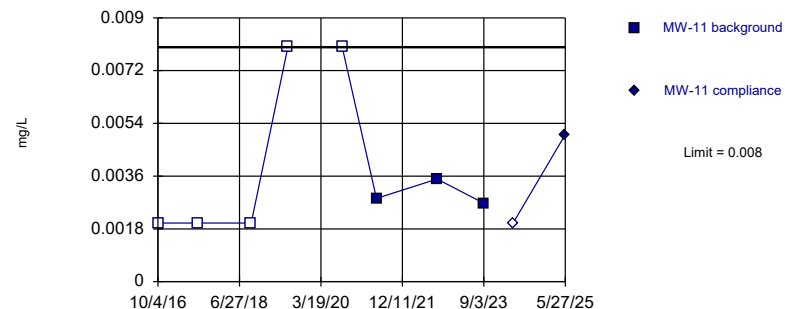
Background Data Summary: Mean=0.00314, Std. Dev.=0.0004367, n=8, 12.5% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9452, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Arsenic Analysis Run 8/13/2025 11:35 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



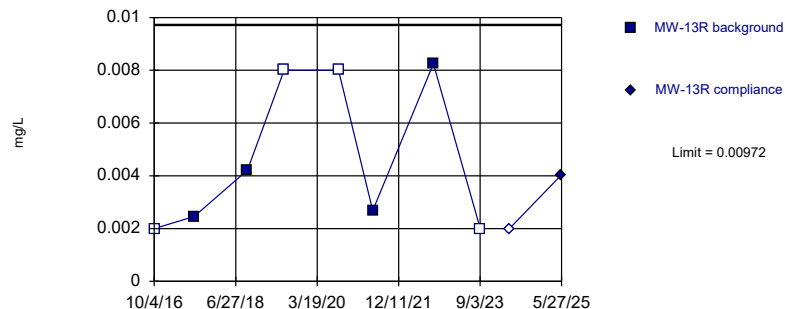
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 62.5% NDs. Report alpha = 0.1111. Most recent point compared to limit.

Constituent: Arsenic Analysis Run 8/13/2025 11:35 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



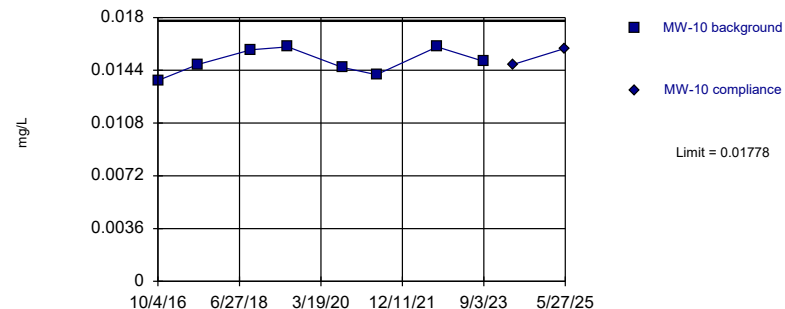
Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.003369, Std. Dev.=0.001997, n=8, 50% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7777, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Arsenic Analysis Run 8/13/2025 11:35 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



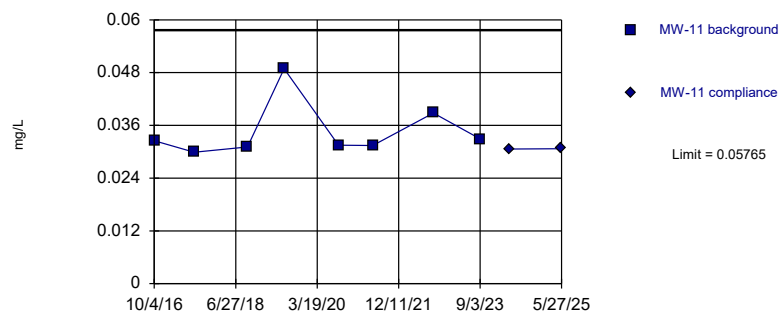
Background Data Summary: Mean=0.015, Std. Dev.=0.0008734, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9175, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Barium Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



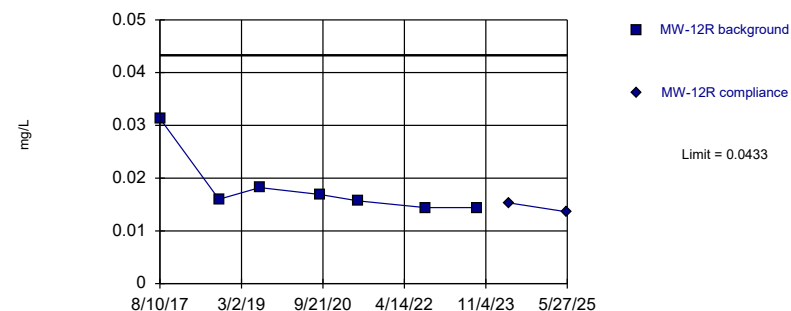
Background Data Summary (based on natural log transformation): Mean=-3.376, Std. Dev.=0.1643, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7543, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Barium Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



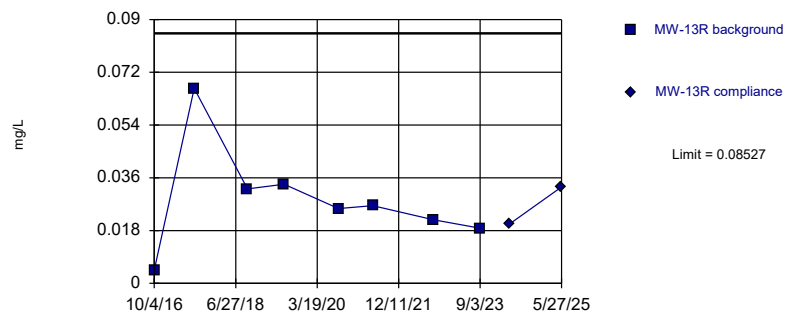
Background Data Summary (based on natural log transformation): Mean=-4.046, Std. Dev.=0.2698, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7317, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Barium Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



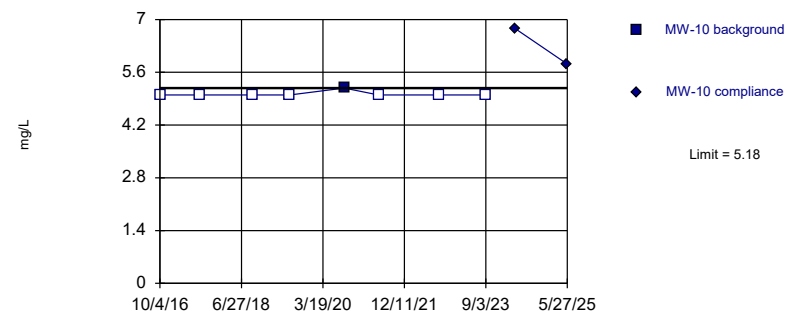
Background Data Summary: Mean=0.02868, Std. Dev.=0.0178, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8805, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Barium Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Exceeds Limit

Prediction Limit

Intrawell Non-parametric



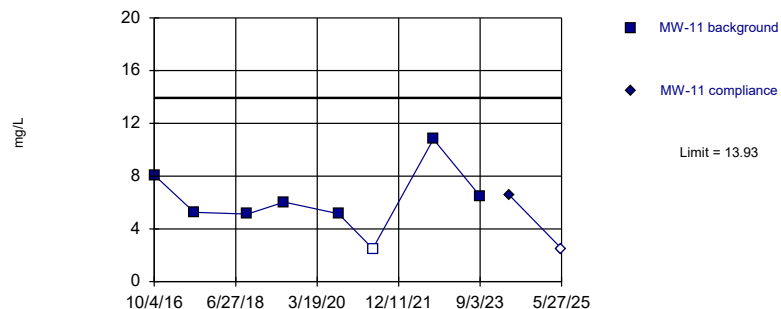
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 87.5% NDs. Report alpha = 0.1111. Most recent point compared to limit.

Constituent: Chloride Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



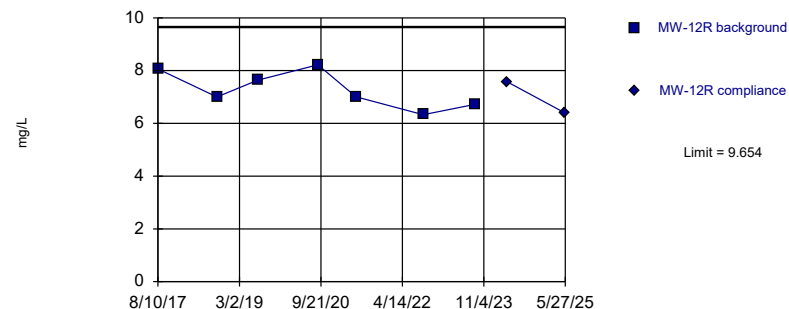
Background Data Summary: Mean=6.176, Std. Dev.=2.439, n=8, 12.5% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9331, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Chloride Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



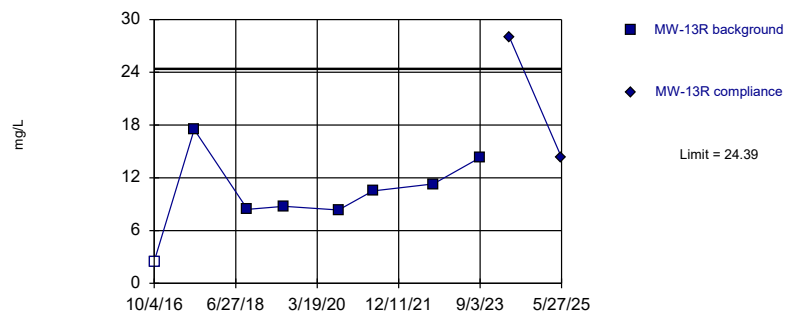
Background Data Summary: Mean=7.283, Std. Dev.=0.7058, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9374, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Chloride Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



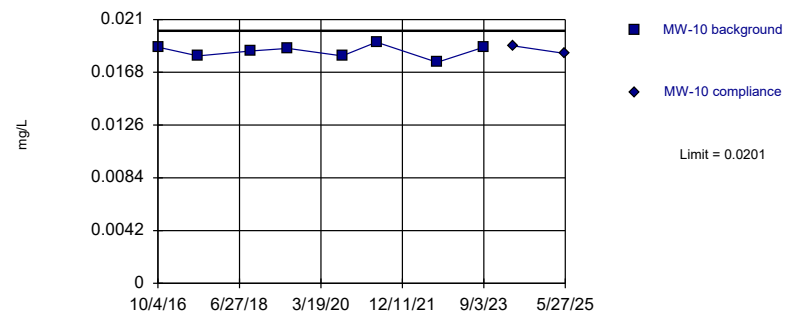
Background Data Summary: Mean=10.2, Std. Dev.=4.464, n=8, 12.5% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9595, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Chloride Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



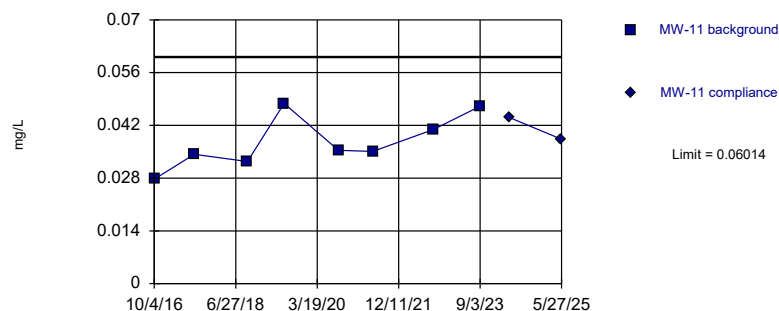
Background Data Summary: Mean=0.01848, Std. Dev.=0.000512, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9539, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Cobalt Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



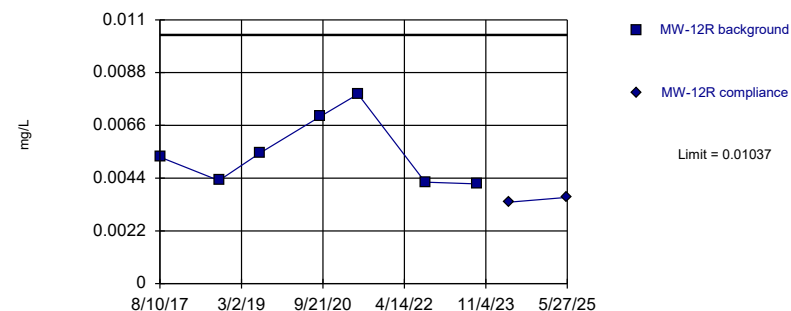
Background Data Summary: Mean=0.03759, Std. Dev.=0.007093, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9182, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Cobalt Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



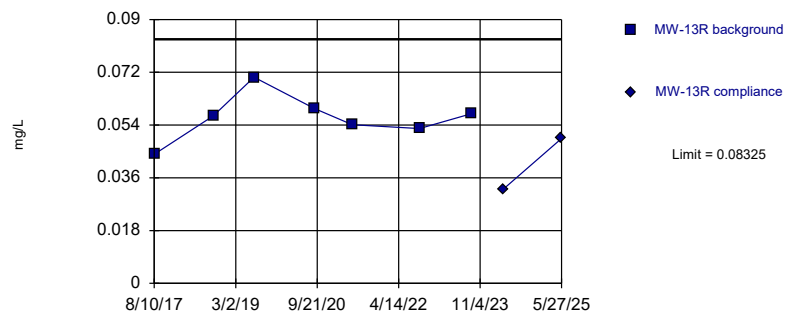
Background Data Summary: Mean=0.005467, Std. Dev.=0.00146, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8613, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Cobalt Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



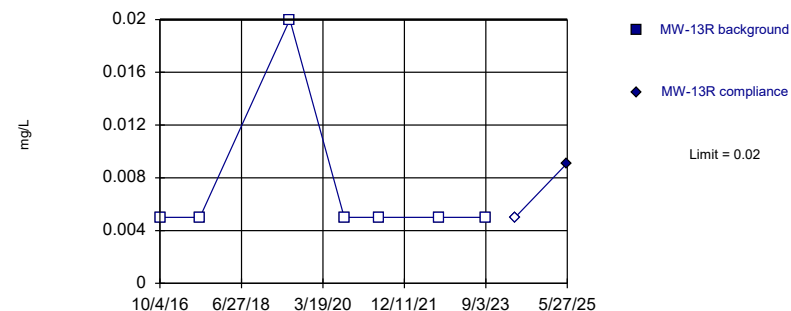
Background Data Summary: Mean=0.05656, Std. Dev.=0.007944, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.955, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Cobalt Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



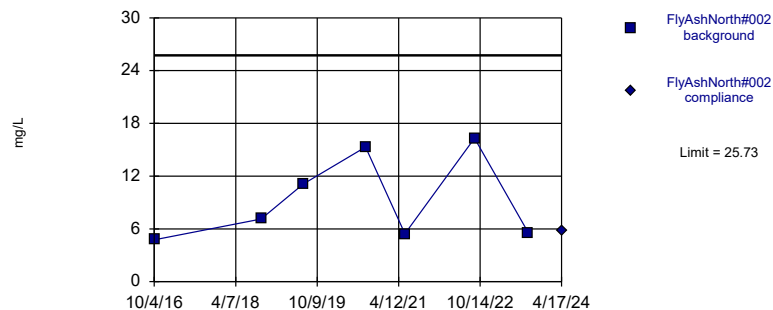
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 7 background values. 100% NDs. Report alpha = 0.125. Most recent point compared to limit.

Constituent: Copper Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric

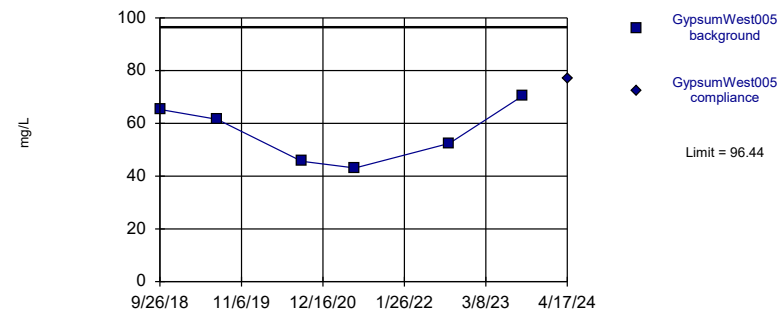


Background Data Summary: Mean=9.371, Std. Dev.=4.87, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8433, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=56.37, Std. Dev.=11.03, n=6. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.933, critical = 0.713. Report alpha = 0.01. Most recent point compared to limit.

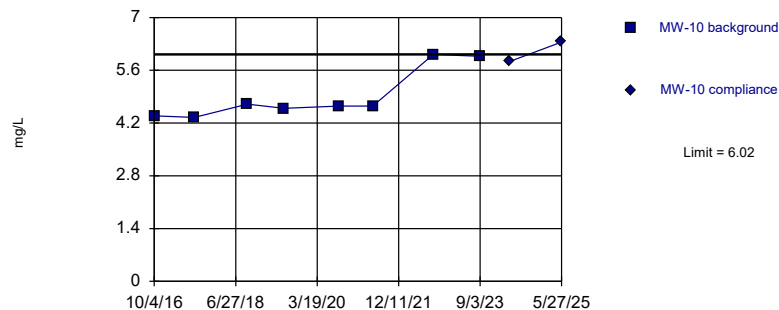
Constituent: Iron Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Constituent: Iron Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Exceeds Limit

Prediction Limit

Intrawell Non-parametric

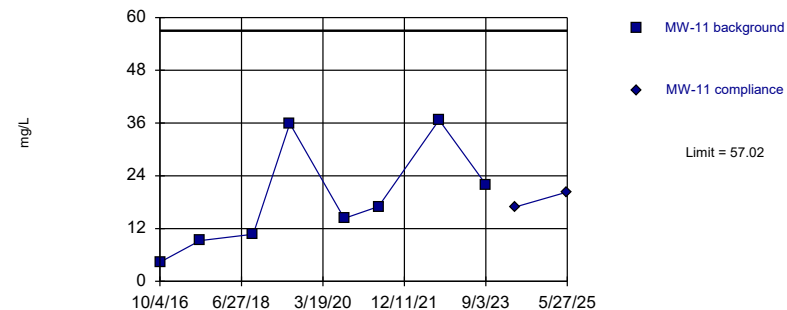


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 8 background values. Report alpha = 0.1111. Most recent point compared to limit.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=18.77, Std. Dev.=12.03, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8972, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

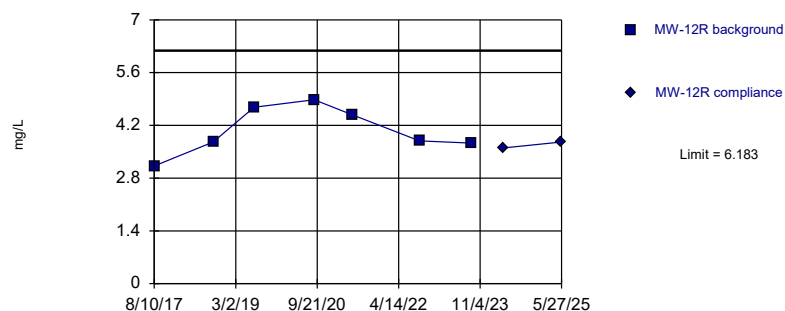
Constituent: Iron Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Constituent: Iron Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric

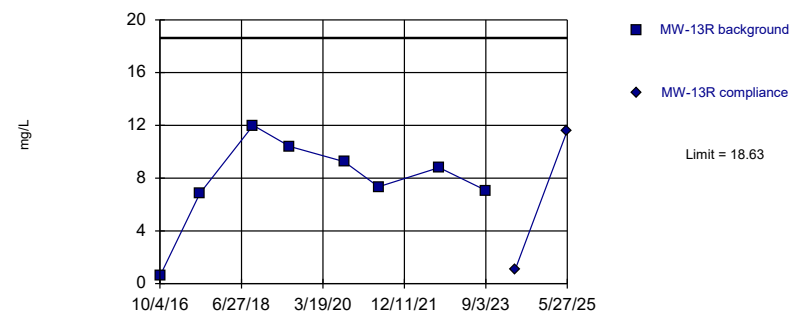


Background Data Summary: Mean=4.063, Std. Dev.=0.6309, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9243, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.784, Std. Dev.=3.411, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8881, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

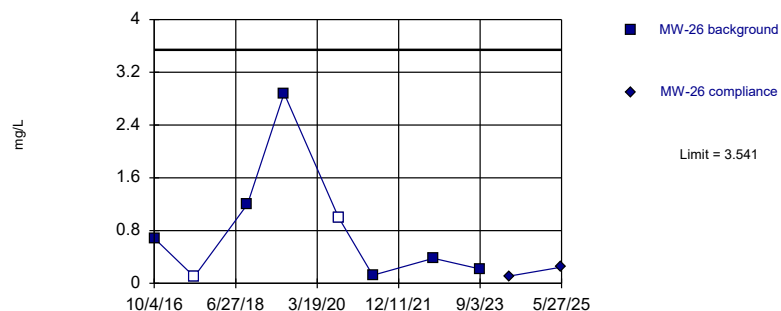
Constituent: Iron Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Constituent: Iron Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric

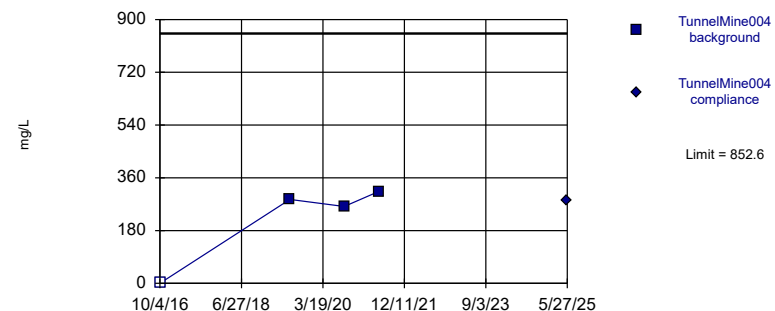


Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.7356, Std. Dev.=0.8823, n=8, 25% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7897, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (after Kaplan-Meier Adjustment): Mean=215.3, Std. Dev.=125.5, n=4, 25% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7612, critical = 0.687. Report alpha = 0.01. Most recent point compared to limit.

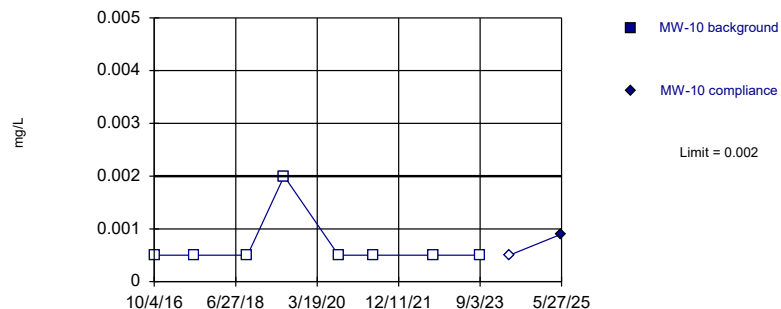
Constituent: Iron Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Constituent: Iron Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



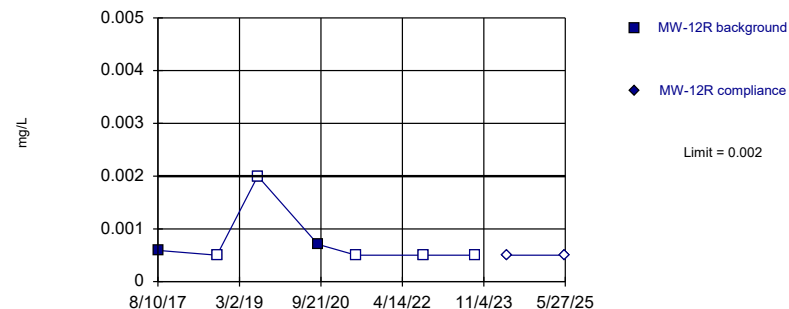
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 100% NDs. Report alpha = 0.1111. Most recent point compared to limit.

Constituent: Lead Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



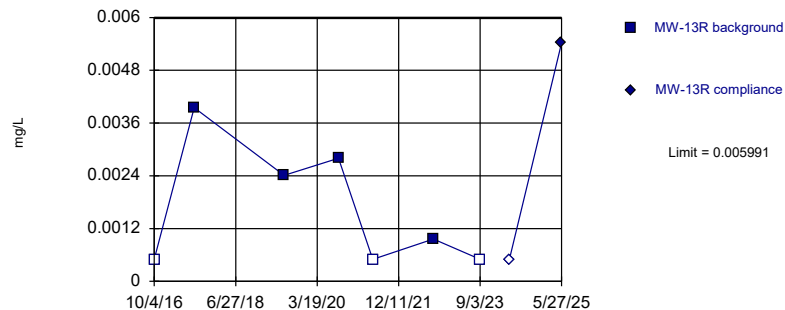
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 7 background values. 71.43% NDs. Report alpha = 0.125. Most recent point compared to limit.

Constituent: Lead Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



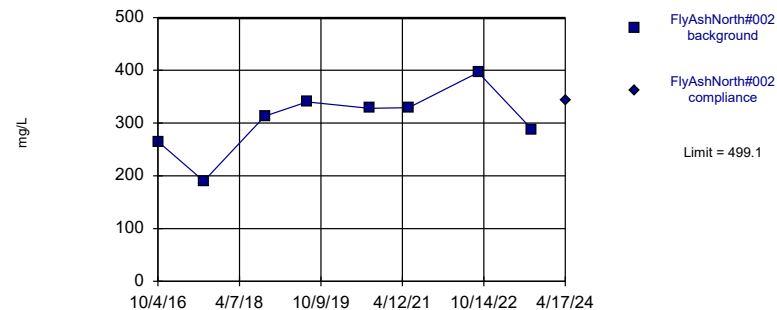
Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.00166, Std. Dev.=0.001289, n=7, 42.86% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8342, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Lead Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



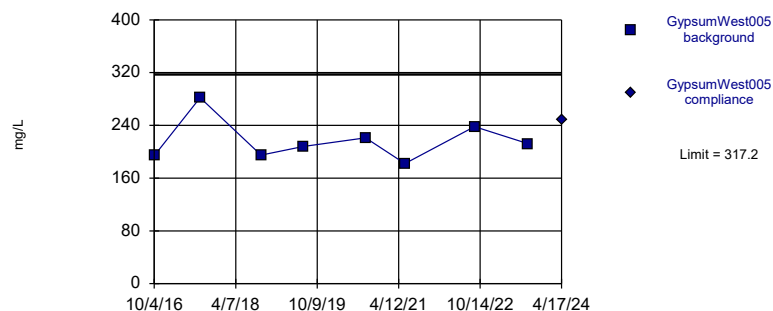
Background Data Summary: Mean=306.1, Std. Dev.=60.69, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9487, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Magnesium Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric

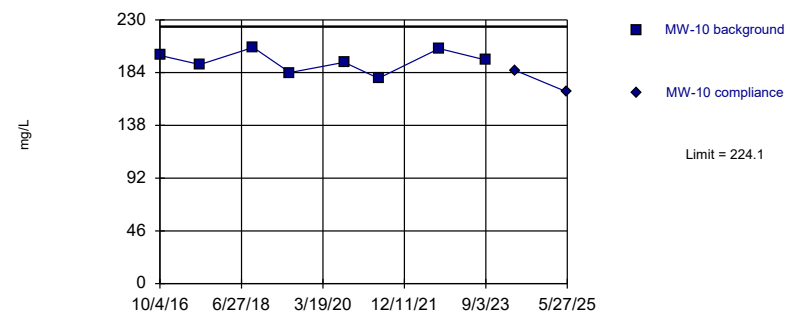


Background Data Summary: Mean=216.5, Std. Dev.=31.68, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.893, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=194, Std. Dev.=9.457, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9582, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

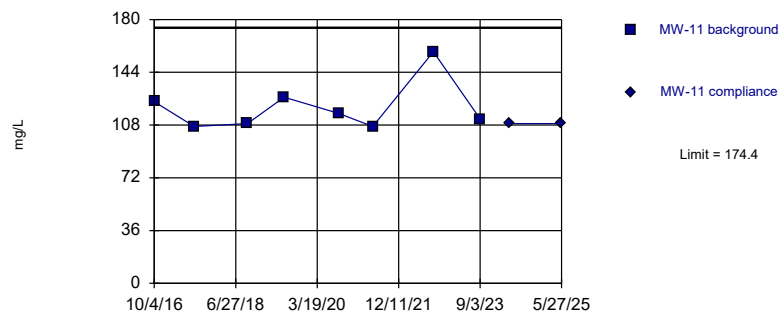
Constituent: Magnesium Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Constituent: Magnesium Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric

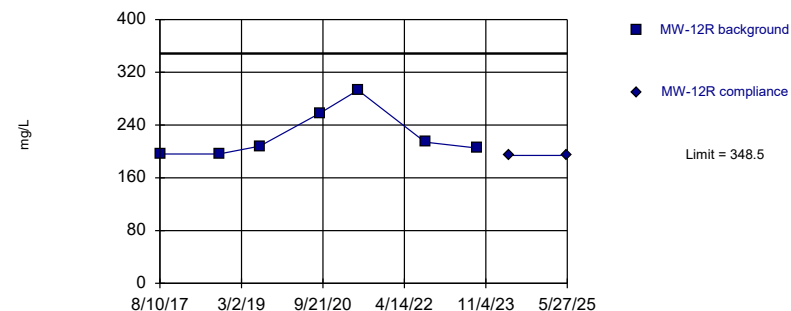


Background Data Summary: Mean=120, Std. Dev.=17.1, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7825, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=224.3, Std. Dev.=36.97, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7904, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

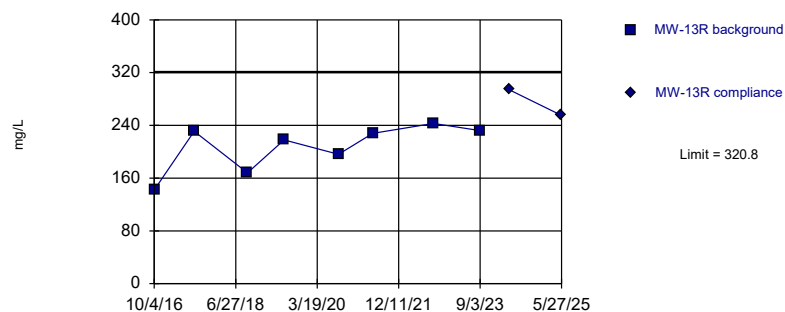
Constituent: Magnesium Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Constituent: Magnesium Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



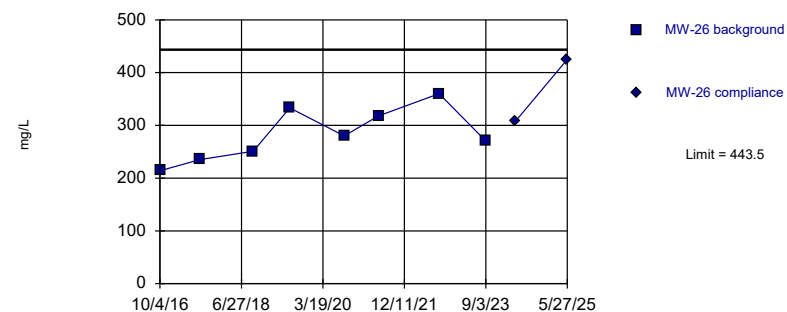
Background Data Summary: Mean=207.3, Std. Dev.=35.71, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8683, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Magnesium Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



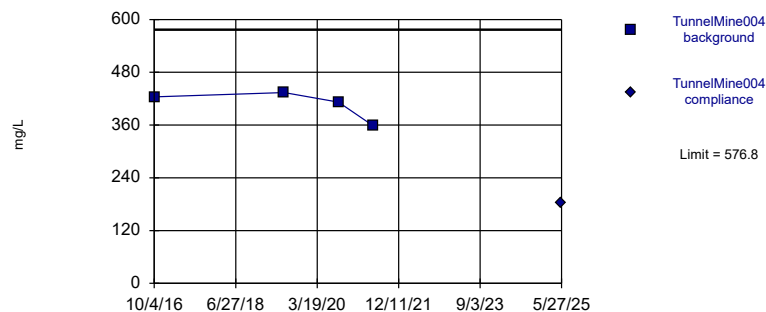
Background Data Summary: Mean=282.6, Std. Dev.=50.6, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9665, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Magnesium Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



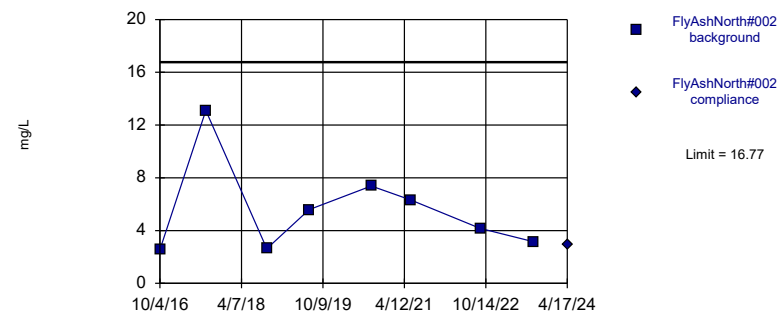
Background Data Summary: Mean=407.3, Std. Dev.=33.4, n=4. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8569, critical = 0.687. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Magnesium Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



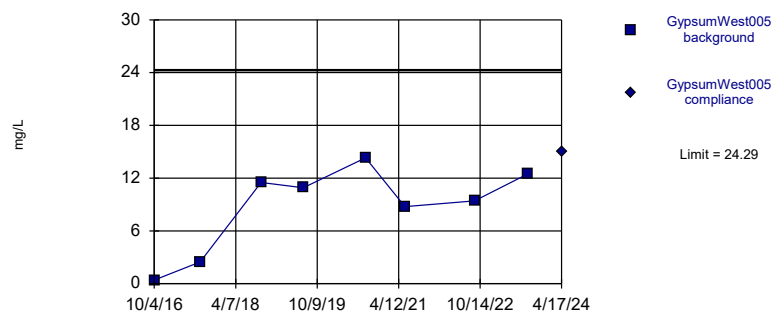
Background Data Summary: Mean=5.608, Std. Dev.=3.509, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8428, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Manganese Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric

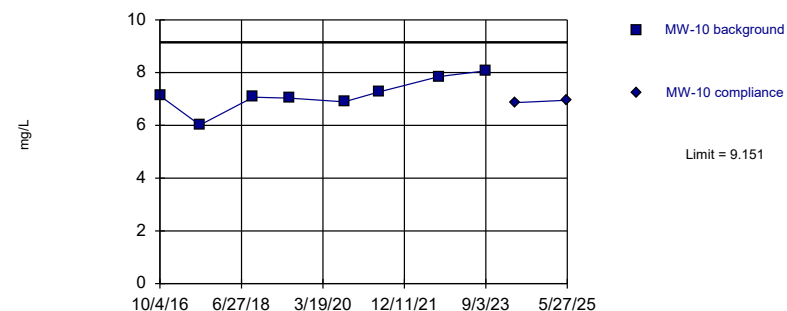


Background Data Summary: Mean=8.781, Std. Dev.=4.877, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8855, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.163, Std. Dev.=0.6252, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9279, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

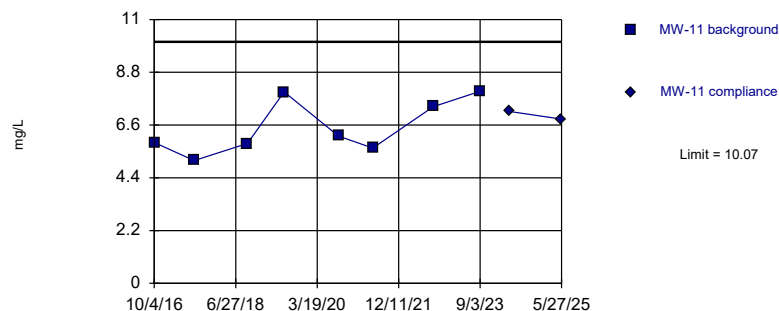
Constituent: Manganese Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Constituent: Manganese Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



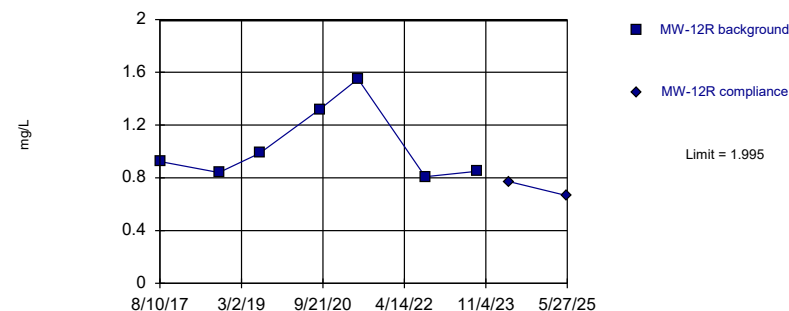
Background Data Summary: Mean=6.495, Std. Dev.=1.124, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8692, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Manganese Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



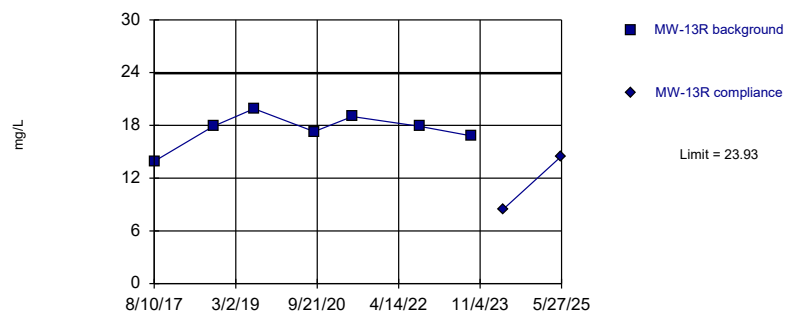
Background Data Summary: Mean=1.04, Std. Dev.=0.2843, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8111, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Manganese Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric

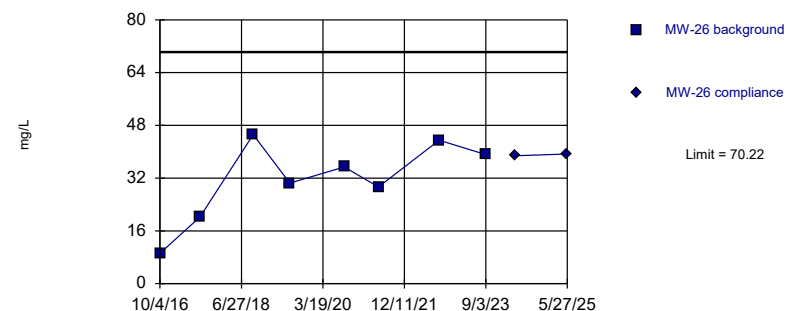


Background Data Summary: Mean=17.53, Std. Dev.=1.907, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9244, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=31.55, Std. Dev.=12.16, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9366, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

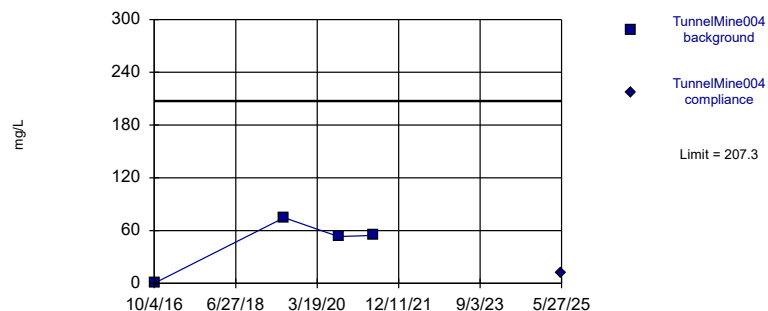
Constituent: Manganese Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Constituent: Manganese Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric

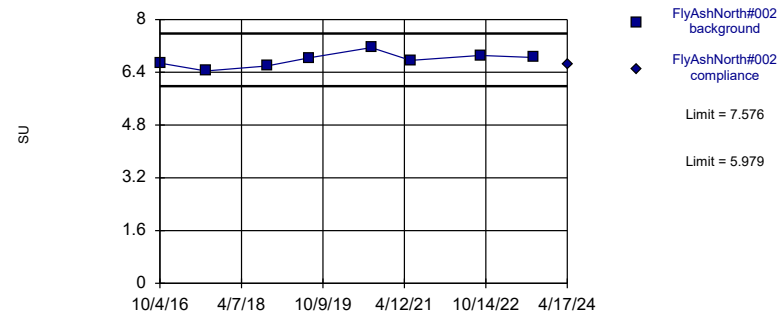


Background Data Summary: Mean=45.61, Std. Dev.=31.86, n=4. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8673, critical = 0.687. Report alpha = 0.01. Most recent point compared to limit.

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.778, Std. Dev.=0.2153, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9844, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

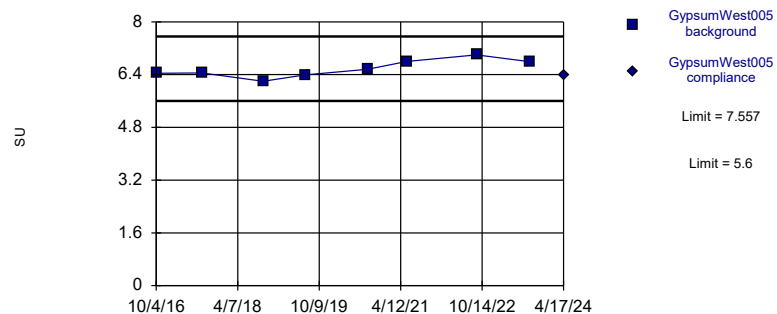
Constituent: Manganese Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Constituent: pH Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limits

Prediction Limit

Intrawell Parametric



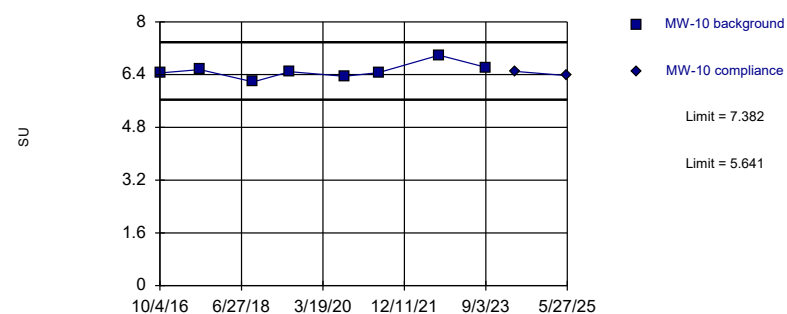
Background Data Summary: Mean=6.579, Std. Dev.=0.2636, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9538, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: pH Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limits

Prediction Limit

Intrawell Parametric



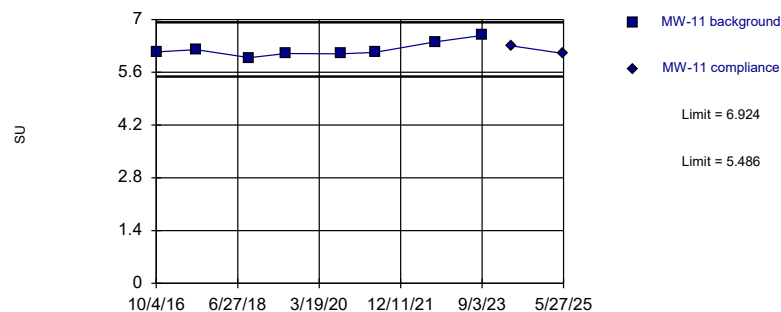
Background Data Summary: Mean=6.511, Std. Dev.=0.2345, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9186, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: pH Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limits

Prediction Limit

Intrawell Parametric



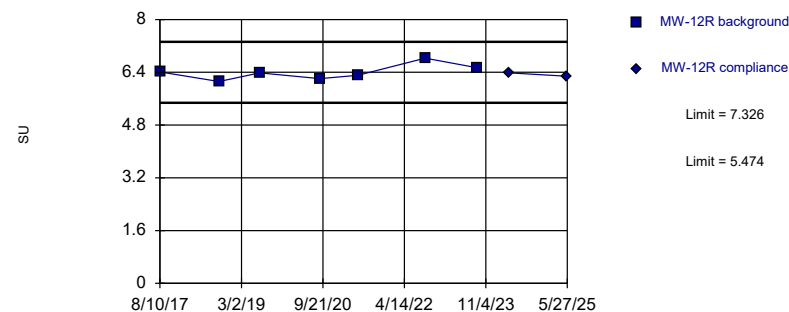
Background Data Summary: Mean=6.205, Std. Dev.=0.1938, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8626, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: pH Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limits

Prediction Limit

Intrawell Parametric



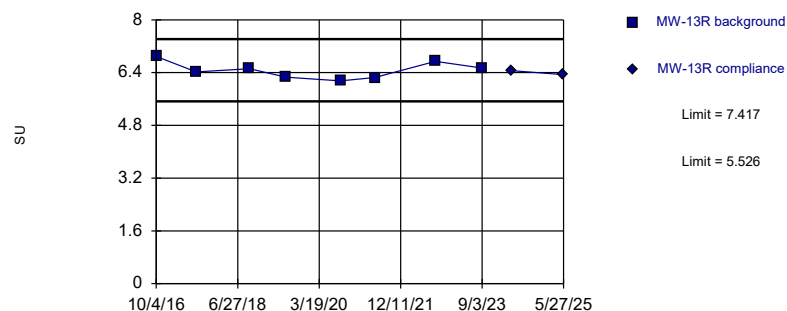
Background Data Summary: Mean=6.4, Std. Dev.=0.2337, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9456, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

Constituent: pH Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limits

Prediction Limit

Intrawell Parametric

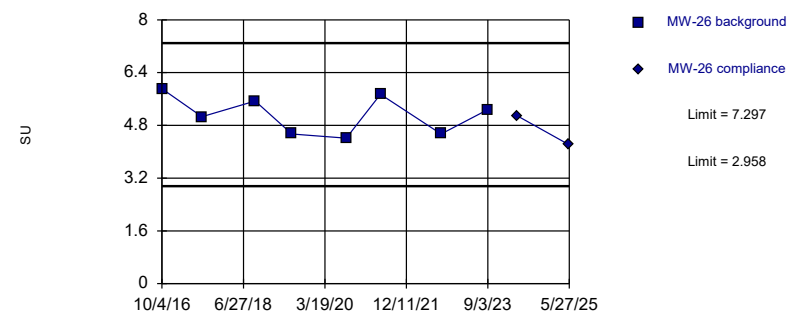


Background Data Summary: Mean=6.471, Std. Dev.=0.2547, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9514, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=5.128, Std. Dev.=0.5844, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.909, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

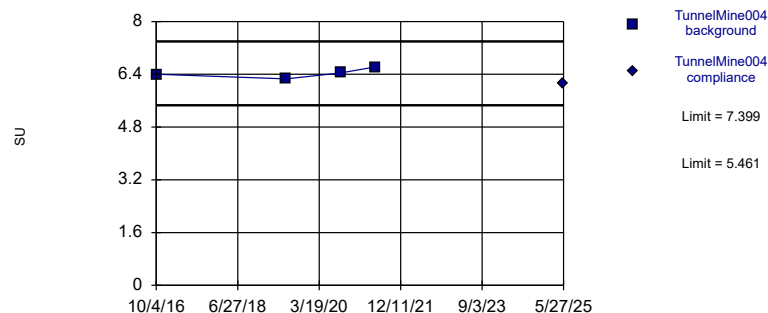
Constituent: pH Analysis Run 8/13/2025 11:36 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Constituent: pH Analysis Run 8/13/2025 11:37 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limits

Prediction Limit

Intrawell Parametric

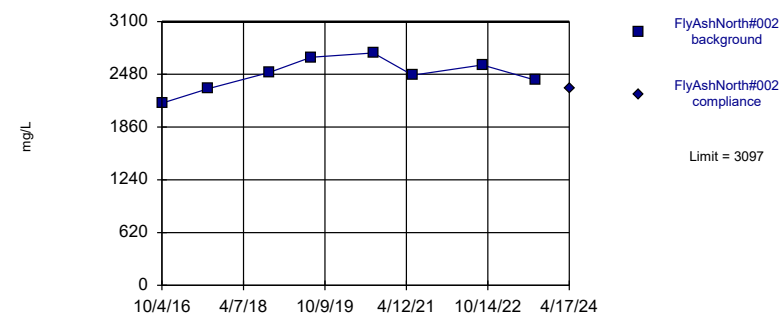


Background Data Summary: Mean=6.43, Std. Dev.=0.1483, n=4. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9783, critical = 0.687. Report alpha = 0.01. Most recent point compared to limit.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2479, Std. Dev.=194.4, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9726, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

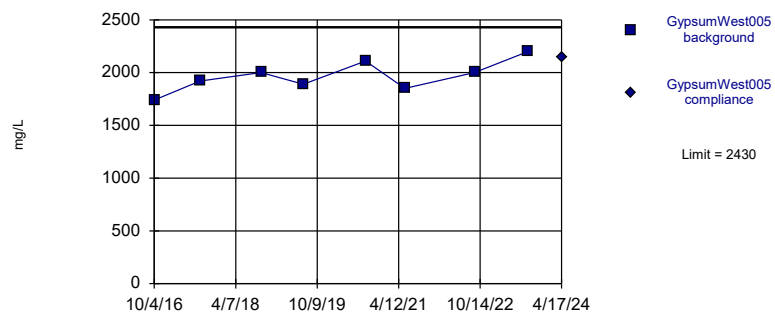
Constituent: pH Analysis Run 8/13/2025 11:37 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Constituent: Sulfate Analysis Run 8/13/2025 11:37 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



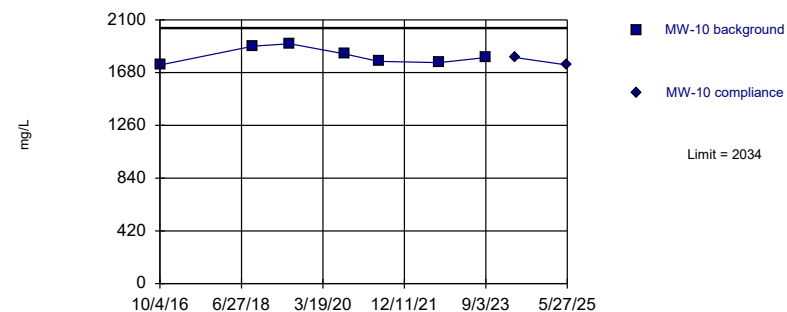
Background Data Summary: Mean=1964, Std. Dev.=146.5, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9834, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Sulfate Analysis Run 8/13/2025 11:37 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



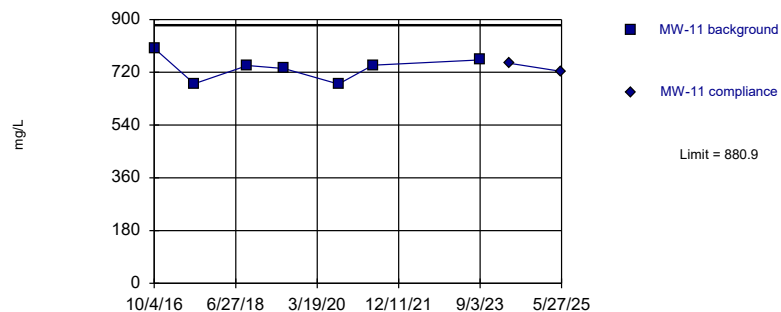
Background Data Summary: Mean=1814, Std. Dev.=65.54, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9175, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Sulfate Analysis Run 8/13/2025 11:37 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



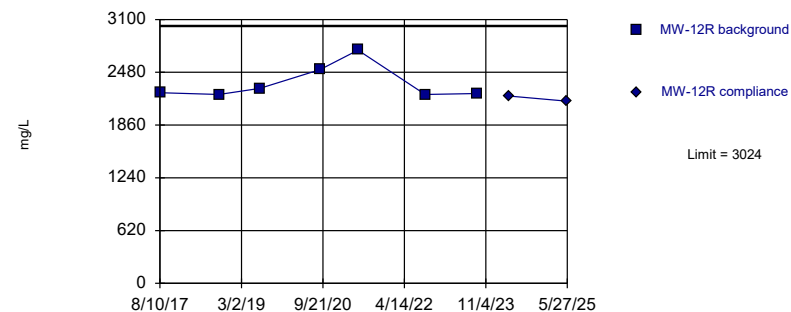
Background Data Summary: Mean=735, Std. Dev.=43.41, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9225, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Sulfate Analysis Run 8/13/2025 11:37 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



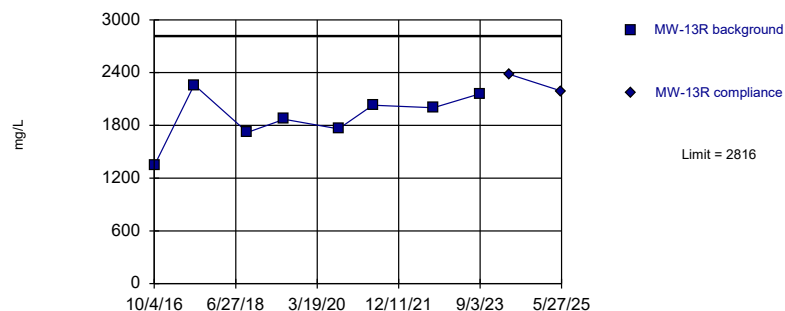
Background Data Summary: Mean=2350, Std. Dev.=200.7, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7316, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Sulfate Analysis Run 8/13/2025 11:37 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



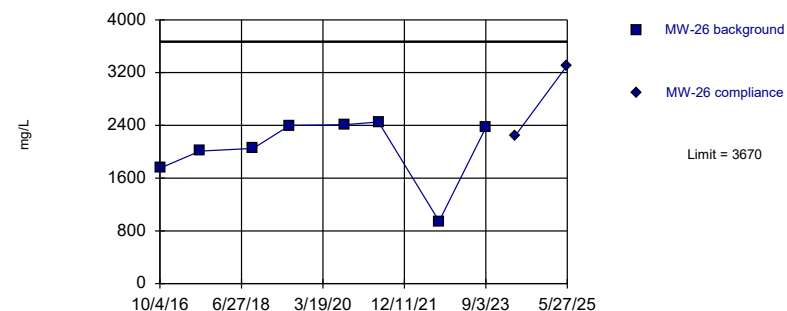
Background Data Summary: Mean=1893, Std. Dev.=290.4, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.954, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Sulfate Analysis Run 8/13/2025 11:37 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



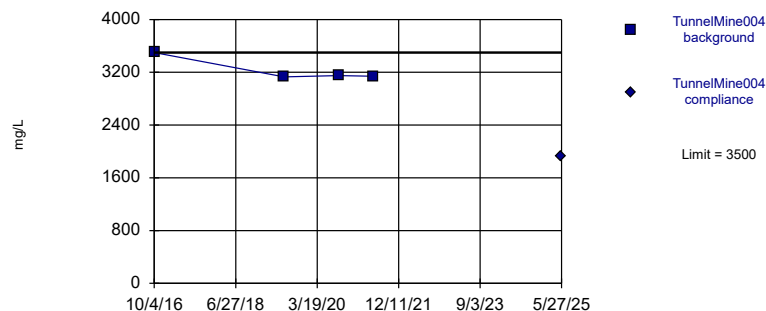
Background Data Summary: Mean=2049, Std. Dev.=510, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.796, critical = 0.749. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Sulfate Analysis Run 8/13/2025 11:37 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



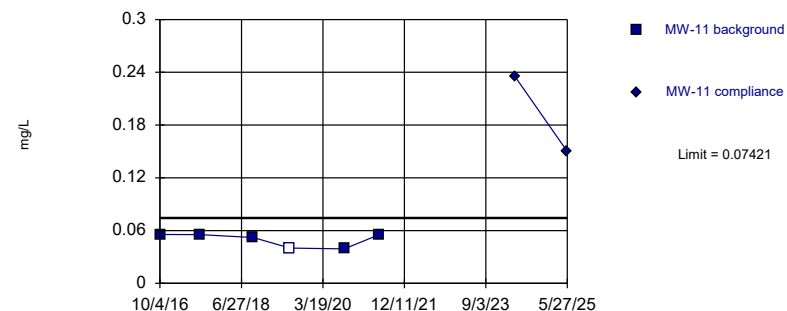
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 4 background values. Report alpha = 0.2. Most recent point compared to limit.

Constituent: Sulfate Analysis Run 8/13/2025 11:37 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Exceeds Limit

Prediction Limit

Intrawell Parametric



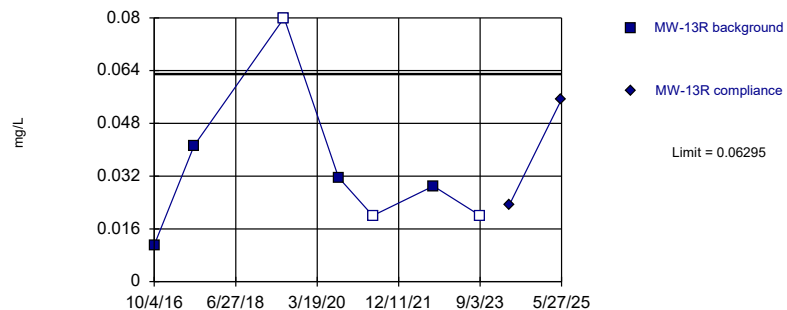
Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.05146, Std. Dev.=0.00626, n=6, 16.67% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7489, critical = 0.713. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Zinc Analysis Run 8/13/2025 11:37 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.02253, Std. Dev.=0.01203, n=7, 42.86% NDs.
Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8364, critical = 0.73. Report alpha = 0.01. Most recent point compared to limit.

Constituent: Zinc Analysis Run 8/13/2025 11:37 AM View: 2025_SSN-IntraPL Unit02
Cargill-Eddyville Data: Cargill CCR Landfill

Attachment D

Trend Test ($\alpha=0.01$)

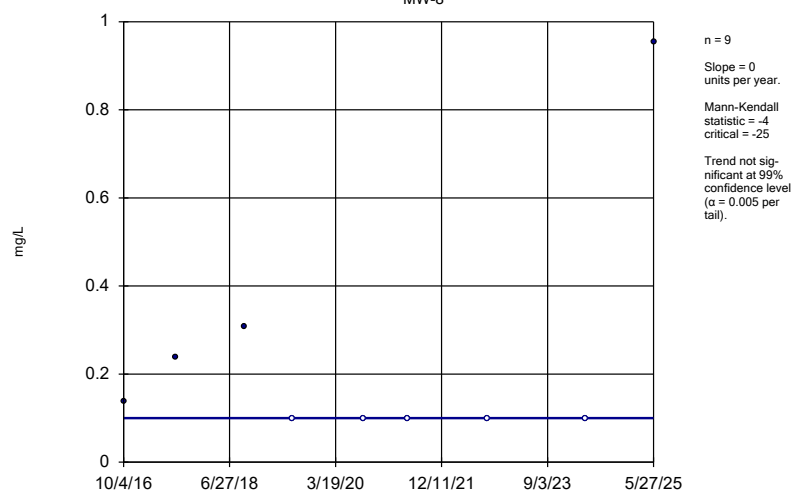
Unit01 Trend Tests

Cargill-Eddyville Data: Cargill CCR Landfill Printed 8/13/2025, 11:20 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>Alpha</u>	<u>Method</u>
Iron (mg/L)	MW-8	0	-4	-25	No	9	55.56	0.01	NP
Manganese (mg/L)	MW-8	-0.0005541	-5	-25	No	9	22.22	0.01	NP
Manganese (mg/L)	MW-9	0	13	25	No	9	77.78	0.01	NP

Sen's Slope Estimator

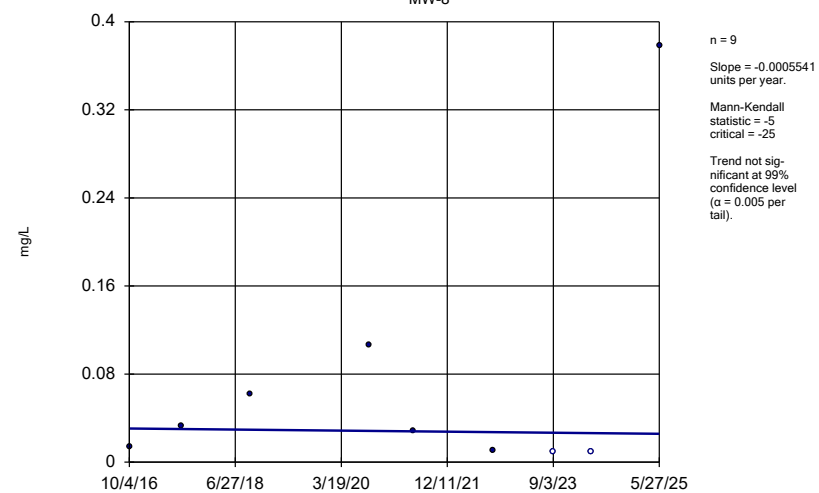
MW-8



Constituent: Iron Analysis Run 8/13/2025 11:19 AM View: 2025-SSN-MK Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Sen's Slope Estimator

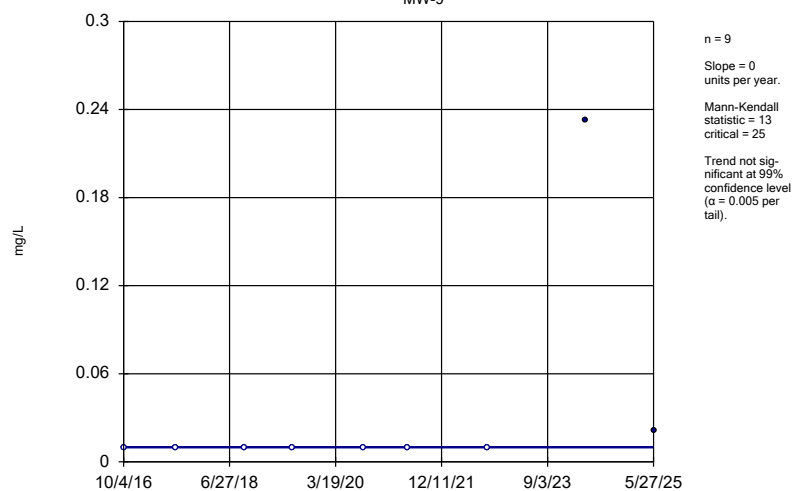
MW-8



Constituent: Manganese Analysis Run 8/13/2025 11:20 AM View: 2025-SSN-MK Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Sen's Slope Estimator

MW-9

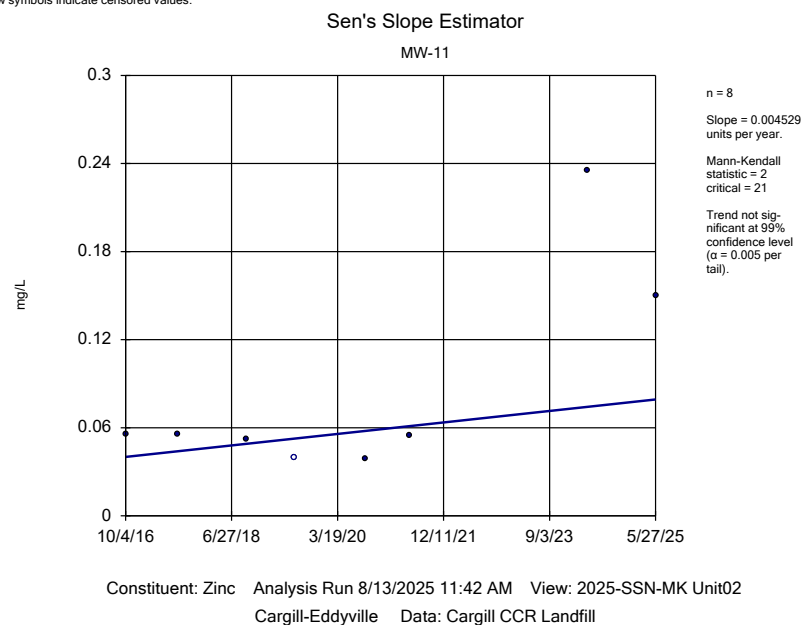
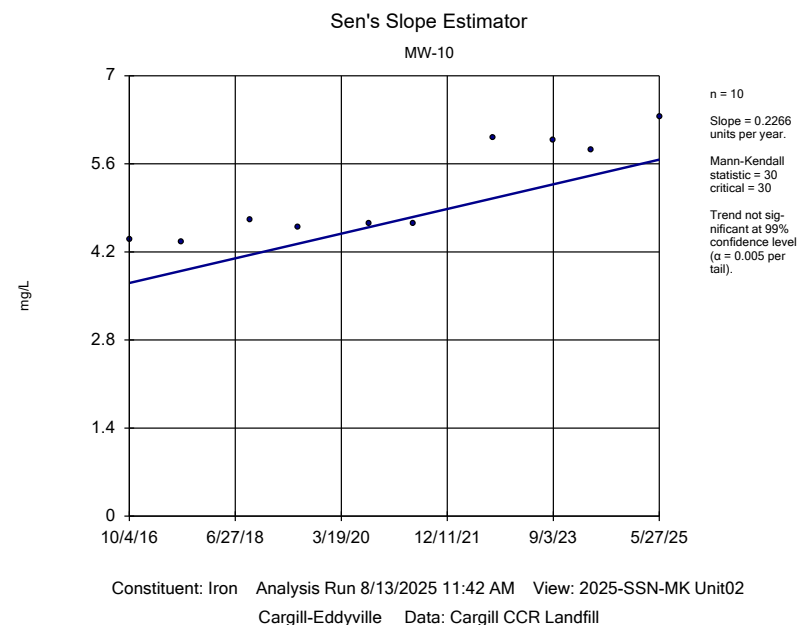
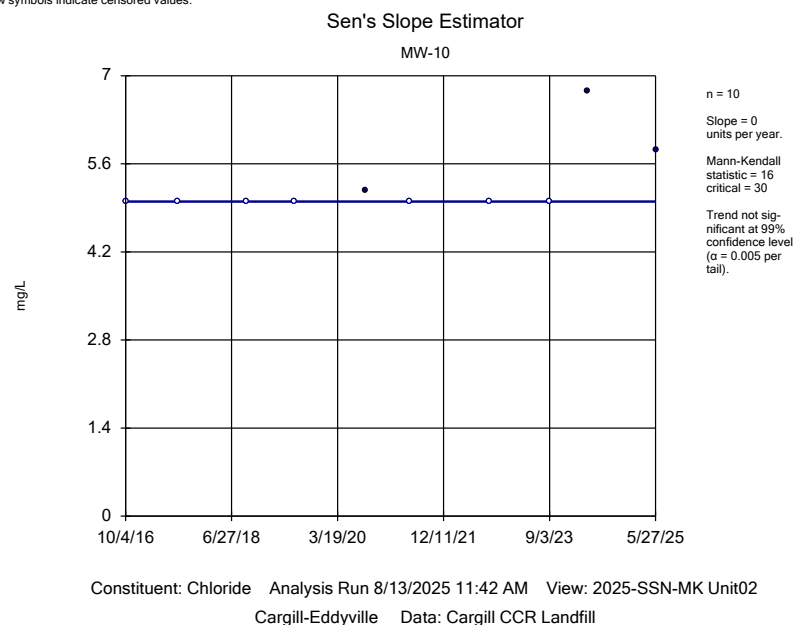


Constituent: Manganese Analysis Run 8/13/2025 11:20 AM View: 2025-SSN-MK Unit01
Cargill-Eddyville Data: Cargill CCR Landfill

Unit02 Trend Tests

Cargill-Eddyville Data: Cargill CCR Landfill Printed 8/13/2025, 11:42 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>Alpha</u>	<u>Method</u>
Chloride (mg/L)	MW-10	0	16	30	No	10	70	0.01	NP
Iron (mg/L)	MW-10	0.2266	30	30	No	10	0	0.01	NP
Zinc (mg/L)	MW-11	0.004529	2	21	No	8	12.5	0.01	NP





Appendix E

2025 Leachate Control System Performance Evaluation Report

Table H1
Leachate Management Summary
2025 Leachate Control System Performance Evaluation Report
Cargill CCR Landfill
Permit No. 62-SDP-04-89C

Date of Measurement	Manhole Leachate Head (ft)																	Discharge to Ottumwa POTW	Discharge to Cargill-Eddyville Treatment Plant	Precipitation
	MH 1	MH 2	MH 3	MH 4	MH 5	MH 6	MH 7	MH 8	MH 9	MH 10	MH 11	MH 12	MH 13	MH 14	MH 15	MH 16*	MH LF	(gal)	(gal)	(in)
November 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.37
December 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.05
January 2025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.99
February 2025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.36
March 2025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.47
April 2025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.73
May 2025	0.62	0.27	0.61	0.71	Dry	Dry	0.02	Dry	Dry	0.26	Dry	Dry	Dry	0.51	0.14	6.73	0.01	-	-	0.83
June 2025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.97
July 2025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.97
August 2025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.16
September 2025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60,000	0.83
October 2025	0.65	0.30	0.70	0.65	Dry	Dry	Dry	Dry	Dry	0.25	0.80	Dry	Dry	0.45	0.35	6.65	0.05	-	-	1.21
Reporting Period Total																		0	60,000	23.94

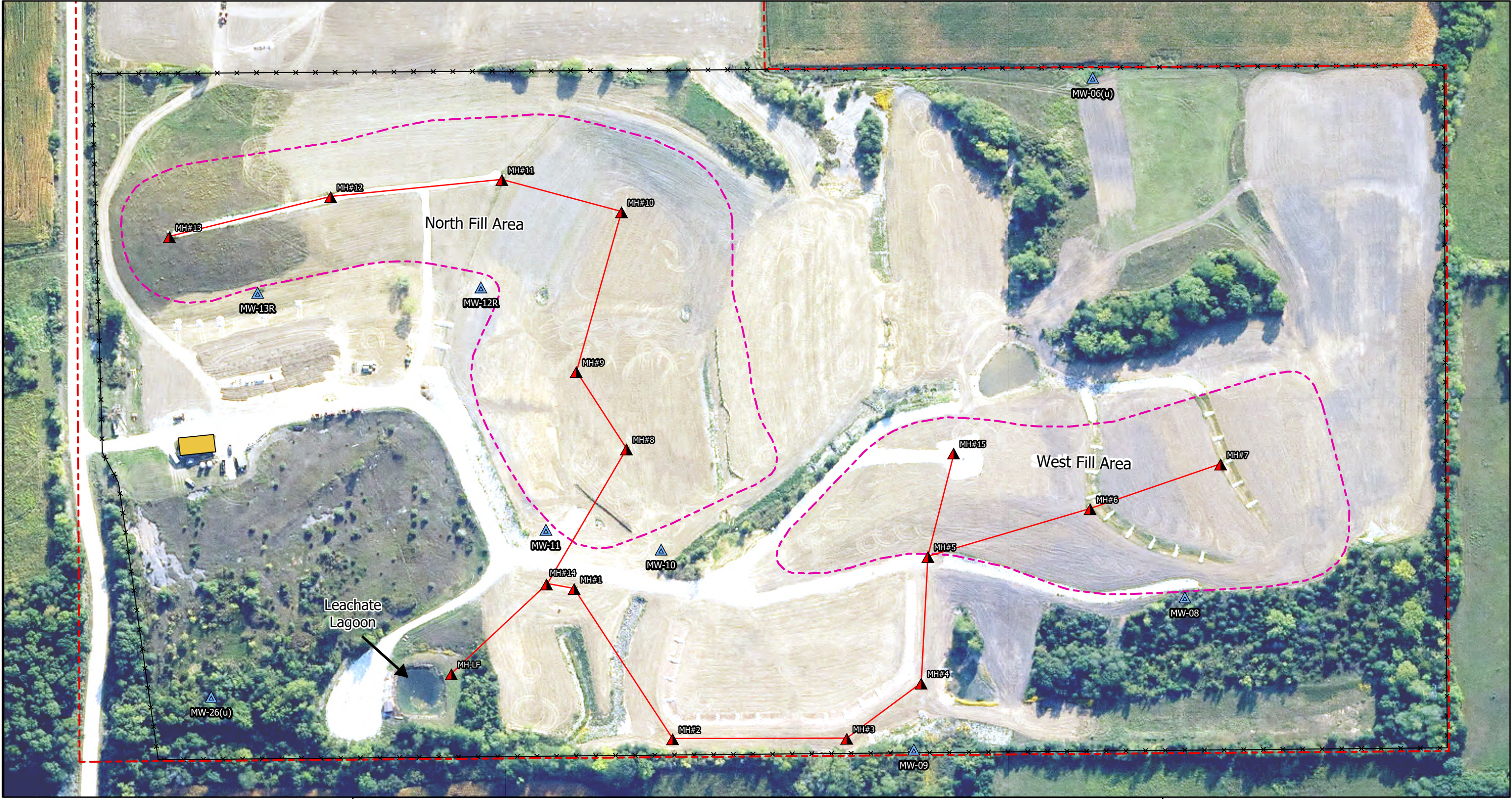
Notes:

- 1) *MH 16 is the mine manhole (MH) that extends beneath the liner and is not applicable to head level on the liner.
- 2) Precipitation data for November 2024 - October 2025 obtained from weather.gov.

Comments:

Reporting Period: November 2024 - October 2025.
Approved Changes to Leachate Collection System: None.
Proposed Changes to Leachate Collection System: None.
Maintenance Performed on Leachate Collection System: None.
Volume of Leachate Treated Off-Site: 60,000 gallons were transported to the Cargill-Eddyville Treatment Plant.

Path: C:\Users\hmadani\OneDrive - SCS Engineers\Desktop\GIS\Map\Leachate Control System Performance Evaluation.mxd
Date Saved: 7/17/2025 9:07 AM
User: hmadani



Leachate Control System Performance Evaluation



Legend

- | | | |
|---------------------------------------|--|---|
| Leachate Manhole | Approximate Location of Fence | Approximate Location of Property Boundary |
| Approximate Location of Leachate Line | Approximate Location of Waste Boundary | Office Structure |
| Monitoring Well | | |

Cargill CCR Landfill
Eddyville, IA
Project No: 27225040.00
Drawing Date:
November 2025

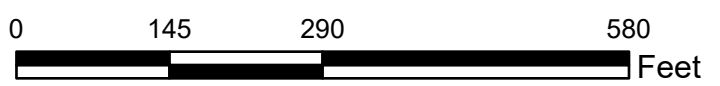
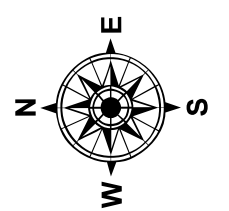


Figure 1

Appendix F

Semi-Annual Landfill Inspection Report

November 21, 2025
File No. 27225040.00

Mr. Brian Rath, PE
Iowa Department of Natural Resources
Land Quality Bureau
6200 Park Avenue
Des Moines, Iowa 50321

Subject: Fall 2025 Semiannual Inspection Report
Cargill Sweeteners - North America - CCR Landfill
Permit No. 62-SDP-04-89C

Dear Brian,

This brief report documents the semi-annual inspection required by the facility's Iowa Department of Natural Resources (DNR) Sanitary Disposal Project Permit and the Iowa Administrative Code. The inspection was made to evaluate the site's general conformance with the permit and the approved plans and specifications. A site map is attached for reference (Figure 1). A copy of the observation checklist used during the inspection is included in Attachment A. A summary from the inspection is provided below.

SUMMARY OF INSPECTION OBSERVATIONS

The following items were observed:

- Landfill cover and vegetation on the capped area were well established.
- No areas of erosion were observed.
- No areas of ponding on the landfill cap were observed.
- No leachate seeps were observed.

SUMMARY OF NON-CONFORMANCE WITH PERMIT CONDITIONS

No items of non-conformance were observed during the inspection.

Items not considered non-compliance but should continue to be monitored included the following:

- Continue to monitor and maintain the landfill cap as necessary.
- Stormwater control structures should continue to be monitored and maintained as necessary to allow for free flow of stormwater off the landfill cap.



Mr. Brian Rath, PE
November 21, 2025
Page 2

If you have any questions about this report, please contact us as noted below.

Sincerely,



Kevin Jensen
Project Manager
SCS Engineers
kjensen@scsengineers.com
515-368-3155



Christine L. Collier, P.E.
Senior Project Manager
SCS Engineers
ccollier@scsengineers.com
515-418-0677

KAJ/CLC

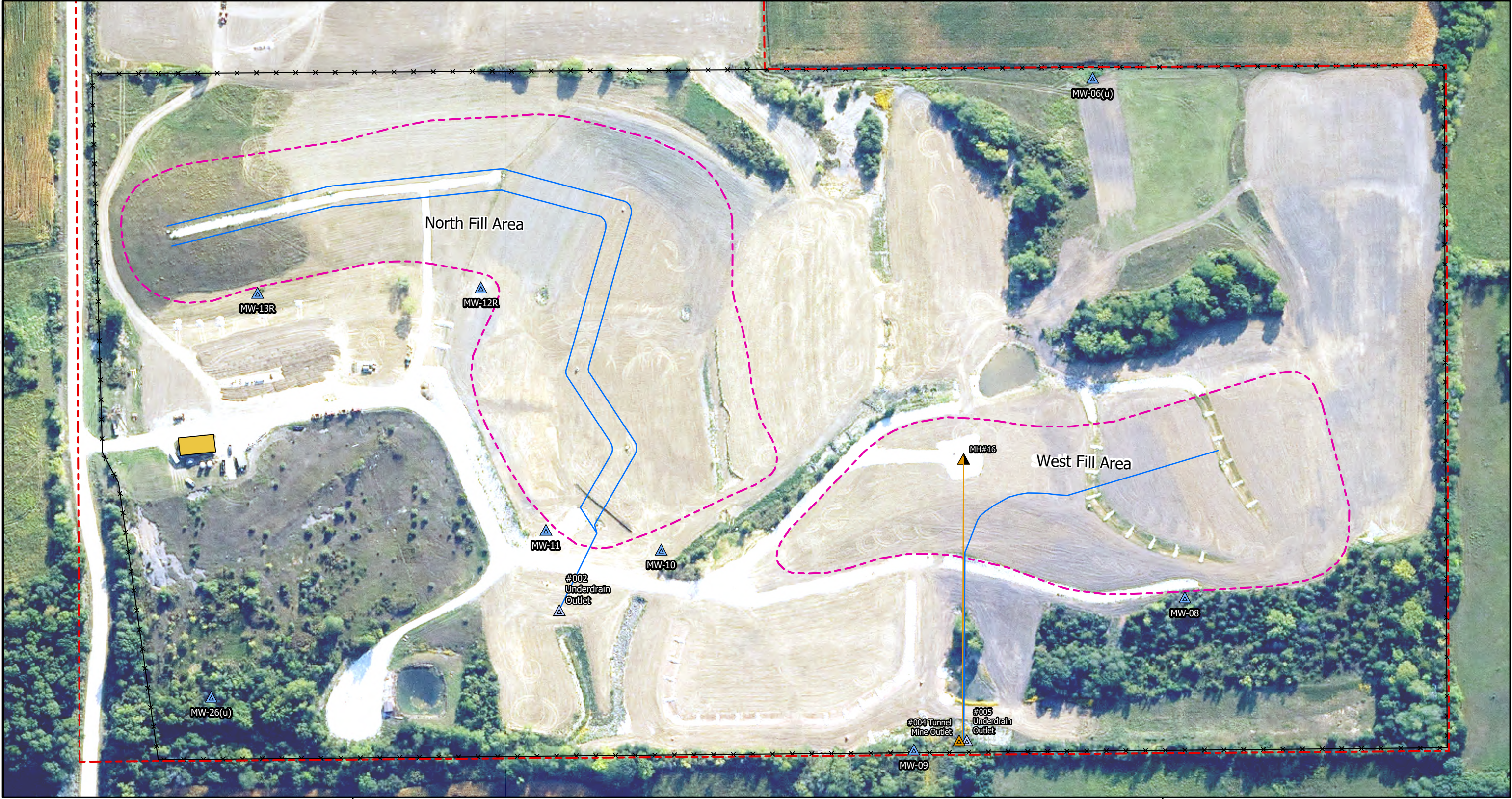
cc: Mike Septer - Cargill Corn Milling, Inc.
Troy Jensen - Cargill Corn Milling, Inc.
Iowa DNR Field Office #5

Certification

	I hereby certify that this document was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the state of Iowa.	
		
	Christine L. Collier	Date
	My license renewal date is: December 31, 2025 Pages or sheets covered by this seal: Appendix F Landfill Inspection Report	

Encl. Figure 1 – Site Map
Attachment A – Sanitary Landfill Inspection Checklist

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User: hmadson
Date Saved: 7/17/2025 9:07 AM



Site Map



Legend		
Monitoring Well	Approximate Location of Groundwater Underdrain Pipe	Approximate Location of Fence
Groundwater Underdrain	Approximate Location of Mine Drainage Line	Approximate Location of Waste Boundary
Mine Drainage Manhole	Structure	Approximate Location of Property Boundary
Mine Drainage Outlet		

Cargill CCR Landfill
Eddyville, IA
Project No: 27225040.00
Drawing Date: October 2025

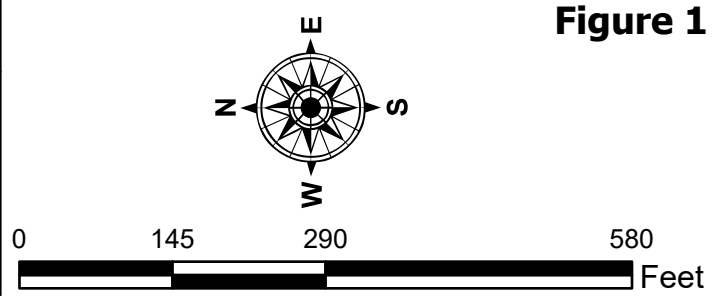


Figure 1

ATTACHMENT A
SANITARY LANDFILL INSPECTION CHECKLIST

SCS Engineers
1690 All-State Court, Suite 100
Sanitary Landfill Inspection Checklist

Permit #: 62-SDP-04-89C

Facility Name: <u>Cargill Sweeteners - North America - CCR Landfill</u>	Responsible Official: <u>Jonathan Razink</u>
County: <u>Mahaska</u>	Address: <u>17540 Monroe Wapello Rd, Eddyville, Iowa</u>
Facility Operator: <u>Cargill Corn Milling, Inc.</u>	Phone: <u>(641) 969-4511</u>
Address: <u>17540 Monroe Wapello Rd, Eddyville, Iowa</u>	Date Last Inspection: <u>April 30, 2025</u>
Phone: <u>(641) 969-4511</u>	Date This Inspection: <u>September 24, 2025</u>

At the Time of this Inspection:

- | | |
|---|--|
| • Facility personnel present: <u>Troy Jensen</u> | • Surface conditions: <u>Dry</u> |
| • Wind direction and speed: <u>Northeast, 5-10 mph</u> | • Ambient temperature: <u>70° F</u> |

Yes – compliance was being achieved; **No** – compliance was not being achieved,
N/A – not applicable or not observed; **PND** – previously noted deficiency (PND).

Observations

Yes	No	N/A	PND	Item	Yes	No	N/A	PND	Item
☒	☐	☐	☐	1. Fill Cover: final	☐	☐	☒	☐	10. Special Waste Handling
☐	☐	☒	☐	2. Control of Face	☐	☐	☒	☐	11. Recycling Activities
☐	☐	☒	☐	3. Compaction	☐	☐	☒	☐	12. Operator Certification
☒	☐	☐	☐	4. Cover erosion; Ponding	☐	☐	☒	☐	13. Staffing
☐	☐	☒	☐	5. Drainage into fill	☐	☐	☒	☐	14. Equipment Backup/Maintenance
☒	☐	☐	☐	6. Leachate Mgmt. & Control	☒	☐	☐	☐	15. Interior Roads
☐	☐	☒	☐	7. Litter	☒	☐	☐	☐	16. Perimeter fence, gate, signs, wells
☐	☐	☒	☐	8. Wet Weather Area	☐	☐	☒	☐	17. Photos taken
☐	☐	☒	☐	9. Construction & Demolition Area	☐	☒	☐	☐	18. Follow-up needed? (Yes/No)

Comments: The comments below correspond to the numbered observation items listed above.

1. Landfill cover and vegetation on the capped area were well established.
4. No areas of erosion were observed. No areas of ponding were observed on the landfill cap.
6. No leachate seeps were observed.
15. Access roads leading to the site and within the site were in good condition.
16. The perimeter fence, gate, signs, and wells were in good condition.
18. The landfill cap should continue to be periodically monitored and maintained as needed. Stormwater control structures should continue to be monitored and maintained as necessary to allow for free flow of stormwater off the landfill cap.

AUTHENTICATION

INSPECTOR	Kevin Jensen	Date: 9/26/2025
REVIEWER	Christine L. Collier, P.E.	Date: 10/8/2025