

July 25, 2025
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Mr. Brad Davison
Iowa Department of Natural Resources
Land Quality Bureau
6200 Park Avenue
Des Moines, Iowa 50321

Subject: 2025 Annual Water Quality Report & Landfill Gas Report
City of Council Bluffs Alter Trading Corporation ASR Monofill
Permit No. 78-SDP-19-98C

Dear Brad:

SCS Engineers has completed the annual water quality monitoring and data evaluation for the closed Alter Trading Corporation Monofill, managed by the City of Council Bluffs, for the year 2025. Our services were performed in general accordance with 1998 Iowa Administrative Code (IAC) 567-103, the landfill closure permit, and subsequent permit amendment requirements for implementation of the Hydrologic Monitoring System Plan (HMSP).

Please find enclosed a copy of the 2025 Annual Water Quality Report for the Alter Trading Corporation Monofill, including a summary of the landfill gas monitoring results for 2025. If you have any questions about this report, please contact us as noted below.

Sincerely,



Semir Omerovic
Technical Associate
SCS Engineers
somerovic@scsengineers.com
(515) 988-3237



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

SO/KAJ/NPO/TCB

Copies: Jeff Krist - City of Council Bluffs





2025 Annual Water Quality Report and Landfill Gas Annual Report

City of Council Bluffs Alter Trading Corporation ASR Monofill
Solid Waste Permit No. 78-SDP-19-98C

Prepared for:

City of Council Bluffs

SCS ENGINEERS

27225344.00 | July 24, 2025

1690 All-State Court, Suite 100
West Des Moines, Iowa 50265
515-631-6160

CERTIFICATION

Prepared by: 

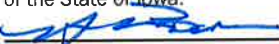
Date: 7/24/2025

Typed: Semir Omerovic

Reviewed by: 

Date: 7/24/2025

Typed: Nathan Ohrt

	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.	
		Date: <u>7/24/2025</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>	
	<u></u>	

EXECUTIVE SUMMARY

ES.1 PERIOD OF REPORT COVERAGE

SCS Engineers (SCS), on behalf of the City of Council Bluffs, has completed the required groundwater sampling of the Alter Trading Corporation Monofill (Monofill) in Council Bluffs, Iowa. The purpose of this Annual Water Quality Report (AWQR) is to document and statistically evaluate the groundwater sampling results since the 2024 AWQR up to and including the April 2025 annual sampling event. This AWQR was prepared in accordance with the requirements of the 1998 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 Monofill:

- Department review urgency: None.
- Department review impact on rules schedule: None.
- 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

- Monofill Status: Closed, Closure Permit.
- Types of waste accepted: Auto Shredder Residue (ASR).
- Applicable IAC rules: 1998 Iowa Administrative Code 567-103.

ES.4 COMMENTS

The following summarizes points of special emphasis:

Elevated arsenic concentrations measured in multiple site monitoring wells have been documented and the source investigated. The DNR has concluded that since these elevated concentrations are stable, no drinking water wells exist near the site, and the City of Council Bluffs has enacted a water well ordinance that prohibits the construction of drinking water wells within the city limits, the human health risk posed by groundwater exposure at the site is low (Doc #98623).

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1.0 ACRONYMS/ABBREVIATIONS

AL = Action Level
CCV = Continuing Calibration Verification
CL = Control Limit - Mean plus Two Standard Deviations
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 Monofill property is depicted in **Figure 1**, Approved Monitoring Network, and summarized in Table 1. The Monofill is located on an approximately 42-acre plot of land on the north side of I-80 and north of 23rd Avenue in Council Bluffs, Iowa. The Monofill is situated in the NE ¼ of Section 3, T74N, R44W, in Pottawattamie County, Iowa.

2.2 GEOLOGY OF THE SITE

The following information pertaining to this section was obtained from the Engineering Design Report dated September 1994, prepared by GBB Engineering Inc.:

Based on borings drilled on-site, the geology beneath the 23rd Avenue Monofill consists of 90 to 130 feet of alluvial sediments overlying Pennsylvanian-age limestone. The alluvial sediments are predominantly stratified sand and gravel deposits. The sand units vary in grain size from a silty fine-grained sand to a well-graded sand. Isolated silt and sandy clay lenses occur throughout the alluvium. In general, the sediments become coarser with depth.

2.3 HYDROLOGY OF THE SITE

According to the above-referenced 1994 Engineering Design Report:

Based on four rounds of water level measurements taken at the site, local groundwater is flowing in a southwesterly direction. The horizontal hydraulic gradient at the site is relatively flat (0.0001 to 0.001), which corresponds to an average groundwater flow velocity of approximately 14 feet/year.

3.0 FIGURES DISCUSSION

The following figures are attached.

3.1 FIGURE 1 – APPROVED MONITORING NETWORK

The Monofill property and hydrologic monitoring system plan (HMSP) network is depicted in **Figure 1**. **Figure 1** indicates the location of each monitoring well.

3.2 FIGURE 2 – GROUNDWATER CONTOURS – SHALLOW FLOW

A groundwater contour map for the shallower wells based on groundwater levels measured in April 2025 is included in **Figure 2**. Review of the groundwater flow pattern indicates that a generally convergent flow direction exists toward the wetland area in the west-central portion of the site.

3.3 FIGURE 3 – GROUNDWATER CONTOURS – DEEP FLOW

A groundwater contour map for the deeper wells based on groundwater levels measured in April 2025 is included in **Figure 3**. Review of the groundwater flow pattern indicates that the general flow direction is to the northwest, which is generally consistent with historical groundwater measurements.

4.0 QA/QC SUMMARY

Date indicates the date(s) of sampling.

4.1 APRIL 9, 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

The historical analytical results of the groundwater monitoring wells for the Monofill are presented in **Appendix C** (Summary of Groundwater Chemistry). 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 Monofill consists of sampling from the shallow flow and deep flow portions of the alluvial aquifer. The shallow flow contains a background monitoring well located on the northwest corner of the site and ten compliance monitoring wells; two located on the north side, three located on the east side, three located along the south side, and two located on the west side of the Monofill within the wetland area. The deep flow contains a background monitoring well located on the northwest corner of the site and three compliance monitoring wells; one located on the northeast side, one located on the southeast side, and one located on the southwest side of the Monofill.

There were 14 control limit exceedances detected based on 2025 sampling results as listed in **Table 1** compared to 12 control limit exceedances detected based on 2024 sampling results reported in the 2024 AWQR. Most of the control limit exceedances detected based on 2025 sampling results were attributed to monitoring wells MW-1, MW-2, MW-10, and MW-14R. Stabilized field parameters and a full sample could not be obtained from monitoring well MW-3 due to the low water level.

Exceedances of action or advisory levels were largely associated with arsenic in monitoring wells MW-2 and MW-10 and with nickel in monitoring well MW-14R as shown in **Table 9**. Arsenic in monitoring wells MW-2 and MW-10 was calculated as having stable trends and nickel in monitoring well MW-14R was calculated as having a decreasing trend as shown in **Table 10**. The monitoring results continue to demonstrate that the elevated arsenic concentrations remain stable and human health risks posed by groundwater exposure at the site remain low.

5.2 TRENDING IN MONITORING WELLS

Statistically significant decreasing trends at a 99% confidence level ($\alpha=0.01$) were identified in three monitoring well/constituent pairs by Mann-Kendall analysis during this reporting period. A statistically significant increasing trend at a 99% confidence level ($\alpha=0.01$) was identified in one monitoring well/constituent pair by Mann-Kendall analysis during this reporting period. The trend analysis is included in Attachment A of **Appendix D** of this report. The statistically significant trends were as follows:

Monitoring Point	Constituent	Trend
MW-11	Specific Conductance	Increasing
MW-15R	Arsenic	Decreasing
	Iron	Decreasing
	Nickel	Decreasing

As indicated in the above table, the majority of the statistically significant trends were found to be decreasing.

6.0 RECOMMENDATIONS

6.1 SITE IMPACT ON GROUNDWATER

Concentrations of most analyzed parameters in groundwater at the site remain stable to decreasing. Overall, a generally continued stability of groundwater quality at the site was noted.

Elevated arsenic concentrations measured in multiple site monitoring wells have been documented and the source investigated. The DNR has concluded that since these elevated concentrations are stable, no drinking water wells exist near the site, and the City of Council Bluffs has enacted a water well ordinance that prohibits the construction of drinking water wells within the city limits, the human health risk posed by groundwater exposure at the site is low (Doc #98623).

Routine groundwater sampling and gas monitoring in accordance with the permit and DNR correspondence is recommended to continue at the Monofill until scheduled permit expiration in 2029 due to the persistence of multiple contaminants and its current usage as communicated by DNR (Doc #101984).

6.2 PROPOSED MONITORING

The groundwater monitoring program is summarized in **Tables 1** through **3**. No changes to the HMSP monitoring program are recommended at this time.

6.3 PROPOSED MONITORING WELL CHANGES

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

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- 1 Monitoring Program Summary
- 2 Monitoring Program Implementation Schedule
- 3 Monitoring Well Maintenance and Performance Re-Evaluation 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
- 10 Groundwater Quality Assessment Plan Trend Analysis

Table 1
Monitoring Program Summary
2025 Annual Water Quality Report
Alter Trading Corporation Monofill
Permit No. 78-SDP-19-98C

Monitoring Well	Formation	Current Monitoring Program	Change for Next Sampling Event	Control Limit Exceedances	Total Number of Samples in Each Monitoring Program Since January 1, 2018		
					Routine	Supplemental	Remedial Action
Shallow Flow							
MW-5	Alluvium	Background	None	None	7	0	0
EPA-1AR	Alluvium	Detection	None	None	8	0	0
MW-2	Alluvium	Detection	None	Ammonia as N, Arsenic, COD	8	0	0
EPA-2A	Alluvium	Detection	None	None	8	0	0
MW-3	Alluvium	Detection	None	Not Sampled - Insufficient Water	7	0	0
MW-9	Alluvium	Detection	None	COD	8	0	0
MW-11	Alluvium	Detection	None	COD	8	0	0
MW-12	Alluvium	Detection	None	None	8	0	0
MW-13	Alluvium	Detection	None	Arsenic	8	0	0
MW-14R	Alluvium	Detection	None	Nickel, Zinc	7	0	0
MW-15R	Alluvium	Detection	None	COD	7	0	0
Deep Flow							
MW-4	Alluvium	Background	None	None	7	0	0
MW-1	Alluvium	Detection	None	Ammonia as N, COD	8	0	0
MW-8	Alluvium	Detection	None	COD	8	0	0
MW-10	Alluvium	Detection	None	Arsenic, pH	8	0	0

Notes: None.

Table 2
Monitoring Program Implementation Schedule
2025 Annual Water Quality Report
Alter Trading Corporation Monofill
Permit No. 78-SDP-19-98C

Monitoring Well	Recent Sampling Dates and Constituents	Upcoming Sampling Dates and Constituents
	4/9/2025	2026 Annual Sampling Event
Shallow Flow		
MW-5 (b)	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, Barium, Lead, Nickel, Zinc, TEH, TSS	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, Barium, Lead, Nickel, Zinc, TEH, TSS
EPA-1AR	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, TEH	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, TEH
MW-2	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, TEH, TSS	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, TEH, TSS
EPA-2A	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, TEH, TSS	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, TEH, TSS
MW-3	Not Sampled - Insufficient Water	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, TEH, TSS
MW-9	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, TEH	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, TEH
MW-11	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, TEH	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, TEH
MW-12	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Lead, TEH, TSS	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Lead, TEH, TSS
MW-13	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, Lead, TEH, TSS	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, Lead, TEH, TSS
MW-14R	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, Barium, Lead, Nickel, Zinc, TEH, TSS	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, Barium, Lead, Nickel, Zinc, TEH, TSS
MW-15R	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, Barium, Lead, Nickel, TEH, TSS	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, Barium, Lead, Nickel, TEH, TSS
Deep Flow		
MW-4 (b)	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, Barium, Lead, Nickel, Zinc, TEH, TSS	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, Barium, Lead, Nickel, Zinc, TEH, TSS
MW-1	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, TEH	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, TEH
MW-8	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, TEH	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, TEH
MW-10	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, TEH, TSS	Ammonia-Nitrogen, COD, Chloride, pH, Specific Conductance, Iron, Arsenic, TEH, TSS

Notes: (b) denotes background monitoring point
Metals listed are for total concentrations
COD – Chemical Oxygen Demand
TSS – Total Suspended Solids
TEH – Total Extractable Hydrocarbons (Iowa Method OA-2)

Table 3
Monitoring Well Maintenance and Performance Re-Evaluation Schedule
2025 Annual Water Quality Report
Alter Trading Corporation Monofill
Permit No. 78-SDP-19-98C

Compliance with:	2023	2024	2025	2026
567 IAC 114.21(2)"a" high and low water levels (annually)	Completed	Completed	Included	Scheduled
567 IAC 114.21(2)"b" changes in the hydrologic setting and flow paths	Completed	Completed	Included	Scheduled
567 IAC 114.21(2)"c" well depths	Completed	Completed	Included	Scheduled
567 IAC 114.21(2)"d" well recharge rates ⁽¹⁾	Completed	-	Included	-

Notes:

⁽¹⁾ In-situ permeability testing was replaced with biennial well recharge rate evaluation in DNR correspondence dated May 30, 2013 (Doc #77045).

Table 4
Monitoring Well Maintenance and Performance Summary
2025 Annual Water Quality Report
Alter Trading Corporation Monofill
Permit No. 78-SDP-19-98C

Well	Top of Casing	Top of Screen	Total Depth	Measurement Description	Date of Measurements	Maximum Depth Discrepancy ¹ (ft)	Initial Flow Rate ²	Recent Flow Rate (L/min)	
					4/9/2025		(L/min) 3/7/2017	4/9/2025	% Change
Shallow Flow									
MW-5	977.52	NA	25.0	Groundwater Level (ft)	11.88	-4.0	0.275	0.183	-33%
				Groundwater Elevation (Ft MSL)	965.64				
				Measured Well Depth (ft)	21.0				
				Submerged screen	NA				
EPA-1AR	978.13	968.13	20.0	Groundwater Level (ft)	12.18	2.7	0.145	0.183	26%
				Groundwater Elevation (Ft MSL)	965.95				
				Measured Well Depth (ft)	22.7				
				Submerged screen	N				
MW-2	982.26	NA	35.0	Groundwater Level (ft)	16.40	1.6	0.225	0.175	-22%
				Groundwater Elevation (Ft MSL)	965.86				
				Measured Well Depth (ft)	36.6				
				Submerged screen	NA				
EPA-2A	980.92	NA	NA	Groundwater Level (ft)	15.17	NA	0.125	0.150	20%
				Groundwater Elevation (Ft MSL)	965.75				
				Measured Well Depth (ft)	25.5				
				Submerged screen	NA				
MW-3	978.82	967.90	25.0	Groundwater Level (ft)	13.11	-8.5	0.285	NA	NA
				Groundwater Elevation (Ft MSL)	965.71				
				Measured Well Depth (ft)	16.5				
				Submerged screen	N				
MW-9	976.77	961.77	25.0	Groundwater Level (ft)	11.11	-0.1	0.194	0.158	-18%
				Groundwater Elevation (Ft MSL)	965.66				
				Measured Well Depth (ft)	24.9				
				Submerged screen	Y				
MW-11	982.53	NA	30.0	Groundwater Level (ft)	16.59	-4.7	0.156	0.167	7%
				Groundwater Elevation (Ft MSL)	965.94				
				Measured Well Depth (ft)	25.3				
				Submerged screen	NA				
MW-12	982.28	972.28	20.0	Groundwater Level (ft)	16.17	2.5	0.255	0.183	-28%
				Groundwater Elevation (Ft MSL)	966.11				
				Measured Well Depth (ft)	22.5				
				Submerged screen	N				
MW-13	976.69	971.69	15.0	Groundwater Level (ft)	11.05	2.4	0.275	0.175	-36%
				Groundwater Elevation (Ft MSL)	965.64				
				Measured Well Depth (ft)	17.4				
				Submerged screen	N				
MW-14R	972.58	965.38	17.2	Groundwater Level (ft)	7.00	-2.3	0.295	0.158	-46%
				Groundwater Elevation (Ft MSL)	965.58				
				Measured Well Depth (ft)	14.9				
				Submerged screen	Y				
MW-15R	972.50	964.80	17.7	Groundwater Level (ft)	6.88	-2.6	0.285	0.183	-36%
				Groundwater Elevation (Ft MSL)	965.62				
				Measured Well Depth (ft)	15.1				
				Submerged screen	Y				
Deep Flow									
MW-4	976.03	NA	80.0	Groundwater Level (ft)	10.91	1.1	0.245	0.175	-29%
				Groundwater Elevation (Ft MSL)	965.12				
				Measured Well Depth (ft)	81.1				
				Submerged screen	N				
MW-1	981.04	NA	80.0	Groundwater Level (ft)	15.21	1.4	0.235	0.175	-26%
				Groundwater Elevation (Ft MSL)	965.83				
				Measured Well Depth (ft)	81.4				
				Submerged screen	NA				
MW-8	976.53	905.70	80.0	Groundwater Level (ft)	10.77	1.0	0.235	0.175	-26%
				Groundwater Elevation (Ft MSL)	965.76				
				Measured Well Depth (ft)	81.0				
				Submerged screen	Y				
MW-10	980.58	NA	70.0	Groundwater Level (ft)	14.70	-1.3	0.240	0.183	-24%
				Groundwater Elevation (Ft MSL)	965.88				
				Measured Well Depth (ft)	68.7				
				Submerged screen	NA				

NA - Not Available.

Comments:

- Measured well depths were within 3.0 feet of the installed depths where measured with the following exceptions:
MW-5 and MW-11: These monitoring wells have consistently measured shallower than the installed depth; however, since the monitoring wells produce sufficient groundwater for sampling it is likely that the wells are functioning adequately.
MW-3 : The monitoring well has consistently measured approximately 8.5 feet shallower than the installed depth. The monitoring well had insufficient groundwater to stabilize and sample during the 2025 sampling event; however, the monitoring well produced sufficient groundwater for sampling during previous sampling events.
- It should be noted that baseline recharge rates were calculated from the first semi-annual sampling event utilizing low-flow sampling apparatuses and should not be considered necessarily representative of a monitoring well's recharge rate under all water level conditions.

Table 5
Background Summary
2025 Annual Water Quality Report
Alter Trading Company Monofill
Permit No. 78-SDP-19-98C

Interwell Background/Control Limit (MW-4 & MW-5)

Constituent	Units	Samples	Detections	Background Level	Statistical Test	Action Level	Source
Ammonia as N	mg/L	60	30	1.209	M+2SD	30 mg/L	HAL
Arsenic	mg/L	28	26	0.00516	M+2SD	0.01 mg/L	MCL
Barium	mg/L	28	28	0.41	M+2SD	2 mg/L	MCL
Chemical Oxygen Demand	mg/L	60	58	39.14	M+2SD	-	-
Chloride	mg/L	60	60	368.1	M+2SD	-	-
Iron	mg/L	16	13	18.3	M+2SD	-	-
Lead	mg/L	28	15	0.007963	M+2SD	0.015 mg/L	MCL
Nickel	mg/L	28	24	0.02651	M+2SD	0.1 mg/L	HAL
pH	S.U.	56	56	6.53 - 8.196	M+/-2SD	-	-
Specific Conductance	µS/cm	58	58	2415	M+2SD	-	-
Total Extractable Hydrocarbons	µg/L	34	11	499.1	M+2SD	-	-
Zinc	mg/L	28	8	0.03055	M+2SD	2 mg/L	HAL

Notes:

- 1) Background levels based on calculated control limits or reporting limit, as applicable.

Acronyms/Abbreviations:

RL = Reporting Limit

GWPS = Groundwater Protection Standard

SSS = Site-Specific GWPS

SWS = Statewide Standard

SD = Standard Deviation

MCL = EPA Maximum Contaminant Level

HAL = Health Advisory Level

DWA = Drinking Water Advisory

Comments:

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

Table 6
Summary of Well/Detected Constituent Pairs With No Immediately Preceding Control Limit Exceedances
2025 Annual Water Quality Report
Alter Trading Corporation Monofill
Permit No. 78-SDP-19-98C

Well	Constituent	Units	Most recent result	Background Standard
Shallow Flow				
MW-2	Ammonia as N	mg/L	26.5	1.209
MW-11	COD	mg/L	39.8	39.14
MW-13	Arsenic	mg/L	0.00712	0.00516
MW-15R	COD	mg/L	43.1	39.14
Deep Flow				
MW-1	COD	mg/L	52.3	39.14
MW-10	Arsenic	mg/L	0.0117	0.00516
	pH	mg/L	10.08	6.53 - 8.196

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

Table 7
Summary Table of Ongoing and Newly Identified Control Limit Exceedances
2025 Annual Water Quality Report
Alter Trading Corporation Monofill
Permit No.78-SDP-19-98C

Key

	Denotes ongoing control limit exceedances that were identified as control limit exceedances during this reporting period and the previous reporting period at least once during each reporting period.
	Denotes newly identified control limit exceedances in the current 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	Most recent result	Background Standard	Action Level/ Statewide Standard
Shallow Flow					
MW-2	Ammonia as N	mg/L	26.5	1.209	30
	Arsenic	mg/L	0.175	0.005160	0.01
	Chemical Oxygen Demand	mg/L	128	39.14	-
MW-9	Chemical Oxygen Demand	mg/L	96.3	39.14	-
MW-11	Chemical Oxygen Demand	mg/L	39.8	39.14	-
MW-13	Arsenic	mg/L	0.00712	0.00516	0.01
MW-14R	Nickel	mg/L	0.101	0.0265	0.1
	Zinc	mg/L	1.43	0.03055	2
MW-15R	Chemical Oxygen Demand	mg/L	43.1	39.14	-
Deep Flow					
MW-1	Ammonia as N	mg/L	1.31	1.209	30
	Chemical Oxygen Demand	mg/L	52.3	39.14	-
MW-8	Chemical Oxygen Demand	mg/L	49.8	39.14	-
MW-10	Arsenic	mg/L	0.0117	0.00516	0.01
	pH	S.U.	10.08	6.53 - 8.196	-

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
Alter Trading Corporation Monofill
Permit No. 78-SDP-19-98C

The Summary of Groundwater Chemistry is located in Appendix C.

Table 9
Historical Control Limit & MCL Exceedances
2025 Annual Water Quality Report
Alter Trading Corporation Monofill
Permit No. 78-SDP-19-98C

Key

	Control Limit Exceedance
X	Action Level Exceedance

Well	Constituent	2022	2023	2024	2025
Shallow Flow					
MW-2	Ammonia as N				
	Arsenic	X	X	X	X
	Chemical Oxygen Demand				
	Iron				
MW-3	Ammonia as N				NS
	Arsenic	X	X	X	NS
	Chemical Oxygen Demand				NS
	Iron				NS
MW-9	Chemical Oxygen Demand				
MW-11	Chemical Oxygen Demand				
MW-13	Arsenic				
MW-14R	Ammonia as N				
	Arsenic	X			
	Barium				
	Chemical Oxygen Demand				
	Iron				
	Nickel	X	X		X
MW-15R	Zinc	X			
	Arsenic	X			
	Barium				
	Chemical Oxygen Demand				
Deep Flow					
MW-1	Ammonia as N				
	Chemical Oxygen Demand				
MW-8	Chemical Oxygen Demand				
MW-10	Arsenic				X
	pH				

Notes:

NS - Not Sampled

Table 10
Groundwater Quality Assessment Plan Trend Analysis
2025 Annual Water Quality Report
Alter Trading Corporation Monofill
Permit No. 78-SDP-19-98C

Monitoring Well	Constituent Name	Calculated Statistic		
		Decreasing Trend	Stable Trend	Increasing Trend
EPA-1AR	Chemical Oxygen Demand		10	
	Chloride	-14		
	Iron	-13		
	pH		6	
	Specific Conductance	-18		
EPA-2A	Ammonia as N		-7	
	Arsenic		-6	
	Chemical Oxygen Demand		4	
	Chloride		12	
	Iron	-14		
	pH		1	
	Specific Conductance	-14		
MW-1	Ammonia as N			14
	Chemical Oxygen Demand		7	
	Chloride		6	
	Iron		-5	
	pH		-7	
	Specific Conductance		-2	
MW-2	Ammonia as N		-4	
	Arsenic		-4	
	Chemical Oxygen Demand		2	
	Chloride		6	
	Iron		0	
	pH		0	
	Specific Conductance		-4	
	Total Extractable Hydrocarbons		6	
MW-3	Ammonia as N		-2	
	Arsenic		2	
	Chemical Oxygen Demand		-6	
	Chloride		-9	
	Iron		6	
	pH		-8	
	Specific Conductance		0	

Table 10
Groundwater Quality Assessment Plan Trend Analysis
2025 Annual Water Quality Report
Alter Trading Corporation Monofill
Permit No. 78-SDP-19-98C

Monitoring Well	Constituent Name	Calculated Statistic		
		Decreasing Trend	Stable Trend	Increasing Trend
MW-8	Ammonia as N		0	
	Chemical Oxygen Demand	-18		
	Chloride	-16		
	Iron		-12	
	pH		2	
	Specific Conductance		-12	
MW-9	Chemical Oxygen Demand		-10	
	Chloride		-8	
	Iron			14
	pH		10	
	Specific Conductance	-18		
MW-10	Ammonia as N		-5	
	Arsenic		-10	
	Chemical Oxygen Demand		6	
	Chloride		12	
	Iron	-16		
	pH		0	
	Specific Conductance		-2	
MW-11	Ammonia as N		11	
	Chemical Oxygen Demand			15
	Chloride		2	
	Iron		4	
	pH	-20		
	Specific Conductance			24
MW-12	Chemical Oxygen Demand		2	
	Chloride		10	
	Lead	-14		
	pH	-14		
	Specific Conductance		8	
MW-13	Arsenic		2	
	Chemical Oxygen Demand		0	
	Chloride		10	
	Iron		-4	
	Lead		-10	
	pH		-2	
	Specific Conductance		2	

Table 10
Groundwater Quality Assessment Plan Trend Analysis
2025 Annual Water Quality Report
Alter Trading Corporation Monofill
Permit No. 78-SDP-19-98C

Monitoring Well	Constituent Name	Calculated Statistic		
		Decreasing Trend	Stable Trend	Increasing Trend
MW-14R	Ammonia as N		2	
	Arsenic	-18		
	Barium		-4	
	Chemical Oxygen Demand		-11	
	Chloride		4	
	Iron	-18		
	Lead		-9	
	Nickel	-20		
	pH		6	
	Specific Conductance		-8	
	Zinc	-18		
MW-15R	Arsenic	-24		
	Barium	-20		
	Chemical Oxygen Demand		-4	
	Chloride			16
	Iron	-22		
	Lead	-14		
	Nickel	-26		
	pH		-1	
	Specific Conductance		-10	

Notes:

Trending was evaluated using Mann-Kendall analysis at 80% confidence ($\alpha = 0.2$) for the entire historical dataset.

Figures

- 1 Approved Monitoring Network
- 2 Groundwater Contours – Shallow Flow
- 3 Groundwater Contours – Deep Flow

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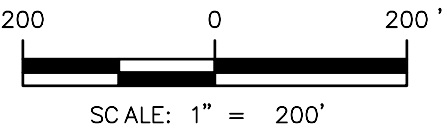


LEGEND

- SITE PARCEL
- DELINEATED WETLAND
- RAILROAD
- DEEP FLOW MONITORING WELL
- SHALLOW FLOW MONITORING WELL

NOTES

1. IMAGERY SOURCE: POTTAWATTAMIE COUNTY. DATE: 04/23/2024.
2. COORDINATE SYSTEM: NAD 1983 (2011) STATEPLANE IOWA SOUTH FIPS 1402 (US FEET).
3. PARCEL DATA FROM [HTTPS://OPEN-DATA-POTT COUNTY.HUB.ARCGIS.COM/](https://open-data-pottcounty.hub.arcgis.com/).
4. SHALLOW FLOW WELLS: MW-2, MW-3, MW-5, MW-9, MW-11, MW-12, MW-13, MW-14R, MW-15R, EPA-1AR, EPA-2A.
5. DEEP FLOW WELLS: MW-1, MW-4, MW-8, MW-10.
6. ALL LOCATIONS ARE APPROXIMATE.



PROJECT NO.	27225344.00	DRAWN BY:	AA
DRAWN:	06/23/2025	CHECKED BY:	KJ
REVISED:	06/23/2025	APPROVED BY:	

ENGINEER

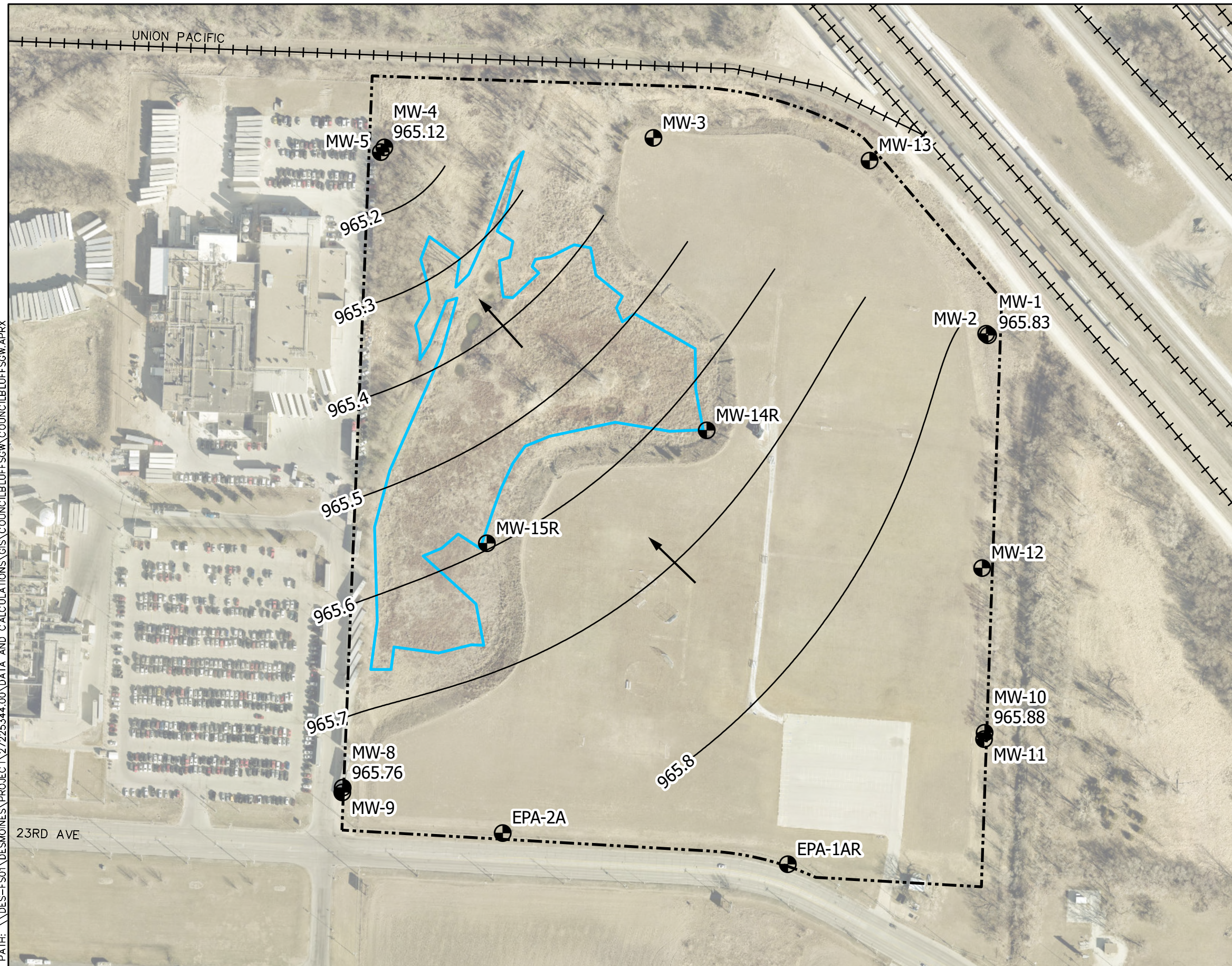
SCS ENGINEERS
1690 ALL-STATE COURT WEST DES MOINES, IA 50265
PHONE: (515) 631-6160

CLIENT	CITY OF COUNCIL BLUFFS
--------	------------------------

SITE	ALTER TRADING CORPORATION WASTE MONOFILL COUNCIL BLUFFS, IOWA
------	---

APPROVED MONITORING NETWORK	FIGURE
	1

DOCUMENT PATH: \\DES-FS01\DES MOINES\PROJECT\27225344.00\DATA AND CALCULATIONS\GIS\COUNCILBLUFFSGW\COUNCILBLUFFSGW.APRX

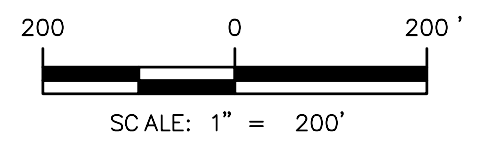


LEGEND

- SITE PARCEL
- DELINEATED WETLAND
- RAILROAD
- MONITORING WELL
- DEEP FLOW GROUNDWATER ELEVATION CONTOUR LINE (CONTOUR INTERVAL 0.1 FT)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- 965.83 WATER TABLE ELEVATION

NOTES

1. IMAGERY SOURCE: POTTAWATTAMIE COUNTY. DATE: 04/23/2024.
2. COORDINATE SYSTEM: NAD 1983 (2011) STATEPLANE IOWA SOUTH FIPS 1402 (US FEET).
3. PARCEL DATA FROM [HTTPS://OPEN-DATA-POTTCOUNTY.HUB.ARCGIS.COM/](https://open-data-pottcounty.hub.arcgis.com/).
4. WATER LEVELS MEASURED ON APRIL 9, 2025.



PROJECT NO.	27225344.00	DRAWN BY:	AA
DRAWN:	06/28/2025	CHECKED BY:	KJ
REVISED:	06/28/2025	APPROVED BY:	

ENGINEER

SCS ENGINEERS
1690 ALL-STATE COURT WEST DES MOINES, IA 50265
PHONE: (515) 631-6160

CLIENT	CITY OF COUNCIL BLUFFS
--------	------------------------

SITE	ALTER TRADING CORPORATION WASTE MONOFILL COUNCIL BLUFFS, IOWA
------	---

GROUNDWATER CONTOURS – DEEP FLOW	FIGURE
	3



Appendix A

Field Sampling Forms

FORM FOR GROUNDWATER SAMPLING

Project: City of Council Bluffs Alter Trading Corporation ASR Monofill			
Monitoring Well/Piezometer ID: EPA-1AR		Date: 4/9/2025	
Gradient: Down		Sampler: Garrett Horak	

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):	22.7
Initial Static Water Level (feet):	12.18
Initial Groundwater Elevation (ft-amsl):	965.95
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 (NTU)	
12:19 PM	Purging start time.						
12:22 PM	14.1	2.6	645.4	7.15	140.8	-	
12:25 PM	13.9	2.5	644.3	7.15	140.3	-	
12:28 PM	13.9	2.3	643.8	7.17	139.0	7.1	
12:31 PM	14.0	2.2	643.7	7.17	138.5	37.0	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	2.2
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	183.33

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project: City of Council Bluffs Alter Trading Corporation ASR Monofill			
Monitoring Well/Piezometer ID: EPA-2A		Date: 4/9/2025	
Gradient: Down		Sampler: Konner Roth	

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):	25.5
Initial Static Water Level (feet):	15.17
Initial Groundwater Elevation (ft-amsl):	965.75
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 (NTU)	
12:17 PM	Purging start time.						
12:20 PM	14.4	3.5	564.0	7.45	208.5	4.7	
12:23 PM	15.1	3.4	566.6	7.44	209.2	5.1	
12:26 PM	14.8	3.3	566.0	7.44	211.3	6.7	
12:29 PM	14.9	3.1	563.0	7.43	213.5	8.4	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	1.8
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	150.00

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project: City of Council Bluffs Alter Trading Corporation ASR Monofill			
Monitoring Well/Piezometer ID: MW-1		Date: 4/9/2025	
Gradient: Down		Sampler: Garrett Horak	

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):	81.4
Initial Static Water Level (feet):	15.21
Initial Groundwater Elevation (ft-amsl):	965.83
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 (NTU)	
10:32 AM	Purging start time.						
10:35 AM	13.7	0.8	1363.8	7.10	13.8	-	
10:38 AM	13.7	0.3	1393.9	7.08	-81.1	1.8	
10:41 AM	13.7	0.2	1418.9	7.07	-104.8	8.0	
10:44 AM	13.7	0.1	1445.7	7.07	-117.2	10.9	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: Clear Odor: Sulfur

FORM FOR GROUNDWATER SAMPLING

Project: City of Council Bluffs Alter Trading Corporation ASR Monofill			
Monitoring Well/Piezometer ID: MW-2		Date: 4/9/2025	
Gradient: Down		Sampler: Konner Roth	

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):	36.6
Initial Static Water Level (feet):	16.40
Initial Groundwater Elevation (ft-amsl):	965.86
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 (NTU)	
10:27 AM	Purging start time.						
10:30 AM	13.8	0.5	1448.1	8.13	-128.2	16.1	
10:33 AM	13.9	0.2	1451.8	8.12	-160.0	15.7	
10:36 AM	13.7	0.1	1453.3	8.11	-170.7	16.6	
10:39 AM	13.8	0.1	1453.5	8.07	-177.2	20.4	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: Clear with orange tint Odor: Oil/Leachate

FORM FOR GROUNDWATER SAMPLING

[illegible]

FORM FOR GROUNDWATER SAMPLING

Project: City of Council Bluffs Alter Trading Corporation ASR Monofill	
Monitoring Well/Piezometer ID: MW-4	Date: 4/9/2025
Gradient: Up	Sampler: Garrett Horak

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):	81.1
Initial Static Water Level (feet):	10.91
Initial Groundwater Elevation (ft-amsl):	965.12
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 (NTU)	
1:04 PM	Purging start time.						
1:07 PM	13.0	0.9	1872.3	7.09	-33.7	-	
1:10 PM	12.9	0.4	1892.4	7.12	-100.8	-	
1:13 PM	12.9	0.3	1894.3	7.14	-121.5	-	
1:16 PM	12.9	0.2	1896.2	7.15	-131.7	-	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: Clear Odor: None Equipment malfunction - turbidity not measured.

FORM FOR GROUNDWATER SAMPLING

Project: City of Council Bluffs Alter Trading Corporation ASR Monofill			
Monitoring Well/Piezometer ID: MW-5		Date: 4/9/2025	
Gradient: Up		Sampler: Garrett Horak	

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):	21.0
Initial Static Water Level (feet):	11.88
Initial Groundwater Elevation (ft-amsl):	965.64
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 (NTU)	
1:02 PM	Purging start time.						
1:05 PM	12.2	2.9	1041.1	7.40	230.3	6.4	
1:08 PM	12.3	2.0	1043.7	7.36	228.5	14.1	
1:11 PM	12.3	1.4	1054.1	7.34	226.4	18.8	
1:14 PM	12.2	1.1	1056.3	7.33	224.3	31.9	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	2.2
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	183.33

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project: City of Council Bluffs Alter Trading Corporation ASR Monofill			
Monitoring Well/Piezometer ID: MW-8		Date: 4/9/2025	
Gradient: Down		Sampler: Konner Roth	

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):	81.0
Initial Static Water Level (feet):	10.77
Initial Groundwater Elevation (ft-amsl):	965.76
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 (NTU)	
1:43 PM	Purging start time.						
1:46 PM	15.8	0.5	1103.5	7.66	-127.3	11.1	
1:49 PM	15.6	0.2	1107.8	7.65	-144.5	29.3	
1:52 PM	15.8	0.1	1116.9	7.64	-146.9	47.7	
1:55 PM	15.5	0.1	1123.2	7.63	-148.0	28.3	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: Yellow tint Odor: Sulfur

FORM FOR GROUNDWATER SAMPLING

Project: City of Council Bluffs Alter Trading Corporation ASR Monofill			
Monitoring Well/Piezometer ID: MW-9		Date: 4/9/2025	
Gradient: Down		Sampler: Garrett Horak	

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):	24.9
Initial Static Water Level (feet):	11.11
Initial Groundwater Elevation (ft-amsl):	965.66
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 (NTU)	
1:47 PM	Purging start time.						
1:50 PM	17.2	0.8	1379.3	7.03	-13.6	36.3	
1:53 PM	17.5	0.3	1378.1	7.01	-12.0	24.1	
1:56 PM	17.3	0.2	1378.7	7.01	-8.4	20.5	
1:59 PM	17.6	0.2	1383.6	7.01	-5.1	15.4	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	1.9
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	158.33

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project: City of Council Bluffs Alter Trading Corporation ASR Monofill	
Monitoring Well/Piezometer ID: MW-10	Date: 4/9/2025
Gradient: Down	Sampler: Konner Roth

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):	68.7
Initial Static Water Level (feet):	14.70
Initial Groundwater Elevation (ft-amsl):	965.88
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 (NTU)	
9:02 AM	Purging start time.						
9:05 AM	13.7	10.0	321.8	10.30	89.5	10.4	
9:08 AM	13.8	9.9	319.3	10.30	77.3	9.9	
9:11 AM	13.9	9.5	317.9	10.22	71.2	9.1	
9:14 AM	13.9	8.8	317.1	10.08	73.0	8.5	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	2.2
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	183.33

D. WELL MAINTENANCE	
Does the well require any future maintenance? No	
If yes, explain:	
Additional Comments:	Color: None Odor: Clear

FORM FOR GROUNDWATER SAMPLING

Project: City of Council Bluffs Alter Trading Corporation ASR Monofill			
Monitoring Well/Piezometer ID: MW-11		Date: 4/9/2025	
Gradient: Down		Sampler: Garrett Horak	

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):	25.3
Initial Static Water Level (feet):	16.59
Initial Groundwater Elevation (ft-amsl):	965.94
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 (NTU)	
9:26 AM	Purging start time.						
9:29 AM	13.8	1.6	827.8	7.03	195.4	26.0	
9:32 AM	13.7	1.3	827.5	7.05	197.0	25.0	
9:35 AM	13.8	1.1	823.7	7.06	197.2	24.4	
9:38 AM	13.9	0.9	819.4	7.07	196.5	20.5	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	2.0
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	166.67

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project: City of Council Bluffs Alter Trading Corporation ASR Monofill			
Monitoring Well/Piezometer ID: MW-12		Date: 4/9/2025	
Gradient: Down		Sampler: Garrett Horak	

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):	22.5
Initial Static Water Level (feet):	16.17
Initial Groundwater Elevation (ft-amsl):	966.11
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 (NTU)	
9:53 AM	Purging start time.						
9:56 AM	13.3	1.0	1137.8	6.67	163.1	1.9	
9:59 AM	13.3	0.6	1131.6	6.64	170.2	0.3	
10:02 AM	13.4	0.4	1129.6	6.64	174.0	0.5	
10:05 AM	13.4	0.3	1130.6	6.64	176.4	0.7	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	2.2
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	183.33

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project: City of Council Bluffs Alter Trading Corporation ASR Monofill			
Monitoring Well/Piezometer ID: MW-13		Date: 4/9/2025	
Gradient: Down		Sampler: Garrett Horak	

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):	17.4
Initial Static Water Level (feet):	11.05
Initial Groundwater Elevation (ft-amsl):	965.64
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 (NTU)	
11:26 AM	Purging start time.						
11:29 AM	12.2	5.9	805.5	7.22	-72.9	45.4	
11:32 AM	12.1	5.1	775.4	7.20	-49.1	36.7	
11:35 AM	12.2	4.2	768.7	7.18	-33.2	29.0	
11:38 AM	12.3	3.9	764.1	7.18	-19.8	30.9	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: Reddish clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project: City of Council Bluffs Alter Trading Corporation ASR Monofill			
Monitoring Well/Piezometer ID: MW-14R		Date: 4/9/2025	
Gradient: Down		Sampler: Konner Roth	

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):	14.9
Initial Static Water Level (feet):	7.00
Initial Groundwater Elevation (ft-amsl):	965.58
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 (NTU)	
11:36 AM	Purging start time.						
11:39 AM	10.2	1.4	783.3	7.17	178.3	6.8	
11:42 AM	9.8	1.0	767.4	7.15	180.4	7.2	
11:45 AM	9.8	0.9	764.9	7.15	182.4	3.9	
11:48 AM	9.7	0.7	764.9	7.14	183.4	5.0	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	1.9
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	158.33

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project: City of Council Bluffs Alter Trading Corporation ASR Monofill			
Monitoring Well/Piezometer ID: MW-15R		Date: 4/9/2025	
Gradient: Down		Sampler: Konner Roth	

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):	15.1
Initial Static Water Level (feet):	6.88
Initial Groundwater Elevation (ft-amsl):	965.62
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 (NTU)	
2:24 PM	Purging start time.						
2:27 PM	10.3	1.8	657.4	7.01	178.2	16.0	
2:30 PM	10.3	1.2	662.0	7.03	172.6	8.5	
2:33 PM	10.3	0.9	668.1	7.03	148.5	5.5	
2:36 PM	10.2	0.7	673.4	7.02	126.7	5.2	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	2.2
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	183.33

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: Clear with suspended red particles Odor: None



Appendix B1

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 4/21/2025 4:53:32 PM

JOB DESCRIPTION

Council Bluffs ASR Monofill Sampling 2025
Council Bluffs ASR Monofill
Council Bluffs ASR Monofill 2024

JOB NUMBER

310-303976-1

Eurofins Cedar Falls

Job Notes

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

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

Authorization



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Authorized for release by
Samuel Miller, Project Management Assistant I
Samuel.Miller@et.eurofinsus.com
(319)595-2008

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Case Narrative

Client: SCS Engineers
Project: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1

Job ID: 310-303976-1

Eurofins Cedar Falls

Job Narrative 310-303976-1

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

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

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

Receipt

The samples were received on 4/10/2025 4:20 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.0°C, 3.1°C and 5.4°C.

Diesel Range Organics

Method OA2: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 310-451304. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method OA2: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 310-451324. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

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

HPLC/IC

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

Metals

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

General Chemistry

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

Eurofins Cedar Falls

Sample Summary

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-303976-1	MW-1	Groundwater	04/09/25 11:09	04/10/25 16:20
310-303976-2	EPA-1AR	Groundwater	04/09/25 12:41	04/10/25 16:20
310-303976-3	MW-8	Groundwater	04/09/25 14:05	04/10/25 16:20
310-303976-4	MW-9	Groundwater	04/09/25 14:08	04/10/25 16:20
310-303976-5	MW-11	Groundwater	04/09/25 09:48	04/10/25 16:20
310-303976-6	MW-D	Groundwater	04/09/25 11:09	04/10/25 16:20
310-303976-7	MW-2	Groundwater	04/09/25 10:50	04/10/25 16:20
310-303976-8	MW-2A	Groundwater	04/09/25 12:43	04/10/25 16:20
310-303976-9	MW-10	Groundwater	04/09/25 09:27	04/10/25 16:20
310-303976-10	MW-4	Groundwater	04/09/25 13:31	04/10/25 16:20
310-303976-11	MW-5	Groundwater	04/09/25 13:27	04/10/25 16:20
310-303976-12	MW-14R	Groundwater	04/09/25 11:59	04/10/25 16:20
310-303976-13	MW-12	Groundwater	04/09/25 10:17	04/10/25 16:20
310-303976-14	MW-13	Groundwater	04/09/25 11:56	04/10/25 16:20
310-303976-15	MW-15R	Groundwater	04/09/25 14:49	04/10/25 16:20

Detection Summary

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-1

Lab Sample ID: 310-303976-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	62.9		5.00	2.25	mg/L	5		9056A	Total/NA
Iron	10.8		0.100	0.0500	mg/L	1		6020B	Total/NA
Ammonia as N	1.35		0.500	0.210	mg/L	1		350.1	Total/NA
Chemical Oxygen Demand	49.8		25.0	23.0	mg/L	5		SM 5220D	Total/NA

Client Sample ID: EPA-1AR

Lab Sample ID: 310-303976-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.60		5.00	2.25	mg/L	5		9056A	Total/NA
Chemical Oxygen Demand	26.5		25.0	23.0	mg/L	5		SM 5220D	Total/NA

Client Sample ID: MW-8

Lab Sample ID: 310-303976-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	35.7		5.00	2.25	mg/L	5		9056A	Total/NA
Iron	1.78		0.100	0.0500	mg/L	1		6020B	Total/NA
Ammonia as N	0.441	J	0.500	0.210	mg/L	1		350.1	Total/NA
Chemical Oxygen Demand	49.8		25.0	23.0	mg/L	5		SM 5220D	Total/NA

Client Sample ID: MW-9

Lab Sample ID: 310-303976-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel	979		300	240	ug/L	1		OA-2	Total/NA
Chloride	32.7		5.00	2.25	mg/L	5		9056A	Total/NA
Iron	1.69		0.100	0.0500	mg/L	1		6020B	Total/NA
Chemical Oxygen Demand	96.3		25.0	23.0	mg/L	5		SM 5220D	Total/NA

Client Sample ID: MW-11

Lab Sample ID: 310-303976-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	26.9		5.00	2.25	mg/L	5		9056A	Total/NA
Chemical Oxygen Demand	39.8		25.0	23.0	mg/L	5		SM 5220D	Total/NA

Client Sample ID: MW-D

Lab Sample ID: 310-303976-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	62.5		5.00	2.25	mg/L	5		9056A	Total/NA
Iron	9.60		0.100	0.0500	mg/L	1		6020B	Total/NA
Ammonia as N	1.27		0.500	0.210	mg/L	1		350.1	Total/NA
Chemical Oxygen Demand	54.8		25.0	23.0	mg/L	5		SM 5220D	Total/NA

Client Sample ID: MW-2

Lab Sample ID: 310-303976-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Motor Oil	1190		306	184	ug/L	1		OA-2	Total/NA
Chloride	26.1		5.00	2.25	mg/L	5		9056A	Total/NA
Arsenic	0.175		0.00200	0.000530	mg/L	1		6020B	Total/NA
Iron	2.96		0.100	0.0500	mg/L	1		6020B	Total/NA
Ammonia as N	26.5		4.69	1.97	mg/L	9.38		350.1	Total/NA
Total Suspended Solids	12.0		7.50	5.25	mg/L	1		I-3765-85	Total/NA
Chemical Oxygen Demand	128		25.0	23.0	mg/L	5		SM 5220D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-2A

Lab Sample ID: 310-303976-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	14.4		5.00	2.25	mg/L	5		9056A	Total/NA
Arsenic	0.00174	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Total Suspended Solids	1.63	J	1.88	1.31	mg/L	1		I-3765-85	Total/NA
Chemical Oxygen Demand	28.2		25.0	23.0	mg/L	5		SM 5220D	Total/NA

Client Sample ID: MW-10

Lab Sample ID: 310-303976-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	21.9		5.00	2.25	mg/L	5		9056A	Total/NA
Arsenic	0.0117		0.00200	0.000530	mg/L	1		6020B	Total/NA
Iron	1.32		0.100	0.0500	mg/L	1		6020B	Total/NA
Total Suspended Solids	12.4		1.88	1.31	mg/L	1		I-3765-85	Total/NA
Chemical Oxygen Demand	36.5		25.0	23.0	mg/L	5		SM 5220D	Total/NA

Client Sample ID: MW-4

Lab Sample ID: 310-303976-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	155		5.00	2.25	mg/L	5		9056A	Total/NA
Arsenic	0.00176	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.292		0.00200	0.000660	mg/L	1		6020B	Total/NA
Iron	15.6		0.100	0.0500	mg/L	1		6020B	Total/NA
Nickel	0.00246	J	0.00500	0.00230	mg/L	1		6020B	Total/NA
Ammonia as N	0.827		0.500	0.210	mg/L	1		350.1	Total/NA
Total Suspended Solids	37.5		7.50	5.25	mg/L	1		I-3765-85	Total/NA
Chemical Oxygen Demand	43.1		25.0	23.0	mg/L	5		SM 5220D	Total/NA

Client Sample ID: MW-5

Lab Sample ID: 310-303976-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	92.4		5.00	2.25	mg/L	5		9056A	Total/NA
Arsenic	0.000647	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.0734		0.00200	0.000660	mg/L	1		6020B	Total/NA
Nickel	0.00354	J	0.00500	0.00230	mg/L	1		6020B	Total/NA
Chemical Oxygen Demand	33.2		25.0	23.0	mg/L	5		SM 5220D	Total/NA

Client Sample ID: MW-14R

Lab Sample ID: 310-303976-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	19.5		5.00	2.25	mg/L	5		9056A	Total/NA
Arsenic	0.00133	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.185		0.00200	0.000660	mg/L	1		6020B	Total/NA
Iron	0.361		0.100	0.0500	mg/L	1		6020B	Total/NA
Lead	0.000757		0.000500	0.000330	mg/L	1		6020B	Total/NA
Nickel	0.101		0.00500	0.00230	mg/L	1		6020B	Total/NA
Zinc	1.43		0.0200	0.0130	mg/L	1		6020B	Total/NA
Total Suspended Solids	2.63		1.88	1.31	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-12

Lab Sample ID: 310-303976-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	23.1		5.00	2.25	mg/L	5		9056A	Total/NA
Iron	0.0500	J	0.100	0.0500	mg/L	1		6020B	Total/NA
Lead	0.00274		0.000500	0.000330	mg/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-12 (Continued)

Lab Sample ID: 310-303976-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	1.88		1.88	1.31	mg/L	1		I-3765-85	Total/NA
Chemical Oxygen Demand	31.5		25.0	23.0	mg/L	5		SM 5220D	Total/NA

Client Sample ID: MW-13

Lab Sample ID: 310-303976-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	16.2		5.00	2.25	mg/L	5		9056A	Total/NA
Arsenic	0.00712		0.00200	0.000530	mg/L	1		6020B	Total/NA
Iron	3.63		0.100	0.0500	mg/L	1		6020B	Total/NA
Total Suspended Solids	10.4		3.00	2.10	mg/L	1		I-3765-85	Total/NA
Chemical Oxygen Demand	29.9		25.0	23.0	mg/L	5		SM 5220D	Total/NA

Client Sample ID: MW-15R

Lab Sample ID: 310-303976-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	32.2		5.00	2.25	mg/L	5		9056A	Total/NA
Arsenic	0.00271		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.350		0.00200	0.000660	mg/L	1		6020B	Total/NA
Iron	0.577		0.100	0.0500	mg/L	1		6020B	Total/NA
Nickel	0.00344	J	0.00500	0.00230	mg/L	1		6020B	Total/NA
Total Suspended Solids	3.13		1.88	1.31	mg/L	1		I-3765-85	Total/NA
Chemical Oxygen Demand	43.1		25.0	23.0	mg/L	5		SM 5220D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-1

Lab Sample ID: 310-303976-1

Date Collected: 04/09/25 11:09

Matrix: Groundwater

Date Received: 04/10/25 16:20

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<306		306	276	ug/L		04/11/25 07:24	04/15/25 23:19	1
Diesel	<306		306	245	ug/L		04/11/25 07:24	04/15/25 23:19	1
Motor Oil	<306		306	184	ug/L		04/11/25 07:24	04/15/25 23:19	1
Total Extractable Hydrocarbons	<510		510	245	ug/L		04/11/25 07:24	04/15/25 23:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	96		32 - 144	04/11/25 07:24	04/15/25 23:19	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	62.9		5.00	2.25	mg/L			04/16/25 13:12	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	10.8		0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 16:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N (EPA 350.1)	1.35		0.500	0.210	mg/L		04/16/25 11:53	04/16/25 19:28	1
Chemical Oxygen Demand (SM 5220D)	49.8		25.0	23.0	mg/L			04/13/25 16:42	5

Client Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: EPA-1AR

Lab Sample ID: 310-303976-2

Date Collected: 04/09/25 12:41

Matrix: Groundwater

Date Received: 04/10/25 16:20

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<313		313	281	ug/L		04/11/25 07:24	04/15/25 23:34	1
Diesel	<313		313	250	ug/L		04/11/25 07:24	04/15/25 23:34	1
Motor Oil	<313		313	188	ug/L		04/11/25 07:24	04/15/25 23:34	1
Total Extractable Hydrocarbons	<521		521	250	ug/L		04/11/25 07:24	04/15/25 23:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	81		32 - 144	04/11/25 07:24	04/15/25 23:34	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.60		5.00	2.25	mg/L			04/16/25 14:44	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.100		0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 16:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N (EPA 350.1)	<0.500		0.500	0.210	mg/L		04/16/25 08:53	04/16/25 17:03	1
Chemical Oxygen Demand (SM 5220D)	26.5		25.0	23.0	mg/L			04/13/25 16:42	5

Client Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-8

Lab Sample ID: 310-303976-3

Date Collected: 04/09/25 14:05

Matrix: Groundwater

Date Received: 04/10/25 16:20

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<306		306	276	ug/L		04/11/25 07:24	04/15/25 23:49	1
Diesel	<306		306	245	ug/L		04/11/25 07:24	04/15/25 23:49	1
Motor Oil	<306		306	184	ug/L		04/11/25 07:24	04/15/25 23:49	1
Total Extractable Hydrocarbons	<510		510	245	ug/L		04/11/25 07:24	04/15/25 23:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	71		32 - 144	04/11/25 07:24	04/15/25 23:49	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35.7		5.00	2.25	mg/L			04/16/25 14:57	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.78		0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 16:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N (EPA 350.1)	0.441	J	0.500	0.210	mg/L		04/16/25 08:53	04/16/25 17:01	1
Chemical Oxygen Demand (SM 5220D)	49.8		25.0	23.0	mg/L			04/13/25 16:42	5

Client Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-9

Lab Sample ID: 310-303976-4

Date Collected: 04/09/25 14:08

Matrix: Groundwater

Date Received: 04/10/25 16:20

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<300		300	270	ug/L		04/11/25 07:24	04/16/25 00:04	1
Diesel	979		300	240	ug/L		04/11/25 07:24	04/16/25 00:04	1
Motor Oil	<300		300	180	ug/L		04/11/25 07:24	04/16/25 00:04	1
Total Extractable Hydrocarbons	<500		500	240	ug/L		04/11/25 07:24	04/16/25 00:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	71		32 - 144	04/11/25 07:24	04/16/25 00:04	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32.7		5.00	2.25	mg/L			04/16/25 15:10	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.69		0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 16:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N (EPA 350.1)	<0.500		0.500	0.210	mg/L		04/16/25 08:53	04/16/25 17:01	1
Chemical Oxygen Demand (SM 5220D)	96.3		25.0	23.0	mg/L			04/13/25 16:42	5

Client Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-11

Lab Sample ID: 310-303976-5

Date Collected: 04/09/25 09:48

Matrix: Groundwater

Date Received: 04/10/25 16:20

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<300		300	270	ug/L		04/11/25 09:04	04/15/25 19:08	1
Diesel	<300		300	240	ug/L		04/11/25 09:04	04/15/25 19:08	1
Motor Oil	<300		300	180	ug/L		04/11/25 09:04	04/15/25 19:08	1
Total Extractable Hydrocarbons	<500		500	240	ug/L		04/11/25 09:04	04/15/25 19:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	93		32 - 144	04/11/25 09:04	04/15/25 19:08	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26.9		5.00	2.25	mg/L			04/16/25 15:23	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.100		0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 16:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N (EPA 350.1)	<0.500		0.500	0.210	mg/L		04/16/25 11:53	04/16/25 19:29	1
Chemical Oxygen Demand (SM 5220D)	39.8		25.0	23.0	mg/L			04/13/25 16:42	5

Client Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-D

Lab Sample ID: 310-303976-6

Date Collected: 04/09/25 11:09

Matrix: Groundwater

Date Received: 04/10/25 16:20

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<313		313	281	ug/L		04/11/25 09:04	04/15/25 19:24	1
Diesel	<313		313	250	ug/L		04/11/25 09:04	04/15/25 19:24	1
Motor Oil	<313		313	188	ug/L		04/11/25 09:04	04/15/25 19:24	1
Total Extractable Hydrocarbons	<521		521	250	ug/L		04/11/25 09:04	04/15/25 19:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	78		32 - 144	04/11/25 09:04	04/15/25 19:24	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	62.5		5.00	2.25	mg/L			04/16/25 15:36	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	9.60		0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 16:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N (EPA 350.1)	1.27		0.500	0.210	mg/L		04/18/25 08:12	04/18/25 20:53	1
Chemical Oxygen Demand (SM 5220D)	54.8		25.0	23.0	mg/L			04/13/25 16:42	5

Client Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-2

Lab Sample ID: 310-303976-7

Date Collected: 04/09/25 10:50

Matrix: Groundwater

Date Received: 04/10/25 16:20

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<306		306	276	ug/L		04/11/25 09:04	04/15/25 19:39	1
Diesel	<306		306	245	ug/L		04/11/25 09:04	04/15/25 19:39	1
Motor Oil	1190		306	184	ug/L		04/11/25 09:04	04/15/25 19:39	1
Total Extractable Hydrocarbons	<510		510	245	ug/L		04/11/25 09:04	04/15/25 19:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	76		32 - 144	04/11/25 09:04	04/15/25 19:39	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26.1		5.00	2.25	mg/L			04/16/25 15:49	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.175		0.00200	0.000530	mg/L		04/15/25 09:15	04/17/25 16:36	1
Iron	2.96		0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 16:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N (EPA 350.1)	26.5		4.69	1.97	mg/L		04/18/25 08:12	04/18/25 22:10	9.38
Total Suspended Solids (USGS I-3765-85)	12.0		7.50	5.25	mg/L			04/11/25 10:38	1
Chemical Oxygen Demand (SM 5220D)	128		25.0	23.0	mg/L			04/13/25 16:42	5

Client Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-2A

Lab Sample ID: 310-303976-8

Date Collected: 04/09/25 12:43

Matrix: Groundwater

Date Received: 04/10/25 16:20

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<300		300	270	ug/L		04/11/25 09:04	04/15/25 19:55	1
Diesel	<300		300	240	ug/L		04/11/25 09:04	04/15/25 19:55	1
Motor Oil	<300		300	180	ug/L		04/11/25 09:04	04/15/25 19:55	1
Total Extractable Hydrocarbons	<500		500	240	ug/L		04/11/25 09:04	04/15/25 19:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	100		32 - 144				04/11/25 09:04	04/15/25 19:55	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14.4		5.00	2.25	mg/L			04/16/25 16:03	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00174	J	0.00200	0.000530	mg/L		04/15/25 09:15	04/17/25 16:38	1
Iron	<0.100		0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 16:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N (EPA 350.1)	<0.500		0.500	0.210	mg/L		04/18/25 08:12	04/18/25 20:43	1
Total Suspended Solids (USGS I-3765-85)	1.63	J	1.88	1.31	mg/L			04/11/25 10:38	1
Chemical Oxygen Demand (SM 5220D)	28.2		25.0	23.0	mg/L			04/13/25 16:42	5

Client Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-10

Lab Sample ID: 310-303976-9

Date Collected: 04/09/25 09:27

Matrix: Groundwater

Date Received: 04/10/25 16:20

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<313		313	281	ug/L		04/11/25 09:04	04/15/25 20:10	1
Diesel	<313		313	250	ug/L		04/11/25 09:04	04/15/25 20:10	1
Motor Oil	<313		313	188	ug/L		04/11/25 09:04	04/15/25 20:10	1
Total Extractable Hydrocarbons	<521		521	250	ug/L		04/11/25 09:04	04/15/25 20:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	88		32 - 144	04/11/25 09:04	04/15/25 20:10	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21.9		5.00	2.25	mg/L			04/16/25 16:16	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0117		0.00200	0.000530	mg/L		04/15/25 09:15	04/17/25 16:41	1
Iron	1.32		0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 16:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N (EPA 350.1)	<0.500		0.500	0.210	mg/L		04/18/25 08:12	04/18/25 20:52	1
Total Suspended Solids (USGS I-3765-85)	12.4		1.88	1.31	mg/L			04/11/25 10:38	1
Chemical Oxygen Demand (SM 5220D)	36.5		25.0	23.0	mg/L			04/13/25 16:42	5

Client Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-4

Lab Sample ID: 310-303976-10

Date Collected: 04/09/25 13:31

Matrix: Groundwater

Date Received: 04/10/25 16:20

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<306		306	276	ug/L		04/11/25 09:04	04/15/25 20:25	1
Diesel	<306		306	245	ug/L		04/11/25 09:04	04/15/25 20:25	1
Motor Oil	<306		306	184	ug/L		04/11/25 09:04	04/15/25 20:25	1
Total Extractable Hydrocarbons	<510		510	245	ug/L		04/11/25 09:04	04/15/25 20:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	82		32 - 144	04/11/25 09:04	04/15/25 20:25	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	155		5.00	2.25	mg/L			04/16/25 16:29	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00176	J	0.00200	0.000530	mg/L		04/15/25 09:15	04/17/25 16:43	1
Barium	0.292		0.00200	0.000660	mg/L		04/15/25 09:15	04/17/25 16:43	1
Iron	15.6		0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 16:43	1
Lead	<0.000500		0.000500	0.000330	mg/L		04/15/25 09:15	04/17/25 16:43	1
Nickel	0.00246	J	0.00500	0.00230	mg/L		04/15/25 09:15	04/17/25 16:43	1
Zinc	<0.0200		0.0200	0.0130	mg/L		04/15/25 09:15	04/17/25 16:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N (EPA 350.1)	0.827		0.500	0.210	mg/L		04/18/25 08:12	04/18/25 20:46	1
Total Suspended Solids (USGS I-3765-85)	37.5		7.50	5.25	mg/L			04/11/25 10:38	1
Chemical Oxygen Demand (SM 5220D)	43.1		25.0	23.0	mg/L			04/13/25 16:42	5

Client Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-5

Lab Sample ID: 310-303976-11

Date Collected: 04/09/25 13:27

Matrix: Groundwater

Date Received: 04/10/25 16:20

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<306		306	276	ug/L		04/11/25 09:04	04/15/25 20:41	1
Diesel	<306		306	245	ug/L		04/11/25 09:04	04/15/25 20:41	1
Motor Oil	<306		306	184	ug/L		04/11/25 09:04	04/15/25 20:41	1
Total Extractable Hydrocarbons	<510		510	245	ug/L		04/11/25 09:04	04/15/25 20:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	72		32 - 144	04/11/25 09:04	04/15/25 20:41	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	92.4		5.00	2.25	mg/L			04/16/25 18:00	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.000647	J	0.00200	0.000530	mg/L		04/15/25 09:15	04/17/25 16:45	1
Barium	0.0734		0.00200	0.000660	mg/L		04/15/25 09:15	04/17/25 16:45	1
Iron	<0.100		0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 16:45	1
Lead	<0.000500		0.000500	0.000330	mg/L		04/15/25 09:15	04/17/25 16:45	1
Nickel	0.00354	J	0.00500	0.00230	mg/L		04/15/25 09:15	04/17/25 16:45	1
Zinc	<0.0200		0.0200	0.0130	mg/L		04/15/25 09:15	04/17/25 16:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N (EPA 350.1)	<0.500		0.500	0.210	mg/L		04/18/25 08:12	04/18/25 20:46	1
Total Suspended Solids (USGS I-3765-85)	<1.88		1.88	1.31	mg/L			04/11/25 10:38	1
Chemical Oxygen Demand (SM 5220D)	33.2		25.0	23.0	mg/L			04/13/25 16:42	5

Client Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-14R

Lab Sample ID: 310-303976-12

Date Collected: 04/09/25 11:59

Matrix: Groundwater

Date Received: 04/10/25 16:20

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<300		300	270	ug/L		04/11/25 09:04	04/15/25 20:56	1
Diesel	<300		300	240	ug/L		04/11/25 09:04	04/15/25 20:56	1
Motor Oil	<300		300	180	ug/L		04/11/25 09:04	04/15/25 20:56	1
Total Extractable Hydrocarbons	<500		500	240	ug/L		04/11/25 09:04	04/15/25 20:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	82		32 - 144	04/11/25 09:04	04/15/25 20:56	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19.5		5.00	2.25	mg/L			04/16/25 16:42	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00133	J	0.00200	0.000530	mg/L		04/15/25 09:15	04/17/25 16:50	1
Barium	0.185		0.00200	0.000660	mg/L		04/15/25 09:15	04/17/25 16:50	1
Iron	0.361		0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 16:50	1
Lead	0.000757		0.000500	0.000330	mg/L		04/15/25 09:15	04/17/25 16:50	1
Nickel	0.101		0.00500	0.00230	mg/L		04/15/25 09:15	04/17/25 16:50	1
Zinc	1.43		0.0200	0.0130	mg/L		04/15/25 09:15	04/17/25 16:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N (EPA 350.1)	<0.500		0.500	0.210	mg/L		04/18/25 08:12	04/18/25 20:40	1
Total Suspended Solids (USGS I-3765-85)	2.63		1.88	1.31	mg/L			04/11/25 10:38	1
Chemical Oxygen Demand (SM 5220D)	<25.0		25.0	23.0	mg/L			04/13/25 16:42	5

Client Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-12

Lab Sample ID: 310-303976-13

Date Collected: 04/09/25 10:17

Matrix: Groundwater

Date Received: 04/10/25 16:20

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<300		300	270	ug/L		04/11/25 09:04	04/15/25 21:11	1
Diesel	<300		300	240	ug/L		04/11/25 09:04	04/15/25 21:11	1
Motor Oil	<300		300	180	ug/L		04/11/25 09:04	04/15/25 21:11	1
Total Extractable Hydrocarbons	<500		500	240	ug/L		04/11/25 09:04	04/15/25 21:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	71		32 - 144	04/11/25 09:04	04/15/25 21:11	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23.1		5.00	2.25	mg/L			04/16/25 17:21	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.0500	J	0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 16:53	1
Lead	0.00274		0.000500	0.000330	mg/L		04/15/25 09:15	04/17/25 16:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N (EPA 350.1)	<0.500		0.500	0.210	mg/L		04/18/25 08:12	04/18/25 20:48	1
Total Suspended Solids (USGS I-3765-85)	1.88		1.88	1.31	mg/L			04/11/25 10:38	1
Chemical Oxygen Demand (SM 5220D)	31.5		25.0	23.0	mg/L			04/13/25 16:42	5

Client Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-13

Lab Sample ID: 310-303976-14

Date Collected: 04/09/25 11:56

Matrix: Groundwater

Date Received: 04/10/25 16:20

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<313		313	281	ug/L		04/11/25 09:04	04/15/25 21:27	1
Diesel	<313		313	250	ug/L		04/11/25 09:04	04/15/25 21:27	1
Motor Oil	<313		313	188	ug/L		04/11/25 09:04	04/15/25 21:27	1
Total Extractable Hydrocarbons	<521		521	250	ug/L		04/11/25 09:04	04/15/25 21:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	86		32 - 144				04/11/25 09:04	04/15/25 21:27	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.2		5.00	2.25	mg/L			04/16/25 17:34	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00712		0.00200	0.000530	mg/L		04/15/25 09:15	04/17/25 16:55	1
Iron	3.63		0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 16:55	1
Lead	<0.000500		0.000500	0.000330	mg/L		04/15/25 09:15	04/17/25 16:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N (EPA 350.1)	<0.500		0.500	0.210	mg/L		04/18/25 08:12	04/18/25 20:43	1
Total Suspended Solids (USGS I-3765-85)	10.4		3.00	2.10	mg/L			04/11/25 10:11	1
Chemical Oxygen Demand (SM 5220D)	29.9		25.0	23.0	mg/L			04/13/25 16:42	5

Client Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-15R

Lab Sample ID: 310-303976-15

Date Collected: 04/09/25 14:49

Matrix: Groundwater

Date Received: 04/10/25 16:20

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<300		300	270	ug/L		04/11/25 09:04	04/15/25 21:42	1
Diesel	<300		300	240	ug/L		04/11/25 09:04	04/15/25 21:42	1
Motor Oil	<300		300	180	ug/L		04/11/25 09:04	04/15/25 21:42	1
Total Extractable Hydrocarbons	<500		500	240	ug/L		04/11/25 09:04	04/15/25 21:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	82		32 - 144	04/11/25 09:04	04/15/25 21:42	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32.2		5.00	2.25	mg/L			04/16/25 17:47	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00271		0.00200	0.000530	mg/L		04/15/25 09:15	04/17/25 17:05	1
Barium	0.350		0.00200	0.000660	mg/L		04/15/25 09:15	04/17/25 17:05	1
Iron	0.577		0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 17:05	1
Lead	<0.000500		0.000500	0.000330	mg/L		04/15/25 09:15	04/17/25 17:05	1
Nickel	0.00344	J	0.00500	0.00230	mg/L		04/15/25 09:15	04/17/25 17:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N (EPA 350.1)	<0.500		0.500	0.210	mg/L		04/18/25 08:12	04/18/25 20:50	1
Total Suspended Solids (USGS I-3765-85)	3.13		1.88	1.31	mg/L			04/11/25 10:38	1
Chemical Oxygen Demand (SM 5220D)	43.1		25.0	23.0	mg/L			04/13/25 16:42	5

Definitions/Glossary

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Surrogate Summary

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Matrix: Groundwater

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	OTCN (32-144)						
310-303976-1	MW-1	96						
310-303976-2	EPA-1AR	81						
310-303976-3	MW-8	71						
310-303976-4	MW-9	71						
310-303976-5	MW-11	93						
310-303976-6	MW-D	78						
310-303976-7	MW-2	76						
310-303976-8	MW-2A	100						
310-303976-9	MW-10	88						
310-303976-10	MW-4	82						
310-303976-11	MW-5	72						
310-303976-12	MW-14R	82						
310-303976-13	MW-12	71						
310-303976-14	MW-13	86						
310-303976-15	MW-15R	82						
Surrogate Legend								
OTCN = n-Octacosane								

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	OTCN (32-144)						
LCS 310-451304/2-A	Lab Control Sample	105						
LCS 310-451324/2-A	Lab Control Sample	99						
LCSD 310-451304/3-A	Lab Control Sample Dup	85						
LCSD 310-451324/3-A	Lab Control Sample Dup	94						
MB 310-451304/1-A	Method Blank	90						
MB 310-451324/1-A	Method Blank	71						
Surrogate Legend								
OTCN = n-Octacosane								

QC Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Lab Sample ID: MB 310-451304/1-A

Matrix: Water

Analysis Batch: 451583

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 451304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<300		300	270	ug/L		04/11/25 07:24	04/15/25 18:29	1
Diesel	<300		300	240	ug/L		04/11/25 07:24	04/15/25 18:29	1
Motor Oil	<300		300	180	ug/L		04/11/25 07:24	04/15/25 18:29	1
Total Extractable Hydrocarbons	<500		500	240	ug/L		04/11/25 07:24	04/15/25 18:29	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	90		32 - 144	04/11/25 07:24	04/15/25 18:29	1

Lab Sample ID: LCS 310-451304/2-A

Matrix: Water

Analysis Batch: 451583

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 451304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel	4000	3381		ug/L		85	42 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-Octacosane	105		32 - 144

Lab Sample ID: LCSD 310-451304/3-A

Matrix: Water

Analysis Batch: 451583

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 451304

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel	4000	2763		ug/L		69	42 - 121	20	34

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
n-Octacosane	85		32 - 144

Lab Sample ID: MB 310-451324/1-A

Matrix: Water

Analysis Batch: 451584

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 451324

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<300		300	270	ug/L		04/11/25 09:04	04/15/25 18:23	1
Diesel	<300		300	240	ug/L		04/11/25 09:04	04/15/25 18:23	1
Motor Oil	<300		300	180	ug/L		04/11/25 09:04	04/15/25 18:23	1
Total Extractable Hydrocarbons	<500		500	240	ug/L		04/11/25 09:04	04/15/25 18:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	71		32 - 144	04/11/25 09:04	04/15/25 18:23	1

Lab Sample ID: LCS 310-451324/2-A

Matrix: Water

Analysis Batch: 451584

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 451324

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel	4000	3695		ug/L		92	42 - 121

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QC Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC) (Continued)

Lab Sample ID: LCS 310-451324/2-A

Matrix: Water

Analysis Batch: 451584

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 451324

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
n-Octacosane	99		32 - 144

Lab Sample ID: LCSD 310-451324/3-A

Matrix: Water

Analysis Batch: 451584

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 451324

	Spike	LCSD	LCSD					%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit		
Diesel	4000	3806		ug/L		95	42 - 121	3	34		
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
n-Octacosane	94		32 - 144								

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-452107/3

Matrix: Water

Analysis Batch: 452107

Client Sample ID: Method Blank

Prep Type: Total/NA

	MB	MB								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	<1.00		1.00	0.450	mg/L			04/16/25 11:14	1	

Lab Sample ID: LCS 310-452107/4

Matrix: Water

Analysis Batch: 452107

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

	Spike	LCS	LCS					%Rec		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits			
Chloride	10.0	10.25		mg/L		103	90 - 110			

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-451589/1-A

Matrix: Water

Analysis Batch: 451983

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 451589

	MB	MB								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	<0.00200		0.00200	0.000530	mg/L		04/15/25 09:15	04/17/25 16:02	1	
Barium	<0.00200		0.00200	0.000660	mg/L		04/15/25 09:15	04/17/25 16:02	1	
Iron	<0.100		0.100	0.0500	mg/L		04/15/25 09:15	04/17/25 16:02	1	
Lead	<0.000500		0.000500	0.000330	mg/L		04/15/25 09:15	04/17/25 16:02	1	
Nickel	<0.00500		0.00500	0.00230	mg/L		04/15/25 09:15	04/17/25 16:02	1	
Zinc	<0.0200		0.0200	0.0130	mg/L		04/15/25 09:15	04/17/25 16:02	1	

Lab Sample ID: LCS 310-451589/2-A

Matrix: Water

Analysis Batch: 451983

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 451589

	Spike	LCS	LCS					%Rec		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits			
Arsenic	0.200	0.2016		mg/L		101	80 - 120			
Barium	0.100	0.1047		mg/L		105	80 - 120			

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QC Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

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

Lab Sample ID: LCS 310-451589/2-A

Matrix: Water

Analysis Batch: 451983

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 451589

Analyte	Spike		LCS		Unit	D	%Rec	%Rec	
	Added	Result	Qualifier	Result				Limits	
Iron	0.200	0.2030			mg/L		101	80 - 120	
Lead	0.200	0.2113			mg/L		106	80 - 120	
Nickel	0.200	0.1933			mg/L		97	80 - 120	
Zinc	0.200	0.1828			mg/L		91	80 - 120	

Lab Sample ID: 310-303976-1 MS

Matrix: Groundwater

Analysis Batch: 451983

Client Sample ID: MW-1

Prep Type: Total/NA

Prep Batch: 451589

Analyte	Sample		Spike		MS		Unit	D	%Rec	%Rec	
	Result	Qualifier	Added	Result	Qualifier	Result				Limits	
Arsenic	0.000645	J	0.200	0.2193			mg/L		109	75 - 125	
Barium	0.167		0.100	0.2758			mg/L		108	75 - 125	
Iron	10.8		0.200	10.82	4		mg/L		26	75 - 125	
Lead	<0.000500		0.200	0.2140			mg/L		107	75 - 125	
Nickel	<0.00500		0.200	0.2060			mg/L		103	75 - 125	
Zinc	<0.0200		0.200	0.2009			mg/L		100	75 - 125	

Lab Sample ID: 310-303976-1 MSD

Matrix: Groundwater

Analysis Batch: 451983

Client Sample ID: MW-1

Prep Type: Total/NA

Prep Batch: 451589

Analyte	Sample		Spike		MSD		Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier	Added	Result	Qualifier	Result				Limits		RPD	Limit
Arsenic	0.000645	J	0.200	0.2174			mg/L		108	75 - 125		1	20
Barium	0.167		0.100	0.2756			mg/L		108	75 - 125		0	20
Iron	10.8		0.200	10.94	4		mg/L		86	75 - 125		1	20
Lead	<0.000500		0.200	0.2141			mg/L		107	75 - 125		0	20
Nickel	<0.00500		0.200	0.2049			mg/L		102	75 - 125		1	20
Zinc	<0.0200		0.200	0.1978			mg/L		99	75 - 125		2	20

Lab Sample ID: 310-303976-11 DU

Matrix: Groundwater

Analysis Batch: 451983

Client Sample ID: MW-5

Prep Type: Total/NA

Prep Batch: 451589

Analyte	Sample		DU		Unit	D	RPD	RPD	
	Result	Qualifier	Result	Qualifier				Limit	
Arsenic	0.000647	J	0.0006730	J	mg/L		4	20	
Barium	0.0734		0.07201		mg/L		2	20	
Iron	<0.100		<0.100		mg/L		NC	20	
Lead	<0.000500		<0.000500		mg/L		NC	20	
Nickel	0.00354	J	0.003571	J	mg/L		1	20	
Zinc	<0.0200		<0.0200		mg/L		NC	20	

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 310-451729/1-A

Matrix: Water

Analysis Batch: 451816

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 451729

Analyte	MB		RL	MDL		Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier		Result	Qualifier					
Ammonia as N	<0.500		0.500	0.210		mg/L		04/16/25 08:53	04/16/25 16:41	1

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QC Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 310-451729/2-A
Matrix: Water
Analysis Batch: 451816

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 451729

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia as N	4.00	3.750		mg/L		94	90 - 110

Lab Sample ID: MB 310-451775/1-A
Matrix: Water
Analysis Batch: 451816

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 451775

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	<0.500		0.500	0.210	mg/L		04/16/25 11:53	04/16/25 19:16	1

Lab Sample ID: LCS 310-451775/2-A
Matrix: Water
Analysis Batch: 451816

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 451775

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia as N	4.00	3.876		mg/L		97	90 - 110

Lab Sample ID: MB 310-451982/1-A
Matrix: Water
Analysis Batch: 452095

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 451982

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	<0.500		0.500	0.210	mg/L		04/18/25 08:12	04/18/25 20:34	1

Lab Sample ID: LCS 310-451982/2-A
Matrix: Water
Analysis Batch: 452095

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 451982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia as N	4.00	3.695		mg/L		92	90 - 110

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

Lab Sample ID: MB 310-451356/1
Matrix: Water
Analysis Batch: 451356

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.50	mg/L			04/11/25 10:11	1

Lab Sample ID: LCS 310-451356/2
Matrix: Water
Analysis Batch: 451356

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	107.0		mg/L		107	81 - 116

QC Sample Results

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

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

Lab Sample ID: MB 310-451362/1
Matrix: Water
Analysis Batch: 451362

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.50	mg/L			04/11/25 10:38	1

Lab Sample ID: LCS 310-451362/2
Matrix: Water
Analysis Batch: 451362

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	109.0		mg/L		109	81 - 116

Method: SM 5220D - COD

Lab Sample ID: MB 310-451443/32
Matrix: Water
Analysis Batch: 451443

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	<5.00		5.00	4.60	mg/L			04/13/25 16:42	1

Lab Sample ID: LCS 310-451443/33
Matrix: Water
Analysis Batch: 451443

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand	125	127.0		mg/L		101	85 - 110

QC Association Summary

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

GC Semi VOA

Prep Batch: 451304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-1	MW-1	Total/NA	Groundwater	3510C	
310-303976-2	EPA-1AR	Total/NA	Groundwater	3510C	
310-303976-3	MW-8	Total/NA	Groundwater	3510C	
310-303976-4	MW-9	Total/NA	Groundwater	3510C	
MB 310-451304/1-A	Method Blank	Total/NA	Water	3510C	
LCS 310-451304/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 310-451304/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Prep Batch: 451324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-5	MW-11	Total/NA	Groundwater	3510C	
310-303976-6	MW-D	Total/NA	Groundwater	3510C	
310-303976-7	MW-2	Total/NA	Groundwater	3510C	
310-303976-8	MW-2A	Total/NA	Groundwater	3510C	
310-303976-9	MW-10	Total/NA	Groundwater	3510C	
310-303976-10	MW-4	Total/NA	Groundwater	3510C	
310-303976-11	MW-5	Total/NA	Groundwater	3510C	
310-303976-12	MW-14R	Total/NA	Groundwater	3510C	
310-303976-13	MW-12	Total/NA	Groundwater	3510C	
310-303976-14	MW-13	Total/NA	Groundwater	3510C	
310-303976-15	MW-15R	Total/NA	Groundwater	3510C	
MB 310-451324/1-A	Method Blank	Total/NA	Water	3510C	
LCS 310-451324/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 310-451324/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 451583

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-1	MW-1	Total/NA	Groundwater	OA-2	451304
310-303976-2	EPA-1AR	Total/NA	Groundwater	OA-2	451304
310-303976-3	MW-8	Total/NA	Groundwater	OA-2	451304
310-303976-4	MW-9	Total/NA	Groundwater	OA-2	451304
MB 310-451304/1-A	Method Blank	Total/NA	Water	OA-2	451304
LCS 310-451304/2-A	Lab Control Sample	Total/NA	Water	OA-2	451304
LCSD 310-451304/3-A	Lab Control Sample Dup	Total/NA	Water	OA-2	451304

Analysis Batch: 451584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-5	MW-11	Total/NA	Groundwater	OA-2	451324
310-303976-6	MW-D	Total/NA	Groundwater	OA-2	451324
310-303976-7	MW-2	Total/NA	Groundwater	OA-2	451324
310-303976-8	MW-2A	Total/NA	Groundwater	OA-2	451324
310-303976-9	MW-10	Total/NA	Groundwater	OA-2	451324
310-303976-10	MW-4	Total/NA	Groundwater	OA-2	451324
310-303976-11	MW-5	Total/NA	Groundwater	OA-2	451324
310-303976-12	MW-14R	Total/NA	Groundwater	OA-2	451324
310-303976-13	MW-12	Total/NA	Groundwater	OA-2	451324
310-303976-14	MW-13	Total/NA	Groundwater	OA-2	451324
310-303976-15	MW-15R	Total/NA	Groundwater	OA-2	451324
MB 310-451324/1-A	Method Blank	Total/NA	Water	OA-2	451324
LCS 310-451324/2-A	Lab Control Sample	Total/NA	Water	OA-2	451324
LCSD 310-451324/3-A	Lab Control Sample Dup	Total/NA	Water	OA-2	451324

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

HPLC/IC

Analysis Batch: 452107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-1	MW-1	Total/NA	Groundwater	9056A	
310-303976-2	EPA-1AR	Total/NA	Groundwater	9056A	
310-303976-3	MW-8	Total/NA	Groundwater	9056A	
310-303976-4	MW-9	Total/NA	Groundwater	9056A	
310-303976-5	MW-11	Total/NA	Groundwater	9056A	
310-303976-6	MW-D	Total/NA	Groundwater	9056A	
310-303976-7	MW-2	Total/NA	Groundwater	9056A	
310-303976-8	MW-2A	Total/NA	Groundwater	9056A	
310-303976-9	MW-10	Total/NA	Groundwater	9056A	
310-303976-10	MW-4	Total/NA	Groundwater	9056A	
310-303976-11	MW-5	Total/NA	Groundwater	9056A	
310-303976-12	MW-14R	Total/NA	Groundwater	9056A	
310-303976-13	MW-12	Total/NA	Groundwater	9056A	
310-303976-14	MW-13	Total/NA	Groundwater	9056A	
310-303976-15	MW-15R	Total/NA	Groundwater	9056A	
MB 310-452107/3	Method Blank	Total/NA	Water	9056A	
LCS 310-452107/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 451589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-1	MW-1	Total/NA	Groundwater	3005A	
310-303976-2	EPA-1AR	Total/NA	Groundwater	3005A	
310-303976-3	MW-8	Total/NA	Groundwater	3005A	
310-303976-4	MW-9	Total/NA	Groundwater	3005A	
310-303976-5	MW-11	Total/NA	Groundwater	3005A	
310-303976-6	MW-D	Total/NA	Groundwater	3005A	
310-303976-7	MW-2	Total/NA	Groundwater	3005A	
310-303976-8	MW-2A	Total/NA	Groundwater	3005A	
310-303976-9	MW-10	Total/NA	Groundwater	3005A	
310-303976-10	MW-4	Total/NA	Groundwater	3005A	
310-303976-11	MW-5	Total/NA	Groundwater	3005A	
310-303976-12	MW-14R	Total/NA	Groundwater	3005A	
310-303976-13	MW-12	Total/NA	Groundwater	3005A	
310-303976-14	MW-13	Total/NA	Groundwater	3005A	
310-303976-15	MW-15R	Total/NA	Groundwater	3005A	
MB 310-451589/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-451589/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-303976-1 MS	MW-1	Total/NA	Groundwater	3005A	
310-303976-1 MSD	MW-1	Total/NA	Groundwater	3005A	
310-303976-11 DU	MW-5	Total/NA	Groundwater	3005A	

Analysis Batch: 451983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-1	MW-1	Total/NA	Groundwater	6020B	451589
310-303976-2	EPA-1AR	Total/NA	Groundwater	6020B	451589
310-303976-3	MW-8	Total/NA	Groundwater	6020B	451589
310-303976-4	MW-9	Total/NA	Groundwater	6020B	451589
310-303976-5	MW-11	Total/NA	Groundwater	6020B	451589
310-303976-6	MW-D	Total/NA	Groundwater	6020B	451589

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Metals (Continued)

Analysis Batch: 451983 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-7	MW-2	Total/NA	Groundwater	6020B	451589
310-303976-8	MW-2A	Total/NA	Groundwater	6020B	451589
310-303976-9	MW-10	Total/NA	Groundwater	6020B	451589
310-303976-10	MW-4	Total/NA	Groundwater	6020B	451589
310-303976-11	MW-5	Total/NA	Groundwater	6020B	451589
310-303976-12	MW-14R	Total/NA	Groundwater	6020B	451589
310-303976-13	MW-12	Total/NA	Groundwater	6020B	451589
310-303976-14	MW-13	Total/NA	Groundwater	6020B	451589
310-303976-15	MW-15R	Total/NA	Groundwater	6020B	451589
MB 310-451589/1-A	Method Blank	Total/NA	Water	6020B	451589
LCS 310-451589/2-A	Lab Control Sample	Total/NA	Water	6020B	451589
310-303976-1 MS	MW-1	Total/NA	Groundwater	6020B	451589
310-303976-1 MSD	MW-1	Total/NA	Groundwater	6020B	451589
310-303976-11 DU	MW-5	Total/NA	Groundwater	6020B	451589

General Chemistry

Analysis Batch: 451356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-14	MW-13	Total/NA	Groundwater	I-3765-85	
MB 310-451356/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-451356/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 451362

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-7	MW-2	Total/NA	Groundwater	I-3765-85	
310-303976-8	MW-2A	Total/NA	Groundwater	I-3765-85	
310-303976-9	MW-10	Total/NA	Groundwater	I-3765-85	
310-303976-10	MW-4	Total/NA	Groundwater	I-3765-85	
310-303976-11	MW-5	Total/NA	Groundwater	I-3765-85	
310-303976-12	MW-14R	Total/NA	Groundwater	I-3765-85	
310-303976-13	MW-12	Total/NA	Groundwater	I-3765-85	
310-303976-15	MW-15R	Total/NA	Groundwater	I-3765-85	
MB 310-451362/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-451362/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 451443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-1	MW-1	Total/NA	Groundwater	SM 5220D	
310-303976-2	EPA-1AR	Total/NA	Groundwater	SM 5220D	
310-303976-3	MW-8	Total/NA	Groundwater	SM 5220D	
310-303976-4	MW-9	Total/NA	Groundwater	SM 5220D	
310-303976-5	MW-11	Total/NA	Groundwater	SM 5220D	
310-303976-6	MW-D	Total/NA	Groundwater	SM 5220D	
310-303976-7	MW-2	Total/NA	Groundwater	SM 5220D	
310-303976-8	MW-2A	Total/NA	Groundwater	SM 5220D	
310-303976-9	MW-10	Total/NA	Groundwater	SM 5220D	
310-303976-10	MW-4	Total/NA	Groundwater	SM 5220D	
310-303976-11	MW-5	Total/NA	Groundwater	SM 5220D	
310-303976-12	MW-14R	Total/NA	Groundwater	SM 5220D	
310-303976-13	MW-12	Total/NA	Groundwater	SM 5220D	

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

General Chemistry (Continued)

Analysis Batch: 451443 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-14	MW-13	Total/NA	Groundwater	SM 5220D	
310-303976-15	MW-15R	Total/NA	Groundwater	SM 5220D	
MB 310-451443/32	Method Blank	Total/NA	Water	SM 5220D	
LCS 310-451443/33	Lab Control Sample	Total/NA	Water	SM 5220D	

Prep Batch: 451729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-2	EPA-1AR	Total/NA	Groundwater	350.1	
310-303976-3	MW-8	Total/NA	Groundwater	350.1	
310-303976-4	MW-9	Total/NA	Groundwater	350.1	
MB 310-451729/1-A	Method Blank	Total/NA	Water	350.1	
LCS 310-451729/2-A	Lab Control Sample	Total/NA	Water	350.1	

Prep Batch: 451775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-1	MW-1	Total/NA	Groundwater	350.1	
310-303976-5	MW-11	Total/NA	Groundwater	350.1	
MB 310-451775/1-A	Method Blank	Total/NA	Water	350.1	
LCS 310-451775/2-A	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 451816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-1	MW-1	Total/NA	Groundwater	350.1	451775
310-303976-2	EPA-1AR	Total/NA	Groundwater	350.1	451729
310-303976-3	MW-8	Total/NA	Groundwater	350.1	451729
310-303976-4	MW-9	Total/NA	Groundwater	350.1	451729
310-303976-5	MW-11	Total/NA	Groundwater	350.1	451775
MB 310-451729/1-A	Method Blank	Total/NA	Water	350.1	451729
MB 310-451775/1-A	Method Blank	Total/NA	Water	350.1	451775
LCS 310-451729/2-A	Lab Control Sample	Total/NA	Water	350.1	451729
LCS 310-451775/2-A	Lab Control Sample	Total/NA	Water	350.1	451775

Prep Batch: 451982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-6	MW-D	Total/NA	Groundwater	350.1	
310-303976-7	MW-2	Total/NA	Groundwater	350.1	
310-303976-8	MW-2A	Total/NA	Groundwater	350.1	
310-303976-9	MW-10	Total/NA	Groundwater	350.1	
310-303976-10	MW-4	Total/NA	Groundwater	350.1	
310-303976-11	MW-5	Total/NA	Groundwater	350.1	
310-303976-12	MW-14R	Total/NA	Groundwater	350.1	
310-303976-13	MW-12	Total/NA	Groundwater	350.1	
310-303976-14	MW-13	Total/NA	Groundwater	350.1	
310-303976-15	MW-15R	Total/NA	Groundwater	350.1	
MB 310-451982/1-A	Method Blank	Total/NA	Water	350.1	
LCS 310-451982/2-A	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 452095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-6	MW-D	Total/NA	Groundwater	350.1	451982
310-303976-7	MW-2	Total/NA	Groundwater	350.1	451982

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

General Chemistry (Continued)

Analysis Batch: 452095 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303976-8	MW-2A	Total/NA	Groundwater	350.1	451982
310-303976-9	MW-10	Total/NA	Groundwater	350.1	451982
310-303976-10	MW-4	Total/NA	Groundwater	350.1	451982
310-303976-11	MW-5	Total/NA	Groundwater	350.1	451982
310-303976-12	MW-14R	Total/NA	Groundwater	350.1	451982
310-303976-13	MW-12	Total/NA	Groundwater	350.1	451982
310-303976-14	MW-13	Total/NA	Groundwater	350.1	451982
310-303976-15	MW-15R	Total/NA	Groundwater	350.1	451982
MB 310-451982/1-A	Method Blank	Total/NA	Water	350.1	451982
LCS 310-451982/2-A	Lab Control Sample	Total/NA	Water	350.1	451982

Lab Chronicle

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-1

Date Collected: 04/09/25 11:09

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-1

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451304	J5BR	EET CF	04/11/25 07:24
Total/NA	Analysis	OA-2		1	451583	C3AA	EET CF	04/15/25 23:19
Total/NA	Analysis	9056A		5	452107	WZC8	EET CF	04/16/25 13:12
Total/NA	Prep	3005A			451589	QTZ5	EET CF	04/15/25 09:15
Total/NA	Analysis	6020B		1	451983	NFT2	EET CF	04/17/25 16:07
Total/NA	Prep	350.1			451775	RLT9	EET CF	04/16/25 11:53
Total/NA	Analysis	350.1		1	451816	ZJX4	EET CF	04/16/25 19:28
Total/NA	Analysis	SM 5220D		5	451443	HE7K	EET CF	04/13/25 16:42

Client Sample ID: EPA-1AR

Date Collected: 04/09/25 12:41

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-2

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451304	J5BR	EET CF	04/11/25 07:24
Total/NA	Analysis	OA-2		1	451583	C3AA	EET CF	04/15/25 23:34
Total/NA	Analysis	9056A		5	452107	WZC8	EET CF	04/16/25 14:44
Total/NA	Prep	3005A			451589	QTZ5	EET CF	04/15/25 09:15
Total/NA	Analysis	6020B		1	451983	NFT2	EET CF	04/17/25 16:17
Total/NA	Prep	350.1			451729	RLT9	EET CF	04/16/25 08:53
Total/NA	Analysis	350.1		1	451816	ZJX4	EET CF	04/16/25 17:03
Total/NA	Analysis	SM 5220D		5	451443	HE7K	EET CF	04/13/25 16:42

Client Sample ID: MW-8

Date Collected: 04/09/25 14:05

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-3

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451304	J5BR	EET CF	04/11/25 07:24
Total/NA	Analysis	OA-2		1	451583	C3AA	EET CF	04/15/25 23:49
Total/NA	Analysis	9056A		5	452107	WZC8	EET CF	04/16/25 14:57
Total/NA	Prep	3005A			451589	QTZ5	EET CF	04/15/25 09:15
Total/NA	Analysis	6020B		1	451983	NFT2	EET CF	04/17/25 16:19
Total/NA	Prep	350.1			451729	RLT9	EET CF	04/16/25 08:53
Total/NA	Analysis	350.1		1	451816	ZJX4	EET CF	04/16/25 17:01
Total/NA	Analysis	SM 5220D		5	451443	HE7K	EET CF	04/13/25 16:42

Client Sample ID: MW-9

Date Collected: 04/09/25 14:08

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-4

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451304	J5BR	EET CF	04/11/25 07:24
Total/NA	Analysis	OA-2		1	451583	C3AA	EET CF	04/16/25 00:04
Total/NA	Analysis	9056A		5	452107	WZC8	EET CF	04/16/25 15:10

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-9

Date Collected: 04/09/25 14:08

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-4

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			451589	QTZ5	EET CF	04/15/25 09:15
Total/NA	Analysis	6020B		1	451983	NFT2	EET CF	04/17/25 16:22
Total/NA	Prep	350.1			451729	RLT9	EET CF	04/16/25 08:53
Total/NA	Analysis	350.1		1	451816	ZJX4	EET CF	04/16/25 17:01
Total/NA	Analysis	SM 5220D		5	451443	HE7K	EET CF	04/13/25 16:42

Client Sample ID: MW-11

Date Collected: 04/09/25 09:48

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-5

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451324	J5BR	EET CF	04/11/25 09:04
Total/NA	Analysis	OA-2		1	451584	C3AA	EET CF	04/15/25 19:08
Total/NA	Analysis	9056A		5	452107	WZC8	EET CF	04/16/25 15:23
Total/NA	Prep	3005A			451589	QTZ5	EET CF	04/15/25 09:15
Total/NA	Analysis	6020B		1	451983	NFT2	EET CF	04/17/25 16:24
Total/NA	Prep	350.1			451775	RLT9	EET CF	04/16/25 11:53
Total/NA	Analysis	350.1		1	451816	ZJX4	EET CF	04/16/25 19:29
Total/NA	Analysis	SM 5220D		5	451443	HE7K	EET CF	04/13/25 16:42

Client Sample ID: MW-D

Date Collected: 04/09/25 11:09

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-6

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451324	J5BR	EET CF	04/11/25 09:04
Total/NA	Analysis	OA-2		1	451584	C3AA	EET CF	04/15/25 19:24
Total/NA	Analysis	9056A		5	452107	WZC8	EET CF	04/16/25 15:36
Total/NA	Prep	3005A			451589	QTZ5	EET CF	04/15/25 09:15
Total/NA	Analysis	6020B		1	451983	NFT2	EET CF	04/17/25 16:33
Total/NA	Prep	350.1			451982	RLT9	EET CF	04/18/25 08:12
Total/NA	Analysis	350.1		1	452095	ZJX4	EET CF	04/18/25 20:53
Total/NA	Analysis	SM 5220D		5	451443	HE7K	EET CF	04/13/25 16:42

Client Sample ID: MW-2

Date Collected: 04/09/25 10:50

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-7

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451324	J5BR	EET CF	04/11/25 09:04
Total/NA	Analysis	OA-2		1	451584	C3AA	EET CF	04/15/25 19:39
Total/NA	Analysis	9056A		5	452107	WZC8	EET CF	04/16/25 15:49
Total/NA	Prep	3005A			451589	QTZ5	EET CF	04/15/25 09:15
Total/NA	Analysis	6020B		1	451983	NFT2	EET CF	04/17/25 16:36

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-2

Date Collected: 04/09/25 10:50

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-7

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	350.1			451982	RLT9	EET CF	04/18/25 08:12
Total/NA	Analysis	350.1		9.38	452095	ZJX4	EET CF	04/18/25 22:10
Total/NA	Analysis	I-3765-85		1	451362	HE7K	EET CF	04/11/25 10:38
Total/NA	Analysis	SM 5220D		5	451443	HE7K	EET CF	04/13/25 16:42

Client Sample ID: MW-2A

Date Collected: 04/09/25 12:43

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-8

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451324	J5BR	EET CF	04/11/25 09:04
Total/NA	Analysis	OA-2		1	451584	C3AA	EET CF	04/15/25 19:55
Total/NA	Analysis	9056A		5	452107	WZC8	EET CF	04/16/25 16:03
Total/NA	Prep	3005A			451589	QTZ5	EET CF	04/15/25 09:15
Total/NA	Analysis	6020B		1	451983	NFT2	EET CF	04/17/25 16:38
Total/NA	Prep	350.1			451982	RLT9	EET CF	04/18/25 08:12
Total/NA	Analysis	350.1		1	452095	ZJX4	EET CF	04/18/25 20:43
Total/NA	Analysis	I-3765-85		1	451362	HE7K	EET CF	04/11/25 10:38
Total/NA	Analysis	SM 5220D		5	451443	HE7K	EET CF	04/13/25 16:42

Client Sample ID: MW-10

Date Collected: 04/09/25 09:27

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-9

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451324	J5BR	EET CF	04/11/25 09:04
Total/NA	Analysis	OA-2		1	451584	C3AA	EET CF	04/15/25 20:10
Total/NA	Analysis	9056A		5	452107	WZC8	EET CF	04/16/25 16:16
Total/NA	Prep	3005A			451589	QTZ5	EET CF	04/15/25 09:15
Total/NA	Analysis	6020B		1	451983	NFT2	EET CF	04/17/25 16:41
Total/NA	Prep	350.1			451982	RLT9	EET CF	04/18/25 08:12
Total/NA	Analysis	350.1		1	452095	ZJX4	EET CF	04/18/25 20:52
Total/NA	Analysis	I-3765-85		1	451362	HE7K	EET CF	04/11/25 10:38
Total/NA	Analysis	SM 5220D		5	451443	HE7K	EET CF	04/13/25 16:42

Client Sample ID: MW-4

Date Collected: 04/09/25 13:31

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-10

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451324	J5BR	EET CF	04/11/25 09:04
Total/NA	Analysis	OA-2		1	451584	C3AA	EET CF	04/15/25 20:25
Total/NA	Analysis	9056A		5	452107	WZC8	EET CF	04/16/25 16:29

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-4

Date Collected: 04/09/25 13:31

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-10

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			451589	QTZ5	EET CF	04/15/25 09:15
Total/NA	Analysis	6020B		1	451983	NFT2	EET CF	04/17/25 16:43
Total/NA	Prep	350.1			451982	RLT9	EET CF	04/18/25 08:12
Total/NA	Analysis	350.1		1	452095	ZJX4	EET CF	04/18/25 20:46
Total/NA	Analysis	I-3765-85		1	451362	HE7K	EET CF	04/11/25 10:38
Total/NA	Analysis	SM 5220D		5	451443	HE7K	EET CF	04/13/25 16:42

Client Sample ID: MW-5

Date Collected: 04/09/25 13:27

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-11

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451324	J5BR	EET CF	04/11/25 09:04
Total/NA	Analysis	OA-2		1	451584	C3AA	EET CF	04/15/25 20:41
Total/NA	Analysis	9056A		5	452107	WZC8	EET CF	04/16/25 18:00
Total/NA	Prep	3005A			451589	QTZ5	EET CF	04/15/25 09:15
Total/NA	Analysis	6020B		1	451983	NFT2	EET CF	04/17/25 16:45
Total/NA	Prep	350.1			451982	RLT9	EET CF	04/18/25 08:12
Total/NA	Analysis	350.1		1	452095	ZJX4	EET CF	04/18/25 20:46
Total/NA	Analysis	I-3765-85		1	451362	HE7K	EET CF	04/11/25 10:38
Total/NA	Analysis	SM 5220D		5	451443	HE7K	EET CF	04/13/25 16:42

Client Sample ID: MW-14R

Date Collected: 04/09/25 11:59

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-12

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451324	J5BR	EET CF	04/11/25 09:04
Total/NA	Analysis	OA-2		1	451584	C3AA	EET CF	04/15/25 20:56
Total/NA	Analysis	9056A		5	452107	WZC8	EET CF	04/16/25 16:42
Total/NA	Prep	3005A			451589	QTZ5	EET CF	04/15/25 09:15
Total/NA	Analysis	6020B		1	451983	NFT2	EET CF	04/17/25 16:50
Total/NA	Prep	350.1			451982	RLT9	EET CF	04/18/25 08:12
Total/NA	Analysis	350.1		1	452095	ZJX4	EET CF	04/18/25 20:40
Total/NA	Analysis	I-3765-85		1	451362	HE7K	EET CF	04/11/25 10:38
Total/NA	Analysis	SM 5220D		5	451443	HE7K	EET CF	04/13/25 16:42

Client Sample ID: MW-12

Date Collected: 04/09/25 10:17

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-13

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451324	J5BR	EET CF	04/11/25 09:04
Total/NA	Analysis	OA-2		1	451584	C3AA	EET CF	04/15/25 21:11

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Lab Chronicle

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Client Sample ID: MW-12

Date Collected: 04/09/25 10:17

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-13

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	452107	WZC8	EET CF	04/16/25 17:21
Total/NA	Prep	3005A			451589	QTZ5	EET CF	04/15/25 09:15
Total/NA	Analysis	6020B		1	451983	NFT2	EET CF	04/17/25 16:53
Total/NA	Prep	350.1			451982	RLT9	EET CF	04/18/25 08:12
Total/NA	Analysis	350.1		1	452095	ZJX4	EET CF	04/18/25 20:48
Total/NA	Analysis	I-3765-85		1	451362	HE7K	EET CF	04/11/25 10:38
Total/NA	Analysis	SM 5220D		5	451443	HE7K	EET CF	04/13/25 16:42

Client Sample ID: MW-13

Date Collected: 04/09/25 11:56

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-14

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451324	J5BR	EET CF	04/11/25 09:04
Total/NA	Analysis	OA-2		1	451584	C3AA	EET CF	04/15/25 21:27
Total/NA	Analysis	9056A		5	452107	WZC8	EET CF	04/16/25 17:34
Total/NA	Prep	3005A			451589	QTZ5	EET CF	04/15/25 09:15
Total/NA	Analysis	6020B		1	451983	NFT2	EET CF	04/17/25 16:55
Total/NA	Prep	350.1			451982	RLT9	EET CF	04/18/25 08:12
Total/NA	Analysis	350.1		1	452095	ZJX4	EET CF	04/18/25 20:43
Total/NA	Analysis	I-3765-85		1	451356	HE7K	EET CF	04/11/25 10:11
Total/NA	Analysis	SM 5220D		5	451443	HE7K	EET CF	04/13/25 16:42

Client Sample ID: MW-15R

Date Collected: 04/09/25 14:49

Date Received: 04/10/25 16:20

Lab Sample ID: 310-303976-15

Matrix: Groundwater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451324	J5BR	EET CF	04/11/25 09:04
Total/NA	Analysis	OA-2		1	451584	C3AA	EET CF	04/15/25 21:42
Total/NA	Analysis	9056A		5	452107	WZC8	EET CF	04/16/25 17:47
Total/NA	Prep	3005A			451589	QTZ5	EET CF	04/15/25 09:15
Total/NA	Analysis	6020B		1	451983	NFT2	EET CF	04/17/25 17:05
Total/NA	Prep	350.1			451982	RLT9	EET CF	04/18/25 08:12
Total/NA	Analysis	350.1		1	452095	ZJX4	EET CF	04/18/25 20:50
Total/NA	Analysis	I-3765-85		1	451362	HE7K	EET CF	04/11/25 10:38
Total/NA	Analysis	SM 5220D		5	451443	HE7K	EET CF	04/13/25 16:42

Laboratory References:

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

Eurofins Cedar Falls

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Laboratory: Eurofins Cedar Falls

The accreditations/certifications listed below are applicable to this report.

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

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

Method Summary

Client: SCS Engineers
Project/Site: Council Bluffs ASR Monofill Sampling 2025

Job ID: 310-303976-1
SDG: Council Bluffs ASR Monofill

Method	Method Description	Protocol	Laboratory
OA-2	Iowa - Extractable Petroleum Hydrocarbons (GC)	Iowa DNR	EET CF
9056A	Anions, Ion Chromatography	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
350.1	Nitrogen, Ammonia	EPA	EET CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
SM 5220D	COD	SM	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
350.1	Distillation, Ammonia	EPA	EET CF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET CF

Protocol References:

EPA = US Environmental Protection Agency

Iowa DNR = Iowa Department of Natural Resources

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

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

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

Laboratory References:

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



Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS</u>			
City/State:	<u>West Des Moines</u>	STATE: <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE: <u>4/10/25</u>	TIME: <u>1620</u>	Received By: <u>SR</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>3</u>			
Cooler Custody Seals Present? ☐ Yes ☐ No If yes: Cooler custody seals intact? ☐ Yes ☐ No			
Sample Custody Seals Present? ☐ Yes ☒ No If yes: Sample custody seals intact? ☐ Yes ☐ No			
Trip Blank Present? ☐ Yes ☒ No If yes. Which VOA samples are in cooler? ↓			
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C) <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C) <u>3.1</u>		Corrected Temp (°C): <u>3.1</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			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Scs</u>			
City/State:	<u>West Des Moines</u>	<u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>4/10/25</u>	TIME <u>1620</u>	Received By: <u>JA</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>3</u>			
Cooler Custody Seals Present? ☐ Yes ☒ No If yes: Cooler custody seals intact? ☐ Yes ☐ No			
Sample Custody Seals Present? ☐ Yes ☒ No If yes: Sample custody seals intact? ☐ Yes ☐ No			
Trip Blank Present? ☐ Yes ☒ No If yes: Which VOA samples are in cooler? ↓			
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>2.0</u>		Corrected Temp (°C): <u>2.0</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:	<u>West Des Moines</u>	<u>IA</u>	Project:
Receipt Information			
Date/Time Received:	<u>10/10/25</u>	<u>1620</u>	Received By: <u>[Signature]</u>
Delivery Type. ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler? ☒ Yes ☐ No If yes: Cooler ID: _____			
Multiple Coolers? ☒ Yes ☐ No If yes: Cooler # <u>3</u> of <u>3</u>			
Cooler Custody Seals Present? ☐ Yes ☐ No If yes: Cooler custody seals intact? ☐ Yes ☐ No			
Sample Custody Seals Present? ☐ Yes ☐ No If yes: Sample custody seals intact? ☐ Yes ☐ No			
Trip Blank Present? ☐ Yes ☐ No If yes: Which VOA samples are in cooler? ↓			
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>5.4</u>		Corrected Temp (°C): <u>5.4</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			

Eurofins Cedar Falls

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

Chain of Custody Record

Eurofins

2

Client Information		Sampler: Konner Roth		Lab PM: Miller, Samuel		Carrier Tracking No(s):		COC No: 310-104420-27804.1	
Client Contact: Kevn Jensen		Phone:		E-Mail: Samuel.Miller@eurofins.com		State of Origin:		Page 1 of 2	
Company: SCS Engineers		PWSID:		Analysis Requested		Job #:		Preservation Codes: D - HNO3 N - None S - H2SO4	
Address: 1690 All State Court Suite 100		Due Date Requested:		TAT Requested (days):		Compliance Project: ☐ Yes ☒ No		Other:	
City: West Des Moines		PO #: 515-368-3155(Tel)		Purchase Order not required		WO #:		Total Number of Containers	
State Zip: IA, 50265		Email: kjensen@scsengineers.com		Project #: 31002934		SSOW#:		Special Instructions/Note:	
Site: Iowa		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (Water, Solid, On-water/oil, B-Tissue, A-Air)	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (Water, Solid, On-water/oil, B-Tissue, A-Air)	
MW-1		4-9-25		11:09		G		Water	
EPA-1AR		4-9-25		12:41		G		Water	
MW-8		4-9-25		14:05		G		Water	
MW-9		4-9-25		14:08		G		Water	
MW-11		4-9-25		0948		G		Water	
MW-D		4-9-25		11:09		G		Water	
MW-2		4-9-25		1050		G		Water	
EPA-2A		4-9-25		12:43		G		Water	
MW-3		4-9-25		0927		G		Water	
MW-10		4-9-25		13:31		G		Water	
MW-4		4-9-25		13:31		G		Water	
Possible Hazard Identification		☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		Date:		Time:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months	
Deliverable Requested I, II, III, IV, Other (specify)		Empty Kit Relinquished by		Date:		Time:		Special Instructions/QC Requirements:	
Relinquished by Konner Roth		Company: SCS		Date/Time: 4-10-25 / 14:00		Received by: TH		Date/Time: 4-10-25 14:00	
Relinquished by		Company:		Date/Time:		Received by:		Date/Time:	
Relinquished by		Company:		Date/Time:		Received by:		Date/Time:	
Custody Seals Intact: ☐ Yes ☒ No		Custody Seal No		Cooler Temperature(s) °C and Other Remarks:		Cooler Temperature(s) °C and Other Remarks:		Cooler Temperature(s) °C and Other Remarks:	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-303976-1
SDG Number: Council Bluffs ASR Monofill

Login Number: 303976

List Number: 1

Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Requested analyses are not listed on COC used sites and events
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 B2

Data Validation

Completed by: Semir Omerovic
 Lab Report Date: 4/21/2025
 Site Name: Council Bluffs-Alter ASR Monofill
 Lab Report Number: 310-303976-1

OK NO N/A NOTES

Sample Collection and Sample Handling

Chain of Custody
 Temperature
 Preservation
 Condition
 Reporting Limits
 Case Narrative
 Holding Times

X			
X			
X			
X			
X			
X			
X			

Analytical Sensitivity and Blanks

Method Blank Detections
 Trip Blank Detections

X			
		X	

Accuracy

ICV/CCV
 LCS/LCSD

X			
X			

MS/MSD

	X		Method OA2: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batches 310-451304 and 310-451324. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for these batches. MS/MSD results were outside control limits for iron associated with analytical batch 451983.
		X	

Surrogates (organics only)

Precision

QA/QC Sample RPDs

X			
X			The duplicate sample was collected from MW-1 during the 2025 sampling event. All parameters had <50% relative difference. Constituents with j flag concentrations were not considered for the duplicate sample comparisons.

Field Duplicates



Appendix C

Summary of Groundwater Chemistry

SCS ENGINEERS

Summary of Groundwater Chemistry

Alter Trading Corporation Waste Monofill Site (Closed) - 78-SDP-19-98C

	Sample Date	MW-4 UPG	MW-5 UPG	EPA-1AR DNG	EPA-2A DNG	MW-1 DNG	MW-2 DNG	MW-3 DNG	MW-4BG DNG	MW-5BG DNG	MW-8 DNG	MW-9 DNG	MW-10 DNG	MW-11 DNG	MW-12 DNG	MW-13 DNG	MW-14R DNG	MW-15R DNG
Total Metals Constituents																		
Arsenic, mg/L (CAS NO - 7440-38-2)	4/19/2012	< 0.004	0.0061	N/A	N/A	N/A	0.159	N/A	< 0.004	0.0061	N/A	N/A	0.0077	N/A	N/A	0.0484	0.0719	0.0965
	9/12/2012	N/A	N/A	N/A	0.0284	N/A	0.383	0.177	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/19/2013	N/A	N/A	N/A	0.0211	N/A	0.178	N/A	N/A	N/A	N/A	N/A	0.00879	N/A	N/A	0.0159	0.0258	0.0292
	9/18/2013	N/A	N/A	N/A	0.0206	N/A	0.194	0.153	N/A	N/A	N/A	N/A	0.00775	N/A	N/A	0.0078	0.024	0.0385
	3/18/2014	N/A	N/A	N/A	0.0246	N/A	0.139	0.261	N/A	N/A	N/A	N/A	0.00703	N/A	N/A	0.00691	0.0177	0.0205
	9/9/2014	< 0.001	0.00275	N/A	0.0159	N/A	0.215	0.155	< 0.001	0.00275	N/A	N/A	< 0.001	N/A	N/A	0.0101	N/A	N/A
	3/16/2015	0.00136	0.00396	N/A	0.012	N/A	0.162	0.154	0.00136	0.00396	N/A	N/A	0.00773	N/A	N/A	0.00898	0.0168	0.027
	9/1/2015	0.00159	0.00442	N/A	0.0111	N/A	0.171	0.218	0.00159	0.00442	N/A	N/A	0.00875	N/A	N/A	0.0121	0.017	0.0348
	4/14/2016	0.00201	0.00689	N/A	0.0103	N/A	0.149	0.207	0.00201	0.00689	N/A	N/A	0.00889	N/A	N/A	0.0216	0.0191	0.0401
	9/1/2016	0.00084*	0.00344	N/A	0.0104	N/A	0.152	0.155	0.00084*	0.00344	N/A	N/A	0.00743	N/A	N/A	0.00954	0.0206	0.0415
	3/7/2017	0.00127*	0.00155*	N/A	0.0117	N/A	0.142	0.162	0.00127*	0.00155*	N/A	N/A	0.00837	N/A	N/A	0.00384	0.0182	0.119
	4/3/2018	0.000836*	0.00123*	N/A	0.00502	N/A	0.19	0.136	0.000836*	0.00123*	N/A	N/A	0.0096	N/A	N/A	0.0028	0.00977	0.0168
	6/20/2019	0.0015*	0.0012*	N/A	0.00185*	N/A	0.188	0.172	0.0015*	0.0012*	N/A	N/A	N/A	N/A	N/A	0.00675	N/A	N/A
	10/8/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0127	N/A	N/A	N/A	N/A	N/A
	4/1/2020	0.00132*	0.00124*	N/A	0.00195*	N/A	0.159	0.11	0.00132*	0.00124*	N/A	N/A	0.0133	N/A	N/A	0.004	0.00653	0.0194
	6/16/2021	0.000892*	0.000878*	N/A	0.00344	N/A	0.141	0.176	0.000892*	0.000878*	N/A	N/A	0.00942	N/A	N/A	0.00174*	0.019	0.00778
	8/30/2022	0.00134*	0.0013*	N/A	0.00528	N/A	0.168	0.15	N/A	N/A	N/A	N/A	0.00837	N/A	N/A	0.00258	0.0121	0.0115
	6/28/2023	N/A	N/A	N/A	0.00186*	N/A	0.112	0.139	N/A	N/A	N/A	N/A	0.00931	N/A	N/A	0.00856	0.00451	0.00511
	4/17/2024	0.00146*	0.000872*	N/A	0.00198*	N/A	0.2	0.169	N/A	N/A	N/A	N/A	0.000609*	N/A	N/A	0.00175*	0.00365	0.00325
	4/9/2025	0.00176*	0.000647*	N/A	0.00174*	N/A	0.175	N/A	N/A	N/A	N/A	N/A	0.0117	N/A	N/A	0.00712	0.00133*	0.00271
Barium, mg/L (CAS NO - 7440-39-3)	4/19/2012	0.254	0.353	N/A	N/A	N/A	0.845	N/A	0.254	0.353	N/A	N/A	0.226	N/A	N/A	0.665	2.96	2.93
	9/12/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.699	0.618
	3/19/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.765	0.902
	9/18/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.17	0.867
	3/18/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.831	0.864
	9/9/2014	0.275	0.151	N/A	N/A	N/A	N/A	N/A	0.275	0.151	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/16/2015	0.296	0.149	N/A	N/A	N/A	N/A	N/A	0.296	0.149	N/A	N/A	N/A	N/A	N/A	N/A	0.551	0.904
	9/1/2015	0.338	0.154	N/A	N/A	N/A	N/A	N/A	0.338	0.154	N/A	N/A	N/A	N/A	N/A	N/A	0.524	0.598
	4/14/2016	0.357	0.122	N/A	N/A	N/A	N/A	N/A	0.357	0.122	N/A	N/A	N/A	N/A	N/A	N/A	0.565	0.891
	9/1/2016	0.298	0.13	N/A	N/A	N/A	N/A	N/A	0.298	0.13	N/A	N/A	N/A	N/A	N/A	N/A	0.773	0.913
	3/7/2017	0.276	0.0966	N/A	N/A	N/A	N/A	N/A	0.276	0.0966	N/A	N/A	N/A	N/A	N/A	N/A	0.628	1.48
	4/3/2018	0.279	0.0557	N/A	N/A	N/A	N/A	N/A	0.279	0.0557	N/A	N/A	N/A	N/A	N/A	N/A	0.49	0.99
	6/20/2019	0.294	0.0499	N/A	N/A	N/A	N/A	N/A	0.294	0.0499	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/1/2020	0.256	0.0444	N/A	N/A	N/A	N/A	N/A	0.256	0.0444	N/A	N/A	N/A	N/A	N/A	N/A	0.69	0.385
	6/16/2021	0.245	0.0798	N/A	N/A	N/A	N/A	N/A	0.245	0.0798	N/A	N/A	N/A	N/A	N/A	N/A	0.986	0.689
	8/30/2022	0.277	0.0755	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.913	0.741
	6/28/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.703	0.498
	4/17/2024	0.251	0.0593	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.597	0.358
	4/9/2025	0.292	0.0734	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.185	0.35
Lead, mg/L (CAS NO - 7439-92-1)	4/19/2012	< 0.004	0.0059	N/A	N/A	N/A	0.0052	N/A	< 0.004	0.0059	N/A	N/A	< 0.004	N/A	N/A	0.0523	0.203	0.179
	9/12/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.102	0.00563	0.121
	3/19/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.381	< 0.004	0.0325
	9/18/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.125	0.0129	0.136
	3/18/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0237	< 0.004	0.0329
	9/9/2014	< 0.004	< 0.004	N/A	N/A	N/A	N/A	N/A	< 0.004	< 0.004	N/A	N/A	N/A	N/A	N/A	0.78	0.0398	N/A
	3/16/2015	0.00221	0.00672	N/A	N/A	N/A	N/A	N/A	0.00221	0.00672	N/A	N/A	N/A	N/A	N/A	0.116	0.0118	0.0537
	9/1/2015	0.00158	0.00834	N/A	N/A	N/A	N/A	N/A	0.00158	0.00834	N/A	N/A	N/A	N/A	N/A	0.553	0.0304	0.0133
	4/14/2016	0.00202	0.0114	N/A	N/A	N/A	N/A	N/A	0.00202	0.0114	N/A	N/A	N/A	N/A	N/A	1.18	0.0103	0.0241
	9/1/2016	0.000296*	0.00689	N/A	N/A	N/A	N/A	N/A	0.000296*	0.00689	N/A	N/A	N/A	N/A	N/A	0.649	0.013	0.0246
	3/7/2017	< 0.0005	0.000876	N/A	N/A	N/A	N/A	N/A	< 0.0005	0.000876	N/A	N/A	N/A	N/A	N/A	0.0416	0.000829	0.00304
	4/3/2018	< 0.0005	< 0.0005	N/A	N/A	N/A	N/A	N/A	< 0.0005	< 0.0005	N/A	N/A	N/A	N/A	N/A	0.00294	0.000297*	< 0.0005
	6/20/2019	0.000433*	< 0.0005	N/A	N/A	N/A	N/A	N/A	0.000433*	< 0.0005	N/A	N/A	N/A	N/A	N/A	0.00527	0.000346*	N/A
	4/1/2020	< 0.0005	< 0.0005	N/A	N/A	N/A	N/A	N/A	< 0.0005	< 0.0005	N/A	N/A	N/A	N/A	N/A	0.00389	< 0.0005	0.00219
	6/16/2021	< 0.0005	0.000219*	N/A	N/A	N/A	N/A	N/A	< 0.0005	0.000219*	N/A	N/A	N/A	N/A	N/A	0.00381	< 0.0005	0.00162
	8/30/2022	0.000333*	0.000524	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00174	0.000269*	0.00119
	6/28/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00304	0.00169	< 0.0005
	4/17/2024	0.000315*	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000925	< 0.0005	< 0.0005
	4/9/2025	< 0.0005	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00274	< 0.0005	0.000757

SCS ENGINEERS

Summary of Groundwater Chemistry

Alter Trading Corporation Waste Monofill Site (Closed) - 78-SDP-19-8C

Total Metals Constituents	Sample Date	MW-4 UPG	MW-5 UPG	EPA-1AR DNG	EPA-2A DNG	MW-1 DNG	MW-2 DNG	MW-3 DNG	MW-4BG DNG	MW-5BG DNG	MW-8 DNG	MW-9 DNG	MW-10 DNG	MW-11 DNG	MW-12 DNG	MW-13 DNG	MW-14R DNG	MW-15R DNG	
Nickel, mg/L (CAS NO - 7440-02-0)	4/19/2012	< 0.05	< 0.05	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	N/A	N/A	< 0.05	N/A	N/A	< 0.05	0.659	0.134	
	9/12/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.153	0.0126	
	3/19/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0924	< 0.05	
	9/18/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.321	0.0371	
	3/18/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.147	0.0255	
	9/9/2014	0.0127	0.0264	N/A	N/A	N/A	N/A	N/A	0.0127	0.0264	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	3/16/2015	0.00159	0.0221	N/A	N/A	N/A	N/A	N/A	0.00159	0.0221	N/A	N/A	N/A	N/A	N/A	N/A	0.394	0.0245	
	9/1/2015	0.00146	0.0169	N/A	N/A	N/A	N/A	N/A	0.00146	0.0169	N/A	N/A	N/A	N/A	N/A	N/A	0.168	0.0175	
	4/14/2016	0.00185*	0.0283	N/A	N/A	N/A	N/A	N/A	0.00185*	0.0283	N/A	N/A	N/A	N/A	N/A	N/A	0.376	0.0276	
	9/1/2016	< 0.005	0.015	N/A	N/A	N/A	N/A	N/A	< 0.005	0.015	N/A	N/A	N/A	N/A	N/A	N/A	0.114	0.0184	
	3/7/2017	0.00118*	0.00976	N/A	N/A	N/A	N/A	N/A	0.00118*	0.00976	N/A	N/A	N/A	N/A	N/A	N/A	0.539	0.018	
	4/3/2018	0.00131*	0.00538	N/A	N/A	N/A	N/A	N/A	0.00131*	0.00538	N/A	N/A	N/A	N/A	N/A	N/A	0.116	0.0118	
	6/20/2019	0.00448*	0.00734	N/A	N/A	N/A	N/A	N/A	0.00448*	0.00734	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	4/1/2020	< 0.005	0.00199*	N/A	N/A	N/A	N/A	N/A	< 0.005	0.00199*	N/A	N/A	N/A	N/A	N/A	N/A	0.391	0.0084	
	6/16/2021	0.00375*	0.00474*	N/A	N/A	N/A	N/A	N/A	0.00375*	0.00474*	N/A	N/A	N/A	N/A	N/A	N/A	0.244	0.0104	
	8/30/2022	0.00323*	0.00517	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.172	0.00748	
	6/28/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.109	0.0068	
	4/17/2024	0.00307*	0.00388*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0684	0.00396*	
	4/9/2025	0.00246*	0.00354*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.101	0.00344*	
	Zinc, mg/L (CAS NO - 7440-66-6)	4/19/2012	< 0.02	0.0306	N/A	N/A	N/A	< 0.02	N/A	< 0.02	0.0306	N/A	N/A	< 0.02	N/A	N/A	0.112	10.5	0.677
		9/12/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.93	N/A
		3/19/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.86	N/A
		9/18/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.36	N/A
		3/18/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.2	N/A
		9/9/2014	< 0.02	0.0208	N/A	N/A	N/A	N/A	N/A	< 0.02	0.0208	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		3/16/2015	0.00941	0.0402	N/A	N/A	N/A	N/A	N/A	0.00941	0.0402	N/A	N/A	N/A	N/A	N/A	N/A	6.71	N/A
9/1/2015		< 0.01	0.0245	N/A	N/A	N/A	N/A	N/A	< 0.01	0.0245	N/A	N/A	N/A	N/A	N/A	N/A	2.89	N/A	
4/14/2016		0.00695*	0.0333	N/A	N/A	N/A	N/A	N/A	0.00695*	0.0333	N/A	N/A	N/A	N/A	N/A	N/A	6.35	N/A	
9/1/2016		< 0.01	0.0169	N/A	N/A	N/A	N/A	N/A	< 0.01	0.0169	N/A	N/A	N/A	N/A	N/A	N/A	3.24	N/A	
3/7/2017		< 0.02	< 0.02	N/A	N/A	N/A	N/A	N/A	< 0.02	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	6.44	N/A	
4/3/2018		< 0.02	< 0.02	N/A	N/A	N/A	N/A	N/A	< 0.02	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	1.7	N/A	
6/20/2019		< 0.02	< 0.02	N/A	N/A	N/A	N/A	N/A	< 0.02	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
4/1/2020		< 0.02	< 0.02	N/A	N/A	N/A	N/A	N/A	< 0.02	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	5.68	N/A	
6/16/2021		< 0.02	< 0.02	N/A	N/A	N/A	N/A	N/A	< 0.02	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	3.8	N/A	
8/30/2022		< 0.02	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.54	N/A	
6/28/2023		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.98	N/A	
4/17/2024		< 0.02	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.28	N/A	
4/9/2025		< 0.02	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.43	N/A	
Total Suspended Solids, mg/L (CAS NO - TSS)		3/18/2014	N/A	N/A	N/A	95	N/A	57	224	N/A	N/A	N/A	N/A	24	N/A	237	162	860	1280
		9/9/2014	43.3	636	N/A	107	N/A	73.5	864	43.3	636	N/A	N/A	26.4	N/A	473	714	N/A	N/A
		3/16/2015	109	1420	N/A	72	N/A	59.3	720	109	1420	N/A	N/A	27.3	N/A	305	724	1040	1550
		9/1/2015	63.3	510	N/A	36.3	N/A	70.4	415	63.3	510	N/A	N/A	31.4	N/A	347	549	215	288
		4/14/2016	91.2	943	N/A	29.8	N/A	77.4	597	91.2	943	N/A	N/A	20.5	N/A	828	265	402	803
		9/1/2016	38	327	N/A	32.6	N/A	56	591	38	327	N/A	N/A	13.5	N/A	498	371	590	537
		3/7/2017	26.3	71.4	N/A	17.6	N/A	6.5	54.5	26.3	71.4	N/A	N/A	12.9	N/A	39.5	46.9	82.4	138
	4/3/2018	7.13	1*	N/A	3.87	N/A	18.5	34.6	7.13	1*	N/A	N/A	13.3	N/A	3.38	22.3	29.8	36.8	
	6/20/2019	29.1	1.75*	N/A	1.38*	N/A	45.2	42.9	29.1	1.75*	N/A	N/A	N/A	N/A	3.5	12.8	N/A	N/A	
	10/8/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14.3	N/A	N/A	N/A	N/A	N/A	
	4/1/2020	32.5	7	N/A	< 1.88	N/A	2.5	35	32.5	7	N/A	N/A	N/A	2.33*	N/A	1*	4.13	14	20
	6/16/2021	29.6	3.75	N/A	2.63	N/A	48.7	48.1	29.6	3.75	N/A	N/A	N/A	6.38	N/A	3	4.25	41.7	13.5
	8/30/2022	36.5	91.6	N/A	2.63	N/A	48	43	N/A	N/A	N/A	N/A	45.4	N/A	19	14.9	32	28	
	6/28/2023	N/A	N/A	N/A	< 5	N/A	41	42	N/A	N/A	N/A	N/A	24.3	N/A	1.5*	213	15	6	
	4/17/2024	27	2.25	N/A	3.63	N/A	52	51	N/A	N/A	N/A	N/A	6.25	N/A	< 1.88	75.7	8.5	71	
	4/9/2025	37.5	< 1.88	N/A	1.63*	N/A	12	N/A	N/A	N/A	N/A	N/A	N/A	12.4	N/A	1.88	10.4	2.63	3.13

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

Alter Trading Corporation Waste Monofill Site (Closed) - 78-SDP-19-98C

Other Constituents	Sample Date	MW-4 UPG	MW-5 UPG	EPA-1AR DNG	EPA-2A DNG	MW-1 DNG	MW-2 DNG	MW-3 DNG	MW-4BG DNG	MW-5BG DNG	MW-8 DNG	MW-9 DNG	MW-10 DNG	MW-11 DNG	MW-12 DNG	MW-13 DNG	MW-14R DNG	MW-15R DNG
Ammonia as N, mg/L (CAS NO - 7664-41-7)	1/18/1991	N/A	N/A	N/A	0.5	1.5	20	1.3	N/A	N/A	0.5	< 0.2	N/A	N/A	N/A	N/A	N/A	N/A
	5/23/1991	N/A	N/A	0.5	0.94	1.1	84	1.6	N/A	N/A	1.4	0.5	N/A	N/A	N/A	N/A	N/A	N/A
	9/27/1991	N/A	N/A	0.5	N/A	1.2	1.9	2.3	N/A	N/A	0.5	0.5	N/A	N/A	N/A	N/A	N/A	N/A
	12/19/1991	N/A	N/A	0.5	0.8	1.2	110	1.8	N/A	N/A	1.3	0.5	1	0.5	N/A	N/A	N/A	N/A
	10/14/1992	N/A	N/A	< 0.2	0.5	1.2	110	2.2	N/A	N/A	1.2	< 0.2	1.1	< 0.2	N/A	N/A	N/A	N/A
	1/15/1993	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.98	< 0.2	N/A	N/A	N/A	N/A
	4/27/1993	N/A	N/A	< 0.2	0.68	1.1	120	13	N/A	N/A	1.1	0.54	1.7	0.41	N/A	N/A	N/A	N/A
	10/20/1993	N/A	N/A	< 0.2	0.74	1.5	94	1.8	N/A	N/A	1.2	< 0.2	1.4	< 0.2	N/A	N/A	N/A	N/A
	4/12/1994	N/A	N/A	< 0.2	0.91	< 0.2	130	2	N/A	N/A	0.36	< 0.2	0.75	< 0.2	N/A	N/A	N/A	N/A
	10/21/1994	N/A	N/A	< 0.2	0.72	0.61	140	1.8	N/A	N/A	1.2	< 0.2	0.92	< 0.2	N/A	N/A	N/A	N/A
	5/28/1995	N/A	N/A	< 0.2	0.37	1.1	90	1.4	N/A	N/A	1.2	< 0.2	1.9	< 0.2	N/A	N/A	N/A	N/A
	9/18/1995	N/A	N/A	0.23	0.9	2.2	90	3.3	N/A	N/A	1.8	0.46	1.5	0.43	N/A	N/A	N/A	N/A
	10/22/2002	N/A	N/A	N/A	6.6	< 1	15.6	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	1.1	N/A	N/A
	2/12/2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.42	1.37	N/A	N/A
	3/25/2003	N/A	N/A	N/A	3.97	1.27	20.2	N/A	N/A	N/A	0.34	< 0.2	0.34	< 0.2	< 0.2	1.4	N/A	N/A
	8/19/2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	0.82	N/A	N/A
	12/30/2003	N/A	N/A	N/A	5.28	< 0.2	57.6	1.84	N/A	N/A	0.94	< 0.2	0.49	< 0.2	< 0.2	2.17	N/A	N/A
	3/11/2004	N/A	N/A	< 0.2	0.43	0.53	58.9	N/A	N/A	N/A	< 0.2	1.04	0.39	< 0.2	< 0.2	2.05	N/A	N/A
	3/28/2005	N/A	N/A	< 0.2	4.98	1.1	37.5	1.58	N/A	N/A	0.94	< 0.2	0.58	< 0.2	< 0.2	1.85	N/A	N/A
	6/21/2005	N/A	N/A	< 0.2	10	1.14	16.7	1.32	N/A	N/A	0.88	< 0.2	0.58	< 0.2	N/A	N/A	N/A	N/A
	9/14/2005	N/A	N/A	< 0.2	< 0.2	1.09	1.6	1.57	N/A	N/A	1.03	< 0.2	0.81	< 0.2	< 0.2	2.3	5.94	0.6
	12/12/2005	N/A	N/A	< 0.2	0.713	0.871	61.5	1.57	N/A	N/A	0.834	< 0.2	0.5	< 0.2	< 0.2	2.16	6.84	0.633
	3/13/2006	N/A	N/A	< 0.059	1.49	1.12	53.4	1.72	N/A	N/A	0.0993	0.123	0.691	0.139	0.103	< 0.059	6.66	0.643
	6/27/2006	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.91	1.12
	9/21/2006	N/A	N/A	0.103	4.21	0.117	8.27	1.43	N/A	N/A	0.756	0.0666	0.542	0.168	0.0716	0.279	5.81	1.52
	3/28/2007	0.0412	0.0412	0.0412	0.0737	0.0689	64	0.103	0.0412	0.0412	0.0412	0.0412	0.3	0.0412	0.0412	0.177	1.74	0.394
	6/22/2007	0.131	0.331	N/A	N/A	N/A	N/A	N/A	0.131	0.331	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/13/2007	0.0355	0.114	0.0355	2.62	0.206	92.9	1.36	0.0355	0.114	0.0355	0.0355	0.664	0.0355	0.0355	0.156	2.16	1.16
	12/13/2007	0.246	< 0.021	N/A	N/A	N/A	N/A	N/A	0.246	< 0.021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/26/2008	< 0.037	< 0.037	0.0582	2.34	0.122	78.5	2.29	< 0.037	< 0.037	< 0.037	0.0485	< 0.037	< 0.037	< 0.037	< 0.037	0.282	0.148
	9/16/2008	< 0.2	< 0.2	< 0.2	4.96	0.515	96.1	1.16	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.241	1.69
	3/10/2009	< 0.037	< 0.037	< 0.037	0.0632	< 0.037	155	1.38	< 0.037	< 0.037	< 0.037	< 0.037	< 0.037	< 0.037	< 0.037	< 0.037	0.561	0.35
	9/10/2009	< 0.037	0.167	< 0.037	1.12	1.15	22.2	1.26	< 0.037	0.167	0.919	< 0.037	0.649	< 0.037	< 0.037	< 0.037	1.9	1.36
	3/25/2010	1.1	< 0.016	< 0.016	0.913	0.891	35.3	1.49	1.1	< 0.016	0.293	< 0.016	0.634	< 0.016	< 0.016	< 0.016	0.581	0.497
	9/29/2010	0.446	< 0.016	N/A	0.0772	7.62	13.6	1.07	0.446	< 0.016	0.814	< 0.016	0.0865	< 0.016	< 0.016	< 0.016	0.18	0.0471
	3/22/2011	< 0.016	< 0.016	< 0.016	< 0.016	1.2	23.2	1.52	< 0.016	< 0.016	0.223	< 0.016	0.602	< 0.016	< 0.016	< 0.016	0.793	0.0986
	9/27/2011	0.0343	< 0.016	< 0.016	0.0285	1.56	7.75	0.55	0.0343	< 0.016	0.417	< 0.016	0.134	< 0.016	0.0596	N/A	N/A	N/A
	4/19/2012	< 1	< 1	< 1	< 1	12.6	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	9/12/2012	0.216	0.127	< 0.0219	0.0257	0.545	76.8	1.32	0.216	0.127	0.137	< 0.0219	0.478	< 0.0219	< 0.0219	< 0.0219	5.2	0.86
	3/19/2013	1.06	< 0.2	< 0.2	0.72	1.13	30.5	N/A	1.06	< 0.2	0.735	< 0.2	0.606	< 0.2	< 0.2	< 0.2	3.2	0.519
	9/18/2013	0.128	0.072	< 0.2	0.105	0.203	29.1	1.1	0.128	0.072	0.472	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	5.17	0.815
	3/18/2014	< 0.2	< 0.2	< 0.2	< 0.2	0.598	61.4	0.951	< 0.2	< 0.2	0.185	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	2.35	0.321
	9/9/2014	0.902	0.19	< 0.2	< 0.2	1.17	1.76	0.979	0.902	0.19	0.772	< 0.2	0.623	< 0.2	< 0.2	< 0.2	N/A	N/A
	3/16/2015	1.09	< 0.2	< 0.2	< 0.2	1.13	22.6	0.991	1.09	< 0.2	0.842	< 0.2	0.593	< 0.2	< 0.2	< 0.2	1.11	0.163
	9/1/2015	1.12	< 0.2	< 0.2	0.159	1.22	11.1	0.952	1.12	< 0.2	0.768	< 0.2	0.601	< 0.2	< 0.2	< 0.2	3.5	0.747
	4/14/2016	1.12	< 0.2	< 0.2	0.147*	1.15	20.5	0.855	1.12	< 0.2	0.777	< 0.2	0.469	< 0.2	< 0.2	< 0.2	2.06	< 0.2
	9/1/2016	1.24	< 0.2	1.36	1.22	1.23	15.6	1.07	1.24	< 0.2	0.783	< 0.2	0.611	< 0.2	< 0.2	< 0.2	6.94	0.136*
	3/7/2017	1.21	< 0.2	< 0.2	0.166*	1.18	23.6	1.23	1.21	< 0.2	0.742	< 0.2	0.616	< 0.2	< 0.2	< 0.2	1.43	0.0989*
	4/3/2018	0.626	< 0.2	< 0.2	0.682	1.11	24	1.13	0.626	< 0.2	0.622	< 0.2	0.573	< 0.2	< 0.2	< 0.2	1.45	0.0957*
	6/20/2019	1.12	< 0.2	< 0.2	0.644	1.16	3.5	1.19	1.12	< 0.2	< 0.2	< 0.2	N/A	N/A	< 0.2	< 0.2	N/A	N/A
	10/8/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.477	< 0.2	N/A	N/A	N/A	N/A
	4/1/2020	1.18	< 0.2	< 0.2	< 0.2	0.8	27.2	0.864	1.18	< 0.2	0.418	< 0.2	0.507	< 0.2	< 0.2	< 0.2	2.54	0.0795*
	4/1/2020	1.16	N/A	N/A	N/A	N/A	N/A	N/A	1.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/16/2021	1.15	< 0.2	< 0.2	0.703	0.711	10.8	0.76	1.15	< 0.2	0.523	< 0.2	0.521	< 0.2	< 0.2	< 0.2	3.68	0.133*
	6/16/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/30/2022	1.22	< 0.2	< 0.2	0.191*	0.816	6.08	1.22	N/A	N/A	0.377	< 0.2	0.563	< 0.2	< 0.2	< 0.2	4.97	0.11*
	8/30/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A	N/A	N/A
	6/28/2023	N/A	N/A	< 0.2	0.257	1.27	7.21	1.3	N/A	N/A	0.537	< 0.2	0.666	< 0.2	< 0.2	< 0.2	3.66	< 0.2
	6/28/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A
	4/17/2024	0.779	< 0.5	< 0.5	< 0.5	1.2	1.19	1.09	N/A	N/A	0.501	< 0.5	< 0.5	0.577	< 0.5	< 0.5	1.99	< 0.5
	4/17/2024	N/A	N/A	N/A	N/A	1.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/9/2025	0.827	< 0.5	< 0.5	< 0.5	1.27	26.5	N/A	N/A	N/A	0.441*	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	4/9/2025	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry

Alter Trading Corporation Waste Monofill Site (Closed) - 78-SDP-19-98C

Other Constituents	Sample Date	MW-4 UPG	MW-5 UPG	EPA-1AR DNG	EPA-2A DNG	MW-1 DNG	MW-2 DNG	MW-3 DNG	MW-4BG DNG	MW-5BG DNG	MW-8 DNG	MW-9 DNG	MW-10 DNG	MW-11 DNG	MW-12 DNG	MW-13 DNG	MW-14R DNG	MW-15R DNG
Chemical Oxygen Demand, mg/L (CAS NO - COD)	1/18/1991	N/A	N/A	N/A	120	34	420	47	N/A	N/A	68	120	N/A	N/A	N/A	N/A	N/A	N/A
	5/23/1991	N/A	N/A	21	130	21	640	44	N/A	N/A	84	120	N/A	N/A	N/A	N/A	N/A	N/A
	9/27/1991	N/A	N/A	16	N/A	22	550	16	N/A	N/A	85	76	N/A	N/A	N/A	N/A	N/A	N/A
	12/19/1991	N/A	N/A	20	170	18	480	8	N/A	N/A	75	68	30	170	N/A	N/A	N/A	N/A
	10/14/1992	N/A	N/A	22	270	16	520	70	N/A	N/A	87	57	38	53	N/A	N/A	N/A	N/A
	1/15/1993	N/A	N/A	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	38	35	N/A	N/A	N/A	N/A
	4/27/1993	N/A	N/A	21	250	11	680	70	N/A	N/A	59	< 5	19	27	N/A	N/A	N/A	N/A
	10/20/1993	N/A	N/A	11	350	24	550	42	N/A	N/A	87	24	26	45	N/A	N/A	N/A	N/A
	4/12/1994	N/A	N/A	18	240	26	910	54	N/A	N/A	58	28	40	53	N/A	N/A	N/A	N/A
	10/21/1994	N/A	N/A	22	450	23	1800	38	N/A	N/A	92	27	46	47	N/A	N/A	N/A	N/A
	5/28/1995	N/A	N/A	13	470	31	170	61	N/A	N/A	96	24	82	50	N/A	N/A	N/A	N/A
	9/18/1995	N/A	N/A	6.7	270	27	460	61	N/A	N/A	71	14	73	26	N/A	N/A	N/A	N/A
	10/22/2002	N/A	N/A	N/A	127	30	54	N/A	N/A	N/A	145	< 10	44	26	14	48	N/A	N/A
	2/12/2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13	53	N/A	N/A
	3/25/2003	N/A	N/A	N/A	78	32	140	N/A	N/A	N/A	140	7.2	33	15	15	52	N/A	N/A
	8/19/2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	16	28	N/A	N/A
	12/30/2003	N/A	N/A	N/A	81	25	100	38	N/A	N/A	200	11	43	24	17	60	N/A	N/A
	3/11/2004	N/A	N/A	11	8.7	22	97	N/A	N/A	N/A	< 5	170	33	22	8.1	65	N/A	N/A
	3/28/2005	N/A	N/A	10	39	24	41	65	N/A	N/A	160	15	45	28	13	44	N/A	N/A
	6/21/2005	N/A	N/A	10	79	26	52	76	N/A	N/A	160	11	56	29	N/A	N/A	N/A	N/A
	9/14/2005	N/A	N/A	5.9	9.7	28	30	63	N/A	N/A	160	5.2	50	19	12	42	63	45
	12/12/2005	N/A	N/A	12.6	12.2	31	78.7	38.2	N/A	N/A	152	15	42.4	21.2	21.5	46	68.1	33.3
	3/13/2006	N/A	N/A	8.2	21.4	34.4	59	35.8	N/A	N/A	147	13.7	43.5	23.2	24.8	31.6	65.7	43.2
	6/27/2006	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	66.3	62.1
	9/21/2006	N/A	N/A	12.7	38.8	26.5	56.4	29.5	N/A	N/A	109	10.1	55.2	24	19.5	18.1	18.9	55.6
	3/28/2007	17.3	28	15.9	14.8	30.1	51.4	38	17.3	28	88.3	15.1	57.1	26.2	20.3	39.6	13.6	55.6
	6/22/2007	27.9	25.3	N/A	N/A	N/A	N/A	N/A	27.9	25.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/13/2007	14.5	20.7	11	11.7	23.5	44.7	45.1	14.5	20.7	89.9	10.9	49.1	19.1	14.2	27.1	38.8	42.7
	12/13/2007	17.8	25.6	N/A	N/A	N/A	N/A	N/A	17.8	25.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/26/2008	17.6	9.5	10.4	< 1.2	5.9	45.2	52.2	17.6	9.5	78	12.3	24.7	24.9	< 1.2	< 1.2	23.2	< 1.2
	9/16/2008	15.5	23.4	20	13	30.2	44.2	66.2	15.5	23.4	79.4	11.9	33.4	18	8.4	26	22.8	33.7
	3/10/2009	18.3	26	5.9	3.3	24.2	52.6	47.9	18.3	26	72.8	13	30	15.5	14.8	39.3	16.2	15.8
	9/10/2009	2.4	12.8	< 2.4	147	31.2	40.8	47.1	2.4	12.8	173	5.1	30.5	< 2.4	6.4	252	< 2.4	< 2.4
	3/25/2010	14.6	14.3	14.6	< 25	24.2	35.1	32.7	14.6	14.3	117	7.8	29.3	15.7	11.2	12.2	15.7	18.4
	9/29/2010	11.1	26.7	N/A	7.8	34.5	44.8	44.4	11.1	26.7	126	19.6	33.4	49.9	< 2.13	19.9	24.9	32.7
	3/22/2011	6.1	17.3	4.7	3.4	21.9	32.8	37.4	6.1	17.3	93.9	12	11.7	< 2.13	6.1	28.5	27.8	23.2
	9/27/2011	10.8	14.1	2.3	< 2.13	25.3	31	22.2	10.8	14.1	95.2	11.8	23.6	10.8	14.8	N/A	N/A	N/A
	4/19/2012	47	52	33	25	41	60	65	47	52	105	45	39	20	48	95	358	58
	9/12/2012	4.5	7.5	< 3.25	< 3.25	20.8	102	16.6	4.5	7.5	65.1	< 3.25	22.5	< 3.25	< 3.25	36.8	44.6	16.6
	3/19/2013	15.9	25.4	< 5	5	18.1	58.3	N/A	15.9	25.4	122	11.7	27.3	13.3	10.4	40.1	35.6	19.1
	9/18/2013	18.7	16	5.8	< 5	21.6	84.2	24.6	18.7	16	116	< 5	17.7	< 5	20.3	23.6	60.5	69
	3/18/2014	19.4	21.4	9.3	6.4	19.4	193	24.6	19.4	21.4	105	15.5	23	16.5	15.5	17.8	33.1	20.3
	9/9/2014	12.6	34.6	65.9	4.3	31.6	44.2	80.2	12.6	34.6	127	17.9	24.6	11.9	45.6	42.9	N/A	N/A
	3/16/2015	18.9	17.5	5.63	6.65	45.8	107	43.4	18.9	17.5	172	16.9	31.2	9.38	10.1	16.2	23.3	17.5
	9/1/2015	19.1	16	8.7	< 5	23.1	< 5	38.8	19.1	16	124	23.1	29.7	6.31	< 5	9.04	25.5	17.6
	4/14/2016	14.6	39.4	17.8	10.4	38.1	61.7	25.3	14.6	39.4	144	12.3	31.3	2.82*	12.9	18.8	35.7	22.9
	9/1/2016	17.6	21.7	14.1	< 5	39.8	67.6	51.1	17.6	21.7	114	17.2*	24.8	9.49	15.3	14.7	49.9	11.9
	3/7/2017	7.03	17.3	< 5	< 5	14.3	95.1	22.9	7.03	17.3	108	10	15.9	< 5	< 5	9.01	26.2	28.8
	4/3/2018	14	16.9	5.96	10.1	21.7	86.2	32.3	14	16.9	128	70.8	22	9.81	10.1	11.7	32.6	24.9
	6/20/2019	25.2	19.9	13.2	14.6	24.9	45.1	29.5	25.2	19.9	116	97.9	N/A	N/A	15.3	15	N/A	N/A
	10/8/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/1/2020	17.6	13.4	< 5	< 5	15	105	25.6	17.6	13.4	76.6	107	17.9	< 5	16.3	28.5	22.7	20.4
	4/1/2020	16.3	N/A	N/A	N/A	N/A	N/A	N/A	16.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/16/2021	27.2	31.1	21.9	9.23	25.6	60.9	46.6	27.2	31.1	94.8	74.9	20.4	6.04	12.9	13.9	48.7	29.6
	6/16/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	87.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/30/2022	20.7	8.82	5.47	7.9	22.8	56.3	21.3	N/A	N/A	94.3	59.1	21.6	5.47	6.69	10.3	36.2	23.4
	8/30/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	64.5	N/A	N/A	N/A	N/A	N/A	N/A
	6/28/2023	N/A	N/A	6.9	6.9	22.8	69.7	21.4	N/A	N/A	92.5	61.1	23.1	5.86	8.97	10	25.9	21.4
	6/28/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.24	N/A	N/A	N/A	N/A
	4/17/2024	< 25	< 25	< 25	< 25	< 25	50.3	24.1*	N/A	N/A	66.7	48.7	< 25	< 25	< 25	< 25	< 25	< 25
	4/17/2024	N/A	N/A	N/A	N/A	32.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/9/2025	43.1	33.2	26.5	28.2	54.8	128	N/A	N/A	N/A	49.8	96.3	36.5	39.8	31.5	29.9	< 25	43.1
	4/9/2025	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry

Alter Trading Corporation Waste Monofill Site (Closed) - 78-SDP-19-98C

Other Constituents	Sample Date	MW-4 UPG	MW-5 UPG	EPA-1AR DNG	EPA-2A DNG	MW-1 DNG	MW-2 DNG	MW-3 DNG	MW-4BG DNG	MW-5BG DNG	MW-8 DNG	MW-9 DNG	MW-10 DNG	MW-11 DNG	MW-12 DNG	MW-13 DNG	MW-14R DNG	MW-15R DNG
Chloride, mg/L (CAS NO - 16887-00-6)	1/18/1991	N/A	N/A	N/A	300	61	200	51	N/A	N/A	500	310	N/A	N/A	N/A	N/A	N/A	N/A
	5/23/1991	N/A	N/A	30	320	59	220	43	N/A	N/A	510	240	N/A	N/A	N/A	N/A	N/A	N/A
	9/27/1991	N/A	N/A	34	N/A	50	180	51	N/A	N/A	500	170	N/A	N/A	N/A	N/A	N/A	N/A
	12/19/1991	N/A	N/A	29	310	51	190	29	N/A	N/A	550	220	240	28	N/A	N/A	N/A	N/A
	10/14/1992	N/A	N/A	27	350	49	180	110	N/A	N/A	500	170	210	32	N/A	N/A	N/A	N/A
	1/15/1993	N/A	N/A	20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	210	28	N/A	N/A	N/A	N/A
	4/27/1993	N/A	N/A	25	410	48	120	61	N/A	N/A	560	64	110	35	N/A	N/A	N/A	N/A
	10/20/1993	N/A	N/A	19	430	53	120	110	N/A	N/A	480	22	180	34	N/A	N/A	N/A	N/A
	4/12/1994	N/A	N/A	16	450	51	210	150	N/A	N/A	510	14	190	35	N/A	N/A	N/A	N/A
	10/21/1994	N/A	N/A	17	460	57	220	98	N/A	N/A	540	26	180	39	N/A	N/A	N/A	N/A
	5/28/1995	N/A	N/A	29	440	55	60	230	N/A	N/A	550	35	190	30	N/A	N/A	N/A	N/A
	9/18/1995	N/A	N/A	13	430	63	82	160	N/A	N/A	550	28	110	32	N/A	N/A	N/A	N/A
	10/22/2002	N/A	N/A	N/A	50	53	10	N/A	N/A	N/A	240	33	49	18	13	12	N/A	N/A
	2/12/2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.3	13.7	N/A	N/A
	3/25/2003	N/A	N/A	N/A	24.3	58.6	11.8	N/A	N/A	N/A	256	53.4	51.8	18.1	11.4	16.6	N/A	N/A
	8/19/2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.7	10.3	N/A	N/A
	12/30/2003	N/A	N/A	N/A	34	57.2	25.4	107	N/A	N/A	233	101	34.3	19.3	18.3	20.1	N/A	N/A
	3/11/2004	N/A	N/A	26.3	21.8	55.6	23.2	N/A	N/A	N/A	104	220	34.7	12.4	13.4	38.7	N/A	N/A
	3/28/2005	N/A	N/A	11.1	50.9	63.9	10.9	165	N/A	N/A	194	122	42.9	23.3	14	100	N/A	N/A
	6/21/2005	N/A	N/A	11.3	42.3	57.1	10	170	N/A	N/A	182	99.1	36.4	36.5	N/A	N/A	N/A	N/A
	9/14/2005	N/A	N/A	6.1	5.5	60.9	21.4	178	N/A	N/A	193	122	25.9	37.2	19	80.9	36.2	48.6
	12/12/2005	N/A	N/A	6.28	18.2	59.3	21.3	125	N/A	N/A	187	238	31.5	30.4	17.6	67.5	38.3	28.4
	3/13/2006	N/A	N/A	5.72	27.3	54.8	17.1	93.1	N/A	N/A	182	97.9	37.3	27.5	28.5	20	36.3	32.5
	6/27/2006	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	34.1	40.7
	9/21/2006	N/A	N/A	7.62	42.7	52.6	10.7	88.1	N/A	N/A	126	111	26.9	30.1	19.4	16.4	10.7	53
	3/28/2007	204	518	7.16	14.6	54.7	8.59	89.4	204	518	123	302	25.5	29.3	6.41	40	7.14	24.7
	6/22/2007	307	199	N/A	N/A	N/A	N/A	N/A	307	199	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/13/2007	200	393	9.24	25.7	56	9.49	126	200	393	125	198	28.1	15.7	11.7	13.6	11.5	37
	12/13/2007	200	384	N/A	N/A	N/A	N/A	N/A	200	384	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/26/2008	196	349	8.62	12.3	55	8.77	97	196	349	126	114	28.1	23.5	6.82	31.4	6.3	10.1
	9/16/2008	232	334	13.8	< 5	49.1	7.83	116	232	334	121	107	28.7	15.7	5.67	12	12.7	30.8
	3/10/2009	249	265	3.38	9.91	55.5	13.8	71.4	249	265	127	145	32	12.6	13.2	23.8	10.4	10.8
	9/10/2009	220	316	9.57	12.5	73.5	9.79	122	220	316	160	140	34.9	18.4	12	15.4	12.1	26.9
	3/25/2010	176	251	17.4	9.5	55.5	8.95	43.3	176	251	162	164	31.6	41.3	9.57	9.83	10.3	12.8
	9/29/2010	178	298	N/A	3.91	52.2	9.1	46.3	178	298	161	118	27.5	22.4	15.9	13.8	44.1	44.7
	3/22/2011	146	300	5.56	6.73	52.9	7.88	25.6	146	300	148	131	712	28.9	8.04	16.8	49.8	74.7
	9/27/2011	155	232	4.09	3.53	55	7.32	26.3	155	232	143	144	42.6	22.2	14	N/A	N/A	N/A
	4/19/2012	150	239	< 10	< 10	52	12	32	150	239	138	150	34	28	16	32	58	54
	9/12/2012	166	294	4.85	3.82	53.1	27.7	24.7	166	294	131	175	34.7	12.3	10.5	30.3	43.2	53.9
	3/19/2013	150	259	5.16	5.77	54.5	12.8	N/A	150	259	131	161	40.5	20.4	6.32	30.2	50.7	64.9
	9/18/2013	152	275	22.6	4.93	63.3	23.6	27.5	152	275	134	162	47.4	18.2	17.2	12.8	84.9	49.9
	3/18/2014	155	242	7.94	12.7	57.9	35.1	24.5	155	242	142	156	41.9	15.9	21.6	11.8	52.7	47.5
	9/9/2014	162	193	27	11.3	74.3	11.1	36.2	162	193	124	141	34.3	14	17.8	6	N/A	N/A
	3/16/2015	181	169	7.76	3.01	84.7	25.8	33.9	181	169	136	125	37	9.88	12.9	5.54	39.8	12.2
	9/1/2015	169	205	7.54	9.65	67	11.3	34.9	169	205	110	164	38.9	11.1	11.4	7.74	47.5	13.7
	4/14/2016	179	247	10.6	5.78	84.7	16.3	13.2	179	247	127	164	29.8	6.46	15.1	7.2	34.5	19.3
	9/1/2016	198	192	4.92*	7.36	76.9	15.8	21.8	198	192	97.1	233	27.7	7.04	8.7	5.84	36.1	19.2
	3/7/2017	172	167	3.86*	6.55	50.6	22.6	35.7	172	167	93.5	134	29.2	7.47	8.37	4.07*	17.6	17.8
	4/3/2018	179	166	11.1	6.55	55.5	49.8	26.4	179	166	74.6	47.7	29.3	22.2	11.8	13.8	14.5	20.9
	6/20/2019	153	171	39.7	10.9	46.2	11.4	13.3	153	171	55.7	48.6	N/A	N/A	26.6	8.52	N/A	N/A
	10/8/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/1/2020	154	105	8.01	9.7	43.8	22.9	13.5	154	105	38.5	112	17.6	27	20.3	13.1	20.9	34.6
	4/1/2020	151	N/A	N/A	N/A	N/A	N/A	N/A	151	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/16/2021	118	143	33.5	7.62	44.3	11.6	24.5	118	143	36.4	51.5	19.8	26.3	6.71	11.8	36.7	25.1
	6/16/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/30/2022	174	123	8.73	4.76*	42.5	13	13.4	N/A	N/A	29.5	24.8	20.3	58.1	46.3	34.3	31.8	39.3
	8/30/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	25.4	N/A	N/A	N/A	N/A	N/A	N/A
	6/28/2023	N/A	N/A	5.76	10.4	49.2	13.6	13.3	N/A	N/A	30.9	23.7	26.2	41.4	33	22.2	27.9	43.4
	6/28/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	38.3	N/A	N/A	N/A	N/A
	4/17/2024	158	88	6.38	11.3	57.4	16.7	25.3	N/A	N/A	31.4	26.3	45.9	32.5	58.1	25.2	22	41.6
	4/17/2024	N/A	N/A	N/A	N/A	53.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/9/2025	155	92.4	6.6	14.4	62.5	26.1	N/A	N/A	N/A	35.7	32.7	21.9	26.9	23.1	16.2	19.5	32.2
	4/9/2025	N/A	N/A	N/A	N/A	62.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry

Alter Trading Corporation Waste Monofill Site (Closed) - 78-SDP-19-98C

Other Constituents	Sample Date	MW-4 UPG	MW-5 UPG	EPA-1AR DNG	EPA-2A DNG	MW-1 DNG	MW-2 DNG	MW-3 DNG	MW-4BG DNG	MW-5BG DNG	MW-8 DNG	MW-9 DNG	MW-10 DNG	MW-11 DNG	MW-12 DNG	MW-13 DNG	MW-14R DNG	MW-15R DNG
Iron, Total, mg/L (CAS NO - 7439-89-6)	3/7/2017	10.7	1.02	3.86	1.92	11.7	2.54	20	10.7	1.02	3.53	0.326*	4.49	0.576	0.638	1.94	19.1	42
	4/3/2018	3.26	< 0.5	< 0.5	0.53	12.4	5.61	13.7	3.26	< 0.5	3.08	< 0.5	4.78	0.165*	< 0.5	1.86	11.5	14.7
	6/20/2019	12.7	0.145*	< 0.5	< 0.5	13.3	18.8	19.7	12.7	0.145*	3.25	0.53	N/A	N/A	< 0.5	3.66	N/A	N/A
	10/8/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.68	< 0.5	N/A	N/A	N/A	N/A
	4/1/2020	13	0.15	1.67	< 0.5	12.5	2.76	15.6	13	0.15	1.51	0.742	3.4	< 0.5	< 0.5	1.48	4.32	6.67
	4/1/2020	12.9	N/A	N/A	N/A	N/A	N/A	N/A	12.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/16/2021	12.1	0.313*	0.824	0.725	11.3	15.2	25.8	12.1	0.313*	2.42	1.65	3.18	< 0.5	0.321*	0.691	22.2	7.31
	6/16/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/30/2022	13.5	0.248*	1.11	0.375*	10.2	13.8	17.9	N/A	N/A	1.32	0.459*	3.61	< 0.5	< 0.5	0.906	9.58	10.1
	8/30/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.869	N/A	N/A	N/A	N/A	N/A	N/A
	6/28/2023	N/A	N/A	0.147*	< 0.5	15.5	10.9	19	N/A	N/A	1.9	0.258*	4.08	< 0.5	< 0.5	7.18	4.96	3.14
	6/28/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A
	4/17/2024	9.85	< 0.1	0.0526*	< 0.1	12.8	19.5	22.5	N/A	N/A	1.85	3.15	< 0.1	3.4	< 0.1	0.427	1.22	1.4
	4/17/2024	N/A	N/A	N/A	N/A	12.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/9/2025	15.6	< 0.1	< 0.1	< 0.1	9.6	2.96	N/A	N/A	N/A	1.78	1.69	1.32	< 0.1	0.05*	3.63	0.361	0.577
	4/9/2025	N/A	N/A	N/A	N/A	10.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry

Alter Trading Corporation Waste Monofill Site (Closed) - 78-SDP-19-98C

Other Constituents	Sample Date	MW-4 UPG	MW-5 UPG	EPA-1AR DNG	EPA-2A DNG	MW-1 DNG	MW-2 DNG	MW-3 DNG	MW-4BG DNG	MW-5BG DNG	MW-8 DNG	MW-9 DNG	MW-10 DNG	MW-11 DNG	MW-12 DNG	MW-13 DNG	MW-14R DNG	MW-15R DNG
pH, S.U. (CAS NO - PH)	1/18/1991	N/A	N/A	N/A	7.1	7.3	7.8	7.2	N/A	N/A	7.3	7.1	N/A	N/A	N/A	N/A	N/A	N/A
	5/23/1991	N/A	N/A	7.3	7.1	7.5	8.9	7	N/A	N/A	7.3	7.2	N/A	N/A	N/A	N/A	N/A	N/A
	9/27/1991	N/A	N/A	7.5	N/A	7.5	9.1	7.5	N/A	N/A	7.4	7.6	N/A	N/A	N/A	N/A	N/A	N/A
	12/19/1991	N/A	N/A	7.5	N/A	7.5	9.1	7.5	N/A	N/A	7.4	7.6	7.6	7.6	N/A	N/A	N/A	N/A
	10/14/1992	N/A	N/A	8.6	7.6	8.1	8.7	8.3	N/A	N/A	8	8	8.3	7.6	N/A	N/A	N/A	N/A
	1/15/1993	N/A	N/A	7.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.2	7.6	N/A	N/A	N/A	N/A
	4/27/1993	N/A	N/A	7.6	7.5	7.6	8.8	8.1	N/A	N/A	7.5	7.7	8.2	7.6	N/A	N/A	N/A	N/A
	10/20/1993	N/A	N/A	N/A	N/A	8.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/12/1994	N/A	N/A	7.8	7.4	9.6	9.8	7.3	N/A	N/A	7.8	7.8	7.6	7.6	N/A	N/A	N/A	N/A
	10/21/1994	N/A	N/A	7.5	7.1	8.7	9	7.3	N/A	N/A	7.3	7.4	7.6	7.4	N/A	N/A	N/A	N/A
	5/28/1995	N/A	N/A	8.2	7.9	8.7	8.5	7.9	N/A	N/A	7.6	8.3	8.4	7.9	N/A	N/A	N/A	N/A
	9/18/1995	N/A	N/A	7.1	7.2	7.7	8.2	7.7	N/A	N/A	7.5	7.5	7.3	7.5	N/A	N/A	N/A	N/A
	10/22/2002	N/A	N/A	N/A	6.8	7.28	6.93	N/A	N/A	N/A	7.28	7.22	7.61	7.37	7.12	6.63	N/A	N/A
	2/12/2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.65	6.72	N/A	N/A
	3/25/2003	N/A	N/A	N/A	7.32	7.03	7.05	N/A	N/A	N/A	7.56	7.05	7.44	6.88	6.71	6.87	N/A	N/A
	8/19/2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.68	6.84	N/A	N/A
	12/30/2003	N/A	N/A	N/A	7.75	7.38	8.81	7.1	N/A	N/A	7.55	7.34	8.06	7.32	7.18	6.92	N/A	N/A
	3/11/2004	N/A	N/A	7.41	7.44	8.17	8.1	N/A	N/A	N/A	6.97	7.5	7.86	7.35	8.33	7.05	N/A	N/A
	3/28/2005	N/A	N/A	7.48	7.61	7.22	7.57	7	N/A	N/A	7.56	7.45	7.45	7.24	6.9	7.34	N/A	N/A
	6/21/2005	N/A	N/A	7.36	7.86	7.4	7.43	7.14	N/A	N/A	7.67	7.41	7.71	7.27	N/A	N/A	N/A	N/A
	9/14/2005	N/A	N/A	7.18	7.17	7.3	7.5	7.31	N/A	N/A	7.55	7.14	7.34	7.16	6.69	7	7.59	7.18
	12/12/2005	N/A	N/A	7.6	7.55	7.67	7.48	6.62	N/A	N/A	7.89	7.35	7.35	7.6	7	7.1	8.16	7.6
	3/13/2006	N/A	N/A	7.56	7.35	7.12	8.82	7.07	N/A	N/A	7.8	7.56	7.66	7.26	7.08	7.21	7.5	7.32
	6/27/2006	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.42	7.3
	9/21/2006	N/A	N/A	7.24	7.37	7.55	7.56	6.64	N/A	N/A	7.63	7.18	7.56	7.15	7.56	7.42	7.01	7.05
	3/28/2007	7.52	7.25	7.42	7.4	7.77	7.58	7.11	7.52	7.25	7.7	7.43	7.75	7	7.13	7.2	7.44	7.3
	6/22/2007	7.5	7.3	N/A	N/A	N/A	N/A	N/A	7.5	7.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/13/2007	7.84	7.32	7.37	7.68	7.61	8.25	7.24	7.84	7.32	7.83	7.15	7.83	7.33	7.05	7.18	7.51	7.55
	3/25/2008	7.8	7.85	7.5	7.39	7.72	8.15	7.17	7.8	7.85	7.8	7.66	8.25	7.56	7.06	7.55	7.69	7.68
	9/16/2008	7.11	6.51	8.8	7.67	5.16	8.83	4.92	7.11	6.51	6.52	5.88	7.29	6.07	7.92	4.65	5.32	6.19
	3/10/2009	8.03	7.65	7.29	7.55	8.06	8.32	7.25	8.03	7.65	8.28	7.29	8.13	7.28	6.99	7.15	7.32	7.4
	9/10/2009	7.55	7.33	7.29	7.41	7.14	7.16	6.96	7.55	7.33	7.55	7.37	7.36	7.18	6.81	6.96	7.06	7.32
	9/29/2010	7.32	6.91	N/A	7.42	7.36	6.74	7.36	7.32	6.91	7.04	6.84	7.14	7.54	7.17	6.96	7.13	7.02
	3/22/2011	6.53	6.66	7.37	7.15	7.01	7.29	7.18	6.53	6.66	7.1	7.2	7.2	7.41	8.77	6.52	7.1	7.13
	9/27/2011	6.67	7.1	7.43	7.2	7.6	7.35	7.16	6.67	7.1	7.6	7.3	7.65	7.35	6.9	N/A	N/A	N/A
	4/19/2012	8.2	6.5	6.65	7.4	6.7	7.35	7	8.2	6.5	8.41	8.2	8	8.7	7.59	8.55	6.73	6.91
	9/12/2012	7.15	6.75	7.33	7.25	7.3	7.35	6.39	7.15	6.75	6.57	7.05	7.5	7.55	7	6.95	6.95	7
	3/19/2013	7.34	7.65	7.71	7.97	7.16	7.35	N/A	7.34	7.65	7.4	7.64	7.62	8.04	7.2	7.42	7.84	7.68
	9/18/2013	7.77	7.4	7.6	7.37	7.43	7.05	7.25	7.77	7.4	7.3	7.1	7.5	7.65	6.75	7.3	7.15	7
	3/18/2014	7.72	7.53	7.55	7.8	7.62	8.15	7.24	7.72	7.53	7.57	7.55	7.62	7.49	7.42	7.49	7.44	7.52
	9/9/2014	7.47	7.9	7.45	7.9	7.75	8.26	7.5	7.47	7.9	7.37	8	7.85	7.73	7.65	7.6	N/A	N/A
	3/16/2015	7.77	8.27	7.92	8.27	7.7	8.18	7.65	7.77	8.27	7.98	7.96	8.32	8.04	8.03	7.97	7.81	8.06
	9/1/2015	7.11	8.18	7.49	8.05	7.28	7.24	7.36	7.11	8.18	7.86	7.53	7.98	8.38	7.37	7.57	7.49	7.57
	4/14/2016	7.7	7.89	7.59	7.77	7.55	7.9	7.66	7.7	7.89	7.89	7.68	8.1	8.01	7.28	7.71	7.37	7.47
	9/1/2016	7.16	7.32	7.33	7.74	7.16	7.47	6.85	7.16	7.32	8.01	6.65	7.47	7.47	6.98	7.08	7.01	6.98
	3/7/2017	7.28	7.46	7.29	7.49	7.23	8.25	7.23	7.28	7.46	7.68	7.22	7.92	7.57	6.8	7.24	6.93	7.02
	4/3/2018	7.35	7.6	7.46	7.57	7.36	8.26	7.36	7.35	7.6	7.79	7.28	7.71	7.82	7.25	7.36	7.08	7.18
	6/20/2019	6.89	7.23	6.87	7.21	6.94	7.02	6.98	6.89	7.23	7.5	6.79	N/A	N/A	6.75	7.08	N/A	N/A
	10/8/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.44	7.35	N/A	N/A	N/A	N/A
	4/1/2020	7.09	7.45	7.03	7.44	7.1	7.93	6.95	7.09	7.45	7.63	6.87	7.53	7.36	6.84	6.94	6.92	6.9
	6/16/2021	7.01	7.26	7.15	7.25	7.08	7.12	6.83	7.01	7.26	7.55	6.88	7.43	7.38	6.61	7.03	6.83	6.71
	8/30/2022	7	7.25	7.11	7.36	7.1	7.18	7.09	N/A	N/A	7.7	6.96	7.45	7.23	6.57	6.87	6.81	6.81
	6/28/2023	N/A	N/A	7.24	7.31	6.93	7.22	7.03	N/A	N/A	7.61	7.09	7.42	7.1	6.72	6.92	6.98	7.03
	4/17/2024	7.09	7.38	7.22	7.44	7.1	7.1	7	N/A	N/A	7.7	7.15	7.48	7.18	6.69	7.16	7	6.97
	4/9/2025	7.15	7.33	7.17	7.43	7.07	8.07	N/A	N/A	N/A	7.63	7.01	10.08	7.07	6.64	7.18	7.14	7.02

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Summary of Groundwater Chemistry

Alter Trading Corporation Waste Monofill Site (Closed) - 78-SDP-19-98C

Other Constituents	Sample Date	MW-4 UPG	MW-5 UPG	EPA-1AR DNG	EPA-2A DNG	MW-1 DNG	MW-2 DNG	MW-3 DNG	MW-4BG DNG	MW-5BG DNG	MW-8 DNG	MW-9 DNG	MW-10 DNG	MW-11 DNG	MW-12 DNG	MW-13 DNG	MW-14R DNG	MW-15R DNG
Specific Conductance, uS/cm (CAS NO - SPECCON)	1/18/1991	N/A	N/A	N/A	1800	1400	2000	1200	N/A	N/A	1160	2000	N/A	N/A	N/A	N/A	N/A	N/A
	5/23/1991	N/A	N/A	952	1914	1265	2632	990	N/A	N/A	2166	1972	N/A	N/A	N/A	N/A	N/A	N/A
	9/27/1991	N/A	N/A	800	N/A	1300	3600	1000	N/A	N/A	3050	1900	N/A	N/A	N/A	N/A	N/A	N/A
	12/19/1991	N/A	N/A	800	1914	1300	3600	1000	N/A	N/A	3050	1900	1900	1900	N/A	N/A	N/A	N/A
	10/14/1992	N/A	N/A	1200	2600	1600	3700	1700	N/A	N/A	2900	1800	2200	1700	N/A	N/A	N/A	N/A
	1/15/1993	N/A	N/A	900	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2200	1700	N/A	N/A	N/A	N/A
	4/27/1993	N/A	N/A	900	2500	1400	3500	1600	N/A	N/A	3000	1800	2200	1700	N/A	N/A	N/A	N/A
	4/12/1994	N/A	N/A	800	2400	2500	4000	1400	N/A	N/A	2300	2300	1400	1500	N/A	N/A	N/A	N/A
	10/21/1994	N/A	N/A	700	2200	1100	2300	1200	N/A	N/A	1900	800	1200	1000	N/A	N/A	N/A	N/A
	5/28/1995	N/A	N/A	800	2200	1300	2000	1900	N/A	N/A	1700	600	110	1100	N/A	N/A	N/A	N/A
	9/18/1995	N/A	N/A	440	1060	660	960	750	N/A	N/A	940	510	680	500	N/A	N/A	N/A	N/A
	10/22/2002	N/A	N/A	N/A	756	749	744	N/A	N/A	N/A	1169	585	452	537	692	723	N/A	N/A
	2/12/2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	667	809	N/A	N/A
	3/25/2003	N/A	N/A	N/A	934	1331	1353	N/A	N/A	N/A	1928	942	769	772	763	1206	N/A	N/A
	8/19/2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	492	648	N/A	N/A
	12/30/2003	N/A	N/A	N/A	1309	1414	1741	1553	N/A	N/A	2206	1105	699	690	651	780	N/A	N/A
	3/11/2004	N/A	N/A	666	568	945	1136	N/A	N/A	N/A	1747	1947	560	635	722	1017	N/A	N/A
	3/28/2005	N/A	N/A	687	848	1225	1282	1936	N/A	N/A	1778	1175	723	714	1020	1418	N/A	N/A
	6/21/2005	N/A	N/A	750	1162	1445	1398	1740	N/A	N/A	2040	1265	815	815	N/A	N/A	N/A	N/A
	9/14/2005	N/A	N/A	504	450	1280	1366	1900	N/A	N/A	1208	943	505	534	642	1400	700	600
	12/12/2005	N/A	N/A	686	677	1285	1541	1533	N/A	N/A	1783	1587	655	686	799	1293	767	700
	3/13/2006	N/A	N/A	675	785	1329	1530	1373	N/A	N/A	1805	1007	640	675	847	1488	727	758
	6/27/2006	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	780	795
	9/21/2006	N/A	N/A	798	903	1358	1370	1570	N/A	N/A	1622	1188	692	681	906	1004	888	946
	3/28/2007	1653	1611	500	770	1300	1400	1447	1653	1611	1701	1019	700	875	386	1455	530	957
	6/22/2007	1605	1700	N/A	N/A	N/A	N/A	N/A	1605	1700	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/13/2007	1675	2553	800	655	1300	1525	1681	1650	2553	1691	1495	583	1002	1135	1000	719	821
	9/13/2007	1650	2800	N/A	N/A	N/A	N/A	N/A	1675	2800	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/25/2008	1003	985	700	728	1291	1422	1445	1003	985	1307	1020	602	706	1116	1713	748	593
	9/16/2008	1435	1702	745	459	1016	1191	1278	1435	1702	1215	961	516	646	848	1128	625	566
	3/10/2009	2230	2350	793	611	1398	1627	1420	2230	2350	1635	1422	663	975	1090	1939	1047	800
	9/10/2009	1864	2330	751	628	1531	1309	1686	1864	2330	1957	1390	686	644	1072	1131	1010	868
	3/25/2010	1814	1899	768	588	1320	1298	1191	1814	1899	1757	1445	644	752	781	1054	981	768
	9/29/2010	1701	1930	N/A	678	1302	1141	1284	1701	1930	1967	1204	656	678	924	1002	1061	698
	3/22/2011	1400	1395	889	1249	1320	1305	1220	1400	1395	1420	1475	1049	790	1015	1215	1161	1065
	9/27/2011	1375	1445	690	1275	1225	1410	1231	1375	1445	1524	1290	685	783	995	N/A	N/A	N/A
	4/19/2012	970	1225	1125	515	1050	1120	1000	970	1225	1135	1230	1050	970	1173	1200	1106	748
	9/12/2012	1025	1020	740	750	1265	1420	1124	1025	1020	1005	990	546	636	1000	1605	1020	980
	3/19/2013	1970	2430	823	516	1462	1396	N/A	1970	2430	1852	1630	680	643	1243	1676	1332	907
	9/18/2013	1745	1755	745	449	1345	1330	1124	1745	1755	1740	1542	754	620	1233	957	791	787
	3/18/2014	1792	1880	756	483	1383	1587	1102	1792	1880	1624	1804	618	859	795	1078	1241	848
	9/9/2014	1500	1310	838	465	1275	1230	1235	1500	1310	950	1000	605	649	1091	1010	N/A	N/A
	3/16/2015	1928	1640	870	523	1684	1406	1218	1928	1640	2106	1512	589	623	925	968	1145	734
	9/1/2015	1837	1668	749	432	1473	1211	1230	1837	1668	1672	1542	575	504	1058	828	1099	702
	4/14/2016	1599	1985	786	480	1354	1155	810	1599	1985	1578	1397	488	454	976	759	1040	626
	9/1/2016	1945	1744	748	584	1534	1325	1134	1945	1744	1624	1920	557	460	1004	721	1150	776
	3/7/2017	1498	1298	601	4251	1193	1164	987	1498	1298	1332	1410	3821	3802	802	617	920	795
	4/3/2018	2100	1660	798	708	1566	1676	1291	2100	1660	1715	2048	689	516	628	896	1264	1168
	6/20/2019	1793.4	1345.8	740.2	621.7	1327.3	1350.4	1179.6	1793.4	1345.8	1315.7	1766	N/A	N/A	920.3	585.7	N/A	N/A
	10/8/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	493.9	560.4	N/A	N/A	N/A	N/A
	4/1/2020	1853.2	1070.6	766	607.4	1279.8	1576.8	1221	1853.2	1070.6	1193.9	2112.7	474.3	557.3	1117.8	985.9	1299.8	631.9
	6/16/2021	1635.1	1219	667	524.2	1210.1	1249.8	1231.5	1635.1	1219	1102.5	1669.4	476.8	568.9	841	649.4	1083.3	760.6
	8/30/2022	1886.8	1213.9	613	465.9	1270.8	1363.9	1072.7	N/A	N/A	1115.3	1511.8	540.7	705.9	703.3	818	1184.2	887.7
	6/28/2023	N/A	N/A	561.2	507.1	1233.5	1303.7	977.3	N/A	N/A	1040.6	1201.5	546.3	794.7	857.5	761.3	1070.8	773
	4/17/2024	1968.8	1134	654.1	581.2	1425	1526.3	1240.1	N/A	N/A	1198.3	1362.5	662.2	730.6	848.8	920.4	1102	757.7
	4/9/2025	1896.2	1056.3	643.7	563	1445.7	1453.5	N/A	N/A	N/A	1123.2	1383.6	317.1	819.4	1130.6	764.1	764.9	673.4

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Summary of Groundwater Chemistry

Alter Trading Corporation Waste Monofill Site (Closed) - 78-SDP-19-98C

Other Constituents	Sample Date	MW-4 UPG	MW-5 UPG	EPA-1AR DNG	EPA-2A DNG	MW-1 DNG	MW-2 DNG	MW-3 DNG	MW-4BG DNG	MW-5BG DNG	MW-8 DNG	MW-9 DNG	MW-10 DNG	MW-11 DNG	MW-12 DNG	MW-13 DNG	MW-14R DNG	MW-15R DNG
Total Extractable Hydrocarbons, ug/L (CAS NO - TEHH)	10/22/2002	N/A	N/A	N/A	1400	< 100	500	N/A	N/A	N/A	100	< 100	300	300	100	200	N/A	N/A
	12/30/2003	N/A	N/A	N/A	1600	< 380	1130	< 380	N/A	N/A	< 380	< 380	475	< 380	< 380	688	N/A	N/A
	9/21/2005	N/A	N/A	< 380	< 380	< 380	505	< 380	N/A	N/A	< 380	< 380	490	< 380	< 380	553	475	957
	9/21/2006	N/A	N/A	< 300	1020	< 300	774	< 300	N/A	N/A	< 300	< 300	544	< 300	< 300	< 300	< 300	835
	3/28/2007	N/A	N/A	N/A	< 300	N/A	1250	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 300	< 300	< 300
	6/22/2007	< 300	< 300	N/A	N/A	N/A	N/A	N/A	< 300	< 300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/13/2007	< 345	< 300	333	< 300	< 300	1430	777	< 345	< 300	< 300	< 341	1280	< 300	343	381	405	923
	3/26/2008	N/A	N/A	N/A	< 300	N/A	960	307	N/A	N/A	N/A	N/A	< 361	N/A	N/A	< 300	< 300	< 300
	9/16/2008	< 300	< 300	< 300	< 300	< 300	891	810	< 300	< 300	< 300	< 300	468	381	< 300	399	459	480
	3/10/2009	N/A	N/A	N/A	< 300	N/A	760	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	315	< 300	< 300
	9/10/2009	< 300	< 300	< 300	< 300	< 300	670	736	< 300	< 300	< 300	< 300	554	< 300	342	302	679	455
	3/25/2010	N/A	N/A	N/A	< 300	N/A	818	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 300	< 300	< 300
	9/29/2010	< 349	< 300	N/A	< 300	< 300	742	< 300	< 349	< 300	< 300	< 300	N/A	< 300	< 300	< 300	< 300	< 300
	3/22/2011	< 300	< 300	< 300	< 300	< 300	746	< 300	< 300	< 300	< 300	< 300	1100	< 300	< 300	302	714	< 300
	9/27/2011	N/A	N/A	N/A	< 300	N/A	501	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/19/2012	N/A	N/A	N/A	< 100	N/A	200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100	100	< 100
	9/18/2013	281	294	298	477	282	2340	722	281	294	872	287	828	305	738	443	1120	702
	9/9/2014	420	290	268	231	394	926	478	420	290	515	277	< 463	< 463	< 463	439	N/A	N/A
	9/1/2015	310	849	182	216	142	685	1300	310	849	897	206	1140	1580	338	226	806	229
	9/1/2016	93.1*	< 391	< 379	< 368	< 379	< 379	177*	93.1*	< 391	< 379	< 379	< 403	< 446	< 379	< 379	< 391	97.4*
	4/3/2018	< 481	< 481	< 481	< 481	100*	< 481	139*	< 481	< 481	< 463	< 481	< 481	76.3*	< 481	86.7*	< 481	116*
	6/20/2019	105*	139*	120*	170*	123*	< 500	176*	105*	139*	369*	< 481	N/A	N/A	146*	< 500	N/A	N/A
	10/8/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 500	167*	N/A	N/A	N/A	N/A
	4/1/2020	< 500	< 481	118*	< 500	139*	2430	< 500	< 481	< 481	160*	< 521	< 543	< 500	79*	106*	< 500	107*
	4/1/2020	< 481	N/A	N/A	N/A	N/A	N/A	N/A	< 500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/16/2021	348*	331*	412*	353*	401*	< 500	< 500	348*	331*	315*	< 500	< 500	341*	360*	280*	< 500	294*
	6/16/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	388*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/30/2022	< 490	< 500	< 490	< 490	< 568	< 521	< 532	N/A	N/A	155*	< 521	< 556	< 500	< 521	< 481	< 490	122*
	8/30/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 521	N/A	N/A	N/A	N/A	N/A	N/A
	6/28/2023	N/A	N/A	113*	< 500	104*	< 500	81.7*	N/A	N/A	181*	< 556	< 500	82*	< 500	< 500	< 532	103*
	6/28/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 532	N/A	N/A	N/A	N/A
	4/17/2024	< 500	< 500	< 500	< 500	< 463	< 500	< 500	N/A	N/A	< 500	< 500	< 500	< 500	< 500	< 500	< 500	< 500
	4/17/2024	N/A	N/A	N/A	N/A	< 500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/9/2025	< 510	< 510	< 521	< 500	< 521	< 510	N/A	N/A	N/A	< 510	< 500	< 521	< 500	< 500	< 521	< 500	< 500
	4/9/2025	N/A	N/A	N/A	N/A	< 510	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

Attachment A

Mann-Kendall Trend Test ($\alpha=0.01$)

Trend Test

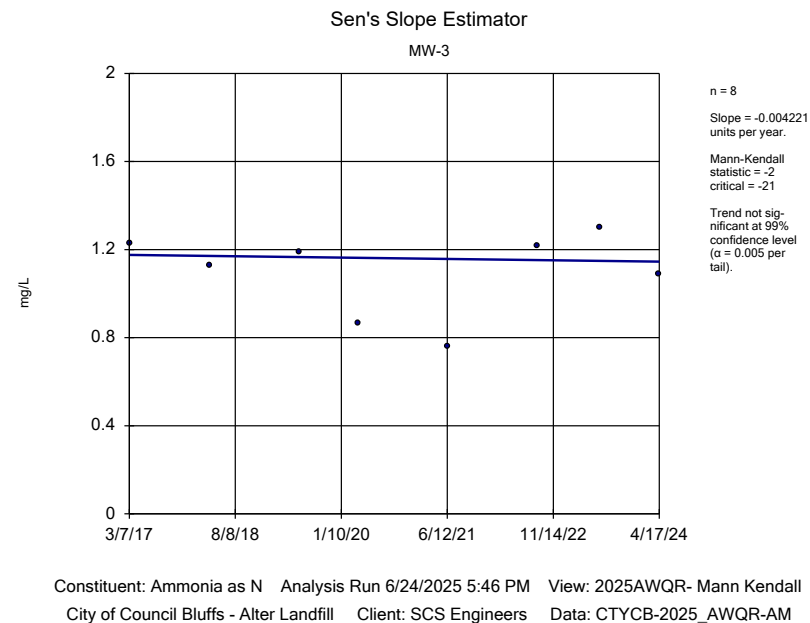
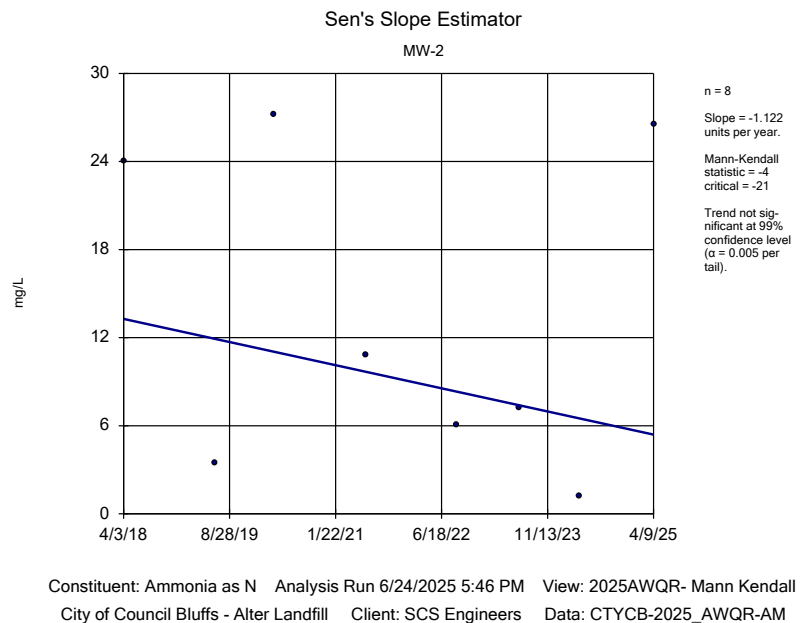
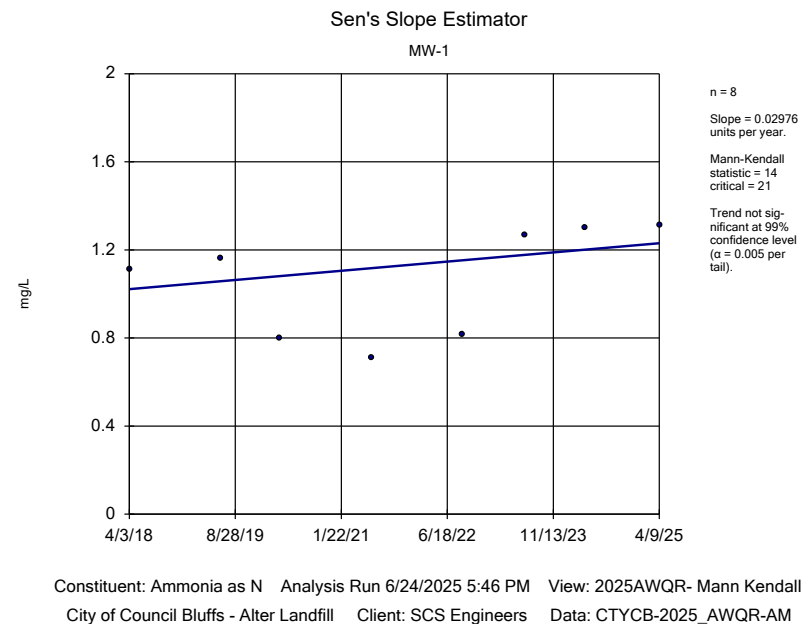
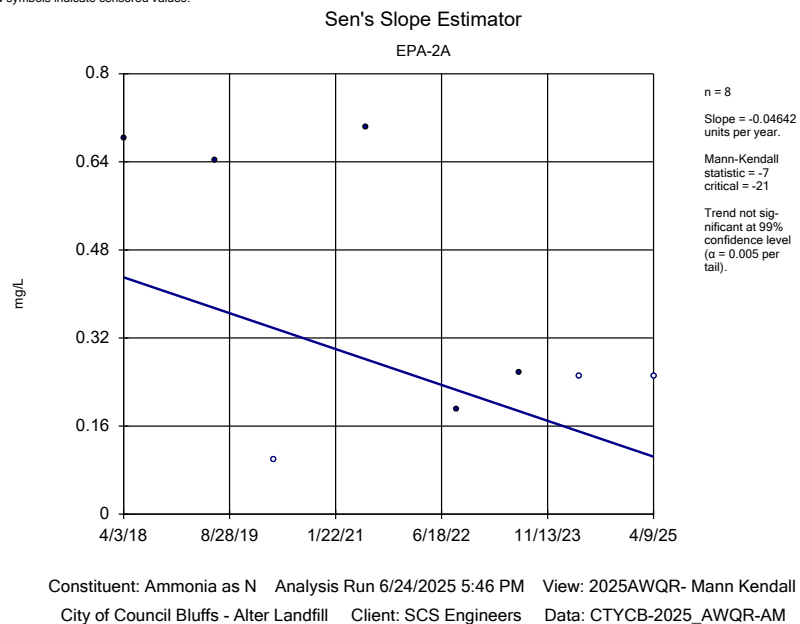
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM Printed 6/24/2025, 5:49 PM

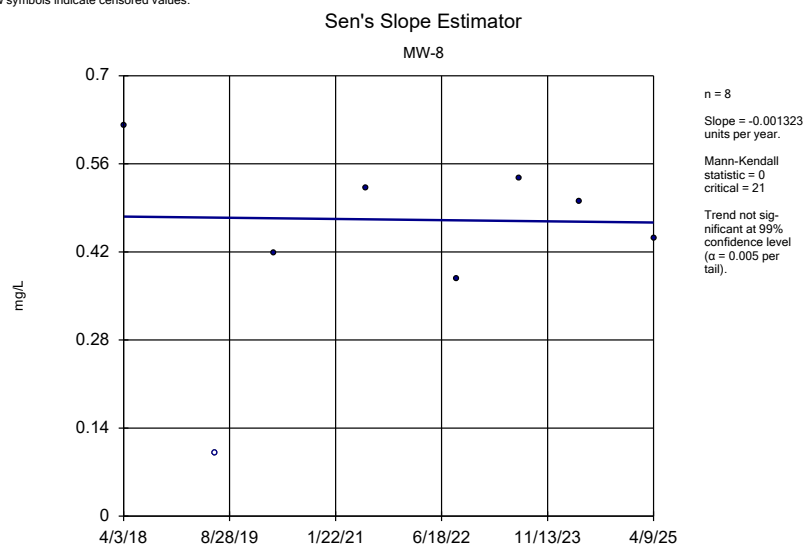
<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Ammonia as N (mg/L)	EPA-2A	-0.04642	-7	-21	No	8	37.5	n/a	n/a	0.01	NP
Ammonia as N (mg/L)	MW-1	0.02976	14	21	No	8	0	n/a	n/a	0.01	NP
Ammonia as N (mg/L)	MW-2	-1.122	-4	-21	No	8	0	n/a	n/a	0.01	NP
Ammonia as N (mg/L)	MW-3	-0.004221	-2	-21	No	8	0	n/a	n/a	0.01	NP
Ammonia as N (mg/L)	MW-8	-0.001323	0	21	No	8	12.5	n/a	n/a	0.01	NP
Ammonia as N (mg/L)	MW-10	-0.02463	-5	-21	No	8	25	n/a	n/a	0.01	NP
Ammonia as N (mg/L)	MW-11	0	11	21	No	8	87.5	n/a	n/a	0.01	NP
Ammonia as N (mg/L)	MW-14R	0.04865	2	21	No	8	12.5	n/a	n/a	0.01	NP
Arsenic (mg/L)	EPA-2A	-0.00005454	-6	-21	No	8	0	n/a	n/a	0.01	NP
Arsenic (mg/L)	MW-2	-0.002187	-4	-21	No	8	0	n/a	n/a	0.01	NP
Arsenic (mg/L)	MW-3	0.0007781	2	21	No	8	0	n/a	n/a	0.01	NP
Arsenic (mg/L)	MW-10	-0.0002986	-10	-21	No	8	0	n/a	n/a	0.01	NP
Arsenic (mg/L)	MW-13	0.00003361	2	21	No	8	0	n/a	n/a	0.01	NP
Arsenic (mg/L)	MW-14R	-0.001703	-18	-21	No	8	0	n/a	n/a	0.01	NP
Arsenic (mg/L)	MW-15R	-0.003297	-24	-21	Yes	8	0	n/a	n/a	0.01	NP
Barium (mg/L)	MW-14R	-0.03321	-4	-21	No	8	0	n/a	n/a	0.01	NP
Barium (mg/L)	MW-15R	-0.09926	-20	-21	No	8	0	n/a	n/a	0.01	NP
Chemical Oxygen Demand (mg/L)	EPA-1AR	1.543	10	21	No	8	25	n/a	n/a	0.01	NP
Chemical Oxygen Demand (mg/L)	EPA-2A	1.255	4	21	No	8	25	n/a	n/a	0.01	NP
Chemical Oxygen Demand (mg/L)	MW-1	0.3004	7	21	No	8	0	n/a	n/a	0.01	NP
Chemical Oxygen Demand (mg/L)	MW-2	2.29	2	21	No	8	0	n/a	n/a	0.01	NP
Chemical Oxygen Demand (mg/L)	MW-3	-0.7443	-6	-21	No	8	0	n/a	n/a	0.01	NP
Chemical Oxygen Demand (mg/L)	MW-8	-9.712	-18	-21	No	8	0	n/a	n/a	0.01	NP
Chemical Oxygen Demand (mg/L)	MW-9	-2.893	-10	-21	No	8	0	n/a	n/a	0.01	NP
Chemical Oxygen Demand (mg/L)	MW-10	1.238	6	21	No	8	12.5	n/a	n/a	0.01	NP
Chemical Oxygen Demand (mg/L)	MW-11	1.7	15	21	No	8	37.5	n/a	n/a	0.01	NP
Chemical Oxygen Demand (mg/L)	MW-12	0.6353	2	21	No	8	12.5	n/a	n/a	0.01	NP
Chemical Oxygen Demand (mg/L)	MW-13	-0.09251	0	21	No	8	12.5	n/a	n/a	0.01	NP
Chemical Oxygen Demand (mg/L)	MW-14R	-1.977	-11	-21	No	8	25	n/a	n/a	0.01	NP
Chemical Oxygen Demand (mg/L)	MW-15R	-0.8263	-4	-21	No	8	12.5	n/a	n/a	0.01	NP
Chloride (mg/L)	EPA-1AR	-0.9176	-14	-21	No	8	0	n/a	n/a	0.01	NP
Chloride (mg/L)	EPA-2A	0.7604	12	21	No	8	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-1	1.346	6	21	No	8	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-2	0.5917	6	21	No	8	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-3	-0.3874	-9	-21	No	8	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-8	-3.586	-16	-21	No	8	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-9	-4.061	-8	-21	No	8	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-10	1.215	12	21	No	8	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-11	0.4133	2	21	No	8	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-12	4.151	10	21	No	8	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-13	1.625	10	21	No	8	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-14R	0.445	4	21	No	8	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-15R	2.331	16	21	No	8	0	n/a	n/a	0.01	NP
Iron (mg/L)	EPA-1AR	-0.03765	-13	-21	No	8	37.5	n/a	n/a	0.01	NP
Iron (mg/L)	EPA-2A	-0.05144	-14	-21	No	8	62.5	n/a	n/a	0.01	NP
Iron (mg/L)	MW-1	-0.3008	-5	-21	No	8	0	n/a	n/a	0.01	NP
Iron (mg/L)	MW-2	-0.1688	0	21	No	8	0	n/a	n/a	0.01	NP
Iron (mg/L)	MW-3	0.9517	6	21	No	8	0	n/a	n/a	0.01	NP
Iron (mg/L)	MW-8	-0.1932	-12	-21	No	8	0	n/a	n/a	0.01	NP
Iron (mg/L)	MW-9	0.2179	14	21	No	8	12.5	n/a	n/a	0.01	NP

Trend Test

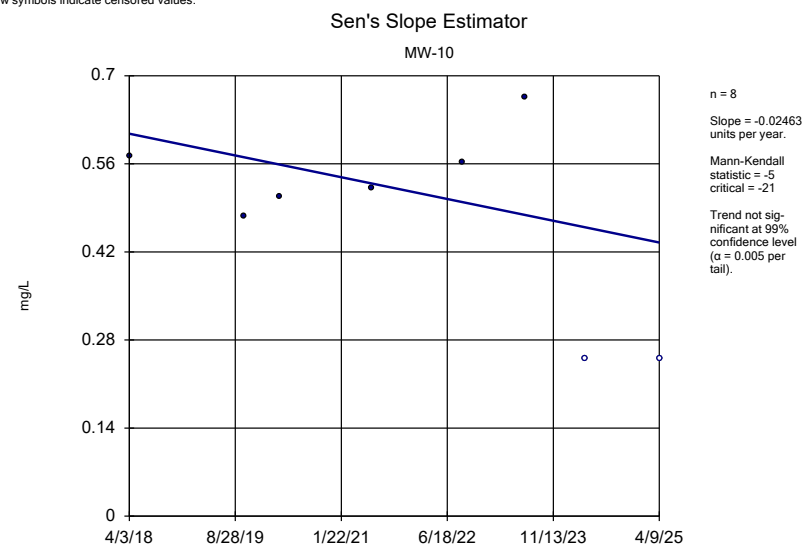
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM Printed 6/24/2025, 5:49 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Iron (mg/L)	MW-10	-0.4901	-16	-21	No	8	12.5	n/a	n/a	0.01	NP
Iron (mg/L)	MW-11	0	4	21	No	8	75	n/a	n/a	0.01	NP
Iron (mg/L)	MW-13	-0.1416	-4	-21	No	8	0	n/a	n/a	0.01	NP
Iron (mg/L)	MW-14R	-2.277	-18	-21	No	8	0	n/a	n/a	0.01	NP
Iron (mg/L)	MW-15R	-2.18	-22	-21	Yes	8	0	n/a	n/a	0.01	NP
Lead (mg/L)	MW-12	-0.0003069	-14	-21	No	8	0	n/a	n/a	0.01	NP
Lead (mg/L)	MW-13	-0.00001408	-10	-21	No	8	50	n/a	n/a	0.01	NP
Lead (mg/L)	MW-14R	-0.00009469	-9	-21	No	8	37.5	n/a	n/a	0.01	NP
Lead (mg/L)	MW-15R	-0.00004601	-14	-21	No	8	62.5	n/a	n/a	0.01	NP
Nickel (mg/L)	MW-14R	-0.05872	-20	-21	No	8	0	n/a	n/a	0.01	NP
Nickel (mg/L)	MW-15R	-0.001737	-26	-21	Yes	8	0	n/a	n/a	0.01	NP
pH (S.U.)	EPA-1AR	0.02626	6	21	No	8	0	n/a	n/a	0.01	NP
pH (S.U.)	EPA-2A	0.01004	1	21	No	8	0	n/a	n/a	0.01	NP
pH (S.U.)	MW-1	-0.004295	-7	-21	No	8	0	n/a	n/a	0.01	NP
pH (S.U.)	MW-2	0.004758	0	21	No	8	0	n/a	n/a	0.01	NP
pH (S.U.)	MW-3	-0.03777	-8	-21	No	8	0	n/a	n/a	0.01	NP
pH (S.U.)	MW-8	0.005607	2	21	No	8	0	n/a	n/a	0.01	NP
pH (S.U.)	MW-9	0.03758	10	21	No	8	0	n/a	n/a	0.01	NP
pH (S.U.)	MW-10	-0.000733	0	21	No	8	0	n/a	n/a	0.01	NP
pH (S.U.)	MW-11	-0.0688	-20	-21	No	8	0	n/a	n/a	0.01	NP
pH (S.U.)	MW-12	-0.03852	-14	-21	No	8	0	n/a	n/a	0.01	NP
pH (S.U.)	MW-13	-0.01564	-2	-21	No	8	0	n/a	n/a	0.01	NP
pH (S.U.)	MW-14R	0.01417	6	21	No	8	0	n/a	n/a	0.01	NP
pH (S.U.)	MW-15R	-0.002803	-1	-21	No	8	0	n/a	n/a	0.01	NP
Specific Conductance (uS/cm)	EPA-1AR	-26	-18	-21	No	8	0	n/a	n/a	0.01	NP
Specific Conductance (uS/cm)	EPA-2A	-19.63	-14	-21	No	8	0	n/a	n/a	0.01	NP
Specific Conductance (uS/cm)	MW-1	-9.007	-2	-21	No	8	0	n/a	n/a	0.01	NP
Specific Conductance (uS/cm)	MW-2	-18.51	-4	-21	No	8	0	n/a	n/a	0.01	NP
Specific Conductance (uS/cm)	MW-3	0.7466	0	21	No	8	0	n/a	n/a	0.01	NP
Specific Conductance (uS/cm)	MW-8	-54.99	-12	-21	No	8	0	n/a	n/a	0.01	NP
Specific Conductance (uS/cm)	MW-9	-110.8	-18	-21	No	8	0	n/a	n/a	0.01	NP
Specific Conductance (uS/cm)	MW-10	-7.275	-2	-21	No	8	0	n/a	n/a	0.01	NP
Specific Conductance (uS/cm)	MW-11	43.34	24	21	Yes	8	0	n/a	n/a	0.01	NP
Specific Conductance (uS/cm)	MW-12	26.64	8	21	No	8	0	n/a	n/a	0.01	NP
Specific Conductance (uS/cm)	MW-13	2.804	2	21	No	8	0	n/a	n/a	0.01	NP
Specific Conductance (uS/cm)	MW-14R	-31.84	-8	-21	No	8	0	n/a	n/a	0.01	NP
Specific Conductance (uS/cm)	MW-15R	-17.01	-10	-21	No	8	0	n/a	n/a	0.01	NP
Total Extractable Hydrocarbons ...	MW-2	0.4304	6	21	No	8	87.5	n/a	n/a	0.01	NP
Zinc (mg/L)	MW-14R	-0.6917	-18	-21	No	8	0	n/a	n/a	0.01	NP

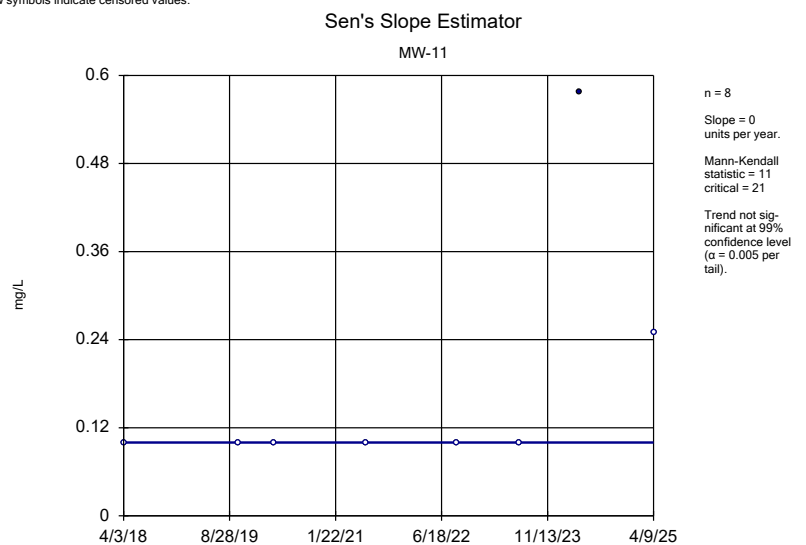




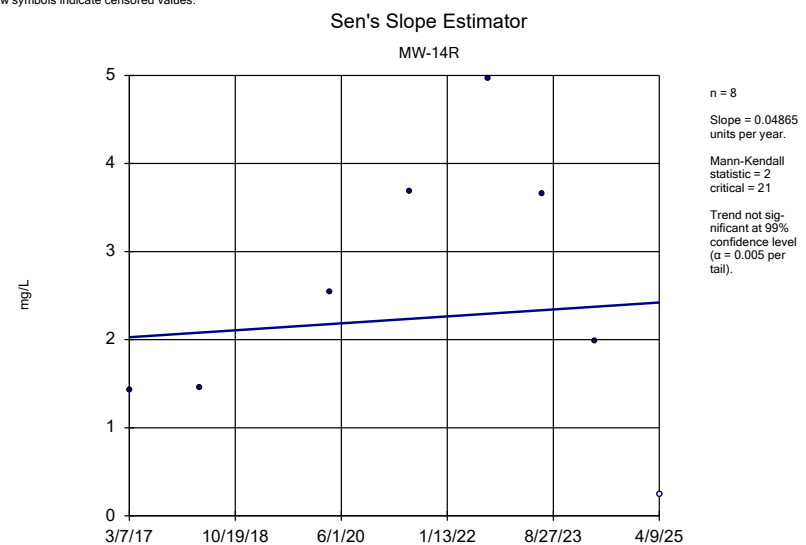
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



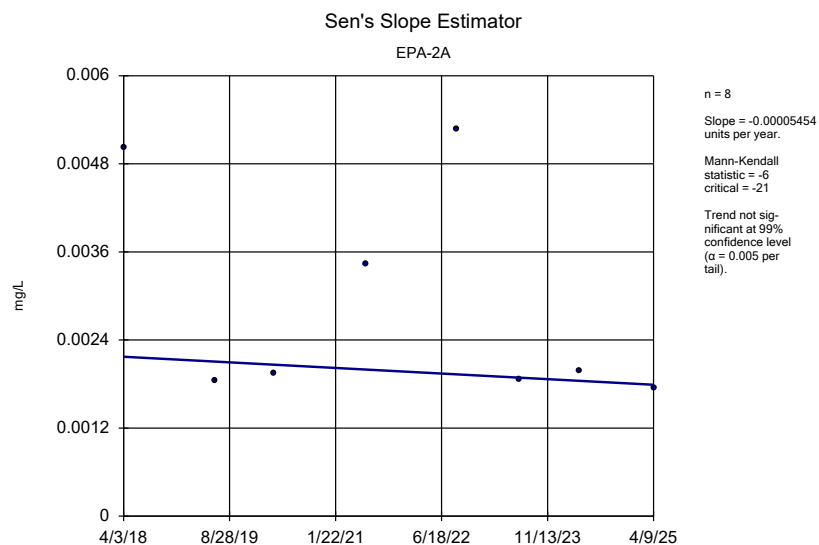
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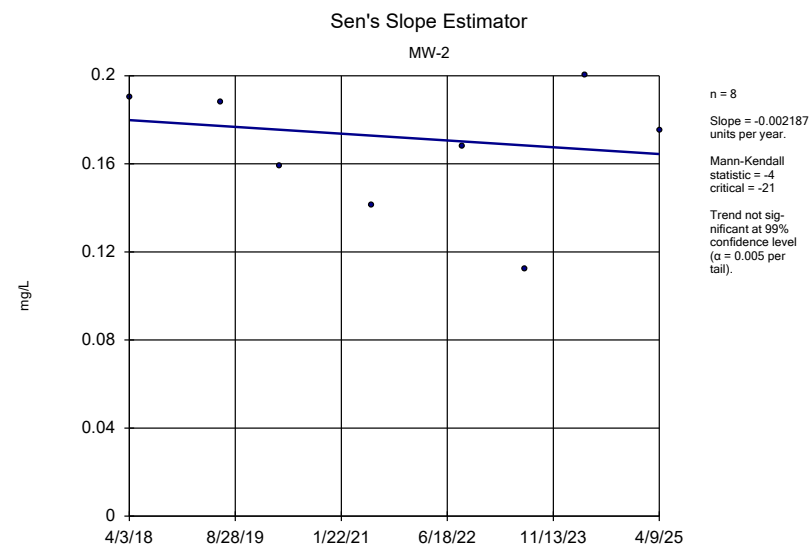
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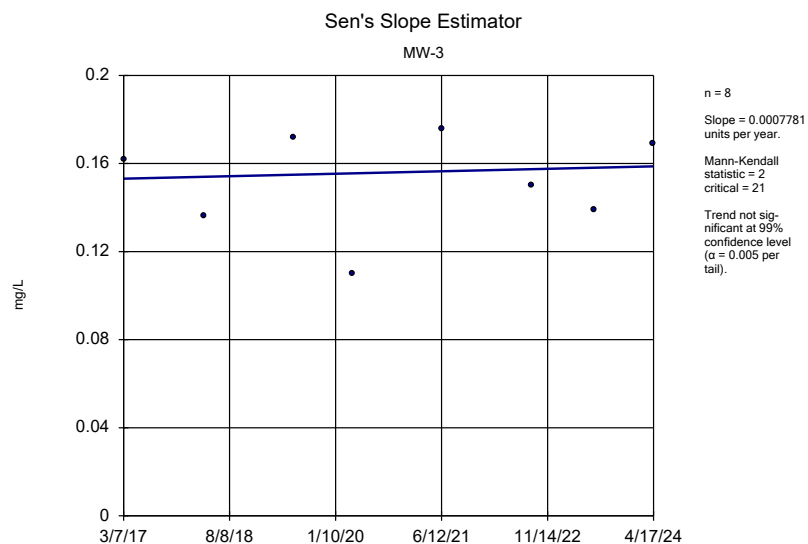
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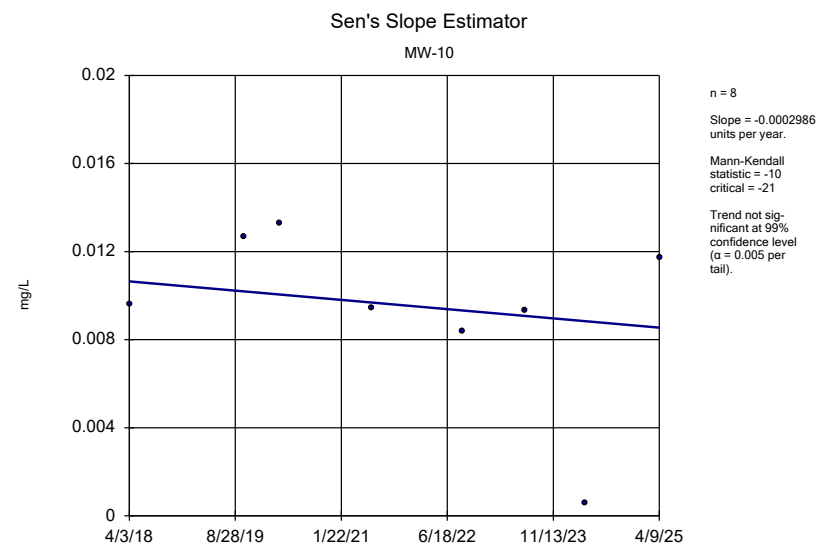
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



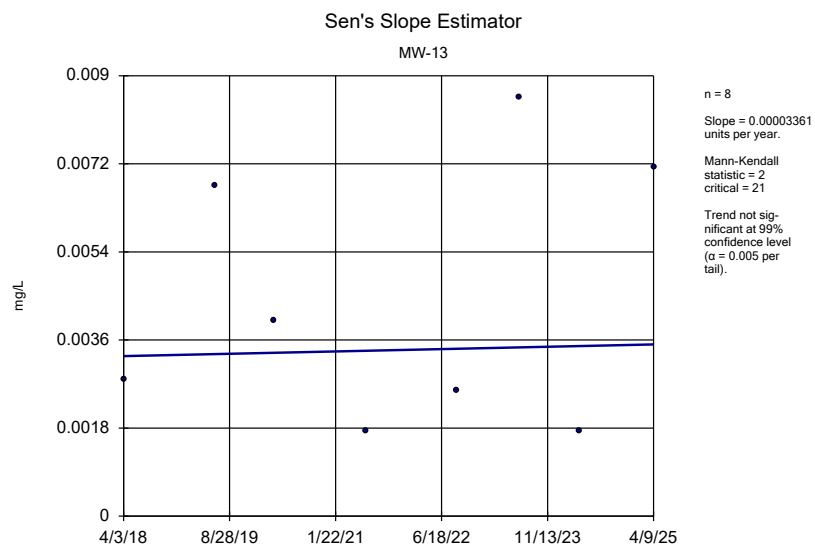
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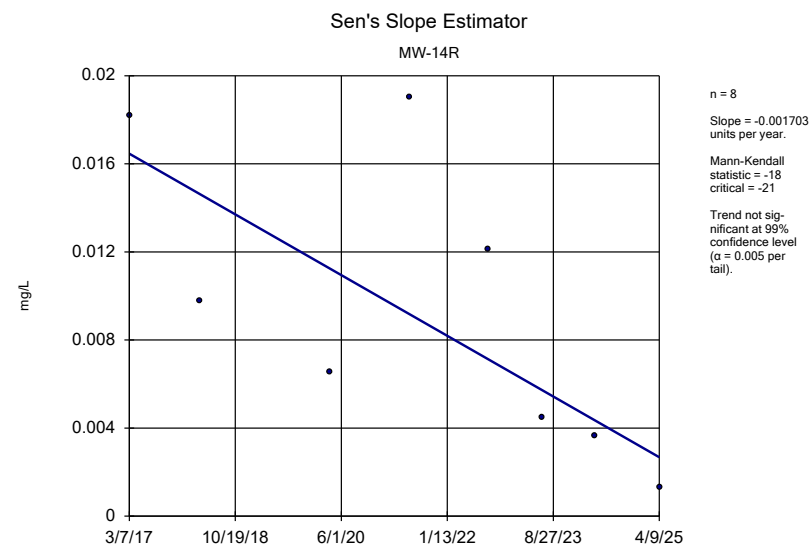
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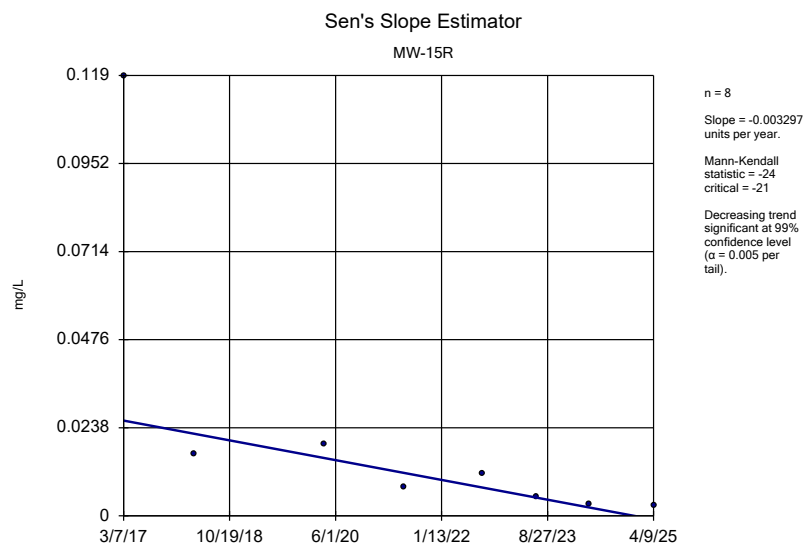
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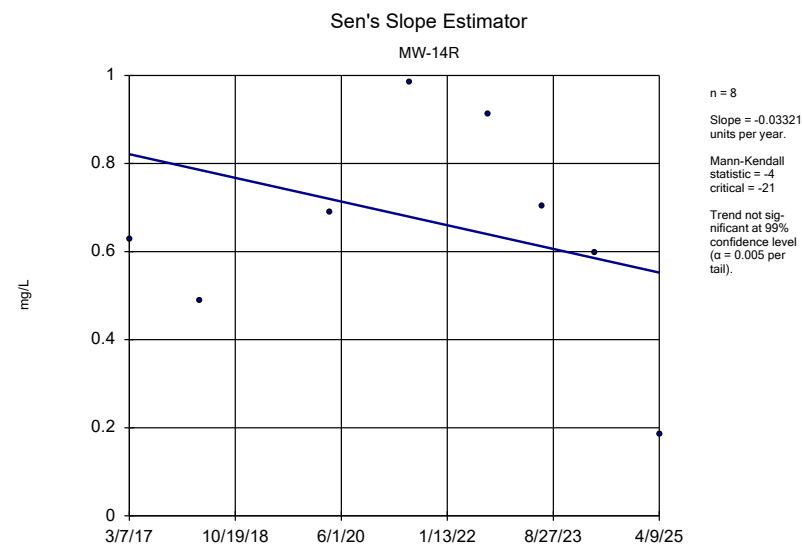
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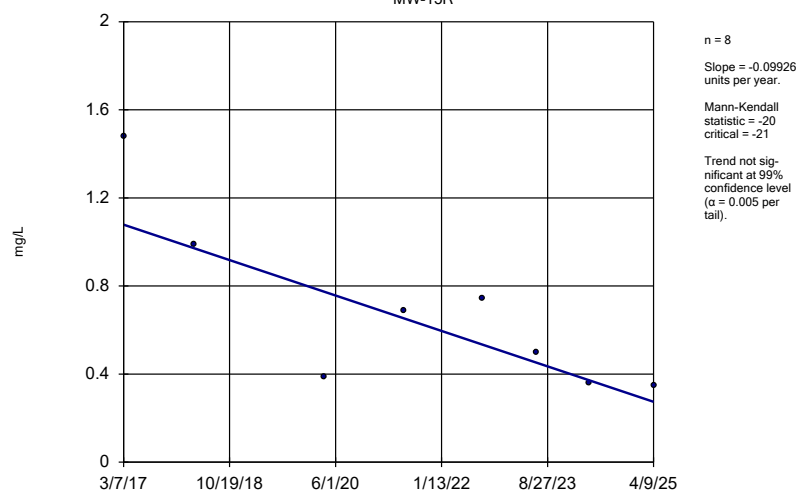
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



Constituent: Barium Analysis Run 6/24/2025 5:46 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

Sen's Slope Estimator

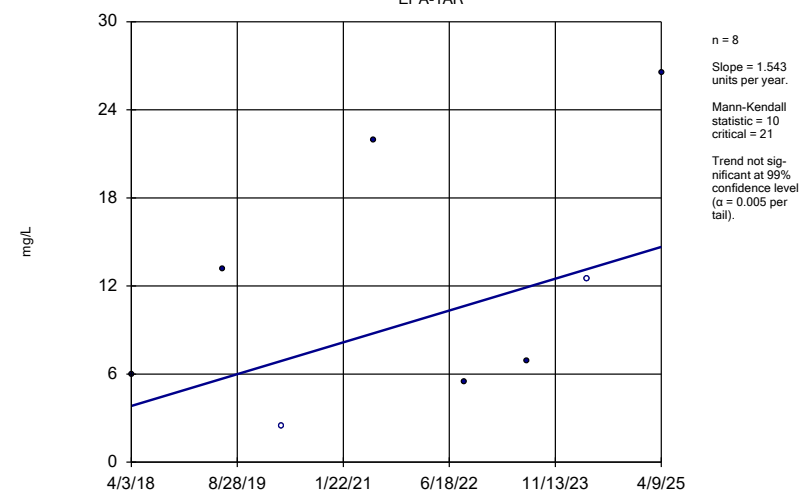
MW-15R



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Sen's Slope Estimator

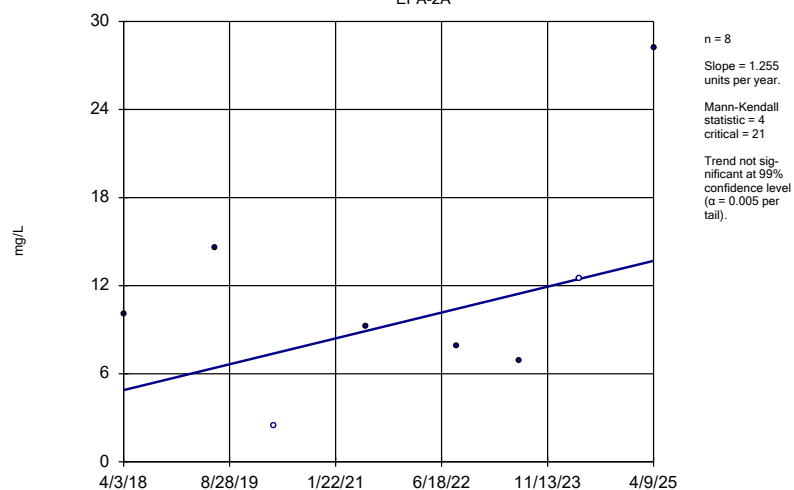
EPA-1AR



Constituent: Chemical Oxygen Demand Analysis Run 6/24/2025 5:46 PM View: 2025AWQR- Mann Kenda
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

Sen's Slope Estimator

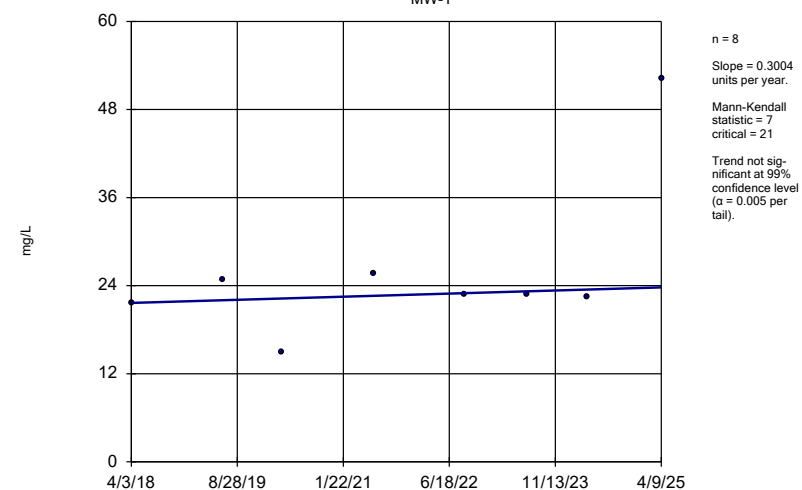
EPA-2A



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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

Sen's Slope Estimator

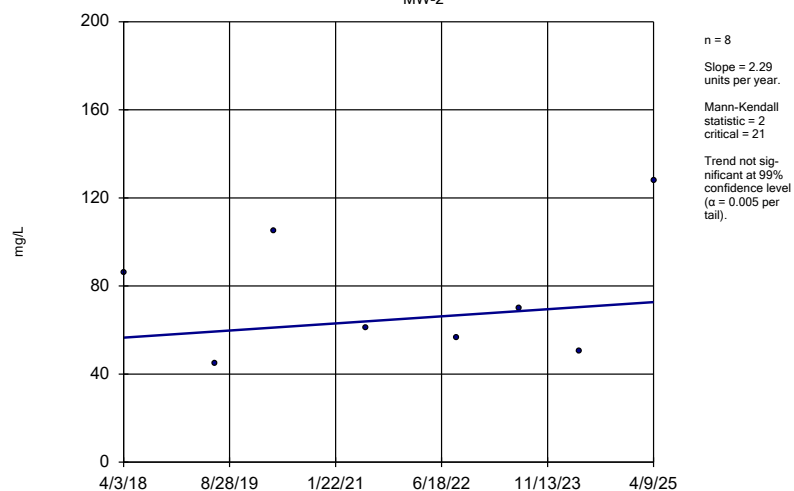
MW-1



Constituent: Chemical Oxygen Demand Analysis Run 6/24/2025 5:46 PM View: 2025AWQR- Mann Kenda
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

Sen's Slope Estimator

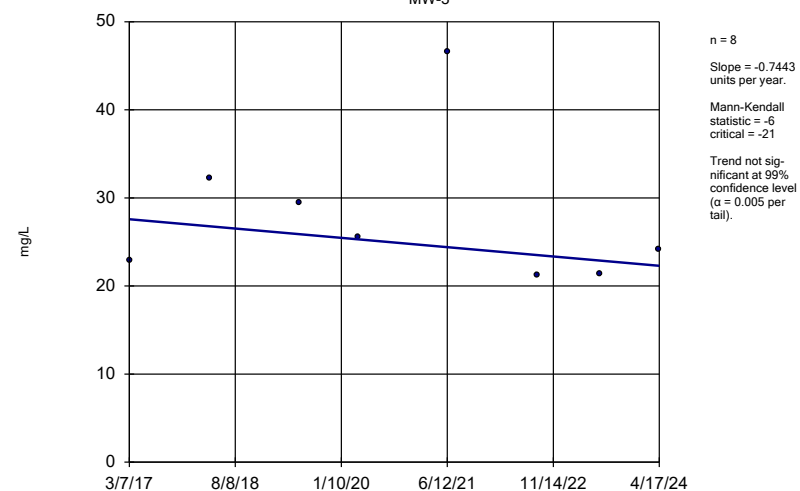
MW-2



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Sen's Slope Estimator

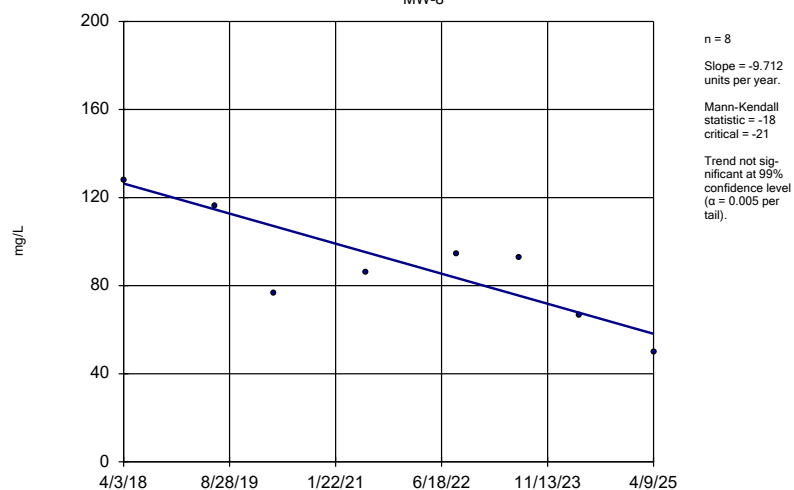
MW-3



Constituent: Chemical Oxygen Demand Analysis Run 6/24/2025 5:46 PM View: 2025AWQR- Mann Kenda
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Sen's Slope Estimator

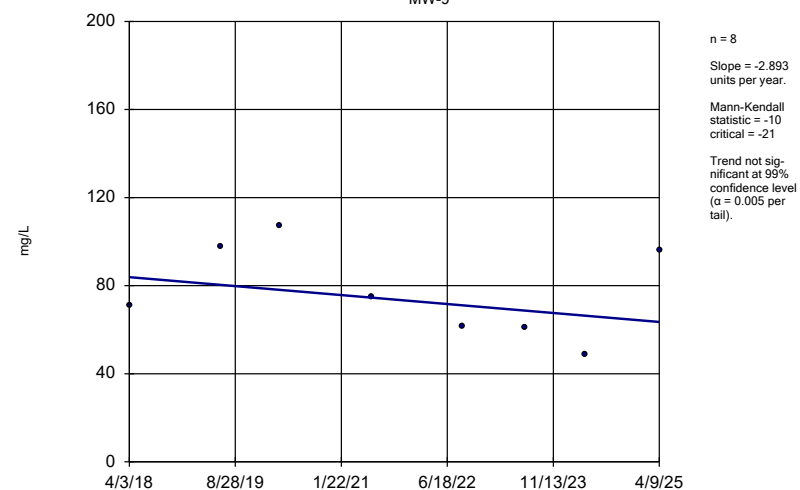
MW-8



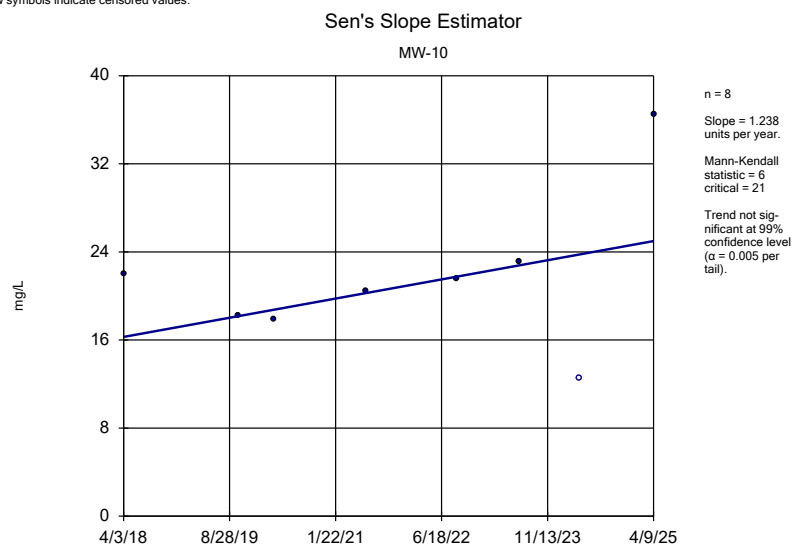
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

Sen's Slope Estimator

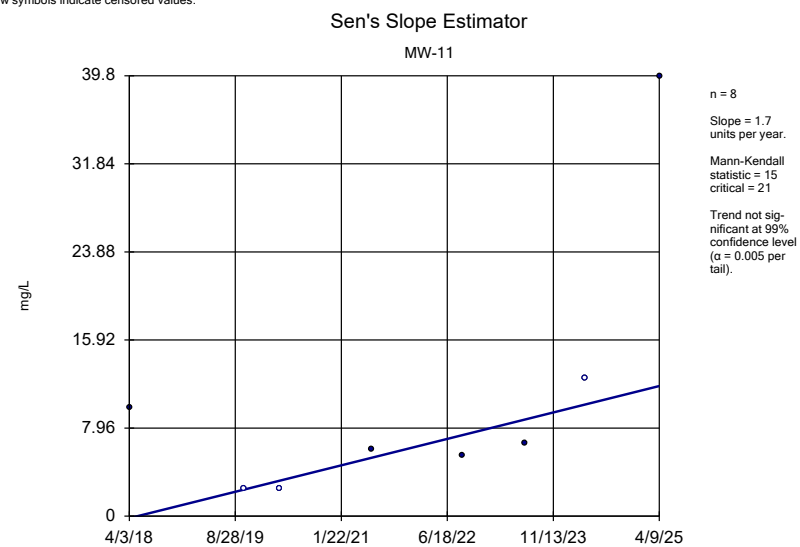
MW-9



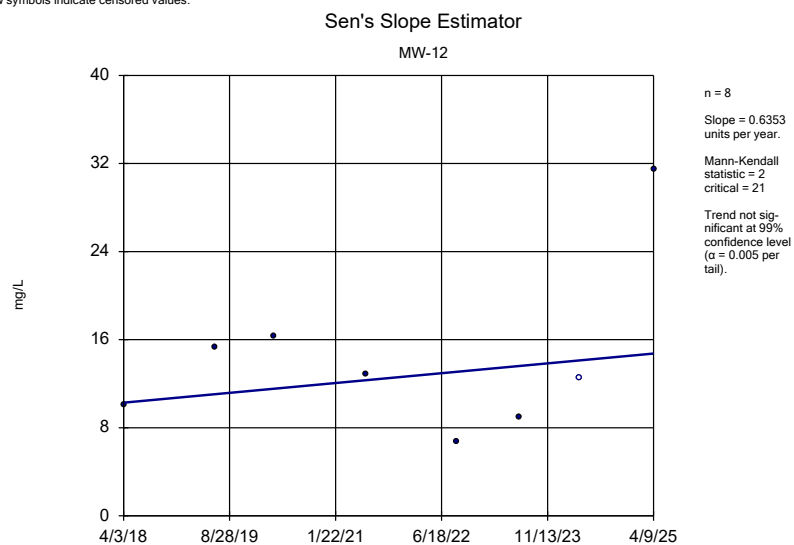
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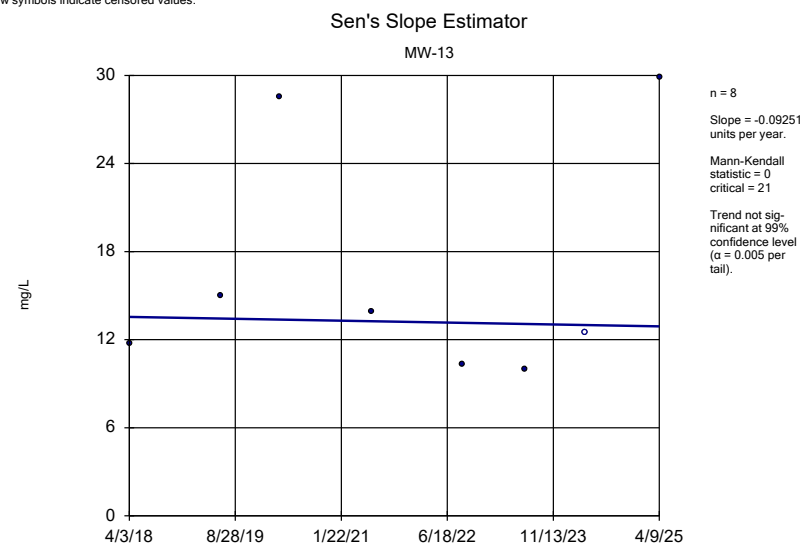
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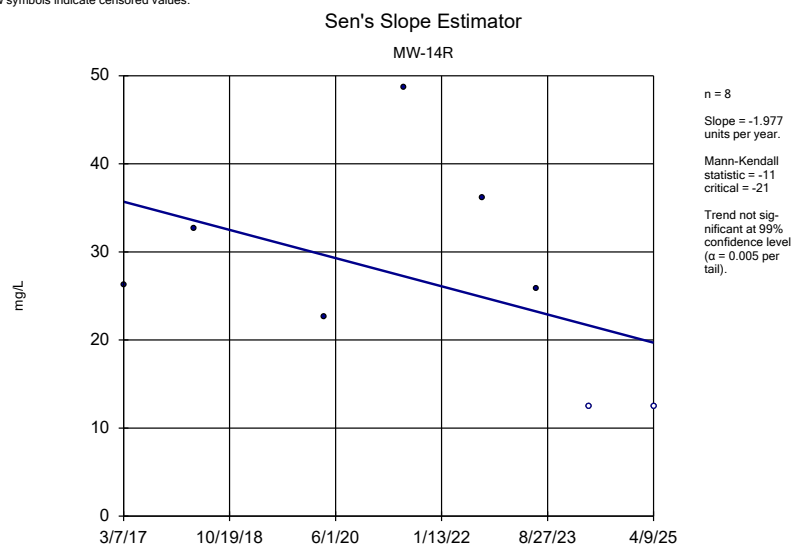
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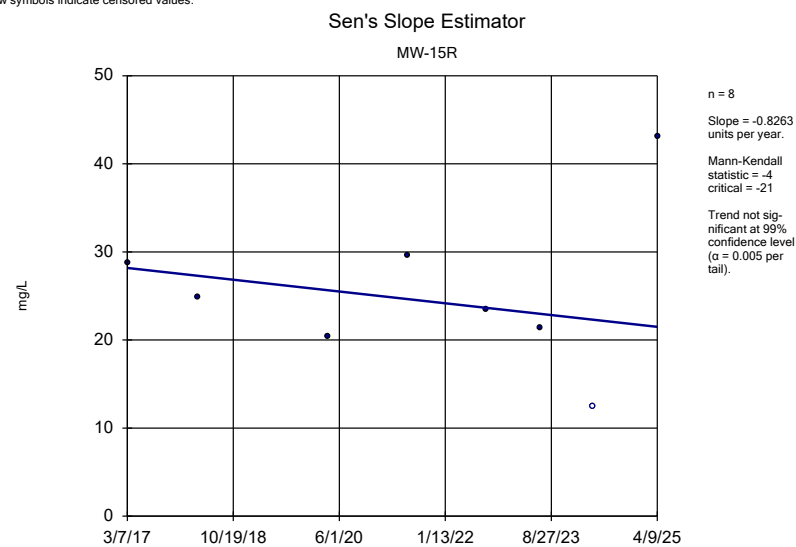
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



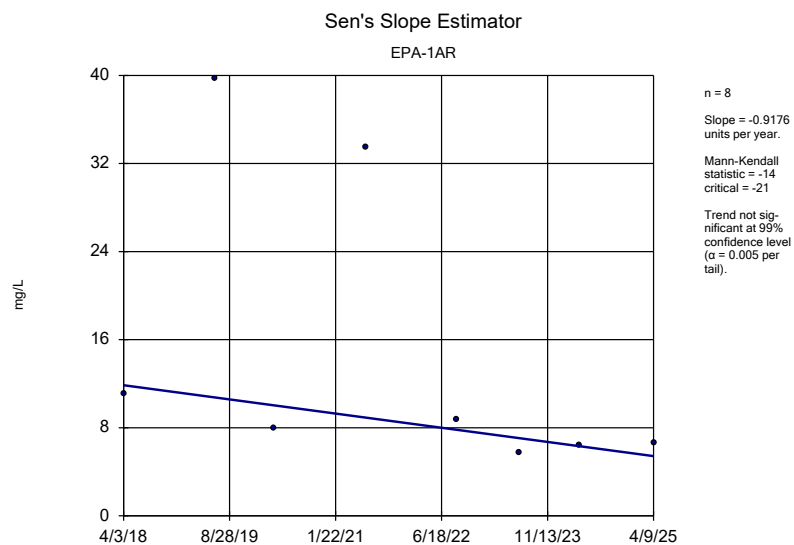
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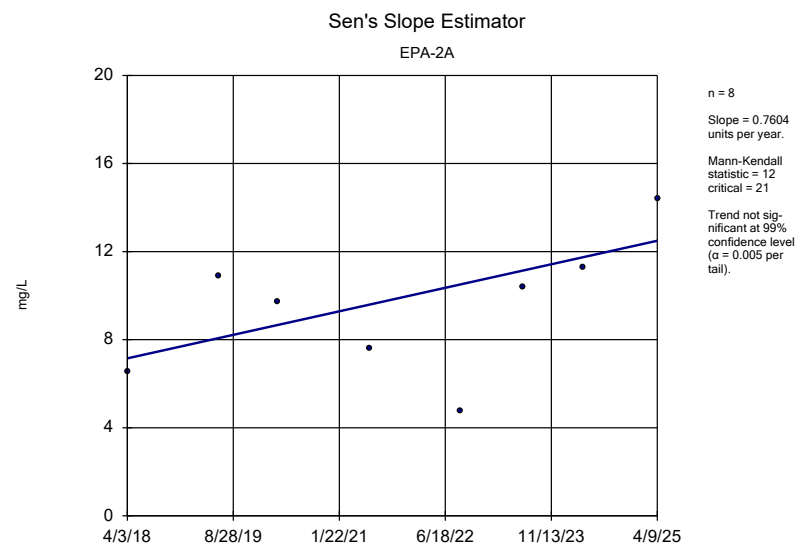
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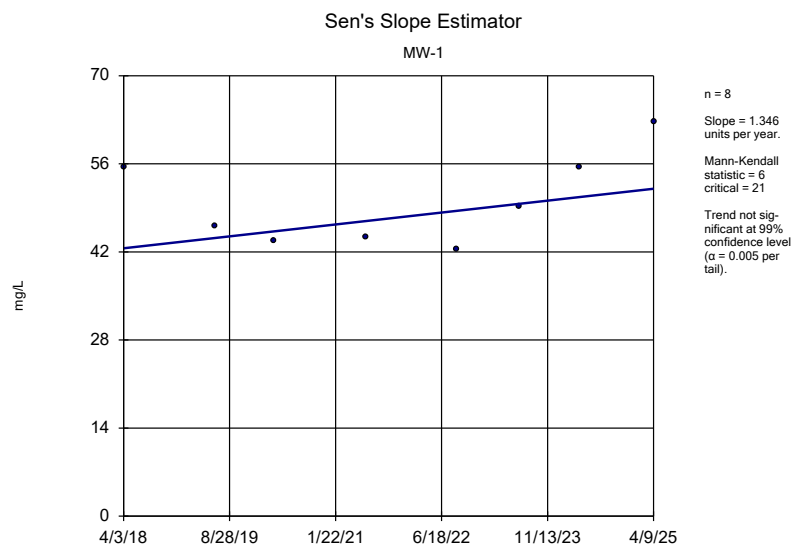
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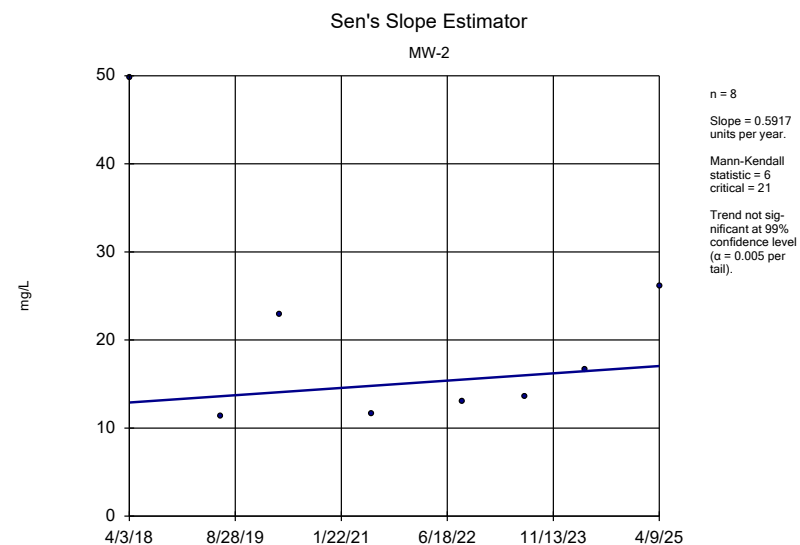
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



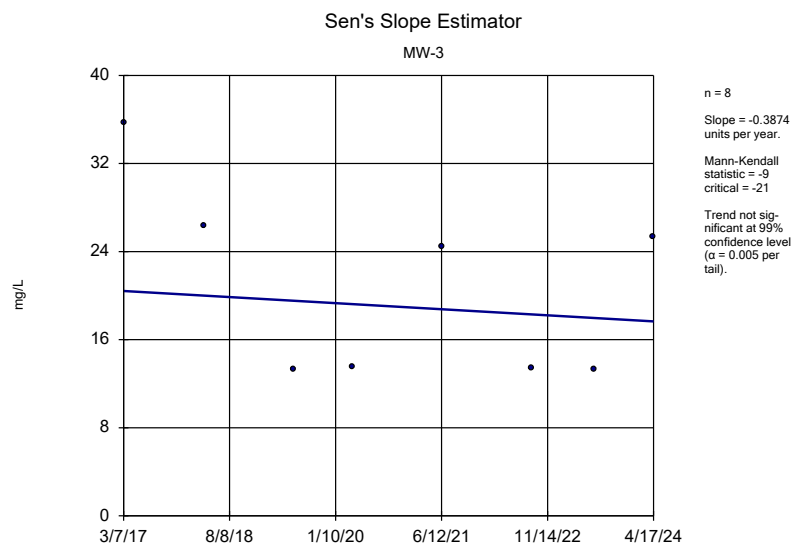
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



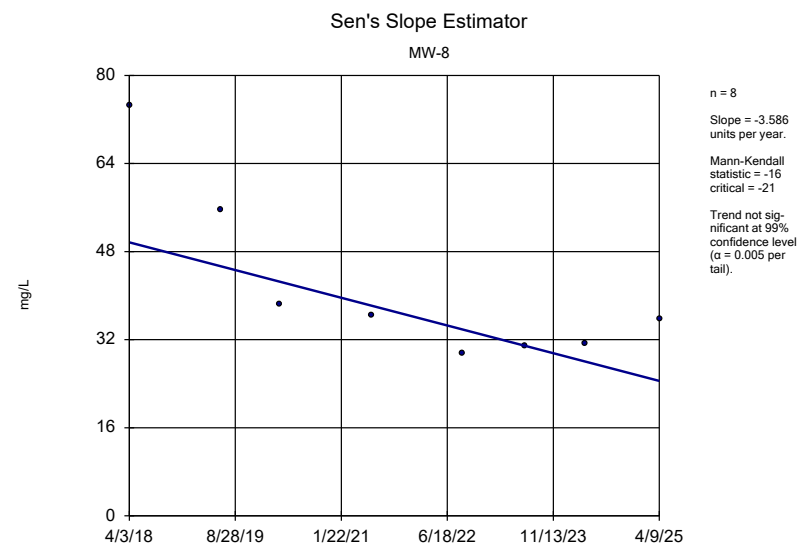
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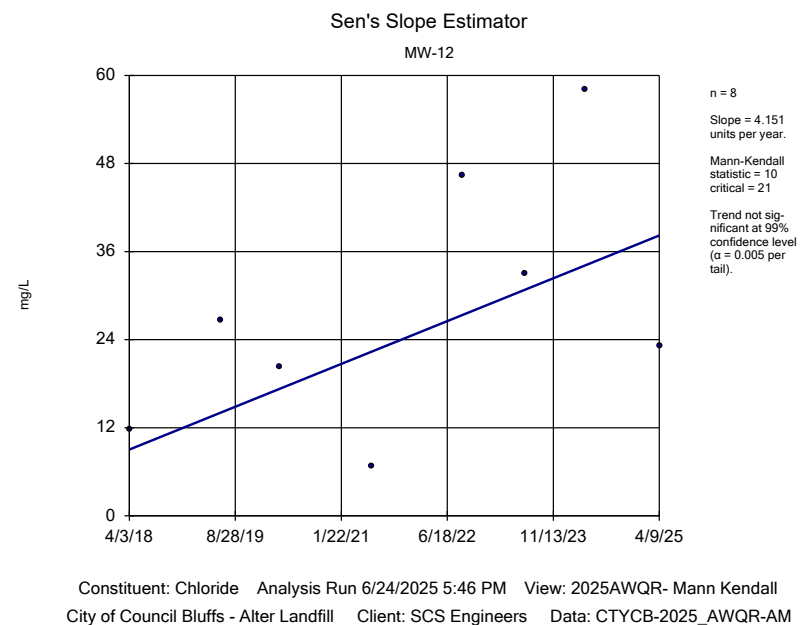
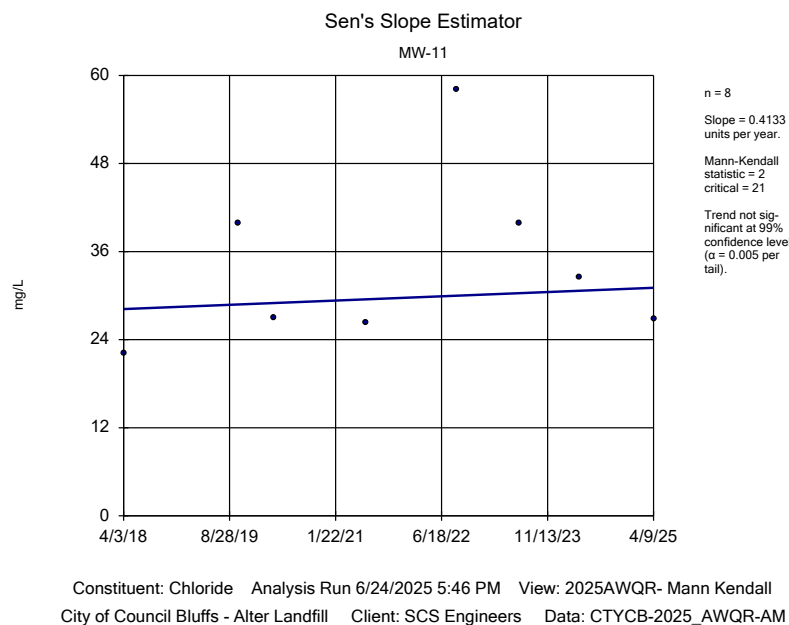
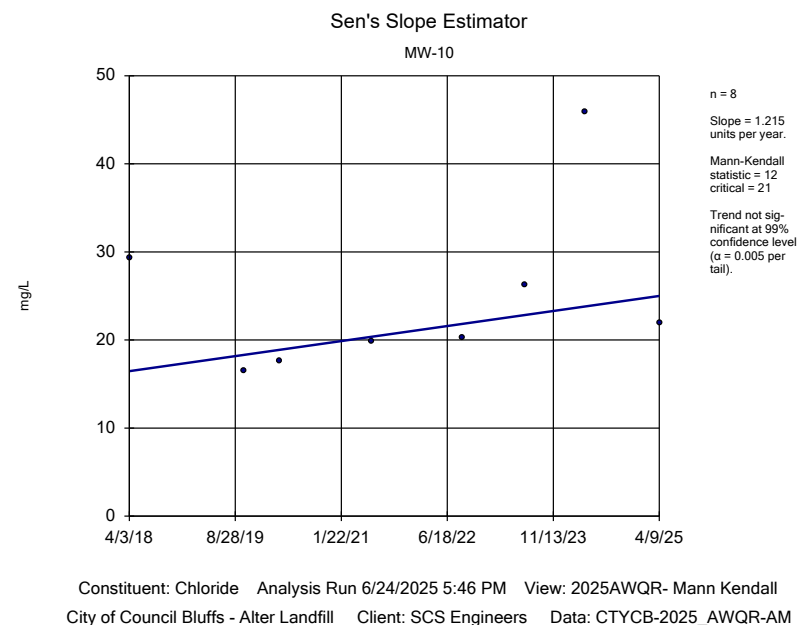
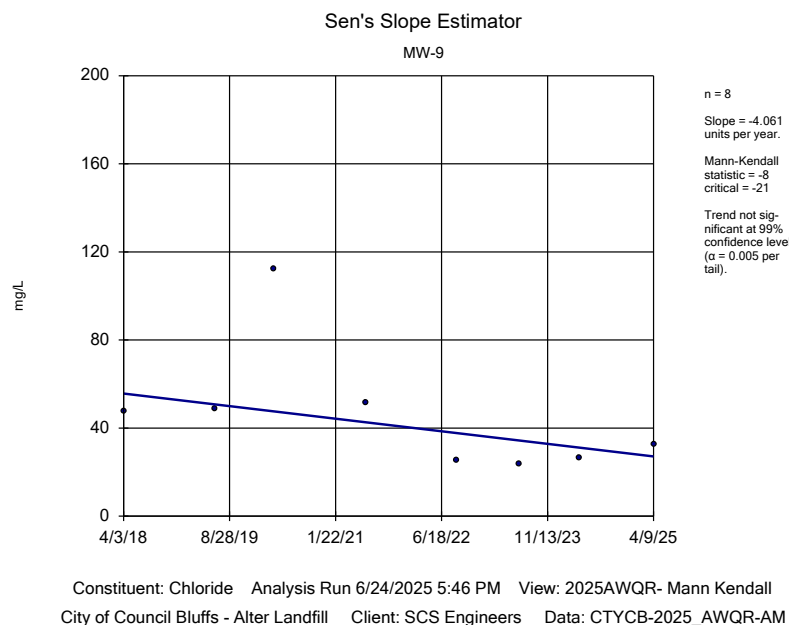
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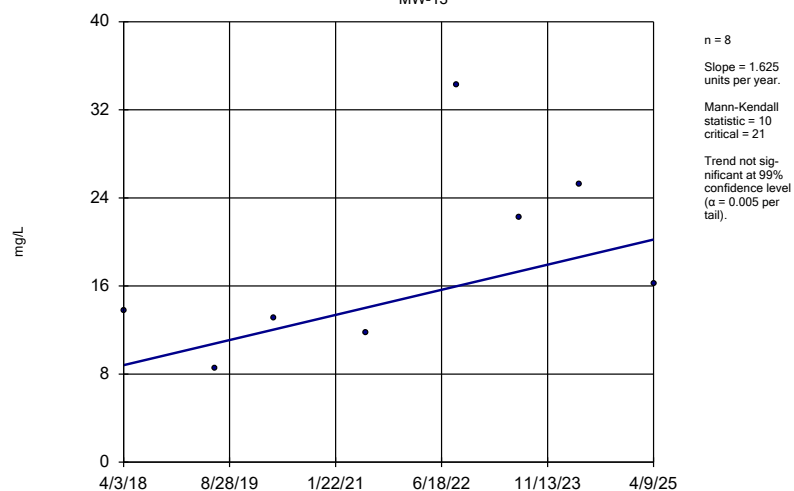


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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



Sen's Slope Estimator

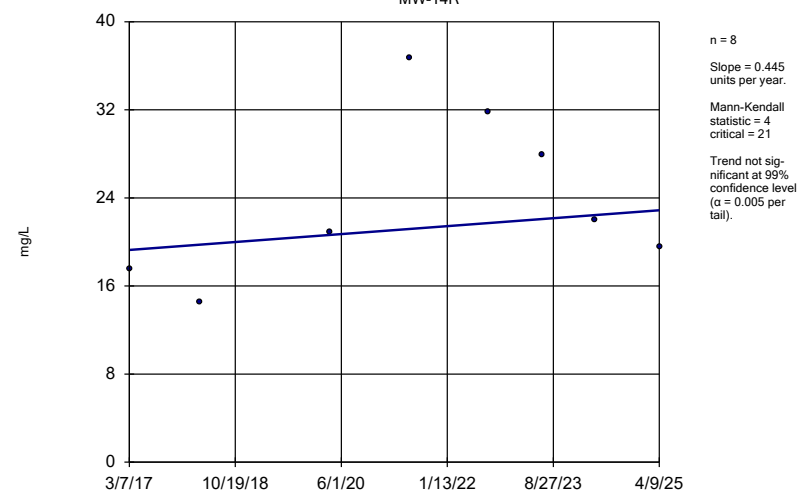
MW-13



Constituent: Chloride Analysis Run 6/24/2025 5:46 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

Sen's Slope Estimator

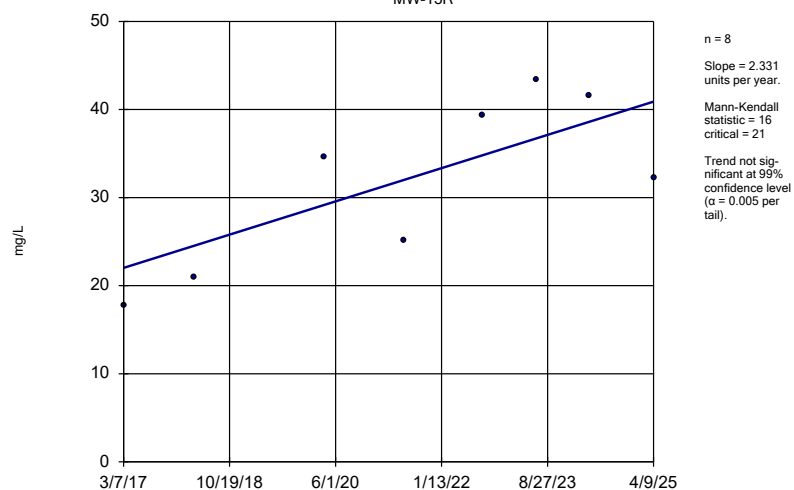
MW-14R



Constituent: Chloride Analysis Run 6/24/2025 5:46 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

Sen's Slope Estimator

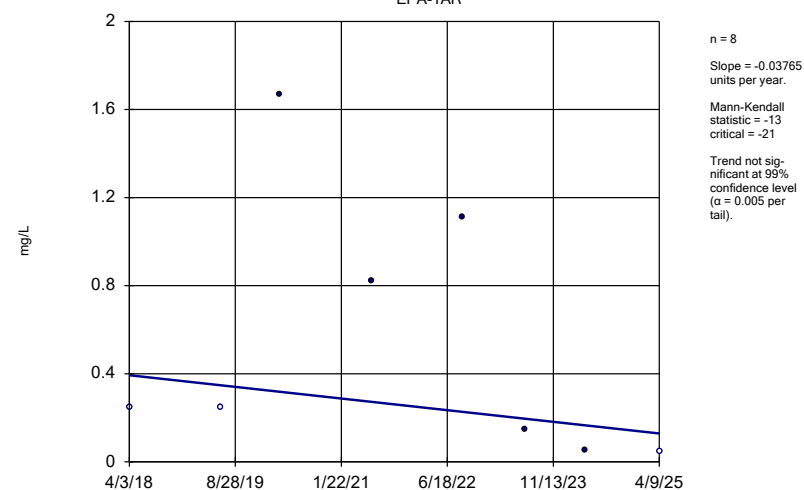
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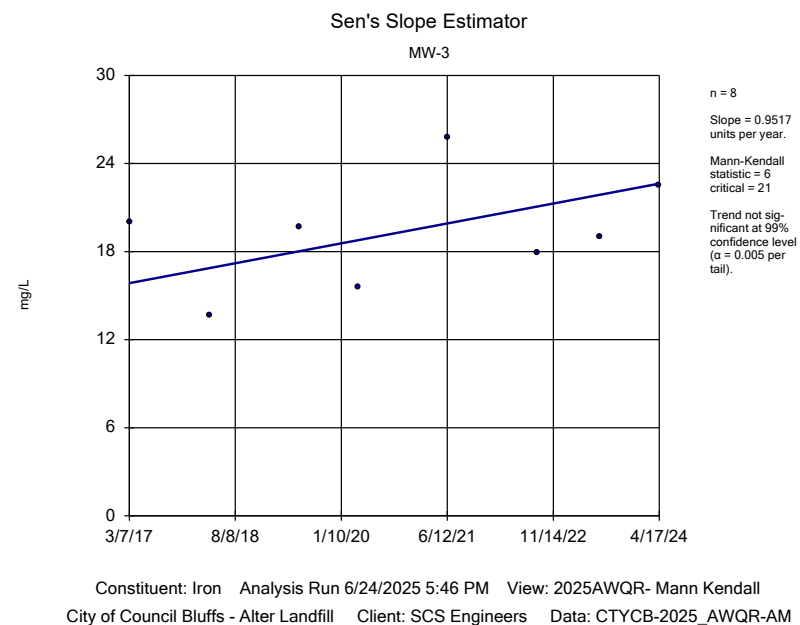
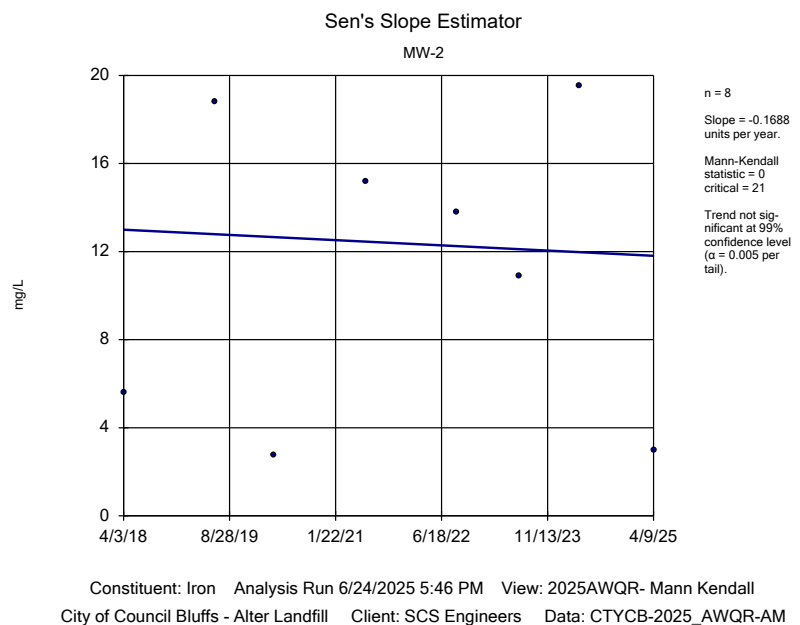
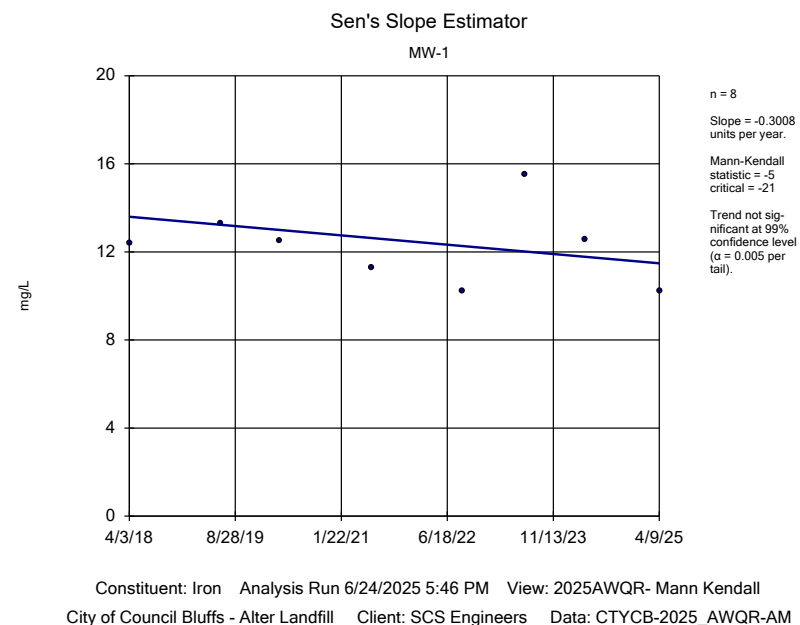
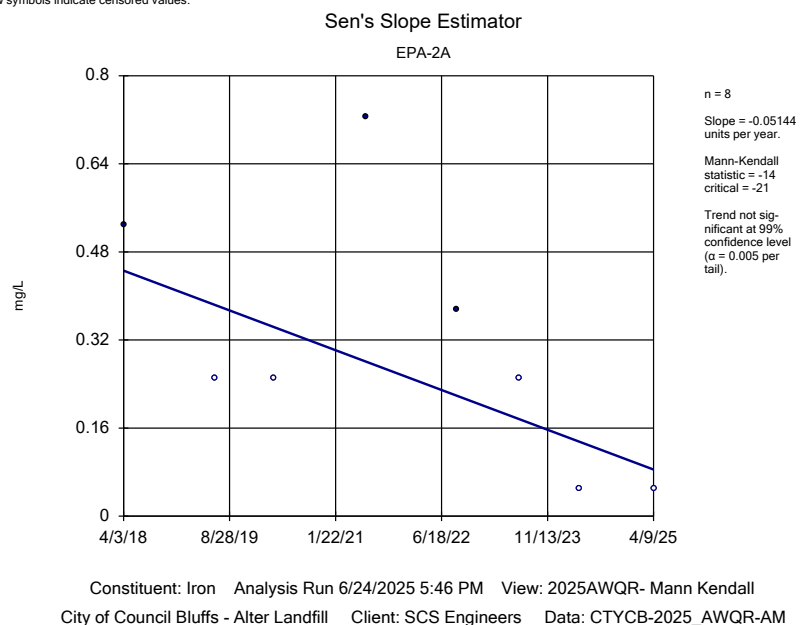
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

Sen's Slope Estimator

EPA-1AR

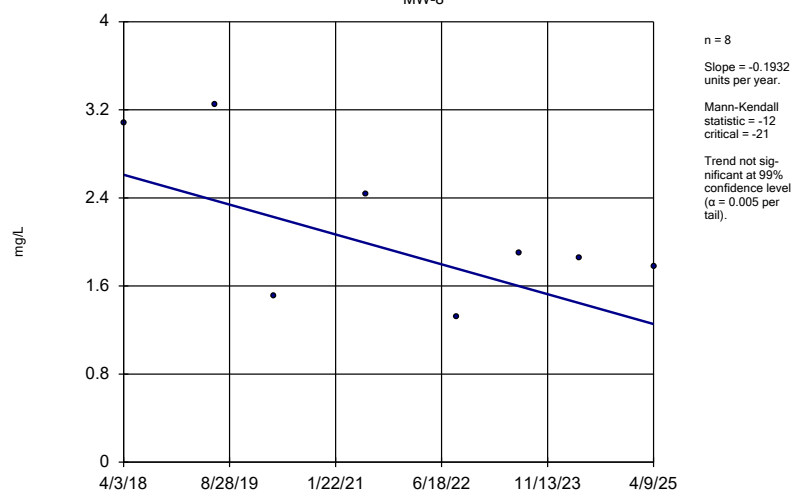


Constituent: Iron Analysis Run 6/24/2025 5:46 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



Sen's Slope Estimator

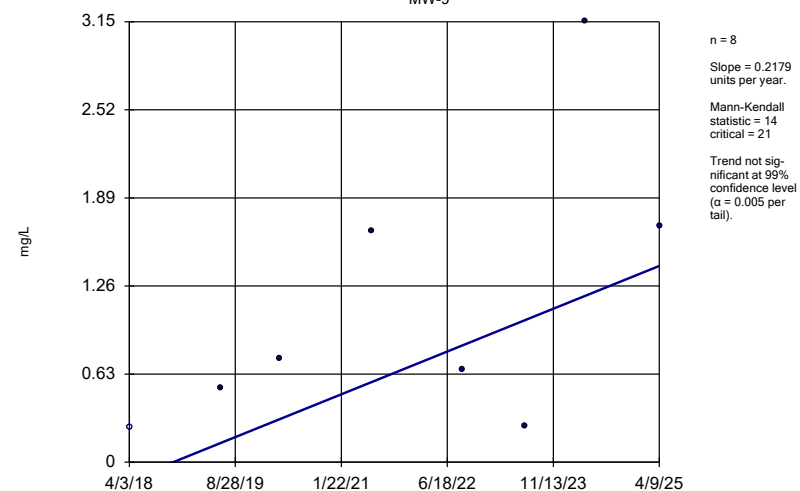
MW-8



Constituent: Iron Analysis Run 6/24/2025 5:46 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

Sen's Slope Estimator

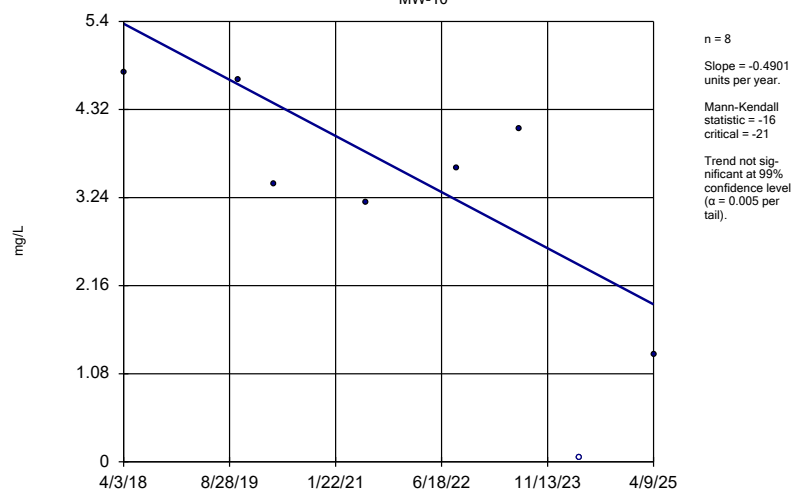
MW-9



Constituent: Iron Analysis Run 6/24/2025 5:46 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

Sen's Slope Estimator

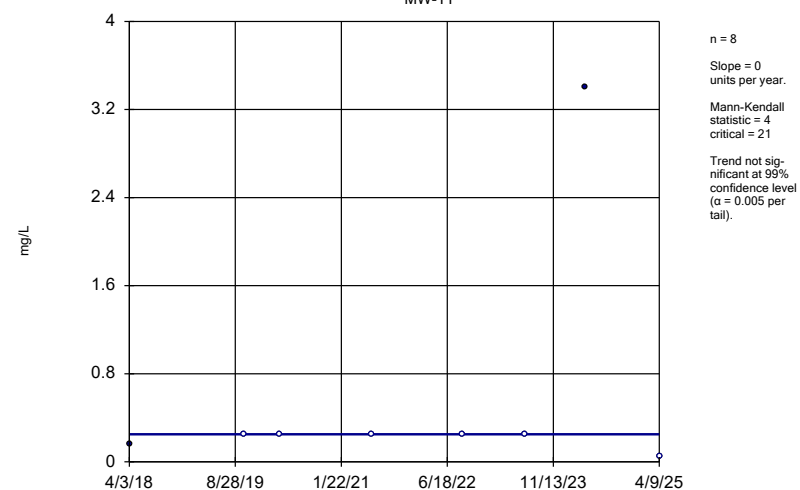
MW-10



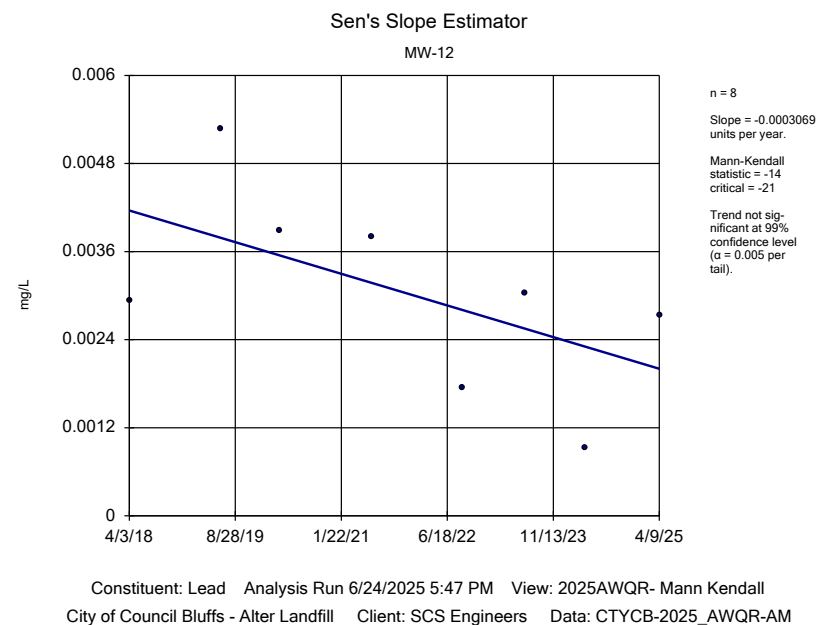
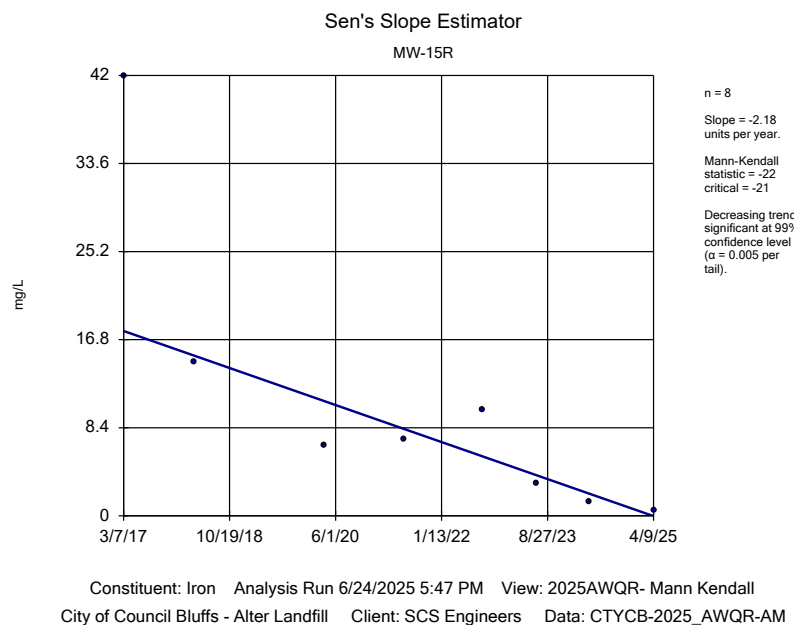
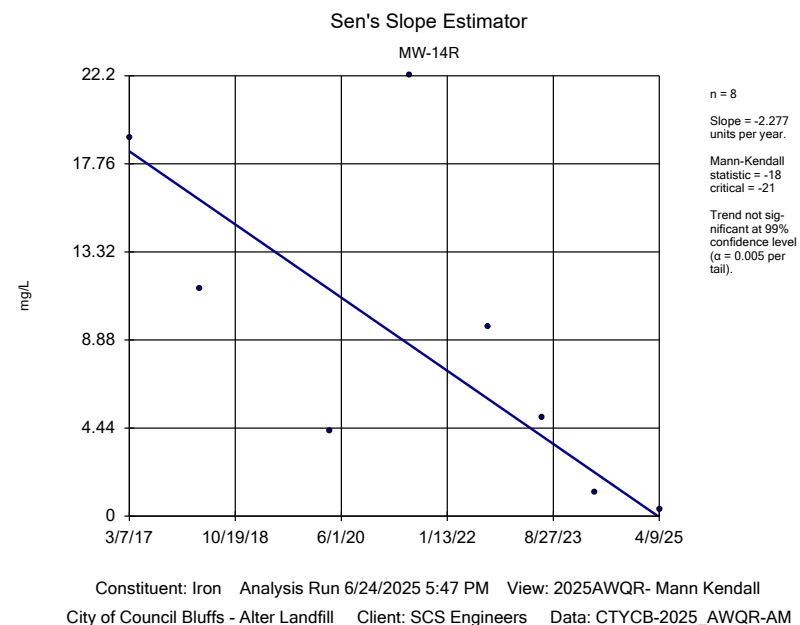
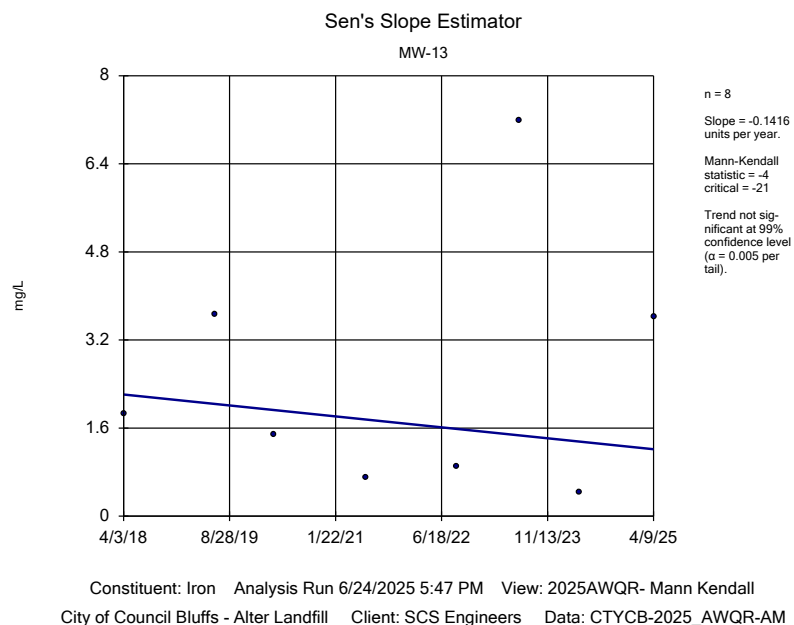
Constituent: Iron Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

Sen's Slope Estimator

MW-11

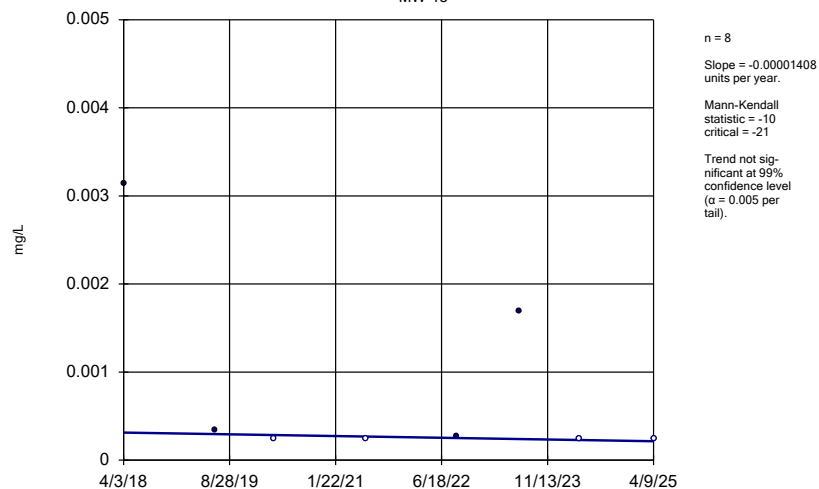


Constituent: Iron Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



Sen's Slope Estimator

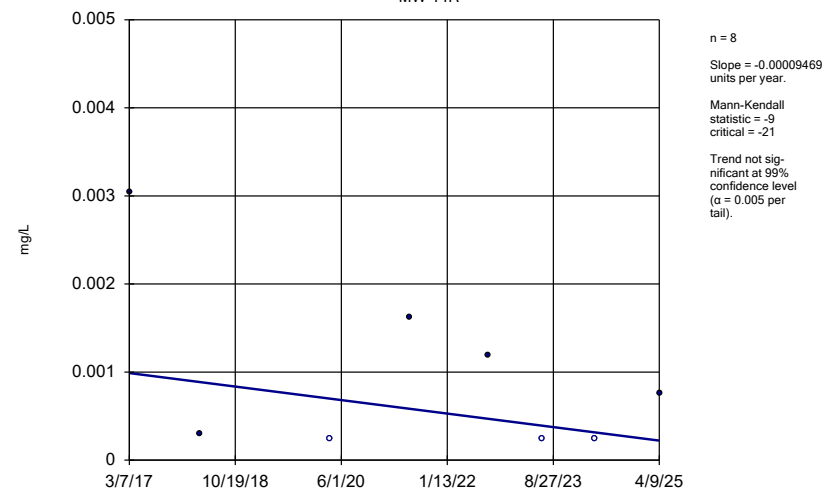
MW-13



Constituent: Lead Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

Sen's Slope Estimator

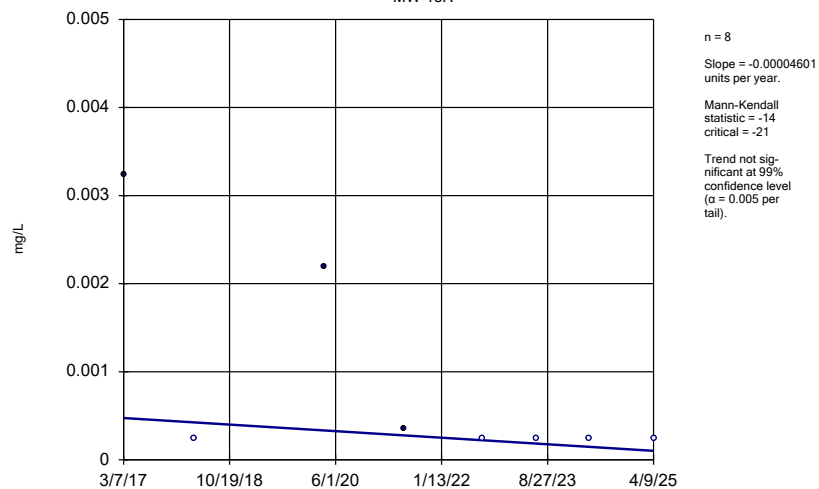
MW-14R



Constituent: Lead Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

Sen's Slope Estimator

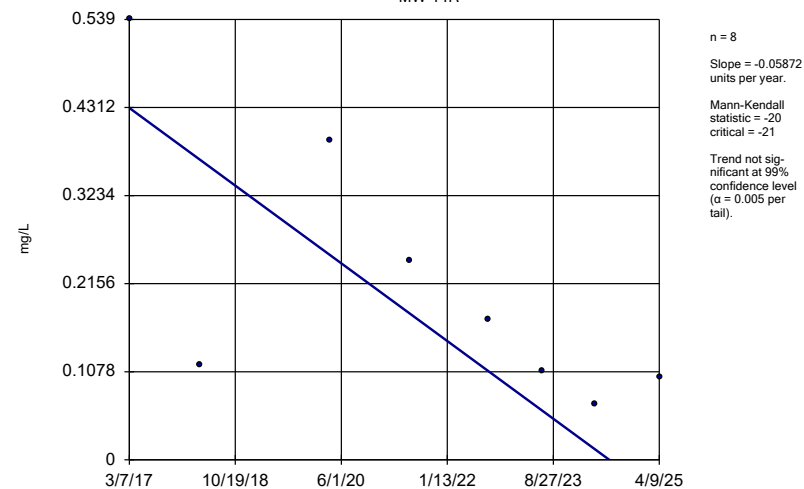
MW-15R



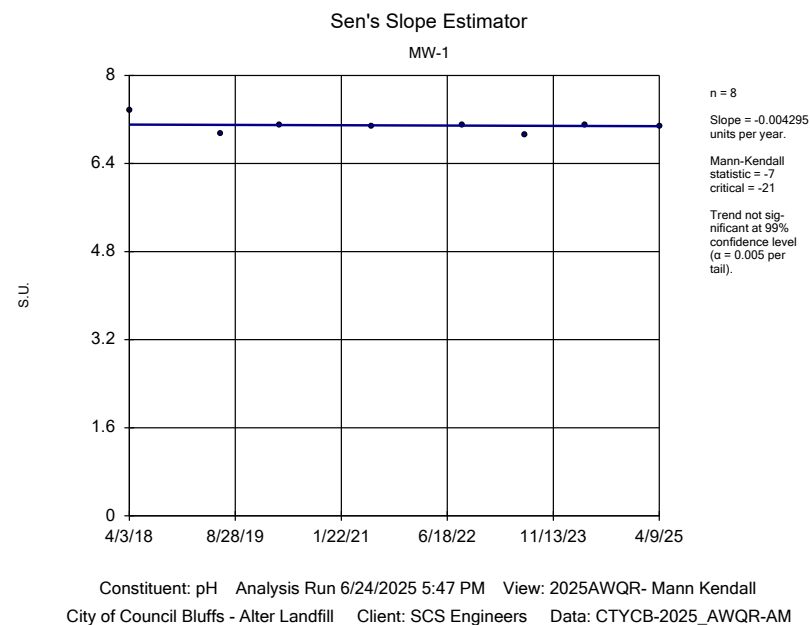
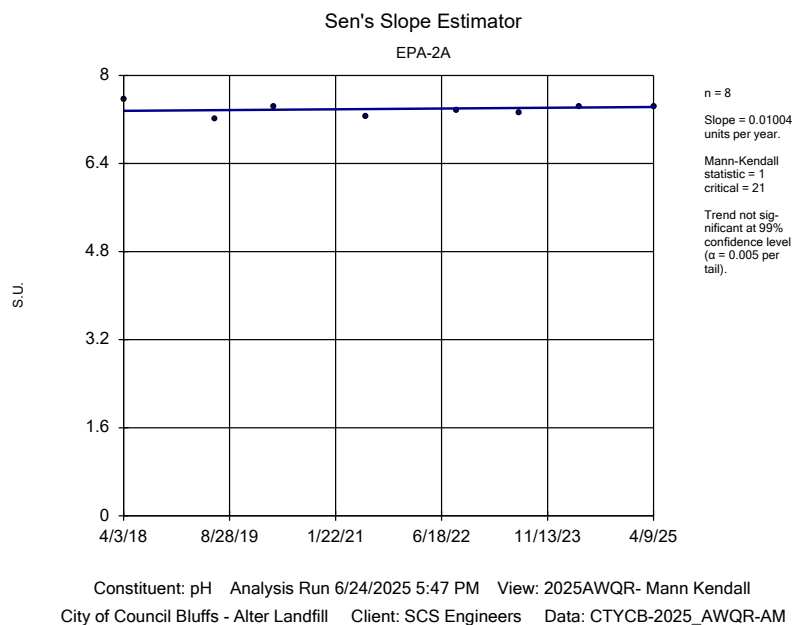
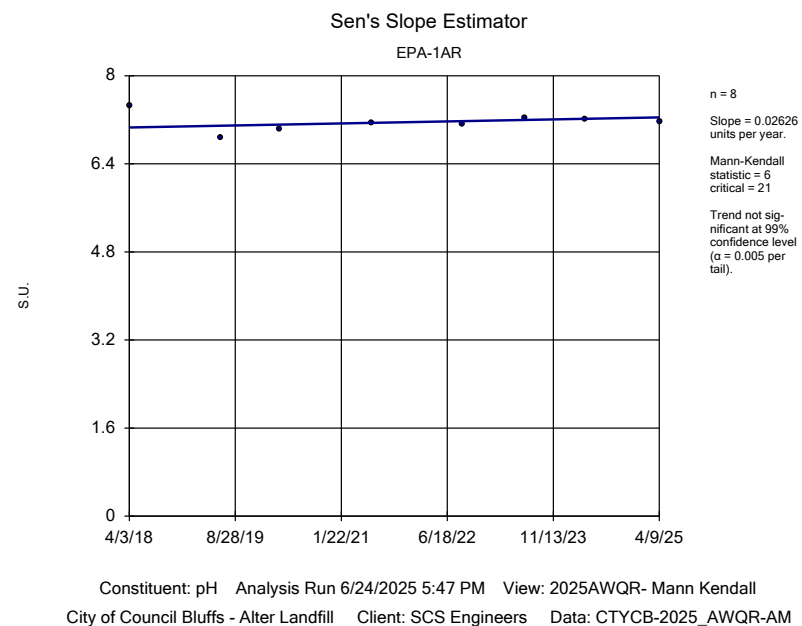
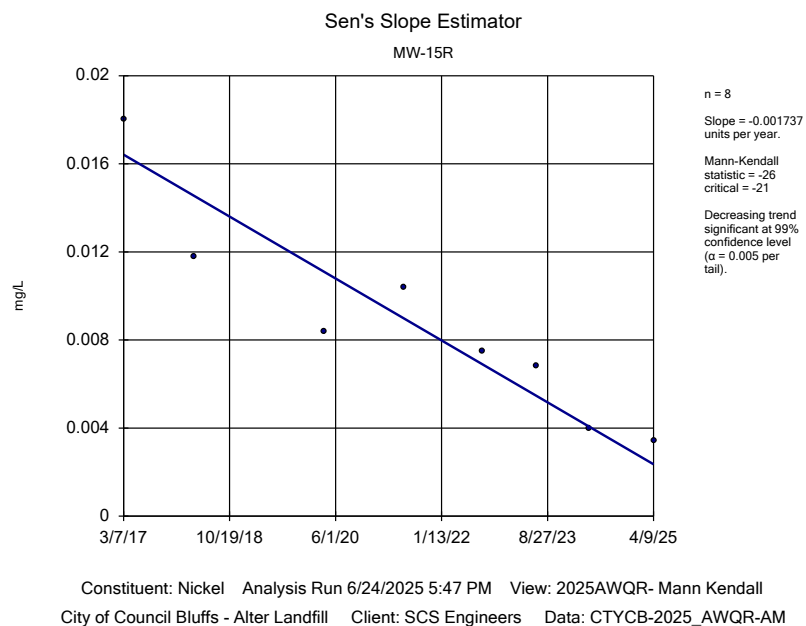
Constituent: Lead Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

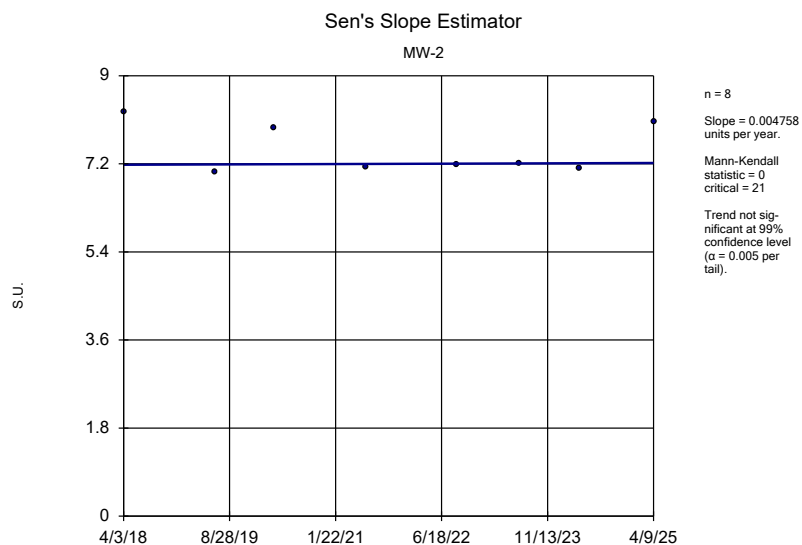
Sen's Slope Estimator

MW-14R

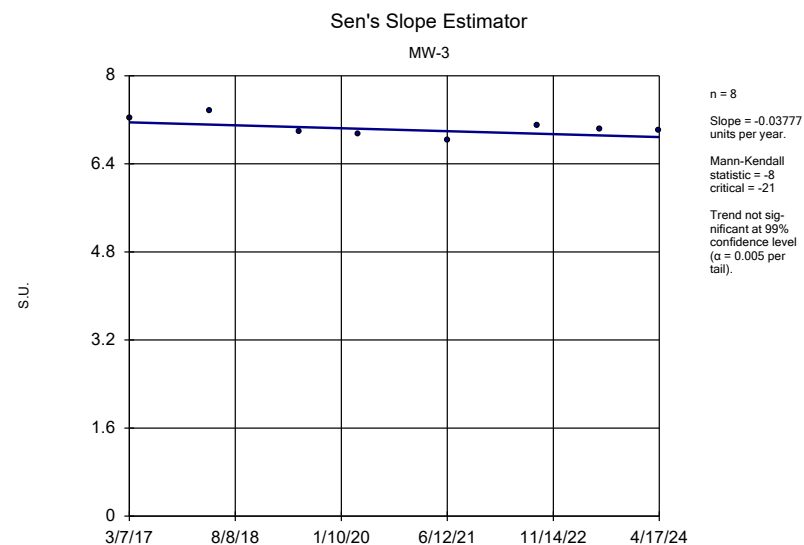


Constituent: Nickel Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

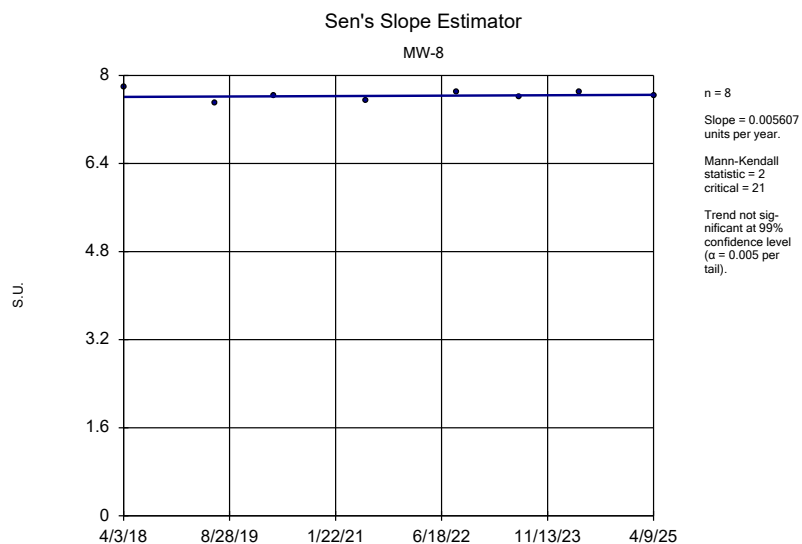




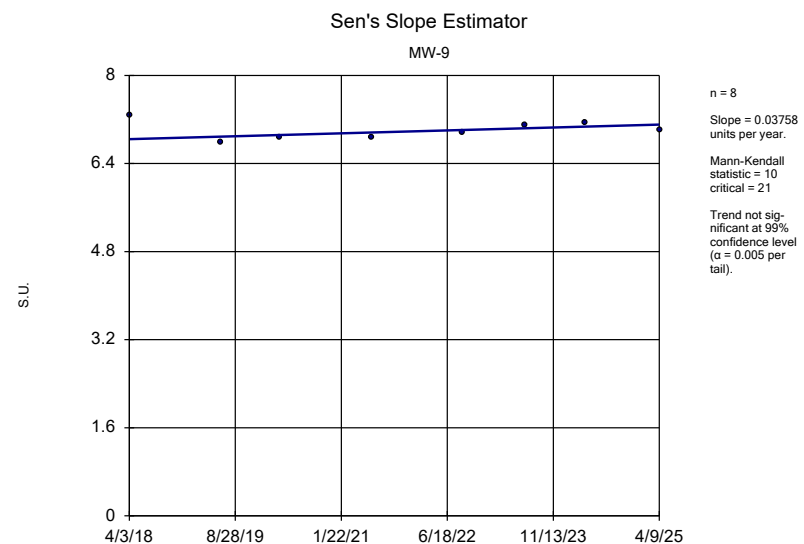
Constituent: pH Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



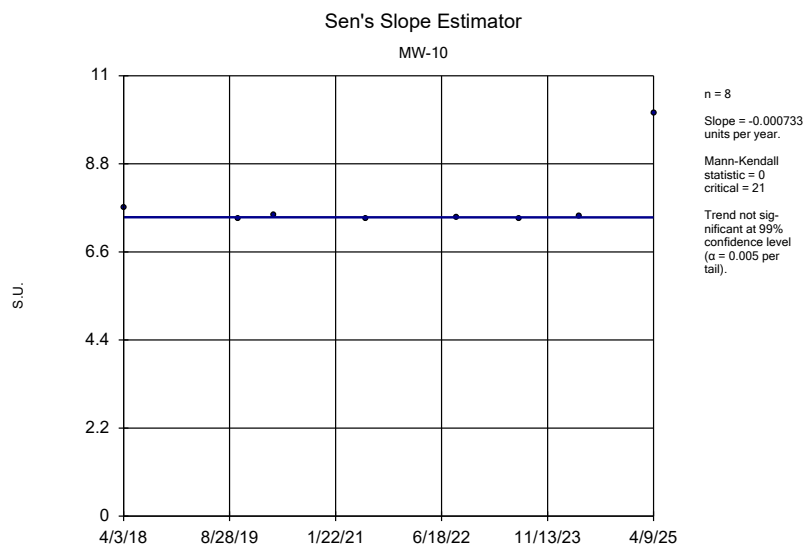
Constituent: pH Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



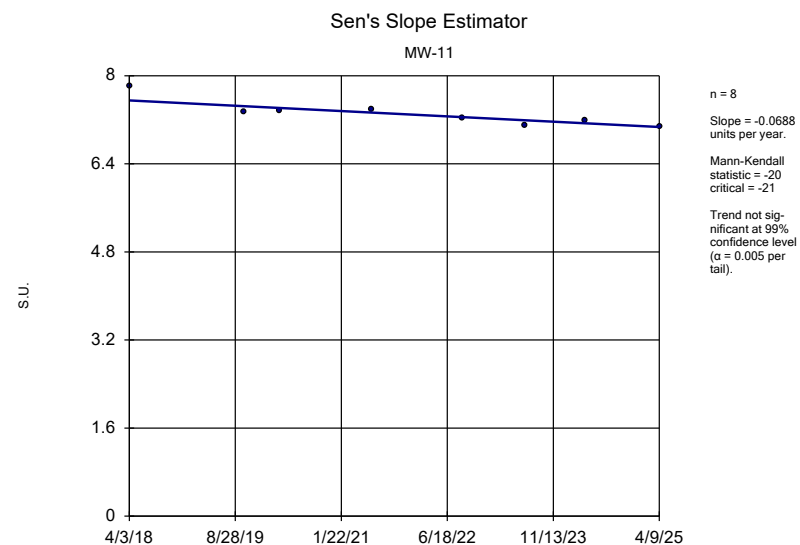
Constituent: pH Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



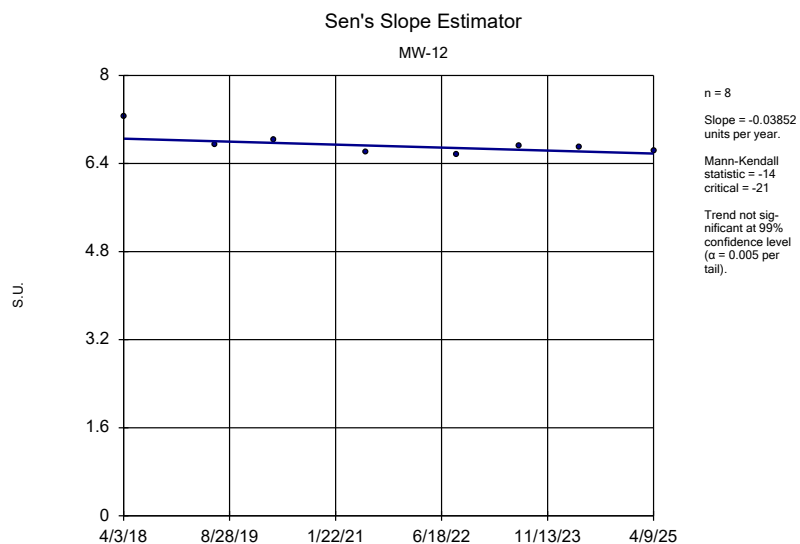
Constituent: pH Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



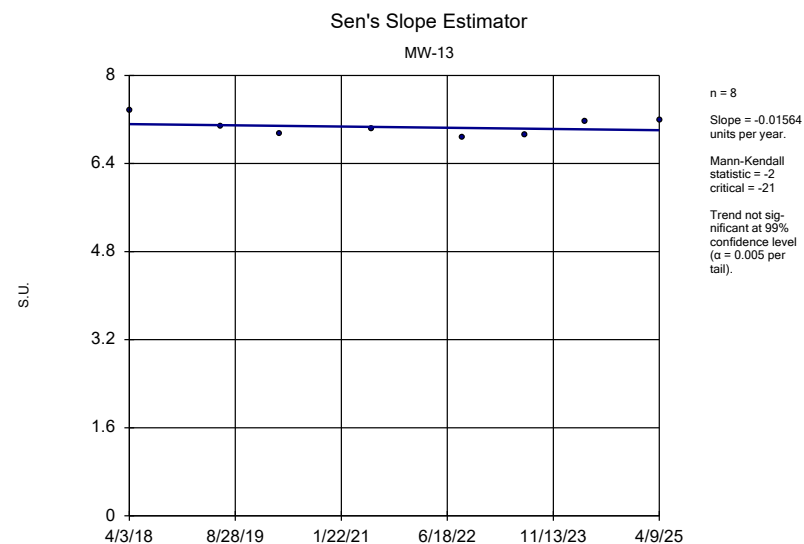
Constituent: pH Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



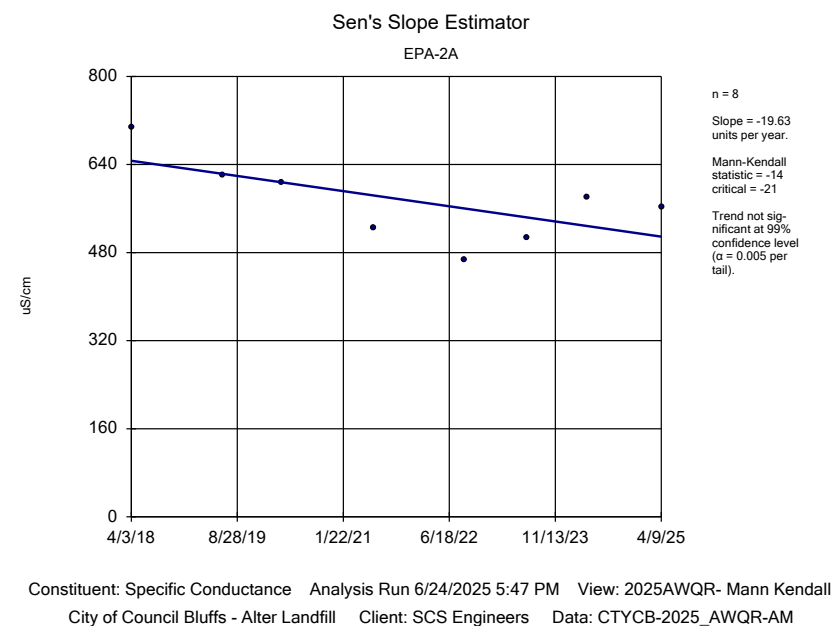
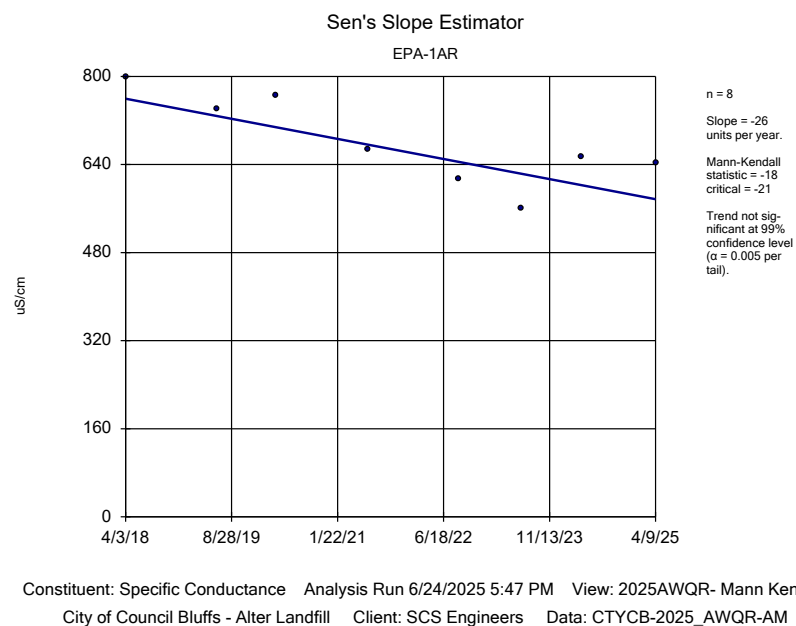
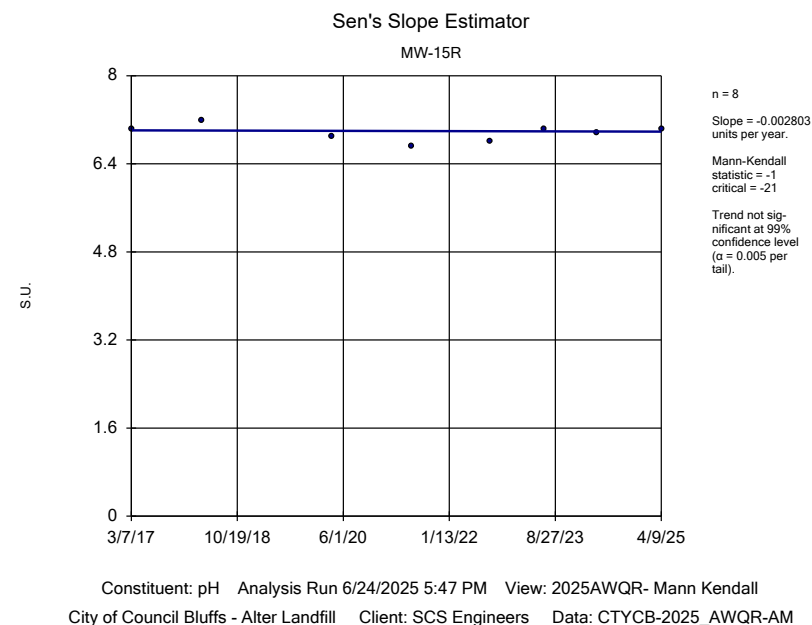
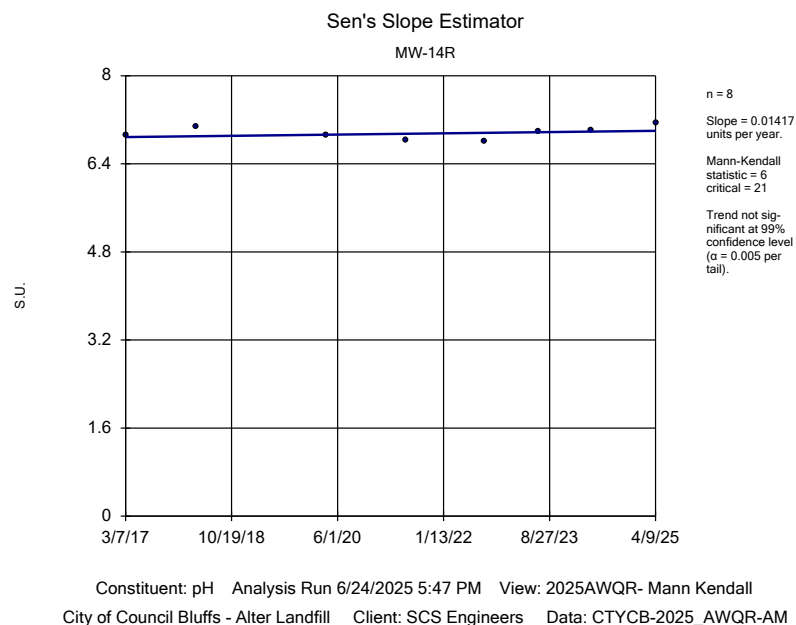
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

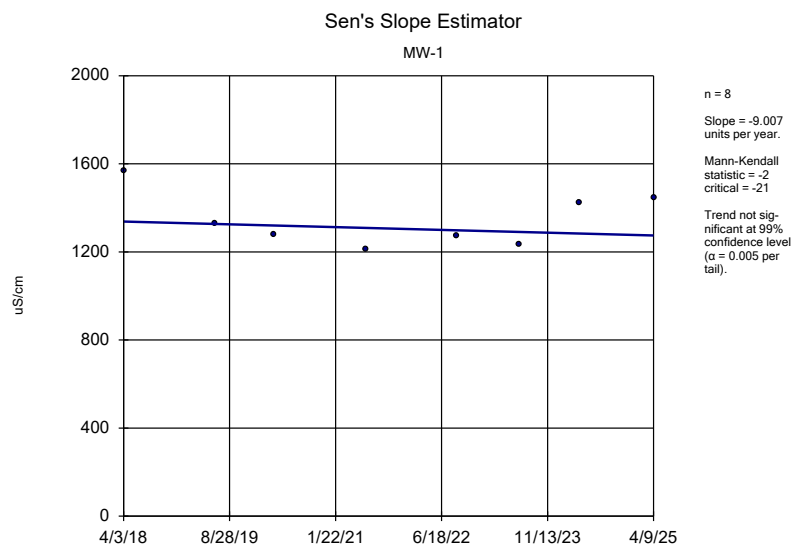


Constituent: pH Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

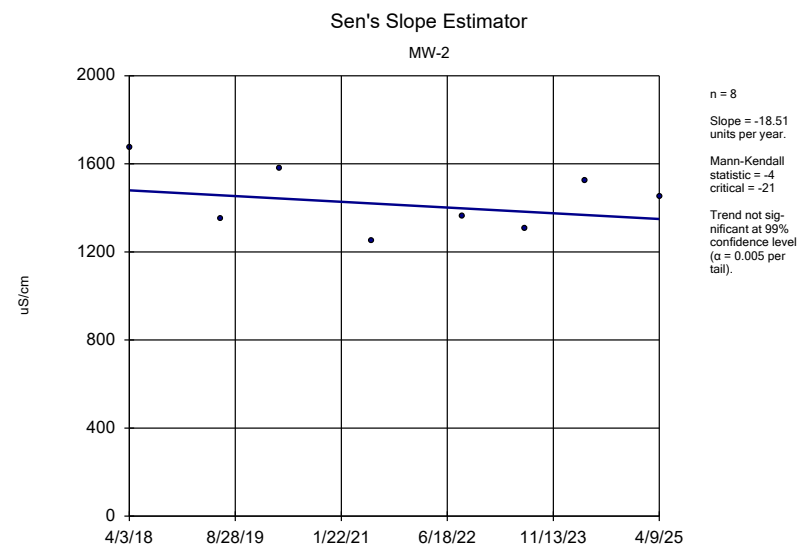


Constituent: pH Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

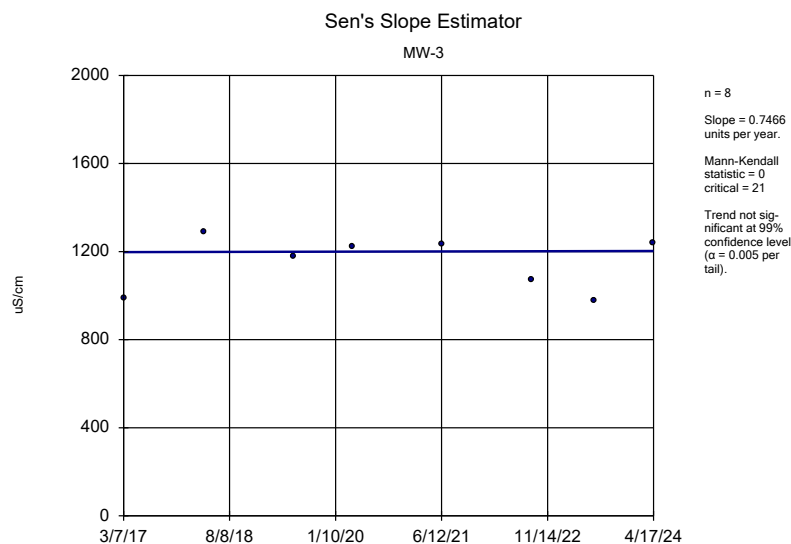




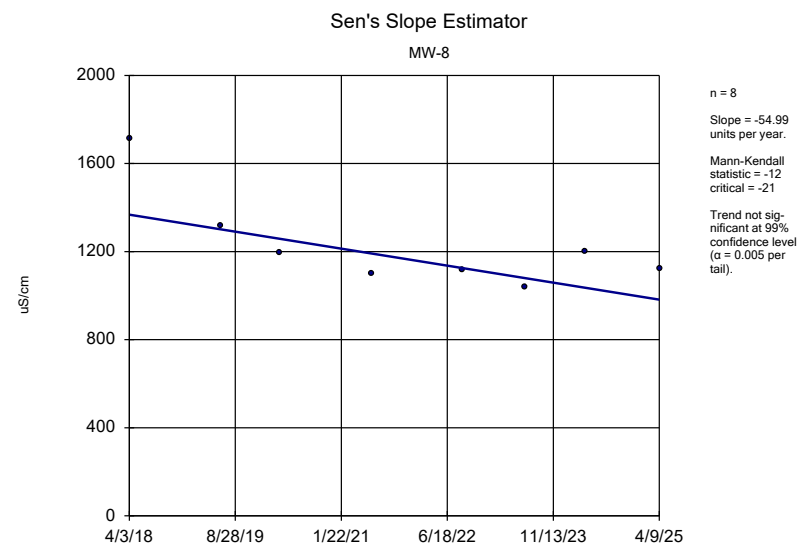
Constituent: Specific Conductance Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



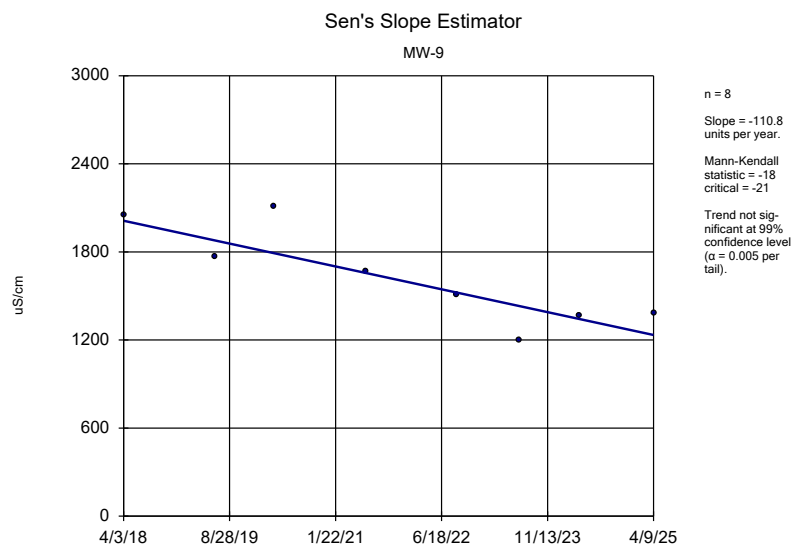
Constituent: Specific Conductance Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



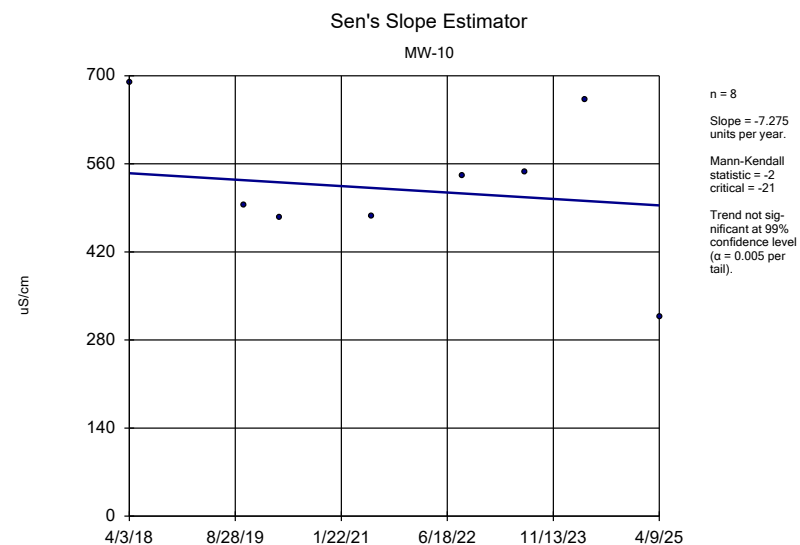
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



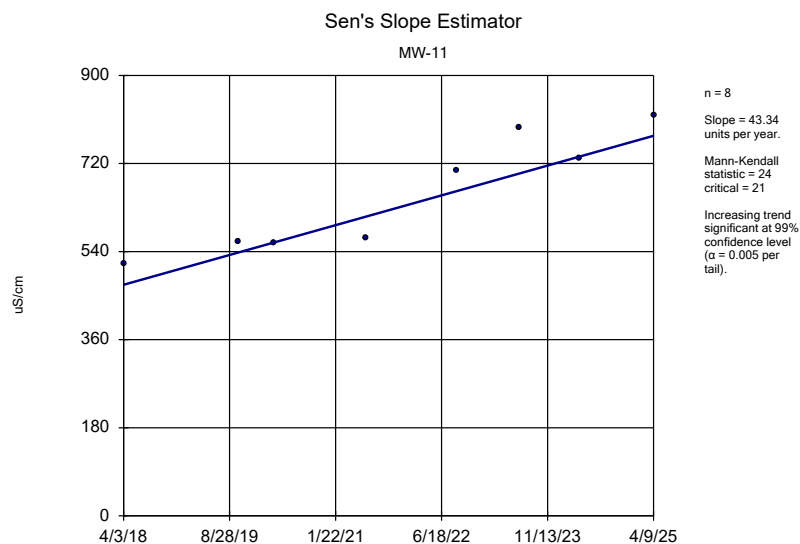
Constituent: Specific Conductance Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



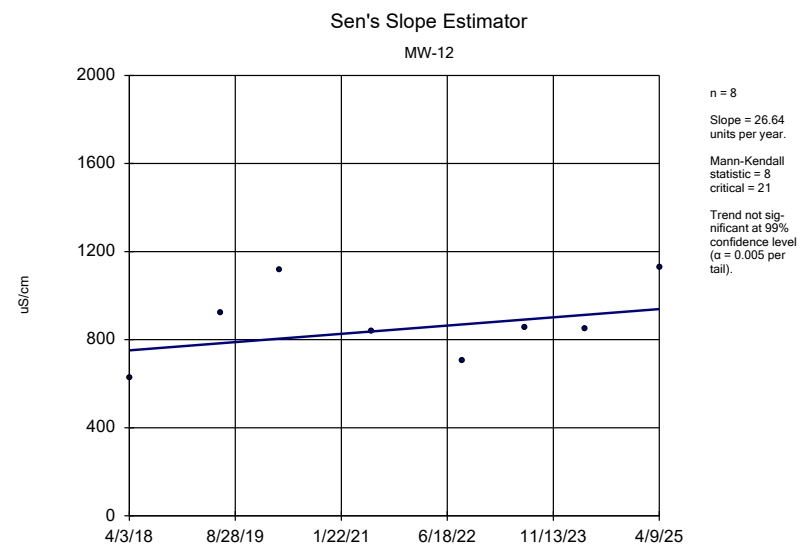
Constituent: Specific Conductance Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



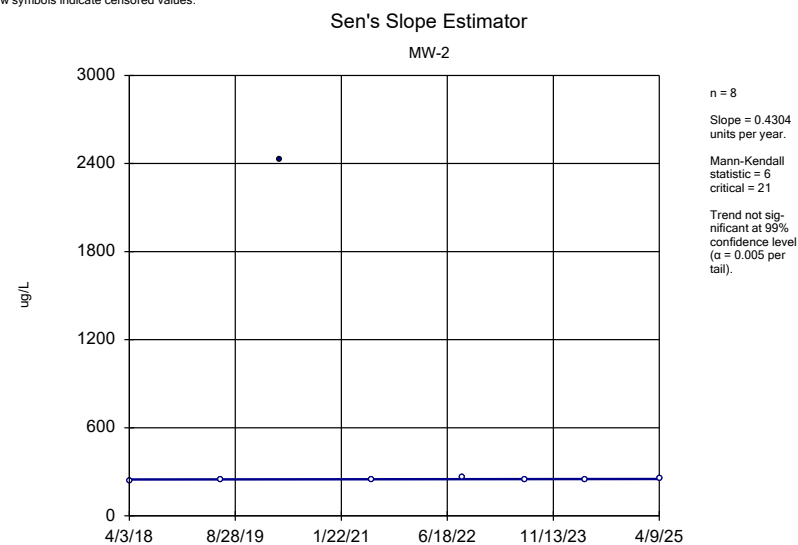
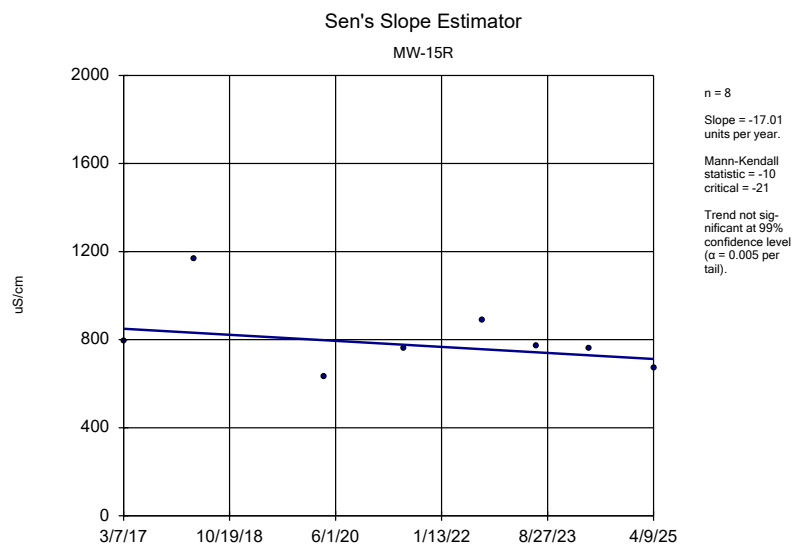
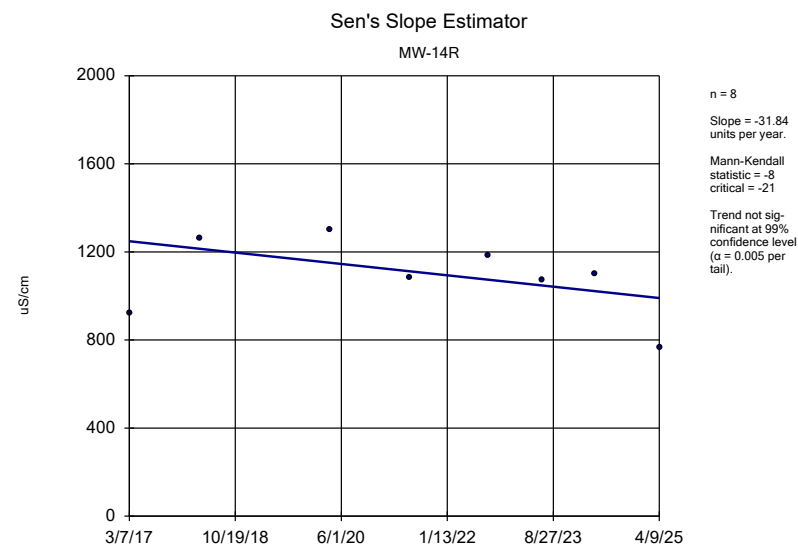
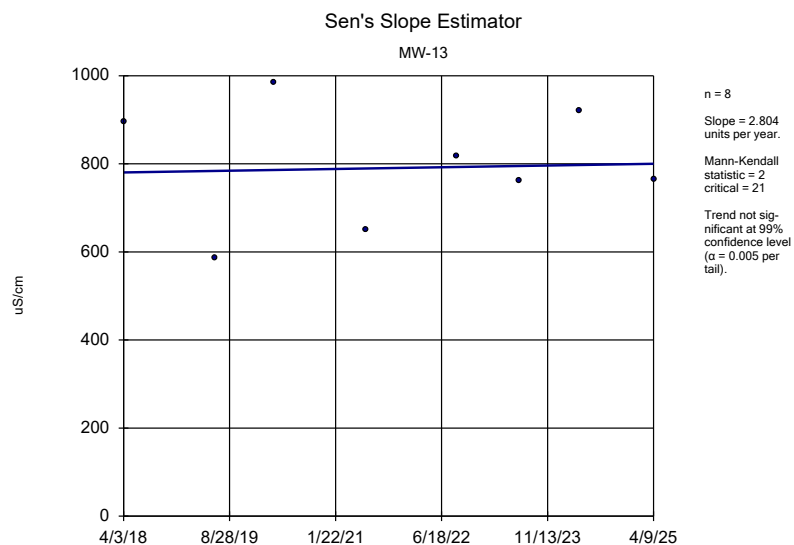
Constituent: Specific Conductance Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

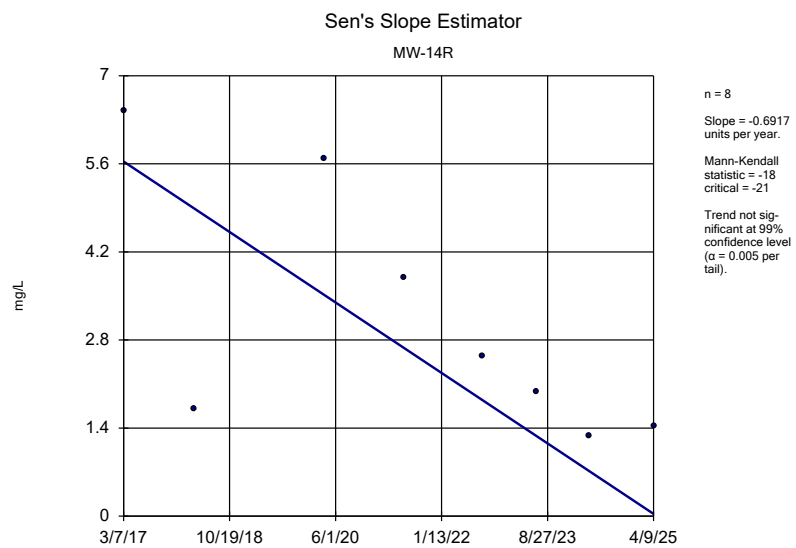


Constituent: Specific Conductance Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM



Constituent: Specific Conductance Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM





Constituent: Zinc Analysis Run 6/24/2025 5:47 PM View: 2025AWQR- Mann Kendall
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB-2025_AWQR-AM

Attachment B

Control Limits

Control Limits

City of Council Bluffs - Alter Landfill

Client: SCS Engineers

Data: CTYCB Sanitas Master

Printed 6/24/2025, 4:54 PM

<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>
Ammonia as N (mg/L)	MW-1	1.209	n/a	4/9/2025	1.31	Yes	60	MW-4,MW-5	0.3533	0.4279	50
Ammonia as N (mg/L)	MW-2	1.209	n/a	4/9/2025	26.5	Yes	60	MW-4,MW-5	0.3533	0.4279	50
Ammonia as N (mg/L)	MW-8	1.209	n/a	4/9/2025	0.441J	No	60	MW-4,MW-5	0.3533	0.4279	50
Arsenic (mg/L)	EPA-2A	0.00516	n/a	4/9/2025	0.00174J	No	28	MW-4,MW-5	0.00197	0.001595	7.143
Arsenic (mg/L)	MW-2	0.00516	n/a	4/9/2025	0.175	Yes	28	MW-4,MW-5	0.00197	0.001595	7.143
Arsenic (mg/L)	MW-10	0.00516	n/a	4/9/2025	0.0117	Yes	28	MW-4,MW-5	0.00197	0.001595	7.143
Arsenic (mg/L)	MW-13	0.00516	n/a	4/9/2025	0.00712	Yes	28	MW-4,MW-5	0.00197	0.001595	7.143
Arsenic (mg/L)	MW-14R	0.00516	n/a	4/9/2025	0.00133J	No	28	MW-4,MW-5	0.00197	0.001595	7.143
Arsenic (mg/L)	MW-15R	0.00516	n/a	4/9/2025	0.00271	No	28	MW-4,MW-5	0.00197	0.001595	7.143
Barium (mg/L)	MW-14R	0.41	n/a	4/9/2025	0.185	No	28	MW-4,MW-5	0.1993	0.1053	0
Barium (mg/L)	MW-15R	0.41	n/a	4/9/2025	0.35	No	28	MW-4,MW-5	0.1993	0.1053	0
Chemical Oxygen Demand (mg/L)	EPA-2A	39.14	n/a	4/9/2025	28.2	No	60	MW-4,MW-5	19.62	9.758	3.333
Chemical Oxygen Demand (mg/L)	MW-1	39.14	n/a	4/9/2025	52.3	Yes	60	MW-4,MW-5	19.62	9.758	3.333
Chemical Oxygen Demand (mg/L)	MW-2	39.14	n/a	4/9/2025	128	Yes	60	MW-4,MW-5	19.62	9.758	3.333
Chemical Oxygen Demand (mg/L)	MW-8	39.14	n/a	4/9/2025	49.8	Yes	60	MW-4,MW-5	19.62	9.758	3.333
Chemical Oxygen Demand (mg/L)	MW-9	39.14	n/a	4/9/2025	96.3	Yes	60	MW-4,MW-5	19.62	9.758	3.333
Chemical Oxygen Demand (mg/L)	EPA-1AR	39.14	n/a	4/9/2025	26.5	No	60	MW-4,MW-5	19.62	9.758	3.333
Chemical Oxygen Demand (mg/L)	MW-10	39.14	n/a	4/9/2025	36.5	No	60	MW-4,MW-5	19.62	9.758	3.333
Chemical Oxygen Demand (mg/L)	MW-11	39.14	n/a	4/9/2025	39.8	Yes	60	MW-4,MW-5	19.62	9.758	3.333
Chemical Oxygen Demand (mg/L)	MW-12	39.14	n/a	4/9/2025	31.5	No	60	MW-4,MW-5	19.62	9.758	3.333
Chemical Oxygen Demand (mg/L)	MW-13	39.14	n/a	4/9/2025	29.9	No	60	MW-4,MW-5	19.62	9.758	3.333
Chemical Oxygen Demand (mg/L)	MW-15R	39.14	n/a	4/9/2025	43.1	Yes	60	MW-4,MW-5	19.62	9.758	3.333
Chloride (mg/L)	EPA-2A	368.1	n/a	4/9/2025	14.4	No	60	MW-4,MW-5	209.9	79.11	0
Chloride (mg/L)	MW-1	368.1	n/a	4/9/2025	62.7	No	60	MW-4,MW-5	209.9	79.11	0
Chloride (mg/L)	MW-2	368.1	n/a	4/9/2025	26.1	No	60	MW-4,MW-5	209.9	79.11	0
Chloride (mg/L)	MW-8	368.1	n/a	4/9/2025	35.7	No	60	MW-4,MW-5	209.9	79.11	0
Chloride (mg/L)	MW-9	368.1	n/a	4/9/2025	32.7	No	60	MW-4,MW-5	209.9	79.11	0
Chloride (mg/L)	EPA-1AR	368.1	n/a	4/9/2025	6.6	No	60	MW-4,MW-5	209.9	79.11	0
Chloride (mg/L)	MW-10	368.1	n/a	4/9/2025	21.9	No	60	MW-4,MW-5	209.9	79.11	0
Chloride (mg/L)	MW-11	368.1	n/a	4/9/2025	26.9	No	60	MW-4,MW-5	209.9	79.11	0
Chloride (mg/L)	MW-12	368.1	n/a	4/9/2025	23.1	No	60	MW-4,MW-5	209.9	79.11	0
Chloride (mg/L)	MW-13	368.1	n/a	4/9/2025	16.2	No	60	MW-4,MW-5	209.9	79.11	0
Chloride (mg/L)	MW-14R	368.1	n/a	4/9/2025	19.5	No	60	MW-4,MW-5	209.9	79.11	0
Chloride (mg/L)	MW-15R	368.1	n/a	4/9/2025	32.2	No	60	MW-4,MW-5	209.9	79.11	0
Iron (mg/L)	MW-1	18.3	n/a	4/9/2025	10.2	No	16	MW-4,MW-5	5.805	6.246	18.75
Iron (mg/L)	MW-2	18.3	n/a	4/9/2025	2.96	No	16	MW-4,MW-5	5.805	6.246	18.75
Iron (mg/L)	MW-8	18.3	n/a	4/9/2025	1.78	No	16	MW-4,MW-5	5.805	6.246	18.75
Iron (mg/L)	MW-9	18.3	n/a	4/9/2025	1.69	No	16	MW-4,MW-5	5.805	6.246	18.75
Iron (mg/L)	MW-10	18.3	n/a	4/9/2025	1.32	No	16	MW-4,MW-5	5.805	6.246	18.75
Iron (mg/L)	MW-12	18.3	n/a	4/9/2025	0.05J	No	16	MW-4,MW-5	5.805	6.246	18.75
Iron (mg/L)	MW-13	18.3	n/a	4/9/2025	3.63	No	16	MW-4,MW-5	5.805	6.246	18.75
Iron (mg/L)	MW-14R	18.3	n/a	4/9/2025	0.361	No	16	MW-4,MW-5	5.805	6.246	18.75
Iron (mg/L)	MW-15R	18.3	n/a	4/9/2025	0.577	No	16	MW-4,MW-5	5.805	6.246	18.75
Lead (mg/L)	MW-12	0.007963	n/a	4/9/2025	0.00274	No	28	MW-4,MW-5	0.00202	0.002971	46.43
Lead (mg/L)	MW-14R	0.007963	n/a	4/9/2025	0.000757	No	28	MW-4,MW-5	0.00202	0.002971	46.43
Nickel (mg/L)	MW-14R	0.02651	n/a	4/9/2025	0.101	Yes	28	MW-4,MW-5	0.008664	0.008922	14.29
Nickel (mg/L)	MW-15R	0.02651	n/a	4/9/2025	0.00344J	No	28	MW-4,MW-5	0.008664	0.008922	14.29
pH (S.U.)	EPA-2A	8.196	6.53	4/9/2025	7.43	No	56	MW-4,MW-5	7.363	0.4165	0
pH (S.U.)	MW-1	8.196	6.53	4/9/2025	7.07	No	56	MW-4,MW-5	7.363	0.4165	0
pH (S.U.)	MW-2	8.196	6.53	4/9/2025	8.07	No	56	MW-4,MW-5	7.363	0.4165	0

Control Limits

City of Council Bluffs - Alter Landfill

Client: SCS Engineers

Data: CTYCB Sanitas Master

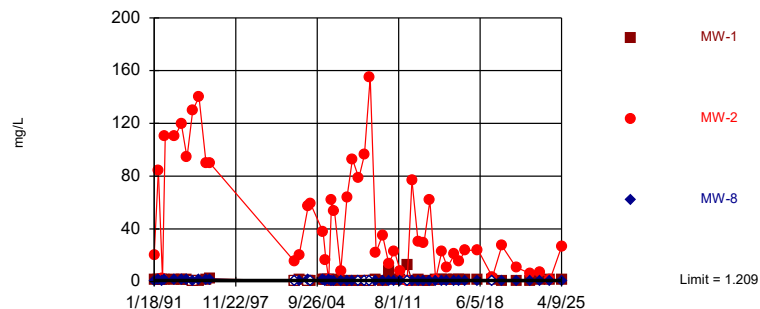
Printed 6/24/2025, 4:54 PM

<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>
pH (S.U.)	MW-8	8.196	6.53	4/9/2025	7.63	No	56	MW-4,MW-5	7.363	0.4165	0
pH (S.U.)	MW-9	8.196	6.53	4/9/2025	7.01	No	56	MW-4,MW-5	7.363	0.4165	0
pH (S.U.)	EPA-1AR	8.196	6.53	4/9/2025	7.17	No	56	MW-4,MW-5	7.363	0.4165	0
pH (S.U.)	MW-10	8.196	6.53	4/9/2025	10.08	Yes	56	MW-4,MW-5	7.363	0.4165	0
pH (S.U.)	MW-11	8.196	6.53	4/9/2025	7.07	No	56	MW-4,MW-5	7.363	0.4165	0
pH (S.U.)	MW-12	8.196	6.53	4/9/2025	6.64	No	56	MW-4,MW-5	7.363	0.4165	0
pH (S.U.)	MW-13	8.196	6.53	4/9/2025	7.18	No	56	MW-4,MW-5	7.363	0.4165	0
pH (S.U.)	MW-14R	8.196	6.53	4/9/2025	7.14	No	56	MW-4,MW-5	7.363	0.4165	0
pH (S.U.)	MW-15R	8.196	6.53	4/9/2025	7.02	No	56	MW-4,MW-5	7.363	0.4165	0
Specific Conductance (uS/cm)	EPA-2A	2415	n/a	4/9/2025	563	No	58	MW-4,MW-5	1644	385.4	0
Specific Conductance (uS/cm)	MW-1	2415	n/a	4/9/2025	1446	No	58	MW-4,MW-5	1644	385.4	0
Specific Conductance (uS/cm)	MW-2	2415	n/a	4/9/2025	1454	No	58	MW-4,MW-5	1644	385.4	0
Specific Conductance (uS/cm)	MW-8	2415	n/a	4/9/2025	1123	No	58	MW-4,MW-5	1644	385.4	0
Specific Conductance (uS/cm)	MW-9	2415	n/a	4/9/2025	1384	No	58	MW-4,MW-5	1644	385.4	0
Specific Conductance (uS/cm)	EPA-1AR	2415	n/a	4/9/2025	643.7	No	58	MW-4,MW-5	1644	385.4	0
Specific Conductance (uS/cm)	MW-10	2415	n/a	4/9/2025	317.1	No	58	MW-4,MW-5	1644	385.4	0
Specific Conductance (uS/cm)	MW-11	2415	n/a	4/9/2025	819.4	No	58	MW-4,MW-5	1644	385.4	0
Specific Conductance (uS/cm)	MW-12	2415	n/a	4/9/2025	1131	No	58	MW-4,MW-5	1644	385.4	0
Specific Conductance (uS/cm)	MW-13	2415	n/a	4/9/2025	764.1	No	58	MW-4,MW-5	1644	385.4	0
Specific Conductance (uS/cm)	MW-14R	2415	n/a	4/9/2025	764.9	No	58	MW-4,MW-5	1644	385.4	0
Specific Conductance (uS/cm)	MW-15R	2415	n/a	4/9/2025	673.4	No	58	MW-4,MW-5	1644	385.4	0
Zinc (mg/L)	MW-14R	0.03055	n/a	4/9/2025	1.43	Yes	28	MW-4,MW-5	0.01331	0.008621	71.43

Exceeds Limit: MW-1, MW-2

Prediction Limit

Interwell Parametric

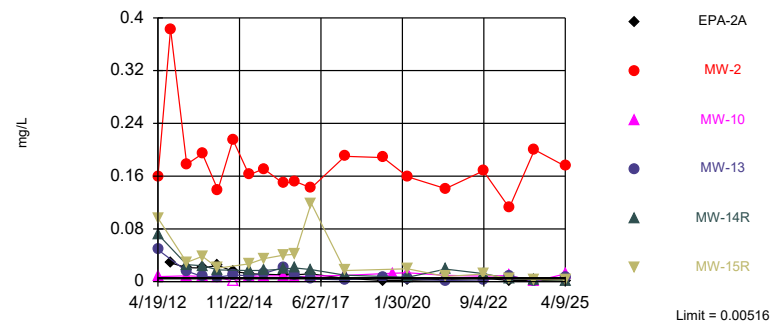


Constituent: Ammonia as N Analysis Run 6/24/2025 4:53 PM View: 2025AWQR - Control Limits
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Exceeds Limit: MW-2, MW-10, MW-13

Prediction Limit

Interwell Parametric

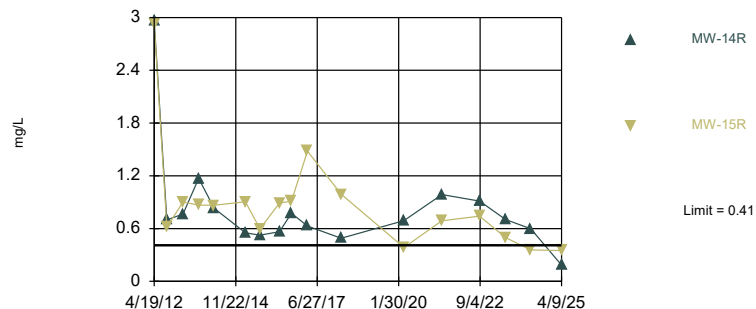


Constituent: Arsenic Analysis Run 6/24/2025 4:53 PM View: 2025AWQR - Control Limits
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Within Limit

Prediction Limit

Interwell Parametric

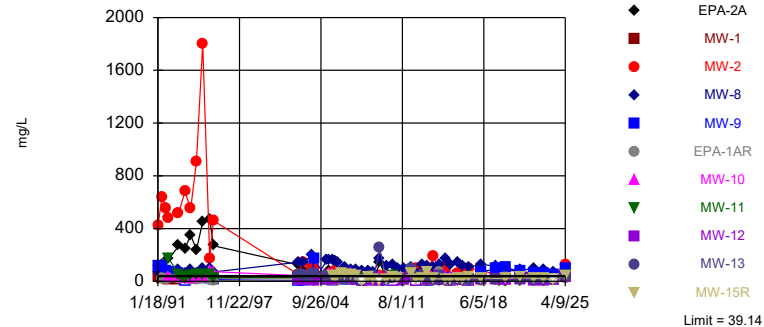


Constituent: Barium Analysis Run 6/24/2025 4:53 PM View: 2025AWQR - Control Limits
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Exceeds Limit: MW-1, MW-2, MW-8, MW-9, MW-11, MW-15R

Prediction Limit

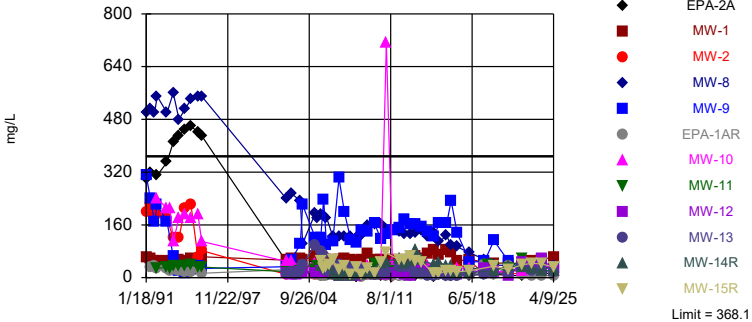
Interwell Parametric



Constituent: Chemical Oxygen Demand Analysis Run 6/24/2025 4:53 PM View: 2025AWQR - Control Limi
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Within Limit

Prediction Limit
Interwell Parametric

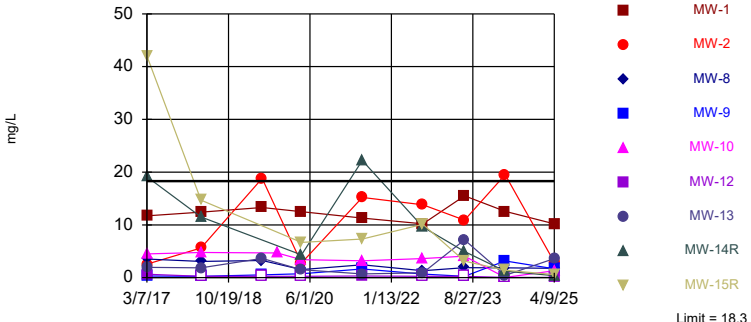


Background Data Summary: Mean=209.9, Std. Dev.=79.11, n=60. Normality test was disabled. Comparing 12 points to limit. Assumes 1 future value. Kappa overridden to 2.

Constituent: Chloride Analysis Run 6/24/2025 4:53 PM View: 2025AWQR - Control Limits
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Within Limit

Prediction Limit
Interwell Parametric

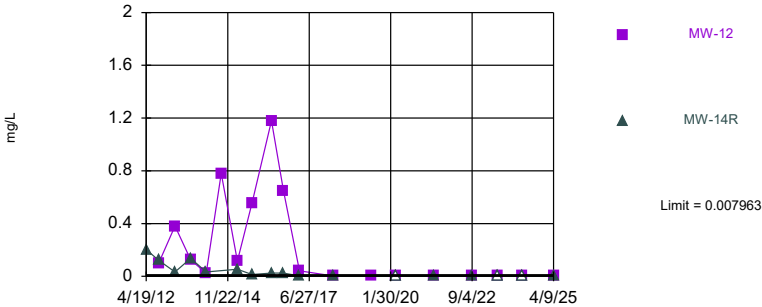


Background Data Summary: Mean=5.805, Std. Dev.=6.246, n=16, 18.75% NDs. Normality test was disabled. Comparing 9 points to limit. Assumes 4 future values. Kappa overridden to 2.

Constituent: Iron Analysis Run 6/24/2025 4:53 PM View: 2025AWQR - Control Limits
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Within Limit

Prediction Limit
Interwell Parametric

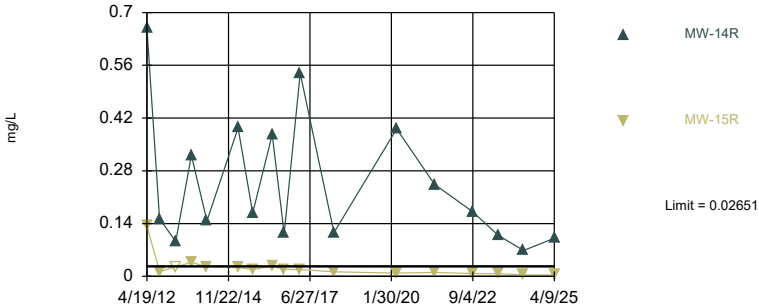


Background Data Summary: Mean=0.00202, Std. Dev.=0.002971, n=28, 46.43% NDs. Normality test was disabled. Comparing 2 points to limit. Assumes 11 future values. Kappa overridden to 2.

Constituent: Lead Analysis Run 6/24/2025 4:53 PM View: 2025AWQR - Control Limits
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Exceeds Limit: MW-14R

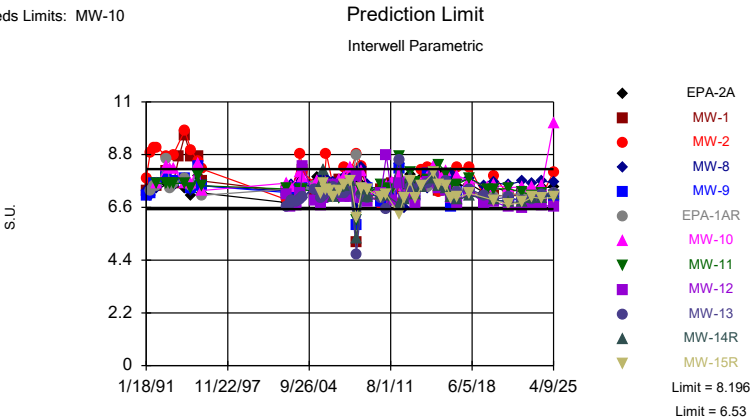
Prediction Limit
Interwell Parametric



Background Data Summary: Mean=0.008664, Std. Dev.=0.008922, n=28, 14.29% NDs. Normality test was disabled. Comparing 2 points to limit. Assumes 11 future values. Kappa overridden to 2.

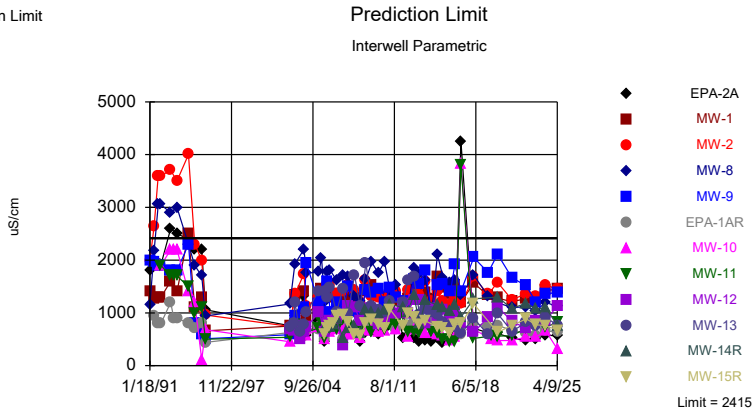
Constituent: Nickel Analysis Run 6/24/2025 4:53 PM View: 2025AWQR - Control Limits
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Exceeds Limits: MW-10



Background Data Summary: Mean=7.363, Std. Dev.=0.4165, n=56. Normality test was disabled. Comparing 12 points to limit. Assumes 1 future value. Kappa overridden to 2.

Within Limit

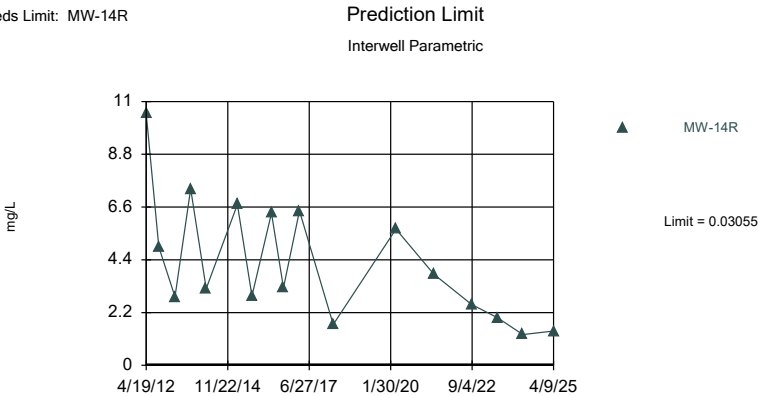


Background Data Summary: Mean=1644, Std. Dev.=385.4, n=58. Normality test was disabled. Comparing 12 points to limit. Assumes 1 future value. Kappa overridden to 2.

Constituent: pH Analysis Run 6/24/2025 4:53 PM View: 2025AWQR - Control Limits
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Constituent: Specific Conductance Analysis Run 6/24/2025 4:53 PM View: 2025AWQR - Control Limits
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Exceeds Limit: MW-14R



Background Data Summary: Mean=0.01331, Std. Dev.=0.008621, n=28, 71.43% NDs (user selected parametric test despite non-detects). Normality test was disabled. Assumes 12 future values. Kappa overridden to 2.

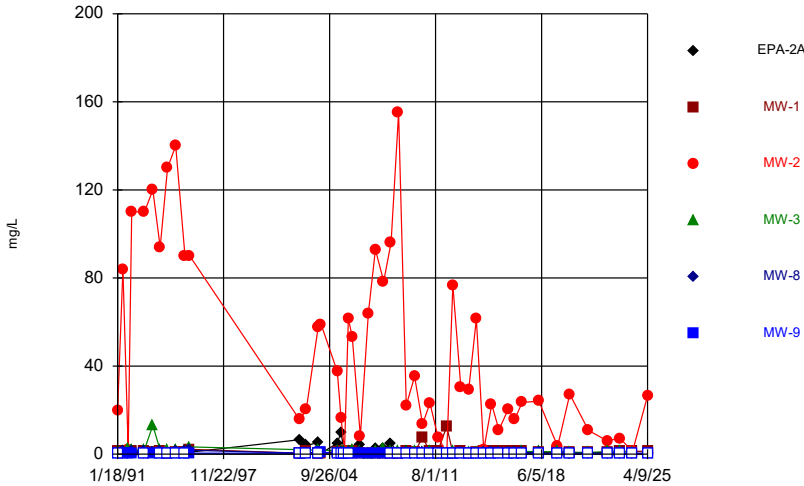
Constituent: Zinc Analysis Run 6/24/2025 4:53 PM View: 2025AWQR - Control Limits
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master



Attachment C

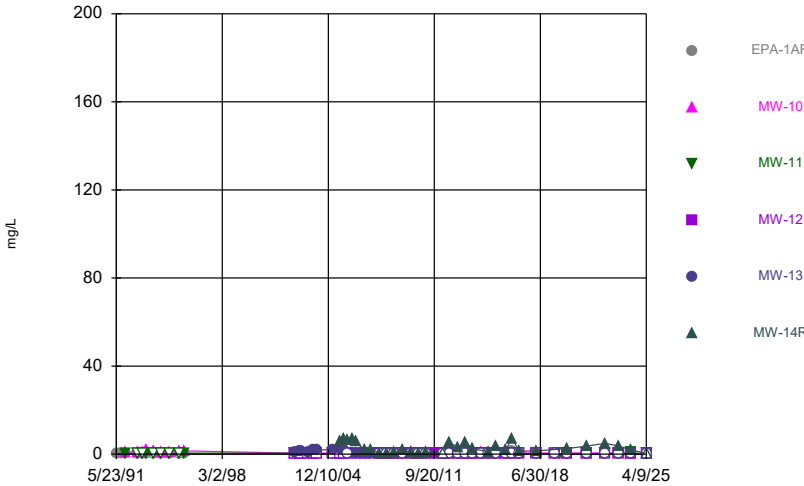
Time Series Graphs

Time Series



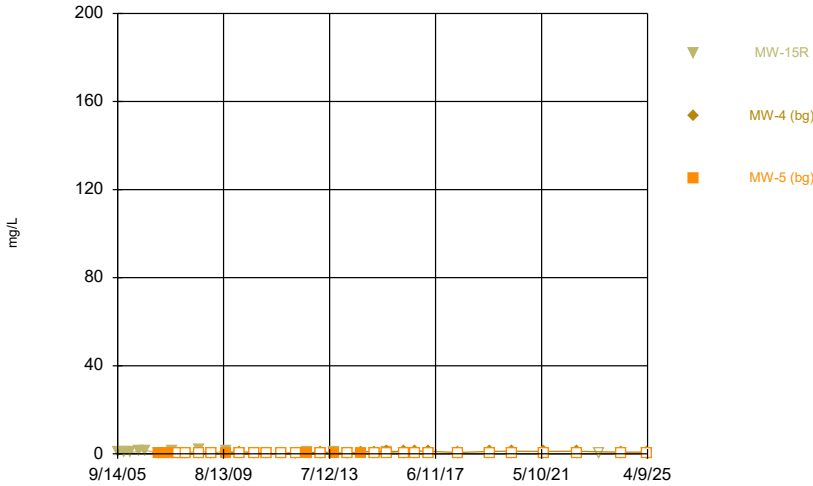
Constituent: Ammonia as N Analysis Run 6/24/2025 3:40 PM View: 2025AWQR - Time Series
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



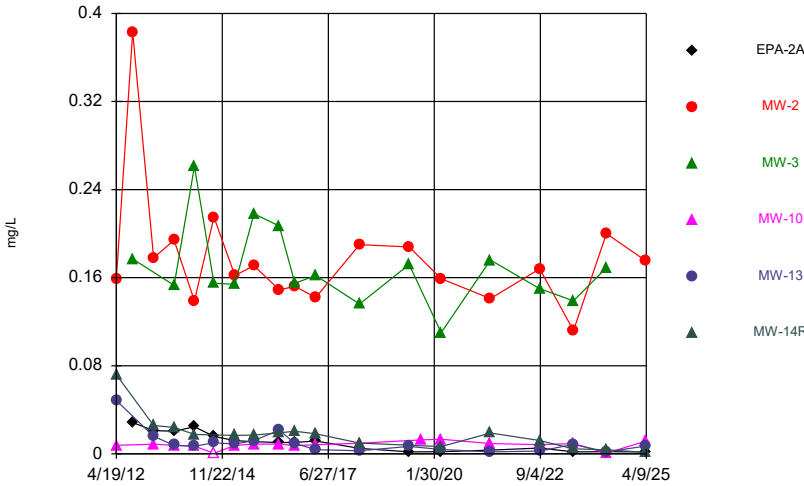
Constituent: Ammonia as N Analysis Run 6/24/2025 3:40 PM View: 2025AWQR - Time Series
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



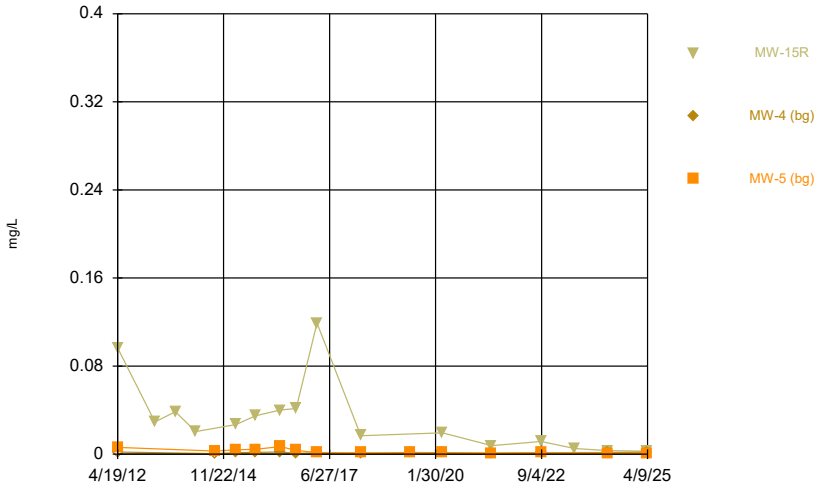
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



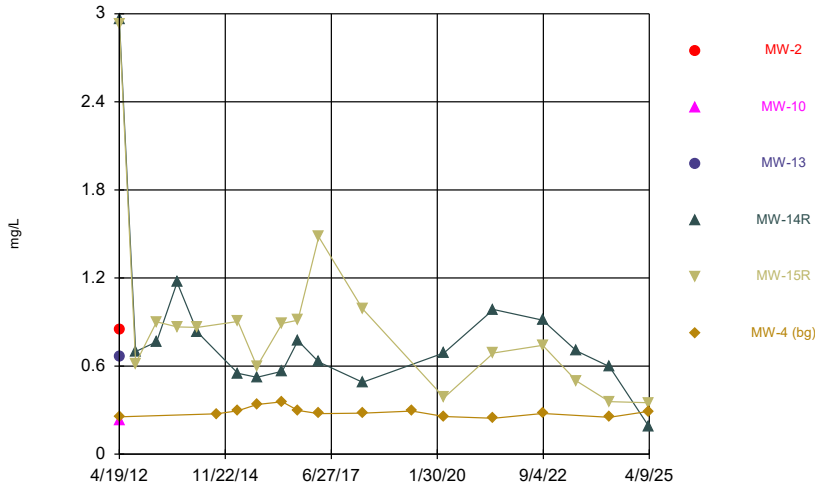
Constituent: Arsenic Analysis Run 6/24/2025 3:40 PM View: 2025AWQR - Time Series
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



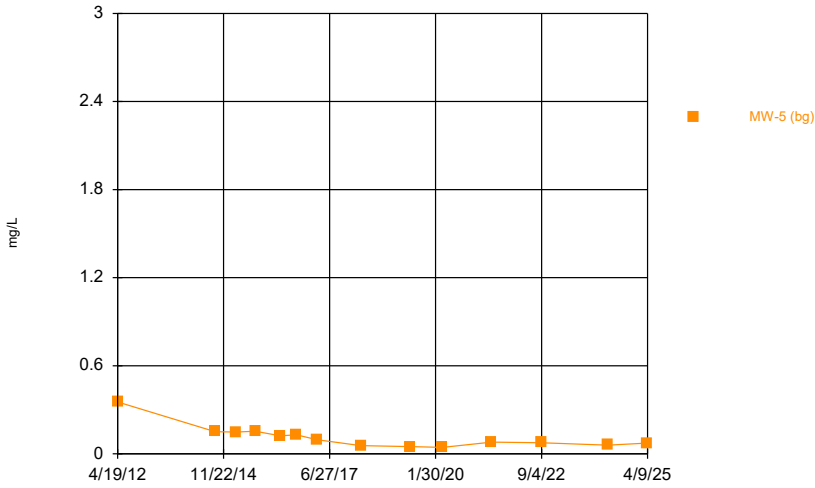
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



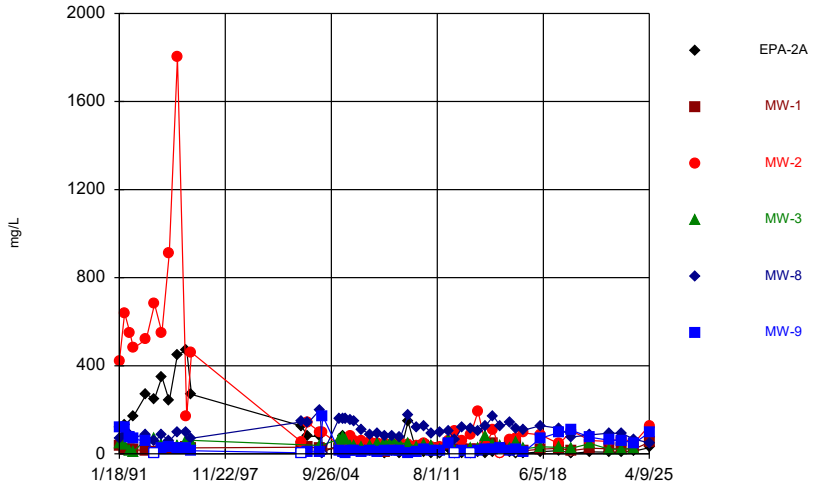
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



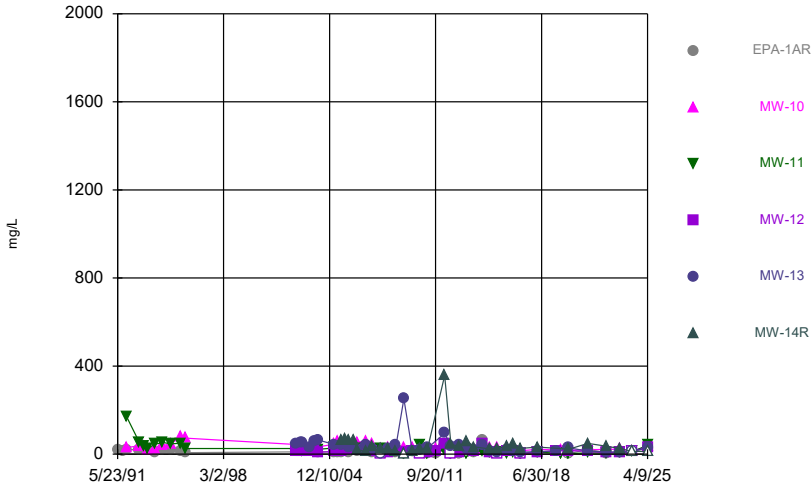
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



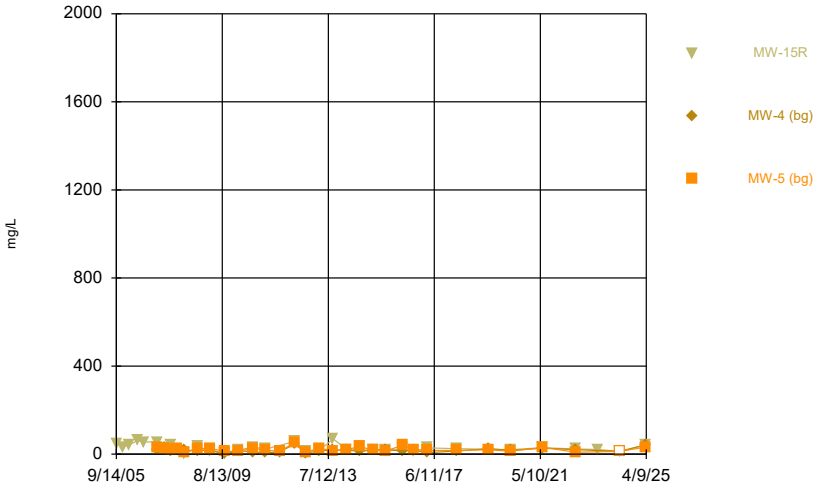
Constituent: Chemical Oxygen Demand Analysis Run 6/24/2025 3:40 PM View: 2025AWQR - Time Series
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



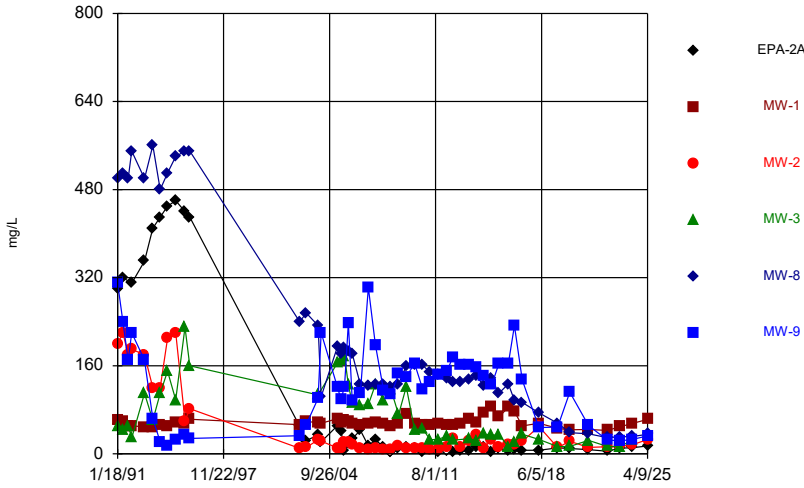
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



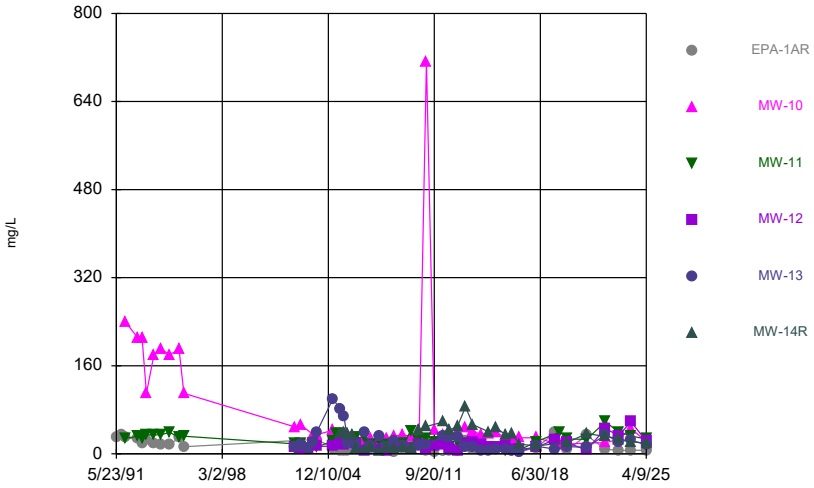
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



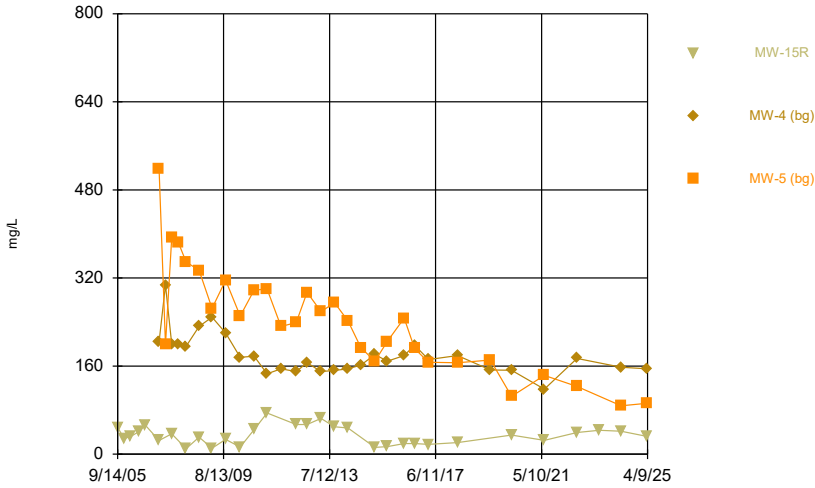
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



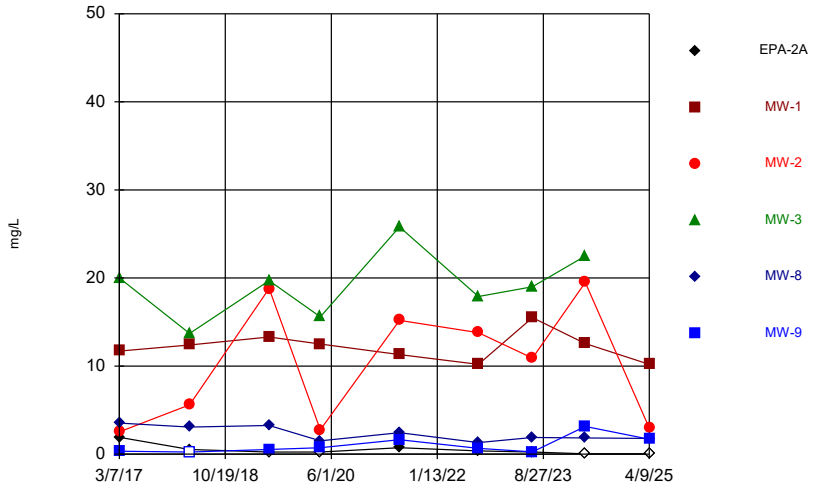
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



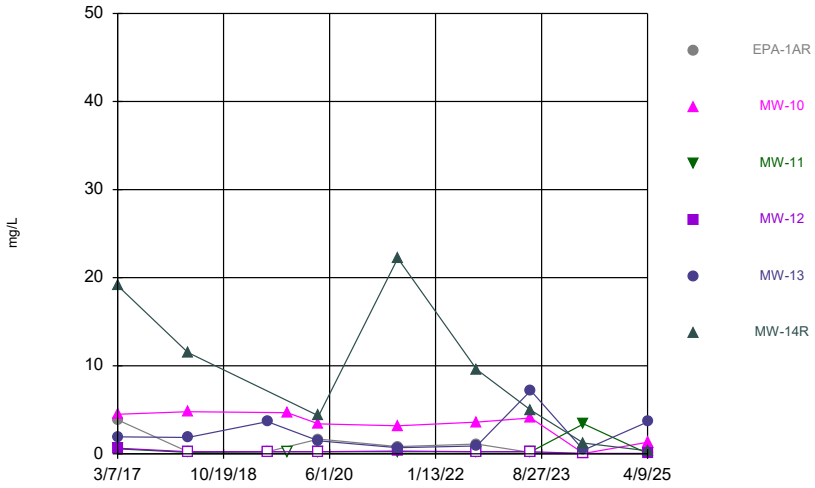
Constituent: Chloride Analysis Run 6/24/2025 3:40 PM View: 2025AWQR - Time Series
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



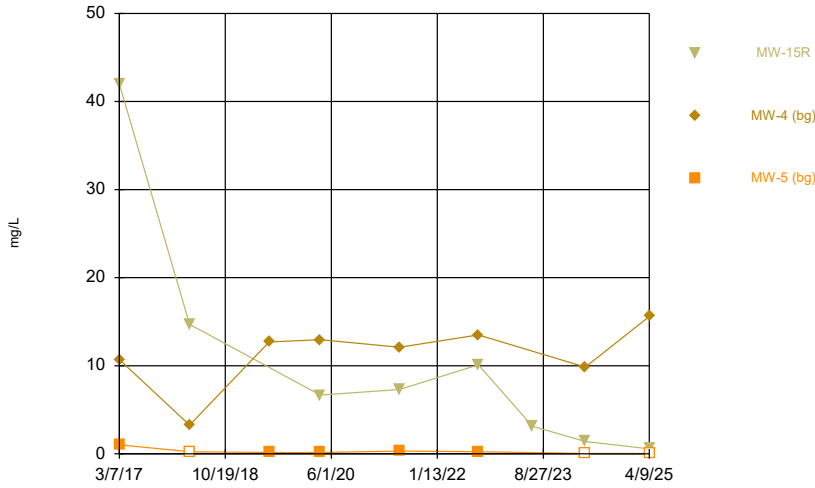
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



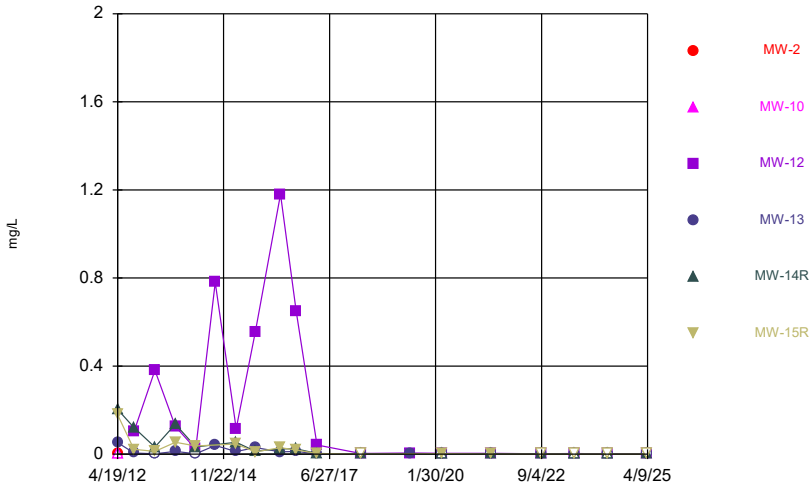
Constituent: Iron Analysis Run 6/24/2025 3:40 PM View: 2025AWQR - Time Series
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



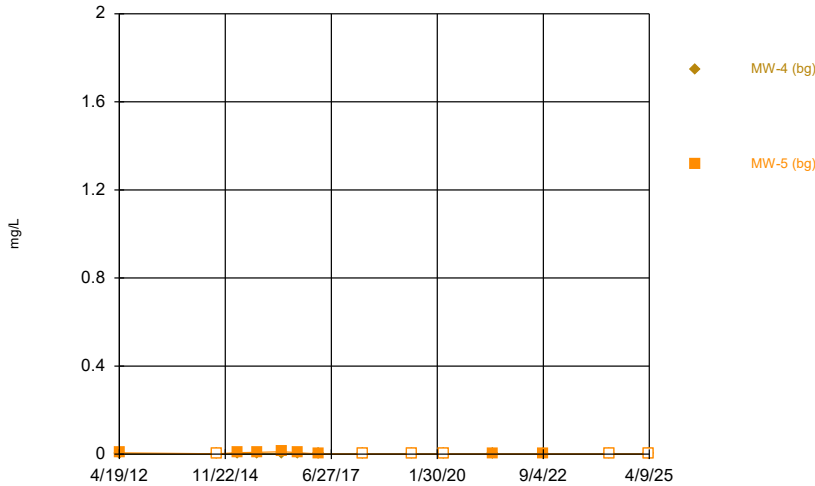
Constituent: Iron Analysis Run 6/24/2025 3:40 PM View: 2025AWQR - Time Series
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



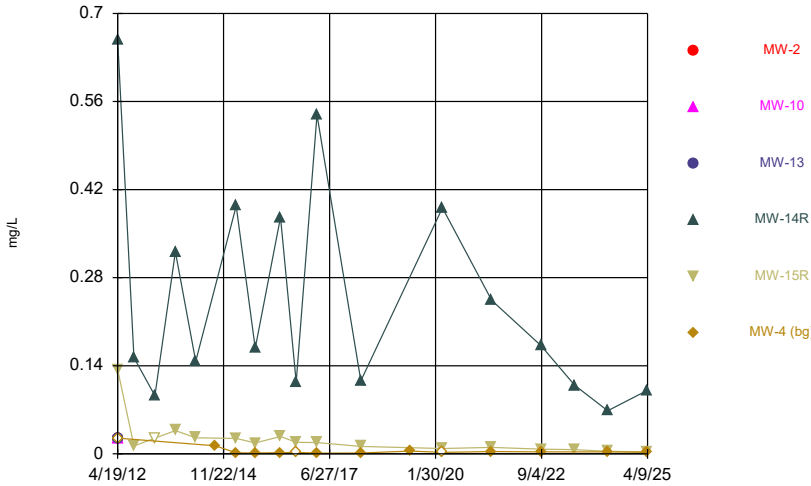
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



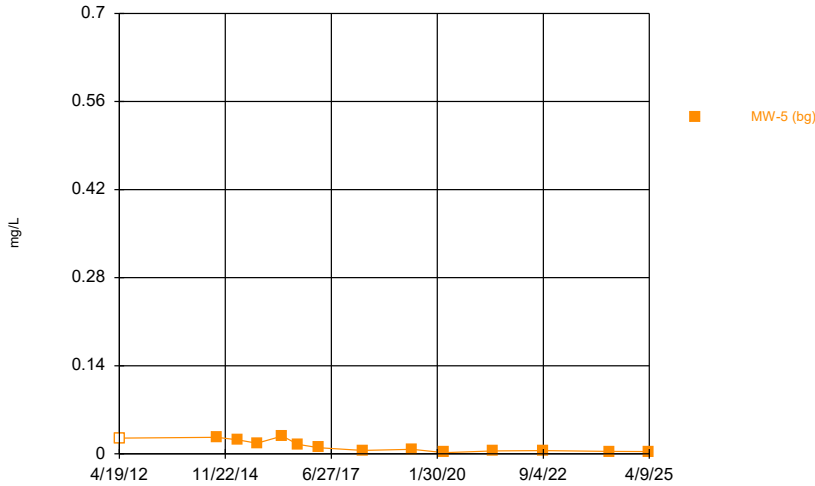
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



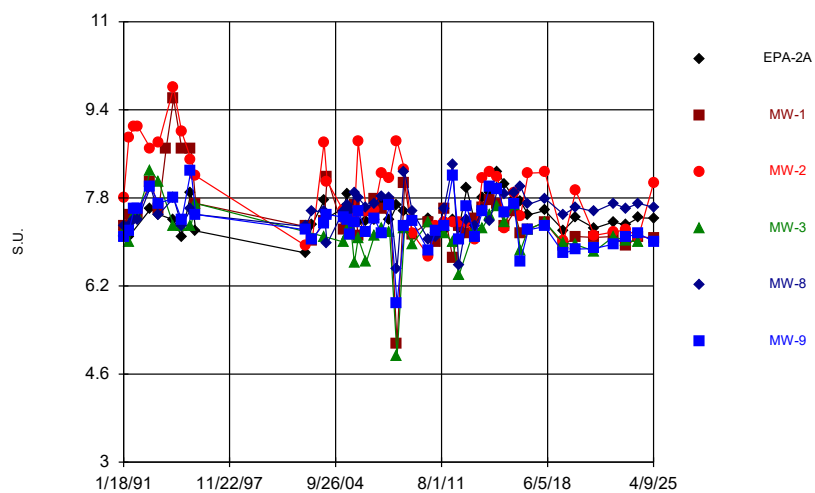
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



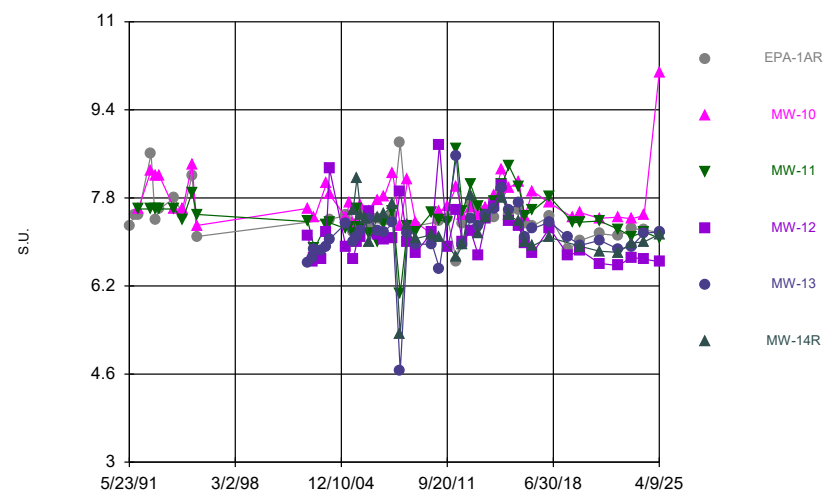
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



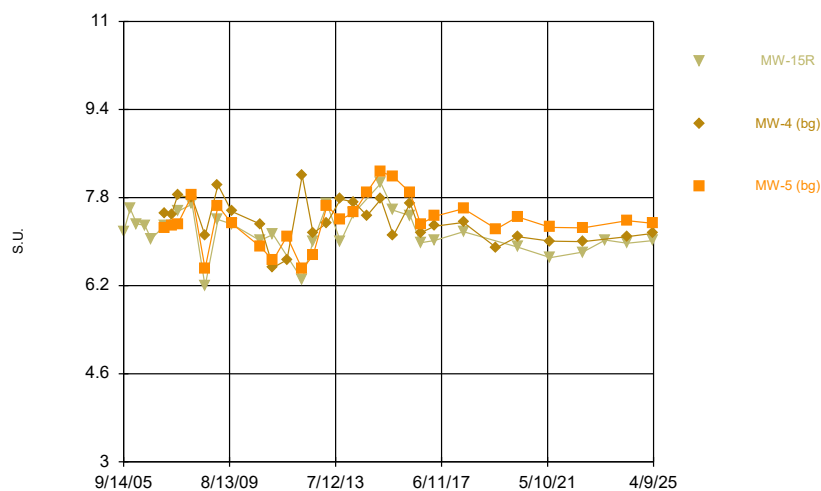
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



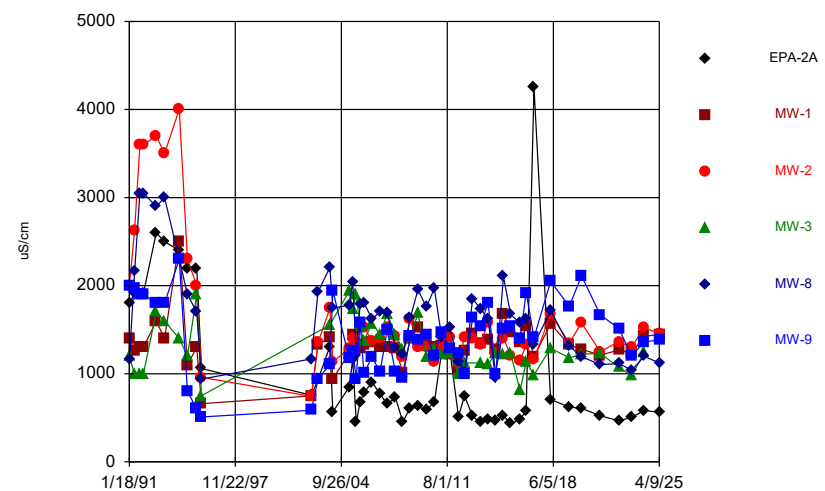
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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series

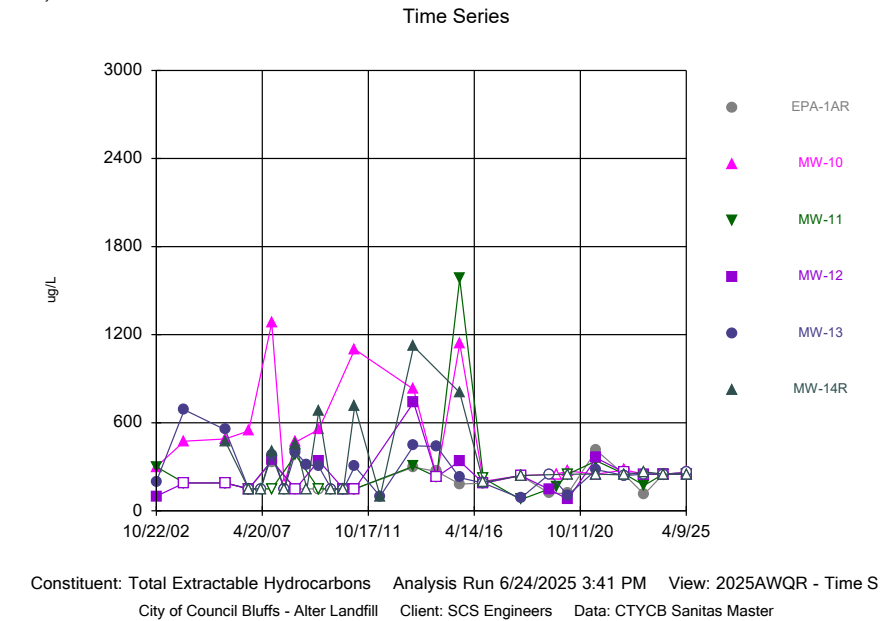
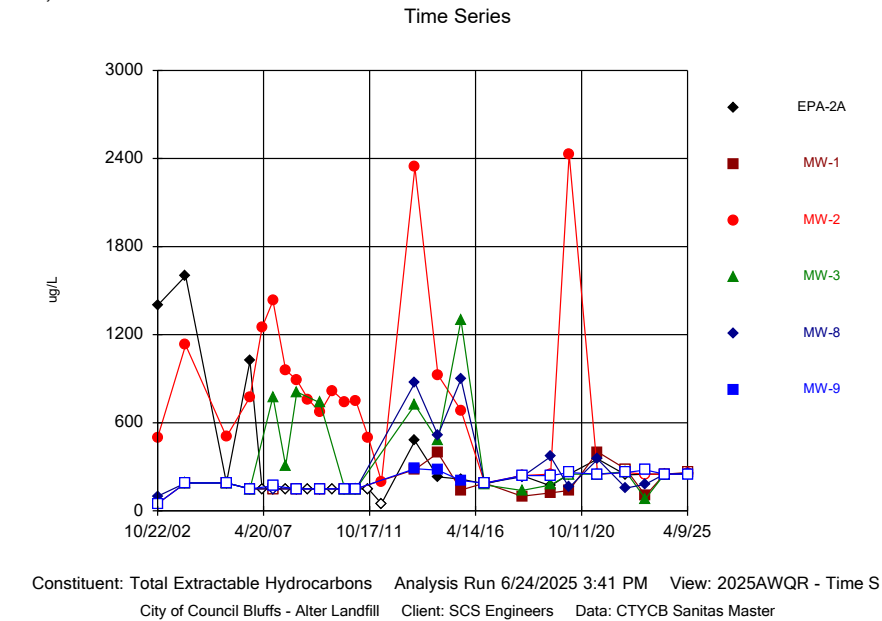
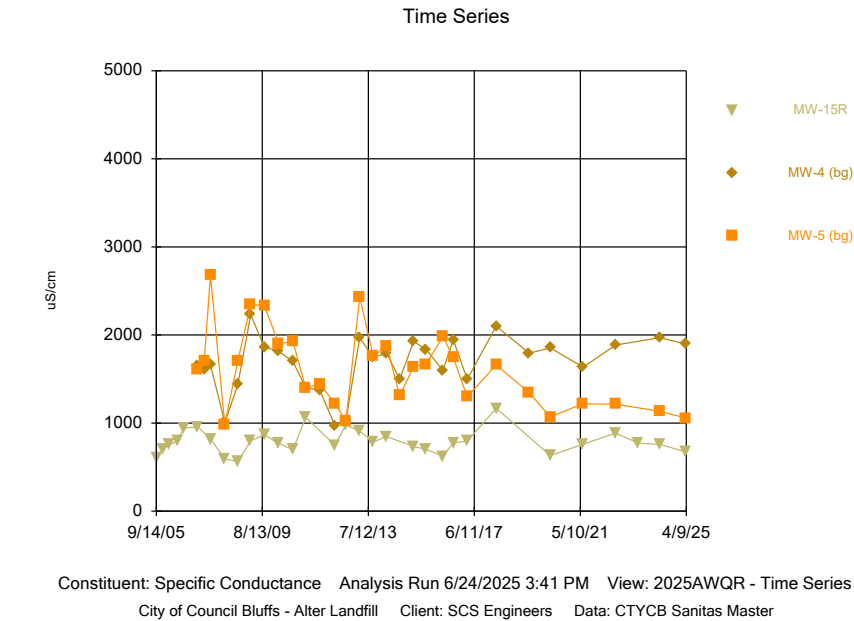
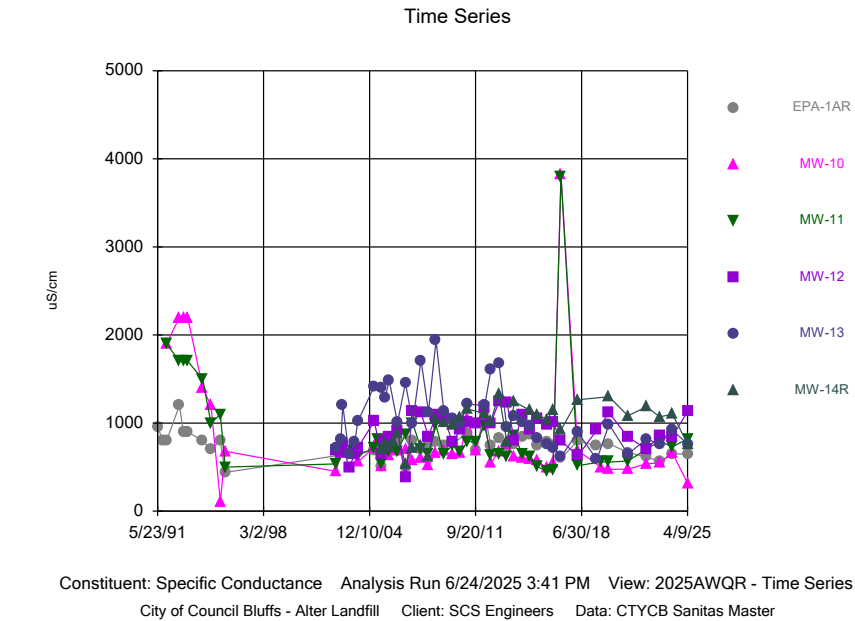


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City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

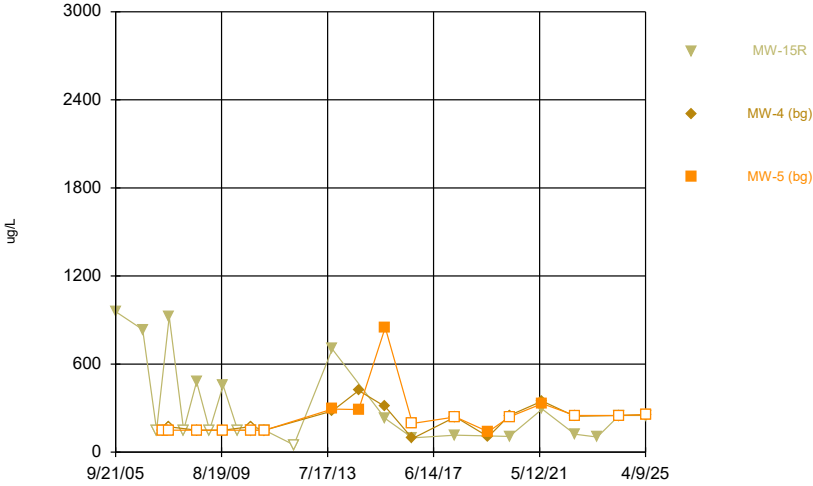
Time Series



Constituent: Specific Conductance Analysis Run 6/24/2025 3:41 PM View: 2025AWQR - Time Series
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

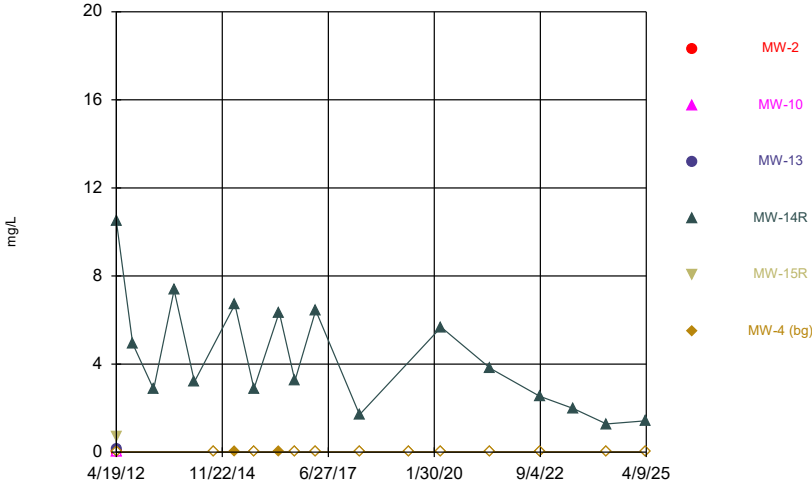


Time Series



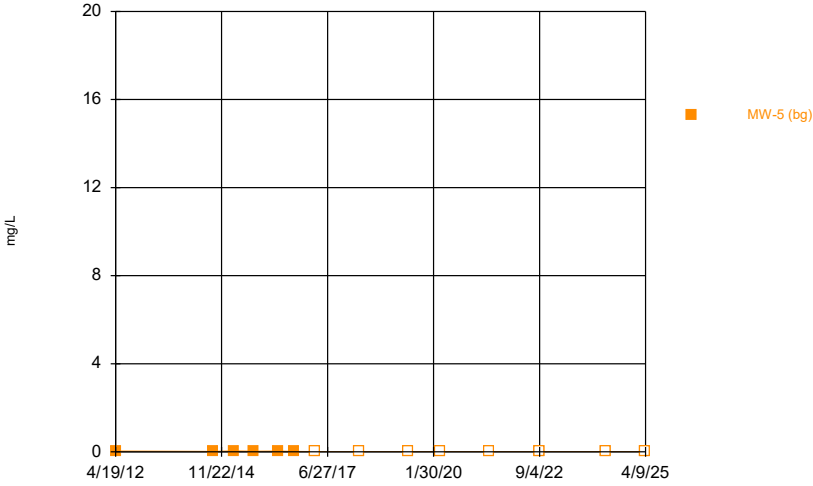
Constituent: Total Extractable Hydrocarbons Analysis Run 6/24/2025 3:41 PM View: 2025AWQR - Time S
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



Constituent: Zinc Analysis Run 6/24/2025 3:41 PM View: 2025AWQR - Time Series
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master

Time Series



Constituent: Zinc Analysis Run 6/24/2025 3:41 PM View: 2025AWQR - Time Series
City of Council Bluffs - Alter Landfill Client: SCS Engineers Data: CTYCB Sanitas Master



Appendix E

Mann-Kendall Trend Table

Table 10
Groundwater Quality Assessment Plan Trend Analysis
2025 Annual Water Quality Report
Alter Trading Corporation Monofill
Permit No. 78-SDP-19-98C

Monitoring Well	Constituent Name	Calculated Statistic		
		Decreasing Trend	Stable Trend	Increasing Trend
EPA-1AR	Chemical Oxygen Demand		10	
	Chloride	-14		
	Iron	-13		
	pH		6	
	Specific Conductance	-18		
EPA-2A	Ammonia as N		-7	
	Arsenic		-6	
	Chemical Oxygen Demand		4	
	Chloride		12	
	Iron	-14		
	pH		1	
	Specific Conductance	-14		
MW-1	Ammonia as N			14
	Chemical Oxygen Demand		7	
	Chloride		6	
	Iron		-5	
	pH		-7	
	Specific Conductance		-2	
MW-2	Ammonia as N		-4	
	Arsenic		-4	
	Chemical Oxygen Demand		2	
	Chloride		6	
	Iron		0	
	pH		0	
	Specific Conductance		-4	
	Total Extractable Hydrocarbons		6	
MW-3	Ammonia as N		-2	
	Arsenic		2	
	Chemical Oxygen Demand		-6	
	Chloride		-9	
	Iron		6	
	pH		-8	
	Specific Conductance		0	

Table 10
Groundwater Quality Assessment Plan Trend Analysis
2025 Annual Water Quality Report
Alter Trading Corporation Monofill
Permit No. 78-SDP-19-98C

Monitoring Well	Constituent Name	Calculated Statistic		
		Decreasing Trend	Stable Trend	Increasing Trend
MW-8	Ammonia as N		0	
	Chemical Oxygen Demand	-18		
	Chloride	-16		
	Iron		-12	
	pH		2	
	Specific Conductance		-12	
MW-9	Chemical Oxygen Demand		-10	
	Chloride		-8	
	Iron			14
	pH		10	
	Specific Conductance	-18		
MW-10	Ammonia as N		-5	
	Arsenic		-10	
	Chemical Oxygen Demand		6	
	Chloride		12	
	Iron	-16		
	pH		0	
	Specific Conductance		-2	
MW-11	Ammonia as N		11	
	Chemical Oxygen Demand			15
	Chloride		2	
	Iron		4	
	pH	-20		
	Specific Conductance			24
MW-12	Chemical Oxygen Demand		2	
	Chloride		10	
	Lead	-14		
	pH	-14		
	Specific Conductance		8	
MW-13	Arsenic		2	
	Chemical Oxygen Demand		0	
	Chloride		10	
	Iron		-4	
	Lead		-10	
	pH		-2	
	Specific Conductance		2	

Table 10
Groundwater Quality Assessment Plan Trend Analysis
2025 Annual Water Quality Report
Alter Trading Corporation Monofill
Permit No. 78-SDP-19-98C

Monitoring Well	Constituent Name	Calculated Statistic		
		Decreasing Trend	Stable Trend	Increasing Trend
MW-14R	Ammonia as N		2	
	Arsenic	-18		
	Barium		-4	
	Chemical Oxygen Demand		-11	
	Chloride		4	
	Iron	-18		
	Lead		-9	
	Nickel	-20		
	pH		6	
	Specific Conductance		-8	
	Zinc	-18		
MW-15R	Arsenic	-24		
	Barium	-20		
	Chemical Oxygen Demand		-4	
	Chloride			16
	Iron	-22		
	Lead	-14		
	Nickel	-26		
	pH		-1	
	Specific Conductance		-10	

Notes:

Trending was evaluated using Mann-Kendall analysis at 80% confidence ($\alpha = 0.2$) for the entire historical dataset.



Appendix F

Landfill Gas Annual Report

Table F1
Landfill Gas Monitoring Summary
2025 Landfill Gas Monitoring Report
Alter Trading Corporation Monofill
Permit No. 78-SDP-19-98C

Monitoring Points				Methane (% LEL)	
Point #	Name	Type	Description	4/9/2025	S (Y/N)
1	NE Corner	Ambient	NE corner of site	0	
2	SE Corner	Ambient	SE corner of site	0	
3	SW Corner	Ambient	SW corner of site	0	
4	NW Corner	Ambient	NW corner of site	0	
5	Center Location of Site	Ambient	Center of site	0	
6	Long Storage Building	Indoor	Inside building	Removed	
7	SE Garage	Indoor	Inside building	0	
8	SE Ticket Building	Indoor	Inside building	0	

S(Y/N) - Was screen submerged, yes or no.

DOCUMENT PATH: \\DES-FS01\DES MOINES\PROJECT\27225344.00\DATA AND CALCULATIONS\GIS\COUNCILBLUFFSGW\COUNCILBLUFFSGW.APRX



LEGEND

- SITE PARCEL
- DELINEATED WETLAND
- RAILROAD
- METHANE MONITORING LOCATION
- DEEP FLOW MONITORING WELL
- SHALLOW FLOW MONITORING WELL

Name	Monitoring Point	Description
#1	NE Corner	Northeast corner of the facility property
#2	SE Corner	Southeast corner of the facility property
#3	SW Corner	Southwest corner of the facility property
#4	NW Corner	Northwest corner of the facility property
#5	Central	Approximate center of the facility property
#6	Long Storage Building	Tan Conex Unit east of MW-14R
#7	SE Garage	SE of parking lot
#8	SE Ticket Building	SE of parking lot

NOTES

- IMAGERY SOURCE: POTTAWATTAMIE COUNTY. DATE: 04/23/2024.
- COORDINATE SYSTEM: NAD 1983 (2011) STATEPLANE IOWA SOUTH FIPS 1402 (US FEET).
- PARCEL DATA FROM [HTTPS://OPEN-DATA-POTTCOUNTY.HUB.ARCGIS.COM/](https://open-data-pottcounty.hub.arcgis.com/).
- SHALLOW FLOW WELLS: MW-2, MW-3, MW-5, MW-9, MW-11, MW-12, MW-13, MW-14R, MW-15R, EPA-1AR, EPA-2A.
- DEEP FLOW WELLS: MW-1, MW-4, MW-8, MW-10.
- METHANE POINTS: #1, #2, #3, #4, #5, #6, #7, #8.
- ALL LOCATIONS ARE APPROXIMATE.



PROJECT NO.	27225344.00	DRAWN BY:	AA
DRAWN:	06/23/2025	CHECKED BY:	KJ
REVISED:	06/23/2025	APPROVED BY:	

ENGINEER

1690 ALL-STATE COURT WEST DES MOINES, IA 50265
PHONE: (515) 631-6160

CLIENT	CITY OF COUNCIL BLUFFS
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SITE	ALTER TRADING CORPORATION WASTE MONOFILL COUNCIL BLUFFS, IOWA
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METHANE MONITORING NETWORK	FIGURE
	1