

West Des Moines, IA

PROJECT: Union Co, FY26 Env Comp, IA 27224311.26 DATE: 12/5/2025

SUBJECT: Union County Sanitary Landfill - 88-SDP-01-79C - 2025 Annual Water Quality Report, Leachate Control System Performance Evaluation Report, and Landfill Gas Annual Report TRANSMITTAL ID: 00002

PURPOSE: For your approval VIA: Info Exchange

FROM

NAME	COMPANY	EMAIL	PHONE
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TO

NAME	COMPANY	EMAIL	PHONE
Brad Davison		brad.davison@dnr.iowa.gov	

REMARKS: Good morning Brad-

SCS Engineers, on behalf of the Prairie Solid Waste Agency, is submitting for download the 2025 Annual Water Quality Report, Leachate Control System Performance Evaluation Report, and Landfill Gas Annual Report for the Union County Sanitary Landfill. If you have any questions or comments regarding these reports, please contact me at the number below. Thank you.

Nathan Ohrt
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Transmittal

DATE: 12/5/2025
TRANSMITTAL ID: 00002

DESCRIPTION OF CONTENTS

QTY	DATED	TITLE	NOTES
1	12/5/2025	Union County Sanitary Landfill - 88-SDP-01-79C - 2025 Annual Water Quality Report, Leachate Control System Performance Evaluation Report, and Landfill Gas Annual Report.pdf	

COPIES:

Janeen Frey
Nathan Ohrt
Becky Jolly

(Prairie Solid Waste Agency)
(SCS Engineers)

December 5, 2025
File No. 27224311.26

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

Subject: 2025 Annual Water Quality Report, Leachate Control System Performance Evaluation Report, & Landfill Gas Annual Report
Union County Sanitary Landfill
Permit No. 88-SDP-01-79C

Dear Brad:

SCS Engineers, on behalf of the Prairie Solid Waste Agency, has completed the water quality monitoring and assessment for the closed Union County Sanitary Landfill (Landfill) for the year 2025. Our services were performed in general accordance with Iowa Administrative Code (IAC) 567 Chapter 113.2(5), 113.10(6), and the current permit requirements for implementation of the Hydrologic Monitoring System Plan.

Additionally, evaluations of the leachate control system and gas monitoring results for the Landfill are included in accordance with the 2002 IAC 567-113.26(2)"l" and 113.26(15)"b," respectively. The 2025 Leachate Control System Performance Evaluation Report and the 2025 Landfill Gas Annual Report are included as appendices to the Annual Water Quality Report.

If you have any questions regarding these reports, please contact Nathan Ohrt at (319) 331-9613.

Sincerely,



Nathan Ohrt
Senior Project Professional
SCS Engineers

NPO/TCB

Copies: Ms. Janeen Frey, Prairie Solid Waste Agency



Timothy C. Buelow, P.E.
VP – Senior Project Advisor
SCS Engineers





2025 Annual Water Quality Report, Leachate Control System Performance Evaluation Report, And Landfill Gas Annual Report

Union County Sanitary Landfill
Creston, Iowa
Solid Waste Permit No. 88-SDP-01-79C

Prepared for:

Prairie Solid Waste Agency

SCS ENGINEERS

27224311.26 | December 2025

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CERTIFICATION

Prepared by: Nathan Ohrt Date: 12/5/2025

Nathan Ohrt

Reviewed by: Timothy C. Buelow Date: 12/5/2025
Timothy C. Buelow, P.E.

Certification page (PE or groundwater scientist signature) 113.10(1)"d"

For the purposes of this rule, a "qualified groundwater scientist" means a scientist or an engineer who has received a baccalaureate or postgraduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields demonstrated by state registration, professional certifications, or completion of accredited university programs that enable that individual to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action.

	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.
	<u>Timothy C. Buelow</u> Date: <u>12/5/2025</u> Timothy C. Buelow, P.E.
	License No. 14445
	My license renewal date is December 31, 2025.
	Pages or sheets covered by this seal: All except Appendix B-1.

EXECUTIVE SUMMARY

ES.1 Period of Report Coverage

The period of report coverage is from August 2024 to December 2025 and includes the sampling event summarized in **Table 2**.

ES.2 Report Priority

The following summarizes report priorities associated with groundwater compliance at the closed Union County Sanitary Landfill (Landfill):

- Department review urgency: There are no groundwater monitoring items that require review or approval by the Iowa Department of Natural Resources (DNR) at this time.
- 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

- Landfill Status: Closed
- Types of waste accepted: Landfill closed. Previously MSW, C&D, and special waste.
- Applicable IAC rules: 2009 567-113.2(5), 113.10(6), 113.10(7), 113.10(8), and 113.10(9)

ES.4 Comments

- Inorganic concentrations were generally stable during this reporting period.
- No volatile organic compounds (VOCs) were detected during this reporting period.
- No Statistically Significant Levels (SSLs) above the Groundwater Protection Standards (GWPS) were measured during this reporting period.
- The groundwater at the Landfill appears to be generally not impacted.

ACRONYMS/ABBREVIATIONS

ACM = Assessment of Corrective Measures
CAMP = Corrective Action Groundwater Monitoring Program
C&D = Construction and Demolition Waste
CCV = Continuing Calibration Verification
CL = Control Limit - Mean plus Two Standard Deviations
COC = Chain of Custody
DNR = Iowa Department of Natural Resources
DO = Dissolved Oxygen
DQR = Double Quantification Rule
GWPS = Groundwater Protection Standard
LEL = Lower Explosive Limit
LCL = Lower Confidence Limit
LCS = Laboratory Control Sample
LN = Lognormal
MCL = EPA Maximum Contaminant Level
MSW = Municipal Solid Waste
N = Normal
NC = No Change
NM = Not Measured
NP = Non-Parametric
ORP = Oxidation-Reduction Potential
P = Parametric
PL = Prediction Limit
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
VOC = Volatile Organic Compound

1.0 SITE BACKGROUND

1.1 SITE LOCATION

The Landfill property is depicted in **Figure 1**, Approved Monitoring Network. The Landfill is located at 1774 Lark Avenue, Creston, Iowa. The Landfill property is generally within the SW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 12, T72N, R30W, and extends into the W $\frac{1}{2}$ of the E $\frac{1}{2}$ of the SE $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 12, T72N, R30W, in Union County, Iowa.

1.2 FACILITY

Solid waste disposal at the Landfill was initiated in 1972 in the northwest portion of the property. Refuse was deposited in an eastward direction using the area fill method. Approximately 17.7 acres of the original 40-acre site received waste from residential, commercial, and industrial sources in Union, Adams, and Taylor Counties. In 2003, 5.2 acres (the southern portion of the permitted waste boundary) were closed, and in 2005, 3.5 acres (the western portion of the permitted waste boundary) were closed. The Landfill stopped accepting waste before October 1, 2007, and in 2008, the remaining approximately 9-acre area was closed in general accordance with the approved closure plan. The closure permit was issued on July 2, 2008 (Doc #25637) and the DNR incorporated the Construction Certification Report for the final closure of the Landfill into the permit documents on January 23, 2009. Prairie Solid Waste Agency now operates a transfer station at the property. The waste is hauled to the Loess Hills Regional Sanitary Landfill in Malvern, Iowa, for disposal.

1.3 GEOLOGY AND HYDROGEOLOGY OF THE SITE

The Hydrogeologic Investigation Report and Proposed Hydrologic Monitoring System Plan dated August 13, 1993, prepared by Green Environmental Services, Inc., provided the following geological description of the site:

Loess forms the uppermost strata at the site and is observed in the high wall that forms the eastern boundary of the borrow area. Loess was not encountered in any well boring. The valleys north and south of the landfill, which are separated by a ridge crest, contain alluvial deposits. The landfill is located south of the ridge, in the surface water and groundwater drainage basins that drain southward. The alluvial deposits along the southern perimeter of the landfill consist of a fining-upward sequence of stratified sediments. An upper silty unit, with discontinuous sandy layers, varies from 14 to 20 feet in thickness. An underlying silty sand and sand unit varies from 5 to 6.5 feet in thickness. In the southwest corner of the site, 7 feet of sand and gravel underlie the sand unit. The sand is continuous across the southern perimeter of the site at an elevation of 1,146 feet MSL.

Clay-rich glacial till underlies the entire landfill. The loess has been eroded off the flanks of the topographic ridge. Six leachate piezometers installed in the waste penetrated till below the waste. The till consists of clay, sandy silty clay, trace gravel to sandy clayey silt, and trace gravel composition. No intra-till sand lenses were reported with the exception of one 3 cm thick lens at a depth of 76.5 feet in the upgradient well location.

Deep sand units were noted in the upgradient and southwest downgradient well locations and likely represent an alluvial inter-till sequence. The sand is at least 17 feet thick and is sub-rounded, stratified, and leached. These sands appear to form one continuous unit. The

sand deposits coincide with the axis of the “Hatfield” buried channel that is carved into the bedrock surface. However, since the bedrock channel occurs below an elevation of 1,000 feet MSL, while the observed sand occurs at about 1,100 feet MSL, and local well logs indicate the “Hatfield” channel is in-filled with clayey material in the vicinity of the landfill, it is concluded that the deep sand is not a bedrock channel deposit.

According to the above-referenced 1993 Hydrogeologic Investigation Report:

In-situ hydraulic conductivity testing determined a permeability value range for alluvium (silt and sand) of 2.0×10^{-5} to 6.0×10^{-5} cm/sec. Values for till varied from 3×10^{-8} to 7.0×10^{-6} cm/sec. Hydraulic conductivities are lower for till in deeper wells or for till that is less weathered. The conductivities of the till range over two orders of magnitude. These results show that the alluvium and shallow weathered till function as an aquifer, while the deep, unweathered till is an aquitard. The in-situ values in the lower sand unit varied from 4.4×10^{-5} to 4.2×10^{-4} cm/sec.

The primary horizontal groundwater flow direction is southward toward the east-west oriented intermittent stream situated along the southern perimeter of the site. Horizontal water table flow gradients and flow velocities attain maximum values of 0.140 (unitless) and 0.091 feet per day, respectively, in the alluvium along the southern portion of the site. The maximum recharge flux rate in the alluvium is 0.0163 ft³/day per square foot. The large downward vertical gradient of 0.740 between the alluvium and deep sand in the south-central area illustrates the minimal hydraulic connection of these two units; a situation arising from the low permeability of the intervening clay-rich till which acts as an aquitard.

The horizontal water table gradient is approximately 8.5 times greater than the vertical gradient in the alluvium in the south-central area. This demonstrates that the greatest potential for landfill impact is the horizontal migration of contaminants from the waste into the alluvium in this area.

2.0 FIGURES DISCUSSION

The following figures are attached.

2.1 FIGURE 1 – APPROVED MONITORING NETWORK

The Landfill property and Hydrologic Monitoring System Plan (HMSP) monitoring network is depicted in **Figure 1**. **Figure 1** indicates the locations of each monitoring well and its respective monitoring program as of the beginning of this reporting period.

2.2 FIGURE 2 – GROUNDWATER CONTOURS

A groundwater contour map based on water levels measured during the August 2025 sampling event is included in **Figure 2**. Groundwater flow is generally a subdued reflection of the topography, with the direction primarily to the south toward the intermittent creek in the southern portion of the property. This flow direction is generally consistent with previous groundwater contour maps. It does not appear that significant changes to the hydrologic setting or flow paths have occurred. **Figure 2** also includes leachate level data, although not reflected in the groundwater contours. Based on the leachate elevations compared to the interpolated groundwater contours, it appears that leachate mounding may be occurring. However, it is not known whether the leachate elevations measured in the leachate piezometers are the result of the intersection of perched leachate zones within the waste mass or a fully saturated waste mass in the vicinity of the monitoring point. It is also not

known whether the leachate is in direct hydraulic communication with the water table or is perched above the water table within the waste mass.

3.0 STANDARDS HISTORY GRAPHS

Standards history graphs are included in **Appendix E**. Standards history graphs for the following parameters are included:

- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium
- Cobalt
- Copper
- Lead
- Nickel
- Selenium
- Vanadium
- Zinc

Graphs for silver and thallium are not included as these parameters have not been detected above the reporting limit in the background. The prediction limits were below the associated GWPS for the included parameters.

4.0 QA/QC SUMMARY

The quality assurance/quality control (QA/QC) program for the Landfill generally follows the protocols included in the HMSP. Data validation procedures were performed on analytical results for laboratory QC samples and a QA assessment of the data was conducted as the data was generated. The QA review procedure provides documentation of the accuracy and precision of the analytical data and confirms that the analyses are sufficiently sensitive to detect constituents at levels below regulatory standards when technically feasible with the laboratory method utilized. SCS then conducted QA/QC data validation of the produced data, which included a review of sample handling, analytical sensitivity, blanks, accuracy, and precision. A summary of the laboratory QA/QC and data validation can be found in **Appendices B-1**, Laboratory Analytical Data Sheets, and **B-2**, Data Validation, respectively.

5.0 DATA EVALUATION

Detection and assessment monitoring statistical evaluations in accordance with the requirements of IAC 567-113.10(5) and 113.10(6) were conducted for the groundwater analytical data collected during the 2025 sampling event. The statistical evaluations for the samples collected during this reporting period are located in **Appendix D** (Statistical Method and Output) of this report.

5.1 DATA EVALUATION

Groundwater monitoring for the Landfill consists of samples from one monitoring well to the east, one monitoring well to the west, three monitoring wells to the south, and one monitoring well south of the lagoon on the southeast side of the MSWLF unit. The background monitoring point PZ-22 is located to the northeast of the MSWLF unit.

Of the 14 Statistically Significant Increases (SSIs) above background indicated during this reporting period, 12 were barium, cobalt, and nickel, plus one indicated SSI for chromium in monitoring well MW-89-2 and one indicated SSI for arsenic in monitoring well MW-89-9R. Concentrations were below their respective GWPS values, with the exception of cobalt in monitoring well MW-89-9R.

Volatile organic compounds (VOCs) were removed from the routine sampling list in 2020 for the monitoring wells PZ-22, MW-89-6R, MW-21, and PZ-21 due to infrequent detections. No VOCs were detected above the reporting limit in monitoring wells MW-89-2, MW-89-7, or MW-89-9R during this reporting period.

Monitoring well MW-89-2 and PZ-21 were analyzed for the full Appendix II list during this reporting period, including VOCs. No Appendix II constituents outside of Appendix I were detected above the reporting limit.

5.2 TRENDING IN ASSESSMENT MONITORING WELLS

A statistically significant decreasing trend for barium in monitoring well MW-89-7 was identified by Mann-Kendall analysis during this reporting period. The trend analysis is included in the Statistical Method and Output in **Appendix D**.

Although not necessarily statistically significant, the Mann-Kendall statistics can indicate general trending in the data. Trend indications for wells in the assessment monitoring program are shown in the following table. The statistics used to develop the general trending differ from the Mann-Kendall statistics used in the diagnostics section of the statistical reports in that a much lower trend threshold is applied for the general trending information ($\alpha=0.20$ versus $\alpha=0.01$). Trends classified as decreasing or increasing exhibited a statistically significant trend with 80 percent confidence using the most recent eight data points, if available. Trends classified as stable did not exhibit a statistically significant trend with 80 percent confidence using the eight most recent data points.

Trending in Assessment Monitoring Wells				
Monitoring Well	Decreasing Trends	Stable Trends	Increasing Trends	Number of Constituents Analyzed
MW-89-2	0.0%	90.0%	10.0%	10
MW-89-6R	0.0%	80.0%	20.0%	5
MW-89-7	75.0%	25.0%	0.0%	4
MW-89-9R	0.0%	60.0%	40.0%	5
PZ-21	0.0%	100.0%	0.0%	11
Site-Wide	8.6%	80%	11.4%	35

A review of the Mann-Kendall statistics indicates that over 88 percent of the Mann-Kendall statistics following the 2025 statistical evaluation were considered stable or decreasing. The increasing trends for monitoring well/constituent pairs were the following:

- **Cobalt in MW-89-2:** Cobalt in MW-89-2 had no concentrations above the site-specific GWPS since 2009.
- **Arsenic in MW-89-6R:** Arsenic in MW-89-6R had five quantified concentrations in the most recent eight samples and four of the concentrations were above the GWPS. Elevated TSS concentrations may have contributed to the elevated arsenic concentrations.
- **Arsenic and Barium in MW-89-9R:** Arsenic and barium in MW-89-9R had no concentrations above the GWPSs in the most recent eight samples.

6.0 SUMMARY AND RECOMMENDATIONS

6.1 SITE IMPACT ON GROUNDWATER

- Inorganic concentrations were generally stable during this reporting period.
- No VOCs were detected above the reporting limit during this reporting period.
- No SSLs above a GWPS were measured during this reporting period.
- The monitoring wells at the Landfill appear to be generally not impacted.

6.2 PROPOSED MONITORING

Monitoring during the 2026 and 2027 reporting periods is included in **Table 2**.

6.3 PROPOSED MONITORING WELL CHANGES

There are no changes to the monitoring wells proposed at this time.

Tables

Table 1
Monitoring Program Summary Table
2025 Annual Water Quality Report
Union County Sanitary Landfill
Permit No. 88-SDP-01-79C

Monitoring Well	Formation ⁽¹⁾	Current Monitoring Program	Change for Next Sampling Event	Constituents with SSLs During the 2025 Reporting Period	Constituents with SSLs	Total Number of Samples in Each Monitoring Program
HMSP Monitoring Points						
PZ-22	Clay/Gravel	Background Assessment	No Change	Not Applicable	Not Applicable	11
MW-89-2	Weathered Till	Assessment	No Change	Barium, Chromium, Cobalt, Nickel	None	28
MW-89-6R	Silty Sand	Assessment	No Change	Barium, Cobalt, Nickel	None	30
MW-89-7	Weathered Till	Assessment	No Change	Barium, Cobalt	None	32
MW-89-9R	Sandy Silt	Assessment	No Change	Arsenic, Barium, Cobalt, Nickel	None	32
PZ-21	Weathered Till	Assessment	No Change	Barium	None	25
MW-21	Sandy Clay	Detection	No Change	None	Not Applicable	11
Other Monitoring Points						
MW-18	Clay/Gravel	Water Level				
MW-19	Clay/Gravel	Water Level				
MW-20	Clay/Sand	Water Level				
Lagoon Underdrain	Not Applicable	Water Level				

Notes:

⁽¹⁾ Obtained from screened interval in boring logs.

SSL = Statistically Significant Increase above background.

SSL = Statistically Significant Level above groundwater protection standard.

Table 2
Monitoring Program Implementation Schedule
2025 Annual Water Quality Report
Union County Sanitary Landfill
Permit No. 88-SDP-01-79C

Monitoring Well	Recent Sampling Dates and Constituents		Upcoming Sampling Dates and Constituents		Full Appendix II Sample Dates		
	August 2025		2026 Annual	2027 Annual	Previously Collected	Next Event	
PZ-22	Metals List, TSS, Sulfide		Metals List, Sulfide, TSS	Metals List, TSS, Sulfide	Not Applicable	Not Applicable	
MW-89-2	Appendix II, TSS		Metals List, TSS	Metals List, TSS	7/21/2009, 9/22/2014, 6/4/2019, 4/4/2024, 8/1/2025	2030	
MW-89-6R	Metals List, Sulfide*		Metals List, TSS	Metals List, TSS	7/21/2009, 9/22/2014, 2/25/2019, 4/4/2024	2029	
MW-89-7	Metals List, TSS, Appendix I VOCs		Metals List, TSS, Appendix I VOCs	Metals List, TSS, Appendix I VOCs	6/10/2008, 10/2/2013, 3/28/2018, 7/13/2023	2028	
MW-89-9R	Metals List, TSS, Appendix I VOCs, Sulfide		Metals List, TSS, Appendix I VOCs, Sulfide	Metals List, TSS, Appendix I VOCs, Sulfide	6/10/2008, 10/2/2013, 7/12/2018, 7/13/2023	2028	
PZ-21	Appendix II, TSS		Metals List, TSS	Metals List, TSS	12/27/2010, 11/20/2015, 3/1/2017, 07/16/2020, 8/1/2025	2030	
MW-21	Metals List, TSS		Metals List, TSS	Metals List, TSS	Not Applicable	Not Applicable	

Notes:

TSS: Total Suspended Solids.

Metals List includes: Antimony, Arsenic, Barium, Beryllium, Cadmium, Cobalt, Copper, and Nickel.

Table 3
Monitoring Well Maintenance and Performance Revaluation Schedule
2025 Annual Water Quality Report
Union County Sanitary Landfill
Permit No. 88-SDP-01-79C

Compliance with:	2023	2024	2025	2026	2027
2002 567 IAC 113.21(2)"a" high and low water levels		Completed		Scheduled	
2002 567 IAC 113.21(2)"b" changes in the hydrologic setting and flow paths	Completed	Completed	Included	Scheduled	Scheduled
2002 567 IAC 113.21(2)"c" well depths	Completed	Completed	Included	Scheduled	Scheduled
2009 567 IAC 113.10(2)"f"(4) well recharge rates and chemistry		Completed		Scheduled	
Waste separation from ground water 2009 567 IAC 113.6(2) ⁽¹⁾	Completed	Completed	Included	Scheduled	Scheduled

Notes:

(1) See Table 4.

Table 4
Monitoring Well Maintenance and Performance Summary
2025 Annual Water Quality Report
Union County Sanitary Landfill
Permit No. 88-SDP-01-79C

Well	Top of Casing	Top of Screen	Total Depth		Date of Measurement		Maximum Depth Discrepancy (ft)
					August 2025		
MW-89-2	1207.08	1160.50	70.4	Groundwater Level (ft)	55.91		0.2
				Groundwater Elevation (Ft MSL)	1152.33		
				Measured Well Depth (ft)	70.2		
				Submerged Screen	N		
MW-89-6R	1168.87	1155.47	23.4	Groundwater Level (ft)	10.87		-0.1
				Groundwater Elevation (Ft MSL)	1158.00		
				Measured Well Depth (ft)	23.5		
				Submerged Screen	Y		
MW-89-7	1169.23	1142.50	39.1	Groundwater Level (ft)	10.65		-1.1
				Groundwater Elevation (Ft MSL)	1158.58		
				Measured Well Depth (ft)	40.2		
				Submerged Screen	Y		
MW-89-9R	1172.80	1164.55	18.3	Groundwater Level (ft)	10.08		-0.2
				Groundwater Elevation (Ft MSL)	1162.72		
				Measured Well Depth (ft)	18.5		
				Submerged Screen	N		
PZ-21	1190.77	1163.20	48.1	Groundwater Level (ft)	26.38		0.1
				Groundwater Elevation (Ft MSL)	1164.39		
				Measured Well Depth (ft)	48.0		
				Submerged Screen	Y		
PZ-22	1243.51	1187.80	70.2	Groundwater Level (ft)	18.58		1.5
				Groundwater Elevation (Ft MSL)	1224.93		
				Measured Well Depth (ft)	68.7		
				Submerged Screen	Y		
MW-21	1178.13	1150.15	38.3	Groundwater Level (ft)	10.64		0.0
				Groundwater Elevation (Ft MSL)	1167.49		
				Measured Well Depth (ft)	38.3		
				Submerged screen	Y		

Comments:

- 1) Monitoring wells with submersible pumps are measured once every 5 years. Monitoring wells MW-89-2, PZ-21, and PZ-22 were measured during this reporting period and will be measured next during the 2030 reporting period.
- 2) Measured well depths were within 1.5 feet of the installed depths, so it appears siltation has not affected the ability of the wells to produce samples.

Groundwater Underdrain Piezometer

Well	Date of Measurement	
	August 2025	
NA	NA	
	Dry	
	>5	

Comments:

Groundwater underdrain point, Lagoon Underdrain, has been continuously dry. Due to the monitoring point remaining dry with few exceptions since 2005, it is likely that greater than 5 foot separation is present. The monitoring point Lagoon Underdrain will continue to be monitored to ensure separation.

Table 5
Background and GWPS Summary Tables
2025 Annual Water Quality Report
Union County Sanitary Landfill
Permit No. 88-SDP-01-79C

Interwell Background/GWPS (PZ-22)

Constituent	Units	Samples	Detections	Min	Max	Mean	Background level	Statistical Test	GWPS	Source
Antimony (Sb)	mg/L	11	1	0.0005 (1/2 RL)	0.004 (1/2 RL)	0.001091	0.004	PL (NP)	0.006	MCL
Arsenic (As)	mg/L	11	10	0.00205	0.00519	0.002915	0.005167	PL (P)	0.01	MCL
Barium (Ba)	mg/L	11	11	0.0104	0.0141	0.011436	0.0141	PL (NP)	2	MCL
Beryllium (Be)	mg/L	11	6	0.000404*	0.0035*	0.001060	0.003652	PL (P)	0.004	MCL
Cadmium (Cd)	mg/L	11	3	0.00005 (1/2 RL)	0.0004 (1/2 RL)	0.000172	0.0004	PL (NP)	0.005	MCL
Chromium (Cr)	mg/L	6	3	0.00108*	0.0025 (1/2 RL)	0.002028	0.003329	PL (P)	0.1	MCL
Cobalt (Co)	mg/L	11	11	0.000502	0.00309	0.001471	0.003188	PL (P)	0.01651**	SSS
Copper (Cu)	mg/L	11	6	0.0025 (1/2 RL)	0.497	0.074563	0.4706	PL (P)	1.3	MCL
Lead (Pb)	mg/L	6	3	0.00025 (1/2 RL)	0.00137	0.000612	0.002033	PL (P)	0.015	MCL
Nickel (Ni)	mg/L	11	8	0.00198*	0.0109	0.005746	0.01105	PL (P)	0.1	SWS
Selenium (Se)	mg/L	6	1	0.00154*	0.01 (1/2 RL)	0.003590	0.01	PL (NP)	0.05	MCL
Silver (Ag)	mg/L	6	0	0.00025 (1/2 RL)	0.0005 (1/2 RL)	0.000458	< 0.001	DQR	0.1	SWS
Thallium (Tl)	mg/L	6	0	0.0005 (1/2 RL)	0.001 (1/2 RL)	0.000583	< 0.002	DQR	0.002	MCL
Vanadium (V)	mg/L	6	1	0.001*	0.0025 (1/2 RL)	0.002250	0.0025	PL (NP)	0.035	SWS
Zinc (Zn)	mg/L	6	5	0.01 (1/2 RL)	0.0757*	0.046700	0.1271	PL (P)	2	SWS

* Indicates a J Flag; the concentration is below the reporting limit but above the method detection limit. The concentration is estimated.

** Site-specific GWPS for cobalt approved in correspondence dated March 17, 2017 (Doc #88698).

Acronyms/Abbreviations:

GWPS = Groundwater Protection Standard	RL = Reporting Limit	NP = Non-Parametric
DQR = Double Quantification Rule	PL = Prediction Limit	ND = Not Determined
SSS = Site-specific GWPS	MCL = EPA Maximum Contaminant Level	P = Parametric
HAL = Health Advisory Level	CL = Control Limits (mean + two standard deviations)	SWS = Statewide Standard

Comments:

- 1) Water quality results and effectiveness of the statistical data evaluation criteria:** Statistical evaluations consist of prediction limits and confidence intervals/confidence bands, as appropriate. Data from the background wells is not used for development of the confidence intervals or confidence bands.
- 2) Changes to the previous statistical method during reporting period:** None.
- 3) Re-sampling strategy:** Retesting is performed on a 1-of-2 scheme.
- 4) Justification for data exclusion:** Comparison of inorganic and TSS concentrations indicates that TSS does in part affect the elevated inorganic concentrations present at the site prior to the change in sampling methodology which occurred during the 2015 reporting period. Inorganic data was not collected from the background monitoring point prior to the implementation of low-flow sampling.

Table 6
Summary of Well/Detected Constituent Pairs With No Previous SSIs
2025 Annual Water Quality Report
Union County Sanitary Landfill
Permit No. 88-SDP-01-79C

Well	Constituent	Units	Most Recent Result	Background Standard
MW-89-6R	Nickel	mg/L	0.0174	0.01105
MW-89-9R	Arsenic	mg/L	0.00686	0.005167

Notes:

- 1) Criteria for inclusion in this table is a well/constituent pair with an SSI indicated during the 2025 reporting period and no SSI indicated during the 2024 reporting period.

Comments:

- 1) **Problems with the current detection network:** None
- 2) **Schedule to implement remedies:** None.
- 3) **Alternative constituent or sample frequency changes:** None.
- 4) **Significant changes to calculated prediction limits:** None.
- 5) **Resampling strategy:** A 1-of-2 resampling strategy was established for the Landfill.

Table 7
Summary Table of Ongoing and Newly Identified SSIs
2025 Annual Water Quality Report
Union County Sanitary Landfill
Permit No. 88-SDP-01-79C

Well	Constituent	Units	Most Recent Result	Background Standard	Lower Confidence Limit	GWPS	Sample Dates		
							Initial Exceedance	Resample(s)	5th background sample
MW-89-2	Barium	mg/L	0.0272	0.0141	0.02018	2	3/25/2020	NM	9/29/2010
	Chromium	mg/L	0.0138	0.003329	0.001821	0.1	4/24/2024	NM	9/29/2010
	Cobalt	mg/L	0.00463	0.003188	0.0003108	0.01651	3/9/2022	NM	9/29/2010
	Nickel	mg/L	0.0157	0.01105	0.0025	0.1	4/24/2024	NM	9/29/2010
MW-89-6R	Barium	mg/L	0.258	0.0141	0.1991	2	7/13/2023	NM	9/29/2010
	Cobalt	mg/L	0.0144	0.003188	0.007062	0.01651	7/13/2023	NM	9/29/2010
	Nickel	mg/L	0.0174	0.01105	0.008859	0.01	8/1/2025	NM	9/9/2009
MW-89-7	Barium	mg/L	0.32	0.0141	TS	2	7/13/2023	NM	9/9/2009
	Cobalt	mg/L	0.00349	0.003188	0.003852	0.01651	7/13/2023	NM	9/9/2009
MW-89-9R	Arsenic	mg/L	0.00686	0.005167	0.000699	0.01	7/13/2023	NA	9/9/2009
	Barium	mg/L	0.28	0.0141	0.105	2	7/13/2023	NM	9/9/2009
	Cobalt	mg/L	0.0218	0.003188	0.002333	0.01651	7/13/2023	NM	9/9/2009
	Nickel	mg/L	0.01985	0.01105	0.008526	0.1	7/13/2023	NM	9/9/2009
MW-21	None								3/25/2020
PZ-21	Barium	mg/L	0.0178	0.0141	0.01328	2	7/13/2023	NM	10/18/2012

Notes:

- 1) A single exceedance in an assessment monitoring well is recorded above as an SSI. Retesting is not performed as the monitoring wells are not in the detection monitoring program.
 - 2) Ongoing SSI is defined as one or more indicated SSIs for a monitoring well/constituent pair in both the 2025 and 2024 reporting periods.
- NM - Not Measured; Historical statistical evaluations utilized control limits to determine SSIs, therefore resampling of constituents with indicated SSIs above background was not part of the statistical methodology performed.
- TS - Indicated Thiel-Sen trending evaluation indicates a statistically significant trend was identified so a confidence interval cannot be calculated.
- Shaded indicates a newly identified SSI, as defined under Table 6.

Comments:

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

Table 8
Summary Table of Ongoing and Newly Identified SSLs
2025 Annual Water Quality Report
Union County Sanitary Landfill
Permit No. 88-SDP-01-79C

Well	Constituent	Units	Most Recent Result	Upper Confidence Limit	GWPS	Initial Exceedance	Date of Most Recent Exceedance	Upper Confidence Limit Below GWPS		
								1 st Year	2 nd Year	3 rd Year
None										

Comments:

Previous SSLs measured in monitoring wells MW-89-6R and MW-89-9R were removed in accordance with the Alternative Source Demonstration (Doc #94783) submitted March 28, 2019 and approved in DNR correspondence dated April 18, 2019 (Doc #94934). Monitoring wells MW-89-6R and MW-89-9R were placed back into the assessment monitoring program. There are no constituents currently measured at an SSL above a GWPS at the Landfill.

Table 9
Summary of Groundwater Chemistry
2025 Annual Water Quality Report
Union County Sanitary Landfill
Permit No. 88-SDP-01-79C

The Reporting Period Summary of Groundwater Chemistry Table is located in Appendix C.

Historical analytical data prior to 2025 can be found in the 2024 Annual Water Quality Report, dated 8/1/2024 (Doc #110616).

Note:

Background monitoring well PZ-22 was historically sampled for IAC 567-113.2(5) parameters prior to the 2018 reporting period. Historical PZ-22 data can be found in the 2017 AWQR (Doc #90951).

Table 10
Historical SSI and SSL
2025 Annual Water Quality Report
Union County Sanitary Landfill
Permit No. 88-SDP-01-79C

Key

	SSI
	SSL

Well	Constituent	Spring 2020	Fall 2020	2021	2022	2023	2024 ⁽¹⁾	2025 ⁽¹⁾
MW-89-2	Barium							
	Cadmium							
	Chromium							
	Cobalt							
	Nickel							
MW-89-6R	Arsenic							
	Barium							
	Cobalt							
	Nickel							
MW-89-7	Arsenic							
	Barium							
	Cobalt							
	Nickel							
MW-89-9R	Arsenic							
	Barium							
	Cobalt							
	Nickel							
MW-21	None							
PZ-21	Barium							

Comments:

- 1) Prior to 2024, SSIs were only recorded for the initial confirmed SSI measurement. SSIs are not confirmed for assessment monitoring wells.
- 2) Previous and historical SSLs were removed as a result of the Alternative Source Demonstration submitted on March 28, 2019 (Document #94783) and approved in DNR correspondence dated April 18, 2019 (Document #94934).

Table 11
Corrective Action Trend Analysis
2025 Annual Water Quality Report
Union County Sanitary Landfill
Permit No. 88-SDP-01-79C

Well	Current SSL	Trend	Calculated S	Critical S	Total N	Projected Date to Completion*
NA						

Notes:

- NA - Not Applicable; there are currently no SSLs measured in the monitoring wells at the Landfill.
- N - Number of samples utilized in statistical evaluation.
- S - Mann-Kendall Statistic.
- * - To satisfy IAC 113.10(9)"e"; Projected Date to Completion was based on utilizing the slope calculation to determine when the concentration would be below the GWPS for eight sampling events and remain at that level for three years.

Comments:

- 1) An Alternative Source Demonstration was submitted on March 28, 2019 (Document #94783) and approved in DNR correspondence dated April 18, 2019 (Document #94934) which removed historical SSLs from monitoring wells MW-89-6R and MW-89-9R. Therefore, corrective action is not applicable at this time.

Figures



Figure 2

Groundwater Contours

Legend

- Approximate Contours Based on Measurements Taken on July 31, 2025
- Approximate Groundwater Piezometer Location
- Approximate Landfill Gas Well Location
- Approximate Leachate Monitoring Location
- Approximate Property Boundary
- Approximate Waste Boundary
- Located Waste Boundary
- Stream

Union County Sanitary Landfill
Creston, Iowa
Project No: 27224311.26
Drawing Date: September 2025



Appendix A

Field Sampling Forms

FORM FOR GROUNDWATER SAMPLING

Project: Union County Sanitary Landfill	
Monitoring Well/Piezometer ID: MW-89-2	Date: 8/1/2025
Gradient: Down	Sampler: Michael Morgan

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped? Yes	
Litter/Standing Water? No	

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	70.2
Initial Static Water Level (feet):	55.91
Initial Groundwater Elevation (ft-amsl):	1151.17
Equipment Used:	Non-Dedicated Submersible

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES							
Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (NTU)	
1:20 PM	Purging start time.						
1:23 PM	15.5	0.9	3446.5	6.69	-107.7	28.6	
1:26 PM	15.3	0.9	3453.8	6.69	-108.5	31.9	
1:29 PM	14.8	0.7	3444.1	6.64	-110.5	35.9	
1:32 PM	15.1	0.8	3449.5	6.62	-109.3	43.3	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	3.9
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	325.00

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	

Additional Comments:	Color: slight brown tint Odor: sulfur Initially used Dedicated submersible Pump, but pump controller wouldn't draw water at full power. Changed over to a Non-dedicated Submersible Pump.
----------------------	---

FORM FOR GROUNDWATER SAMPLING

Project: Union County Sanitary Landfill	
Monitoring Well/Piezometer ID: MW-89-6R	Date: 8/1/2025
Gradient: Down	Sampler: Michael Morgan

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped? Yes	
Litter/Standing Water? No	

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	23.5
Initial Static Water Level (feet):	10.87
Initial Groundwater Elevation (ft-amsl):	1158.00
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)	
10:33 AM	Purging start time.						
10:36 AM	13.3	1.3	533.1	5.94	67.3	149.2	
10:39 AM	13.3	0.8	506.3	5.95	68.9	208.8	
10:42 AM	13.3	0.6	494.8	5.87	73.6	237.1	
10:45 AM	13.3	0.4	494.4	5.87	70.9	255.1	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	3.2
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	31:00
Average Purge Rate (mL/min):	103.23

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No Lock needed
If yes, explain:	
Additional Comments:	Well stabilized after 12 min, however purge continued due to high turbidity. Sample was collected when water appeared clear. Color: yellow brown tint Odor: none

FORM FOR GROUNDWATER SAMPLING

Project: Union County Sanitary Landfill	
Monitoring Well/Piezometer ID: MW-89-7	Date: 8/1/2025
Gradient: Down	Sampler: Michael Morgan

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped? Yes	
Litter/Standing Water? No	

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	40.2
Initial Static Water Level (feet):	10.65
Initial Groundwater Elevation (ft-amsl):	1158.58
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)	
11:29 AM	Purging start time.						
11:32 AM	14.9	1.6	1383.4	6.32	4.5	38.7	
11:35 AM	15.1	1.0	1395.9	6.33	-1.1	15.7	
11:38 AM	15.1	0.7	1401.0	6.35	-3.8	12.0	
11:41 AM	14.9	0.6	1404.4	6.36	-4.2	9.5	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	1.6
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	133.33

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

FORM FOR GROUNDWATER SAMPLING

Project: Union County Sanitary Landfill	
Monitoring Well/Piezometer ID: MW-89-9R	Date: 8/1/2025
Gradient: Down	Sampler: Michael Morgan

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped? Yes	
Litter/Standing Water? No	

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	18.5
Initial Static Water Level (feet):	5.00
Initial Groundwater Elevation (ft-amsl):	1167.80
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)	
2:56 PM	Purging start time.						
2:59 PM	16.7	1.1	1374.1	6.33	-16.3	30.4	
3:02 PM	15.9	0.6	1193.3	6.34	-38.3	39.0	
3:05 PM	15.6	0.4	1139.4	6.35	-59.8	45.5	
3:08 PM	15.5	0.3	1150.2	6.38	-70.5	54.2	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	1.7
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	141.67

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Duplicate Color: very slight yellow tint Odor: slight sulfur smell

FORM FOR GROUNDWATER SAMPLING

Project: Union County Sanitary Landfill	
Monitoring Well/Piezometer ID: MW-21	Date: 8/1/2025
Gradient: Down	Sampler: Michael Morgan

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped? Yes	
Litter/Standing Water? No	

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	38.3
Initial Static Water Level (feet):	10.64
Initial Groundwater Elevation (ft-amsl):	1167.49
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)	
4:21 PM	Purging start time.						
4:24 PM	15.2	4.9	2508.6	6.96	51.7	57.8	
4:27 PM	15.7	4.6	2526.4	6.97	78.9	64.6	
4:30 PM	15.6	4.5	2535.6	6.98	94.8	52.9	
4:33 PM	15.1	4.4	2553.0	6.99	105.1	34.5	
Parameters stabilized, sample collected.							

Quantity of Water Removed from Well (liters):	1.6
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	133.33

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: clear Odor: none Fine particulate present.

FORM FOR GROUNDWATER SAMPLING

Project: Union County Sanitary Landfill	
Monitoring Well/Piezometer ID: PZ-21	Date: 8/1/2025
Gradient: Down	Sampler: Michael Morgan

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped? Yes	
Litter/Standing Water? No	

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	48.0
Initial Static Water Level (feet):	26.38
Initial Groundwater Elevation (ft-amsl):	1164.39
Equipment Used:	Non-Dedicated Submersible

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES							
Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (NTU)	
5:29 PM	Purging start time.						
5:32 PM	14.6	1.5	3294.1	6.68	-76.1	60.7	
5:35 PM	15.4	0.8	3300.0	6.70	-78.4	64.2	
5:38 PM	14.8	0.6	3325.8	6.71	-79.1	100.5	
5:41 PM	14.4	2.0	3309.0	6.73	-69.9	31.0	
Parameters stabilized, sample collected.							

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

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	

Additional Comments:	Color: slight brown tint Odor: ocean Dedicate Submersible wiring requires resplicing. Fine particulate and indiscriminate detritus present.
----------------------	--

FORM FOR GROUNDWATER SAMPLING

Project: Union County Sanitary Landfill	
Monitoring Well/Piezometer ID: PZ-22	Date: 8/1/2025
Gradient: Up	Sampler: Michael Morgan

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	68.7
Initial Static Water Level (feet):	18.58
Initial Groundwater Elevation (ft-amsl):	1224.93
Equipment Used:	Dedicated Submersible

C. WELL PURGING							
FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES							
Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (NTU)	
12:23 PM	Purging start time.						
12:26 PM	15.5	1.2	3115.1	6.79	-115.2	62.3	
12:29 PM	12.9	0.4	3147.3	6.67	-109.3	26.1	
12:32 PM	14.2	0.2	3149.4	6.65	-103.1	112.9	
12:35 PM	14.3	0.2	3180.5	6.65	-102.8	154.3	
12:38 PM	13.6	0.1	3182.5	6.65	-100.5	152.7	
Parameters stabilized, sample collected.							

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

D. WELL MAINTENANCE	
Does the well require any future maintenance?	No
If yes, explain:	
Additional Comments:	Color: light brown tint Odor: sulfur Fine particulate present.

Appendix B-1

Laboratory Analytical Data Sheets

ANALYTICAL REPORT

PREPARED FOR

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

Generated 8/18/2025 2:34:06 PM

JOB DESCRIPTION

2025 Annual HMSP
Union County Sanitary Landfill

JOB NUMBER

310-312474-1

Eurofins Cedar Falls

Job Notes

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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: 2025 Annual HMSP

Job ID: 310-312474-1

Job ID: 310-312474-1

Eurofins Cedar Falls

Job Narrative 310-312474-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 8/4/2025 4:10 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.4°C and 4.9°C.

GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 310-462790 recovered outside of the control limits for 2,2-Dichloropropane (-21.6%D). A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported. The associated sample is impacted: (CCV 310-462790/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 310-462790 recovered outside of the control limits for Bromomethane (-23.0%D). A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported. The associated sample is impacted: (CCV 310-462790/4).

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

GC/MS Semi VOA

Method 8270E: The continuing calibration verification (CCV) associated with batch 310-463832 recovered above the upper control limit for Kepone(69.6%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is:(CCV 310-463832/4).

Method 8270E: The continuing calibration verification (CCV) analyzed in batch 310-463832 was outside the method criteria for the following analyte(s): 1,4-Phenylenediamine, 2-Naphthylamine, 4-Chloroaniline and o-Toluidine. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) for preparation batch 310-462892 and analytical batch 310-463832 recovered outside control limits for the following analyte(s): 1,4-Phenylenediamine. 1,4-Phenylenediamine have been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 310-462892 and analytical batch 310-463832 recovered outside control limits for the following analytes: 4-Aminobiphenyl and Chlorobenzilate.

Method 8270E: The laboratory control sample duplicate (LCSD) for preparation batch 310-462892 and analytical batch 310-463832 recovered outside control limits for the following analytes: Kepone. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

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

GC Semi VOA

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

Eurofins Cedar Falls

Case Narrative

Client: SCS Engineers
Project: 2025 Annual HMSP

Job ID: 310-312474-1

Job ID: 310-312474-1 (Continued)

Eurofins Cedar Falls

Herbicides

Method 8151A: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 500-829140 and analytical batch 500-829308 recovered outside control limits for the following analytes: Silvex (2,4,5-TP).

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

PCBs

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

Pesticides

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

Metals

Method 6020B: The method blank for preparation batch 310-463426 and analytical batch 310-463704 contained barium above the method detection limit (MDL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

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: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
310-312474-1	PZ-22	Water	08/01/25 12:38	08/04/25 16:10	Iowa
310-312474-2	MW-89-2	Water	08/01/25 13:33	08/04/25 16:10	Iowa
310-312474-3	MW-89-6R	Water	08/01/25 11:04	08/04/25 16:10	Iowa
310-312474-4	MW-89-7	Water	08/01/25 11:41	08/04/25 16:10	Iowa
310-312474-5	MW-89-9R	Water	08/01/25 15:08	08/04/25 16:10	Iowa
310-312474-6	PZ-21	Water	08/01/25 17:41	08/04/25 16:10	Iowa
310-312474-7	MW-21	Water	08/01/25 16:33	08/04/25 16:10	Iowa
310-312474-8	MW-D	Water	08/01/25 15:28	08/04/25 16:10	Iowa
310-312474-9	Trip Blank 1	Trip Blank	08/01/25 00:00	08/04/25 16:10	Iowa
310-312474-10	Trip Blank 2	Trip Blank	08/01/25 00:00	08/04/25 16:10	Iowa

Detection Summary

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: PZ-22

Lab Sample ID: 310-312474-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00245	J	0.00800	0.00212	mg/L	4		6020B	Total/NA
Barium	0.0104		0.00800	0.00264	mg/L	4		6020B	Total/NA
Cobalt	0.000502		0.000500	0.000170	mg/L	1		6020B	Total/NA
Total Suspended Solids	11.5		3.75	2.63	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-89-2

Lab Sample ID: 310-312474-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
beta-BHC	0.0600	J	0.0904	0.0380	ug/L	1		8081B	Total/NA
Arsenic	0.00235		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.0272		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cadmium	0.000142	J	0.000200	0.000100	mg/L	1		6020B	Total/NA
Chromium	0.0138		0.00500	0.00180	mg/L	1		6020B	Total/NA
Cobalt	0.00463		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000432	J	0.000500	0.000330	mg/L	1		6020B	Total/NA
Nickel	0.0157		0.00500	0.00230	mg/L	1		6020B	Total/NA
Vanadium	0.00207	J	0.00500	0.00170	mg/L	1		6020B	Total/NA
Total Suspended Solids	14.8		3.75	2.63	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-89-6R

Lab Sample ID: 310-312474-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00221		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.258		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.0144		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0174		0.00500	0.00230	mg/L	1		6020B	Total/NA

Client Sample ID: MW-89-7

Lab Sample ID: 310-312474-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.280	J	1.00	0.180	ug/L	1		8260D	Total/NA
Arsenic	0.00233		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.320		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00349		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0103		0.00500	0.00230	mg/L	1		6020B	Total/NA
Total Suspended Solids	17.0		15.0	10.5	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-89-9R

Lab Sample ID: 310-312474-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00695		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.269		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.0216		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0197		0.00500	0.00230	mg/L	1		6020B	Total/NA
Total Suspended Solids	17.5		7.50	5.25	mg/L	1		I-3765-85	Total/NA

Client Sample ID: PZ-21

Lab Sample ID: 310-312474-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
beta-BHC	0.0550	J	0.0895	0.0376	ug/L	1		8081B	Total/NA
Antimony	0.00226		0.00200	0.00100	mg/L	1		6020B	Total/NA
Arsenic	0.00136	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.0178	B	0.00200	0.000660	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: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: PZ-21 (Continued)

Lab Sample ID: 310-312474-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.00379	J	0.00500	0.00180	mg/L	1		6020B	Total/NA
Cobalt	0.00253		0.000500	0.000170	mg/L	1		6020B	Total/NA
Copper	0.00658		0.00500	0.00320	mg/L	1		6020B	Total/NA
Lead	0.000619		0.000500	0.000330	mg/L	1		6020B	Total/NA
Nickel	0.0106		0.00500	0.00230	mg/L	1		6020B	Total/NA
Total Suspended Solids	10.7		5.00	3.50	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-21

Lab Sample ID: 310-312474-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	0.00193	J	0.00200	0.00100	mg/L	1		6020B	Total/NA
Arsenic	0.000741	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.00867		0.00200	0.000660	mg/L	1		6020B	Total/NA

Client Sample ID: MW-D

Lab Sample ID: 310-312474-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00677		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.291		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.0220		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0200		0.00500	0.00230	mg/L	1		6020B	Total/NA
Total Suspended Solids	17.3		5.00	3.50	mg/L	1		I-3765-85	Total/NA

Client Sample ID: Trip Blank 1

Lab Sample ID: 310-312474-9

No Detections.

Client Sample ID: Trip Blank 2

Lab Sample ID: 310-312474-10

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Quantitation Limit Exceptions Summary

The requested project specific reporting limits listed below were less than laboratory standard quantitation limits (PQL) but greater than or equal to the laboratory method detection limits (MDL). It must be noted that results reported below lab standard quantitation limits may result in false positive/false negative values and less accurate quantitation. Routine laboratory procedures do not indicate corrective action for detections below the laboratory's PQL.

Method	Analyte	Matrix	Prep Type	Unit	Client RL	Lab PQL
8260D	1,2-Dibromo-3-Chloropropane	Water	Total/NA	ug/L	1.20	5
8260D	1,2-Dibromoethane (EDB)	Water	Total/NA	ug/L	0.340	1

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: PZ-22

Lab Sample ID: 310-312474-1

Date Collected: 08/01/25 12:38

Matrix: Water

Date Received: 08/04/25 16:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		08/12/25 09:00	08/12/25 17:13	1
Arsenic	0.00245	J	0.00800	0.00212	mg/L		08/12/25 09:00	08/13/25 12:39	4
Barium	0.0104		0.00800	0.00264	mg/L		08/12/25 09:00	08/13/25 12:39	4
Beryllium	<0.00100		0.00100	0.000330	mg/L		08/12/25 09:00	08/12/25 17:13	1
Cadmium	<0.000800		0.000800	0.000400	mg/L		08/12/25 09:00	08/13/25 12:39	4
Cobalt	0.000502		0.000500	0.000170	mg/L		08/12/25 09:00	08/12/25 17:13	1
Copper	<0.00500		0.00500	0.00320	mg/L		08/12/25 09:00	08/12/25 17:13	1
Nickel	<0.0200		0.0200	0.00920	mg/L		08/12/25 09:00	08/13/25 12:39	4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	<1.00		1.00	0.231	mg/L		08/06/25 18:07	08/07/25 13:14	1
Total Suspended Solids (USGS I-3765-85)	11.5		3.75	2.63	mg/L			08/05/25 13:58	1

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: MW-89-2

Lab Sample ID: 310-312474-2

Date Collected: 08/01/25 13:33

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			08/07/25 06:27	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			08/07/25 06:27	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			08/07/25 06:27	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			08/07/25 06:27	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			08/07/25 06:27	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			08/07/25 06:27	1
1,1-Dichloropropene	<1.00		1.00	0.430	ug/L			08/07/25 06:27	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			08/07/25 06:27	1
1,2,4-Trichlorobenzene	<5.00		5.00	0.750	ug/L			08/07/25 06:27	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			08/07/25 06:27	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			08/07/25 06:27	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			08/07/25 06:27	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			08/07/25 06:27	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			08/07/25 06:27	1
1,3-Dichlorobenzene	<1.00		1.00	0.300	ug/L			08/07/25 06:27	1
1,3-Dichloropropane	<1.00		1.00	0.400	ug/L			08/07/25 06:27	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			08/07/25 06:27	1
2,2-Dichloropropane	<4.00		4.00	0.690	ug/L			08/07/25 06:27	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			08/07/25 06:27	1
2-Hexanone	<10.0		10.0	2.00	ug/L			08/07/25 06:27	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			08/07/25 06:27	1
Acetone	<10.0		10.0	3.10	ug/L			08/07/25 06:27	1
Acrolein	<10.0		10.0	3.60	ug/L			08/07/25 06:27	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			08/07/25 06:27	1
Allyl chloride	<2.00		2.00	0.700	ug/L			08/07/25 06:27	1
Benzene	<0.500		0.500	0.220	ug/L			08/07/25 06:27	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			08/07/25 06:27	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			08/07/25 06:27	1
Bromoform	<5.00		5.00	0.780	ug/L			08/07/25 06:27	1
Bromomethane	<4.00		4.00	1.10	ug/L			08/07/25 06:27	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			08/07/25 06:27	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			08/07/25 06:27	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			08/07/25 06:27	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			08/07/25 06:27	1
Chloroethane	<4.00		4.00	0.790	ug/L			08/07/25 06:27	1
Chloroform	<3.00		3.00	1.30	ug/L			08/07/25 06:27	1
Chloromethane	<3.00		3.00	0.610	ug/L			08/07/25 06:27	1
Chloroprene	<1.00		1.00	0.230	ug/L			08/07/25 06:27	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			08/07/25 06:27	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			08/07/25 06:27	1
Dibromomethane	<1.00		1.00	0.330	ug/L			08/07/25 06:27	1
Dichlorodifluoromethane	<3.00		3.00	0.250	ug/L			08/07/25 06:27	1
Ethyl methacrylate	<2.00		2.00	0.680	ug/L			08/07/25 06:27	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			08/07/25 06:27	1
Iodomethane	<10.0		10.0	7.00	ug/L			08/07/25 06:27	1
Methacrylonitrile	<10.0		10.0	3.30	ug/L			08/07/25 06:27	1
Methyl methacrylate	<2.00		2.00	0.760	ug/L			08/07/25 06:27	1
Methylene chloride	<5.00		5.00	1.70	ug/L			08/07/25 06:27	1
Naphthalene	<5.00		5.00	3.00	ug/L			08/07/25 06:27	1

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: MW-89-2

Lab Sample ID: 310-312474-2

Date Collected: 08/01/25 13:33

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	<10.0		10.0	3.40	ug/L			08/07/25 06:27	1
Styrene	<1.00		1.00	0.370	ug/L			08/07/25 06:27	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			08/07/25 06:27	1
Toluene	<1.00		1.00	0.430	ug/L			08/07/25 06:27	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			08/07/25 06:27	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			08/07/25 06:27	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			08/07/25 06:27	1
Trichloroethene	<1.00		1.00	0.430	ug/L			08/07/25 06:27	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			08/07/25 06:27	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			08/07/25 06:27	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			08/07/25 06:27	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			08/07/25 06:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	97		76 - 130		08/07/25 06:27	1
Toluene-d8 (Surr)	102		80 - 120		08/07/25 06:27	1
4-Bromofluorobenzene (Surr)	99		80 - 120		08/07/25 06:27	1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	<10.2		10.2	0.551	ug/L		08/07/25 07:15	08/16/25 04:00	1
1,3,5-Trinitrobenzene	<10.2		10.2	2.35	ug/L		08/07/25 07:15	08/16/25 04:00	1
1,3-Dinitrobenzene	<10.2		10.2	3.27	ug/L		08/07/25 07:15	08/16/25 04:00	1
1,4-Naphthoquinone	<10.2		10.2	3.67	ug/L		08/07/25 07:15	08/16/25 04:00	1
1,4-Phenylenediamine	<10.2	*	10.2	1.94	ug/L		08/07/25 07:15	08/16/25 04:00	1
1-Naphthylamine	<10.2		10.2	2.55	ug/L		08/07/25 07:15	08/16/25 04:00	1
2,3,4,6-Tetrachlorophenol	<10.2		10.2	5.41	ug/L		08/07/25 07:15	08/16/25 04:00	1
2,4,5-Trichlorophenol	<10.2		10.2	5.41	ug/L		08/07/25 07:15	08/16/25 04:00	1
2,4,6-Trichlorophenol	<10.2		10.2	5.10	ug/L		08/07/25 07:15	08/16/25 04:00	1
2,4-Dichlorophenol	<10.2		10.2	0.867	ug/L		08/07/25 07:15	08/16/25 04:00	1
2,4-Dimethylphenol	<10.2		10.2	0.592	ug/L		08/07/25 07:15	08/16/25 04:00	1
2,4-Dinitrophenol	<20.4		20.4	13.3	ug/L		08/07/25 07:15	08/16/25 04:00	1
2,4-Dinitrotoluene	<10.2		10.2	6.53	ug/L		08/07/25 07:15	08/16/25 04:00	1
2,6-Dichlorophenol	<10.2		10.2	0.704	ug/L		08/07/25 07:15	08/16/25 04:00	1
2,6-Dinitrotoluene	<10.2		10.2	0.531	ug/L		08/07/25 07:15	08/16/25 04:00	1
2-Acetylaminofluorene	<10.2		10.2	2.76	ug/L		08/07/25 07:15	08/16/25 04:00	1
2-Chloronaphthalene	<10.2		10.2	0.653	ug/L		08/07/25 07:15	08/16/25 04:00	1
2-Chlorophenol	<10.2		10.2	0.551	ug/L		08/07/25 07:15	08/16/25 04:00	1
2-Methylnaphthalene	<10.2		10.2	0.602	ug/L		08/07/25 07:15	08/16/25 04:00	1
2-Methylphenol	<10.2		10.2	0.663	ug/L		08/07/25 07:15	08/16/25 04:00	1
2-Naphthylamine	<10.2		10.2	2.14	ug/L		08/07/25 07:15	08/16/25 04:00	1
2-Nitroaniline	<10.2		10.2	6.02	ug/L		08/07/25 07:15	08/16/25 04:00	1
2-Nitrophenol	<10.2		10.2	6.94	ug/L		08/07/25 07:15	08/16/25 04:00	1
3,3'-Dichlorobenzidine	<10.2		10.2	1.43	ug/L		08/07/25 07:15	08/16/25 04:00	1
3,3'-Dimethylbenzidine	<10.2		10.2	1.53	ug/L		08/07/25 07:15	08/16/25 04:00	1
3-Methylcholanthrene	<10.2		10.2	0.327	ug/L		08/07/25 07:15	08/16/25 04:00	1
3-Nitroaniline	<10.2		10.2	2.76	ug/L		08/07/25 07:15	08/16/25 04:00	1
4,6-Dinitro-2-methylphenol	<10.2		10.2	7.04	ug/L		08/07/25 07:15	08/16/25 04:00	1
4-Aminobiphenyl	<10.2	*1	10.2	2.24	ug/L		08/07/25 07:15	08/16/25 04:00	1
4-Bromophenyl phenyl ether	<10.2		10.2	0.714	ug/L		08/07/25 07:15	08/16/25 04:00	1

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: MW-89-2

Lab Sample ID: 310-312474-2

Date Collected: 08/01/25 13:33

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloro-3-methylphenol	<10.2		10.2	0.857	ug/L		08/07/25 07:15	08/16/25 04:00	1
4-Chloroaniline	<10.2		10.2	0.633	ug/L		08/07/25 07:15	08/16/25 04:00	1
4-Chlorophenyl phenyl ether	<10.2		10.2	0.704	ug/L		08/07/25 07:15	08/16/25 04:00	1
4-Methylphenol (and/or 3-Methylphenol)	<10.2		10.2	0.714	ug/L		08/07/25 07:15	08/16/25 04:00	1
4-Nitroaniline	<10.2		10.2	1.33	ug/L		08/07/25 07:15	08/16/25 04:00	1
4-Nitrophenol	<10.2		10.2	7.76	ug/L		08/07/25 07:15	08/16/25 04:00	1
5-Nitro-o-toluidine	<10.2		10.2	2.86	ug/L		08/07/25 07:15	08/16/25 04:00	1
7,12-Dimethylbenz(a)anthracene	<10.2		10.2	1.94	ug/L		08/07/25 07:15	08/16/25 04:00	1
Acenaphthene	<10.2		10.2	0.653	ug/L		08/07/25 07:15	08/16/25 04:00	1
Acenaphthylene	<10.2		10.2	0.735	ug/L		08/07/25 07:15	08/16/25 04:00	1
Acetophenone	<10.2		10.2	0.704	ug/L		08/07/25 07:15	08/16/25 04:00	1
Anthracene	<10.2		10.2	0.888	ug/L		08/07/25 07:15	08/16/25 04:00	1
Benzo[a]anthracene	<10.2		10.2	0.867	ug/L		08/07/25 07:15	08/16/25 04:00	1
Benzo[a]pyrene	<10.2		10.2	8.27	ug/L		08/07/25 07:15	08/16/25 04:00	1
Benzo[b]fluoranthene	<10.2		10.2	5.00	ug/L		08/07/25 07:15	08/16/25 04:00	1
Benzo[g,h,i]perylene	<10.2		10.2	6.43	ug/L		08/07/25 07:15	08/16/25 04:00	1
Benzo[k]fluoranthene	<10.2		10.2	2.24	ug/L		08/07/25 07:15	08/16/25 04:00	1
Benzyl alcohol	<10.2		10.2	1.33	ug/L		08/07/25 07:15	08/16/25 04:00	1
Bis(2-chloroethoxy)methane	<10.2		10.2	0.776	ug/L		08/07/25 07:15	08/16/25 04:00	1
Bis(2-chloroethyl)ether	<10.2		10.2	0.837	ug/L		08/07/25 07:15	08/16/25 04:00	1
bis (2-chloroisopropyl) ether	<10.2		10.2	0.551	ug/L		08/07/25 07:15	08/16/25 04:00	1
Bis(2-ethylhexyl) phthalate	<10.2		10.2	5.61	ug/L		08/07/25 07:15	08/16/25 04:00	1
Butyl benzyl phthalate	<10.2		10.2	5.51	ug/L		08/07/25 07:15	08/16/25 04:00	1
Chlorobenzilate	<10.2 *1		10.2	3.67	ug/L		08/07/25 07:15	08/16/25 04:00	1
Chrysene	<10.2		10.2	0.888	ug/L		08/07/25 07:15	08/16/25 04:00	1
Diallate	<10.2		10.2	4.08	ug/L		08/07/25 07:15	08/16/25 04:00	1
Dibenz(a,h)anthracene	<10.2		10.2	3.98	ug/L		08/07/25 07:15	08/16/25 04:00	1
Dibenzofuran	<10.2		10.2	0.755	ug/L		08/07/25 07:15	08/16/25 04:00	1
Diethyl phthalate	<10.2		10.2	1.73	ug/L		08/07/25 07:15	08/16/25 04:00	1
Dimethoate	<10.2		10.2	3.67	ug/L		08/07/25 07:15	08/16/25 04:00	1
Dimethyl phthalate	<10.2		10.2	1.02	ug/L		08/07/25 07:15	08/16/25 04:00	1
Di-n-butyl phthalate	<10.2		10.2	5.71	ug/L		08/07/25 07:15	08/16/25 04:00	1
Di-n-octyl phthalate	<20.4		20.4	7.14	ug/L		08/07/25 07:15	08/16/25 04:00	1
Dinoseb	<10.2		10.2	2.45	ug/L		08/07/25 07:15	08/16/25 04:00	1
Diphenylamine	<10.2		10.2	6.12	ug/L		08/07/25 07:15	08/16/25 04:00	1
Disulfoton	<10.2		10.2	2.45	ug/L		08/07/25 07:15	08/16/25 04:00	1
Ethyl methanesulfonate	<10.2		10.2	3.67	ug/L		08/07/25 07:15	08/16/25 04:00	1
Ethyl parathion	<10.2		10.2	2.24	ug/L		08/07/25 07:15	08/16/25 04:00	1
Famphur	<10.2		10.2	3.88	ug/L		08/07/25 07:15	08/16/25 04:00	1
Fluoranthene	<10.2		10.2	1.73	ug/L		08/07/25 07:15	08/16/25 04:00	1
Fluorene	<10.2		10.2	0.806	ug/L		08/07/25 07:15	08/16/25 04:00	1
Hexachlorobenzene	<10.2		10.2	0.714	ug/L		08/07/25 07:15	08/16/25 04:00	1
Hexachlorobutadiene	<10.2		10.2	0.878	ug/L		08/07/25 07:15	08/16/25 04:00	1
Hexachlorocyclopentadiene	<10.2		10.2	5.20	ug/L		08/07/25 07:15	08/16/25 04:00	1
Hexachloroethane	<10.2		10.2	0.990	ug/L		08/07/25 07:15	08/16/25 04:00	1
Hexachloropropene	<10.2		10.2	2.65	ug/L		08/07/25 07:15	08/16/25 04:00	1
Indeno(1,2,3-cd)pyrene	<10.2		10.2	4.29	ug/L		08/07/25 07:15	08/16/25 04:00	1
Isodrin	<10.2		10.2	4.80	ug/L		08/07/25 07:15	08/16/25 04:00	1
Isophorone	<10.2		10.2	0.949	ug/L		08/07/25 07:15	08/16/25 04:00	1

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: MW-89-2

Lab Sample ID: 310-312474-2

Date Collected: 08/01/25 13:33

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isosafrole	<10.2		10.2	2.35	ug/L		08/07/25 07:15	08/16/25 04:00	1
Kepone	<10.2	*+	10.2	1.02	ug/L		08/07/25 07:15	08/16/25 04:00	1
Methapyrilene	<10.2		10.2	0.776	ug/L		08/07/25 07:15	08/16/25 04:00	1
Methyl methanesulfonate	<10.2		10.2	3.37	ug/L		08/07/25 07:15	08/16/25 04:00	1
Methyl parathion	<10.2		10.2	2.35	ug/L		08/07/25 07:15	08/16/25 04:00	1
Nitrobenzene	<10.2		10.2	0.816	ug/L		08/07/25 07:15	08/16/25 04:00	1
N-Nitrosodiethylamine	<10.2		10.2	3.47	ug/L		08/07/25 07:15	08/16/25 04:00	1
N-Nitrosodimethylamine	<10.2		10.2	0.735	ug/L		08/07/25 07:15	08/16/25 04:00	1
N-Nitrosodi-n-butylamine	<10.2		10.2	3.98	ug/L		08/07/25 07:15	08/16/25 04:00	1
N-Nitrosodi-n-propylamine	<10.2		10.2	0.939	ug/L		08/07/25 07:15	08/16/25 04:00	1
N-Nitrosodiphenylamine	<10.2		10.2	0.765	ug/L		08/07/25 07:15	08/16/25 04:00	1
N-Nitrosomethylethylamine	<10.2		10.2	5.00	ug/L		08/07/25 07:15	08/16/25 04:00	1
N-Nitrosopiperidine	<10.2		10.2	2.76	ug/L		08/07/25 07:15	08/16/25 04:00	1
N-Nitrosopyrrolidine	<10.2		10.2	3.67	ug/L		08/07/25 07:15	08/16/25 04:00	1
o,o',o''-Triethylphosphorothioate	<10.2		10.2	3.27	ug/L		08/07/25 07:15	08/16/25 04:00	1
o-Toluidine	<10.2		10.2	2.96	ug/L		08/07/25 07:15	08/16/25 04:00	1
p-Dimethylamino azobenzene	<10.2		10.2	2.24	ug/L		08/07/25 07:15	08/16/25 04:00	1
Pentachlorobenzene	<10.2		10.2	2.86	ug/L		08/07/25 07:15	08/16/25 04:00	1
Pentachloronitrobenzene	<10.2		10.2	5.92	ug/L		08/07/25 07:15	08/16/25 04:00	1
Pentachlorophenol	<10.2		10.2	9.80	ug/L		08/07/25 07:15	08/16/25 04:00	1
Phenacetin	<10.2		10.2	1.94	ug/L		08/07/25 07:15	08/16/25 04:00	1
Phenanthrene	<10.2		10.2	0.806	ug/L		08/07/25 07:15	08/16/25 04:00	1
Phenol	<10.2		10.2	1.12	ug/L		08/07/25 07:15	08/16/25 04:00	1
Phorate	<10.2		10.2	3.27	ug/L		08/07/25 07:15	08/16/25 04:00	1
Pronamide	<10.2		10.2	2.76	ug/L		08/07/25 07:15	08/16/25 04:00	1
Pyrene	<10.2		10.2	0.806	ug/L		08/07/25 07:15	08/16/25 04:00	1
Safrole	<10.2		10.2	2.86	ug/L		08/07/25 07:15	08/16/25 04:00	1
Thionazin	<10.2		10.2	3.57	ug/L		08/07/25 07:15	08/16/25 04:00	1
Diallate Peak 2	<10.2		10.2	4.08	ug/L		08/07/25 07:15	08/16/25 04:00	1
Diallate Peak 1	<10.2		10.2	4.08	ug/L		08/07/25 07:15	08/16/25 04:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	75		21 - 110	08/07/25 07:15	08/16/25 04:00	1
Phenol-d5 (Surr)	62		21 - 110	08/07/25 07:15	08/16/25 04:00	1
Nitrobenzene-d5 (Surr)	94		39 - 140	08/07/25 07:15	08/16/25 04:00	1
2-Fluorobiphenyl (Surr)	92		33 - 126	08/07/25 07:15	08/16/25 04:00	1
2,4,6-Tribromophenol (Surr)	114		20 - 144	08/07/25 07:15	08/16/25 04:00	1
Terphenyl-d14 (Surr)	99		13 - 150	08/07/25 07:15	08/16/25 04:00	1

Method: SW846 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	<10.0		10.0	2.60	mg/L			08/07/25 15:02	1
Isobutanol	<10.0		10.0	2.40	mg/L			08/07/25 15:02	1

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.0904		0.0904	0.0199	ug/L		08/08/25 09:20	08/08/25 15:30	1
alpha-BHC	<0.0904		0.0904	0.00904	ug/L		08/08/25 09:20	08/08/25 15:30	1
beta-BHC	0.0600	J	0.0904	0.0380	ug/L		08/08/25 09:20	08/08/25 15:30	1
gamma-BHC (Lindane)	<0.0904		0.0904	0.00904	ug/L		08/08/25 09:20	08/08/25 15:30	1

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Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: MW-89-2

Lab Sample ID: 310-312474-2

Date Collected: 08/01/25 13:33

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
delta-BHC	<0.0904		0.0904	0.0289	ug/L		08/08/25 09:20	08/08/25 15:30	1
Chlordane (technical)	<1.81		1.81	0.353	ug/L		08/08/25 09:20	08/08/25 15:30	1
Dieldrin	<0.0904		0.0904	0.0190	ug/L		08/08/25 09:20	08/08/25 15:30	1
4,4'-DDD	<0.0904		0.0904	0.0226	ug/L		08/08/25 09:20	08/08/25 15:30	1
4,4'-DDE	<0.0904		0.0904	0.0271	ug/L		08/08/25 09:20	08/08/25 15:30	1
4,4'-DDT	<0.0904		0.0904	0.0181	ug/L		08/08/25 09:20	08/08/25 15:30	1
Endosulfan I	<0.0904		0.0904	0.0253	ug/L		08/08/25 09:20	08/08/25 15:30	1
Endosulfan II	<0.0904		0.0904	0.0235	ug/L		08/08/25 09:20	08/08/25 15:30	1
Endosulfan sulfate	<0.0904		0.0904	0.0163	ug/L		08/08/25 09:20	08/08/25 15:30	1
Endrin	<0.0904		0.0904	0.0253	ug/L		08/08/25 09:20	08/08/25 15:30	1
Endrin aldehyde	<0.0904		0.0904	0.0244	ug/L		08/08/25 09:20	08/08/25 15:30	1
Heptachlor	<0.0904		0.0904	0.0208	ug/L		08/08/25 09:20	08/08/25 15:30	1
Heptachlor epoxide	<0.0904		0.0904	0.0289	ug/L		08/08/25 09:20	08/08/25 15:30	1
Methoxychlor	<0.0904		0.0904	0.0289	ug/L		08/08/25 09:20	08/08/25 15:30	1
Toxaphene	<1.81		1.81	0.904	ug/L		08/08/25 09:20	08/08/25 15:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	58		10 - 150	08/08/25 09:20	08/08/25 15:30	1
DCB Decachlorobiphenyl (Surr)	59		10 - 150	08/08/25 09:20	08/08/25 15:30	1
Tetrachloro-m-xylene (Surr)	65		17 - 150	08/08/25 09:20	08/08/25 15:30	1
Tetrachloro-m-xylene (Surr)	62		17 - 150	08/08/25 09:20	08/08/25 15:30	1

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<1.81		1.81	0.742	ug/L		08/08/25 09:20	08/08/25 15:30	1
PCB-1221	<1.81		1.81	0.742	ug/L		08/08/25 09:20	08/08/25 15:30	1
PCB-1232	<1.81		1.81	0.742	ug/L		08/08/25 09:20	08/08/25 15:30	1
PCB-1242	<1.81		1.81	0.742	ug/L		08/08/25 09:20	08/08/25 15:30	1
PCB-1248	<1.81		1.81	0.624	ug/L		08/08/25 09:20	08/08/25 15:30	1
PCB-1254	<1.81		1.81	0.624	ug/L		08/08/25 09:20	08/08/25 15:30	1
PCB-1260	<1.81		1.81	0.624	ug/L		08/08/25 09:20	08/08/25 15:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	59		10 - 150	08/08/25 09:20	08/08/25 15:30	1
Tetrachloro-m-xylene	66		17 - 150	08/08/25 09:20	08/08/25 15:30	1

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	<1.00		1.00	0.126	ug/L		08/07/25 14:12	08/09/25 00:45	1
Silvex (2,4,5-TP)	<1.00	*1	1.00	0.105	ug/L		08/07/25 14:12	08/09/25 00:45	1
2,4,5-T	<1.00		1.00	0.140	ug/L		08/07/25 14:12	08/09/25 00:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCAA	91		25 - 130	08/07/25 14:12	08/09/25 00:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		08/12/25 09:00	08/12/25 17:18	1
Arsenic	0.00235		0.00200	0.000530	mg/L		08/12/25 09:00	08/13/25 12:51	1
Barium	0.0272		0.00200	0.000660	mg/L		08/12/25 09:00	08/13/25 12:51	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		08/12/25 09:00	08/12/25 17:18	1

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: MW-89-2

Lab Sample ID: 310-312474-2

Date Collected: 08/01/25 13:33

Matrix: Water

Date Received: 08/04/25 16:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000142	J	0.000200	0.000100	mg/L		08/12/25 09:00	08/13/25 12:51	1
Chromium	0.0138		0.00500	0.00180	mg/L		08/12/25 09:00	08/12/25 17:18	1
Cobalt	0.00463		0.000500	0.000170	mg/L		08/12/25 09:00	08/13/25 12:51	1
Copper	<0.00500		0.00500	0.00320	mg/L		08/12/25 09:00	08/13/25 12:51	1
Lead	0.000432	J	0.000500	0.000330	mg/L		08/12/25 09:00	08/13/25 12:51	1
Nickel	0.0157		0.00500	0.00230	mg/L		08/12/25 09:00	08/13/25 12:51	1
Selenium	<0.00500		0.00500	0.00140	mg/L		08/12/25 09:00	08/13/25 12:51	1
Silver	<0.00100		0.00100	0.000500	mg/L		08/12/25 09:00	08/13/25 12:51	1
Thallium	<0.00100		0.00100	0.000570	mg/L		08/12/25 09:00	08/13/25 12:51	1
Vanadium	0.00207	J	0.00500	0.00170	mg/L		08/12/25 09:00	08/12/25 17:18	1
Zinc	<0.0200		0.0200	0.0130	mg/L		08/12/25 09:00	08/13/25 12:51	1
Tin	<0.00500		0.00500	0.00250	mg/L		08/12/25 09:00	08/13/25 12:51	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200	0.000110	mg/L		08/13/25 15:20	08/14/25 12:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	<0.0100		0.0100	0.00350	mg/L		08/07/25 10:47	08/08/25 12:13	1
Sulfide (SW846 9034)	<1.00		1.00	0.231	mg/L		08/06/25 18:11	08/07/25 13:25	1
Total Suspended Solids (USGS I-3765-85)	14.8		3.75	2.63	mg/L			08/05/25 13:58	1

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: MW-89-6R

Lab Sample ID: 310-312474-3

Date Collected: 08/01/25 11:04

Matrix: Water

Date Received: 08/04/25 16:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		08/12/25 09:00	08/12/25 17:20	1
Arsenic	0.00221		0.00200	0.000530	mg/L		08/12/25 09:00	08/13/25 12:54	1
Barium	0.258		0.00200	0.000660	mg/L		08/12/25 09:00	08/13/25 12:54	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		08/12/25 09:00	08/12/25 17:20	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		08/12/25 09:00	08/13/25 12:54	1
Cobalt	0.0144		0.000500	0.000170	mg/L		08/12/25 09:00	08/12/25 17:20	1
Copper	<0.00500		0.00500	0.00320	mg/L		08/12/25 09:00	08/12/25 17:20	1
Nickel	0.0174		0.00500	0.00230	mg/L		08/12/25 09:00	08/13/25 12:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	<1.00		1.00	0.231	mg/L		08/06/25 18:15	08/07/25 13:37	1

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: MW-89-7

Lab Sample ID: 310-312474-4

Date Collected: 08/01/25 11:41

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			08/07/25 06:50	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			08/07/25 06:50	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			08/07/25 06:50	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			08/07/25 06:50	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			08/07/25 06:50	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			08/07/25 06:50	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			08/07/25 06:50	1
1,2-Dibromo-3-Chloropropane	<1.20		1.20	1.20	ug/L			08/07/25 06:50	1
1,2-Dibromoethane (EDB)	<0.340		0.340	0.340	ug/L			08/07/25 06:50	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			08/07/25 06:50	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			08/07/25 06:50	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			08/07/25 06:50	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			08/07/25 06:50	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			08/07/25 06:50	1
2-Hexanone	<10.0		10.0	2.00	ug/L			08/07/25 06:50	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			08/07/25 06:50	1
Acetone	<10.0		10.0	3.10	ug/L			08/07/25 06:50	1
Acrylonitrile	<10.0		10.0	2.20	ug/L			08/07/25 06:50	1
Benzene	<0.500		0.500	0.220	ug/L			08/07/25 06:50	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			08/07/25 06:50	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			08/07/25 06:50	1
Bromoform	<5.00		5.00	0.780	ug/L			08/07/25 06:50	1
Bromomethane	<4.00		4.00	1.10	ug/L			08/07/25 06:50	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			08/07/25 06:50	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			08/07/25 06:50	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			08/07/25 06:50	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			08/07/25 06:50	1
Chloroethane	<4.00		4.00	0.790	ug/L			08/07/25 06:50	1
Chloroform	<3.00		3.00	1.30	ug/L			08/07/25 06:50	1
Chloromethane	<3.00		3.00	0.610	ug/L			08/07/25 06:50	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			08/07/25 06:50	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			08/07/25 06:50	1
Dibromomethane	<1.00		1.00	0.330	ug/L			08/07/25 06:50	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			08/07/25 06:50	1
Iodomethane	<10.0		10.0	7.00	ug/L			08/07/25 06:50	1
Methylene Chloride	<5.00		5.00	1.70	ug/L			08/07/25 06:50	1
Styrene	<1.00		1.00	0.370	ug/L			08/07/25 06:50	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			08/07/25 06:50	1
Toluene	<1.00		1.00	0.430	ug/L			08/07/25 06:50	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			08/07/25 06:50	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			08/07/25 06:50	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			08/07/25 06:50	1
Trichloroethene	<1.00		1.00	0.430	ug/L			08/07/25 06:50	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			08/07/25 06:50	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			08/07/25 06:50	1
Vinyl chloride	0.280	J	1.00	0.180	ug/L			08/07/25 06:50	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			08/07/25 06:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	100		76 - 130		08/07/25 06:50	1

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: MW-89-7

Lab Sample ID: 310-312474-4

Date Collected: 08/01/25 11:41

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 120		08/07/25 06:50	1
4-Bromofluorobenzene (Surr)	99		80 - 120		08/07/25 06:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		08/12/25 09:00	08/12/25 17:23	1
Arsenic	0.00233		0.00200	0.000530	mg/L		08/12/25 09:00	08/13/25 12:57	1
Barium	0.320		0.00200	0.000660	mg/L		08/12/25 09:00	08/13/25 12:57	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		08/12/25 09:00	08/12/25 17:23	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		08/12/25 09:00	08/13/25 12:57	1
Cobalt	0.00349		0.000500	0.000170	mg/L		08/12/25 09:00	08/12/25 17:23	1
Copper	<0.00500		0.00500	0.00320	mg/L		08/12/25 09:00	08/12/25 17:23	1
Nickel	0.0103		0.00500	0.00230	mg/L		08/12/25 09:00	08/13/25 12:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	17.0		15.0	10.5	mg/L			08/05/25 13:58	1

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: MW-89-9R

Lab Sample ID: 310-312474-5

Date Collected: 08/01/25 15:08

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			08/07/25 07:12	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			08/07/25 07:12	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			08/07/25 07:12	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			08/07/25 07:12	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			08/07/25 07:12	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			08/07/25 07:12	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			08/07/25 07:12	1
1,2-Dibromo-3-Chloropropane	<1.20		1.20	1.20	ug/L			08/07/25 07:12	1
1,2-Dibromoethane (EDB)	<0.340		0.340	0.340	ug/L			08/07/25 07:12	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			08/07/25 07:12	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			08/07/25 07:12	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			08/07/25 07:12	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			08/07/25 07:12	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			08/07/25 07:12	1
2-Hexanone	<10.0		10.0	2.00	ug/L			08/07/25 07:12	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			08/07/25 07:12	1
Acetone	<10.0		10.0	3.10	ug/L			08/07/25 07:12	1
Acrylonitrile	<10.0		10.0	2.20	ug/L			08/07/25 07:12	1
Benzene	<0.500		0.500	0.220	ug/L			08/07/25 07:12	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			08/07/25 07:12	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			08/07/25 07:12	1
Bromoform	<5.00		5.00	0.780	ug/L			08/07/25 07:12	1
Bromomethane	<4.00		4.00	1.10	ug/L			08/07/25 07:12	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			08/07/25 07:12	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			08/07/25 07:12	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			08/07/25 07:12	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			08/07/25 07:12	1
Chloroethane	<4.00		4.00	0.790	ug/L			08/07/25 07:12	1
Chloroform	<3.00		3.00	1.30	ug/L			08/07/25 07:12	1
Chloromethane	<3.00		3.00	0.610	ug/L			08/07/25 07:12	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			08/07/25 07:12	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			08/07/25 07:12	1
Dibromomethane	<1.00		1.00	0.330	ug/L			08/07/25 07:12	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			08/07/25 07:12	1
Iodomethane	<10.0		10.0	7.00	ug/L			08/07/25 07:12	1
Methylene Chloride	<5.00		5.00	1.70	ug/L			08/07/25 07:12	1
Styrene	<1.00		1.00	0.370	ug/L			08/07/25 07:12	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			08/07/25 07:12	1
Toluene	<1.00		1.00	0.430	ug/L			08/07/25 07:12	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			08/07/25 07:12	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			08/07/25 07:12	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			08/07/25 07:12	1
Trichloroethene	<1.00		1.00	0.430	ug/L			08/07/25 07:12	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			08/07/25 07:12	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			08/07/25 07:12	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			08/07/25 07:12	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			08/07/25 07:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	98		76 - 130		08/07/25 07:12	1

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: MW-89-9R

Lab Sample ID: 310-312474-5

Date Collected: 08/01/25 15:08

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 120		08/07/25 07:12	1
4-Bromofluorobenzene (Surr)	101		80 - 120		08/07/25 07:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		08/12/25 09:00	08/12/25 17:25	1
Arsenic	0.00695		0.00200	0.000530	mg/L		08/12/25 09:00	08/13/25 12:59	1
Barium	0.269		0.00200	0.000660	mg/L		08/12/25 09:00	08/13/25 12:59	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		08/12/25 09:00	08/12/25 17:25	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		08/12/25 09:00	08/13/25 12:59	1
Cobalt	0.0216		0.000500	0.000170	mg/L		08/12/25 09:00	08/12/25 17:25	1
Copper	<0.00500		0.00500	0.00320	mg/L		08/12/25 09:00	08/12/25 17:25	1
Nickel	0.0197		0.00500	0.00230	mg/L		08/12/25 09:00	08/13/25 12:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	<1.00		1.00	0.231	mg/L		08/06/25 18:18	08/07/25 13:48	1
Total Suspended Solids (USGS I-3765-85)	17.5		7.50	5.25	mg/L			08/05/25 13:58	1

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: PZ-21

Lab Sample ID: 310-312474-6

Date Collected: 08/01/25 17:41

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			08/07/25 07:35	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			08/07/25 07:35	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			08/07/25 07:35	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			08/07/25 07:35	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			08/07/25 07:35	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			08/07/25 07:35	1
1,1-Dichloropropene	<1.00		1.00	0.430	ug/L			08/07/25 07:35	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			08/07/25 07:35	1
1,2,4-Trichlorobenzene	<5.00		5.00	0.750	ug/L			08/07/25 07:35	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			08/07/25 07:35	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			08/07/25 07:35	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			08/07/25 07:35	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			08/07/25 07:35	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			08/07/25 07:35	1
1,3-Dichlorobenzene	<1.00		1.00	0.300	ug/L			08/07/25 07:35	1
1,3-Dichloropropane	<1.00		1.00	0.400	ug/L			08/07/25 07:35	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			08/07/25 07:35	1
2,2-Dichloropropane	<4.00		4.00	0.690	ug/L			08/07/25 07:35	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			08/07/25 07:35	1
2-Hexanone	<10.0		10.0	2.00	ug/L			08/07/25 07:35	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			08/07/25 07:35	1
Acetone	<10.0		10.0	3.10	ug/L			08/07/25 07:35	1
Acrolein	<10.0		10.0	3.60	ug/L			08/07/25 07:35	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			08/07/25 07:35	1
Allyl chloride	<2.00		2.00	0.700	ug/L			08/07/25 07:35	1
Benzene	<0.500		0.500	0.220	ug/L			08/07/25 07:35	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			08/07/25 07:35	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			08/07/25 07:35	1
Bromoform	<5.00		5.00	0.780	ug/L			08/07/25 07:35	1
Bromomethane	<4.00		4.00	1.10	ug/L			08/07/25 07:35	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			08/07/25 07:35	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			08/07/25 07:35	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			08/07/25 07:35	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			08/07/25 07:35	1
Chloroethane	<4.00		4.00	0.790	ug/L			08/07/25 07:35	1
Chloroform	<3.00		3.00	1.30	ug/L			08/07/25 07:35	1
Chloromethane	<3.00		3.00	0.610	ug/L			08/07/25 07:35	1
Chloroprene	<1.00		1.00	0.230	ug/L			08/07/25 07:35	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			08/07/25 07:35	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			08/07/25 07:35	1
Dibromomethane	<1.00		1.00	0.330	ug/L			08/07/25 07:35	1
Dichlorodifluoromethane	<3.00		3.00	0.250	ug/L			08/07/25 07:35	1
Ethyl methacrylate	<2.00		2.00	0.680	ug/L			08/07/25 07:35	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			08/07/25 07:35	1
Iodomethane	<10.0		10.0	7.00	ug/L			08/07/25 07:35	1
Methacrylonitrile	<10.0		10.0	3.30	ug/L			08/07/25 07:35	1
Methyl methacrylate	<2.00		2.00	0.760	ug/L			08/07/25 07:35	1
Methylene chloride	<5.00		5.00	1.70	ug/L			08/07/25 07:35	1
Naphthalene	<5.00		5.00	3.00	ug/L			08/07/25 07:35	1

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: PZ-21

Lab Sample ID: 310-312474-6

Date Collected: 08/01/25 17:41

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	<10.0		10.0	3.40	ug/L			08/07/25 07:35	1
Styrene	<1.00		1.00	0.370	ug/L			08/07/25 07:35	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			08/07/25 07:35	1
Toluene	<1.00		1.00	0.430	ug/L			08/07/25 07:35	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			08/07/25 07:35	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			08/07/25 07:35	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			08/07/25 07:35	1
Trichloroethene	<1.00		1.00	0.430	ug/L			08/07/25 07:35	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			08/07/25 07:35	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			08/07/25 07:35	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			08/07/25 07:35	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			08/07/25 07:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	99		76 - 130		08/07/25 07:35	1
Toluene-d8 (Surr)	102		80 - 120		08/07/25 07:35	1
4-Bromofluorobenzene (Surr)	101		80 - 120		08/07/25 07:35	1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	<10.4		10.4	0.563	ug/L		08/07/25 07:15	08/16/25 04:26	1
1,3,5-Trinitrobenzene	<10.4		10.4	2.40	ug/L		08/07/25 07:15	08/16/25 04:26	1
1,3-Dinitrobenzene	<10.4		10.4	3.33	ug/L		08/07/25 07:15	08/16/25 04:26	1
1,4-Naphthoquinone	<10.4		10.4	3.75	ug/L		08/07/25 07:15	08/16/25 04:26	1
1,4-Phenylenediamine	<10.4	*	10.4	1.98	ug/L		08/07/25 07:15	08/16/25 04:26	1
1-Naphthylamine	<10.4		10.4	2.60	ug/L		08/07/25 07:15	08/16/25 04:26	1
2,3,4,6-Tetrachlorophenol	<10.4		10.4	5.52	ug/L		08/07/25 07:15	08/16/25 04:26	1
2,4,5-Trichlorophenol	<10.4		10.4	5.52	ug/L		08/07/25 07:15	08/16/25 04:26	1
2,4,6-Trichlorophenol	<10.4		10.4	5.21	ug/L		08/07/25 07:15	08/16/25 04:26	1
2,4-Dichlorophenol	<10.4		10.4	0.885	ug/L		08/07/25 07:15	08/16/25 04:26	1
2,4-Dimethylphenol	<10.4		10.4	0.604	ug/L		08/07/25 07:15	08/16/25 04:26	1
2,4-Dinitrophenol	<20.8		20.8	13.5	ug/L		08/07/25 07:15	08/16/25 04:26	1
2,4-Dinitrotoluene	<10.4		10.4	6.67	ug/L		08/07/25 07:15	08/16/25 04:26	1
2,6-Dichlorophenol	<10.4		10.4	0.719	ug/L		08/07/25 07:15	08/16/25 04:26	1
2,6-Dinitrotoluene	<10.4		10.4	0.542	ug/L		08/07/25 07:15	08/16/25 04:26	1
2-Acetylaminofluorene	<10.4		10.4	2.81	ug/L		08/07/25 07:15	08/16/25 04:26	1
2-Chloronaphthalene	<10.4		10.4	0.667	ug/L		08/07/25 07:15	08/16/25 04:26	1
2-Chlorophenol	<10.4		10.4	0.563	ug/L		08/07/25 07:15	08/16/25 04:26	1
2-Methylnaphthalene	<10.4		10.4	0.615	ug/L		08/07/25 07:15	08/16/25 04:26	1
2-Methylphenol	<10.4		10.4	0.677	ug/L		08/07/25 07:15	08/16/25 04:26	1
2-Naphthylamine	<10.4		10.4	2.19	ug/L		08/07/25 07:15	08/16/25 04:26	1
2-Nitroaniline	<10.4		10.4	6.15	ug/L		08/07/25 07:15	08/16/25 04:26	1
2-Nitrophenol	<10.4		10.4	7.08	ug/L		08/07/25 07:15	08/16/25 04:26	1
3,3'-Dichlorobenzidine	<10.4		10.4	1.46	ug/L		08/07/25 07:15	08/16/25 04:26	1
3,3'-Dimethylbenzidine	<10.4		10.4	1.56	ug/L		08/07/25 07:15	08/16/25 04:26	1
3-Methylcholanthrene	<10.4		10.4	0.333	ug/L		08/07/25 07:15	08/16/25 04:26	1
3-Nitroaniline	<10.4		10.4	2.81	ug/L		08/07/25 07:15	08/16/25 04:26	1
4,6-Dinitro-2-methylphenol	<10.4		10.4	7.19	ug/L		08/07/25 07:15	08/16/25 04:26	1
4-Aminobiphenyl	<10.4	*1	10.4	2.29	ug/L		08/07/25 07:15	08/16/25 04:26	1
4-Bromophenyl phenyl ether	<10.4		10.4	0.729	ug/L		08/07/25 07:15	08/16/25 04:26	1

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: PZ-21

Lab Sample ID: 310-312474-6

Date Collected: 08/01/25 17:41

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloro-3-methylphenol	<10.4		10.4	0.875	ug/L		08/07/25 07:15	08/16/25 04:26	1
4-Chloroaniline	<10.4		10.4	0.646	ug/L		08/07/25 07:15	08/16/25 04:26	1
4-Chlorophenyl phenyl ether	<10.4		10.4	0.719	ug/L		08/07/25 07:15	08/16/25 04:26	1
4-Methylphenol (and/or 3-Methylphenol)	<10.4		10.4	0.729	ug/L		08/07/25 07:15	08/16/25 04:26	1
4-Nitroaniline	<10.4		10.4	1.35	ug/L		08/07/25 07:15	08/16/25 04:26	1
4-Nitrophenol	<10.4		10.4	7.92	ug/L		08/07/25 07:15	08/16/25 04:26	1
5-Nitro-o-toluidine	<10.4		10.4	2.92	ug/L		08/07/25 07:15	08/16/25 04:26	1
7,12-Dimethylbenz(a)anthracene	<10.4		10.4	1.98	ug/L		08/07/25 07:15	08/16/25 04:26	1
Acenaphthene	<10.4		10.4	0.667	ug/L		08/07/25 07:15	08/16/25 04:26	1
Acenaphthylene	<10.4		10.4	0.750	ug/L		08/07/25 07:15	08/16/25 04:26	1
Acetophenone	<10.4		10.4	0.719	ug/L		08/07/25 07:15	08/16/25 04:26	1
Anthracene	<10.4		10.4	0.906	ug/L		08/07/25 07:15	08/16/25 04:26	1
Benzo[a]anthracene	<10.4		10.4	0.885	ug/L		08/07/25 07:15	08/16/25 04:26	1
Benzo[a]pyrene	<10.4		10.4	8.44	ug/L		08/07/25 07:15	08/16/25 04:26	1
Benzo[b]fluoranthene	<10.4		10.4	5.10	ug/L		08/07/25 07:15	08/16/25 04:26	1
Benzo[g,h,i]perylene	<10.4		10.4	6.56	ug/L		08/07/25 07:15	08/16/25 04:26	1
Benzo[k]fluoranthene	<10.4		10.4	2.29	ug/L		08/07/25 07:15	08/16/25 04:26	1
Benzyl alcohol	<10.4		10.4	1.35	ug/L		08/07/25 07:15	08/16/25 04:26	1
Bis(2-chloroethoxy)methane	<10.4		10.4	0.792	ug/L		08/07/25 07:15	08/16/25 04:26	1
Bis(2-chloroethyl)ether	<10.4		10.4	0.854	ug/L		08/07/25 07:15	08/16/25 04:26	1
bis (2-chloroisopropyl) ether	<10.4		10.4	0.563	ug/L		08/07/25 07:15	08/16/25 04:26	1
Bis(2-ethylhexyl) phthalate	<10.4		10.4	5.73	ug/L		08/07/25 07:15	08/16/25 04:26	1
Butyl benzyl phthalate	<10.4		10.4	5.63	ug/L		08/07/25 07:15	08/16/25 04:26	1
Chlorobenzilate	<10.4 *1		10.4	3.75	ug/L		08/07/25 07:15	08/16/25 04:26	1
Chrysene	<10.4		10.4	0.906	ug/L		08/07/25 07:15	08/16/25 04:26	1
Diallate	<10.4		10.4	4.17	ug/L		08/07/25 07:15	08/16/25 04:26	1
Dibenz(a,h)anthracene	<10.4		10.4	4.06	ug/L		08/07/25 07:15	08/16/25 04:26	1
Dibenzofuran	<10.4		10.4	0.771	ug/L		08/07/25 07:15	08/16/25 04:26	1
Diethyl phthalate	<10.4		10.4	1.77	ug/L		08/07/25 07:15	08/16/25 04:26	1
Dimethoate	<10.4		10.4	3.75	ug/L		08/07/25 07:15	08/16/25 04:26	1
Dimethyl phthalate	<10.4		10.4	1.04	ug/L		08/07/25 07:15	08/16/25 04:26	1
Di-n-butyl phthalate	<10.4		10.4	5.83	ug/L		08/07/25 07:15	08/16/25 04:26	1
Di-n-octyl phthalate	<20.8		20.8	7.29	ug/L		08/07/25 07:15	08/16/25 04:26	1
Dinoseb	<10.4		10.4	2.50	ug/L		08/07/25 07:15	08/16/25 04:26	1
Diphenylamine	<10.4		10.4	6.25	ug/L		08/07/25 07:15	08/16/25 04:26	1
Disulfoton	<10.4		10.4	2.50	ug/L		08/07/25 07:15	08/16/25 04:26	1
Ethyl methanesulfonate	<10.4		10.4	3.75	ug/L		08/07/25 07:15	08/16/25 04:26	1
Ethyl parathion	<10.4		10.4	2.29	ug/L		08/07/25 07:15	08/16/25 04:26	1
Famphur	<10.4		10.4	3.96	ug/L		08/07/25 07:15	08/16/25 04:26	1
Fluoranthene	<10.4		10.4	1.77	ug/L		08/07/25 07:15	08/16/25 04:26	1
Fluorene	<10.4		10.4	0.823	ug/L		08/07/25 07:15	08/16/25 04:26	1
Hexachlorobenzene	<10.4		10.4	0.729	ug/L		08/07/25 07:15	08/16/25 04:26	1
Hexachlorobutadiene	<10.4		10.4	0.896	ug/L		08/07/25 07:15	08/16/25 04:26	1
Hexachlorocyclopentadiene	<10.4		10.4	5.31	ug/L		08/07/25 07:15	08/16/25 04:26	1
Hexachloroethane	<10.4		10.4	1.01	ug/L		08/07/25 07:15	08/16/25 04:26	1
Hexachloropropene	<10.4		10.4	2.71	ug/L		08/07/25 07:15	08/16/25 04:26	1
Indeno(1,2,3-cd)pyrene	<10.4		10.4	4.38	ug/L		08/07/25 07:15	08/16/25 04:26	1
Isodrin	<10.4		10.4	4.90	ug/L		08/07/25 07:15	08/16/25 04:26	1
Isophorone	<10.4		10.4	0.969	ug/L		08/07/25 07:15	08/16/25 04:26	1

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: PZ-21

Lab Sample ID: 310-312474-6

Date Collected: 08/01/25 17:41

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isosafrole	<10.4		10.4	2.40	ug/L		08/07/25 07:15	08/16/25 04:26	1
Kepone	<10.4	*+	10.4	1.04	ug/L		08/07/25 07:15	08/16/25 04:26	1
Methapyrilene	<10.4		10.4	0.792	ug/L		08/07/25 07:15	08/16/25 04:26	1
Methyl methanesulfonate	<10.4		10.4	3.44	ug/L		08/07/25 07:15	08/16/25 04:26	1
Methyl parathion	<10.4		10.4	2.40	ug/L		08/07/25 07:15	08/16/25 04:26	1
Nitrobenzene	<10.4		10.4	0.833	ug/L		08/07/25 07:15	08/16/25 04:26	1
N-Nitrosodiethylamine	<10.4		10.4	3.54	ug/L		08/07/25 07:15	08/16/25 04:26	1
N-Nitrosodimethylamine	<10.4		10.4	0.750	ug/L		08/07/25 07:15	08/16/25 04:26	1
N-Nitrosodi-n-butylamine	<10.4		10.4	4.06	ug/L		08/07/25 07:15	08/16/25 04:26	1
N-Nitrosodi-n-propylamine	<10.4		10.4	0.958	ug/L		08/07/25 07:15	08/16/25 04:26	1
N-Nitrosodiphenylamine	<10.4		10.4	0.781	ug/L		08/07/25 07:15	08/16/25 04:26	1
N-Nitrosomethylethylamine	<10.4		10.4	5.10	ug/L		08/07/25 07:15	08/16/25 04:26	1
N-Nitrosopiperidine	<10.4		10.4	2.81	ug/L		08/07/25 07:15	08/16/25 04:26	1
N-Nitrosopyrrolidine	<10.4		10.4	3.75	ug/L		08/07/25 07:15	08/16/25 04:26	1
o,o',o"-Triethylphosphorothioate	<10.4		10.4	3.33	ug/L		08/07/25 07:15	08/16/25 04:26	1
o-Toluidine	<10.4		10.4	3.02	ug/L		08/07/25 07:15	08/16/25 04:26	1
p-Dimethylamino azobenzene	<10.4		10.4	2.29	ug/L		08/07/25 07:15	08/16/25 04:26	1
Pentachlorobenzene	<10.4		10.4	2.92	ug/L		08/07/25 07:15	08/16/25 04:26	1
Pentachloronitrobenzene	<10.4		10.4	6.04	ug/L		08/07/25 07:15	08/16/25 04:26	1
Pentachlorophenol	<10.4		10.4	10.0	ug/L		08/07/25 07:15	08/16/25 04:26	1
Phenacetin	<10.4		10.4	1.98	ug/L		08/07/25 07:15	08/16/25 04:26	1
Phenanthrene	<10.4		10.4	0.823	ug/L		08/07/25 07:15	08/16/25 04:26	1
Phenol	<10.4		10.4	1.15	ug/L		08/07/25 07:15	08/16/25 04:26	1
Phorate	<10.4		10.4	3.33	ug/L		08/07/25 07:15	08/16/25 04:26	1
Pronamide	<10.4		10.4	2.81	ug/L		08/07/25 07:15	08/16/25 04:26	1
Pyrene	<10.4		10.4	0.823	ug/L		08/07/25 07:15	08/16/25 04:26	1
Safrole	<10.4		10.4	2.92	ug/L		08/07/25 07:15	08/16/25 04:26	1
Thionazin	<10.4		10.4	3.65	ug/L		08/07/25 07:15	08/16/25 04:26	1
Diallate Peak 2	<10.4		10.4	4.17	ug/L		08/07/25 07:15	08/16/25 04:26	1
Diallate Peak 1	<10.4		10.4	4.17	ug/L		08/07/25 07:15	08/16/25 04:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	65		21 - 110	08/07/25 07:15	08/16/25 04:26	1
Phenol-d5 (Surr)	59		21 - 110	08/07/25 07:15	08/16/25 04:26	1
Nitrobenzene-d5 (Surr)	90		39 - 140	08/07/25 07:15	08/16/25 04:26	1
2-Fluorobiphenyl (Surr)	89		33 - 126	08/07/25 07:15	08/16/25 04:26	1
2,4,6-Tribromophenol (Surr)	100		20 - 144	08/07/25 07:15	08/16/25 04:26	1
Terphenyl-d14 (Surr)	86		13 - 150	08/07/25 07:15	08/16/25 04:26	1

Method: SW846 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	<10.0		10.0	2.60	mg/L			08/07/25 15:24	1
Isobutanol	<10.0		10.0	2.40	mg/L			08/07/25 15:24	1

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.0895		0.0895	0.0197	ug/L		08/08/25 09:20	08/08/25 15:44	1
alpha-BHC	<0.0895		0.0895	0.00895	ug/L		08/08/25 09:20	08/08/25 15:44	1
beta-BHC	0.0550	J	0.0895	0.0376	ug/L		08/08/25 09:20	08/08/25 15:44	1
gamma-BHC (Lindane)	<0.0895		0.0895	0.00895	ug/L		08/08/25 09:20	08/08/25 15:44	1

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: PZ-21

Lab Sample ID: 310-312474-6

Date Collected: 08/01/25 17:41

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
delta-BHC	<0.0895		0.0895	0.0286	ug/L		08/08/25 09:20	08/08/25 15:44	1
Chlordane (technical)	<1.79		1.79	0.349	ug/L		08/08/25 09:20	08/08/25 15:44	1
Dieldrin	<0.0895		0.0895	0.0188	ug/L		08/08/25 09:20	08/08/25 15:44	1
4,4'-DDD	<0.0895		0.0895	0.0224	ug/L		08/08/25 09:20	08/08/25 15:44	1
4,4'-DDE	<0.0895		0.0895	0.0269	ug/L		08/08/25 09:20	08/08/25 15:44	1
4,4'-DDT	<0.0895		0.0895	0.0179	ug/L		08/08/25 09:20	08/08/25 15:44	1
Endosulfan I	<0.0895		0.0895	0.0251	ug/L		08/08/25 09:20	08/08/25 15:44	1
Endosulfan II	<0.0895		0.0895	0.0233	ug/L		08/08/25 09:20	08/08/25 15:44	1
Endosulfan sulfate	<0.0895		0.0895	0.0161	ug/L		08/08/25 09:20	08/08/25 15:44	1
Endrin	<0.0895		0.0895	0.0251	ug/L		08/08/25 09:20	08/08/25 15:44	1
Endrin aldehyde	<0.0895		0.0895	0.0242	ug/L		08/08/25 09:20	08/08/25 15:44	1
Heptachlor	<0.0895		0.0895	0.0206	ug/L		08/08/25 09:20	08/08/25 15:44	1
Heptachlor epoxide	<0.0895		0.0895	0.0286	ug/L		08/08/25 09:20	08/08/25 15:44	1
Methoxychlor	<0.0895		0.0895	0.0286	ug/L		08/08/25 09:20	08/08/25 15:44	1
Toxaphene	<1.79		1.79	0.895	ug/L		08/08/25 09:20	08/08/25 15:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	60		10 - 150	08/08/25 09:20	08/08/25 15:44	1
Tetrachloro-m-xylene (Surr)	51		17 - 150	08/08/25 09:20	08/08/25 15:44	1

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<1.79		1.79	0.734	ug/L		08/08/25 09:20	08/08/25 15:44	1
PCB-1221	<1.79		1.79	0.734	ug/L		08/08/25 09:20	08/08/25 15:44	1
PCB-1232	<1.79		1.79	0.734	ug/L		08/08/25 09:20	08/08/25 15:44	1
PCB-1242	<1.79		1.79	0.734	ug/L		08/08/25 09:20	08/08/25 15:44	1
PCB-1248	<1.79		1.79	0.618	ug/L		08/08/25 09:20	08/08/25 15:44	1
PCB-1254	<1.79		1.79	0.618	ug/L		08/08/25 09:20	08/08/25 15:44	1
PCB-1260	<1.79		1.79	0.618	ug/L		08/08/25 09:20	08/08/25 15:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	61		10 - 150	08/08/25 09:20	08/08/25 15:44	1
Tetrachloro-m-xylene	52		17 - 150	08/08/25 09:20	08/08/25 15:44	1

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	<1.00		1.00	0.126	ug/L		08/07/25 14:12	08/09/25 01:03	1
Silvex (2,4,5-TP)	<1.00	*1	1.00	0.105	ug/L		08/07/25 14:12	08/09/25 01:03	1
2,4,5-T	<1.00		1.00	0.140	ug/L		08/07/25 14:12	08/09/25 01:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCAA	103		25 - 130	08/07/25 14:12	08/09/25 01:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00226		0.00200	0.00100	mg/L		08/13/25 09:30	08/13/25 17:38	1
Arsenic	0.00136	J	0.00200	0.000530	mg/L		08/13/25 09:30	08/13/25 17:38	1
Barium	0.0178	B	0.00200	0.000660	mg/L		08/13/25 09:30	08/14/25 14:00	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		08/13/25 09:30	08/13/25 17:38	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		08/13/25 09:30	08/13/25 17:38	1
Chromium	0.00379	J	0.00500	0.00180	mg/L		08/13/25 09:30	08/13/25 17:38	1

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Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: PZ-21

Lab Sample ID: 310-312474-6

Date Collected: 08/01/25 17:41

Matrix: Water

Date Received: 08/04/25 16:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00253		0.000500	0.000170	mg/L		08/13/25 09:30	08/13/25 17:38	1
Copper	0.00658		0.00500	0.00320	mg/L		08/13/25 09:30	08/13/25 17:38	1
Lead	0.000619		0.000500	0.000330	mg/L		08/13/25 09:30	08/13/25 17:38	1
Nickel	0.0106		0.00500	0.00230	mg/L		08/13/25 09:30	08/13/25 17:38	1
Selenium	<0.00500		0.00500	0.00140	mg/L		08/13/25 09:30	08/13/25 17:38	1
Silver	<0.00100		0.00100	0.000500	mg/L		08/13/25 09:30	08/13/25 17:38	1
Thallium	<0.00100		0.00100	0.000570	mg/L		08/13/25 09:30	08/13/25 17:38	1
Vanadium	<0.00500		0.00500	0.00170	mg/L		08/13/25 09:30	08/13/25 17:38	1
Zinc	<0.0200		0.0200	0.0130	mg/L		08/13/25 09:30	08/13/25 17:38	1
Tin	<0.00500		0.00500	0.00250	mg/L		08/13/25 09:30	08/13/25 17:38	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200	0.000110	mg/L		08/11/25 16:15	08/12/25 11:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	<0.0100		0.0100	0.00350	mg/L		08/07/25 10:47	08/08/25 12:18	1
Sulfide (SW846 9034)	<1.00		1.00	0.231	mg/L		08/06/25 18:22	08/07/25 14:00	1
Total Suspended Solids (USGS I-3765-85)	10.7		5.00	3.50	mg/L			08/05/25 13:58	1

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: MW-21

Lab Sample ID: 310-312474-7

Date Collected: 08/01/25 16:33

Matrix: Water

Date Received: 08/04/25 16:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00193	J	0.00200	0.00100	mg/L		08/12/25 09:00	08/12/25 17:33	1
Arsenic	0.000741	J	0.00200	0.000530	mg/L		08/12/25 09:00	08/13/25 13:02	1
Barium	0.00867		0.00200	0.000660	mg/L		08/12/25 09:00	08/13/25 13:02	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		08/12/25 09:00	08/12/25 17:33	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		08/12/25 09:00	08/13/25 13:02	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		08/12/25 09:00	08/12/25 17:33	1
Copper	<0.00500		0.00500	0.00320	mg/L		08/12/25 09:00	08/12/25 17:33	1
Nickel	<0.00500		0.00500	0.00230	mg/L		08/12/25 09:00	08/13/25 13:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	<1.88		1.88	1.31	mg/L			08/05/25 13:58	1

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: MW-D

Lab Sample ID: 310-312474-8

Date Collected: 08/01/25 15:28

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			08/07/25 07:57	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			08/07/25 07:57	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			08/07/25 07:57	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			08/07/25 07:57	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			08/07/25 07:57	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			08/07/25 07:57	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			08/07/25 07:57	1
1,2-Dibromo-3-Chloropropane	<1.20		1.20	1.20	ug/L			08/07/25 07:57	1
1,2-Dibromoethane (EDB)	<0.340		0.340	0.340	ug/L			08/07/25 07:57	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			08/07/25 07:57	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			08/07/25 07:57	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			08/07/25 07:57	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			08/07/25 07:57	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			08/07/25 07:57	1
2-Hexanone	<10.0		10.0	2.00	ug/L			08/07/25 07:57	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			08/07/25 07:57	1
Acetone	<10.0		10.0	3.10	ug/L			08/07/25 07:57	1
Acrylonitrile	<10.0		10.0	2.20	ug/L			08/07/25 07:57	1
Benzene	<0.500		0.500	0.220	ug/L			08/07/25 07:57	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			08/07/25 07:57	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			08/07/25 07:57	1
Bromoform	<5.00		5.00	0.780	ug/L			08/07/25 07:57	1
Bromomethane	<4.00		4.00	1.10	ug/L			08/07/25 07:57	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			08/07/25 07:57	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			08/07/25 07:57	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			08/07/25 07:57	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			08/07/25 07:57	1
Chloroethane	<4.00		4.00	0.790	ug/L			08/07/25 07:57	1
Chloroform	<3.00		3.00	1.30	ug/L			08/07/25 07:57	1
Chloromethane	<3.00		3.00	0.610	ug/L			08/07/25 07:57	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			08/07/25 07:57	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			08/07/25 07:57	1
Dibromomethane	<1.00		1.00	0.330	ug/L			08/07/25 07:57	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			08/07/25 07:57	1
Iodomethane	<10.0		10.0	7.00	ug/L			08/07/25 07:57	1
Methylene Chloride	<5.00		5.00	1.70	ug/L			08/07/25 07:57	1
Styrene	<1.00		1.00	0.370	ug/L			08/07/25 07:57	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			08/07/25 07:57	1
Toluene	<1.00		1.00	0.430	ug/L			08/07/25 07:57	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			08/07/25 07:57	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			08/07/25 07:57	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			08/07/25 07:57	1
Trichloroethene	<1.00		1.00	0.430	ug/L			08/07/25 07:57	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			08/07/25 07:57	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			08/07/25 07:57	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			08/07/25 07:57	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			08/07/25 07:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	99		76 - 130		08/07/25 07:57	1

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Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: MW-D

Lab Sample ID: 310-312474-8

Date Collected: 08/01/25 15:28

Matrix: Water

Date Received: 08/04/25 16:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 120		08/07/25 07:57	1
4-Bromofluorobenzene (Surr)	103		80 - 120		08/07/25 07:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		08/12/25 09:00	08/12/25 17:36	1
Arsenic	0.00677		0.00200	0.000530	mg/L		08/12/25 09:00	08/13/25 13:05	1
Barium	0.291		0.00200	0.000660	mg/L		08/12/25 09:00	08/13/25 13:05	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		08/12/25 09:00	08/12/25 17:36	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		08/12/25 09:00	08/13/25 13:05	1
Cobalt	0.0220		0.000500	0.000170	mg/L		08/12/25 09:00	08/12/25 17:36	1
Copper	<0.00500		0.00500	0.00320	mg/L		08/12/25 09:00	08/12/25 17:36	1
Nickel	0.0200		0.00500	0.00230	mg/L		08/12/25 09:00	08/13/25 13:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	<1.00		1.00	0.231	mg/L		08/06/25 18:26	08/07/25 14:11	1
Total Suspended Solids (USGS I-3765-85)	17.3		5.00	3.50	mg/L			08/05/25 13:58	1

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: Trip Blank 1

Lab Sample ID: 310-312474-9

Date Collected: 08/01/25 00:00

Matrix: Trip Blank

Date Received: 08/04/25 16:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			08/07/25 03:26	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			08/07/25 03:26	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			08/07/25 03:26	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			08/07/25 03:26	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			08/07/25 03:26	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			08/07/25 03:26	1
1,1-Dichloropropene	<1.00		1.00	0.430	ug/L			08/07/25 03:26	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			08/07/25 03:26	1
1,2,4-Trichlorobenzene	<5.00		5.00	0.750	ug/L			08/07/25 03:26	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			08/07/25 03:26	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			08/07/25 03:26	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			08/07/25 03:26	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			08/07/25 03:26	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			08/07/25 03:26	1
1,3-Dichlorobenzene	<1.00		1.00	0.300	ug/L			08/07/25 03:26	1
1,3-Dichloropropane	<1.00		1.00	0.400	ug/L			08/07/25 03:26	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			08/07/25 03:26	1
2,2-Dichloropropane	<4.00		4.00	0.690	ug/L			08/07/25 03:26	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			08/07/25 03:26	1
2-Hexanone	<10.0		10.0	2.00	ug/L			08/07/25 03:26	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			08/07/25 03:26	1
Acetone	<10.0		10.0	3.10	ug/L			08/07/25 03:26	1
Acrolein	<10.0		10.0	3.60	ug/L			08/07/25 03:26	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			08/07/25 03:26	1
Allyl chloride	<2.00		2.00	0.700	ug/L			08/07/25 03:26	1
Benzene	<0.500		0.500	0.220	ug/L			08/07/25 03:26	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			08/07/25 03:26	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			08/07/25 03:26	1
Bromoform	<5.00		5.00	0.780	ug/L			08/07/25 03:26	1
Bromomethane	<4.00		4.00	1.10	ug/L			08/07/25 03:26	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			08/07/25 03:26	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			08/07/25 03:26	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			08/07/25 03:26	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			08/07/25 03:26	1
Chloroethane	<4.00		4.00	0.790	ug/L			08/07/25 03:26	1
Chloroform	<3.00		3.00	1.30	ug/L			08/07/25 03:26	1
Chloromethane	<3.00		3.00	0.610	ug/L			08/07/25 03:26	1
Chloroprene	<1.00		1.00	0.230	ug/L			08/07/25 03:26	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			08/07/25 03:26	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			08/07/25 03:26	1
Dibromomethane	<1.00		1.00	0.330	ug/L			08/07/25 03:26	1
Dichlorodifluoromethane	<3.00		3.00	0.250	ug/L			08/07/25 03:26	1
Ethyl methacrylate	<2.00		2.00	0.680	ug/L			08/07/25 03:26	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			08/07/25 03:26	1
Iodomethane	<10.0		10.0	7.00	ug/L			08/07/25 03:26	1
Methacrylonitrile	<10.0		10.0	3.30	ug/L			08/07/25 03:26	1
Methyl methacrylate	<2.00		2.00	0.760	ug/L			08/07/25 03:26	1
Methylene chloride	<5.00		5.00	1.70	ug/L			08/07/25 03:26	1
Naphthalene	<5.00		5.00	3.00	ug/L			08/07/25 03:26	1

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: Trip Blank 1

Lab Sample ID: 310-312474-9

Date Collected: 08/01/25 00:00

Matrix: Trip Blank

Date Received: 08/04/25 16:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	<10.0		10.0	3.40	ug/L			08/07/25 03:26	1
Styrene	<1.00		1.00	0.370	ug/L			08/07/25 03:26	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			08/07/25 03:26	1
Toluene	<1.00		1.00	0.430	ug/L			08/07/25 03:26	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			08/07/25 03:26	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			08/07/25 03:26	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			08/07/25 03:26	1
Trichloroethene	<1.00		1.00	0.430	ug/L			08/07/25 03:26	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			08/07/25 03:26	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			08/07/25 03:26	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			08/07/25 03:26	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			08/07/25 03:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	102		76 - 130		08/07/25 03:26	1
Toluene-d8 (Surr)	103		80 - 120		08/07/25 03:26	1
4-Bromofluorobenzene (Surr)	99		80 - 120		08/07/25 03:26	1

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: Trip Blank 2

Lab Sample ID: 310-312474-10

Date Collected: 08/01/25 00:00

Matrix: Trip Blank

Date Received: 08/04/25 16:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			08/07/25 03:49	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			08/07/25 03:49	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			08/07/25 03:49	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			08/07/25 03:49	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			08/07/25 03:49	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			08/07/25 03:49	1
1,1-Dichloropropene	<1.00		1.00	0.430	ug/L			08/07/25 03:49	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			08/07/25 03:49	1
1,2,4-Trichlorobenzene	<5.00		5.00	0.750	ug/L			08/07/25 03:49	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			08/07/25 03:49	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			08/07/25 03:49	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			08/07/25 03:49	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			08/07/25 03:49	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			08/07/25 03:49	1
1,3-Dichlorobenzene	<1.00		1.00	0.300	ug/L			08/07/25 03:49	1
1,3-Dichloropropane	<1.00		1.00	0.400	ug/L			08/07/25 03:49	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			08/07/25 03:49	1
2,2-Dichloropropane	<4.00		4.00	0.690	ug/L			08/07/25 03:49	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			08/07/25 03:49	1
2-Hexanone	<10.0		10.0	2.00	ug/L			08/07/25 03:49	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			08/07/25 03:49	1
Acetone	<10.0		10.0	3.10	ug/L			08/07/25 03:49	1
Acrolein	<10.0		10.0	3.60	ug/L			08/07/25 03:49	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			08/07/25 03:49	1
Allyl chloride	<2.00		2.00	0.700	ug/L			08/07/25 03:49	1
Benzene	<0.500		0.500	0.220	ug/L			08/07/25 03:49	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			08/07/25 03:49	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			08/07/25 03:49	1
Bromoform	<5.00		5.00	0.780	ug/L			08/07/25 03:49	1
Bromomethane	<4.00		4.00	1.10	ug/L			08/07/25 03:49	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			08/07/25 03:49	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			08/07/25 03:49	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			08/07/25 03:49	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			08/07/25 03:49	1
Chloroethane	<4.00		4.00	0.790	ug/L			08/07/25 03:49	1
Chloroform	<3.00		3.00	1.30	ug/L			08/07/25 03:49	1
Chloromethane	<3.00		3.00	0.610	ug/L			08/07/25 03:49	1
Chloroprene	<1.00		1.00	0.230	ug/L			08/07/25 03:49	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			08/07/25 03:49	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			08/07/25 03:49	1
Dibromomethane	<1.00		1.00	0.330	ug/L			08/07/25 03:49	1
Dichlorodifluoromethane	<3.00		3.00	0.250	ug/L			08/07/25 03:49	1
Ethyl methacrylate	<2.00		2.00	0.680	ug/L			08/07/25 03:49	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			08/07/25 03:49	1
Iodomethane	<10.0		10.0	7.00	ug/L			08/07/25 03:49	1
Methacrylonitrile	<10.0		10.0	3.30	ug/L			08/07/25 03:49	1
Methyl methacrylate	<2.00		2.00	0.760	ug/L			08/07/25 03:49	1
Methylene chloride	<5.00		5.00	1.70	ug/L			08/07/25 03:49	1
Naphthalene	<5.00		5.00	3.00	ug/L			08/07/25 03:49	1

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Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: Trip Blank 2

Lab Sample ID: 310-312474-10

Date Collected: 08/01/25 00:00

Matrix: Trip Blank

Date Received: 08/04/25 16:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	<10.0		10.0	3.40	ug/L			08/07/25 03:49	1
Styrene	<1.00		1.00	0.370	ug/L			08/07/25 03:49	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			08/07/25 03:49	1
Toluene	<1.00		1.00	0.430	ug/L			08/07/25 03:49	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			08/07/25 03:49	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			08/07/25 03:49	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			08/07/25 03:49	1
Trichloroethene	<1.00		1.00	0.430	ug/L			08/07/25 03:49	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			08/07/25 03:49	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			08/07/25 03:49	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			08/07/25 03:49	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			08/07/25 03:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	97		76 - 130		08/07/25 03:49	1
Toluene-d8 (Surr)	101		80 - 120		08/07/25 03:49	1
4-Bromofluorobenzene (Surr)	99		80 - 120		08/07/25 03:49	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Qualifiers

GC/MS VOA

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

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
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)

Definitions/Glossary

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

1
2
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Surrogate Summary

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Trip Blank

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		DBFM (76-130)	TOL (80-120)	BFB (80-120)
310-312474-9	Trip Blank 1	102	103	99
310-312474-10	Trip Blank 2	97	101	99
Surrogate Legend				
DBFM = Dibromofluoromethane (Surr)				
TOL = Toluene-d8 (Surr)				
BFB = 4-Bromofluorobenzene (Surr)				

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		DBFM (76-130)	TOL (80-120)	BFB (80-120)
310-312474-2	MW-89-2	97	102	99
310-312474-4	MW-89-7	100	103	99
310-312474-5	MW-89-9R	98	101	101
310-312474-6	PZ-21	99	102	101
310-312474-8	MW-D	99	101	103
LCS 310-462790/8	Lab Control Sample	94	103	96
LCS 310-462790/9	Lab Control Sample	103	103	99
MB 310-462790/7	Method Blank	99	101	99
Surrogate Legend				
DBFM = Dibromofluoromethane (Surr)				
TOL = Toluene-d8 (Surr)				
BFB = 4-Bromofluorobenzene (Surr)				

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		2FP (21-110)	PHL (21-110)	NBZ (39-140)	FBP (33-126)	TBP (20-144)	TPHL (13-150)
310-312474-2	MW-89-2	75	62	94	92	114	99
310-312474-6	PZ-21	65	59	90	89	100	86
LCS 310-462892/2-A	Lab Control Sample	58	46	71	68	90	68
LCSD 310-462892/3-A	Lab Control Sample Dup	59	50	71	71	95	76
MB 310-462892/1-A	Method Blank	87	71	107	103	133	102
Surrogate Legend							
2FP = 2-Fluorophenol (Surr)							
PHL = Phenol-d5 (Surr)							
NBZ = Nitrobenzene-d5 (Surr)							
FBP = 2-Fluorobiphenyl (Surr)							
TBP = 2,4,6-Tribromophenol (Surr)							
TPHL = Terphenyl-d14 (Surr)							

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Surrogate Summary

Client: SCS Engineers

Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1

SDG: Union County Sanitary Landfill

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCB1 (10-150)	DCB2 (10-150)	TCX1 (17-150)	TCX2 (17-150)
310-312474-2	MW-89-2	58	59	65	62
310-312474-6	PZ-21	60		51	
LCS 310-463049/2-A	Lab Control Sample	42		64	
MB 310-463049/1-A	Method Blank	36		58	
Surrogate Legend					
DCB = DCB Decachlorobiphenyl (Surr)					
TCX = Tetrachloro-m-xylene (Surr)					

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	DCB1 (10-150)	TCX1 (17-150)
310-312474-2	MW-89-2	59	66
310-312474-6	PZ-21	61	52
LB 310-462701/1-E	Method Blank	46	
LCS 310-463049/9-A	Lab Control Sample	34	
MB 310-463049/1-A	Method Blank	37	59
Surrogate Legend			
DCB = DCB Decachlorobiphenyl (Surr)			
TCX = Tetrachloro-m-xylene			

Method: 8151A - Herbicides (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	DCPAA2 (25-130)					
310-312474-2	MW-89-2	91					
310-312474-6	PZ-21	103					
LCS 500-829140/2-A	Lab Control Sample	83					
LCSD 500-829140/3-A	Lab Control Sample Dup	84					
MB 500-829140/1-A	Method Blank	63					
Surrogate Legend							
DCPAA = DCAA							

QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 310-462790/7

Matrix: Water

Analysis Batch: 462790

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			08/07/25 02:19	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			08/07/25 02:19	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			08/07/25 02:19	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			08/07/25 02:19	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			08/07/25 02:19	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			08/07/25 02:19	1
1,1-Dichloropropene	<1.00		1.00	0.430	ug/L			08/07/25 02:19	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			08/07/25 02:19	1
1,2,4-Trichlorobenzene	<5.00		5.00	0.750	ug/L			08/07/25 02:19	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00	1.20	ug/L			08/07/25 02:19	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			08/07/25 02:19	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			08/07/25 02:19	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			08/07/25 02:19	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			08/07/25 02:19	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			08/07/25 02:19	1
1,3-Dichlorobenzene	<1.00		1.00	0.300	ug/L			08/07/25 02:19	1
1,3-Dichloropropane	<1.00		1.00	0.400	ug/L			08/07/25 02:19	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			08/07/25 02:19	1
2,2-Dichloropropane	<4.00		4.00	0.690	ug/L			08/07/25 02:19	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			08/07/25 02:19	1
2-Hexanone	<10.0		10.0	2.00	ug/L			08/07/25 02:19	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			08/07/25 02:19	1
Acetone	<10.0		10.0	3.10	ug/L			08/07/25 02:19	1
Acrolein	<10.0		10.0	3.60	ug/L			08/07/25 02:19	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			08/07/25 02:19	1
Allyl chloride	<2.00		2.00	0.700	ug/L			08/07/25 02:19	1
Benzene	<0.500		0.500	0.220	ug/L			08/07/25 02:19	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			08/07/25 02:19	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			08/07/25 02:19	1
Bromoform	<5.00		5.00	0.780	ug/L			08/07/25 02:19	1
Bromomethane	<4.00		4.00	1.10	ug/L			08/07/25 02:19	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			08/07/25 02:19	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			08/07/25 02:19	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			08/07/25 02:19	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			08/07/25 02:19	1
Chloroethane	<4.00		4.00	0.790	ug/L			08/07/25 02:19	1
Chloroform	<3.00		3.00	1.30	ug/L			08/07/25 02:19	1
Chloromethane	<3.00		3.00	0.610	ug/L			08/07/25 02:19	1
Chloroprene	<1.00		1.00	0.230	ug/L			08/07/25 02:19	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			08/07/25 02:19	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			08/07/25 02:19	1
Dibromomethane	<1.00		1.00	0.330	ug/L			08/07/25 02:19	1
Dichlorodifluoromethane	<3.00		3.00	0.250	ug/L			08/07/25 02:19	1
Ethyl methacrylate	<2.00		2.00	0.680	ug/L			08/07/25 02:19	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			08/07/25 02:19	1
Iodomethane	<10.0		10.0	7.00	ug/L			08/07/25 02:19	1
Methacrylonitrile	<10.0		10.0	3.30	ug/L			08/07/25 02:19	1
Methyl methacrylate	<2.00		2.00	0.760	ug/L			08/07/25 02:19	1

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-462790/7

Matrix: Water

Analysis Batch: 462790

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	<5.00		5.00	1.70	ug/L			08/07/25 02:19	1
Methylene chloride	<5.00		5.00	1.70	ug/L			08/07/25 02:19	1
Naphthalene	<5.00		5.00	3.00	ug/L			08/07/25 02:19	1
Propionitrile	<10.0		10.0	3.40	ug/L			08/07/25 02:19	1
Styrene	<1.00		1.00	0.370	ug/L			08/07/25 02:19	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			08/07/25 02:19	1
Toluene	<1.00		1.00	0.430	ug/L			08/07/25 02:19	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			08/07/25 02:19	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			08/07/25 02:19	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			08/07/25 02:19	1
Trichloroethene	<1.00		1.00	0.430	ug/L			08/07/25 02:19	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			08/07/25 02:19	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			08/07/25 02:19	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			08/07/25 02:19	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			08/07/25 02:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	99		76 - 130		08/07/25 02:19	1
Toluene-d8 (Surr)	101		80 - 120		08/07/25 02:19	1
4-Bromofluorobenzene (Surr)	99		80 - 120		08/07/25 02:19	1

Lab Sample ID: LCS 310-462790/8

Matrix: Water

Analysis Batch: 462790

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	20.0	16.68		ug/L		83	70 - 121
1,1,1-Trichloroethane	20.0	18.28		ug/L		91	69 - 130
1,1,2,2-Tetrachloroethane	20.0	20.80		ug/L		104	70 - 122
1,1,2-Trichloroethane	20.0	19.16		ug/L		96	75 - 121
1,1-Dichloroethane	20.0	23.37		ug/L		117	69 - 127
1,1-Dichloroethene	20.0	22.51		ug/L		113	64 - 134
1,1-Dichloropropene	20.0	21.13		ug/L		106	70 - 133
1,2,3-Trichloropropane	20.0	19.86		ug/L		99	70 - 122
1,2,4-Trichlorobenzene	20.0	18.18		ug/L		91	69 - 125
1,2-Dibromo-3-Chloropropane	20.0	18.10		ug/L		91	62 - 132
1,2-Dibromo-3-chloropropane	20.0	18.10		ug/L		91	62 - 132
1,2-Dibromoethane (EDB)	20.0	18.93		ug/L		95	74 - 122
1,2-Dichlorobenzene	20.0	20.10		ug/L		100	74 - 120
1,2-Dichloroethane	20.0	19.88		ug/L		99	68 - 125
1,2-Dichloropropane	20.0	21.48		ug/L		107	72 - 128
1,3-Dichlorobenzene	20.0	20.19		ug/L		101	71 - 120
1,3-Dichloropropane	20.0	19.82		ug/L		99	72 - 125
1,4-Dichlorobenzene	20.0	19.96		ug/L		100	72 - 120
2,2-Dichloropropane	20.0	15.13		ug/L		76	51 - 146
2-Butanone (MEK)	40.0	43.55		ug/L		109	60 - 134
2-Hexanone	40.0	45.80		ug/L		115	62 - 139
4-Methyl-2-pentanone (MIBK)	40.0	45.31		ug/L		113	62 - 136

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-462790/8

Matrix: Water

Analysis Batch: 462790

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	40.0	46.40		ug/L		116	59 - 136
Acrolein	94.8	90.54		ug/L		96	50 - 150
Acrylonitrile	200	242.6	E	ug/L		121	50 - 150
Allyl chloride	20.0	19.73		ug/L		99	61 - 136
Benzene	20.0	21.32		ug/L		107	71 - 125
Bromochloromethane	20.0	20.44		ug/L		102	69 - 131
Bromodichloromethane	20.0	18.27		ug/L		91	70 - 122
Bromoform	20.0	15.86		ug/L		79	62 - 122
Carbon disulfide	20.0	24.55		ug/L		123	58 - 137
Carbon tetrachloride	20.0	18.62		ug/L		93	63 - 136
Chlorobenzene	20.0	19.64		ug/L		98	74 - 120
Chlorodibromomethane	20.0	16.91		ug/L		85	69 - 121
Chloroform	20.0	20.55		ug/L		103	72 - 122
Chloroprene	20.0	21.93		ug/L		110	67 - 136
cis-1,2-Dichloroethene	20.0	20.40		ug/L		102	72 - 123
cis-1,3-Dichloropropene	20.0	17.19		ug/L		86	72 - 123
Dibromomethane	20.0	19.66		ug/L		98	72 - 122
Ethyl methacrylate	20.0	18.99		ug/L		95	68 - 128
Ethylbenzene	20.0	20.78		ug/L		104	75 - 120
Iodomethane	20.0	14.44		ug/L		72	18 - 150
Methacrylonitrile	200	208.1		ug/L		104	67 - 128
Methyl methacrylate	40.0	43.62		ug/L		109	69 - 129
Methylene Chloride	20.0	22.28		ug/L		111	72 - 128
Methylene chloride	20.0	22.28		ug/L		111	72 - 128
Naphthalene	20.0	19.65		ug/L		98	69 - 126
Propionitrile	200	251.2		ug/L		126	68 - 131
Styrene	20.0	19.92		ug/L		100	74 - 122
Tetrachloroethene	20.0	18.58		ug/L		93	70 - 128
Toluene	20.0	20.07		ug/L		100	74 - 120
trans-1,2-Dichloroethene	20.0	20.83		ug/L		104	67 - 127
trans-1,3-Dichloropropene	20.0	15.93		ug/L		80	67 - 123
trans-1,4-Dichloro-2-butene	20.0	18.02		ug/L		90	50 - 150
Trichloroethene	20.0	18.98		ug/L		95	70 - 128
Vinyl acetate	40.0	32.25		ug/L		81	50 - 150
Xylenes, Total	40.0	40.37		ug/L		101	74 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane (Surr)	94		76 - 130
Toluene-d8 (Surr)	103		80 - 120
4-Bromofluorobenzene (Surr)	96		80 - 120

Lab Sample ID: LCS 310-462790/9

Matrix: Water

Analysis Batch: 462790

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromomethane	20.0	14.86		ug/L		74	33 - 138
Chloroethane	20.0	21.23		ug/L		106	59 - 139

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QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-462790/9

Matrix: Water

Analysis Batch: 462790

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloromethane	20.0	20.94		ug/L		105	52 - 146
Dichlorodifluoromethane	20.0	22.76		ug/L		114	45 - 150
Trichlorofluoromethane	20.0	20.82		ug/L		104	55 - 150
Vinyl chloride	20.0	21.21		ug/L		106	60 - 142

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane (Surr)	103		76 - 130
Toluene-d8 (Surr)	103		80 - 120
4-Bromofluorobenzene (Surr)	99		80 - 120

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 310-462892/1-A

Matrix: Water

Analysis Batch: 463832

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 462892

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	<10.0		10.0	0.540	ug/L		08/07/25 07:15	08/16/25 02:42	1
1,3,5-Trinitrobenzene	<10.0		10.0	2.30	ug/L		08/07/25 07:15	08/16/25 02:42	1
1,3-Dinitrobenzene	<10.0		10.0	3.20	ug/L		08/07/25 07:15	08/16/25 02:42	1
1,4-Naphthoquinone	<10.0		10.0	3.60	ug/L		08/07/25 07:15	08/16/25 02:42	1
1,4-Phenylenediamine	<10.0		10.0	1.90	ug/L		08/07/25 07:15	08/16/25 02:42	1
1-Naphthylamine	<10.0		10.0	2.50	ug/L		08/07/25 07:15	08/16/25 02:42	1
2,3,4,6-Tetrachlorophenol	<10.0		10.0	5.30	ug/L		08/07/25 07:15	08/16/25 02:42	1
2,4,5-Trichlorophenol	<10.0		10.0	5.30	ug/L		08/07/25 07:15	08/16/25 02:42	1
2,4,6-Trichlorophenol	<10.0		10.0	5.00	ug/L		08/07/25 07:15	08/16/25 02:42	1
2,4-Dichlorophenol	<10.0		10.0	0.850	ug/L		08/07/25 07:15	08/16/25 02:42	1
2,4-Dimethylphenol	<10.0		10.0	0.580	ug/L		08/07/25 07:15	08/16/25 02:42	1
2,4-Dinitrophenol	<20.0		20.0	13.0	ug/L		08/07/25 07:15	08/16/25 02:42	1
2,4-Dinitrotoluene	<10.0		10.0	6.40	ug/L		08/07/25 07:15	08/16/25 02:42	1
2,6-Dichlorophenol	<10.0		10.0	0.690	ug/L		08/07/25 07:15	08/16/25 02:42	1
2,6-Dinitrotoluene	<10.0		10.0	0.520	ug/L		08/07/25 07:15	08/16/25 02:42	1
2-Acetylaminofluorene	<10.0		10.0	2.70	ug/L		08/07/25 07:15	08/16/25 02:42	1
2-Chloronaphthalene	<10.0		10.0	0.640	ug/L		08/07/25 07:15	08/16/25 02:42	1
2-Chlorophenol	<10.0		10.0	0.540	ug/L		08/07/25 07:15	08/16/25 02:42	1
2-Methylnaphthalene	<10.0		10.0	0.590	ug/L		08/07/25 07:15	08/16/25 02:42	1
2-Methylphenol	<10.0		10.0	0.650	ug/L		08/07/25 07:15	08/16/25 02:42	1
2-Naphthylamine	<10.0		10.0	2.10	ug/L		08/07/25 07:15	08/16/25 02:42	1
2-Nitroaniline	<10.0		10.0	5.90	ug/L		08/07/25 07:15	08/16/25 02:42	1
2-Nitrophenol	<10.0		10.0	6.80	ug/L		08/07/25 07:15	08/16/25 02:42	1
3,3'-Dichlorobenzidine	<10.0		10.0	1.40	ug/L		08/07/25 07:15	08/16/25 02:42	1
3,3'-Dimethylbenzidine	<10.0		10.0	1.50	ug/L		08/07/25 07:15	08/16/25 02:42	1
3-Methylcholanthrene	<10.0		10.0	0.320	ug/L		08/07/25 07:15	08/16/25 02:42	1
3-Nitroaniline	<10.0		10.0	2.70	ug/L		08/07/25 07:15	08/16/25 02:42	1
4,6-Dinitro-2-methylphenol	<10.0		10.0	6.90	ug/L		08/07/25 07:15	08/16/25 02:42	1
4-Aminobiphenyl	<10.0		10.0	2.20	ug/L		08/07/25 07:15	08/16/25 02:42	1
4-Bromophenyl phenyl ether	<10.0		10.0	0.700	ug/L		08/07/25 07:15	08/16/25 02:42	1
4-Chloro-3-methylphenol	<10.0		10.0	0.840	ug/L		08/07/25 07:15	08/16/25 02:42	1
4-Chloroaniline	<10.0		10.0	0.620	ug/L		08/07/25 07:15	08/16/25 02:42	1

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 310-462892/1-A

Matrix: Water

Analysis Batch: 463832

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 462892

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	<10.0		10.0	0.690	ug/L		08/07/25 07:15	08/16/25 02:42	1
4-Methylphenol (and/or 3-Methylphenol)	<10.0		10.0	0.700	ug/L		08/07/25 07:15	08/16/25 02:42	1
4-Nitroaniline	<10.0		10.0	1.30	ug/L		08/07/25 07:15	08/16/25 02:42	1
4-Nitrophenol	<10.0		10.0	7.60	ug/L		08/07/25 07:15	08/16/25 02:42	1
5-Nitro-o-toluidine	<10.0		10.0	2.80	ug/L		08/07/25 07:15	08/16/25 02:42	1
7,12-Dimethylbenz(a)anthracene	<10.0		10.0	1.90	ug/L		08/07/25 07:15	08/16/25 02:42	1
Acenaphthene	<10.0		10.0	0.640	ug/L		08/07/25 07:15	08/16/25 02:42	1
Acenaphthylene	<10.0		10.0	0.720	ug/L		08/07/25 07:15	08/16/25 02:42	1
Acetophenone	<10.0		10.0	0.690	ug/L		08/07/25 07:15	08/16/25 02:42	1
Anthracene	<10.0		10.0	0.870	ug/L		08/07/25 07:15	08/16/25 02:42	1
Benzo[a]anthracene	<10.0		10.0	0.850	ug/L		08/07/25 07:15	08/16/25 02:42	1
Benzo[a]pyrene	<10.0		10.0	8.10	ug/L		08/07/25 07:15	08/16/25 02:42	1
Benzo[b]fluoranthene	<10.0		10.0	4.90	ug/L		08/07/25 07:15	08/16/25 02:42	1
Benzo[g,h,i]perylene	<10.0		10.0	6.30	ug/L		08/07/25 07:15	08/16/25 02:42	1
Benzo[k]fluoranthene	<10.0		10.0	2.20	ug/L		08/07/25 07:15	08/16/25 02:42	1
Benzyl alcohol	<10.0		10.0	1.30	ug/L		08/07/25 07:15	08/16/25 02:42	1
Bis(2-chloroethoxy)methane	<10.0		10.0	0.760	ug/L		08/07/25 07:15	08/16/25 02:42	1
Bis(2-chloroethyl)ether	<10.0		10.0	0.820	ug/L		08/07/25 07:15	08/16/25 02:42	1
bis (2-chloroisopropyl) ether	<10.0		10.0	0.540	ug/L		08/07/25 07:15	08/16/25 02:42	1
Bis(2-ethylhexyl) phthalate	<10.0		10.0	5.50	ug/L		08/07/25 07:15	08/16/25 02:42	1
Butyl benzyl phthalate	<10.0		10.0	5.40	ug/L		08/07/25 07:15	08/16/25 02:42	1
Chlorobenzilate	<10.0		10.0	3.60	ug/L		08/07/25 07:15	08/16/25 02:42	1
Chrysene	<10.0		10.0	0.870	ug/L		08/07/25 07:15	08/16/25 02:42	1
Diallate	<10.0		10.0	4.00	ug/L		08/07/25 07:15	08/16/25 02:42	1
Dibenz(a,h)anthracene	<10.0		10.0	3.90	ug/L		08/07/25 07:15	08/16/25 02:42	1
Dibenzofuran	<10.0		10.0	0.740	ug/L		08/07/25 07:15	08/16/25 02:42	1
Diethyl phthalate	<10.0		10.0	1.70	ug/L		08/07/25 07:15	08/16/25 02:42	1
Dimethoate	<10.0		10.0	3.60	ug/L		08/07/25 07:15	08/16/25 02:42	1
Dimethyl phthalate	<10.0		10.0	1.00	ug/L		08/07/25 07:15	08/16/25 02:42	1
Di-n-butyl phthalate	<10.0		10.0	5.60	ug/L		08/07/25 07:15	08/16/25 02:42	1
Di-n-octyl phthalate	<20.0		20.0	7.00	ug/L		08/07/25 07:15	08/16/25 02:42	1
Dinoseb	<10.0		10.0	2.40	ug/L		08/07/25 07:15	08/16/25 02:42	1
Diphenylamine	<10.0		10.0	6.00	ug/L		08/07/25 07:15	08/16/25 02:42	1
Disulfoton	<10.0		10.0	2.40	ug/L		08/07/25 07:15	08/16/25 02:42	1
Ethyl methanesulfonate	<10.0		10.0	3.60	ug/L		08/07/25 07:15	08/16/25 02:42	1
Ethyl parathion	<10.0		10.0	2.20	ug/L		08/07/25 07:15	08/16/25 02:42	1
Famphur	<10.0		10.0	3.80	ug/L		08/07/25 07:15	08/16/25 02:42	1
Fluoranthene	<10.0		10.0	1.70	ug/L		08/07/25 07:15	08/16/25 02:42	1
Fluorene	<10.0		10.0	0.790	ug/L		08/07/25 07:15	08/16/25 02:42	1
Hexachlorobenzene	<10.0		10.0	0.700	ug/L		08/07/25 07:15	08/16/25 02:42	1
Hexachlorobutadiene	<10.0		10.0	0.860	ug/L		08/07/25 07:15	08/16/25 02:42	1
Hexachlorocyclopentadiene	<10.0		10.0	5.10	ug/L		08/07/25 07:15	08/16/25 02:42	1
Hexachloroethane	<10.0		10.0	0.970	ug/L		08/07/25 07:15	08/16/25 02:42	1
Hexachloropropene	<10.0		10.0	2.60	ug/L		08/07/25 07:15	08/16/25 02:42	1
Indeno(1,2,3-cd)pyrene	<10.0		10.0	4.20	ug/L		08/07/25 07:15	08/16/25 02:42	1
Isodrin	<10.0		10.0	4.70	ug/L		08/07/25 07:15	08/16/25 02:42	1
Isophorone	<10.0		10.0	0.930	ug/L		08/07/25 07:15	08/16/25 02:42	1
Isosafrole	<10.0		10.0	2.30	ug/L		08/07/25 07:15	08/16/25 02:42	1

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 310-462892/1-A

Matrix: Water

Analysis Batch: 463832

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 462892

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Kepone	<10.0		10.0	1.00	ug/L		08/07/25 07:15	08/16/25 02:42	1
Methapyrilene	<10.0		10.0	0.760	ug/L		08/07/25 07:15	08/16/25 02:42	1
Methyl methanesulfonate	<10.0		10.0	3.30	ug/L		08/07/25 07:15	08/16/25 02:42	1
Methyl parathion	<10.0		10.0	2.30	ug/L		08/07/25 07:15	08/16/25 02:42	1
Nitrobenzene	<10.0		10.0	0.800	ug/L		08/07/25 07:15	08/16/25 02:42	1
N-Nitrosodiethylamine	<10.0		10.0	3.40	ug/L		08/07/25 07:15	08/16/25 02:42	1
N-Nitrosodimethylamine	<10.0		10.0	0.720	ug/L		08/07/25 07:15	08/16/25 02:42	1
N-Nitrosodi-n-butylamine	<10.0		10.0	3.90	ug/L		08/07/25 07:15	08/16/25 02:42	1
N-Nitrosodi-n-propylamine	<10.0		10.0	0.920	ug/L		08/07/25 07:15	08/16/25 02:42	1
N-Nitrosodiphenylamine	<10.0		10.0	0.750	ug/L		08/07/25 07:15	08/16/25 02:42	1
N-Nitrosomethylethylamine	<10.0		10.0	4.90	ug/L		08/07/25 07:15	08/16/25 02:42	1
N-Nitrosopiperidine	<10.0		10.0	2.70	ug/L		08/07/25 07:15	08/16/25 02:42	1
N-Nitrosopyrrolidine	<10.0		10.0	3.60	ug/L		08/07/25 07:15	08/16/25 02:42	1
o,o',o"-Triethylphosphorothioate	<10.0		10.0	3.20	ug/L		08/07/25 07:15	08/16/25 02:42	1
o-Toluidine	<10.0		10.0	2.90	ug/L		08/07/25 07:15	08/16/25 02:42	1
p-Dimethylamino azobenzene	<10.0		10.0	2.20	ug/L		08/07/25 07:15	08/16/25 02:42	1
Pentachlorobenzene	<10.0		10.0	2.80	ug/L		08/07/25 07:15	08/16/25 02:42	1
Pentachloronitrobenzene	<10.0		10.0	5.80	ug/L		08/07/25 07:15	08/16/25 02:42	1
Pentachlorophenol	<10.0		10.0	9.60	ug/L		08/07/25 07:15	08/16/25 02:42	1
Phenacetin	<10.0		10.0	1.90	ug/L		08/07/25 07:15	08/16/25 02:42	1
Phenanthrene	<10.0		10.0	0.790	ug/L		08/07/25 07:15	08/16/25 02:42	1
Phenol	<10.0		10.0	1.10	ug/L		08/07/25 07:15	08/16/25 02:42	1
Phorate	<10.0		10.0	3.20	ug/L		08/07/25 07:15	08/16/25 02:42	1
Pronamide	<10.0		10.0	2.70	ug/L		08/07/25 07:15	08/16/25 02:42	1
Pyrene	<10.0		10.0	0.790	ug/L		08/07/25 07:15	08/16/25 02:42	1
Safrole	<10.0		10.0	2.80	ug/L		08/07/25 07:15	08/16/25 02:42	1
Thionazin	<10.0		10.0	3.50	ug/L		08/07/25 07:15	08/16/25 02:42	1
Diallate Peak 2	<10.0		10.0	4.00	ug/L		08/07/25 07:15	08/16/25 02:42	1
Diallate Peak 1	<10.0		10.0	4.00	ug/L		08/07/25 07:15	08/16/25 02:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	87		21 - 110	08/07/25 07:15	08/16/25 02:42	1
Phenol-d5 (Surr)	71		21 - 110	08/07/25 07:15	08/16/25 02:42	1
Nitrobenzene-d5 (Surr)	107		39 - 140	08/07/25 07:15	08/16/25 02:42	1
2-Fluorobiphenyl (Surr)	103		33 - 126	08/07/25 07:15	08/16/25 02:42	1
2,4,6-Tribromophenol (Surr)	133		20 - 144	08/07/25 07:15	08/16/25 02:42	1
Terphenyl-d14 (Surr)	102		13 - 150	08/07/25 07:15	08/16/25 02:42	1

Lab Sample ID: LCS 310-462892/2-A

Matrix: Water

Analysis Batch: 463832

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 462892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,4,5-Tetrachlorobenzene	100	59.21		ug/L		59	35 - 110
1,3,5-Trinitrobenzene	51.2	32.20		ug/L		63	26 - 150
1,3-Dinitrobenzene	100	69.63		ug/L		70	36 - 147
1,4-Naphthoquinone	51.2	36.15		ug/L		71	38 - 137
1,4-Phenylenediamine	51.2	<10.0	*	ug/L		0	20 - 120

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-462892/2-A

Matrix: Water

Analysis Batch: 463832

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 462892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Naphthylamine	51.2	14.41		ug/L		28	10 - 110
2,3,4,6-Tetrachlorophenol	100	66.09		ug/L		66	32 - 142
2,4,5-Trichlorophenol	100	64.84		ug/L		65	39 - 136
2,4,6-Trichlorophenol	100	71.71		ug/L		72	35 - 141
2,4-Dichlorophenol	100	68.31		ug/L		68	44 - 131
2,4-Dimethylphenol	100	59.30		ug/L		59	30 - 128
2,4-Dinitrophenol	200	76.67		ug/L		38	10 - 150
2,4-Dinitrotoluene	100	69.58		ug/L		70	48 - 136
2,6-Dichlorophenol	100	68.58		ug/L		69	41 - 131
2,6-Dinitrotoluene	100	70.92		ug/L		71	49 - 135
2-Acetylaminofluorene	51.2	51.75		ug/L		101	37 - 149
2-Chloronaphthalene	100	61.90		ug/L		62	33 - 112
2-Chlorophenol	100	61.18		ug/L		61	43 - 119
2-Methylnaphthalene	100	58.98		ug/L		59	35 - 110
2-Methylphenol	100	59.72		ug/L		60	47 - 114
2-Naphthylamine	51.2	26.62		ug/L		52	18 - 111
2-Nitroaniline	100	70.28		ug/L		70	48 - 135
2-Nitrophenol	100	72.97		ug/L		73	36 - 144
3,3'-Dimethylbenzidine	51.2	11.59		ug/L		23	10 - 147
3-Methylcholanthrene	51.2	43.61		ug/L		85	13 - 140
3-Nitroaniline	100	74.42		ug/L		74	38 - 142
4,6-Dinitro-2-methylphenol	200	113.2		ug/L		57	22 - 150
4-Aminobiphenyl	51.2	21.82		ug/L		43	23 - 123
4-Bromophenyl phenyl ether	100	71.08		ug/L		71	41 - 131
4-Chloro-3-methylphenol	100	64.12		ug/L		64	51 - 132
4-Chloroaniline	100	68.39		ug/L		68	13 - 143
4-Chlorophenyl phenyl ether	100	64.99		ug/L		65	44 - 118
4-Methylphenol (and/or 3-Methylphenol)	100	58.28		ug/L		58	45 - 114
4-Nitroaniline	100	66.78		ug/L		67	33 - 141
4-Nitrophenol	200	82.00		ug/L		41	22 - 110
5-Nitro-o-toluidine	51.2	43.07		ug/L		84	43 - 139
7,12-Dimethylbenz(a)anthracene	51.2	38.90		ug/L		76	47 - 129
Acenaphthene	100	66.66		ug/L		67	38 - 118
Acenaphthylene	100	65.70		ug/L		66	39 - 115
Acetophenone	100	61.81		ug/L		62	47 - 118
Anthracene	100	72.81		ug/L		73	49 - 127
Benzo[a]anthracene	100	75.08		ug/L		75	49 - 126
Benzo[a]pyrene	100	80.16		ug/L		80	44 - 133
Benzo[b]fluoranthene	100	77.22		ug/L		77	44 - 136
Benzo[g,h,i]perylene	100	75.49		ug/L		75	42 - 135
Benzo[k]fluoranthene	100	77.71		ug/L		78	49 - 134
Benzyl alcohol	100	60.57		ug/L		61	46 - 123
Bis(2-chloroethoxy)methane	100	69.68		ug/L		70	44 - 126
Bis(2-chloroethyl)ether	100	57.22		ug/L		57	41 - 116
bis (2-chloroisopropyl) ether	100	55.91		ug/L		56	36 - 115
Bis(2-ethylhexyl) phthalate	100	70.17		ug/L		70	46 - 138
Butyl benzyl phthalate	100	68.38		ug/L		68	47 - 133
Chlorobenzilate	51.2	37.90		ug/L		74	39 - 145

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-462892/2-A

Matrix: Water

Analysis Batch: 463832

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 462892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chrysene	100	77.78		ug/L		78	50 - 128
Diallylate	44.8	48.94		ug/L		109	40 - 135
Dibenz(a,h)anthracene	100	78.52		ug/L		79	36 - 146
Dibenzofuran	100	64.31		ug/L		64	44 - 114
Diethyl phthalate	100	68.06		ug/L		68	43 - 135
Dimethoate	44.8	53.02		ug/L		118	31 - 150
Dimethyl phthalate	100	73.31		ug/L		73	46 - 129
Di-n-butyl phthalate	100	73.44		ug/L		73	49 - 138
Di-n-octyl phthalate	100	74.65		ug/L		75	33 - 148
Dinoseb	51.2	39.69		ug/L		78	22 - 150
Diphenylamine	85.0	62.69		ug/L		74	43 - 132
Disulfoton	44.8	44.30		ug/L		99	27 - 138
Ethyl methanesulfonate	51.2	32.21		ug/L		63	44 - 110
Ethyl parathion	44.8	43.74		ug/L		98	52 - 141
Famphur	44.8	54.65	E	ug/L		122	67 - 150
Fluoranthene	100	72.39		ug/L		72	49 - 132
Fluorene	100	67.38		ug/L		67	46 - 118
Hexachlorobenzene	100	74.95		ug/L		75	42 - 134
Hexachlorobutadiene	100	54.04		ug/L		54	29 - 110
Hexachlorocyclopentadiene	100	42.88		ug/L		43	10 - 110
Hexachloroethane	100	45.94		ug/L		46	25 - 110
Hexachloropropene	51.2	9.324	J	ug/L		18	10 - 110
Indeno(1,2,3-cd)pyrene	100	78.51		ug/L		79	36 - 149
Isodrin	51.2	41.70		ug/L		81	50 - 122
Isophorone	100	70.17		ug/L		70	46 - 126
Isosafrole	51.2	27.70		ug/L		54	10 - 129
Kepone	44.8	51.48		ug/L		115	10 - 150
Methapyrilene	44.8	10.57		ug/L		24	10 - 110
Methyl methanesulfonate	51.2	24.78		ug/L		48	16 - 110
Methyl parathion	44.8	54.62		ug/L		122	49 - 150
Nitrobenzene	100	62.13		ug/L		62	42 - 123
N-Nitrosodiethylamine	51.2	35.52		ug/L		69	51 - 116
N-Nitrosodimethylamine	100	51.40		ug/L		51	37 - 110
N-Nitrosodi-n-butylamine	51.2	44.97		ug/L		88	49 - 135
N-Nitrosodi-n-propylamine	100	63.56		ug/L		64	44 - 124
N-Nitrosodiphenylamine	100	73.52		ug/L		74	43 - 132
N-Nitrosomethylethylamine	51.2	34.65		ug/L		68	43 - 114
N-Nitrosopiperidine	51.2	39.07		ug/L		76	50 - 120
N-Nitrosopyrrolidine	51.2	36.82		ug/L		72	47 - 129
o,o',o''-Triethylphosphorothioate	44.8	38.81		ug/L		87	34 - 125
o-Toluidine	51.2	31.66		ug/L		62	19 - 128
p-Dimethylamino azobenzene	51.2	41.73		ug/L		82	45 - 133
Pentachlorobenzene	51.2	33.73		ug/L		66	27 - 112
Pentachloronitrobenzene	51.2	44.47		ug/L		87	45 - 132
Pentachlorophenol	200	123.9		ug/L		62	28 - 142
Phenacetin	51.2	47.09		ug/L		92	51 - 139
Phenanthrene	100	70.56		ug/L		71	48 - 126
Phenol	100	41.03		ug/L		41	29 - 110
Phorate	44.8	47.45		ug/L		106	21 - 147

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-462892/2-A

Matrix: Water

Analysis Batch: 463832

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 462892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Pronamide	51.2	45.46		ug/L		89	52 - 135
Pyrene	100	65.38		ug/L		65	45 - 134
Safrole	44.8	33.78		ug/L		75	26 - 117
Thionazin	44.8	42.60		ug/L		95	48 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorophenol (Surr)	58		21 - 110
Phenol-d5 (Surr)	46		21 - 110
Nitrobenzene-d5 (Surr)	71		39 - 140
2-Fluorobiphenyl (Surr)	68		33 - 126
2,4,6-Tribromophenol (Surr)	90		20 - 144
Terphenyl-d14 (Surr)	68		13 - 150

Lab Sample ID: LCSD 310-462892/3-A

Matrix: Water

Analysis Batch: 463832

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 462892

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2,4,5-Tetrachlorobenzene	100	62.74		ug/L		63	35 - 110	6	35
1,3,5-Trinitrobenzene	51.2	37.91		ug/L		74	26 - 150	16	29
1,3-Dinitrobenzene	100	83.12		ug/L		83	36 - 147	18	35
1,4-Naphthoquinone	51.2	43.01		ug/L		84	38 - 137	17	27
1,4-Phenylenediamine	51.2	<10.0	*-	ug/L		0	20 - 120	NC	35
1-Naphthylamine	51.2	14.84		ug/L		29	10 - 110	3	35
2,3,4,6-Tetrachlorophenol	100	78.00		ug/L		78	32 - 142	17	35
2,4,5-Trichlorophenol	100	78.46		ug/L		78	39 - 136	19	35
2,4,6-Trichlorophenol	100	81.75		ug/L		82	35 - 141	13	35
2,4-Dichlorophenol	100	81.19		ug/L		81	44 - 131	17	35
2,4-Dimethylphenol	100	73.09		ug/L		73	30 - 128	21	35
2,4-Dinitrophenol	200	87.33		ug/L		44	10 - 150	13	35
2,4-Dinitrotoluene	100	83.97		ug/L		84	48 - 136	19	35
2,6-Dichlorophenol	100	78.39		ug/L		78	41 - 131	13	35
2,6-Dinitrotoluene	100	87.10		ug/L		87	49 - 135	20	35
2-Acetylaminofluorene	51.2	54.59		ug/L		107	37 - 149	5	26
2-Chloronaphthalene	100	65.04		ug/L		65	33 - 112	5	35
2-Chlorophenol	100	72.78		ug/L		73	43 - 119	17	35
2-Methylnaphthalene	100	64.90		ug/L		65	35 - 110	10	35
2-Methylphenol	100	67.91		ug/L		68	47 - 114	13	35
2-Naphthylamine	51.2	33.67		ug/L		66	18 - 111	23	35
2-Nitroaniline	100	80.84		ug/L		81	48 - 135	14	35
2-Nitrophenol	100	83.52		ug/L		84	36 - 144	13	35
3,3'-Dimethylbenzidine	51.2	11.76		ug/L		23	10 - 147	1	35
3-Methylcholanthrene	51.2	50.40		ug/L		98	13 - 140	14	35
3-Nitroaniline	100	84.95		ug/L		85	38 - 142	13	35
4,6-Dinitro-2-methylphenol	200	128.6		ug/L		64	22 - 150	13	35
4-Aminobiphenyl	51.2	33.94	*1	ug/L		66	23 - 123	43	35
4-Bromophenyl phenyl ether	100	79.36		ug/L		79	41 - 131	11	35
4-Chloro-3-methylphenol	100	79.80		ug/L		80	51 - 132	22	35

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 310-462892/3-A

Matrix: Water

Analysis Batch: 463832

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 462892

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4-Chloroaniline	100	80.33		ug/L		80	13 - 143	16	35
4-Chlorophenyl phenyl ether	100	75.61		ug/L		76	44 - 118	15	35
4-Methylphenol (and/or 3-Methylphenol)	100	68.69		ug/L		69	45 - 114	16	35
4-Nitroaniline	100	81.74		ug/L		82	33 - 141	20	35
4-Nitrophenol	200	98.50		ug/L		49	22 - 110	18	35
5-Nitro-o-toluidine	51.2	53.99		ug/L		105	43 - 139	23	32
7,12-Dimethylbenz(a)anthracene	51.2	43.13		ug/L		84	47 - 129	10	29
Acenaphthene	100	75.09		ug/L		75	38 - 118	12	35
Acenaphthylene	100	72.64		ug/L		73	39 - 115	10	35
Acetophenone	100	67.94		ug/L		68	47 - 118	9	35
Anthracene	100	83.64		ug/L		84	49 - 127	14	35
Benzo[a]anthracene	100	85.64		ug/L		86	49 - 126	13	35
Benzo[a]pyrene	100	90.56		ug/L		91	44 - 133	12	35
Benzo[b]fluoranthene	100	86.69		ug/L		87	44 - 136	12	35
Benzo[g,h,i]perylene	100	85.21		ug/L		85	42 - 135	12	35
Benzo[k]fluoranthene	100	89.18		ug/L		89	49 - 134	14	35
Benzyl alcohol	100	67.81		ug/L		68	46 - 123	11	35
Bis(2-chloroethoxy)methane	100	79.19		ug/L		79	44 - 126	13	35
Bis(2-chloroethyl)ether	100	63.08		ug/L		63	41 - 116	10	35
bis (2-chloroisopropyl) ether	100	61.45		ug/L		61	36 - 115	9	35
Bis(2-ethylhexyl) phthalate	100	92.93		ug/L		93	46 - 138	28	35
Butyl benzyl phthalate	100	83.80		ug/L		84	47 - 133	20	35
Chlorobenzilate	51.2	52.18	*1	ug/L		102	39 - 145	32	28
Chrysene	100	87.72		ug/L		88	50 - 128	12	35
Diallate	44.8	52.14		ug/L		116	40 - 135	6	29
Dibenz(a,h)anthracene	100	85.22		ug/L		85	36 - 146	8	35
Dibenzofuran	100	72.85		ug/L		73	44 - 114	12	35
Diethyl phthalate	100	79.68		ug/L		80	43 - 135	16	35
Dimethoate	44.8	61.53		ug/L		137	31 - 150	15	35
Dimethyl phthalate	100	82.22		ug/L		82	46 - 129	11	35
Di-n-butyl phthalate	100	87.45		ug/L		87	49 - 138	17	35
Di-n-octyl phthalate	100	87.83		ug/L		88	33 - 148	16	35
Dinoseb	51.2	42.18		ug/L		82	22 - 150	6	35
Diphenylamine	85.0	71.14		ug/L		84	43 - 132	13	35
Disulfoton	44.8	51.35		ug/L		115	27 - 138	15	32
Ethyl methanesulfonate	51.2	37.08		ug/L		72	44 - 110	14	30
Ethyl parathion	44.8	50.28		ug/L		112	52 - 141	14	30
Famphur	44.8	65.92	E	ug/L		147	67 - 150	19	28
Fluoranthene	100	82.41		ug/L		82	49 - 132	13	35
Fluorene	100	76.25		ug/L		76	46 - 118	12	35
Hexachlorobenzene	100	81.46		ug/L		81	42 - 134	8	35
Hexachlorobutadiene	100	57.62		ug/L		58	29 - 110	6	35
Hexachlorocyclopentadiene	100	51.11		ug/L		51	10 - 110	18	35
Hexachloroethane	100	48.72		ug/L		49	25 - 110	6	35
Hexachloropropene	51.2	8.526	J	ug/L		17	10 - 110	9	35
Indeno(1,2,3-cd)pyrene	100	82.45		ug/L		82	36 - 149	5	35
Isodrin	51.2	43.00		ug/L		84	50 - 122	3	28
Isophorone	100	79.59		ug/L		80	46 - 126	13	35

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 310-462892/3-A

Matrix: Water

Analysis Batch: 463832

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 462892

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits		RPD	Limit
Isosafrole	51.2	27.38		ug/L		53	10 - 129		1	35
Kepone	44.8	73.23	*+	ug/L		163	10 - 150		35	35
Methapyrilene	44.8	9.366	J	ug/L		21	10 - 110		12	35
Methyl methanesulfonate	51.2	27.22		ug/L		53	16 - 110		9	28
Methyl parathion	44.8	65.09		ug/L		145	49 - 150		17	29
Nitrobenzene	100	68.01		ug/L		68	42 - 123		9	35
N-Nitrosodiethylamine	51.2	40.04		ug/L		78	51 - 116		12	27
N-Nitrosodimethylamine	100	59.33		ug/L		59	37 - 110		14	35
N-Nitrosodi-n-butylamine	51.2	52.85		ug/L		103	49 - 135		16	28
N-Nitrosodi-n-propylamine	100	75.73		ug/L		76	44 - 124		17	35
N-Nitrosodiphenylamine	100	82.78		ug/L		83	43 - 132		12	35
N-Nitrosomethylethylamine	51.2	36.08		ug/L		70	43 - 114		4	29
N-Nitrosopiperidine	51.2	40.47		ug/L		79	50 - 120		3	26
N-Nitrosopyrrolidine	51.2	39.84		ug/L		78	47 - 129		8	31
o,o',o"-Triethylphosphorothioate	44.8	40.41		ug/L		90	34 - 125		4	33
o-Toluidine	51.2	36.82		ug/L		72	19 - 128		15	35
p-Dimethylamino azobenzene	51.2	49.77		ug/L		97	45 - 133		18	31
Pentachlorobenzene	51.2	35.24		ug/L		69	27 - 112		4	35
Pentachloronitrobenzene	51.2	44.03		ug/L		86	45 - 132		1	29
Pentachlorophenol	200	145.0		ug/L		73	28 - 142		16	35
Phenacetin	51.2	52.31		ug/L		102	51 - 139		11	29
Phenanthrene	100	80.38		ug/L		80	48 - 126		13	35
Phenol	100	48.68		ug/L		49	29 - 110		17	35
Phorate	44.8	52.74		ug/L		118	21 - 147		11	35
Pronamide	51.2	53.15		ug/L		104	52 - 135		16	28
Pyrene	100	82.05		ug/L		82	45 - 134		23	35
Safrole	44.8	37.93		ug/L		85	26 - 117		12	35
Thionazin	44.8	51.73		ug/L		115	48 - 135		19	30

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorophenol (Surr)	59		21 - 110
Phenol-d5 (Surr)	50		21 - 110
Nitrobenzene-d5 (Surr)	71		39 - 140
2-Fluorobiphenyl (Surr)	71		33 - 126
2,4,6-Tribromophenol (Surr)	95		20 - 144
Terphenyl-d14 (Surr)	76		13 - 150

Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Lab Sample ID: MB 310-462905/4

Matrix: Water

Analysis Batch: 462905

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetonitrile	<10.0		10.0	2.60	mg/L			08/07/25 10:15	1
Isobutanol	<10.0		10.0	2.40	mg/L			08/07/25 10:15	1

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection) (Continued)

Lab Sample ID: LCS 310-462905/6

Matrix: Water

Analysis Batch: 462905

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetonitrile	99.1	90.60		mg/L		91	67 - 131

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 310-463049/1-A

Matrix: Water

Analysis Batch: 463032

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 463049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.0980		0.0980	0.0216	ug/L		08/08/25 09:20	08/08/25 14:25	1
alpha-BHC	<0.0980		0.0980	0.00980	ug/L		08/08/25 09:20	08/08/25 14:25	1
beta-BHC	<0.0980		0.0980	0.0412	ug/L		08/08/25 09:20	08/08/25 14:25	1
gamma-BHC (Lindane)	<0.0980		0.0980	0.00980	ug/L		08/08/25 09:20	08/08/25 14:25	1
delta-BHC	<0.0980		0.0980	0.0314	ug/L		08/08/25 09:20	08/08/25 14:25	1
Chlordane (technical)	<1.96		1.96	0.382	ug/L		08/08/25 09:20	08/08/25 14:25	1
Dieldrin	<0.0980		0.0980	0.0206	ug/L		08/08/25 09:20	08/08/25 14:25	1
4,4'-DDD	<0.0980		0.0980	0.0245	ug/L		08/08/25 09:20	08/08/25 14:25	1
4,4'-DDE	<0.0980		0.0980	0.0294	ug/L		08/08/25 09:20	08/08/25 14:25	1
4,4'-DDT	<0.0980		0.0980	0.0196	ug/L		08/08/25 09:20	08/08/25 14:25	1
Endosulfan I	<0.0980		0.0980	0.0275	ug/L		08/08/25 09:20	08/08/25 14:25	1
Endosulfan II	<0.0980		0.0980	0.0255	ug/L		08/08/25 09:20	08/08/25 14:25	1
Endosulfan sulfate	<0.0980		0.0980	0.0176	ug/L		08/08/25 09:20	08/08/25 14:25	1
Endrin	<0.0980		0.0980	0.0275	ug/L		08/08/25 09:20	08/08/25 14:25	1
Endrin aldehyde	<0.0980		0.0980	0.0265	ug/L		08/08/25 09:20	08/08/25 14:25	1
Heptachlor	<0.0980		0.0980	0.0225	ug/L		08/08/25 09:20	08/08/25 14:25	1
Heptachlor epoxide	<0.0980		0.0980	0.0314	ug/L		08/08/25 09:20	08/08/25 14:25	1
Methoxychlor	<0.0980		0.0980	0.0314	ug/L		08/08/25 09:20	08/08/25 14:25	1
Toxaphene	<1.96		1.96	0.980	ug/L		08/08/25 09:20	08/08/25 14:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	36		10 - 150	08/08/25 09:20	08/08/25 14:25	1
Tetrachloro-m-xylene (Surr)	58		17 - 150	08/08/25 09:20	08/08/25 14:25	1

Lab Sample ID: LCS 310-463049/2-A

Matrix: Water

Analysis Batch: 463032

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 463049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aldrin	2.78	1.478		ug/L		53	10 - 146
alpha-BHC	2.78	2.091		ug/L		75	57 - 149
beta-BHC	2.78	2.028		ug/L		73	53 - 145
gamma-BHC (Lindane)	2.78	2.099		ug/L		76	57 - 150
delta-BHC	2.78	1.986		ug/L		71	49 - 148
Dieldrin	2.78	1.928		ug/L		69	43 - 150
4,4'-DDD	2.78	1.844		ug/L		66	28 - 150
4,4'-DDE	2.78	1.705		ug/L		61	10 - 150
4,4'-DDT	2.78	2.435		ug/L		88	10 - 150
Endosulfan I	2.78	1.113		ug/L		40	26 - 133
Endosulfan II	2.78	1.265		ug/L		46	38 - 139

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QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 310-463049/2-A

Matrix: Water

Analysis Batch: 463032

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 463049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Endosulfan sulfate	2.78	2.719		ug/L		98	54 - 150
Endrin	2.78	2.104		ug/L		76	41 - 150
Endrin aldehyde	2.78	1.794		ug/L		65	42 - 147
Heptachlor	2.78	1.792		ug/L		65	16 - 135
Heptachlor epoxide	2.78	2.002		ug/L		72	49 - 150
Methoxychlor	2.78	2.650		ug/L		95	16 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	42		10 - 150
Tetrachloro-m-xylene (Surr)	64		17 - 150

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: LB 310-462701/1-E

Matrix: Water

Analysis Batch: 463103

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 463049

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<1.84		1.84	0.755	ug/L		08/08/25 09:20	08/08/25 17:54	1
PCB-1221	<1.84		1.84	0.755	ug/L		08/08/25 09:20	08/08/25 17:54	1
PCB-1232	<1.84		1.84	0.755	ug/L		08/08/25 09:20	08/08/25 17:54	1
PCB-1242	<1.84		1.84	0.755	ug/L		08/08/25 09:20	08/08/25 17:54	1
PCB-1248	<1.84		1.84	0.636	ug/L		08/08/25 09:20	08/08/25 17:54	1
PCB-1254	<1.84		1.84	0.636	ug/L		08/08/25 09:20	08/08/25 17:54	1
PCB-1260	<1.84		1.84	0.636	ug/L		08/08/25 09:20	08/08/25 17:54	1

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	46		10 - 150	08/08/25 09:20	08/08/25 17:54	1

Lab Sample ID: MB 310-463049/1-A

Matrix: Water

Analysis Batch: 463034

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 463049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<1.96		1.96	0.804	ug/L		08/08/25 09:20	08/08/25 14:25	1
PCB-1221	<1.96		1.96	0.804	ug/L		08/08/25 09:20	08/08/25 14:25	1
PCB-1232	<1.96		1.96	0.804	ug/L		08/08/25 09:20	08/08/25 14:25	1
PCB-1242	<1.96		1.96	0.804	ug/L		08/08/25 09:20	08/08/25 14:25	1
PCB-1248	<1.96		1.96	0.676	ug/L		08/08/25 09:20	08/08/25 14:25	1
PCB-1254	<1.96		1.96	0.676	ug/L		08/08/25 09:20	08/08/25 14:25	1
PCB-1260	<1.96		1.96	0.676	ug/L		08/08/25 09:20	08/08/25 14:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	37		10 - 150	08/08/25 09:20	08/08/25 14:25	1
Tetrachloro-m-xylene	59		17 - 150	08/08/25 09:20	08/08/25 14:25	1

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QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 310-463049/9-A
Matrix: Water
Analysis Batch: 463103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 463049

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	34		10 - 150

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 500-829140/1-A
Matrix: Water
Analysis Batch: 829308

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829140

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	<1.00		1.00	0.126	ug/L		08/07/25 14:12	08/08/25 16:23	1
Silvex (2,4,5-TP)	<1.00		1.00	0.105	ug/L		08/07/25 14:12	08/08/25 16:23	1
2,4,5-T	<1.00		1.00	0.140	ug/L		08/07/25 14:12	08/08/25 16:23	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCAA	63		25 - 130				08/07/25 14:12	08/08/25 16:23	1

Lab Sample ID: LCS 500-829140/2-A
Matrix: Water
Analysis Batch: 829308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829140

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-D	10.0	7.464		ug/L		75	30 - 115
Silvex (2,4,5-TP)	2.50	1.581		ug/L		63	32 - 115
2,4,5-T	2.53	1.641		ug/L		65	30 - 115
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
DCAA	83		25 - 130				

Lab Sample ID: LCSD 500-829140/3-A
Matrix: Water
Analysis Batch: 829308

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829140

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4-D	10.0	7.439		ug/L		74	30 - 115	0	20
Silvex (2,4,5-TP)	2.50	2.221	*1	ug/L		89	32 - 115	34	20
2,4,5-T	2.53	1.720		ug/L		68	30 - 115	5	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
DCAA	84		25 - 130						

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-463285/1-A
Matrix: Water
Analysis Batch: 463463

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 463285

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		08/12/25 09:00	08/12/25 16:09	1

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QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual H MSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

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

Lab Sample ID: MB 310-463285/1-A
Matrix: Water
Analysis Batch: 463463

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 463285

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		08/12/25 09:00	08/12/25 16:09	1
Barium	<0.00200		0.00200	0.000660	mg/L		08/12/25 09:00	08/12/25 16:09	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		08/12/25 09:00	08/12/25 16:09	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		08/12/25 09:00	08/12/25 16:09	1
Chromium	<0.00500		0.00500	0.00180	mg/L		08/12/25 09:00	08/12/25 16:09	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		08/12/25 09:00	08/12/25 16:09	1
Copper	<0.00500		0.00500	0.00320	mg/L		08/12/25 09:00	08/12/25 16:09	1
Lead	<0.000500		0.000500	0.000330	mg/L		08/12/25 09:00	08/12/25 16:09	1
Nickel	<0.00500		0.00500	0.00230	mg/L		08/12/25 09:00	08/12/25 16:09	1
Selenium	<0.00500		0.00500	0.00140	mg/L		08/12/25 09:00	08/12/25 16:09	1
Silver	<0.00100		0.00100	0.000500	mg/L		08/12/25 09:00	08/12/25 16:09	1
Vanadium	<0.00500		0.00500	0.00170	mg/L		08/12/25 09:00	08/12/25 16:09	1
Zinc	<0.0200		0.0200	0.0130	mg/L		08/12/25 09:00	08/12/25 16:09	1

Lab Sample ID: MB 310-463285/1-A
Matrix: Water
Analysis Batch: 463551

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 463285

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.00100		0.00100	0.000570	mg/L		08/12/25 09:00	08/13/25 12:13	1
Tin	<0.00500		0.00500	0.00250	mg/L		08/12/25 09:00	08/13/25 12:13	1

Lab Sample ID: LCS 310-463285/2-A
Matrix: Water
Analysis Batch: 463463

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 463285

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.2238		mg/L		112	80 - 120
Arsenic	0.200	0.2103		mg/L		105	80 - 120
Barium	0.100	0.1002		mg/L		100	80 - 120
Beryllium	0.100	0.1010		mg/L		101	80 - 120
Cadmium	0.100	0.1044		mg/L		104	80 - 120
Chromium	0.100	0.09998		mg/L		100	80 - 120
Cobalt	0.100	0.09779		mg/L		98	80 - 120
Copper	0.200	0.2028		mg/L		101	80 - 120
Lead	0.200	0.2090		mg/L		105	80 - 120
Nickel	0.200	0.2015		mg/L		101	80 - 120
Selenium	0.400	0.3794		mg/L		95	80 - 120
Silver	0.100	0.1162		mg/L		116	80 - 120
Vanadium	0.100	0.09780		mg/L		98	80 - 120
Zinc	0.200	0.1980		mg/L		99	80 - 120

Lab Sample ID: LCS 310-463285/2-A
Matrix: Water
Analysis Batch: 463551

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 463285

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.100	0.08346		mg/L		83	80 - 120
Tin	0.200	0.1871		mg/L		94	80 - 120

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QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

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

Lab Sample ID: 310-312474-1 DU

Matrix: Water

Analysis Batch: 463463

Client Sample ID: PZ-22

Prep Type: Total/NA

Prep Batch: 463285

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Antimony	<0.00200		<0.00200		mg/L		NC	20
Beryllium	<0.00100		<0.00100		mg/L		NC	20
Chromium	<0.00500		<0.00500		mg/L		NC	20
Cobalt	0.000502		0.0005200		mg/L		4	20
Copper	<0.00500		<0.00500		mg/L		NC	20
Vanadium	<0.00500		<0.00500		mg/L		NC	20
Zinc	<0.0200		<0.0200		mg/L		NC	20

Lab Sample ID: 310-312474-1 DU

Matrix: Water

Analysis Batch: 463551

Client Sample ID: PZ-22

Prep Type: Total/NA

Prep Batch: 463285

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Arsenic	0.00245	J	0.002700	J	mg/L		10	20
Barium	0.0104		0.01137		mg/L		9	20
Cadmium	<0.000800		<0.000800		mg/L		NC	20
Nickel	<0.0200		<0.0200		mg/L		NC	20

Lab Sample ID: MB 310-463426/1-A

Matrix: Water

Analysis Batch: 463607

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 463426

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<0.00200		0.00200	0.00100	mg/L		08/13/25 09:30	08/13/25 17:12	1
Arsenic	<0.00200		0.00200	0.000530	mg/L		08/13/25 09:30	08/13/25 17:12	1
Barium	0.002157		0.00200	0.000660	mg/L		08/13/25 09:30	08/13/25 17:12	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		08/13/25 09:30	08/13/25 17:12	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		08/13/25 09:30	08/13/25 17:12	1
Chromium	<0.00500		0.00500	0.00180	mg/L		08/13/25 09:30	08/13/25 17:12	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		08/13/25 09:30	08/13/25 17:12	1
Copper	<0.00500		0.00500	0.00320	mg/L		08/13/25 09:30	08/13/25 17:12	1
Lead	<0.000500		0.000500	0.000330	mg/L		08/13/25 09:30	08/13/25 17:12	1
Nickel	<0.00500		0.00500	0.00230	mg/L		08/13/25 09:30	08/13/25 17:12	1
Selenium	<0.00500		0.00500	0.00140	mg/L		08/13/25 09:30	08/13/25 17:12	1
Silver	<0.00100		0.00100	0.000500	mg/L		08/13/25 09:30	08/13/25 17:12	1
Thallium	<0.00100		0.00100	0.000570	mg/L		08/13/25 09:30	08/13/25 17:12	1
Vanadium	<0.00500		0.00500	0.00170	mg/L		08/13/25 09:30	08/13/25 17:12	1
Zinc	<0.0200		0.0200	0.0130	mg/L		08/13/25 09:30	08/13/25 17:12	1
Tin	<0.00500		0.00500	0.00250	mg/L		08/13/25 09:30	08/13/25 17:12	1

Lab Sample ID: MB 310-463426/1-A

Matrix: Water

Analysis Batch: 463704

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 463426

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Barium	0.001365	J	0.00200	0.000660	mg/L		08/13/25 09:30	08/14/25 14:54	1

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

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

Lab Sample ID: LCS 310-463426/2-A
Matrix: Water
Analysis Batch: 463607

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 463426

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.2090		mg/L		105	80 - 120
Arsenic	0.200	0.2004		mg/L		100	80 - 120
Beryllium	0.100	0.09751		mg/L		98	80 - 120
Cadmium	0.100	0.09811		mg/L		98	80 - 120
Chromium	0.100	0.09831		mg/L		98	80 - 120
Cobalt	0.100	0.1001		mg/L		100	80 - 120
Copper	0.200	0.2056		mg/L		103	80 - 120
Lead	0.200	0.1940		mg/L		97	80 - 120
Nickel	0.200	0.2047		mg/L		102	80 - 120
Selenium	0.400	0.3729		mg/L		93	80 - 120
Silver	0.100	0.1063		mg/L		106	80 - 120
Thallium	0.100	0.09091		mg/L		91	80 - 120
Vanadium	0.100	0.09760		mg/L		98	80 - 120
Zinc	0.200	0.1902		mg/L		95	80 - 120
Tin	0.200	0.1959		mg/L		98	80 - 120

Lab Sample ID: LCS 310-463426/2-A
Matrix: Water
Analysis Batch: 463704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 463426

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.100	0.09736		mg/L		97	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-463269/1-A
Matrix: Water
Analysis Batch: 463406

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 463269

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200	0.000110	mg/L		08/11/25 16:15	08/12/25 10:47	1

Lab Sample ID: LCS 310-463269/2-A
Matrix: Water
Analysis Batch: 463406

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 463269

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001565		mg/L		94	80 - 120

Lab Sample ID: MB 310-463541/1-A
Matrix: Water
Analysis Batch: 463685

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 463541

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200	0.000110	mg/L		08/13/25 15:20	08/14/25 12:05	1

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

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

Lab Sample ID: LCS 310-463541/2-A
Matrix: Water
Analysis Batch: 463685

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 463541

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001730		mg/L		104	80 - 120

Method: 9012B - Cyanide, Total and/or Amenable

Lab Sample ID: MB 310-462931/1-A
Matrix: Water
Analysis Batch: 463080

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 462931

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.0100		0.0100	0.00350	mg/L		08/07/25 10:47	08/08/25 12:10	1

Lab Sample ID: LCS 310-462931/2-A
Matrix: Water
Analysis Batch: 463080

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 462931

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	0.200	0.1972		mg/L		99	90 - 110

Lab Sample ID: 310-312474-2 MS
Matrix: Water
Analysis Batch: 463080

Client Sample ID: MW-89-2
Prep Type: Total/NA
Prep Batch: 462931

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	<0.0100		0.200	0.1924		mg/L		96	63 - 122

Lab Sample ID: 310-312474-2 MSD
Matrix: Water
Analysis Batch: 463080

Client Sample ID: MW-89-2
Prep Type: Total/NA
Prep Batch: 462931

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	<0.0100		0.200	0.1947		mg/L		97	63 - 122	1	35

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 500-829169/1-A
Matrix: Water
Analysis Batch: 829170

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829169

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.00		1.00	0.231	mg/L		08/06/25 18:00	08/07/25 12:51	1

Lab Sample ID: LCS 500-829169/2-A
Matrix: Water
Analysis Batch: 829170

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	3.51	3.669		mg/L		104	80 - 120

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

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

Lab Sample ID: MB 310-462692/1
Matrix: Water
Analysis Batch: 462692

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			08/05/25 13:58	1

Lab Sample ID: LCS 310-462692/2
Matrix: Water
Analysis Batch: 462692

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	100.0		mg/L		100	82 - 117

Lab Sample ID: 310-312474-4 DU
Matrix: Water
Analysis Batch: 462692

Client Sample ID: MW-89-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	17.0		23.00		mg/L		30	35

QC Association Summary

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

GC/MS VOA

Analysis Batch: 462790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-2	MW-89-2	Total/NA	Water	8260D	
310-312474-4	MW-89-7	Total/NA	Water	8260D	
310-312474-5	MW-89-9R	Total/NA	Water	8260D	
310-312474-6	PZ-21	Total/NA	Water	8260D	
310-312474-8	MW-D	Total/NA	Water	8260D	
310-312474-9	Trip Blank 1	Total/NA	Trip Blank	8260D	
310-312474-10	Trip Blank 2	Total/NA	Trip Blank	8260D	
MB 310-462790/7	Method Blank	Total/NA	Water	8260D	
LCS 310-462790/8	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-462790/9	Lab Control Sample	Total/NA	Water	8260D	

GC/MS Semi VOA

Prep Batch: 462892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-2	MW-89-2	Total/NA	Water	3510C	
310-312474-6	PZ-21	Total/NA	Water	3510C	
MB 310-462892/1-A	Method Blank	Total/NA	Water	3510C	
LCS 310-462892/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 310-462892/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 463832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-2	MW-89-2	Total/NA	Water	8270E	462892
310-312474-6	PZ-21	Total/NA	Water	8270E	462892
MB 310-462892/1-A	Method Blank	Total/NA	Water	8270E	462892
LCS 310-462892/2-A	Lab Control Sample	Total/NA	Water	8270E	462892
LCSD 310-462892/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	462892

GC Semi VOA

Leach Batch: 462701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 310-462701/1-E	Method Blank	Total/NA	Water	1312	

Analysis Batch: 462905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-2	MW-89-2	Total/NA	Water	8015C	
310-312474-6	PZ-21	Total/NA	Water	8015C	
MB 310-462905/4	Method Blank	Total/NA	Water	8015C	
LCS 310-462905/6	Lab Control Sample	Total/NA	Water	8015C	

Analysis Batch: 463032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-2	MW-89-2	Total/NA	Water	8081B	463049
310-312474-6	PZ-21	Total/NA	Water	8081B	463049
MB 310-463049/1-A	Method Blank	Total/NA	Water	8081B	463049
LCS 310-463049/2-A	Lab Control Sample	Total/NA	Water	8081B	463049

Analysis Batch: 463034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-2	MW-89-2	Total/NA	Water	8082A	463049

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

GC Semi VOA (Continued)

Analysis Batch: 463034 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-6	PZ-21	Total/NA	Water	8082A	463049
MB 310-463049/1-A	Method Blank	Total/NA	Water	8082A	463049

Prep Batch: 463049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-2	MW-89-2	Total/NA	Water	3511	462701
310-312474-6	PZ-21	Total/NA	Water	3511	
LB 310-462701/1-E	Method Blank	Total/NA	Water	3511	
MB 310-463049/1-A	Method Blank	Total/NA	Water	3511	
LCS 310-463049/2-A	Lab Control Sample	Total/NA	Water	3511	
LCS 310-463049/9-A	Lab Control Sample	Total/NA	Water	3511	

Analysis Batch: 463103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 310-462701/1-E	Method Blank	Total/NA	Water	8082A	463049
LCS 310-463049/9-A	Lab Control Sample	Total/NA	Water	8082A	463049

Prep Batch: 829140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-2	MW-89-2	Total/NA	Water	8151A	829140
310-312474-6	PZ-21	Total/NA	Water	8151A	
MB 500-829140/1-A	Method Blank	Total/NA	Water	8151A	
LCS 500-829140/2-A	Lab Control Sample	Total/NA	Water	8151A	
LCSD 500-829140/3-A	Lab Control Sample Dup	Total/NA	Water	8151A	

Analysis Batch: 829308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-2	MW-89-2	Total/NA	Water	8151A	829140
310-312474-6	PZ-21	Total/NA	Water	8151A	829140
MB 500-829140/1-A	Method Blank	Total/NA	Water	8151A	829140
LCS 500-829140/2-A	Lab Control Sample	Total/NA	Water	8151A	829140
LCSD 500-829140/3-A	Lab Control Sample Dup	Total/NA	Water	8151A	829140

Metals

Prep Batch: 463269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-6	PZ-21	Total/NA	Water	7470A	7470A
MB 310-463269/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-463269/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 463285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-1	PZ-22	Total/NA	Water	3005A	3005A
310-312474-2	MW-89-2	Total/NA	Water	3005A	
310-312474-3	MW-89-6R	Total/NA	Water	3005A	
310-312474-4	MW-89-7	Total/NA	Water	3005A	
310-312474-5	MW-89-9R	Total/NA	Water	3005A	
310-312474-7	MW-21	Total/NA	Water	3005A	
310-312474-8	MW-D	Total/NA	Water	3005A	
MB 310-463285/1-A	Method Blank	Total/NA	Water	3005A	

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Metals (Continued)

Prep Batch: 463285 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-463285/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-312474-1 DU	PZ-22	Total/NA	Water	3005A	

Analysis Batch: 463406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-6	PZ-21	Total/NA	Water	7470A	463269
MB 310-463269/1-A	Method Blank	Total/NA	Water	7470A	463269
LCS 310-463269/2-A	Lab Control Sample	Total/NA	Water	7470A	463269

Prep Batch: 463426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-6	PZ-21	Total/NA	Water	3005A	
MB 310-463426/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-463426/2-A	Lab Control Sample	Total/NA	Water	3005A	

Analysis Batch: 463463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-1	PZ-22	Total/NA	Water	6020B	463285
310-312474-2	MW-89-2	Total/NA	Water	6020B	463285
310-312474-3	MW-89-6R	Total/NA	Water	6020B	463285
310-312474-4	MW-89-7	Total/NA	Water	6020B	463285
310-312474-5	MW-89-9R	Total/NA	Water	6020B	463285
310-312474-7	MW-21	Total/NA	Water	6020B	463285
310-312474-8	MW-D	Total/NA	Water	6020B	463285
MB 310-463285/1-A	Method Blank	Total/NA	Water	6020B	463285
LCS 310-463285/2-A	Lab Control Sample	Total/NA	Water	6020B	463285
310-312474-1 DU	PZ-22	Total/NA	Water	6020B	463285

Prep Batch: 463541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-2	MW-89-2	Total/NA	Water	7470A	
MB 310-463541/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-463541/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 463551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-1	PZ-22	Total/NA	Water	6020B	463285
310-312474-2	MW-89-2	Total/NA	Water	6020B	463285
310-312474-3	MW-89-6R	Total/NA	Water	6020B	463285
310-312474-4	MW-89-7	Total/NA	Water	6020B	463285
310-312474-5	MW-89-9R	Total/NA	Water	6020B	463285
310-312474-7	MW-21	Total/NA	Water	6020B	463285
310-312474-8	MW-D	Total/NA	Water	6020B	463285
MB 310-463285/1-A	Method Blank	Total/NA	Water	6020B	463285
LCS 310-463285/2-A	Lab Control Sample	Total/NA	Water	6020B	463285
310-312474-1 DU	PZ-22	Total/NA	Water	6020B	463285

Analysis Batch: 463607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-6	PZ-21	Total/NA	Water	6020B	463426
MB 310-463426/1-A	Method Blank	Total/NA	Water	6020B	463426

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Metals (Continued)

Analysis Batch: 463607 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-463426/2-A	Lab Control Sample	Total/NA	Water	6020B	463426

Analysis Batch: 463685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-2	MW-89-2	Total/NA	Water	7470A	463541
MB 310-463541/1-A	Method Blank	Total/NA	Water	7470A	463541
LCS 310-463541/2-A	Lab Control Sample	Total/NA	Water	7470A	463541

Analysis Batch: 463704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-6	PZ-21	Total/NA	Water	6020B	463426
MB 310-463426/1-A	Method Blank	Total/NA	Water	6020B	463426
LCS 310-463426/2-A	Lab Control Sample	Total/NA	Water	6020B	463426

General Chemistry

Analysis Batch: 462692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-1	PZ-22	Total/NA	Water	I-3765-85	
310-312474-2	MW-89-2	Total/NA	Water	I-3765-85	
310-312474-4	MW-89-7	Total/NA	Water	I-3765-85	
310-312474-5	MW-89-9R	Total/NA	Water	I-3765-85	
310-312474-6	PZ-21	Total/NA	Water	I-3765-85	
310-312474-7	MW-21	Total/NA	Water	I-3765-85	
310-312474-8	MW-D	Total/NA	Water	I-3765-85	
MB 310-462692/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-462692/2	Lab Control Sample	Total/NA	Water	I-3765-85	
310-312474-4 DU	MW-89-7	Total/NA	Water	I-3765-85	

Prep Batch: 462931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-2	MW-89-2	Total/NA	Water	9012B	
310-312474-6	PZ-21	Total/NA	Water	9012B	
MB 310-462931/1-A	Method Blank	Total/NA	Water	9012B	
LCS 310-462931/2-A	Lab Control Sample	Total/NA	Water	9012B	
310-312474-2 MS	MW-89-2	Total/NA	Water	9012B	
310-312474-2 MSD	MW-89-2	Total/NA	Water	9012B	

Analysis Batch: 463080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-2	MW-89-2	Total/NA	Water	9012B	462931
310-312474-6	PZ-21	Total/NA	Water	9012B	462931
MB 310-462931/1-A	Method Blank	Total/NA	Water	9012B	462931
LCS 310-462931/2-A	Lab Control Sample	Total/NA	Water	9012B	462931
310-312474-2 MS	MW-89-2	Total/NA	Water	9012B	462931
310-312474-2 MSD	MW-89-2	Total/NA	Water	9012B	462931

Prep Batch: 829169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-1	PZ-22	Total/NA	Water	9030B	
310-312474-2	MW-89-2	Total/NA	Water	9030B	

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

General Chemistry (Continued)

Prep Batch: 829169 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-3	MW-89-6R	Total/NA	Water	9030B	
310-312474-5	MW-89-9R	Total/NA	Water	9030B	
310-312474-6	PZ-21	Total/NA	Water	9030B	
310-312474-8	MW-D	Total/NA	Water	9030B	
MB 500-829169/1-A	Method Blank	Total/NA	Water	9030B	
LCS 500-829169/2-A	Lab Control Sample	Total/NA	Water	9030B	

Analysis Batch: 829170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-312474-1	PZ-22	Total/NA	Water	9034	829169
310-312474-2	MW-89-2	Total/NA	Water	9034	829169
310-312474-3	MW-89-6R	Total/NA	Water	9034	829169
310-312474-5	MW-89-9R	Total/NA	Water	9034	829169
310-312474-6	PZ-21	Total/NA	Water	9034	829169
310-312474-8	MW-D	Total/NA	Water	9034	829169
MB 500-829169/1-A	Method Blank	Total/NA	Water	9034	829169
LCS 500-829169/2-A	Lab Control Sample	Total/NA	Water	9034	829169

Lab Chronicle

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: PZ-22

Date Collected: 08/01/25 12:38

Date Received: 08/04/25 16:10

Lab Sample ID: 310-312474-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			463285	WK2X	EET CF	08/12/25 09:00
Total/NA	Analysis	6020B		1	463463	NFT2	EET CF	08/12/25 17:13
Total/NA	Prep	3005A			463285	WK2X	EET CF	08/12/25 09:00
Total/NA	Analysis	6020B		4	463551	NFT2	EET CF	08/13/25 12:39
Total/NA	Prep	9030B			829169	CLB	EET CHI	08/06/25 18:07 - 08/06/25 18:11 ¹
Total/NA	Analysis	9034		1	829170	CLB	EET CHI	08/07/25 13:14 - 08/07/25 13:25 ¹
Total/NA	Analysis	I-3765-85		1	462692	E6KR	EET CF	08/05/25 13:58

Client Sample ID: MW-89-2

Date Collected: 08/01/25 13:33

Date Received: 08/04/25 16:10

Lab Sample ID: 310-312474-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	462790	WSE8	EET CF	08/07/25 06:27
Total/NA	Prep	3510C			462892	J5BR	EET CF	08/07/25 07:15
Total/NA	Analysis	8270E		1	463832	V7YZ	EET CF	08/16/25 04:00
Total/NA	Analysis	8015C		1	462905	BW2O	EET CF	08/07/25 15:02
Total/NA	Prep	3511			463049	BW2O	EET CF	08/08/25 09:20
Total/NA	Analysis	8081B		1	463032	BW2O	EET CF	08/08/25 15:30
Total/NA	Prep	3511			463049	BW2O	EET CF	08/08/25 09:20
Total/NA	Analysis	8082A		1	463034	BW2O	EET CF	08/08/25 15:30
Total/NA	Prep	8151A			829140	LG	EET CHI	08/07/25 14:12
Total/NA	Analysis	8151A		1	829308	H7CM	EET CHI	08/09/25 00:45
Total/NA	Prep	3005A			463285	WK2X	EET CF	08/12/25 09:00
Total/NA	Analysis	6020B		1	463463	NFT2	EET CF	08/12/25 17:18
Total/NA	Prep	3005A			463285	WK2X	EET CF	08/12/25 09:00
Total/NA	Analysis	6020B		1	463551	NFT2	EET CF	08/13/25 12:51
Total/NA	Prep	7470A			463541	QTZ5	EET CF	08/13/25 15:20
Total/NA	Analysis	7470A		1	463685	RLT9	EET CF	08/14/25 12:19
Total/NA	Prep	9012B			462931	ENB7	EET CF	08/07/25 10:47
Total/NA	Analysis	9012B		1	463080	ENB7	EET CF	08/08/25 12:13
Total/NA	Prep	9030B			829169	CLB	EET CHI	08/06/25 18:11 - 08/06/25 18:15 ¹
Total/NA	Analysis	9034		1	829170	CLB	EET CHI	08/07/25 13:25 - 08/07/25 13:37 ¹
Total/NA	Analysis	I-3765-85		1	462692	E6KR	EET CF	08/05/25 13:58

Client Sample ID: MW-89-6R

Date Collected: 08/01/25 11:04

Date Received: 08/04/25 16:10

Lab Sample ID: 310-312474-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			463285	WK2X	EET CF	08/12/25 09:00
Total/NA	Analysis	6020B		1	463463	NFT2	EET CF	08/12/25 17:20
Total/NA	Prep	3005A			463285	WK2X	EET CF	08/12/25 09:00
Total/NA	Analysis	6020B		1	463551	NFT2	EET CF	08/13/25 12:54

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: MW-89-6R

Lab Sample ID: 310-312474-3

Date Collected: 08/01/25 11:04

Matrix: Water

Date Received: 08/04/25 16:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	9030B			829169	CLB	EET CHI	08/06/25 18:15 - 08/06/25 18:18 ¹
Total/NA	Analysis	9034		1	829170	CLB	EET CHI	08/07/25 13:37 - 08/07/25 13:48 ¹

Client Sample ID: MW-89-7

Lab Sample ID: 310-312474-4

Date Collected: 08/01/25 11:41

Matrix: Water

Date Received: 08/04/25 16:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	462790	WSE8	EET CF	08/07/25 06:50
Total/NA	Prep	3005A			463285	WK2X	EET CF	08/12/25 09:00
Total/NA	Analysis	6020B		1	463463	NFT2	EET CF	08/12/25 17:23
Total/NA	Prep	3005A			463285	WK2X	EET CF	08/12/25 09:00
Total/NA	Analysis	6020B		1	463551	NFT2	EET CF	08/13/25 12:57
Total/NA	Analysis	I-3765-85		1	462692	E6KR	EET CF	08/05/25 13:58

Client Sample ID: MW-89-9R

Lab Sample ID: 310-312474-5

Date Collected: 08/01/25 15:08

Matrix: Water

Date Received: 08/04/25 16:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	462790	WSE8	EET CF	08/07/25 07:12
Total/NA	Prep	3005A			463285	WK2X	EET CF	08/12/25 09:00
Total/NA	Analysis	6020B		1	463463	NFT2	EET CF	08/12/25 17:25
Total/NA	Prep	3005A			463285	WK2X	EET CF	08/12/25 09:00
Total/NA	Analysis	6020B		1	463551	NFT2	EET CF	08/13/25 12:59
Total/NA	Prep	9030B			829169	CLB	EET CHI	08/06/25 18:18 - 08/06/25 18:22 ¹
Total/NA	Analysis	9034		1	829170	CLB	EET CHI	08/07/25 13:48 - 08/07/25 14:00 ¹
Total/NA	Analysis	I-3765-85		1	462692	E6KR	EET CF	08/05/25 13:58

Client Sample ID: PZ-21

Lab Sample ID: 310-312474-6

Date Collected: 08/01/25 17:41

Matrix: Water

Date Received: 08/04/25 16:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	462790	WSE8	EET CF	08/07/25 07:35
Total/NA	Prep	3510C			462892	J5BR	EET CF	08/07/25 07:15
Total/NA	Analysis	8270E		1	463832	V7YZ	EET CF	08/16/25 04:26
Total/NA	Analysis	8015C		1	462905	BW2O	EET CF	08/07/25 15:24
Total/NA	Prep	3511			463049	BW2O	EET CF	08/08/25 09:20
Total/NA	Analysis	8081B		1	463032	BW2O	EET CF	08/08/25 15:44
Total/NA	Prep	3511			463049	BW2O	EET CF	08/08/25 09:20
Total/NA	Analysis	8082A		1	463034	BW2O	EET CF	08/08/25 15:44
Total/NA	Prep	8151A			829140	LG	EET CHI	08/07/25 14:12
Total/NA	Analysis	8151A		1	829308	H7CM	EET CHI	08/09/25 01:03

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: 2025 Annual HMSN

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: PZ-21

Date Collected: 08/01/25 17:41

Date Received: 08/04/25 16:10

Lab Sample ID: 310-312474-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			463426	WK2X	EET CF	08/13/25 09:30
Total/NA	Analysis	6020B		1	463607	NFT2	EET CF	08/13/25 17:38
Total/NA	Prep	3005A			463426	WK2X	EET CF	08/13/25 09:30
Total/NA	Analysis	6020B		1	463704	NFT2	EET CF	08/14/25 14:00
Total/NA	Prep	7470A			463269	QTZ5	EET CF	08/11/25 16:15
Total/NA	Analysis	7470A		1	463406	ZRI4	EET CF	08/12/25 11:34
Total/NA	Prep	9012B			462931	ENB7	EET CF	08/07/25 10:47
Total/NA	Analysis	9012B		1	463080	ENB7	EET CF	08/08/25 12:18
Total/NA	Prep	9030B			829169	CLB	EET CHI	08/06/25 18:22 - 08/06/25 18:26 ¹
Total/NA	Analysis	9034		1	829170	CLB	EET CHI	08/07/25 14:00 - 08/07/25 14:11 ¹
Total/NA	Analysis	I-3765-85		1	462692	E6KR	EET CF	08/05/25 13:58

Client Sample ID: MW-21

Date Collected: 08/01/25 16:33

Date Received: 08/04/25 16:10

Lab Sample ID: 310-312474-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			463285	WK2X	EET CF	08/12/25 09:00
Total/NA	Analysis	6020B		1	463463	NFT2	EET CF	08/12/25 17:33
Total/NA	Prep	3005A			463285	WK2X	EET CF	08/12/25 09:00
Total/NA	Analysis	6020B		1	463551	NFT2	EET CF	08/13/25 13:02
Total/NA	Analysis	I-3765-85		1	462692	E6KR	EET CF	08/05/25 13:58

Client Sample ID: MW-D

Date Collected: 08/01/25 15:28

Date Received: 08/04/25 16:10

Lab Sample ID: 310-312474-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	462790	WSE8	EET CF	08/07/25 07:57
Total/NA	Prep	3005A			463285	WK2X	EET CF	08/12/25 09:00
Total/NA	Analysis	6020B		1	463463	NFT2	EET CF	08/12/25 17:36
Total/NA	Prep	3005A			463285	WK2X	EET CF	08/12/25 09:00
Total/NA	Analysis	6020B		1	463551	NFT2	EET CF	08/13/25 13:05
Total/NA	Prep	9030B			829169	CLB	EET CHI	08/06/25 18:26 - 08/06/25 18:30 ¹
Total/NA	Analysis	9034		1	829170	CLB	EET CHI	08/07/25 14:11 - 08/07/25 14:23 ¹
Total/NA	Analysis	I-3765-85		1	462692	E6KR	EET CF	08/05/25 13:58

Client Sample ID: Trip Blank 1

Date Collected: 08/01/25 00:00

Date Received: 08/04/25 16:10

Lab Sample ID: 310-312474-9

Matrix: Trip Blank

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	462790	WSE8	EET CF	08/07/25 03:26

Lab Chronicle

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Client Sample ID: Trip Blank 2
Date Collected: 08/01/25 00:00
Date Received: 08/04/25 16:10

Lab Sample ID: 310-312474-10
Matrix: Trip Blank

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	462790	WSE8	EET CF	08/07/25 03:49

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:
EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
EET CHI = Eurofins Chicago, 18410 Crossing Drive, Suite E, Tinley Park, IL 60487, TEL (708)534-5200

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8260D		Trip Blank	1,2,4-Trichlorobenzene
8260D		Trip Blank	Allyl chloride
8260D		Trip Blank	Ethyl methacrylate
8260D		Water	1,2,4-Trichlorobenzene
8260D		Water	Allyl chloride
8260D		Water	Ethyl methacrylate
8270E	3510C	Water	Diallate Peak 1
8270E	3510C	Water	Diallate Peak 2

Laboratory: Eurofins Chicago

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	082	05-01-26
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8151A	8151A	Water	2,4,5-T

Method Summary

Client: SCS Engineers
Project/Site: 2025 Annual HMSP

Job ID: 310-312474-1
SDG: Union County Sanitary Landfill

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CF
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET CF
8015C	Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)	SW846	EET CF
8081B	Organochlorine Pesticides (GC)	SW846	EET CF
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	EET CF
8151A	Herbicides (GC)	SW846	EET CHI
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
9012B	Cyanide, Total and/or Amenable	SW846	EET CF
9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	EET CHI
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET CF
3511	Microextraction of Organic Compounds	SW846	EET CF
5030B	Purge and Trap	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF
8151A	Extraction (Herbicides)	SW846	EET CHI
9012B	Cyanide, Total and/or Amenable, Distillation	SW846	EET CF
9030B	Sulfide, Distillation (Acid Soluble and Insoluble)	SW846	EET CHI

Protocol References:

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
EET CHI = Eurofins Chicago, 18410 Crossing Drive, Suite E, Tinley Park, IL 60487, TEL (708)534-5200



Environment Testing
America



310-312474 Chain of Custody

Cooler/Sample Receipt and Temperature Log

Client Information			
Client: <u>SCS</u>			
City/State:	CITY <u>West Des Moines</u>	STATE <u>IA</u>	Project
Receipt Information			
Date/Time Received:	DATE <u>8/4/25</u>	TIME <u>1610</u>	Received By: <u>BP</u>
Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		☒ Yes ☐ No	If yes: Cooler ID.
Multiple Coolers?		☒ Yes ☐ No	If yes: Cooler # <u>1</u> of <u>2</u>
Cooler Custody Seals Present?		☐ Yes ☒ No	If yes: Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?		☐ Yes ☒ No	If yes: Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?		☒ Yes ☐ No	If yes: Which VOA samples are in cooler? ↓
<u>MW 89-2, MW 89-7, TB-1</u>			
Temperature Record			
Coolant ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID <u>AA</u>		Correction Factor (°C) <u>±0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C). <u>4.9</u>		Corrected Temp (°C). <u>4.9</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>		<u>CONTAINER 2</u>
Uncorrected Temp (°C):			
Corrected Temp (°C)			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client <u>SCS</u>			
City/State:	CITY <u>West Des Moines</u>	STATE <u>IA</u>	Project.
Receipt Information			
Date/Time Received.	DATE <u>8/4/25</u>	TIME <u>1:10</u>	Received By <u>BP</u>
Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		☒ Yes ☐ No	If yes. Cooler ID.
Multiple Coolers?		☒ Yes ☐ No	If yes Cooler # <u>2</u> of <u>2</u>
Cooler Custody Seals Present?		☐ Yes ☒ No	If yes. Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?		☐ Yes ☒ No	If yes Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?		☒ Yes ☐ No	If yes Which VOA samples are in cooler? ↓
<u>TB 2, MW-89-4R P2-21, MW-D</u>			
Temperature Record			
Coolant ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other. _____ ☐ NONE			
Thermometer ID <u>AA</u>		Correction Factor (°C) <u>±0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C) <u>0.4</u>		Corrected Temp (°C) <u>0.4</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>		<u>CONTAINER 2</u>
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes. Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Cedar Falls, IA 50613-6907

phone 319.277 2401 fax 319 277 2425

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

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

Project Manager: Nathan Ohrt

Email nohrt@scsengineers.com

Cell 319-331-9613

Analysis Turnaround Time

☐ CALENDAR DAYS ☐ WORKING DAYS

Other: ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day

Sample Date

Sample Time

Sample Type (C=Comp, G=Grab)

Matrix

of Cont.

Sample Identification

Sample Date

Sample Time

Sample Type (C=Comp, G=Grab)

Matrix

of Cont.

Sample Date

Sample Time

Sample Type (C=Comp, G=Grab)

Matrix

of Cont.

Sample Date

Sample Time

Sample Type (C=Comp, G=Grab)

Matrix

of Cont.

Sample Date

Sample Time

Sample Type (C=Comp, G=Grab)

Matrix

of Cont.

Sample Date

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Sample Type (C=Comp, G=Grab)

Matrix

of Cont.

Sample Date

Sample Time

Sample Type (C=Comp, G=Grab)

Matrix

of Cont.

Sample Date

Sample Time

Sample Type (C=Comp, G=Grab)

Matrix

of Cont.

Sample Date

Sample Time

Sample Type (C=Comp, G=Grab)

Matrix

of Cont.

Site Contact: Janene Frey

Lab Contact: Sam Miller

Date:

Carrier:

COC No

1 of 1 COCs

Sampler

For Lab Use Only:

Walk-in Client:

Lab Sampling

Job / SDG No

Sample Specific Notes

Sample Specific Notes

Sample Specific Notes

Sample Specific Notes

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Client Contact

Nathan Ohrt

SCS Engineers

1690 All State Court Suite 100

West Des Moines Iowa 50265

Project Name 2025 Annual HMSP

Site Union County Sanitary Landfill

P O # 27224311 26

Sample Identification

PZ-22

MW-89-2

MW-89-6R

MW-89-7

MW-89-9R

PZ-21

MW-21

MW-D

Trip Blank

Sample Identification

PZ-22

MW-89-2

MW-89-6R

MW-89-7

MW-89-9R

PZ-21

MW-21

MW-D

Trip Blank

Sample Identification

PZ-22

MW-89-2

MW-89-6R

MW-89-7

MW-89-9R

PZ-21

MW-21

MW-D

Trip Blank

Phone 319-277-2401 Fax 319-277-2425

Chain of Custody Record



Client Information (Sub Contract Lab)				Lab PM	Carrier Tracking No(s)	COC No.
Client Contact:				Miller, Samuel	N/A	310-85595 1
Shipping/Receiving				E-Mail	State of Origin	Page: 1 of 1
Company				Samuel Miller@et eurofinsus.com	Iowa	Job #: 310-312474-1
Eurofins Environment Testing North Central				Preservation Codes		
Address				State Program - Iowa		
18410 Crossing Drive, Suite E,				310-312474-1		
City				Analysis Requested		
Tinley Park				Total Number of containers		
State Zip:				310-312474 COC		
IL, 60487				Other: N/A		
Phone:				8151 A/8151 A_P_LVI/Default Herbicides		
708-534-5200(Tel) 708-534-5211(Fax)				9034_Calc/9030BSulfide		
Email				9034_Calc/9030BSulfide, Acid soluble and Insoluble		
N/A				Perform MS/MSD (Yes or No)		
Project #:				Field Filtered Sample (Yes or No)		
2025 Annual HMSP				8151 A/8151 A_P_LVI/Default Herbicides		
Site				9034_Calc/9030BSulfide		
310-SCS Union County landfill				9034_Calc/9030BSulfide, Acid soluble and Insoluble		
Sample Identification - Client ID (Lab ID)				Total Number of containers		
PZ-22 (310-312474-1)				1		
MW-89-2 (310-312474-2)				3		
MW-89-6R (310-312474-3)				1		
MW-89-9R (310-312474-5)				1		
PZ-21 (310-312474-6)				3		
MW-D (310-312474-8)				1		
Special Instructions/Note:				Special Instructions/Note:		
Note: Since laboratory accreditations are subject to change Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC				Special Instructions/Note:		
Possible Hazard Identification				Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		
Unconfirmed				Return To Client ☐ Disposal By Lab ☐ Archive For ☐ Months		
Deliverable Requested I, II, III, IV, Other (specify)				Special Instructions/QC Requirements		
Primary Deliverable Rank 2				Method of Shipment:		
Empty Kit Relinquished by				Received by		
Relinquished by				Date/Time		
Relinquished by				Date/Time		
Relinquished by				Date/Time		
Custody Seals Intact				Cooler Temperature(s) °C and Other Remarks		
A Yes A No				0.3 → 0.1 48hr		

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-312474-1

SDG Number: Union County Sanitary Landfill

Login Number: 312474

List Number: 1

Creator: Hirsch, Preston

List Source: Eurofins Cedar Falls

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

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-312474-1

SDG Number: Union County Sanitary Landfill

Login Number: 312474

List Number: 2

Creator: Knox, Angel

List Source: Eurofins Chicago

List Creation: 08/06/25 01:35 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Appendix B-2

Data Validation

Completed by: Nathan Ohrt
Date of Sampling: 8/1/2025
Lab Report Date: 8/18/2025
Site Name: Union County Sanitary Landfill
Project Type: HMSP - Annual
Lab Report Number: 310-312474

OK NO N/A NOTES

Sample Collection and Sample Handling

Chain of Custody
Temperature
Preservation
Condition
Case Narrative
Holding Times

X			
X			
X			
X			
X			
X			

Analytical Sensitivity and Blanks

Method Blank Detections
Trip Blank Detections

	X		Barium was detected above the MDL.
X			No detections.

Accuracy

ICV/CCV

LCS/LCSD

MS/MSD

Surrogates (organics only)

	X		The CCV recovered above the upper control limits for multiple analytes; the associated samples were non-detect for the affected analytes so the data was reported.
	X		LCSs recovered outside control limits for multiple analytes. The samples associated with these LCSs were either biased high and were not detected in the associated samples or identified as a poor performing analyte when analyzed so re-extraction/re-analysis was not performed.
X			
X			

Precision

QA/QC Sample RPDs

Field Duplicates

X			
X			Sample MW-89-9R and duplicate sample MW-D had <50% RPD for the analyzed parameters.



Appendix C

Reporting Period Summary of Groundwater Chemistry

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Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

Total Metals Constituents	Sample Date	PZ-22 UPG	MW-21 DNG	MW-89-2 DNG	MW-89-6R DNG	MW-89-7 DNG	MW-89-9R DNG	PZ-21 DNG
Antimony, mg/L (CAS NO - 7440-36-0)	8/1/2025	< 0.002	0.00193*	< 0.002	< 0.002	< 0.002	< 0.002	0.00226
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A
Arsenic, mg/L (CAS NO - 7440-38-2)	8/1/2025	0.00245*	0.000741*	0.00235	0.00221	0.00233	0.00695	0.00136*
	8/1/2025	N/A	N/A	N/A	N/A	N/A	0.00677	N/A
Barium, mg/L (CAS NO - 7440-39-3)	8/1/2025	0.0104	0.00867	0.0272	0.258	0.32	0.291	0.0178
	8/1/2025	N/A	N/A	N/A	N/A	N/A	0.269	N/A
Beryllium, mg/L (CAS NO - 7440-41-7)	8/1/2025	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
Cadmium, mg/L (CAS NO - 7440-43-9)	8/1/2025	< 0.0008	< 0.0002	0.000142*	< 0.0002	< 0.0002	< 0.0002	< 0.0002
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 0.0002	N/A
Chromium, mg/L (CAS NO - 7440-47-3)	8/1/2025	N/A	N/A	0.0138	N/A	N/A	N/A	0.00379*
Cobalt, mg/L (CAS NO - 7440-48-4)	8/1/2025	0.000502	< 0.0005	0.00463	0.0144	0.00349	0.0216	0.00253
	8/1/2025	N/A	N/A	N/A	N/A	N/A	0.022	N/A
Copper, mg/L (CAS NO - 7440-50-8)	8/1/2025	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00658
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
Lead, mg/L (CAS NO - 7439-92-1)	8/1/2025	N/A	N/A	0.000432*	N/A	N/A	N/A	0.000619
Mercury, mg/L (CAS NO - 7439-97-6)	8/1/2025	N/A	N/A	< 0.0002	N/A	N/A	N/A	< 0.0002
Nickel, mg/L (CAS NO - 7440-02-0)	8/1/2025	< 0.02	< 0.005	0.0157	0.0174	0.0103	0.0197	0.0106
	8/1/2025	N/A	N/A	N/A	N/A	N/A	0.02	N/A
Selenium, mg/L (CAS NO - 7782-49-2)	8/1/2025	N/A	N/A	< 0.005	N/A	N/A	N/A	< 0.005
Silver, mg/L (CAS NO - 7440-22-4)	8/1/2025	N/A	N/A	< 0.001	N/A	N/A	N/A	< 0.001
Thallium, mg/L (CAS NO - 7440-28-0)	8/1/2025	N/A	N/A	< 0.001	N/A	N/A	N/A	< 0.001
Tin, mg/L (CAS NO - 7440-31-5)	8/1/2025	N/A	N/A	< 0.005	N/A	N/A	N/A	< 0.005
Vanadium, mg/L (CAS NO - 7440-62-2)	8/1/2025	N/A	N/A	0.00207*	N/A	N/A	N/A	< 0.005
Zinc, mg/L (CAS NO - 7440-66-6)	8/1/2025	N/A	N/A	< 0.02	N/A	N/A	N/A	< 0.02
Total Suspended Solids, mg/L (CAS NO - TSS)	8/1/2025	11.5	< 1.88	14.8	N/A	17	17.3	10.7
	8/1/2025	N/A	N/A	N/A	N/A	N/A	17.5	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.

SCS ENGINEERS

Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

Appendix I VOC Constituents	Sample Date	PZ-22 UPG	MW-21 DNG	MW-89-2 DNG	MW-89-6R DNG	MW-89-7 DNG	MW-89-9R DNG	PZ-21 DNG
1,1,1,2-Tetrachloroethane, ug/L (CAS NO - 630-20-6)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,1,1-Trichloroethane, ug/L (CAS NO - 71-55-6)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,1,2,2-Tetrachloroethane, ug/L (CAS NO - 79-34-5)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,1,2-Trichloroethane, ug/L (CAS NO - 79-00-5)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,1-Dichloroethane, ug/L (CAS NO - 75-34-3)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,1-Dichloroethene, ug/L (CAS NO - 75-35-4)	8/1/2025	N/A	N/A	< 2	N/A	< 2	< 2	< 2
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 2	N/A
1,2,3-Trichloropropane, ug/L (CAS NO - 96-18-4)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,2-Dibromo-3-Chloropropane, ug/L (CAS NO - 96-12-8)	8/1/2025	N/A	N/A	< 5	N/A	< 1.2	< 1.2	< 5
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1.2	N/A
1,2-Dibromoethane [EDB], ug/L (CAS NO - 106-93-4)	8/1/2025	N/A	N/A	< 1	N/A	< 0.34	< 0.34	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 0.34	N/A
1,2-Dichlorobenzene, ug/L (CAS NO - 95-50-1)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,2-Dichloroethane, ug/L (CAS NO - 107-06-2)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,2-Dichloropropane, ug/L (CAS NO - 78-87-5)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,4-Dichlorobenzene, ug/L (CAS NO - 106-46-7)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
2-Butanone, ug/L (CAS NO - 78-93-3)	8/1/2025	N/A	N/A	< 10	N/A	< 10	< 10	< 10
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 10	N/A
2-Hexanone, ug/L (CAS NO - 591-78-6)	8/1/2025	N/A	N/A	< 10	N/A	< 10	< 10	< 10
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 10	N/A
4-Methyl-2-Pentanone, ug/L (CAS NO - 108-10-1)	8/1/2025	N/A	N/A	< 10	N/A	< 10	< 10	< 10
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 10	N/A
Acetone, ug/L (CAS NO - 67-64-1)	8/1/2025	N/A	N/A	< 10	N/A	< 10	< 10	< 10
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 10	N/A
Acrylonitrile, ug/L (CAS NO - 107-13-1)	8/1/2025	N/A	N/A	< 5	N/A	< 10	< 10	< 5
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 10	N/A
Benzene, ug/L (CAS NO - 71-43-2)	8/1/2025	N/A	N/A	< 0.5	N/A	< 0.5	< 0.5	< 0.5
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A
Bromochloromethane, ug/L (CAS NO - 74-97-5)	8/1/2025	N/A	N/A	< 5	N/A	< 5	< 5	< 5
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 5	N/A
Bromodichloromethane, ug/L (CAS NO - 75-27-4)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Bromoform, ug/L (CAS NO - 75-25-2)	8/1/2025	N/A	N/A	< 5	N/A	< 5	< 5	< 5
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 5	N/A
Bromomethane, ug/L (CAS NO - 74-83-9)	8/1/2025	N/A	N/A	< 4	N/A	< 4	< 4	< 4
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 4	N/A
Carbon Disulfide, ug/L (CAS NO - 75-15-0)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Carbon Tetrachloride, ug/L (CAS NO - 56-23-5)	8/1/2025	N/A	N/A	< 2	N/A	< 2	< 2	< 2
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 2	N/A
Chlorobenzene, ug/L (CAS NO - 108-90-7)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Chlorodibromomethane, ug/L (CAS NO - 124-48-1)	8/1/2025	N/A	N/A	< 5	N/A	< 5	< 5	< 5
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 5	N/A
Chloroethane, ug/L (CAS NO - 75-00-3)	8/1/2025	N/A	N/A	< 4	N/A	< 4	< 4	< 4
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 4	N/A
Chloroform, ug/L (CAS NO - 67-66-3)	8/1/2025	N/A	N/A	< 3	N/A	< 3	< 3	< 3
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 3	N/A
Chloromethane, ug/L (CAS NO - 74-87-3)	8/1/2025	N/A	N/A	< 3	N/A	< 3	< 3	< 3
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 3	N/A
cis-1,2-Dichloroethene, ug/L (CAS NO - 156-59-2)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
cis-1,3-Dichloropropene, ug/L (CAS NO - 10061-01-5)	8/1/2025	N/A	N/A	< 5	N/A	< 5	< 5	< 5
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 5	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

Appendix I VOC Constituents	Sample Date	PZ-22 UPG	MW-21 DNG	MW-89-2 DNG	MW-89-6R DNG	MW-89-7 DNG	MW-89-9R DNG	PZ-21 DNG
Ethylbenzene, ug/L (CAS NO - 100-41-4)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Iodomethane, ug/L (CAS NO - 74-88-4)	8/1/2025	N/A	N/A	< 10	N/A	< 10	< 10	< 10
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 10	N/A
Methylene Bromide, ug/L (CAS NO - 74-95-3)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Methylene Chloride, ug/L (CAS NO - 75-09-2)	8/1/2025	N/A	N/A	< 5	N/A	< 5	< 5	< 5
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 5	N/A
Styrene, ug/L (CAS NO - 100-42-5)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Tetrachloroethene, ug/L (CAS NO - 127-18-4)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Toluene, ug/L (CAS NO - 108-88-3)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
trans-1,2-Dichloroethene, ug/L (CAS NO - 156-60-5)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
trans-1,3-Dichloropropene, ug/L (CAS NO - 10061-02-6)	8/1/2025	N/A	N/A	< 5	N/A	< 5	< 5	< 5
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 5	N/A
trans-1,4-Dichloro-2-Butene, ug/L (CAS NO - 110-57-6)	8/1/2025	N/A	N/A	< 10	N/A	< 10	< 10	< 10
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 10	N/A
Trichloroethene, ug/L (CAS NO - 79-01-6)	8/1/2025	N/A	N/A	< 1	N/A	< 1	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Trichlorofluoromethane, ug/L (CAS NO - 75-69-4)	8/1/2025	N/A	N/A	< 4	N/A	< 4	< 4	< 4
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 4	N/A
Vinyl Acetate, ug/L (CAS NO - 108-05-4)	8/1/2025	N/A	N/A	< 10	N/A	< 10	< 10	< 10
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 10	N/A
Vinyl Chloride, ug/L (CAS NO - 75-01-4)	8/1/2025	N/A	N/A	< 1	N/A	0.28*	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Xylenes, total, ug/L (CAS NO - 1330-20-7)	8/1/2025	N/A	N/A	< 3	N/A	< 3	< 3	< 3
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 3	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.

SCS ENGINEERS

Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

Other Constituents	Sample Date	PZ-22 UPG	MW-21 DNG	MW-89-2 DNG	MW-89-6R DNG	MW-89-7 DNG	MW-89-9R DNG	PZ-21 DNG
1,1-Dichloropropene, ug/L (CAS NO - 563-58-6)	8/1/2025	N/A	N/A	< 1	N/A	N/A	N/A	< 1
1,2,4,5-Tetrachlorobenzene, ug/L (CAS NO - 95-94-3)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
1,2,4-Trichlorobenzene, ug/L (CAS NO - 120-82-1)	8/1/2025	N/A	N/A	< 5	N/A	N/A	N/A	< 5
1,3,5-Trinitrobenzene, ug/L (CAS NO - 99-35-4)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
1,3-Dichlorobenzene, ug/L (CAS NO - 541-73-1)	8/1/2025	N/A	N/A	< 1	N/A	N/A	N/A	< 1
1,3-Dichloropropane, ug/L (CAS NO - 142-28-9)	8/1/2025	N/A	N/A	< 1	N/A	N/A	N/A	< 1
1,3-Dinitrobenzene, ug/L (CAS NO - 99-65-0)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
1,4-Naphthoquinone, ug/L (CAS NO - 130-15-4)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
1,4-Phenylenediamine, ug/L (CAS NO - 106-50-3)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
1-Naphthylamine, ug/L (CAS NO - 134-32-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2,2-Dichloropropane, ug/L (CAS NO - 594-20-7)	8/1/2025	N/A	N/A	< 4	N/A	N/A	N/A	< 4
2,3,4,6-Tetrachlorophenol, ug/L (CAS NO - 58-90-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2,4,5-T [2C], ug/L (CAS NO - 93-76-5)	8/1/2025	N/A	N/A	< 1	N/A	N/A	N/A	< 1
2,4,5-TP [Silvex] [2C], ug/L (CAS NO - 93-72-1)	8/1/2025	N/A	N/A	< 1	N/A	N/A	N/A	< 1
2,4,5-Trichlorophenol, ug/L (CAS NO - 95-95-4)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2,4,6-Trichlorophenol, ug/L (CAS NO - 88-06-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2,4-D [2C], ug/L (CAS NO - 94-75-7)	8/1/2025	N/A	N/A	< 1	N/A	N/A	N/A	< 1
2,4-Dichlorophenol, ug/L (CAS NO - 120-83-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2,4-Dimethylphenol, ug/L (CAS NO - 105-67-9)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2,4-Dinitrophenol, ug/L (CAS NO - 51-28-5)	8/1/2025	N/A	N/A	< 20.4	N/A	N/A	N/A	< 20.8
2,4-Dinitrotoluene, ug/L (CAS NO - 121-14-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2,6-Dichlorophenol, ug/L (CAS NO - 87-65-0)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2,6-Dinitrotoluene, ug/L (CAS NO - 606-20-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2-Acetylaminofluorene, ug/L (CAS NO - 53-96-3)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2-Chloronaphthalene, ug/L (CAS NO - 91-58-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2-Chlorophenol, ug/L (CAS NO - 95-57-8)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2-Methylnaphthalene, ug/L (CAS NO - 91-57-6)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2-Methylphenol, ug/L (CAS NO - 95-48-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2-Naphthylamine, ug/L (CAS NO - 91-59-8)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2-Nitroaniline, ug/L (CAS NO - 88-74-4)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
2-Nitrophenol, ug/L (CAS NO - 88-75-5)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
3,3-Dichlorobenzidine, ug/L (CAS NO - 91-94-1)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
3,3-Dimethylbenzidine, ug/L (CAS NO - 119-93-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
3/4-Methylphenol, ug/L (CAS NO - T-34MP)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
3-Chloropropene, ug/L (CAS NO - 107-05-1)	8/1/2025	N/A	N/A	< 2	N/A	N/A	N/A	< 2
3-Methylcholanthrene, ug/L (CAS NO - 56-49-5)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
3-Nitroaniline, ug/L (CAS NO - 99-09-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
4,4'-DDD, ug/L (CAS NO - 72-54-8)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
4,4'-DDE, ug/L (CAS NO - 72-55-9)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
4,4'-DDT, ug/L (CAS NO - 50-29-3)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
4,6-Dinitro-2-methylphenol, ug/L (CAS NO - 534-52-1)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
4-Aminobiphenyl, ug/L (CAS NO - 92-67-1)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
4-Bromophenyl phenyl ether, ug/L (CAS NO - 101-55-3)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
4-Chloro-3-methylphenol, ug/L (CAS NO - 59-50-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
4-Chloroaniline, ug/L (CAS NO - 106-47-8)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
4-Chlorophenyl phenyl ether, ug/L (CAS NO - 7005-72-3)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
4-Nitroaniline, ug/L (CAS NO - 100-01-6)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
4-Nitrophenol, ug/L (CAS NO - 100-02-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
5-Nitro-o-toluidine, ug/L (CAS NO - 99-55-8)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
7,12-Dimethylbenz [a] anthracene, ug/L (CAS NO - 57-97-6)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Acenaphthene, ug/L (CAS NO - 83-32-9)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Acenaphthylene, ug/L (CAS NO - 208-96-8)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Acetonitrile, ug/L (CAS NO - 75-05-8)	8/1/2025	N/A	N/A	< 10000	N/A	N/A	N/A	< 10000
Acetophenone, ug/L (CAS NO - 98-86-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Acrolein, ug/L (CAS NO - 107-02-8)	8/1/2025	N/A	N/A	< 10	N/A	N/A	N/A	< 10
Aldrin, ug/L (CAS NO - 309-00-2)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
Anthracene, ug/L (CAS NO - 120-12-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Benzo [a] anthracene, ug/L (CAS NO - 56-55-3)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Benzo [a] pyrene, ug/L (CAS NO - 50-32-8)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Benzo [b] fluoranthene, ug/L (CAS NO - 205-99-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Benzo [g,h,i] perylene, ug/L (CAS NO - 191-24-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Benzo [k] fluoranthene, ug/L (CAS NO - 207-08-9)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Benzyl alcohol, ug/L (CAS NO - 100-51-6)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Alpha-BHC, ug/L (CAS NO - 319-84-6)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
Beta-BHC, ug/L (CAS NO - 319-85-7)	8/1/2025	N/A	N/A	0.06*	N/A	N/A	N/A	0.055*

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Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

Other Constituents	Sample Date	PZ-22 UPG	MW-21 DNG	MW-89-2 DNG	MW-89-6R DNG	MW-89-7 DNG	MW-89-9R DNG	PZ-21 DNG
Delta-BHC, ug/L (CAS NO - 319-86-8)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
Gamma-BHC [Lindane], ug/L (CAS NO - 58-89-9)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
Bis[2-chloroethoxy]methane, ug/L (CAS NO - 111-91-1)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Bis[2-chloroethyl]ether, ug/L (CAS NO - 111-44-4)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Bis[2-chloroisopropyl]ether, ug/L (CAS NO - 108-60-1)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Bis[2-ethylhexyl]phthalate, ug/L (CAS NO - 117-81-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Butyl benzyl phthalate, ug/L (CAS NO - 85-68-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Chlordane, ug/L (CAS NO - 57-74-9)	8/1/2025	N/A	N/A	< 1.81	N/A	N/A	N/A	< 1.79
Chlorobenzilate, ug/L (CAS NO - 510-15-6)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Chloroprene, ug/L (CAS NO - 126-99-8)	8/1/2025	N/A	N/A	< 1	N/A	N/A	N/A	< 1
Chrysene, ug/L (CAS NO - 218-01-9)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Cyanide, mg/L (CAS NO - 57-12-5)	8/1/2025	N/A	N/A	< 0.01	N/A	N/A	N/A	< 0.01
Diallate [cis or trans], ug/L (CAS NO - 2303-16-4)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Dibenz [a,h] anthracene, ug/L (CAS NO - 53-70-3)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Dibenzofuran, ug/L (CAS NO - 132-64-9)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Dichlorodifluoromethane, ug/L (CAS NO - 75-71-8)	8/1/2025	N/A	N/A	< 3	N/A	N/A	N/A	< 3
Dieldrin, ug/L (CAS NO - 60-57-1)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
Diethyl phthalate, ug/L (CAS NO - 84-66-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Dimethoate, ug/L (CAS NO - 60-51-5)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Dimethyl phthalate, ug/L (CAS NO - 131-11-3)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Dimethylaminoazobenzene, ug/L (CAS NO - 60-11-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Di-n-butyl phthalate, ug/L (CAS NO - 84-74-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Di-n-octyl phthalate, ug/L (CAS NO - 117-84-0)	8/1/2025	N/A	N/A	< 20.4	N/A	N/A	N/A	< 20.8
Dinoseb, ug/L (CAS NO - 88-85-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Diphenylamine, ug/L (CAS NO - 122-39-4)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Disulfoton, ug/L (CAS NO - 298-04-4)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Endosulfan I, ug/L (CAS NO - 959-98-8)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
Endosulfan II, ug/L (CAS NO - 33213-65-9)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
Endosulfan sulfate, ug/L (CAS NO - 1031-07-8)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
Endrin, ug/L (CAS NO - 72-20-8)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
Endrin aldehyde, ug/L (CAS NO - 7421-93-4)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
Ethyl Methacrylate, ug/L (CAS NO - 97-63-2)	8/1/2025	N/A	N/A	< 2	N/A	N/A	N/A	< 2
Ethyl Methanesulfonate, ug/L (CAS NO - 62-50-0)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Famphur, ug/L (CAS NO - 52-85-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Fluoranthene, ug/L (CAS NO - 206-44-0)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Fluorene, ug/L (CAS NO - 86-73-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Heptachlor, ug/L (CAS NO - 76-44-8)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
Heptachlor Epoxide, ug/L (CAS NO - 1024-57-3)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
Hexachlorobenzene, ug/L (CAS NO - 118-74-1)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Hexachlorobutadiene, ug/L (CAS NO - 87-68-3)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Hexachlorocyclopentadiene, ug/L (CAS NO - 77-47-4)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Hexachloroethane, ug/L (CAS NO - 67-72-1)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Hexachloropropene, ug/L (CAS NO - 1888-71-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Indeno [1,2,3-cd] pyrene, ug/L (CAS NO - 193-39-5)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Isobutanol, mg/L (CAS NO - 78-83-1)	8/1/2025	N/A	N/A	< 10	N/A	N/A	N/A	< 10
Isodrin, ug/L (CAS NO - 465-73-6)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Isophorone, ug/L (CAS NO - 78-59-1)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Isosafrole, ug/L (CAS NO - 120-58-1)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Kepone, ug/L (CAS NO - 143-50-0)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Methacrylonitrile, ug/L (CAS NO - 126-98-7)	8/1/2025	N/A	N/A	< 10	N/A	N/A	N/A	< 10
Methapyrilene, ug/L (CAS NO - 91-80-5)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Methoxychlor, ug/L (CAS NO - 72-43-5)	8/1/2025	N/A	N/A	< 0.0904	N/A	N/A	N/A	< 0.0895
Methyl Methacrylate, ug/L (CAS NO - 80-62-6)	8/1/2025	N/A	N/A	< 2	N/A	N/A	N/A	< 2
Methyl Methanesulfonate, ug/L (CAS NO - 66-27-3)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Naphthalene, ug/L (CAS NO - 91-20-3)	8/1/2025	N/A	N/A	< 5	N/A	N/A	N/A	< 5
Nitrobenzene, ug/L (CAS NO - 98-95-3)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
N-Nitrosodiethylamine, ug/L (CAS NO - 55-18-5)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
N-Nitrosodimethylamine, ug/L (CAS NO - 62-75-9)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
N-Nitrosodi-n-butylamine, ug/L (CAS NO - 924-16-3)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
N-Nitrosodi-n-propylamine, ug/L (CAS NO - 621-64-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
N-Nitrosodiphenylamine, ug/L (CAS NO - 86-30-6)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
N-Nitrosomethylethylamine, ug/L (CAS NO - 10595-95-6)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
N-Nitrosopiperidine, ug/L (CAS NO - 100-75-4)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
N-Nitrosopyrrolidine, ug/L (CAS NO - 930-55-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
O,O,O-Triethyl Phosphorothioate, ug/L (CAS NO - 126-68-1)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4

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Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

Other Constituents	Sample Date	PZ-22 UPG	MW-21 DNG	MW-89-2 DNG	MW-89-6R DNG	MW-89-7 DNG	MW-89-9R DNG	PZ-21 DNG
O-Toluidine, ug/L (CAS NO - 95-53-4)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Parathion-Ethyl, ug/L (CAS NO - 56-38-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Parathion-Methyl, ug/L (CAS NO - 298-00-0)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
PCB-1016, ug/L (CAS NO - 12674-11-2)	8/1/2025	N/A	N/A	< 1.81	N/A	N/A	N/A	< 1.79
PCB-1221, ug/L (CAS NO - 11104-28-2)	8/1/2025	N/A	N/A	< 1.81	N/A	N/A	N/A	< 1.79
PCB-1232, ug/L (CAS NO - 11141-16-5)	8/1/2025	N/A	N/A	< 1.81	N/A	N/A	N/A	< 1.79
PCB-1242, ug/L (CAS NO - 53469-21-9)	8/1/2025	N/A	N/A	< 1.81	N/A	N/A	N/A	< 1.79
PCB-1248, ug/L (CAS NO - 12672-29-6)	8/1/2025	N/A	N/A	< 1.81	N/A	N/A	N/A	< 1.79
PCB-1254, ug/L (CAS NO - 11097-69-1)	8/1/2025	N/A	N/A	< 1.81	N/A	N/A	N/A	< 1.79
PCB-1260, ug/L (CAS NO - 11096-82-5)	8/1/2025	N/A	N/A	< 1.81	N/A	N/A	N/A	< 1.79
Pentachlorobenzene, ug/L (CAS NO - 608-93-5)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Pentachloronitrobenzene, ug/L (CAS NO - 82-68-8)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Pentachlorophenol [2C], ug/L (CAS NO - 87-86-5)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Phenacetin, ug/L (CAS NO - 62-44-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Phenanthrene, ug/L (CAS NO - 85-01-8)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Phenol, ug/L (CAS NO - 108-95-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Phorate, ug/L (CAS NO - 298-02-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Pronamide, ug/L (CAS NO - 23950-58-5)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Propionitrile, ug/L (CAS NO - 107-12-0)	8/1/2025	N/A	N/A	< 10	N/A	N/A	N/A	< 10
Pyrene, ug/L (CAS NO - 129-00-0)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Safrole, ug/L (CAS NO - 94-59-7)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Sulfide, mg/L (CAS NO - 18496-25-8)	8/1/2025	< 1	N/A	< 1	< 1	N/A	< 1	< 1
	8/1/2025	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Thionazin, ug/L (CAS NO - 297-97-2)	8/1/2025	N/A	N/A	< 10.2	N/A	N/A	N/A	< 10.4
Toxaphene, ug/L (CAS NO - 8001-35-2)	8/1/2025	N/A	N/A	< 1.81	N/A	N/A	N/A	< 1.79

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

Summary of Statistical Method and Output

Statistical Method and Output

The purpose of this document is to provide the statistical evaluation of groundwater analytical data collected from the groundwater monitoring network of the closed Union County Sanitary Landfill (Landfill).

Diagnostic and Exploratory Evaluations and Tests of Assumptions

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

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

Management of Non-Detect Data

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

Management of Outliers

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

Management of Data (ND data < 75%)

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

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

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

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

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

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

Confirmed outliers, if any, are shown in the Reporting Period Summary of Groundwater Chemistry included in the Annual Water Quality Report. Confirmed outliers are also shown in the historical analytical data prior to 2025, which can be found in the 2024 Annual Water Quality Report, dated 8/1/2024 (Doc #110616).

Detection Monitoring Statistical Program

The detection monitoring statistical program for the Landfill is defined by Iowa Administrative Code (IAC) 567-113.10(4)"g". Interwell prediction limits with retesting were selected as the appropriate statistical method for the determination of statistically significant increases (SSIs) over background for inorganic constituents with historical detections in background. Prediction limits are established using the process below. Data from the most recent sampling event is compared to the prediction limits for the determination of SSIs.

Interwell Prediction Limits with Retesting

- If the dataset has a normal distribution (or can be transformed to a normal distribution using Ladder of Powers), parametric interwell prediction limits are calculated if at least five datasets have been collected from the background monitoring point.
- If the dataset does not have a normal distribution (and cannot be transformed to a normal distribution using Ladder of Powers) or has greater than 50% non-detects, nonparametric interwell prediction limits are calculated if at least five datasets have been collected from the background monitoring point.
- If an SSI above the prediction limit is indicated, retesting samples using the 1-of-2 retesting scheme are collected prior to the next regularly scheduled sampling event with temporal sample spacing consideration to provide samples with greater independence. If the retesting results are above the prediction limit, the SSI is confirmed, and the monitoring well is placed into the assessment monitoring program.

Double Quantification Method

The quasi-statistical "double quantification" method is used for constituents not detected in the background monitoring points. If a constituent is detected in the compliance dataset that has not been historically detected in the background dataset, that constituent is retested before the next regularly scheduled sampling event. If the retesting results confirm the original detection with a quantifiable detection, the SSI is confirmed, and the monitoring point is placed into the assessment monitoring program.

Assessment Monitoring Statistical Program

Confidence intervals or confidence bands, as appropriate, were selected as the appropriate statistical methods for comparison of the groundwater analytical data against a fixed groundwater protection standard (GWPS). The assessment monitoring statistical evaluations were performed

using the most recent eight samples or all samples if less than eight samples were available. The confidence intervals or confidence bands used for the assessment monitoring statistical evaluation are established using the process below. Transformation of the distribution is not considered.

Confidence Intervals or Confidence Bands

- A parametric confidence interval around a normal mean is calculated if the dataset has a normal distribution and no statistically significant trend is present.
- A non-parametric confidence interval around a median is calculated if the dataset does not have a normal distribution and no statistically significant trend is present.
- Non-parametric confidence bands around a Theil-Sen trend line are calculated if the dataset has a statistically significant trend.

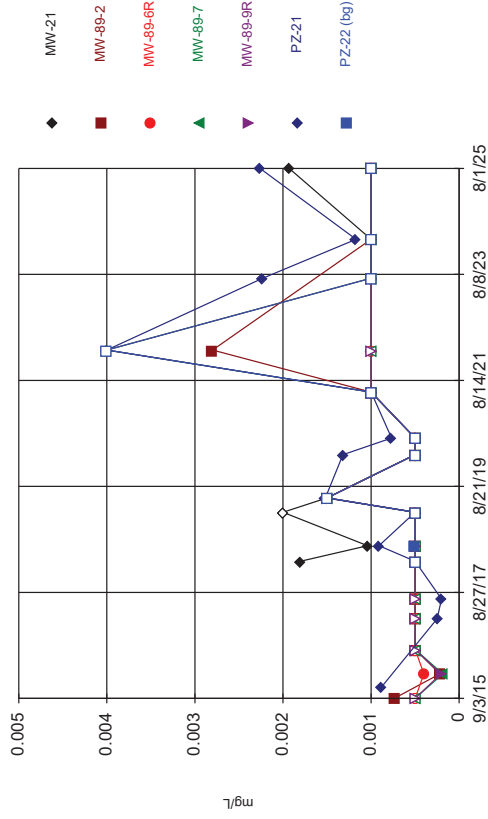
In the event that the lower confidence limit or any part of the lower confidence band, as appropriate, exceeds the GWPS, then the monitoring point is declared out of compliance, and an assessment of corrective measures (ACM) is required.

Statistical Software Output

Sanitas™ statistical software is used to perform the statistical evaluations. The statistical output for the 2025 statistical evaluation is attached to this appendix.

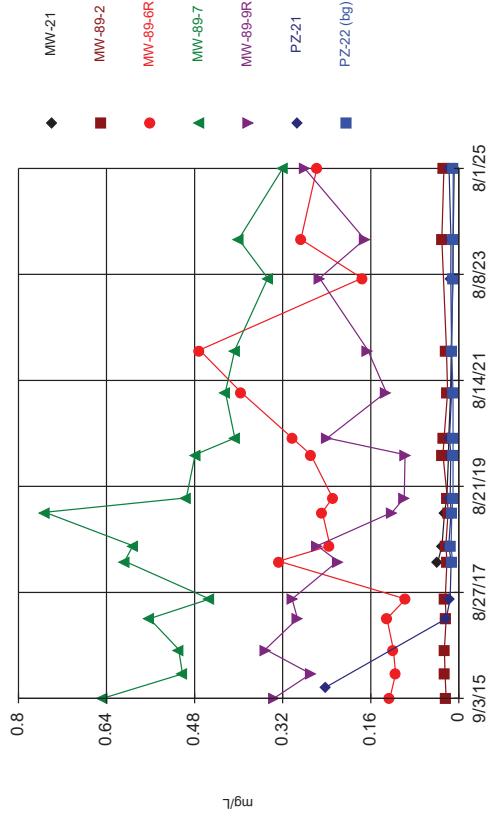
Time Series Plots

Time Series



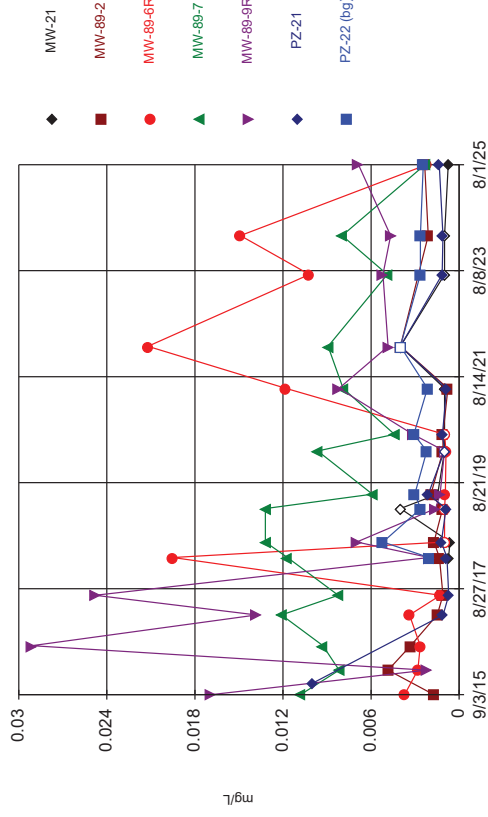
Constituent: Antimony Analysis Run 12/5/2025 8:43 AM View: 2025 AWQR after 9-15 metals detect
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

Time Series



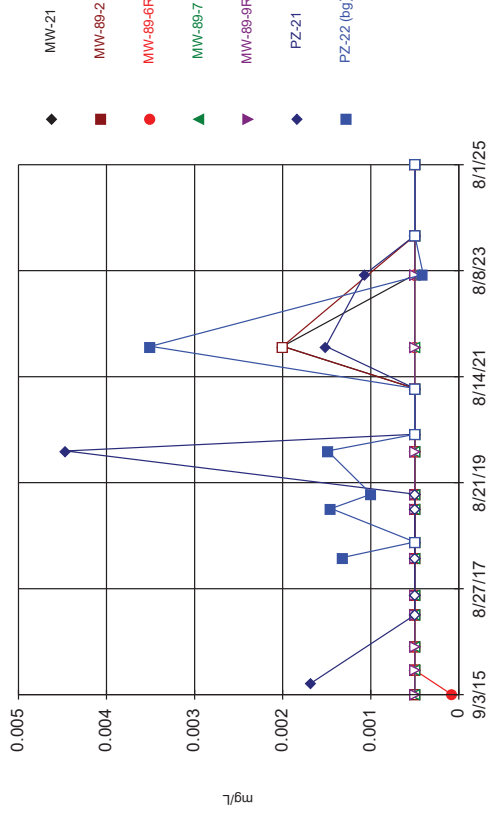
Constituent: Barium Analysis Run 12/5/2025 8:43 AM View: 2025 AWQR after 9-15 metals detect
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

Time Series



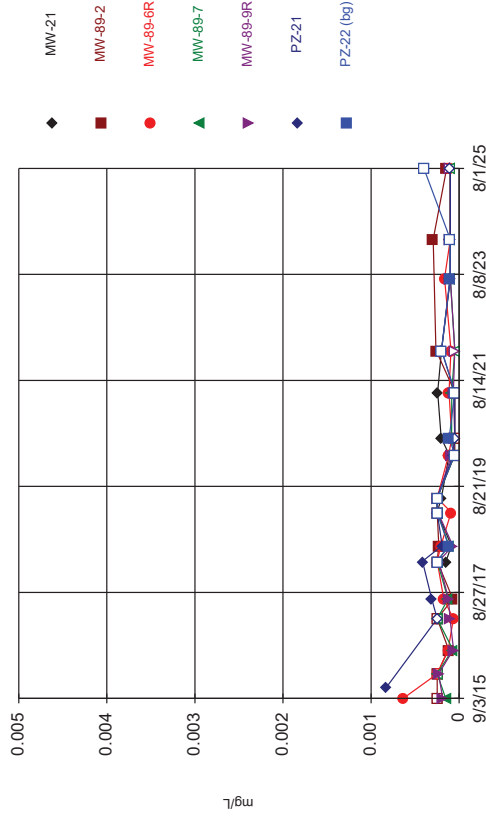
Constituent: Arsenic Analysis Run 12/5/2025 8:43 AM View: 2025 AWQR after 9-15 metals detect
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

Time Series

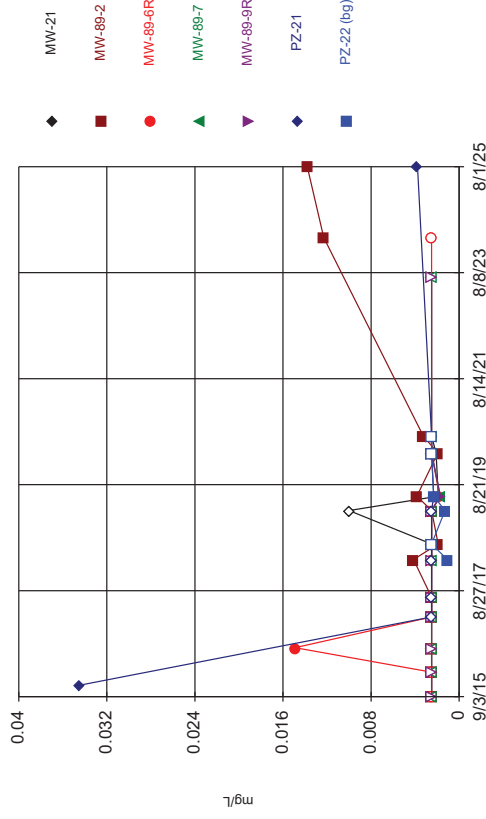


Constituent: Beryllium Analysis Run 12/5/2025 8:43 AM View: 2025 AWQR after 9-15 metals detect
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

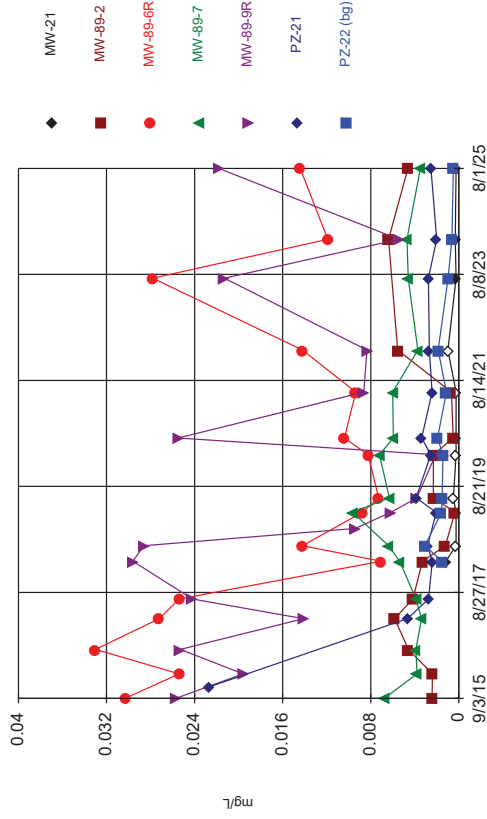
Time Series



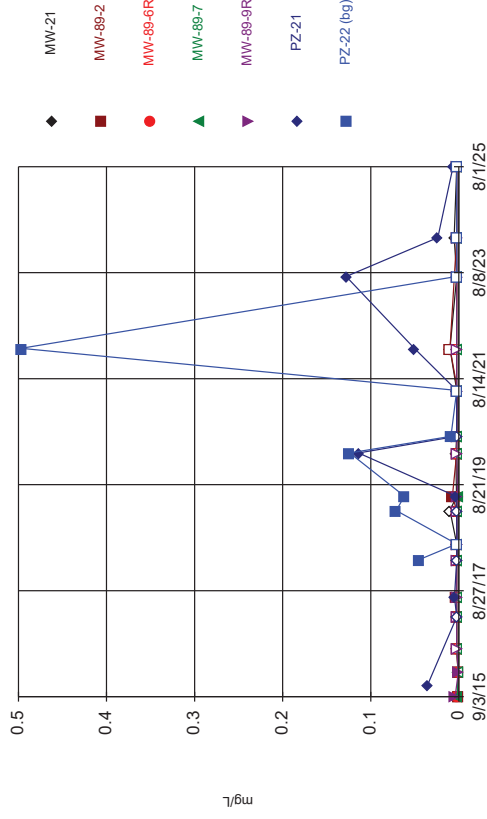
Time Series



Time Series

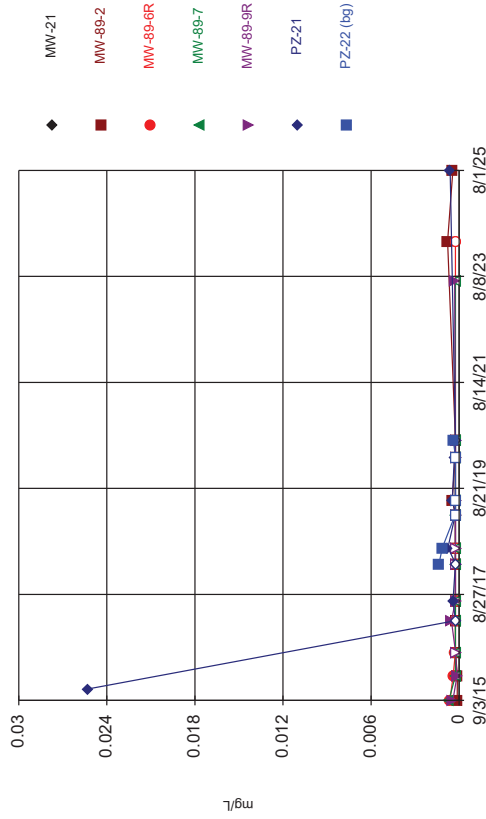


Time Series



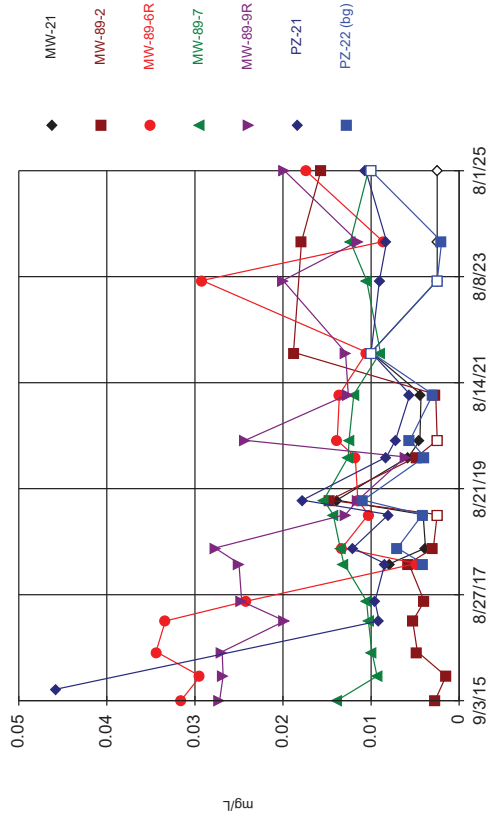
Santitas™ v.10.1.02 Software licensed to SCS Engineers, UG
Hollow symbols indicate censored values.

Time Series



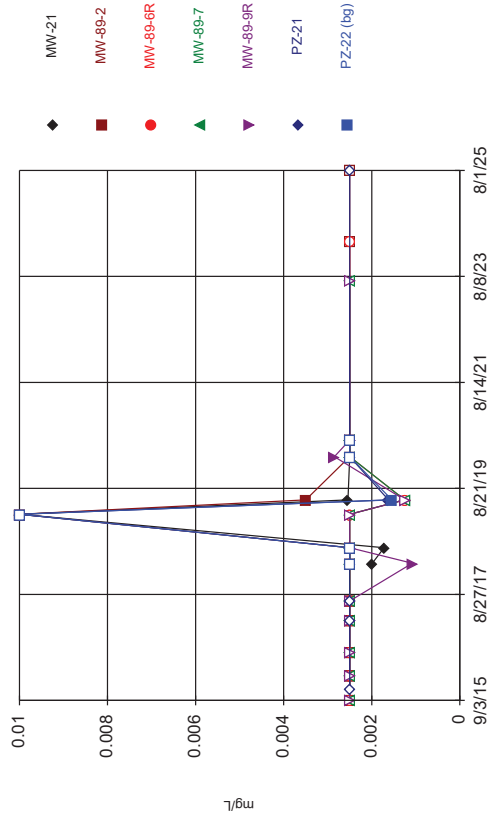
Santitas™ v.10.1.02 Software licensed to SCS Engineers, UG
Hollow symbols indicate censored values.

Time Series



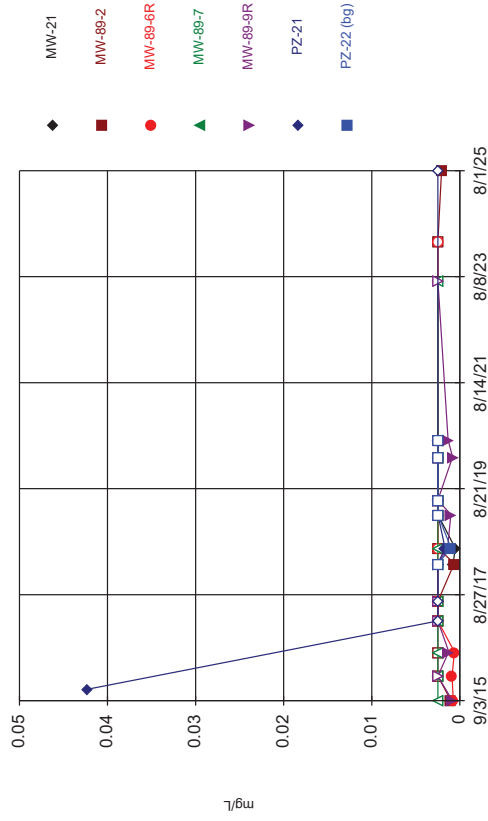
Santitas™ v.10.1.02 Software licensed to SCS Engineers, UG
Hollow symbols indicate censored values.

Time Series

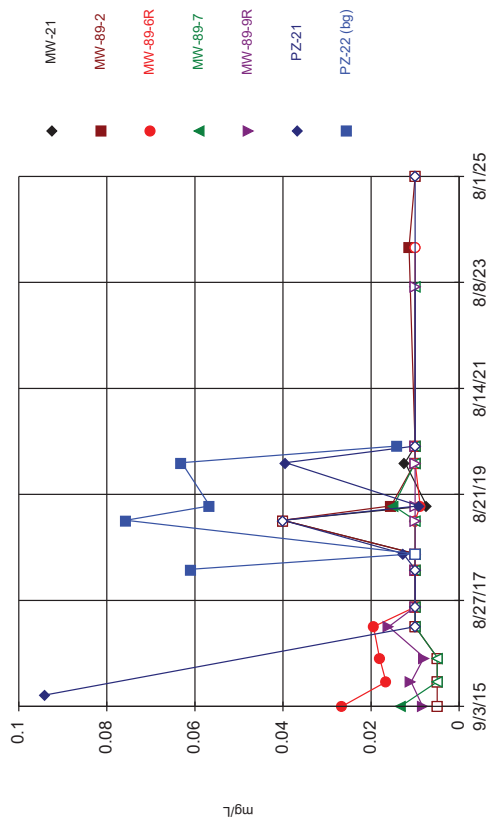


Santitas™ v.10.1.02 Software licensed to SCS Engineers, UG
Hollow symbols indicate censored values.

Time Series

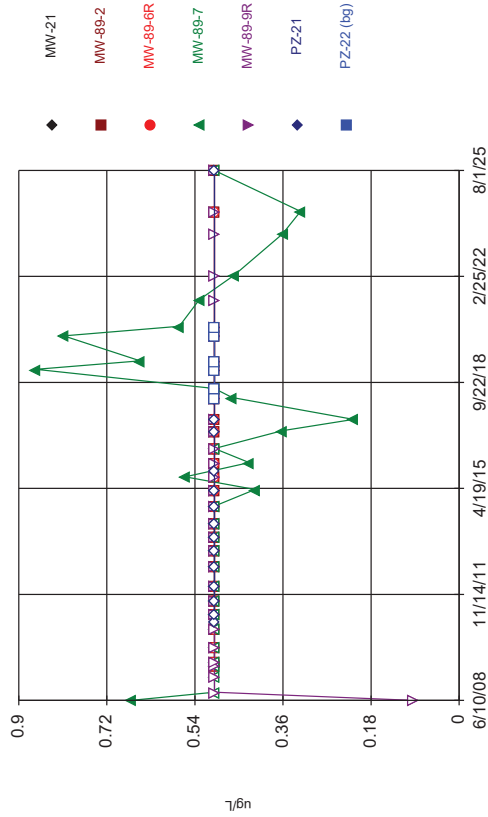


Time Series



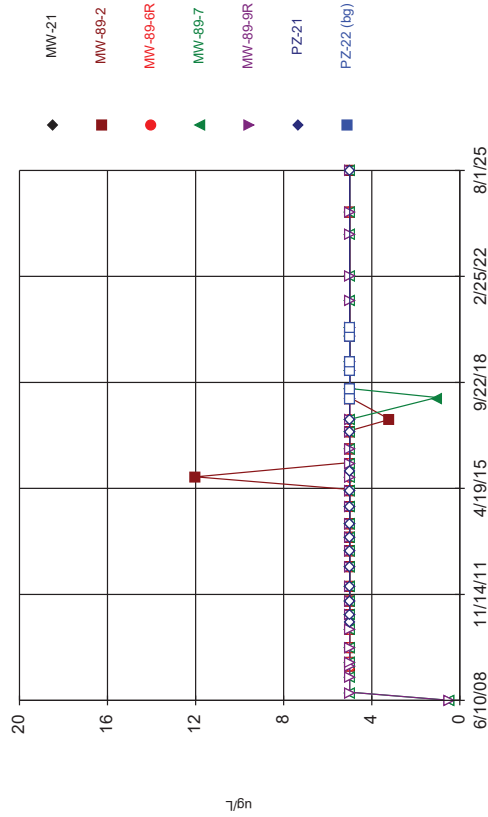
Constituent: Zinc Analysis Run 12/5/2025 8:43 AM View: 2025 AWQR after 9-15 metals detect
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series



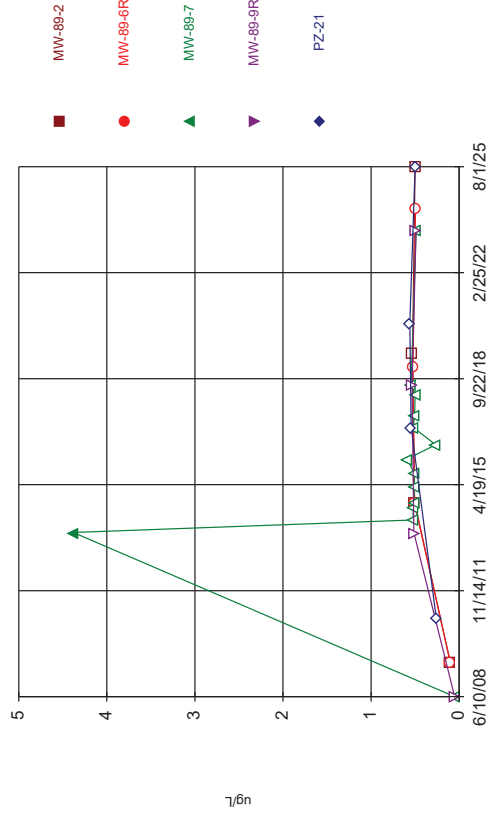
Constituent: 1,1-Dichloroethane Analysis Run 12/5/2025 8:41 AM View: 2025_VOC_Other_Det
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

Time Series



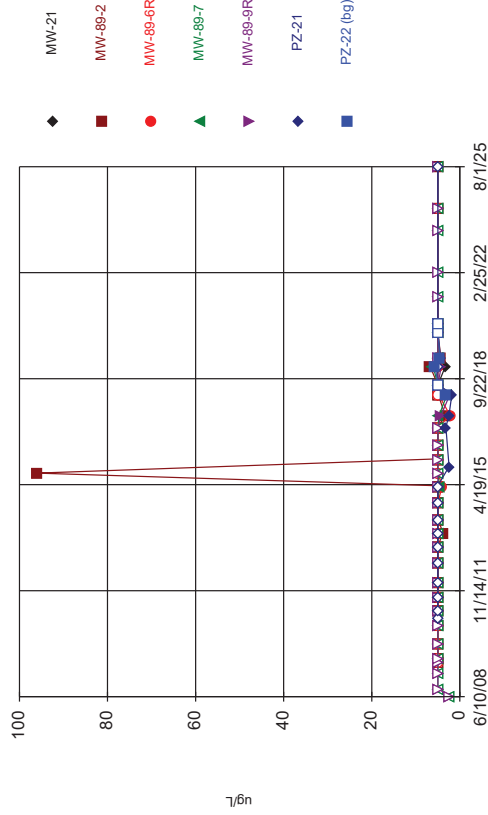
Constituent: 2-Butanone Analysis Run 12/5/2025 8:41 AM View: 2025_VOC_Other_Det
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

Time Series



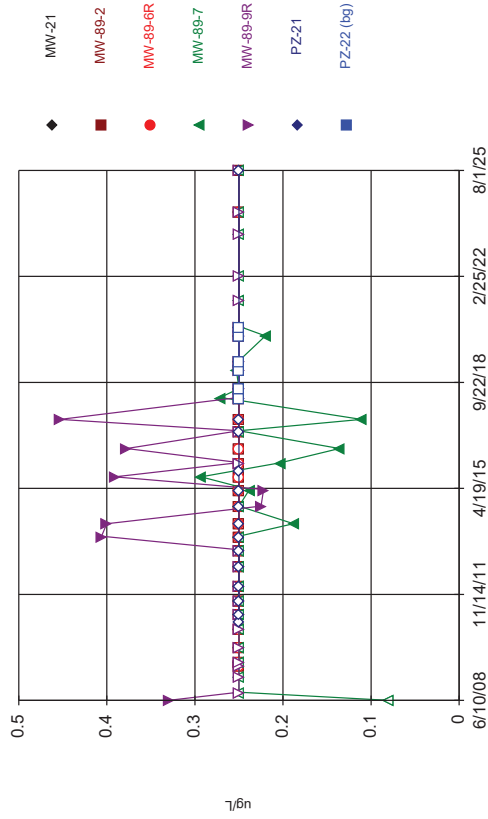
Constituent: 2,4,5-T [2C] Analysis Run 12/5/2025 8:41 AM View: 2025_VOC_Other_Det
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

Time Series



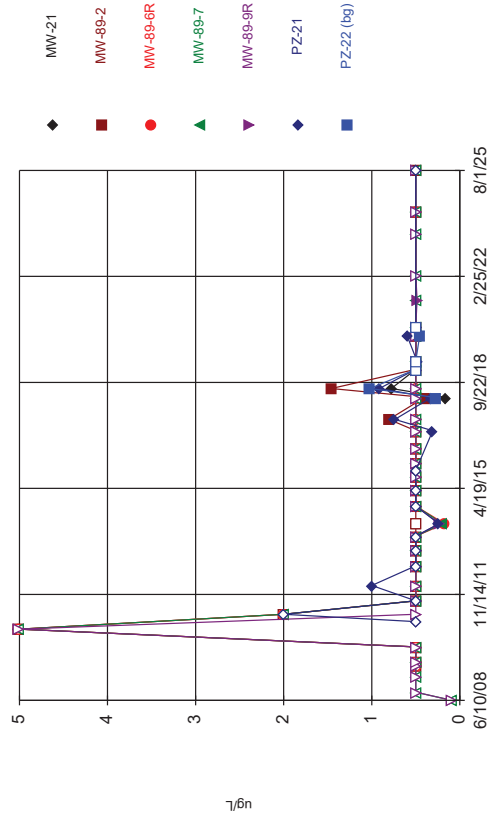
Constituent: Acetone Analysis Run 12/5/2025 8:41 AM View: 2025_VOC_Other_Det
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

Time Series



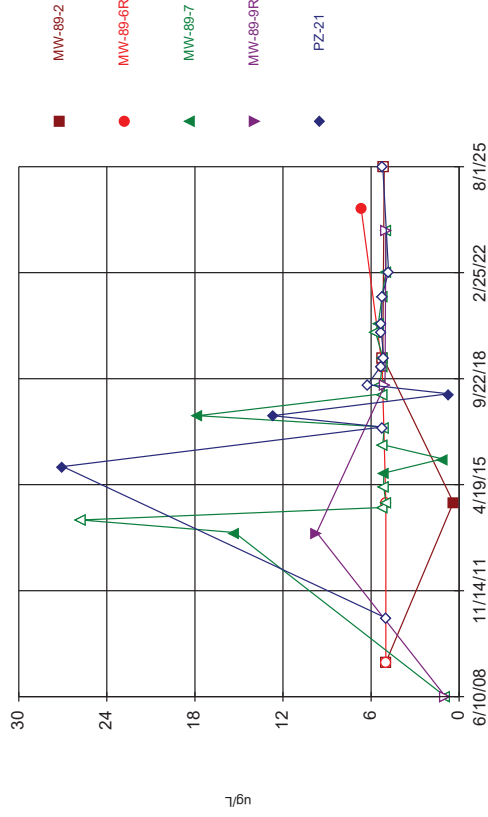
Constituent: Benzene Analysis Run 12/5/2025 8:41 AM View: 2025_VOC_Other_Det
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

Time Series



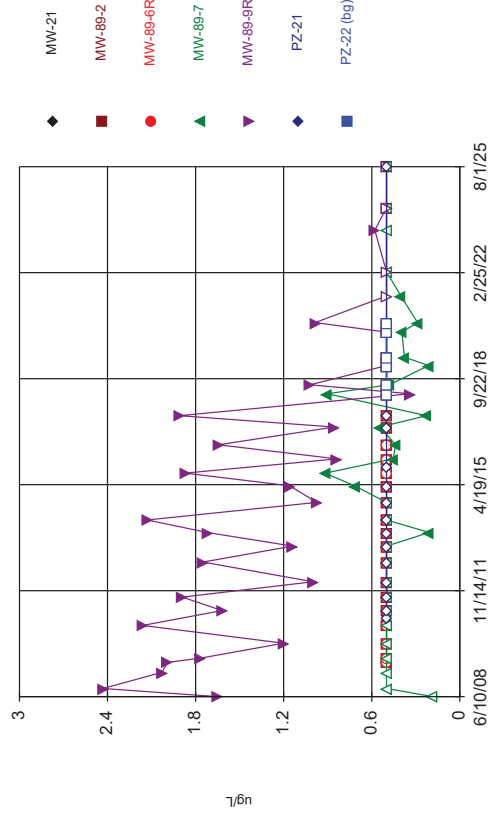
Constituent: Carbon disulfide Analysis Run 12/5/2025 8:41 AM View: 2025_VOC_Other_Det
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

Time Series



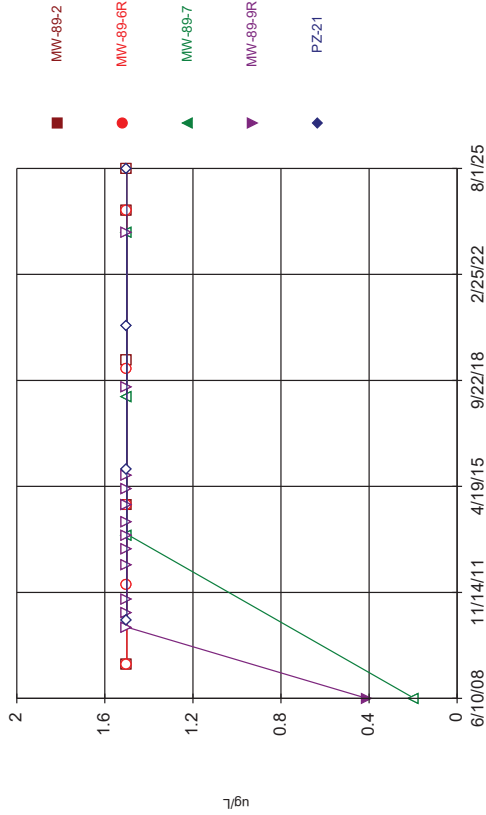
Constituent: Bis[2-ethylhexyl]phthalate Analysis Run 12/5/2025 8:41 AM View: 2025_VOC_Other_Det
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

Time Series



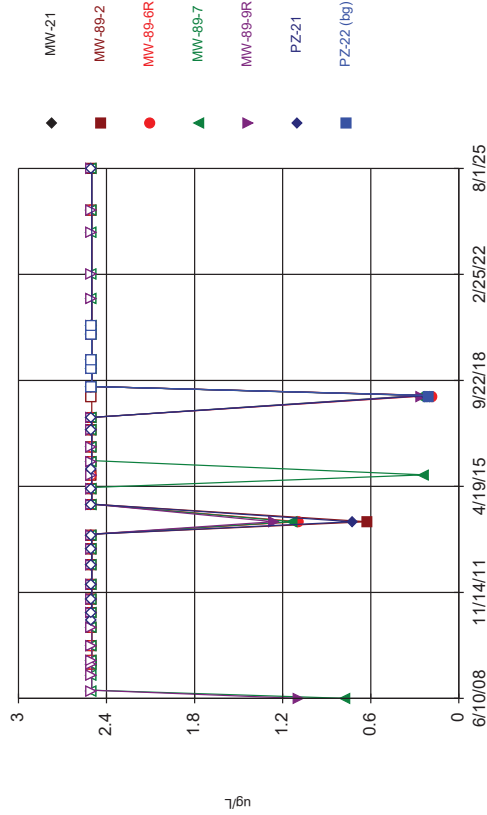
Constituent: cis-1,2-Dichloroethene Analysis Run 12/5/2025 8:41 AM View: 2025_VOC_Other_Det
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

Time Series



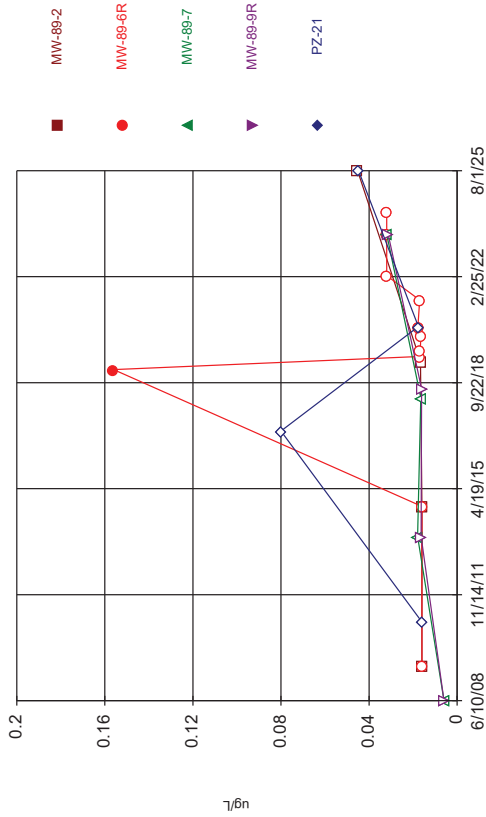
Constituent: Dichlorodifluoromethane Analysis Run 12/5/2025 8:41 AM View: 2025_VOC_Other_Det
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series



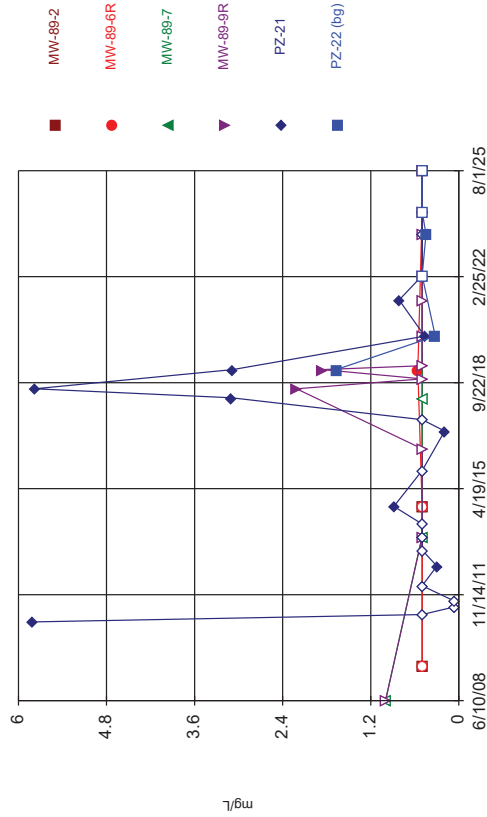
Constituent: Methylene Chloride Analysis Run 12/5/2025 8:41 AM View: 2025_VOC_Other_Det
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series



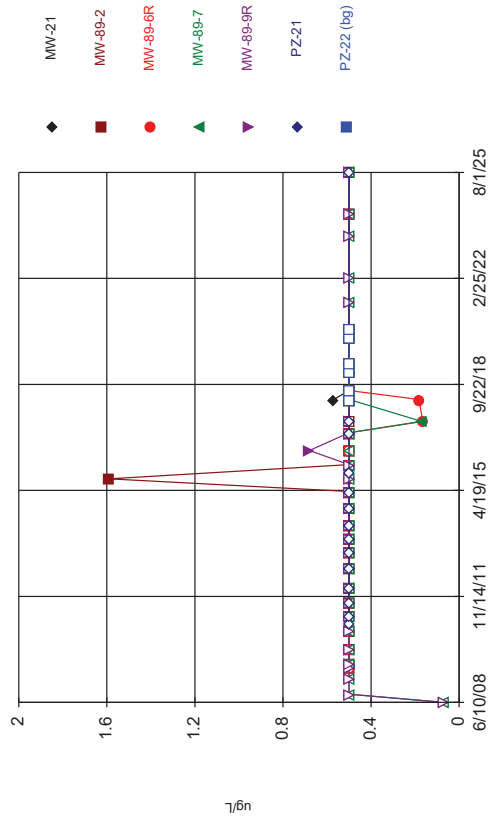
Constituent: Endrin aldehyde Analysis Run 12/5/2025 8:41 AM View: 2025_VOC_Other_Det
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series



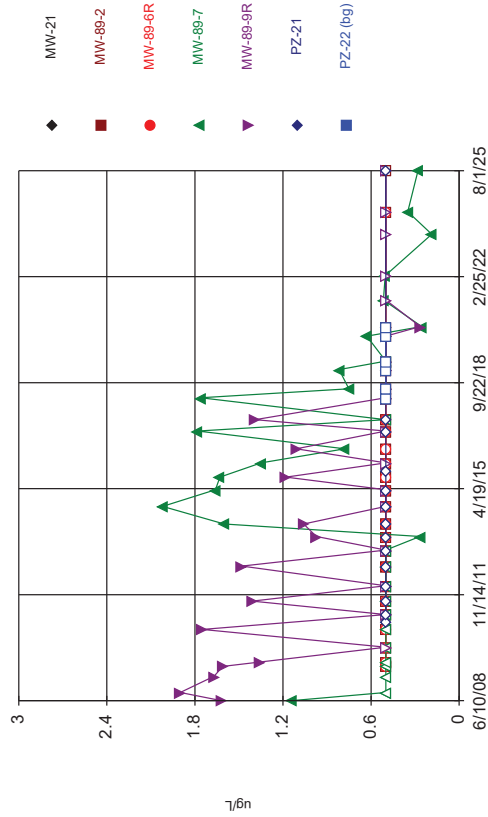
Constituent: Sulfide Analysis Run 12/5/2025 8:41 AM View: 2025_VOC_Other_Det
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series



Constituent: Toluene Analysis Run 12/5/2025 8:41 AM View: 2025_VOC_Other_Det
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series



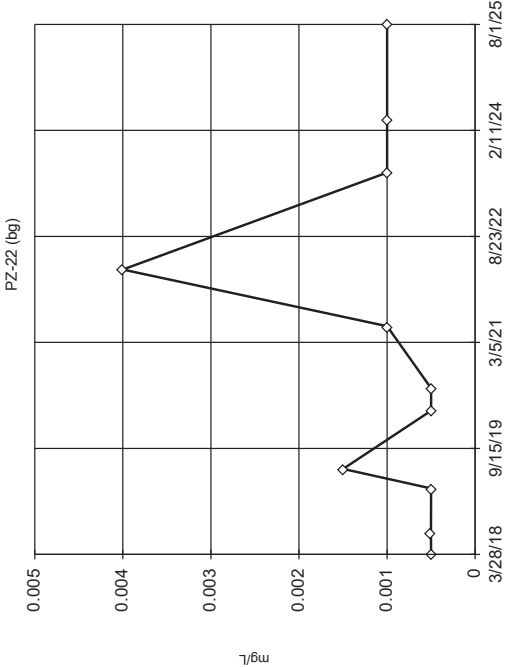
Constituent: Vinyl chloride Analysis Run 12/5/2025 8:41 AM View: 2025_VOC_Other_Det
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Outliers Test Summary Table and Graphs

BG Outlier Analysis

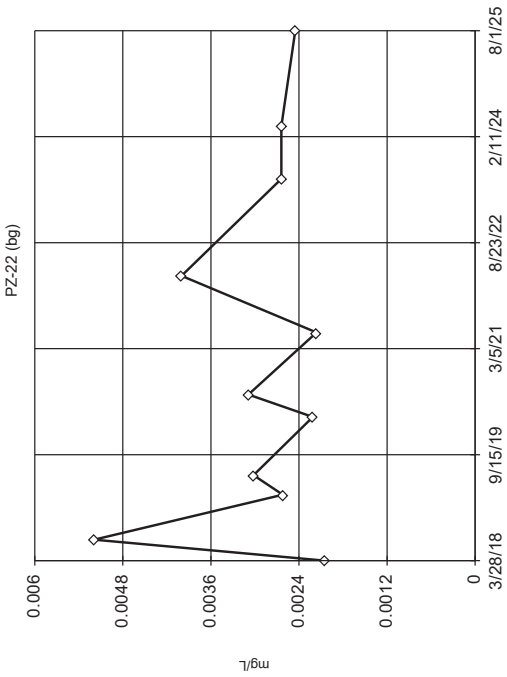
Union County Sanitary Landfill				Client: SCS Engineers	Data: Sanitas UCSWC - master	Printed 11/12/2025, 3:55 PM					
Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony (mg/L)	PZ-22 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	11	0.001091	0.00102	unknown	ShapiroWilk
Arsenic (mg/L)	PZ-22 (bg)	No	n/a	n/a	EPA 1989	0.05	11	0.002915	0.0009308	ln(x)	ShapiroWilk
Barium (mg/L)	PZ-22 (bg)	No	n/a	n/a	NP (nrm)	NaN	11	0.01144	0.001311	unknown	ShapiroWilk
Beryllium (mg/L)	PZ-22 (bg)	No	n/a	n/a	NP (nrm)	NaN	11	0.00106	0.0009144	unknown	ShapiroWilk
Cadmium (mg/L)	PZ-22 (bg)	No	n/a	n/a	EPA 1989	0.05	11	0.0001717	0.000108	normal	ShapiroWilk
Chromium (mg/L)	PZ-22 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	6	0.002028	0.0006642	unknown	ShapiroWilk
Cobalt (mg/L)	PZ-22 (bg)	No	n/a	n/a	EPA 1989	0.05	11	0.001471	0.0007097	normal	ShapiroWilk
Copper (mg/L)	PZ-22 (bg)	No	n/a	n/a	NP (nrm)	NaN	11	0.07456	0.1457	unknown	ShapiroWilk
Lead (mg/L)	PZ-22 (bg)	No	n/a	n/a	NP (nrm)	NaN	6	0.0006123	0.00051	unknown	ShapiroWilk
Nickel (mg/L)	PZ-22 (bg)	No	n/a	n/a	EPA 1989	0.05	11	0.005746	0.003243	normal	ShapiroWilk
Selenium (mg/L)	PZ-22 (bg)	No	n/a	n/a	NP (nrm)	NaN	6	0.00359	0.003164	unknown	ShapiroWilk
Vanadium (mg/L)	PZ-22 (bg)	No	n/a	n/a	NP (nrm)	NaN	6	0.00225	0.0006124	unknown	ShapiroWilk
Zinc (mg/L)	PZ-22 (bg)	No	n/a	n/a	EPA 1989	0.05	6	0.0467	0.02762	normal	ShapiroWilk

Tukey's Outlier Screening



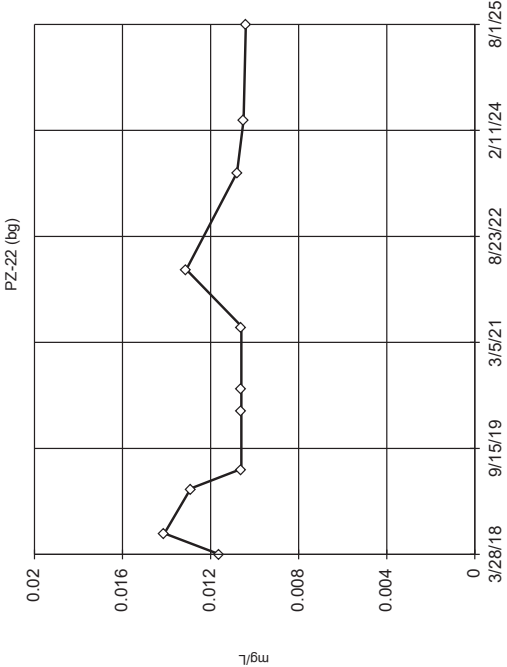
Constituent: Antimony Analysis Run 11/12/2025 3:53 PM View: 2025_AWQR-BG_Outliers
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

EPA Screening (suspected outliers for Dixon's Test)



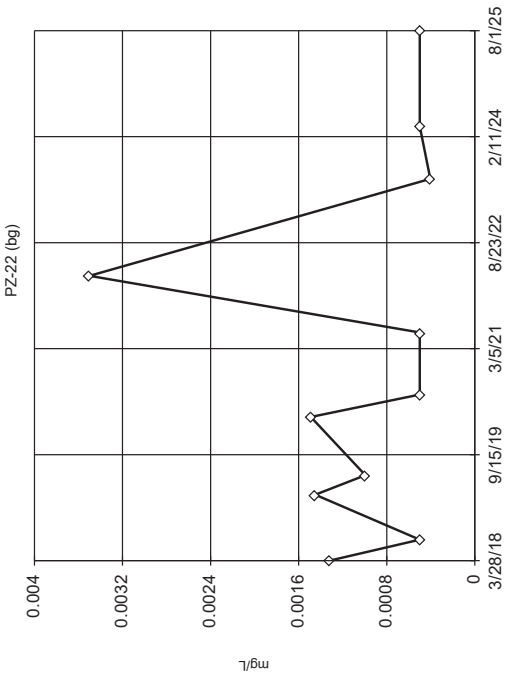
Constituent: Arsenic Analysis Run 11/12/2025 3:53 PM View: 2025_AWQR-BG_Outliers
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

Tukey's Outlier Screening



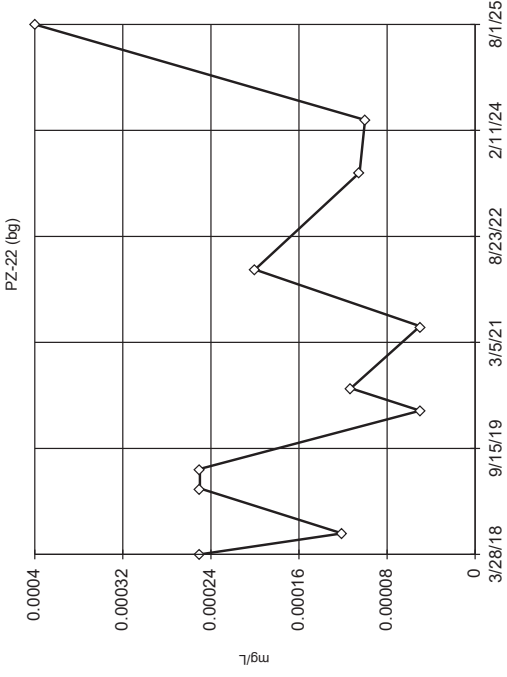
Constituent: Barium Analysis Run 11/12/2025 3:53 PM View: 2025_AWQR-BG_Outliers
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

Tukey's Outlier Screening



Constituent: Beryllium Analysis Run 11/12/2025 3:53 PM View: 2025_AWQR-BG_Outliers
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

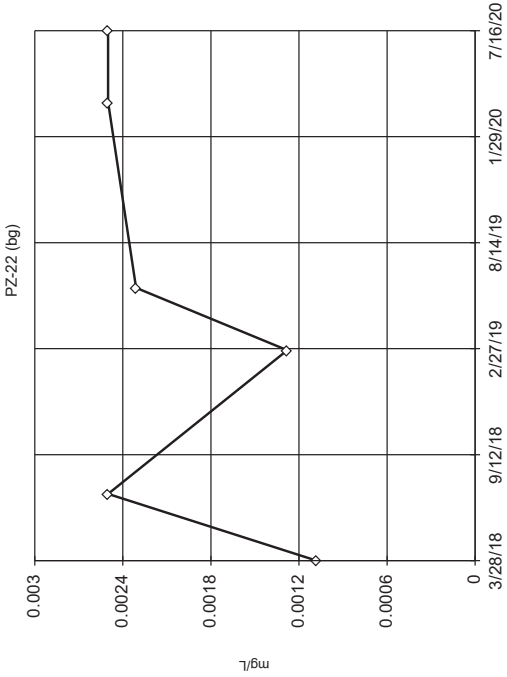
EPA Screening (suspected outliers for Dixon's Test)



n = 11
Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.0001717, std. dev. 0.000108, critical Tn 2.234
Normality test used: Shapiro Wilk@alpha = 0.1
Calculated = 0.8932
Critical = 0.876
The distribution was found to be normally distributed.

Constituent: Cadmium Analysis Run 11/12/2025 3:53 PM View: 2025_AWQR-BG_Outliers
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

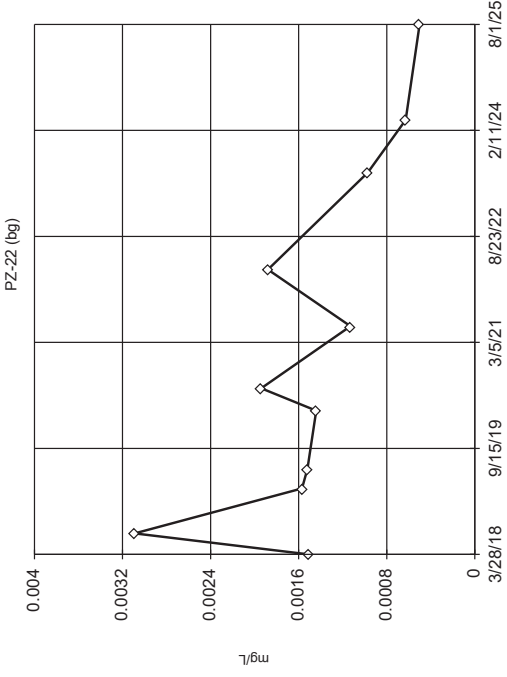
Tukey's Outlier Screening



n = 6
No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normally test failed at the 0.1 alpha level.
Data were x*6 transformed to achieve best W statistic (graph shown in original units).
The results were invalid, because both the lower and upper quartiles represent reporting limits.

Constituent: Chromium Analysis Run 11/12/2025 3:53 PM View: 2025_AWQR-BG_Outliers
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

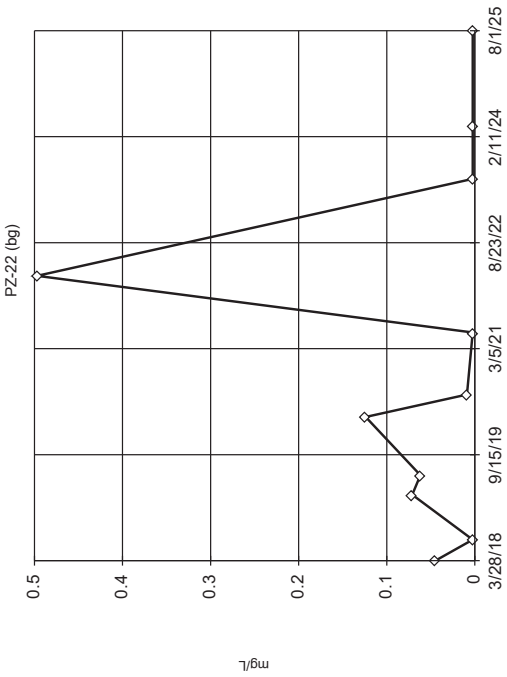
EPA Screening (suspected outliers for Dixon's Test)



n = 11
Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.001471, std. dev. 0.0007697, critical Tn 2.234
Normality test used: Shapiro Wilk@alpha = 0.1
Calculated = 0.9245
Critical = 0.876
The distribution was found to be normally distributed.

Constituent: Cobalt Analysis Run 11/12/2025 3:53 PM View: 2025_AWQR-BG_Outliers
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

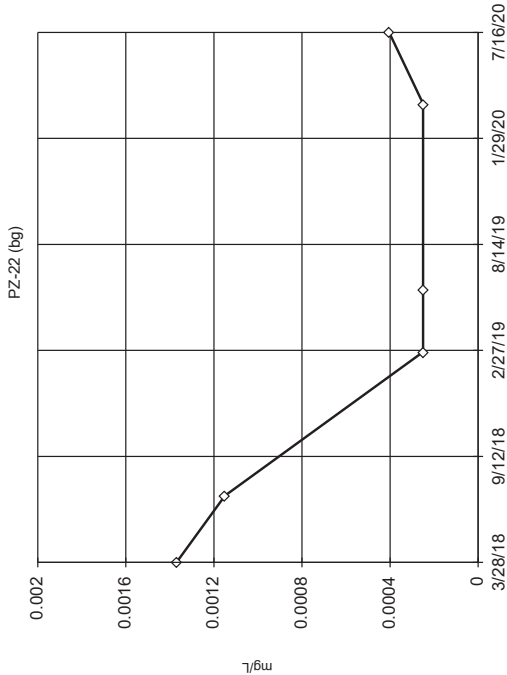
Tukey's Outlier Screening



n = 11
No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normally test failed at the 0.1 alpha level.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 4636, low cutoff = 70, based on IQR multiplier of 3.

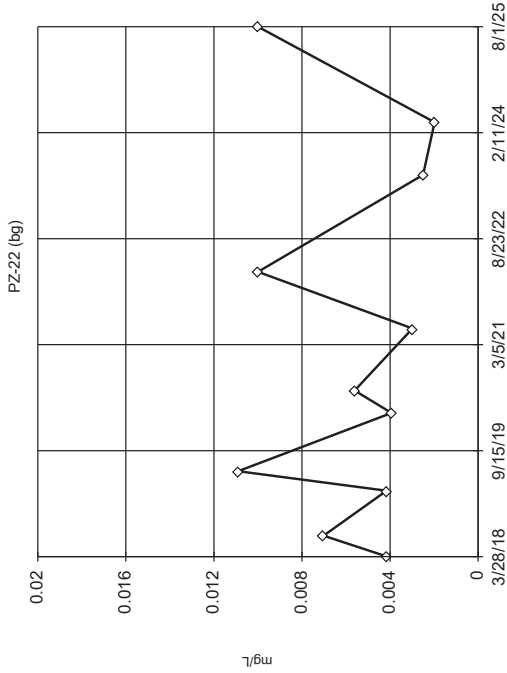
Constituent: Copper Analysis Run 11/12/2025 3:53 PM View: 2025_AWQR-BG_Outliers
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Tukey's Outlier Screening



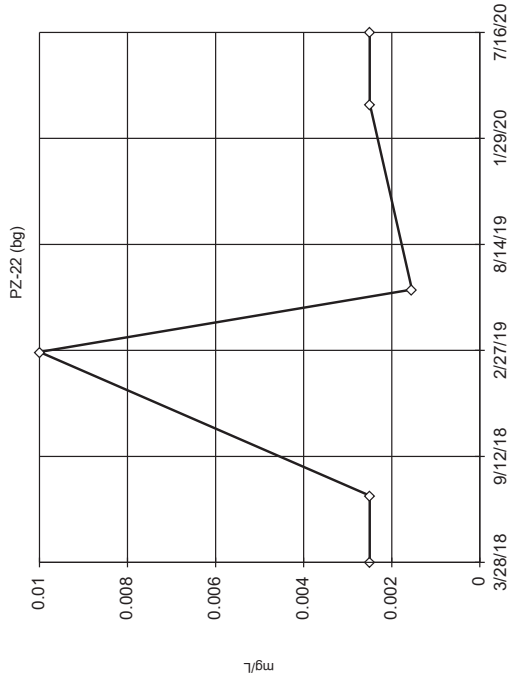
Constituent: Lead Analysis Run 11/12/2025 3:53 PM View: 2025_AWQR-BG_Outliers
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

EPA Screening (suspected outliers for Dixon's Test)



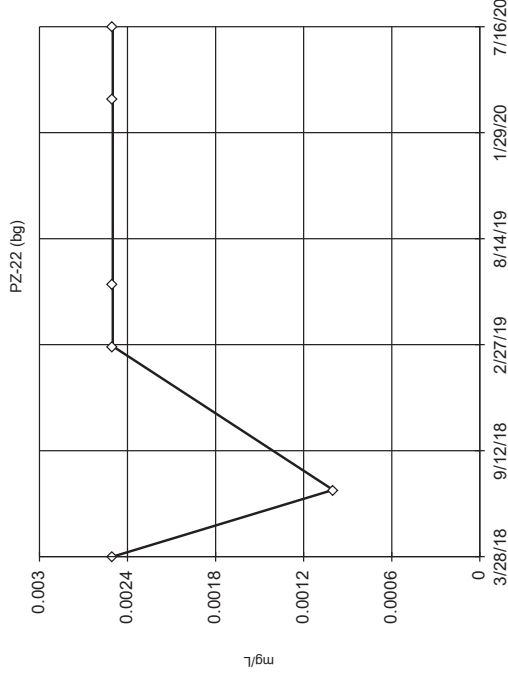
Constituent: Nickel Analysis Run 11/12/2025 3:53 PM View: 2025_AWQR-BG_Outliers
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

Tukey's Outlier Screening



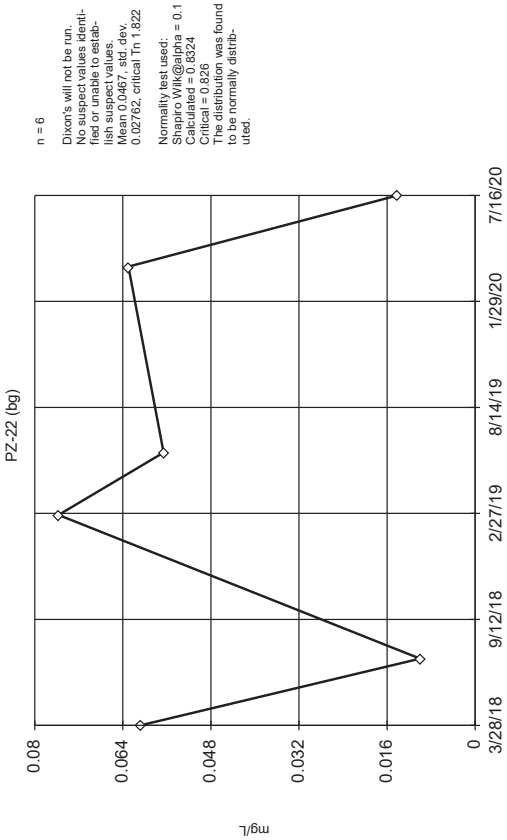
Constituent: Selenium Analysis Run 11/12/2025 3:53 PM View: 2025_AWQR-BG_Outliers
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

Tukey's Outlier Screening



Constituent: Vanadium Analysis Run 11/12/2025 3:53 PM View: 2025_AWQR-BG_Outliers
Union County Sanitary Landfill Client: SCS Engineers Data: Santitas UCSWC - master

EPA Screening (suspected outliers for Dixon's Test)



Constituent: Zinc Analysis Run 11/12/2025 3:53 PM View: 2025_AWQR-BG_Outliers
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Prediction Limits Summary Table and Graphs

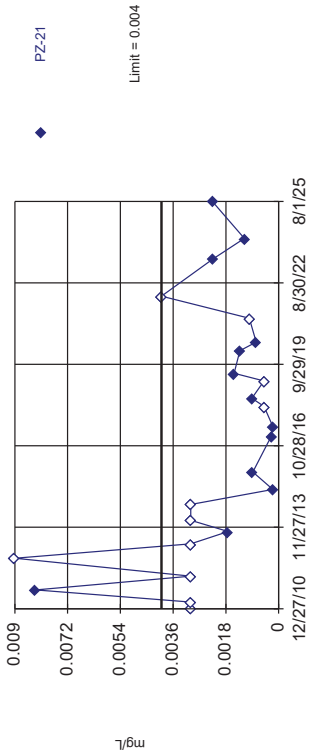
Prediction Limit

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Wells	%NDs	Transform	Alpha	Method
Antimony (mg/L)	PZ-21	0.004	n/a	8/1/2025	0.00226	No	11	PZ-22	90.91	n/a	0.01166	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	MW-89-2	0.005167	n/a	8/1/2025	0.00235	No	11	PZ-22	9.091	No	0.00135	Param Inter 1 of 2
Arsenic (mg/L)	MW-89-6R	0.005167	n/a	8/1/2025	0.00221	No	11	PZ-22	9.091	No	0.00135	Param Inter 1 of 2
Arsenic (mg/L)	MW-89-7	0.005167	n/a	8/1/2025	0.00233	No	11	PZ-22	9.091	No	0.00135	Param Inter 1 of 2
Arsenic (mg/L)	MW-89-9R	0.005167	n/a	8/1/2025	0.00686	Yes	11	PZ-22	9.091	No	0.00135	Param Inter 1 of 2
Barium (mg/L)	MW-21	0.0141	n/a	8/1/2025	0.00867	No	11	PZ-22	0	n/a	0.01166	NP Inter (normality) 1 of 2
Barium (mg/L)	MW-89-2	0.0141	n/a	8/1/2025	0.0272	Yes	11	PZ-22	0	n/a	0.01166	NP Inter (normality) 1 of 2
Barium (mg/L)	MW-89-6R	0.0141	n/a	8/1/2025	0.258	Yes	11	PZ-22	0	n/a	0.01166	NP Inter (normality) 1 of 2
Barium (mg/L)	MW-89-7	0.0141	n/a	8/1/2025	0.32	Yes	11	PZ-22	0	n/a	0.01166	NP Inter (normality) 1 of 2
Barium (mg/L)	MW-89-9R	0.0141	n/a	8/1/2025	0.28	Yes	11	PZ-22	0	n/a	0.01166	NP Inter (normality) 1 of 2
Barium (mg/L)	PZ-21	0.0141	n/a	8/1/2025	0.0178	Yes	11	PZ-22	0	n/a	0.01166	NP Inter (normality) 1 of 2
Chromium (mg/L)	MW-89-2	0.003329	n/a	8/1/2025	0.0138	Yes	6	PZ-22	50	No	0.00135	Param Inter 1 of 2
Cobalt (mg/L)	MW-89-2	0.003188	n/a	8/1/2025	0.00463	Yes	11	PZ-22	0	No	0.00135	Param Inter 1 of 2
Cobalt (mg/L)	MW-89-6R	0.003188	n/a	8/1/2025	0.0144	Yes	11	PZ-22	0	No	0.00135	Param Inter 1 of 2
Cobalt (mg/L)	MW-89-7	0.003188	n/a	8/1/2025	0.00349	Yes	11	PZ-22	0	No	0.00135	Param Inter 1 of 2
Cobalt (mg/L)	MW-89-9R	0.003188	n/a	8/1/2025	0.0218	Yes	11	PZ-22	0	No	0.00135	Param Inter 1 of 2
Cobalt (mg/L)	PZ-21	0.003188	n/a	8/1/2025	0.00253	No	11	PZ-22	0	No	0.00135	Param Inter 1 of 2
Copper (mg/L)	PZ-21	0.4706	n/a	8/1/2025	0.00658	No	11	PZ-22	45.45	x^(1/3)	0.00135	Param Inter 1 of 2
Lead (mg/L)	PZ-21	0.002033	n/a	8/1/2025	0.000619	No	6	PZ-22	50	No	0.00135	Param Inter 1 of 2
Nickel (mg/L)	MW-89-2	0.01105	n/a	8/1/2025	0.0157	Yes	11	PZ-22	27.27	No	0.00135	Param Inter 1 of 2
Nickel (mg/L)	MW-89-6R	0.01105	n/a	8/1/2025	0.0174	Yes	11	PZ-22	27.27	No	0.00135	Param Inter 1 of 2
Nickel (mg/L)	MW-89-7	0.01105	n/a	8/1/2025	0.0103	No	11	PZ-22	27.27	No	0.00135	Param Inter 1 of 2
Nickel (mg/L)	MW-89-9R	0.01105	n/a	8/1/2025	0.01985	Yes	11	PZ-22	27.27	No	0.00135	Param Inter 1 of 2
Nickel (mg/L)	PZ-21	0.01105	n/a	8/1/2025	0.0106	No	11	PZ-22	27.27	No	0.00135	Param Inter 1 of 2

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Hollow symbols indicate censored values.

Within Limit

Prediction Limit
Interwell Non-parametric



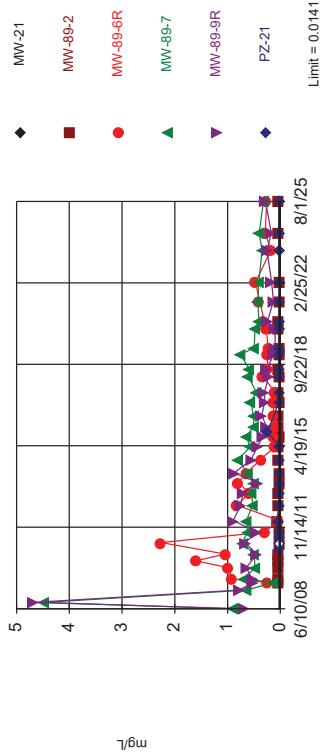
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 11 background values. 90.91% NDs. Annual per-constituent alpha = 0.06795. Individual comparison alpha = 0.01166 (1 of 2). Assumes 5 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Antimony Analysis Run 11/13/2025 8:54 AM View: 2025_AWQR-DMAM_Interwell_PL
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

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Hollow symbols indicate censored values.

Exceeds Limit: MW-89-2, MW-89-6R, MW-89-7, MW-89-9R, PZ-21

Prediction Limit
Interwell Non-parametric



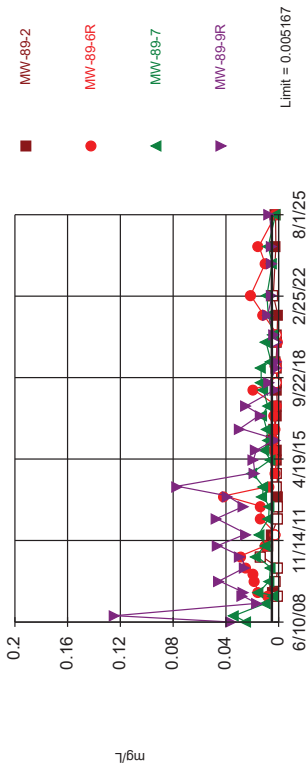
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 11 background values. Annual per-constituent alpha = 0.06795. Individual comparison alpha = 0.01166 (1 of 2). Comparing 6 points to limit. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Barium Analysis Run 11/13/2025 8:54 AM View: 2025_AWQR-DMAM_Interwell_PL
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

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Hollow symbols indicate censored values.

Exceeds Limit: MW-89-9R

Prediction Limit
Interwell Parametric



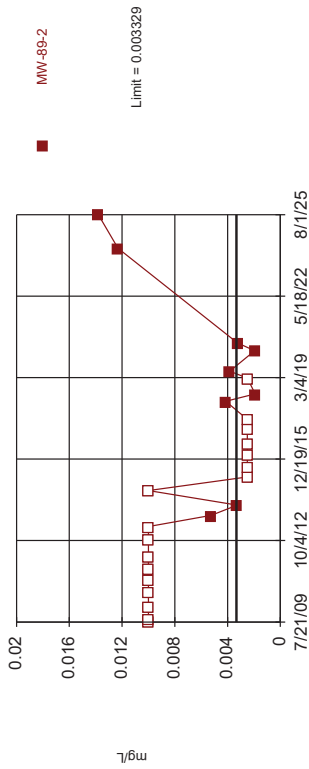
Background Data Summary: Mean=0.002915, Std. Dev.=0.0009308, n=11, 9.091% NDs. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8108, critical = 0.792. Kappa = 2.419 (C=13, w=6, 1 of 2, event alpha = 0.1). Report alpha = 0.008072. Individual comparison alpha = 0.00135. Comparing 4 points to limit. Assumes 2 future values.

Constituent: Arsenic Analysis Run 11/13/2025 8:54 AM View: 2025_AWQR-DMAM_Interwell_PL
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

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Hollow symbols indicate censored values.

Exceeds Limit: MW-89-2

Prediction Limit
Interwell Parametric



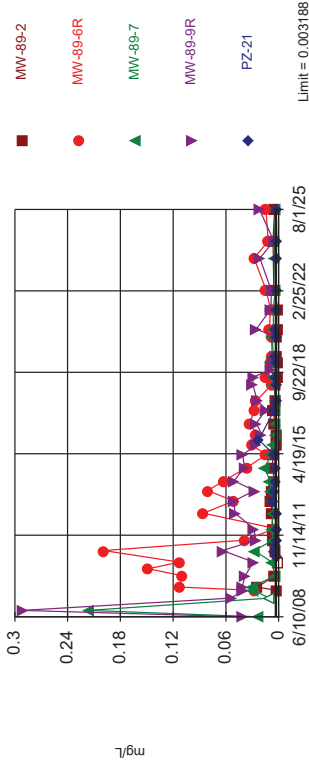
Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.001557, Std. Dev.=0.0005389, n=6, 50% NDs. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7336, critical = 0.713. Kappa = 3.289 (C=13, w=6, 1 of 2, event alpha = 0.1). Report alpha = 0.008072. Individual comparison alpha = 0.00135. Assumes 5 future values.

Constituent: Chromium Analysis Run 11/13/2025 8:54 AM View: 2025_AWQR-DMAM_Interwell_PL
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

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Hollow symbols indicate censored values.

Exceeds Limit: MW-89-2, MW-89-6R, MW-89-7, MW-89-9R

Prediction Limit
Interwell Parametric



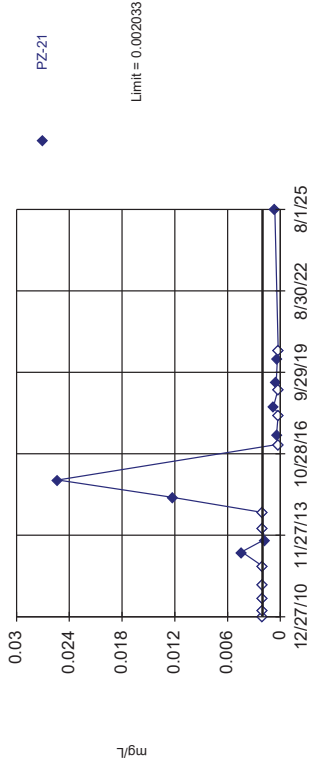
Background Data Summary: Mean=0.001471, Std. Dev.=0.0007097, n=11. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9245, critical = 0.792. Kappa = 2.419 (c=13, w=6, 1 of 2, event alpha = 0.1). Report alpha = 0.008072. Individual comparison alpha = 0.00135. Comparing 5 points to limit. Assumes 1 future value.

Constituent: Cobalt Analysis Run 11/13/2025 8:54 AM View: 2025_AWQR-DMAM_Interwell_PL
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

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Hollow symbols indicate censored values.

Within Limit

Prediction Limit
Interwell Parametric



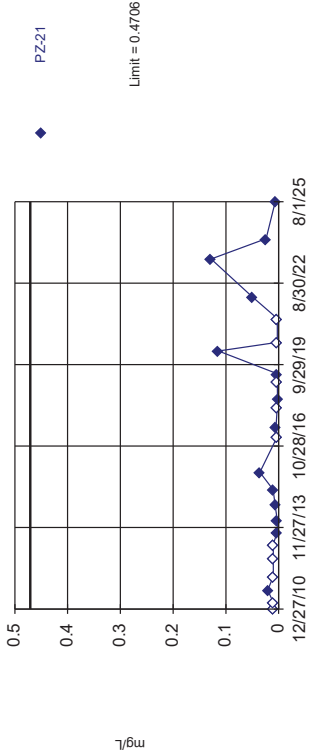
Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.0006893, Std. Dev.=0.0004085, n=6, 50% NDs. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.748, critical = 0.713. Kappa = 3.289 (c=13, w=6, 1 of 2, event alpha = 0.1). Report alpha = 0.008072. Individual comparison alpha = 0.00135. Assumes 5 future values.

Constituent: Lead Analysis Run 11/13/2025 8:54 AM View: 2025_AWQR-DMAM_Interwell_PL
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

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Hollow symbols indicate censored values.

Within Limit

Prediction Limit
Interwell Parametric



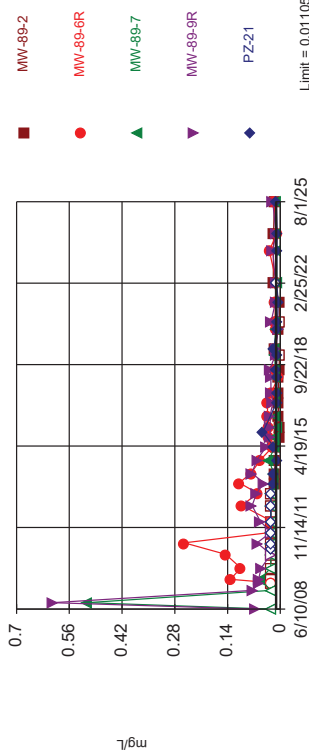
Background Data Summary (based on cube root transformation) (after Kaplan-Meier Adjustment): Mean=0.3199, Std. Dev.=0.1893, n=11, 45.45% NDs. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8086, critical = 0.792. Kappa = 2.419 (c=13, w=6, 1 of 2, event alpha = 0.1). Report alpha = 0.008072. Individual comparison alpha = 0.00135. Assumes 5 future values.

Constituent: Copper Analysis Run 11/13/2025 8:54 AM View: 2025_AWQR-DMAM_Interwell_PL
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

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Exceeds Limit: MW-89-2, MW-89-6R, MW-89-9R

Prediction Limit
Interwell Parametric



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.004905, Std. Dev.=0.002542, n=11, 27.27% NDs. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8785, critical = 0.792. Kappa = 2.419 (c=13, w=6, 1 of 2, event alpha = 0.1). Report alpha = 0.008072. Individual comparison alpha = 0.00135. Comparing 5 points to limit. Assumes 1 future value.

Constituent: Nickel Analysis Run 11/13/2025 8:54 AM View: 2025_AWQR-DMAM_Interwell_PL
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Sen's Slope/Mann-Kendall Trend Test Summary Table and Graphs

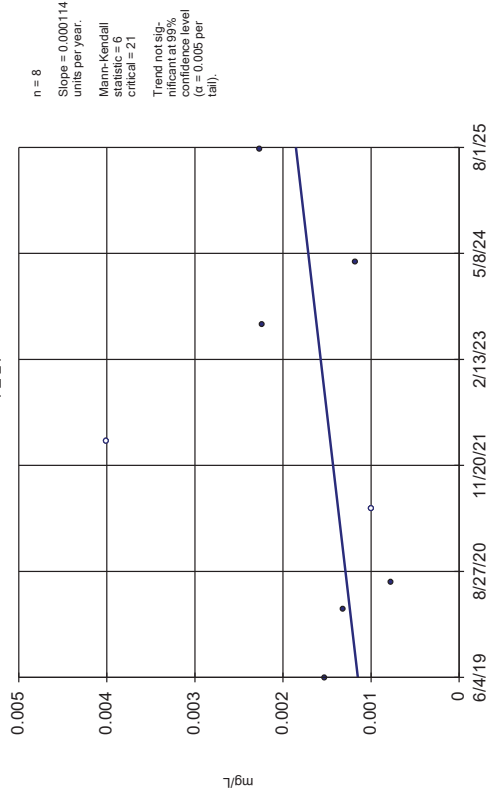
Trend Test

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Alpha	Method
Antimony (mg/L)	PZ-21	0.000114	6	21	No	8	25	0.01	NP
Arsenic (mg/L)	MW-89-2	0.0001853	7	21	No	8	12.5	0.01	NP
Arsenic (mg/L)	MW-89-6R	0.001668	12	21	No	8	12.5	0.01	NP
Arsenic (mg/L)	MW-89-7	-0.0004126	-6	-21	No	8	0	0.01	NP
Arsenic (mg/L)	MW-89-9R	0.0008573	14	21	No	8	12.5	0.01	NP
Arsenic (mg/L)	PZ-21	0.00001575	2	21	No	8	25	0.01	NP
Barium (mg/L)	MW-89-2	0.001032	12	21	No	8	0	0.01	NP
Barium (mg/L)	MW-89-6R	0.004545	2	21	No	8	0	0.01	NP
Barium (mg/L)	MW-89-7	-0.02522	-23	-21	Yes	8	0	0.01	NP
Barium (mg/L)	MW-89-9R	0.02667	18	21	No	8	0	0.01	NP
Barium (mg/L)	PZ-21	0	0	21	No	8	0	0.01	NP
Beryllium (mg/L)	PZ-21	0	-4	-21	No	8	62.5	0.01	NP
Cadmium (mg/L)	MW-89-2	0.000002306	4	21	No	8	62.5	0.01	NP
Cadmium (mg/L)	MW-89-6R	-0.000004144	-7	-21	No	8	37.5	0.01	NP
Carbon disulfide (ug/L)	MW-89-2	0	1	21	No	8	75	0.01	NP
Carbon disulfide (ug/L)	PZ-21	-0.009148	-3	-21	No	8	37.5	0.01	NP
Chromium (mg/L)	MW-89-2	0.001334	12	21	No	8	12.5	0.01	NP
Cobalt (mg/L)	MW-89-2	0.00074	16	21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-89-6R	0.001171	20	21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-89-7	-0.0004725	-18	-21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-89-9R	0.002037	8	21	No	8	0	0.01	NP
Cobalt (mg/L)	PZ-21	-0.0001566	-12	-21	No	8	0	0.01	NP
Copper (mg/L)	MW-89-2	0	-4	-21	No	8	62.5	0.01	NP
Copper (mg/L)	PZ-21	0.0006549	3	21	No	8	25	0.01	NP
Lead (mg/L)	MW-89-2	0.00001238	10	21	No	8	62.5	0.01	NP
Lead (mg/L)	PZ-21	0	1	21	No	8	37.5	0.01	NP
Nickel (mg/L)	MW-89-2	0.001756	11	21	No	8	25	0.01	NP
Nickel (mg/L)	MW-89-6R	0.0008056	4	21	No	8	0	0.01	NP
Nickel (mg/L)	MW-89-7	-0.0006332	-18	-21	No	8	0	0.01	NP
Nickel (mg/L)	MW-89-9R	0.000948	7	21	No	8	0	0.01	NP
Nickel (mg/L)	PZ-21	0.00008575	0	21	No	8	12.5	0.01	NP
Selenium (mg/L)	MW-89-2	0	-5	-21	No	8	87.5	0.01	NP
Sulfide (mg/L)	MW-89-9R	0	-7	-21	No	8	87.5	0.01	NP
Sulfide (mg/L)	PZ-21	-0.2733	-12	-21	No	8	50	0.01	NP
Zinc (mg/L)	PZ-21	0	0	21	No	8	62.5	0.01	NP

Hollow symbols indicate censored values.

Sen's Slope Estimator

PZ-21

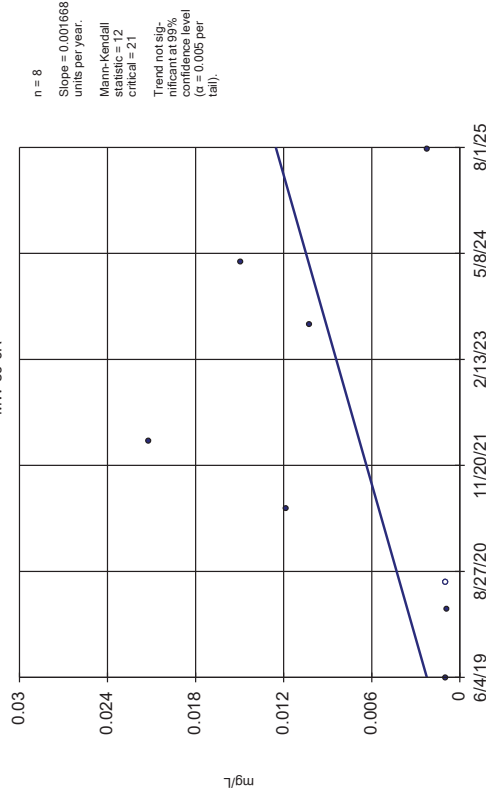


Constituent: Antimony Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Hollow symbols indicate censored values.

Sen's Slope Estimator

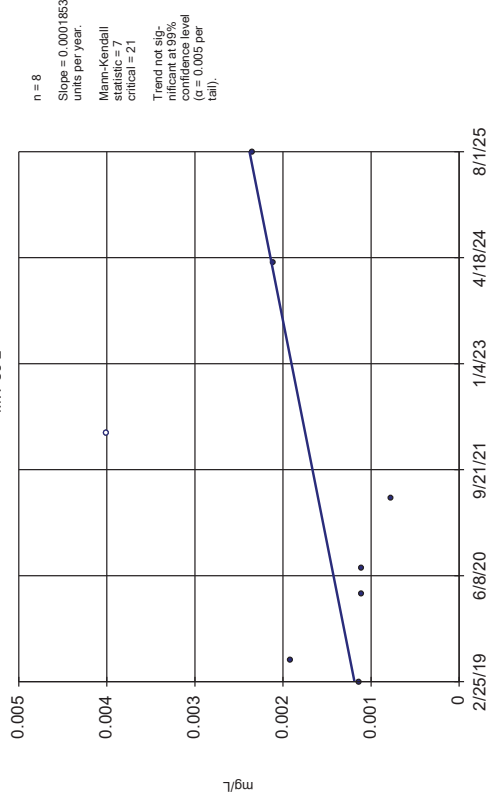
MW-89-6R



Constituent: Arsenic Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator

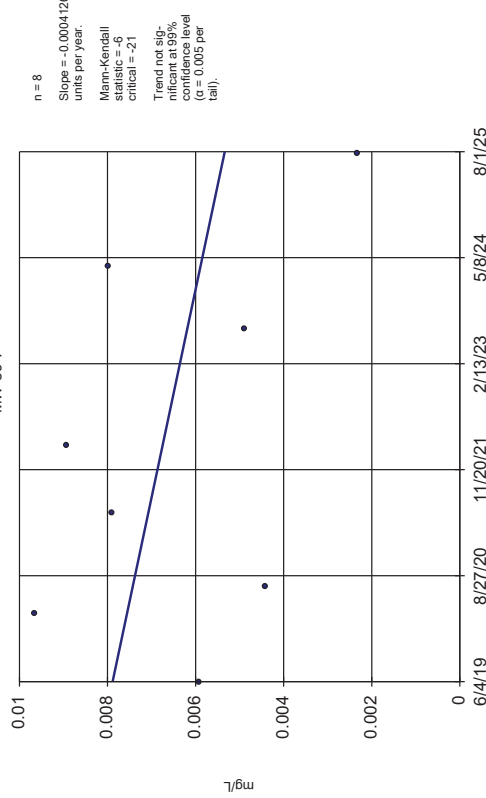
MW-89-2



Constituent: Arsenic Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator

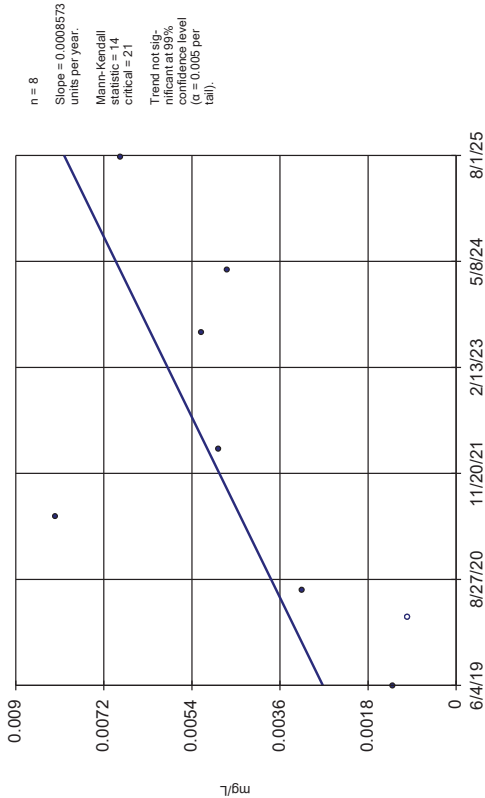
MW-89-7



Constituent: Arsenic Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator

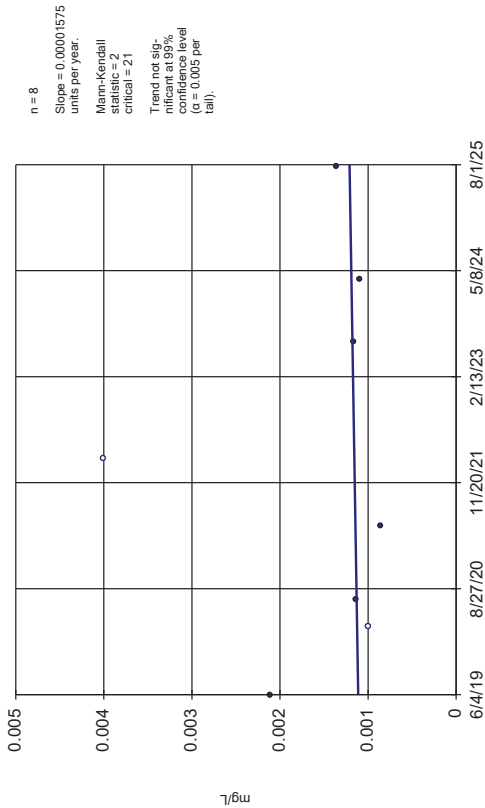
MW-89-9R



Constituent: Arsenic Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator

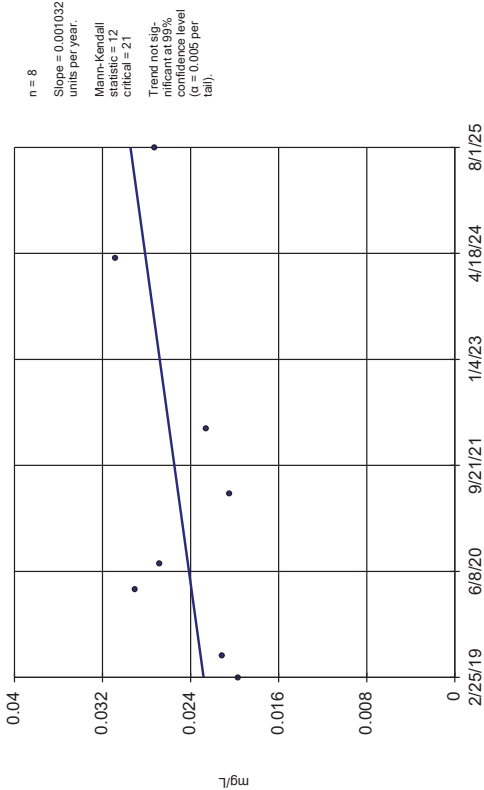
PZ-21



Constituent: Arsenic Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator

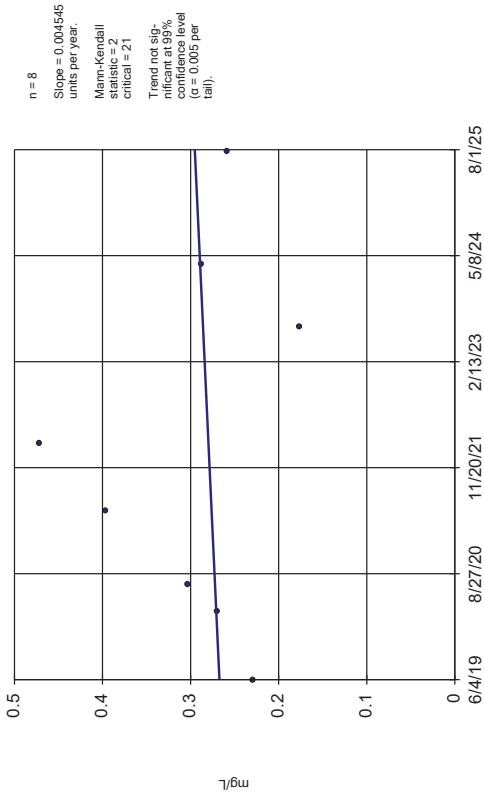
MW-89-2



Constituent: Barium Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

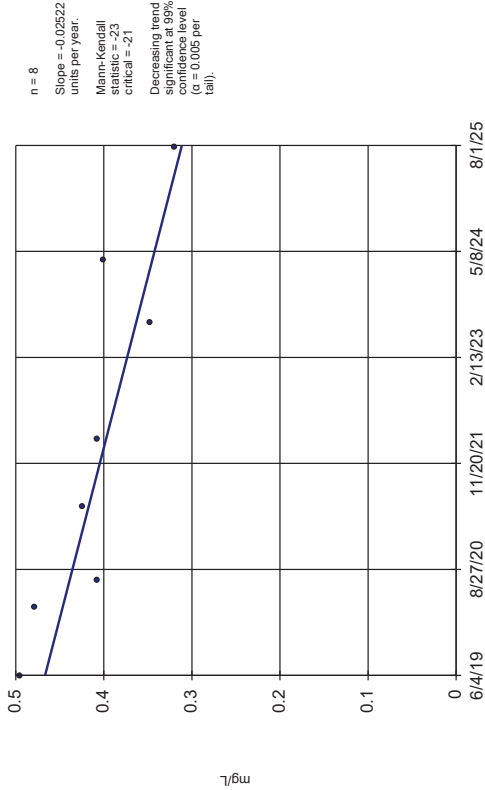
Sen's Slope Estimator

MW-89-6R



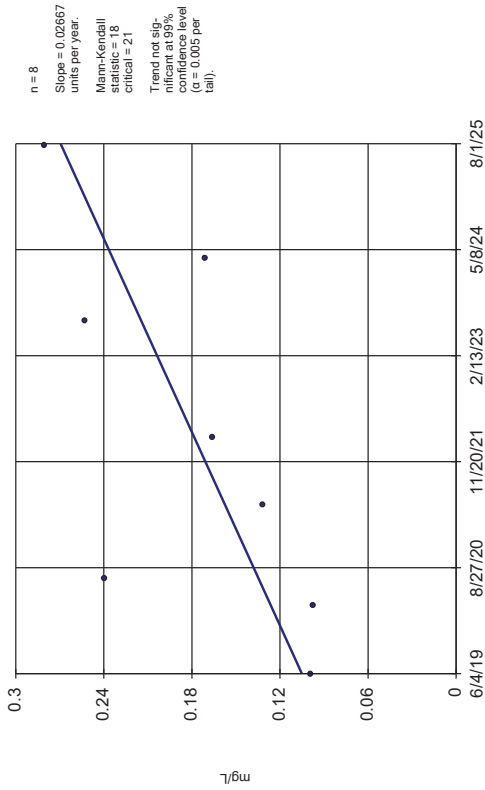
Constituent: Barium Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator
MW-89-7



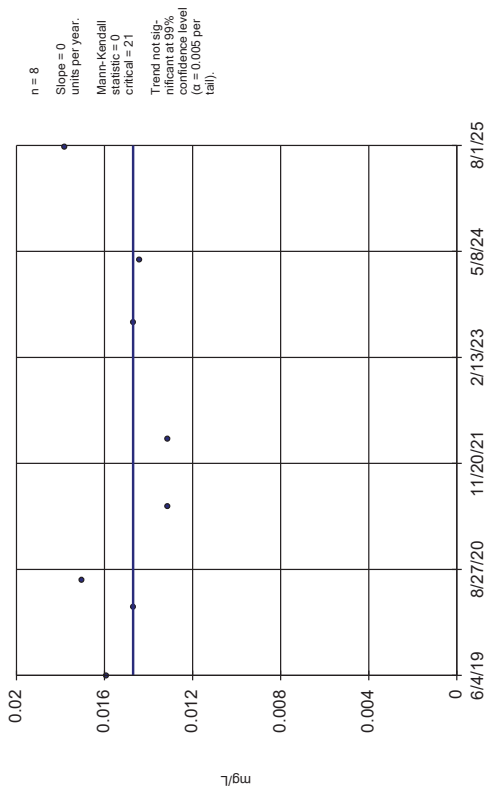
Constituent: Barium Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator
MW-89-9R



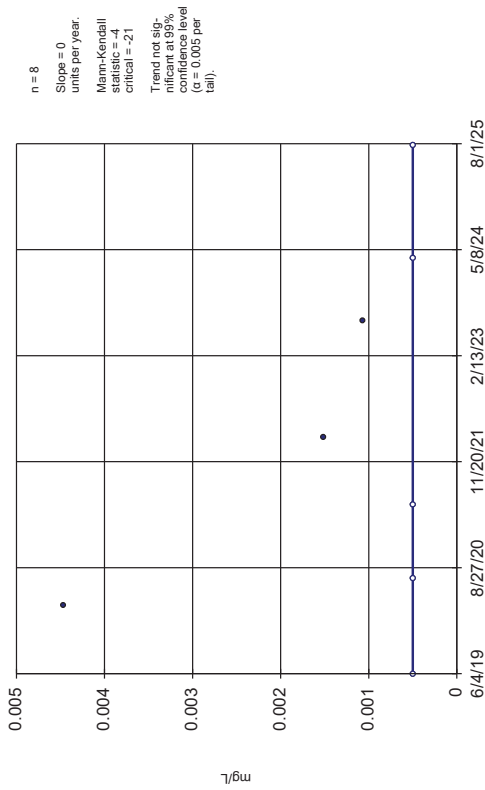
Constituent: Barium Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator
PZ-21



Constituent: Barium Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator
PZ-21

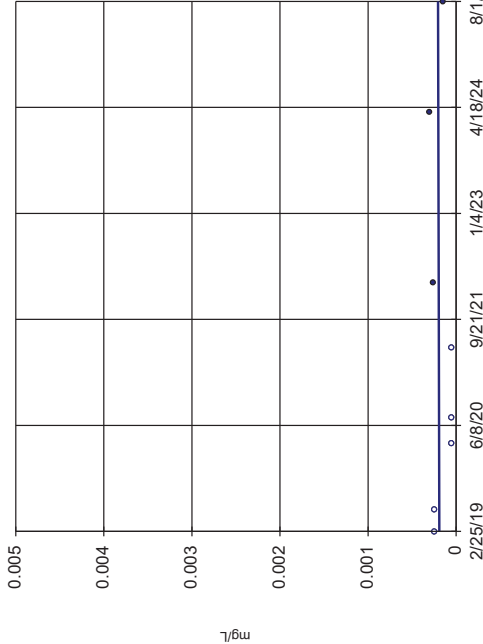


Constituent: Beryllium Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

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Sen's Slope Estimator

MW-89-2



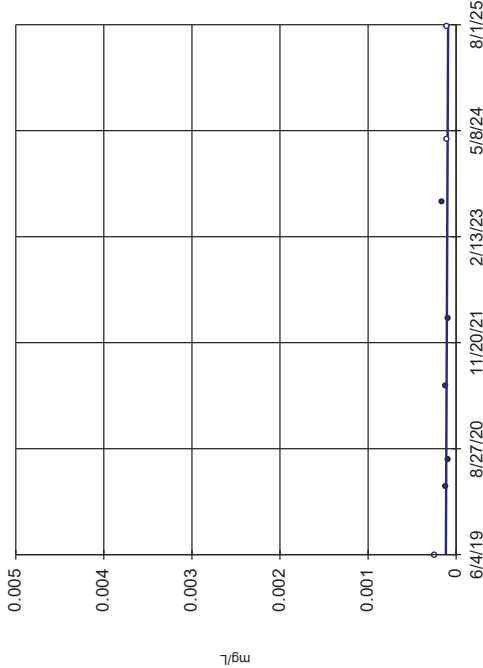
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Slope = 0.000002306
units per year.
Mann-Kendall
statistic = 4
critical = 21
Trend not sig-
nificant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Constituent: Cadmium Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

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Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-89-6R



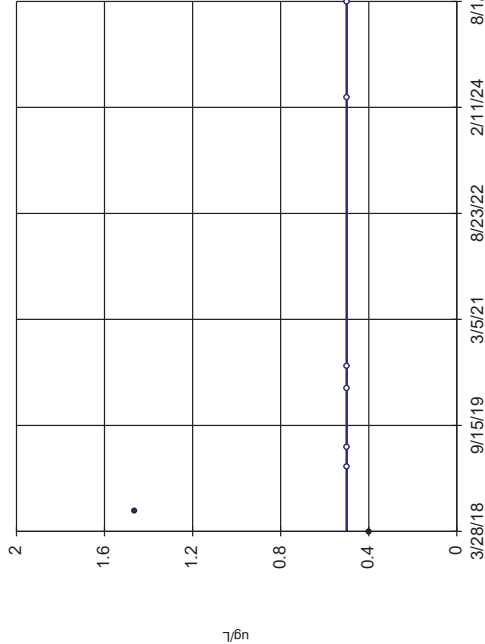
n = 8
Slope = -0.000004144
units per year.
Mann-Kendall
statistic = -7
critical = -21
Trend not sig-
nificant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Constituent: Cadmium Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Santitas® v.10.1.02 Software licensed to SCS Engineers, UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-89-2



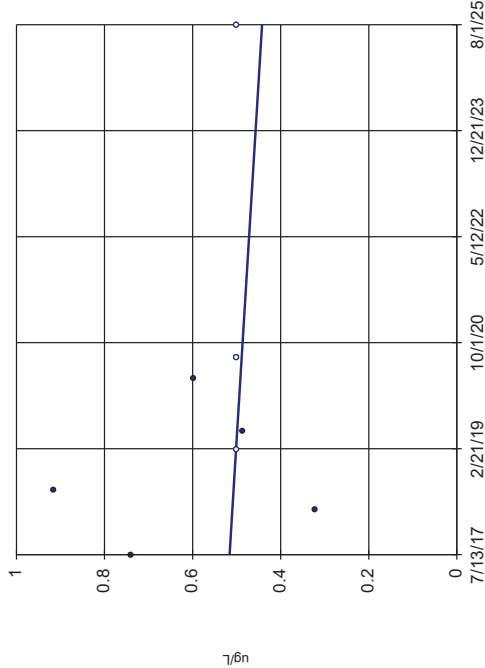
n = 8
Slope = 0
units per year.
Mann-Kendall
statistic = 1
critical = 21
Trend not sig-
nificant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Constituent: Carbon disulfide Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Santitas® v.10.1.02 Software licensed to SCS Engineers, UG
Hollow symbols indicate censored values.

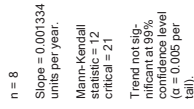
Sen's Slope Estimator

PZ-21

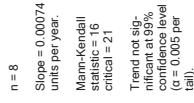


n = 8
Slope = -0.009148
units per year.
Mann-Kendall
statistic = -3
critical = -21
Trend not sig-
nificant at 99%
confidence level
($\alpha = 0.005$ per
tail).

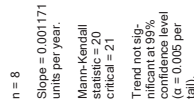
Constituent: Carbon disulfide Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR



Constituent: Cobalt Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
 Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR



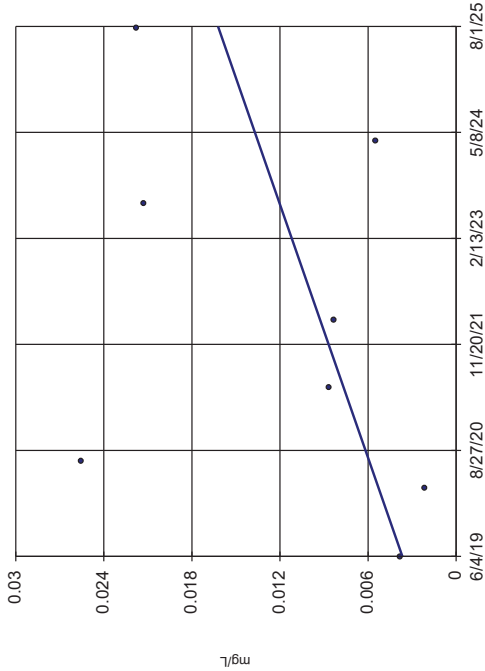
Constituent: Cobalt Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
 Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR



Constituent: Cobalt Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
 Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator

MW-89-9R

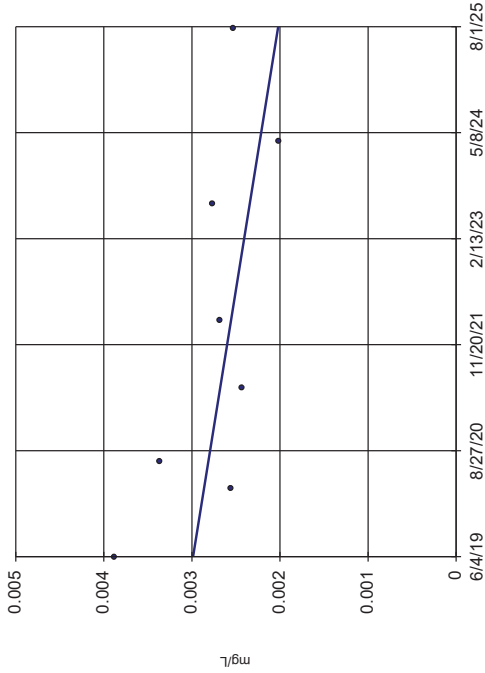


n = 8
Slope = 0.002037
units per year.
Mann-Kendall
statistic = 8
critical = 21
Trend not sig-
nificant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Constituent: Cobalt Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator

PZ-21

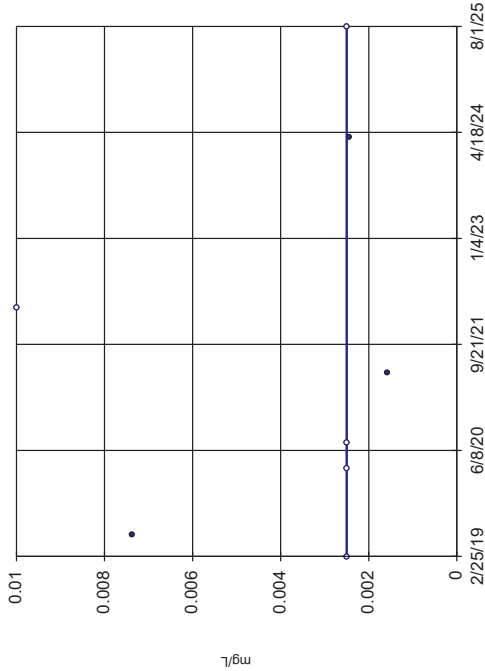


n = 8
Slope = -0.0001566
units per year.
Mann-Kendall
statistic = -12
critical = -21
Trend not sig-
nificant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Constituent: Cobalt Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator

MW-89-2

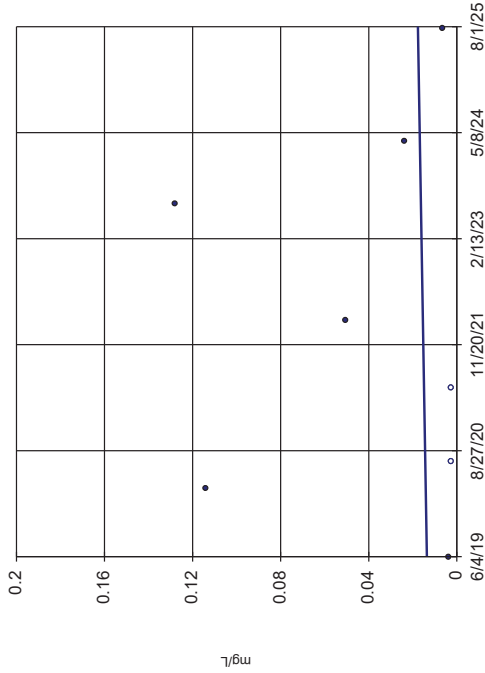


n = 8
Slope = 0
units per year.
Mann-Kendall
statistic = -21
critical = -21
Trend not sig-
nificant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Constituent: Copper Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator

PZ-21



n = 8
Slope = 0.0006549
units per year.
Mann-Kendall
statistic = 21
critical = 21
Trend not sig-
nificant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Constituent: Copper Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

0.005						n = 8
0.004						Slope = 0.0001238 units per year.
0.003						Mann-Kendall statistic = 10 critical = 21
						Trend not sig- nificant at 95% level (α = 0.05 per tail).

0.005					n = 8
0.004					Slope = 0 units per year.
0.003					Mann-Kendall statistic = 1 critical = 21
					Trend not sig- nificant at 19% confidence level ($\alpha = 0.005$ per tail).

Scatter plot showing the relationship between $\log_{10}(1 + 1000 \cdot (1 - R^2))$ on the x-axis and $\log_{10}(1 + 1000 \cdot (1 - R^2))$ on the y-axis. The plot includes four data points and a regression line. The y-axis ranges from 0.012 to 0.02, and the x-axis ranges from 0.012 to 0.02. The regression line has a positive slope.

Statistical results:

- Slope = 0.00756 units per year.
- Mann-Kendall statistic = 11, critical = 21.
- Trend not significant at 99% confidence level ($\alpha = 0.005$ per tail).

n = 8

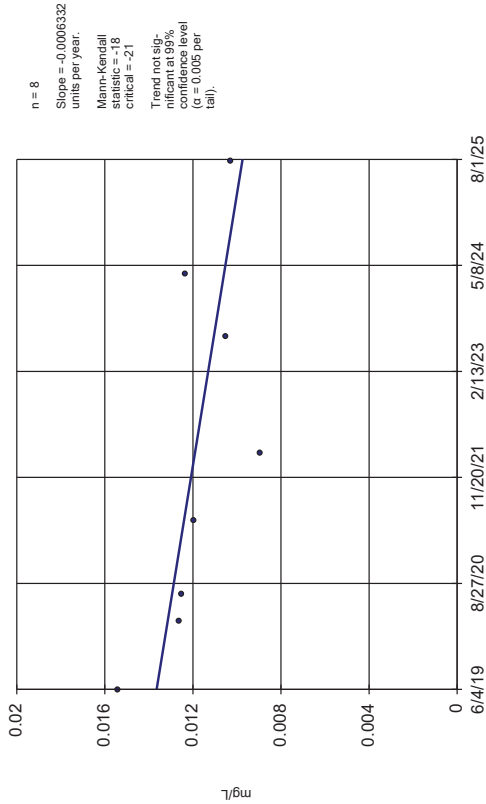
Slope = 0.0008056
units per year.

Mann-Kendall
statistic = 4
critical = 21

Trend not sig-
nificant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Sen's Slope Estimator

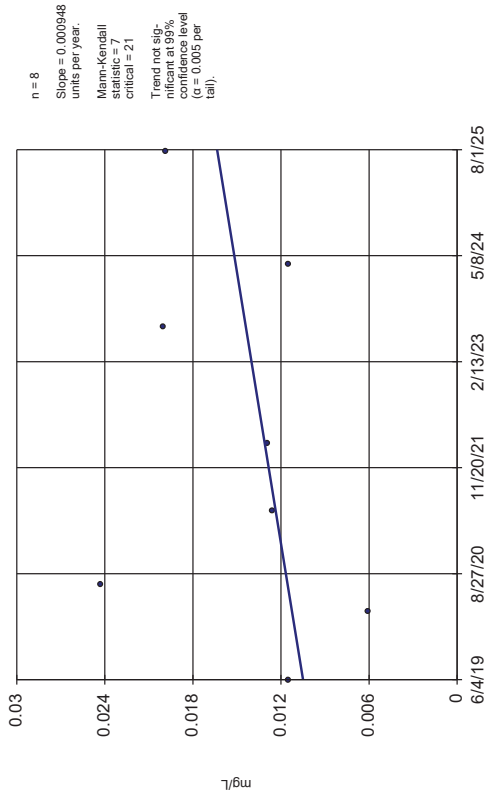
MW-89-7



Constituent: Nickel Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator

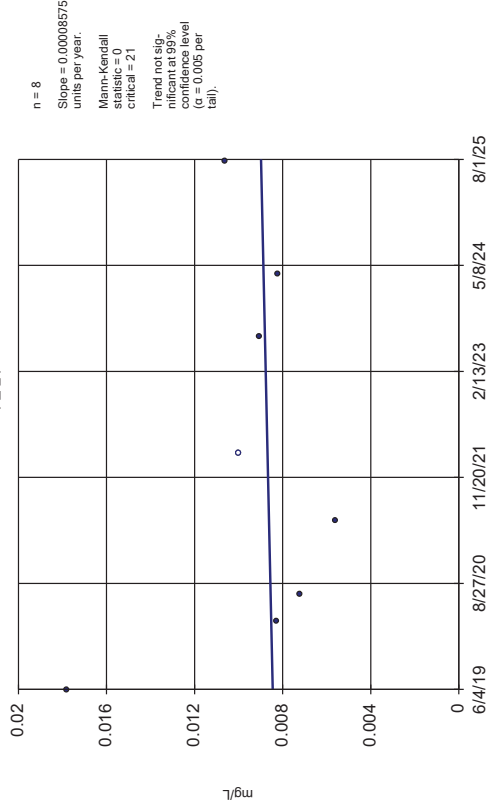
MW-89-9R



Constituent: Nickel Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator

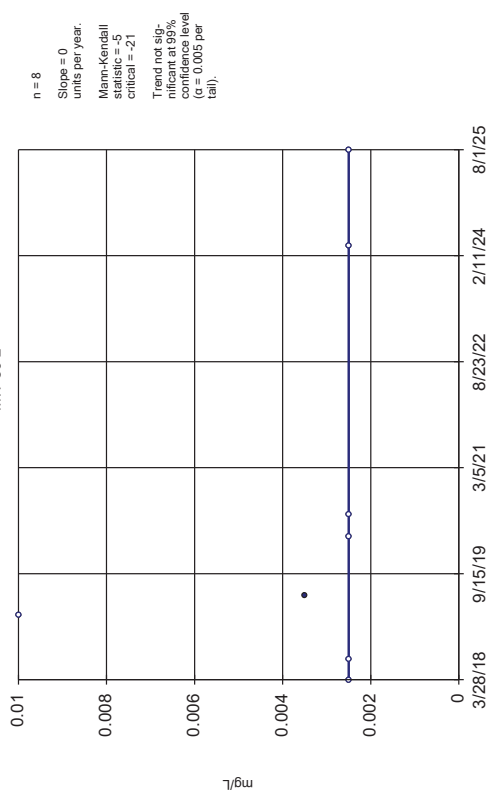
PZ-21



Constituent: Nickel Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator

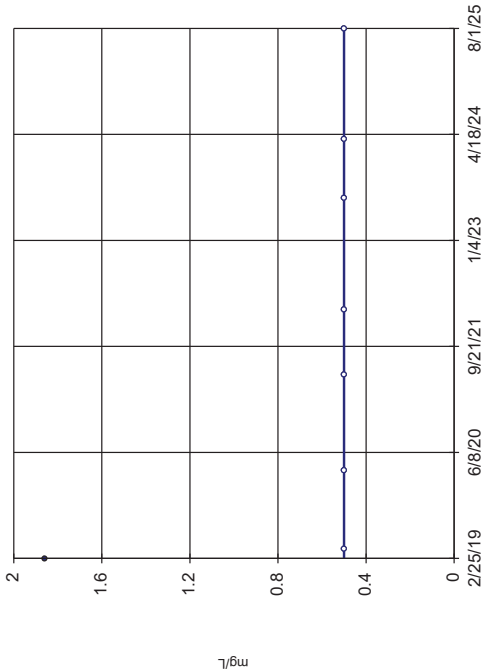
MW-89-2



Constituent: Selenium Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator

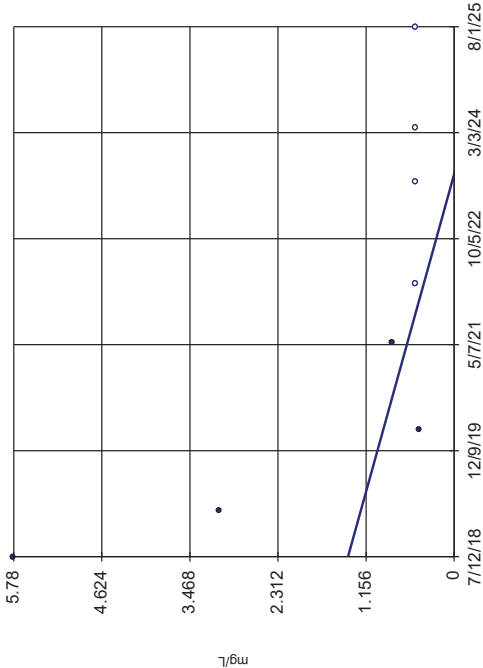
MW-89-9R



Constituent: Sulfide Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator

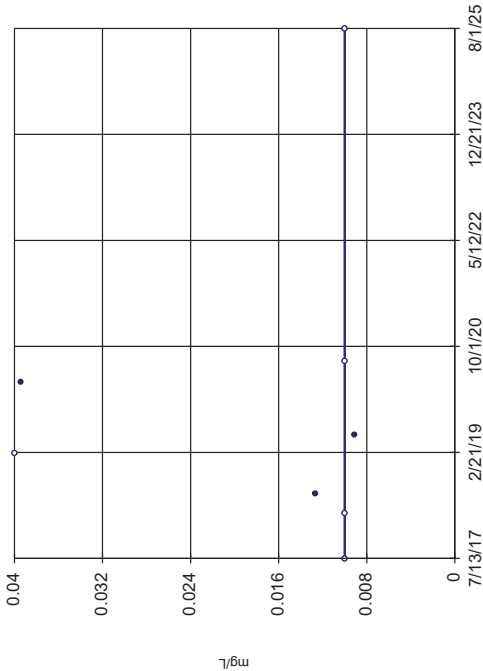
PZ-21



Constituent: Sulfide Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Sen's Slope Estimator

PZ-21



Constituent: Zinc Analysis Run 11/13/2025 9:46 AM View: 2025_AWQR-Mann_Kendall
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

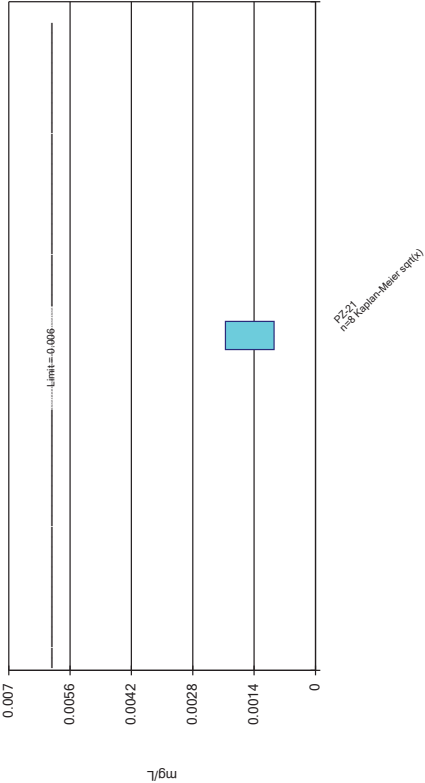
Confidence Interval Summary Table and Graphs

Confidence Interval

Union County Sanitary Landfill				Client: SCS Engineers		Data: UCSWC_AM_2025_AWQR		Printed 11/13/2025, 10:40 AM	
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha
Antimony (mg/L)	PZ-21	0.002055	0.0009459	0.006	No	8	25	sqrt(x)	0.01
Arsenic (mg/L)	MW-89-2	0.002925	0.000699	0.01	No	8	12.5	No	0.01
Arsenic (mg/L)	MW-89-6R	0.01614	0	0.01	No	8	12.5	No	0.01
Arsenic (mg/L)	MW-89-7	0.009174	0.003825	0.01	No	8	0	No	0.01
Arsenic (mg/L)	MW-89-9R	0.007059	0.001742	0.01	No	8	12.5	No	0.01
Arsenic (mg/L)	PZ-21	0.004	0.00086	0.01	No	8	25	No	0.004
Barium (mg/L)	MW-89-2	0.02922	0.02018	2	No	8	0	No	0.01
Barium (mg/L)	MW-89-6R	0.3981	0.1991	2	No	8	0	No	0.01
Barium (mg/L)	MW-89-9R	0.2543	0.105	2	No	8	0	No	0.01
Barium (mg/L)	PZ-21	0.01689	0.01328	2	No	8	0	No	0.01
Beryllium (mg/L)	PZ-21	0.00446	0.0005	0.004	No	8	62.5	No	0.004
Cadmium (mg/L)	MW-89-2	0.000295	0.00005	0.005	No	8	62.5	No	0.004
Cadmium (mg/L)	MW-89-6R	0.0001438	0.00008791	0.005	No	8	37.5	ln(x)	0.01
Carbon disulfide (ug/L)	MW-89-2	1.46	0.401	700	No	8	75	No	0.004
Carbon disulfide (ug/L)	PZ-21	0.8283	0.3961	700	No	8	37.5	No	0.01
Chromium (mg/L)	MW-89-2	0.009272	0.001821	0.1	No	8	12.5	ln(x)	0.01
Cobalt (mg/L)	MW-89-2	0.005376	0.0003108	0.01651	No	8	0	No	0.01
Cobalt (mg/L)	MW-89-6R	0.01916	0.007062	0.01651	No	8	0	sqrt(x)	0.01
Cobalt (mg/L)	MW-89-7	0.006653	0.003852	0.01651	No	8	0	No	0.01
Cobalt (mg/L)	MW-89-9R	0.02191	0.002333	0.01651	No	8	0	No	0.01
Cobalt (mg/L)	PZ-21	0.003398	0.002157	0.01651	No	8	0	No	0.01
Copper (mg/L)	MW-89-2	0.01	0.00158	1.3	No	8	62.5	No	0.004
Copper (mg/L)	PZ-21	0.08233	0.002581	1.3	No	8	25	x^(1/3)	0.01
Lead (mg/L)	MW-89-2	0.000791	0.00025	0.015	No	8	62.5	No	0.004
Lead (mg/L)	PZ-21	0.0006235	0.0003261	0.015	No	8	37.5	No	0.01
Nickel (mg/L)	MW-89-2	0.0188	0.0025	0.1	No	8	25	No	0.004
Nickel (mg/L)	MW-89-6R	0.02056	0.008859	0.1	No	8	0	x^(1/3)	0.01
Nickel (mg/L)	MW-89-7	0.01388	0.009757	0.1	No	8	0	No	0.01
Nickel (mg/L)	MW-89-9R	0.02116	0.008526	0.1	No	8	0	No	0.01
Nickel (mg/L)	PZ-21	0.01321	0.006136	0.1	No	8	12.5	sqrt(x)	0.01
Selenium (mg/L)	MW-89-2	0.01	0.0025	0.05	No	8	87.5	No	0.004
Sulfide (mg/L)	MW-89-9R	1.86	0.5	1	No	8	87.5	No	0.004
Sulfide (mg/L)	PZ-21	5.78	0.465	1	No	8	50	No	0.004
Zinc (mg/L)	PZ-21	0.04	0.00913	2	No	8	62.5	No	0.004

Parametric Confidence Interval

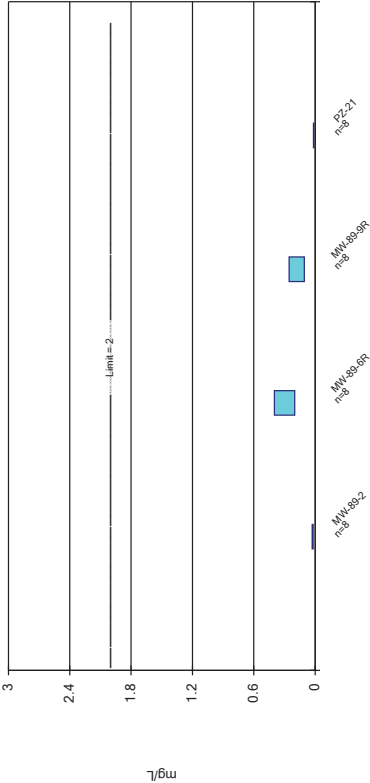
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Antimony Analysis Run 11/13/2025 10:38 AM View: 2025_AWQR-Confidence_Interval
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Parametric Confidence Interval

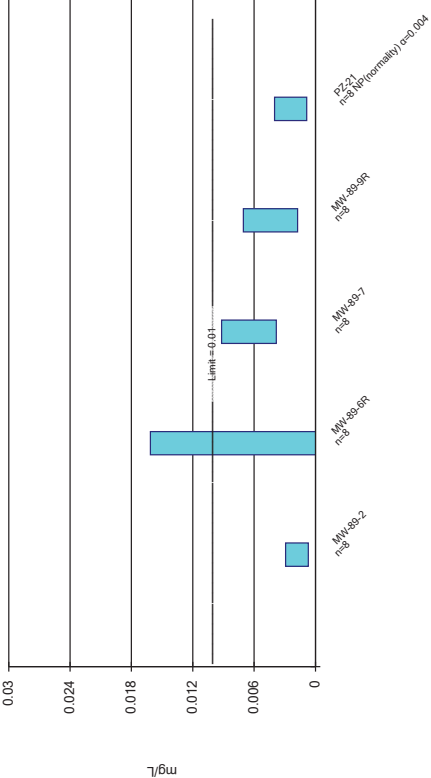
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 11/13/2025 10:38 AM View: 2025_AWQR-Confidence_Interval
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Parametric and Non-Parametric (NP) Confidence Interval

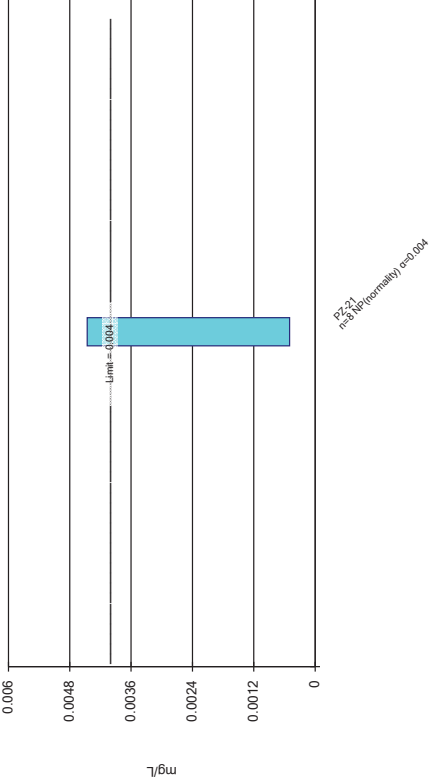
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 11/13/2025 10:38 AM View: 2025_AWQR-Confidence_Interval
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Non-Parametric Confidence Interval

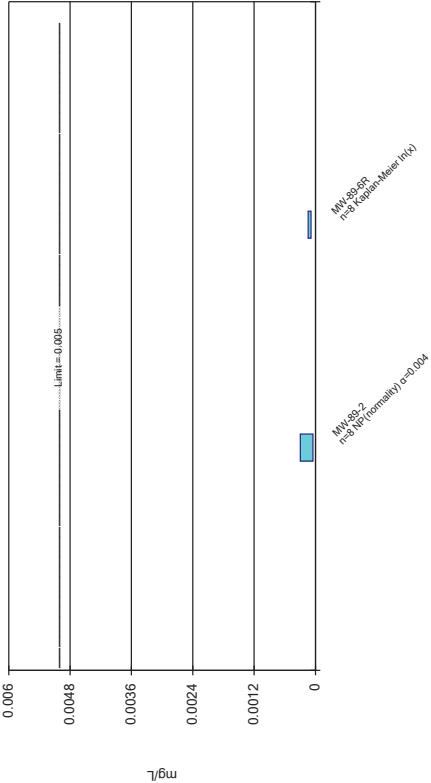
Compliance Limit is not exceeded.



Constituent: Beryllium Analysis Run 11/13/2025 10:38 AM View: 2025_AWQR-Confidence_Interval
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Parametric and Non-Parametric (NP) Confidence Interval

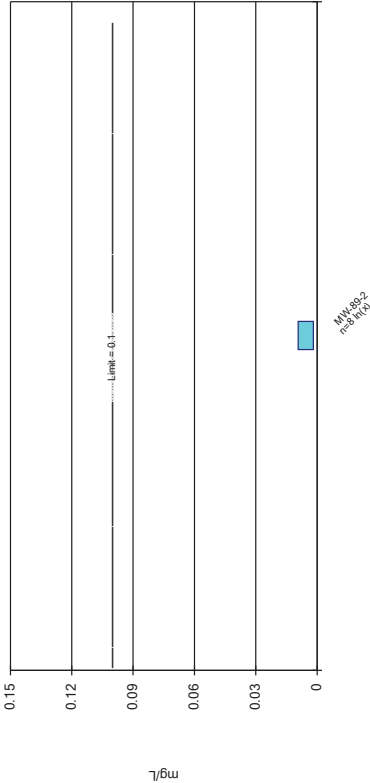
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium Analysis Run 11/13/2025 10:38 AM View: 2025_AWQR-Confidence_Interval
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Parametric Confidence Interval

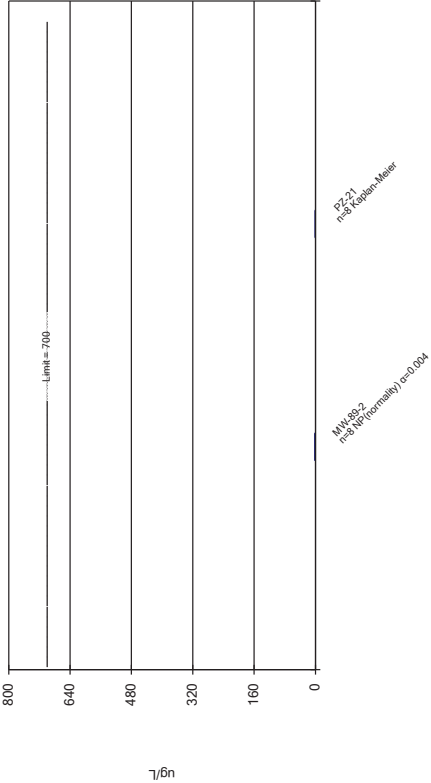
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Chromium Analysis Run 11/13/2025 10:38 AM View: 2025_AWQR-Confidence_Interval
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Parametric and Non-Parametric (NP) Confidence Interval

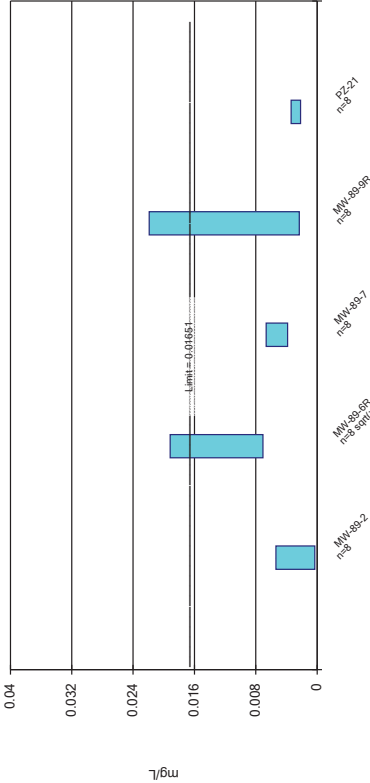
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Carbon disulfide Analysis Run 11/13/2025 10:38 AM View: 2025_AWQR-Confidence_Interval
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Parametric Confidence Interval

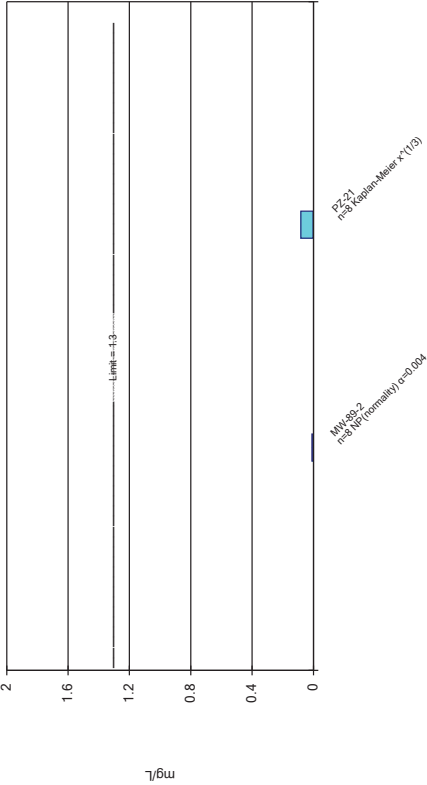
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 11/13/2025 10:38 AM View: 2025_AWQR-Confidence_Interval
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Parametric and Non-Parametric (NP) Confidence Interval

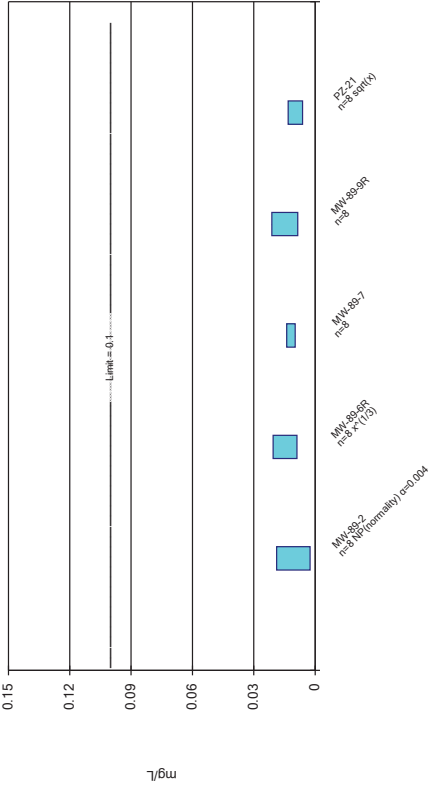
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Copper Analysis Run 11/13/2025 10:39 AM View: 2025_AWQR-Confidence Interval
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Parametric and Non-Parametric (NP) Confidence Interval

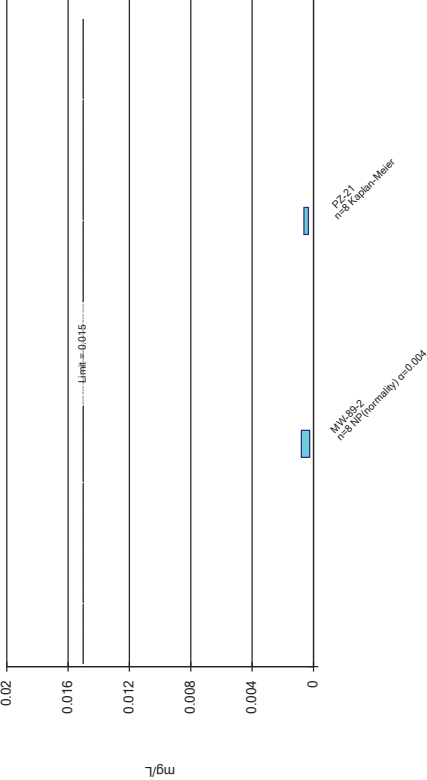
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Nickel Analysis Run 11/13/2025 10:39 AM View: 2025_AWQR-Confidence Interval
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Parametric and Non-Parametric (NP) Confidence Interval

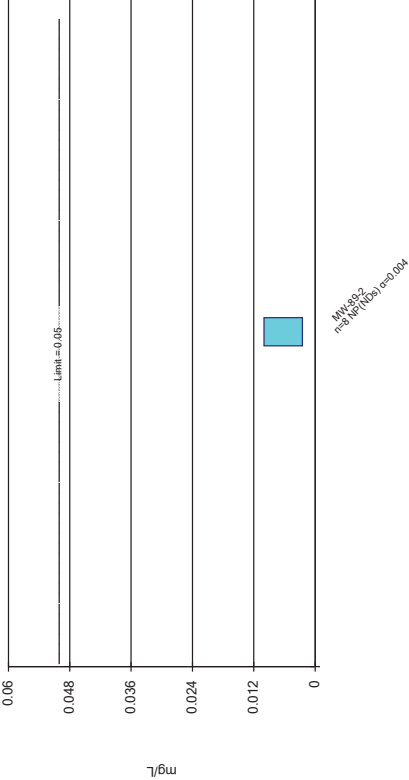
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lead Analysis Run 11/13/2025 10:39 AM View: 2025_AWQR-Confidence Interval
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Non-Parametric Confidence Interval

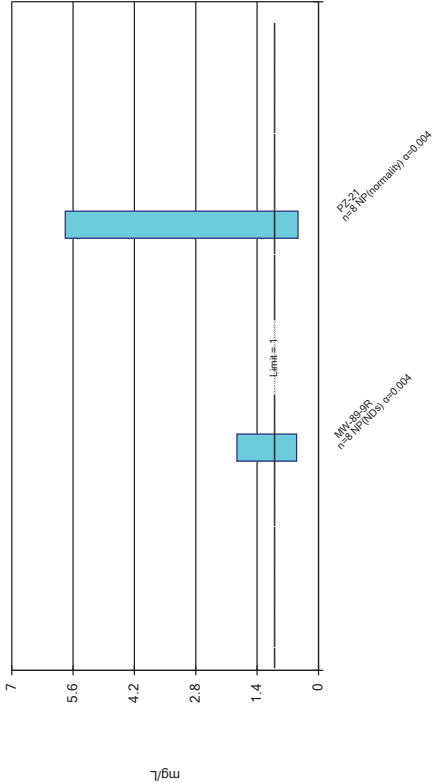
Compliance Limit is not exceeded.



Constituent: Selenium Analysis Run 11/13/2025 10:39 AM View: 2025_AWQR-Confidence Interval
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Non-Parametric Confidence Interval

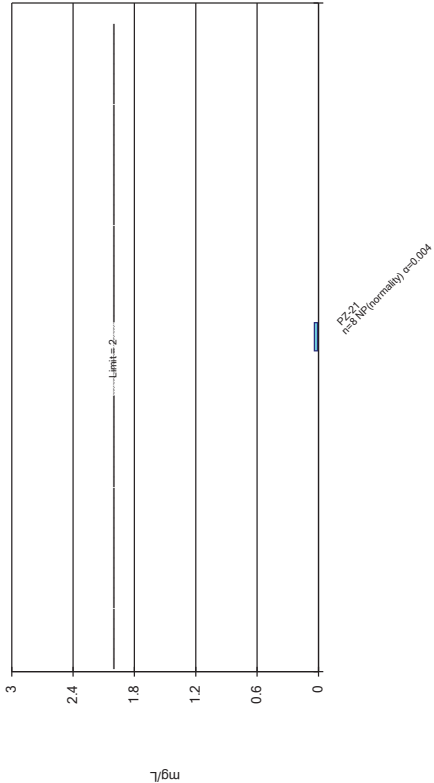
Compliance Limit is not exceeded.



Constituent: Sulfide Analysis Run 11/13/2025 10:39 AM View: 2025_AWQR-Confidence_Interval
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



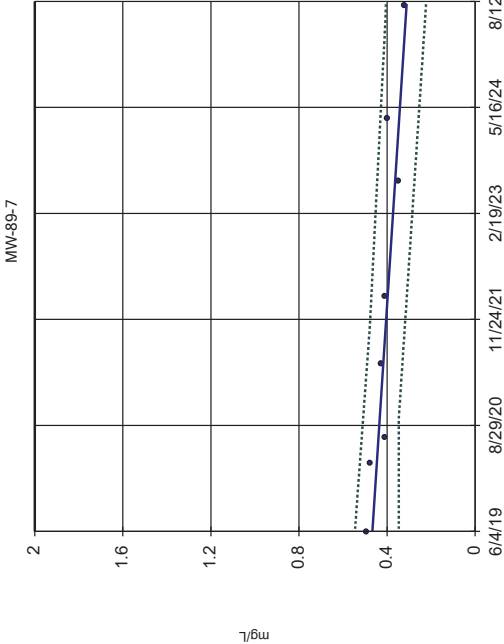
Constituent: Zinc Analysis Run 11/13/2025 10:39 AM View: 2025_AWQR-Confidence_Interval
Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

Theil-Sen Confidence Bands Summary Table and Graphs

Trend Test

Union County Sanitary Landfill		Client: SCS Engineers		Data: UCSWC_AM_2025_AWQR		Printed 11/13/2025, 10:53 AM			
<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Alpha</u>	<u>Method</u>
Barium (mg/L)	MW-89-7	-0.02522	-23	-21	Yes	8	0	0.01	NP

Sen's Slope and 99% Confidence Band



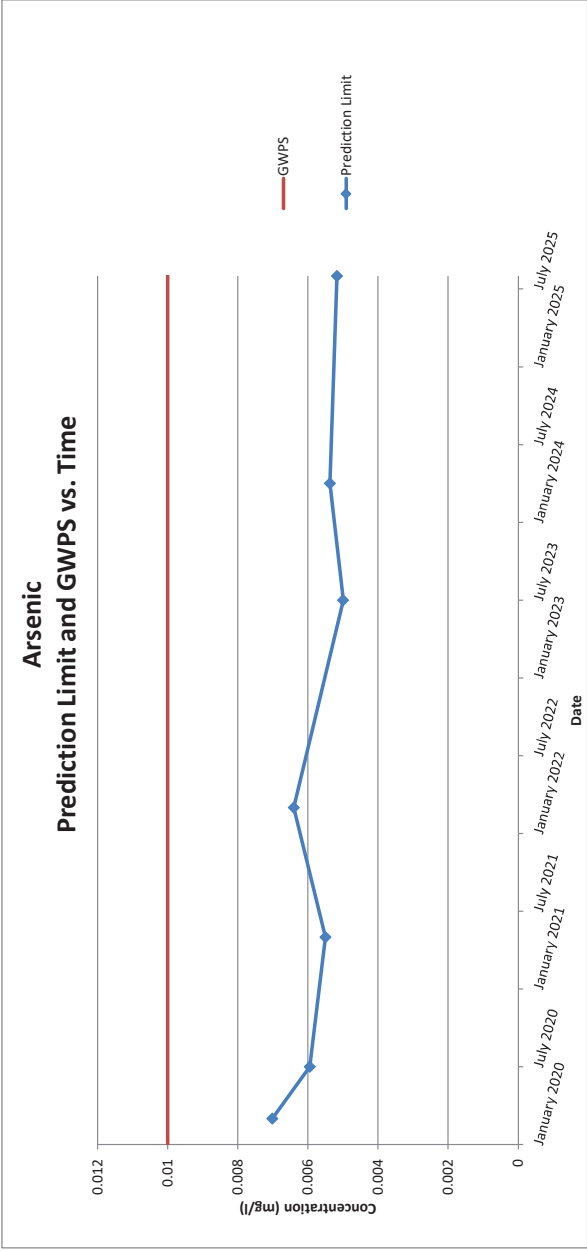
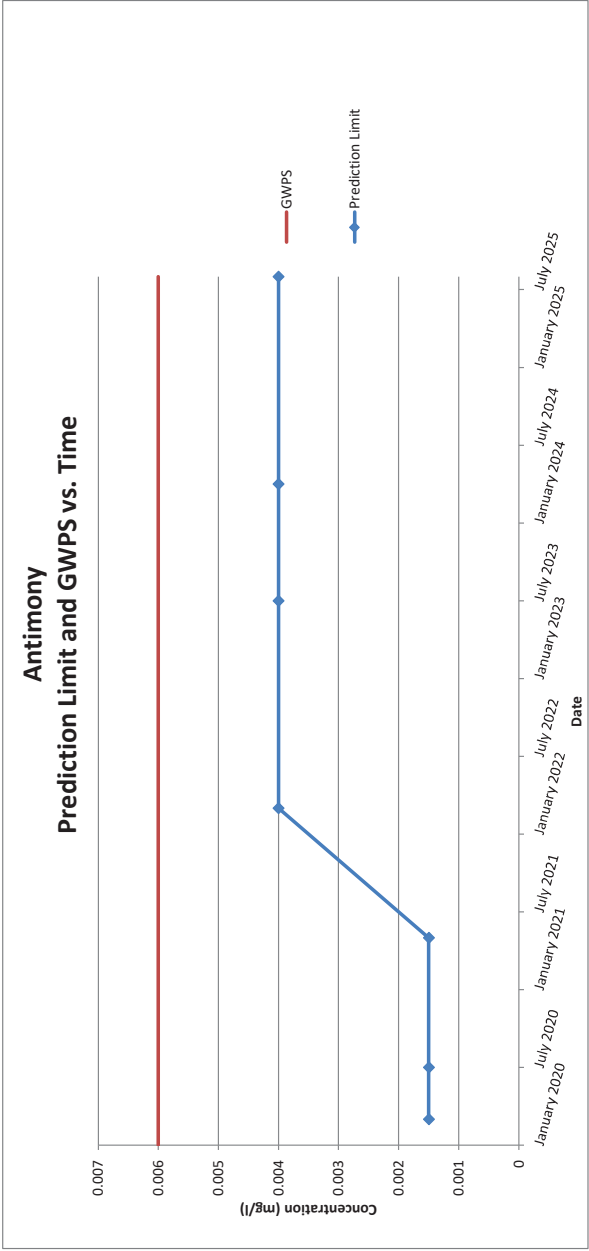
n = 8
Slope = -0.02522
units per year.
Mann-Kendall
statistic = -23
critical = -21
Decreasing trend
significant at 99%
confidence level
($\alpha = 0.005$ per
tail).
Confidence band is
below GWPS mg/L (2).

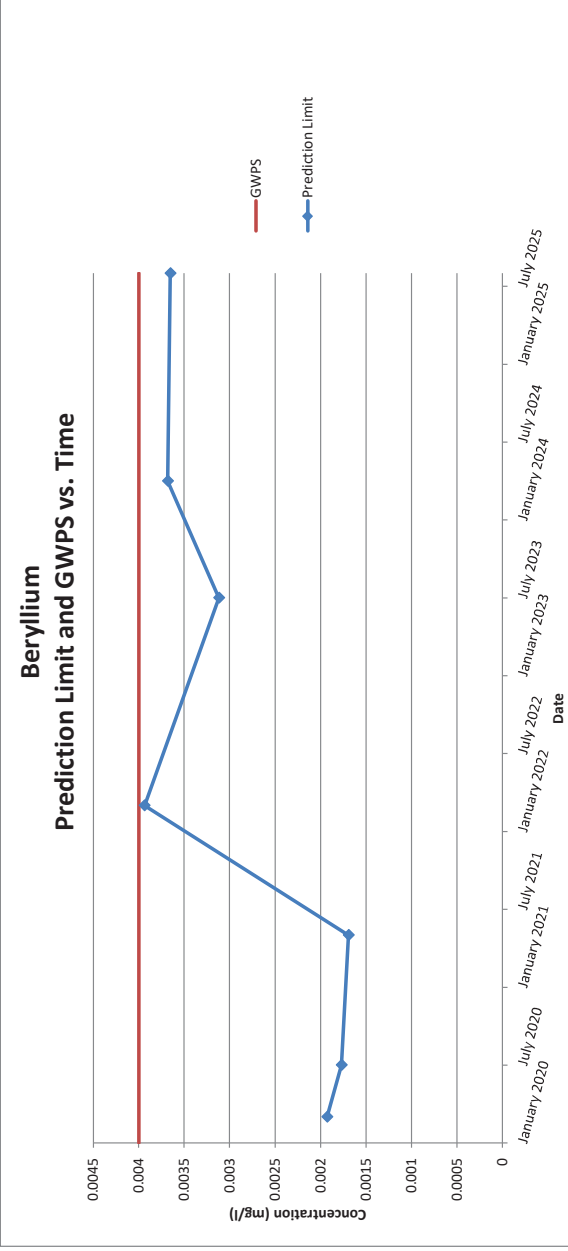
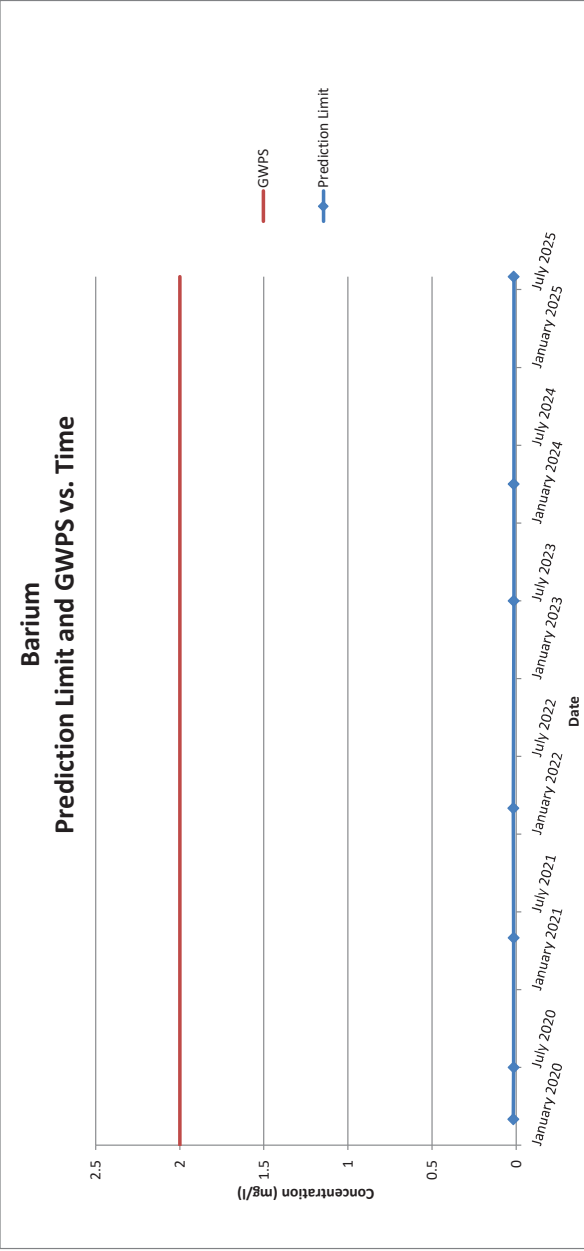
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Union County Sanitary Landfill Client: SCS Engineers Data: UCSWC_AM_2025_AWQR

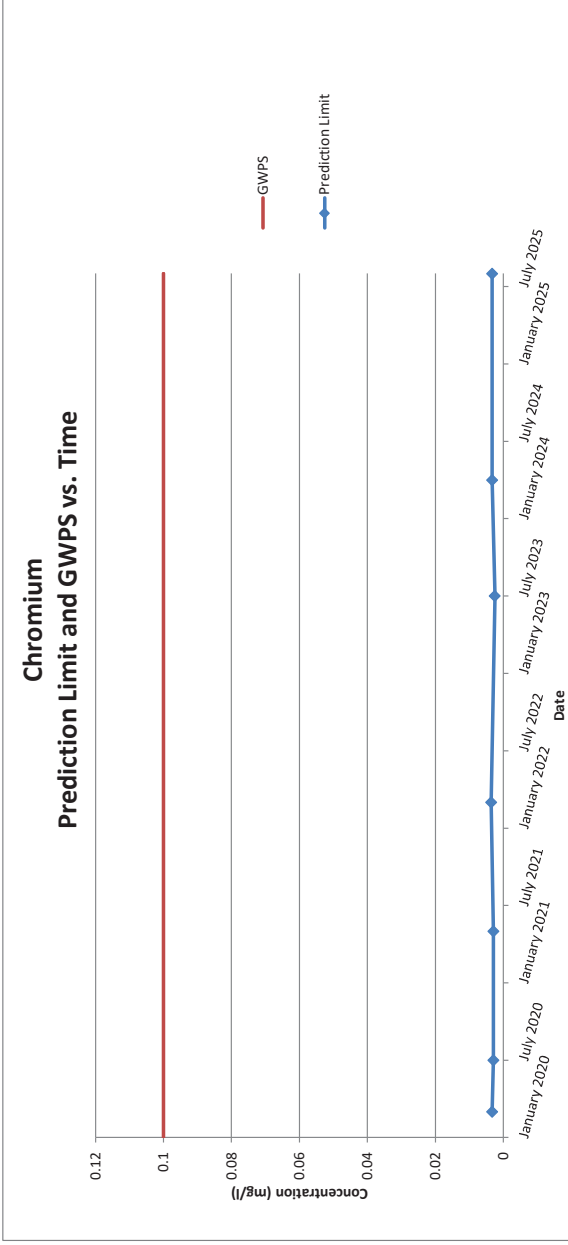
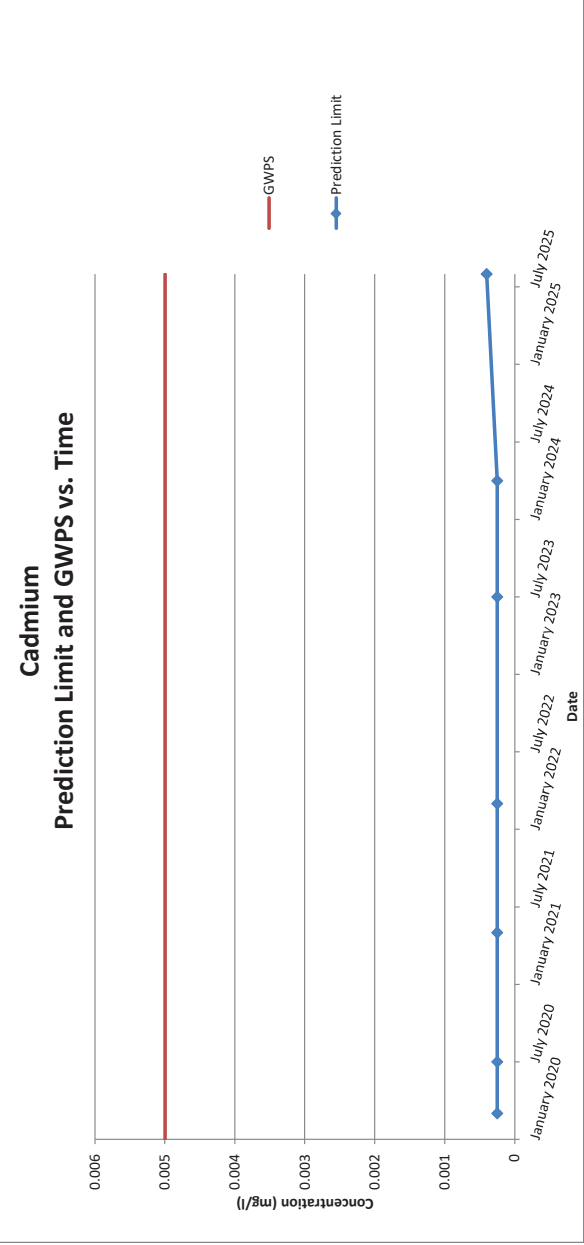


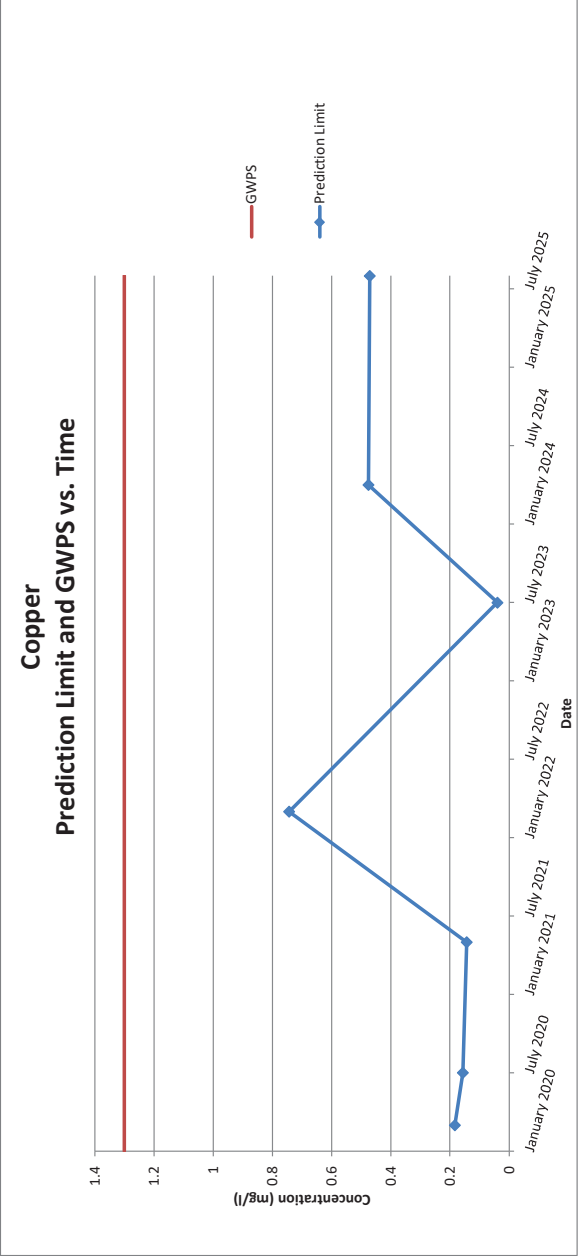
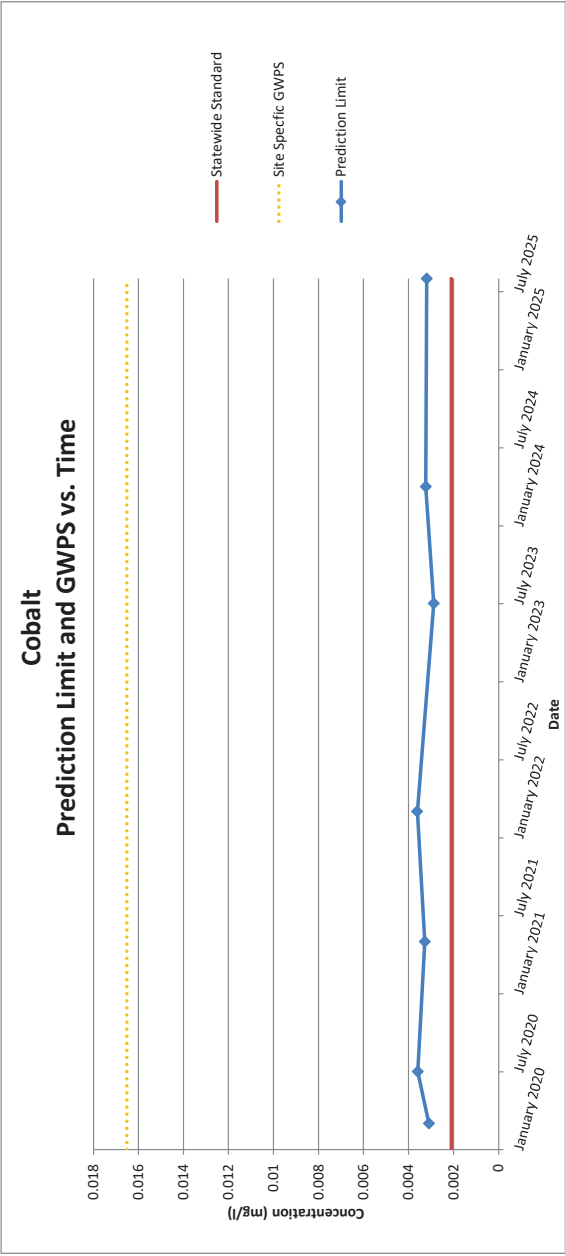
Appendix E

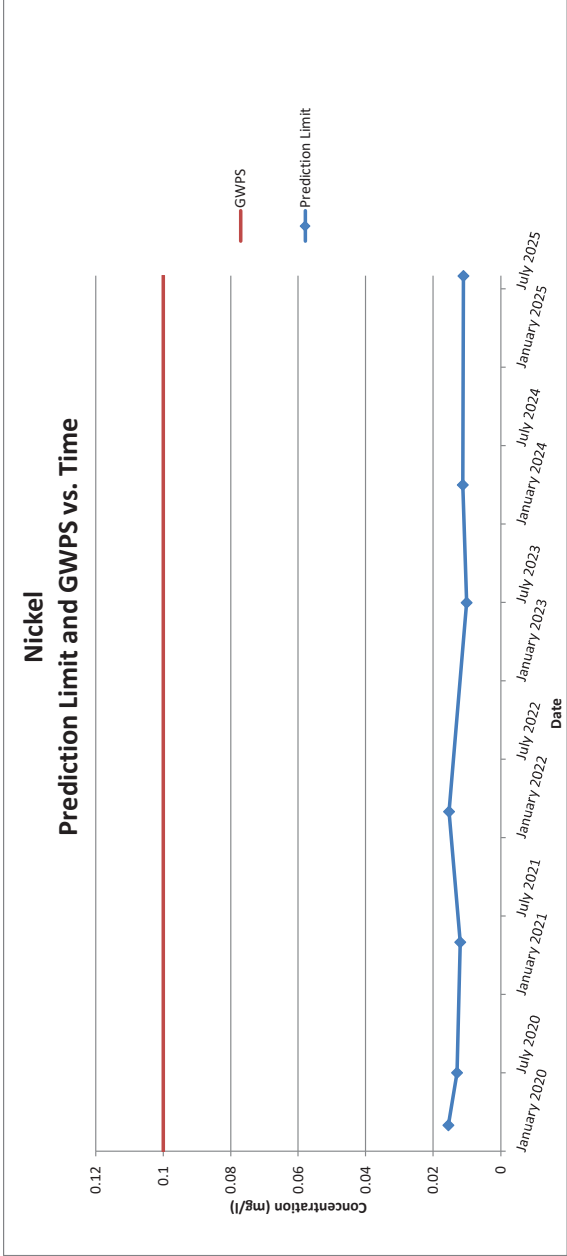
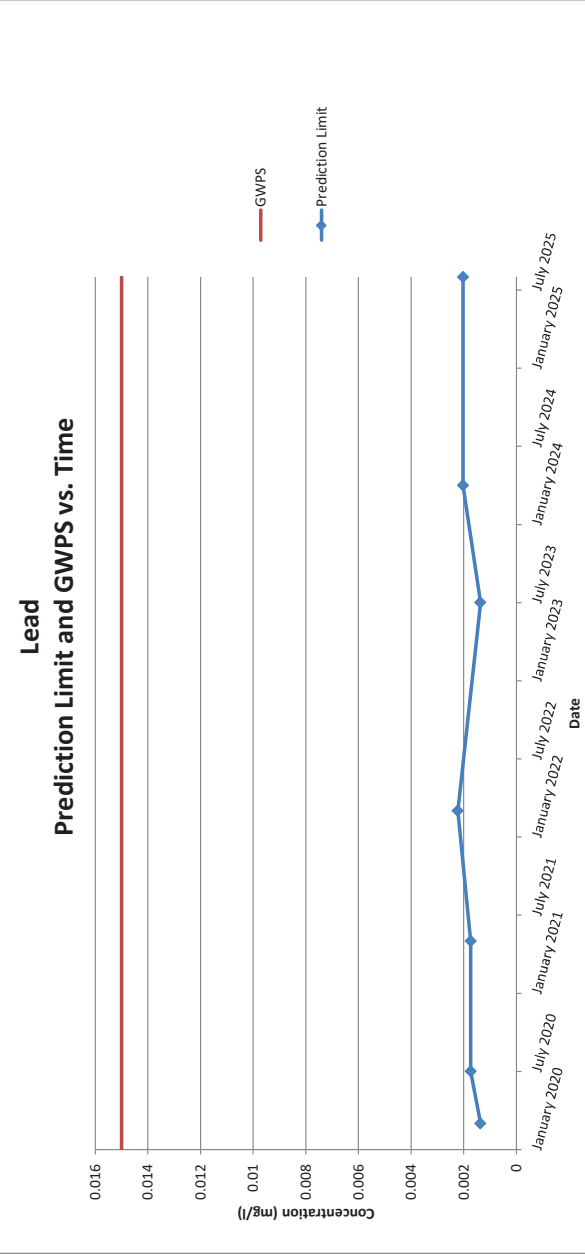
Standards History Graphs

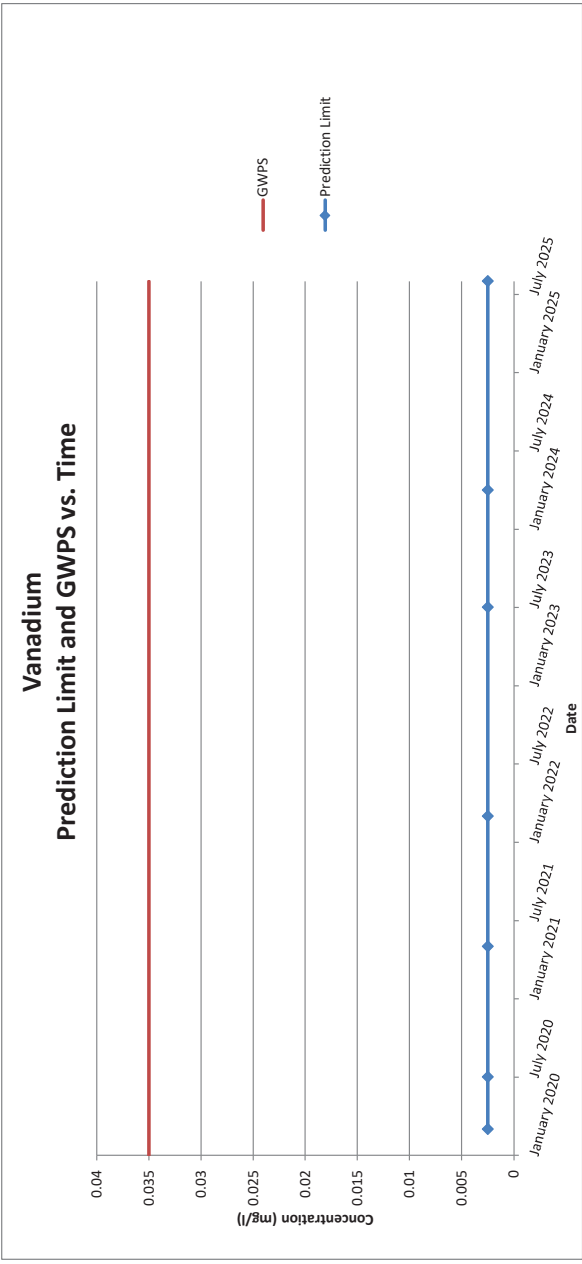
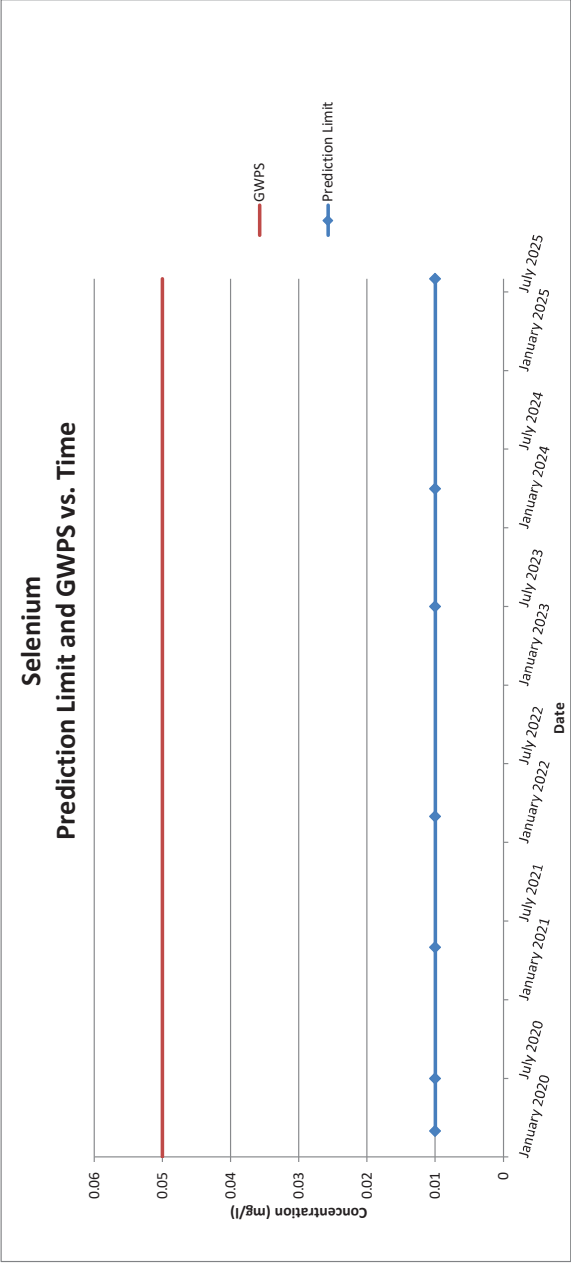


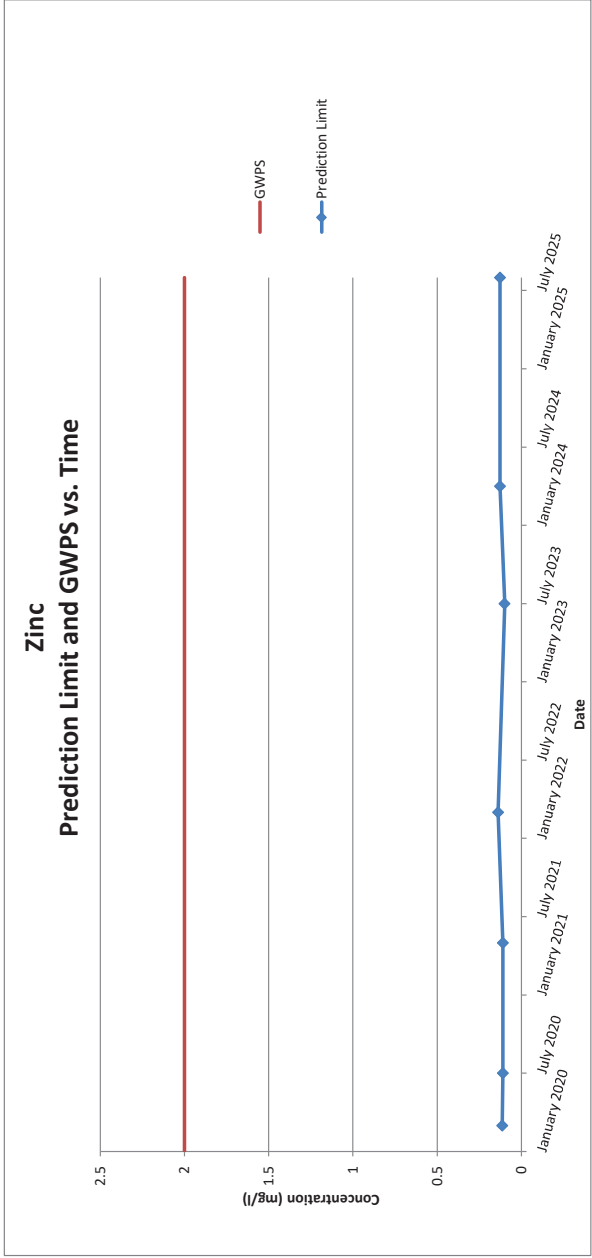














Appendix F

2025 Leachate Control System Performance Evaluation Report

Leachate Management Summary
2025 Leachate Control System Performance Evaluation Report
Union County Sanitary Landfill
Permit No. 88-SDP-01-79C

Date	Column Thickness (ft)				Discharged to Corning POTW (gal)	Precipitation (in)
	LPZ-2R	LPZ-4R	LPZ-5R	LPZ-6		
7/2024					504,082	3.16
8/2024						2.18
9/2024	6.9	10.8	16.8	20.1		1.93
10/2024						1.76
11/2024						2.30
12/2024						0.84
1/2025						0.49
2/2025						0.01
3/2025	7.9	15.5	21.9	24.9		2.03
4/2025						3.59
5/2025						2.92
6/2025						5.53
7/2025	8.3	NA (Damage)	22.2	28.6		4.85
8/2025						1.11
9/2025						1.25
10/2025						1.97
11/2025						0.33
Reporting Period Total					504,082	36.25

Comments:

Reporting Period: July 2024 - November 2025

Recommended Changes to Leachate Collection System: None.

Maintenance Performed on Leachate Collection System: None.

Last Date of Cleaning and Inspection: September 2024.

Date for Next Cleaning and Inspection: Leachate line cleaning and inspection will be performed next in 2027.

Volume of Leachate Recirculated: Leachate is not recirculated.

Volume of Leachate Treated On-Site: Leachate is not treated on-site.

Volume of Leachate Treated Off-Site: 504,082 gallons of leachate were hauled for treatment during this reporting period.

Leachate Quality Testing Results: Leachate sampling analytical results for 2024 and 2025 are attached.

Precipitation data from the Iowa State University Iowa Environmental Mesonet
(https://mesonet.agron.iastate.edu/ASOS/reports/mon_prec.php?)

Historical leachate levels and graphs are attached

Notes:

- 1) The closure permit issued July 2, 2008 (Document #25637) requires semi-annual leachate measurements of leachate head levels and elevations.
- 2) Thicknesses remained generally stable and consistent with historical measurements.

ATTACHMENT A
UNION COUNTY SANITARY LANDFILL (CLOSED)
HISTORICAL LEACHATE COLUMN THICKNESSES

Piezometer	LPZ-2				LPZ-4				LPZ-5				LPZ-6			
	DEPTH TO LEACHATE	MEASURED DEPTH	COLUMN THICKNESS	DEPTH TO LEACHATE	MEASURED DEPTH	COLUMN THICKNESS	DEPTH TO LEACHATE	MEASURED DEPTH	DEPTH TO LEACHATE	MEASURED DEPTH	COLUMN THICKNESS	DEPTH TO LEACHATE	MEASURED DEPTH	COLUMN THICKNESS	DEPTH TO LEACHATE	MEASURED DEPTH
Total Depth		46.1			25.9					42.7				44.2		
11/19/2003	12.60	NA	33.5	4.80	NA	25.1	11.15	NA	31.6	NA	NA	31.60	NA	12.6		
12/31/2003	11.66	42.5	34.4	4.40	30.0	25.5	17.60	42.1	25.1	44.0	15.5	28.75	NA	15.5		
2/10/2004	13.10	44.2	33.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
3/9/2004	12.80	43.0	33.3	4.90	29.8	25.0	18.80	43.0	23.9	44.5	17.9	26.30	44.5	17.9		
4/8/2004	NA	NA	NA	4.70	29.6	25.2	19.50	43.2	23.2	44.2	19.1	25.10	44.2	19.1		
5/11/2004	NA	NA	NA	5.00	29.6	24.9	19.50	43.3	23.2	44.3	18.4	25.80	44.3	18.4		
6/2/2004	NA	NA	NA	4.70	29.6	25.2	19.50	43.0	23.2	44.3	15.9	28.30	44.3	15.9		
7/6/2004	NA	NA	NA	4.70	29.6	25.2	17.70	42.5	25.0	44.2	15.2	29.00	44.2	15.2		
8/11/2004	10.80	48.9	35.3	4.60	29.9	25.3	19.20	42.5	23.5	44.3	18.2	26.00	44.3	18.2		
9/21/2004	18.40	48.8	27.7	2.50	31.8	27.4	19.60	42.8	23.1	44.0	19.3	24.90	44.0	19.3		
10/22/2004	18.20	49.0	27.9	4.80	29.9	25.1	19.20	42.5	23.5	44.3	21.4	22.80	44.3	21.4		
1/31/2005	16.10	NA	30.0	4.50	NA	25.4	20.20	NA	22.5	NA	NA	22.80	NA	NA		
9/20/2005	11.93	16.7	34.2	11.93	16.7	18.0	11.93	16.7	30.8	11.93	32.3	11.93	16.7	32.3		
3/7/2006	9.25	17.3	36.9	9.25	17.3	20.7	9.25	17.3	33.5	9.25	17.3	9.25	17.3	35.0		
9/20/2006	8.80	17.8	37.3	8.80	17.8	21.1	8.80	17.8	33.9	8.80	35.4	8.80	17.8	35.4		
3/20/2007	6.80	17.8	39.3	6.80	17.8	23.1	6.80	17.8	35.9	6.80	37.4	6.80	17.8	37.4		
9/7/2007	7.10	17.8	39.0	7.10	17.8	22.8	7.10	17.8	35.6	7.10	37.1	7.10	17.8	37.1		
3/4/2008	NA	25.9	NA	NA	4.9	NA	NA	14.5	NA	21.85	22.4	21.85	43.9	22.4		
9/15/2008	NA	25.6	NA	NA	4.7	NA	NA	14.0	NA	26.60	17.6	26.60	34.3	17.6		
3/24/2009	NA	25.8	NA	NA	5.0	NA	NA	14.4	NA	23.00	21.2	23.00	34.3	21.2		
9/9/2009	Dry	25.6	NA	Dry	5.1	NA	Dry	14.4	NA	24.22	20.0	24.22	38.6	20.0		
3/3/2010	Dry	25.0	NA	NA	NA	NA	Dry	14.7	NA	29.64	14.6	29.64	38.2	14.6		
9/29/2010	Dry	25.0	NA	Dry	5.9	NA	Dry	14.0	NA	28.11	16.1	28.11	38.2	16.1		
3/25/2011	NM	NM	NA	NM	NA	NA	NM	NM	NA	NM	NA	NM	NM	NA		
9/1/2011	NM	NM	NA	NM	NA	NA	NM	NM	NA	24.31	19.9	24.31	34.2	19.9		
11/1/2011																
LPZ-1R, LPZ-2R, LPZ-4R, and LPZ-5R installed.																
Piezometer	LPZ-2R				LPZ-4R				LPZ-5R				LPZ-6			
	DEPTH TO LEACHATE	MEASURED DEPTH	COLUMN THICKNESS	DEPTH TO LEACHATE	MEASURED DEPTH	COLUMN THICKNESS	DEPTH TO LEACHATE	MEASURED DEPTH	DEPTH TO LEACHATE	MEASURED DEPTH	COLUMN THICKNESS	DEPTH TO LEACHATE	MEASURED DEPTH	COLUMN THICKNESS	DEPTH TO LEACHATE	MEASURED DEPTH
Total Depth		49.9			38.0					44.8				44.2		
2/27/2012	20.00	49.8	29.9	21.80	40.1	16.1	18.59	43.5	26.2	44.0	29.6	14.57	44.0	29.6		
10/18/2012	22.71	49.7	27.2	23.75	38.1	14.3	23.75	44.6	21.1	20.00	24.2	20.00	44.1	24.2		
4/24/2013	42.06	49.7	7.8	27.25	38.0	10.8	27.75	44.4	17.1	28.70	15.5	28.70	43.9	15.5		
10/2/2013	NA	NA	NA	29.73	38.3	8.3	27.85	44.4	17.0	30.15	14.1	30.15	43.9	14.1		
9/2/2014	43.25	49.5	6.7	NM	NM	NA	26.12	44.3	18.7	NM	NA	NM	NM	NA		
11/13/2014	43.10	49.6	6.8	28.70	38.7	9.3	26.90	44.2	17.9	25.90	18.3	25.90	34.3	18.3		
4/6/2015	42.25	49.7	7.7	28.20	37.7	9.8	26.80	44.4	18.0	25.50	18.7	25.50	34.4	18.7		
9/3/2015	42.60	49.7	7.3	27.49	37.7	10.5	26.04	44.3	18.8	25.68	18.5	25.68	34.3	18.5		
2/18/2016	42.62	49.8	7.3	27.81	37.8	10.2	26.71	44.4	18.1	25.80	18.4	25.80	34.3	18.4		
8/1/2016	42.80	49.9	7.1	26.90	37.7	11.1	25.95	44.3	18.9	25.35	18.9	25.35	44.3	18.9		
6/29/2017	43.02	49.7	6.9	28.32	37.7	9.7	25.40	44.4	19.4	26.42	17.8	26.42	44.3	17.8		
9/5/2017	43.47	49.7	6.4	28.72	37.7	9.3	27.14	44.4	17.7	25.87	18.3	25.87	44.3	18.3		
3/28/2018	40.92	49.7	9.0	28.21	37.6	9.8	27.50	44.4	17.3	27.05	17.2	27.05	34.3	17.2		
7/12/2018	41.07	49.7	8.8	28.34	37.6	9.7	27.20	44.4	17.6	27.18	17.0	27.18	34.3	17.0		
2/25/2019	41.30	49.7	8.6	27.50	37.6	10.5	26.20	44.4	18.6	27.50	16.7	27.50	34.3	16.7		
6/4/2019	40.70	49.7	9.2	26.33	37.6	11.7	24.99	44.4	19.8	25.73	18.5	25.73	34.3	18.5		
3/25/2020	40.45	49.6	9.5	27.74	37.7	10.3	25.86	44.3	18.9	27.59	16.6	27.59	34.3	16.6		
7/16/2020	41.53	50.6	8.4	27.87	37.6	10.1	25.79	44.3	19.0	26.64	17.6	26.64	34.3	17.6		
5/26/2021	41.05	49.4	8.9	27.93	34.6	10.1	24.04	44.8	20.8	27.12	17.1	27.12	34.3	17.1		
8/3/2021	41.28	49.5	8.6	27.71	37.6	10.3	25.21	44.3	19.6	25.37	18.8	25.37	34.3	18.8		
3/9/2022	42.08	49.5	7.8	28.10	37.6	9.9	27.00	44.2	17.8	23.77	20.4	23.77	34.3	20.4		
8/7/2022	41.79	49.4	8.1	27.50	37.6	10.5	25.51	44.3	19.31	19.31	24.9	19.31	34.3	24.9		
7/13/2023	41.88	49.5	8.0	27.95	37.6	10.1	26.95	44.3	17.9	23.70	20.5	23.70	34.3	20.5		
11/1/2023	40.23	49.3	9.7	27.75	37.6	10.3	25.42	44.2	19.4	19.71	24.5	19.71	34.3	24.5		
4/1/2024	42.11	49.4	7.8	26.27	37.6	11.7	26.98	44.3	17.8	23.75	20.5	23.75	34.3	20.5		
9/10/2024	43.01	49.4	6.9	27.20	37.6	10.8	28.00	44.3	16.8	24.13	20.1	24.13	34.3	20.1		
3/10/2025	42.00	49.3	7.9	22.49	32.6	15.5	22.90	44.3	21.9	19.26	24.9	19.26	34.3	24.9		
7/31/2025	41.63	49.7	8.3	Damage	Damage	NA	22.65	44.7	22.2	15.60	28.6	15.60	34.2	28.6		

Notes:

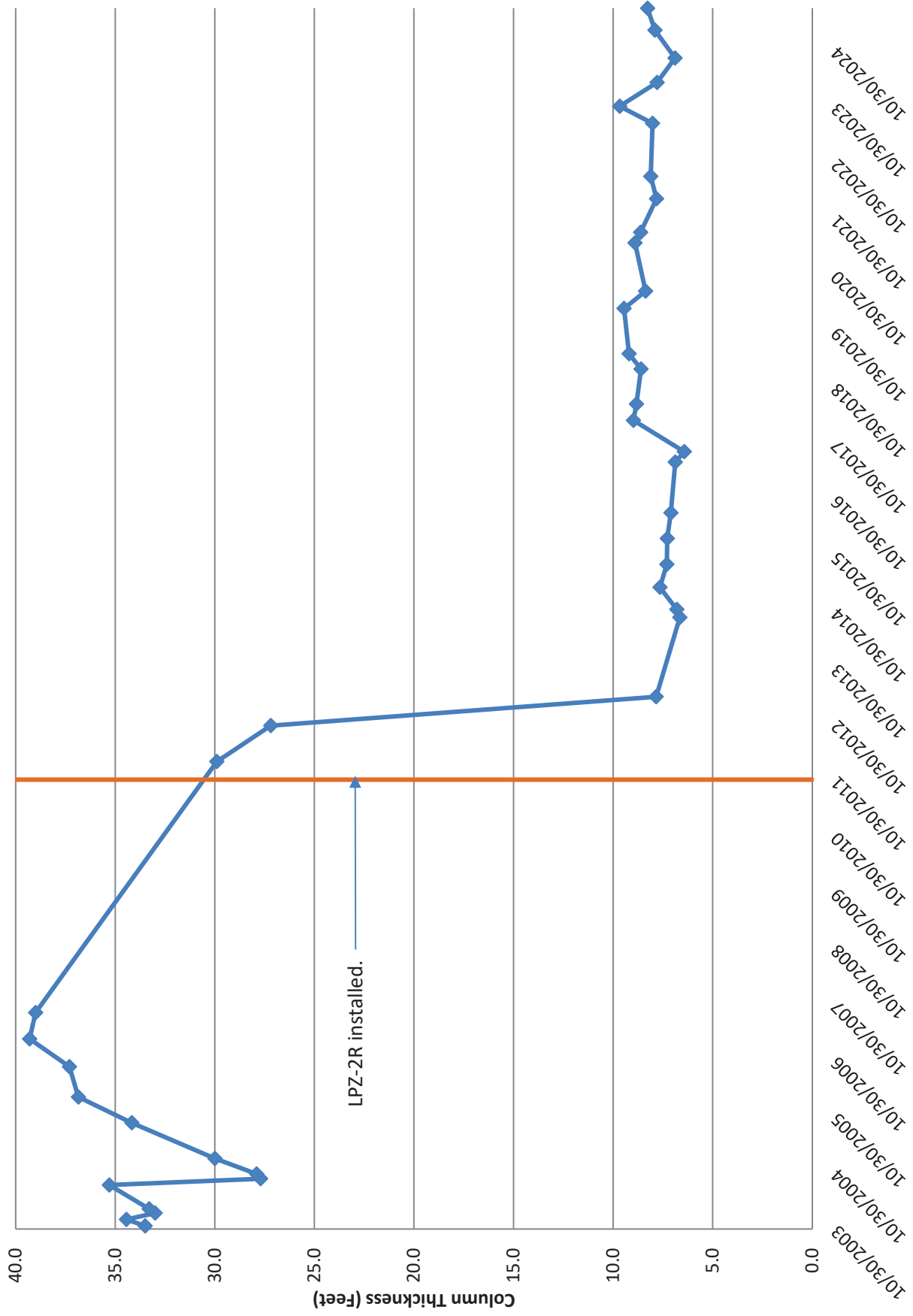
All measurements in feet.

NA - Piezometer was not found/measured.

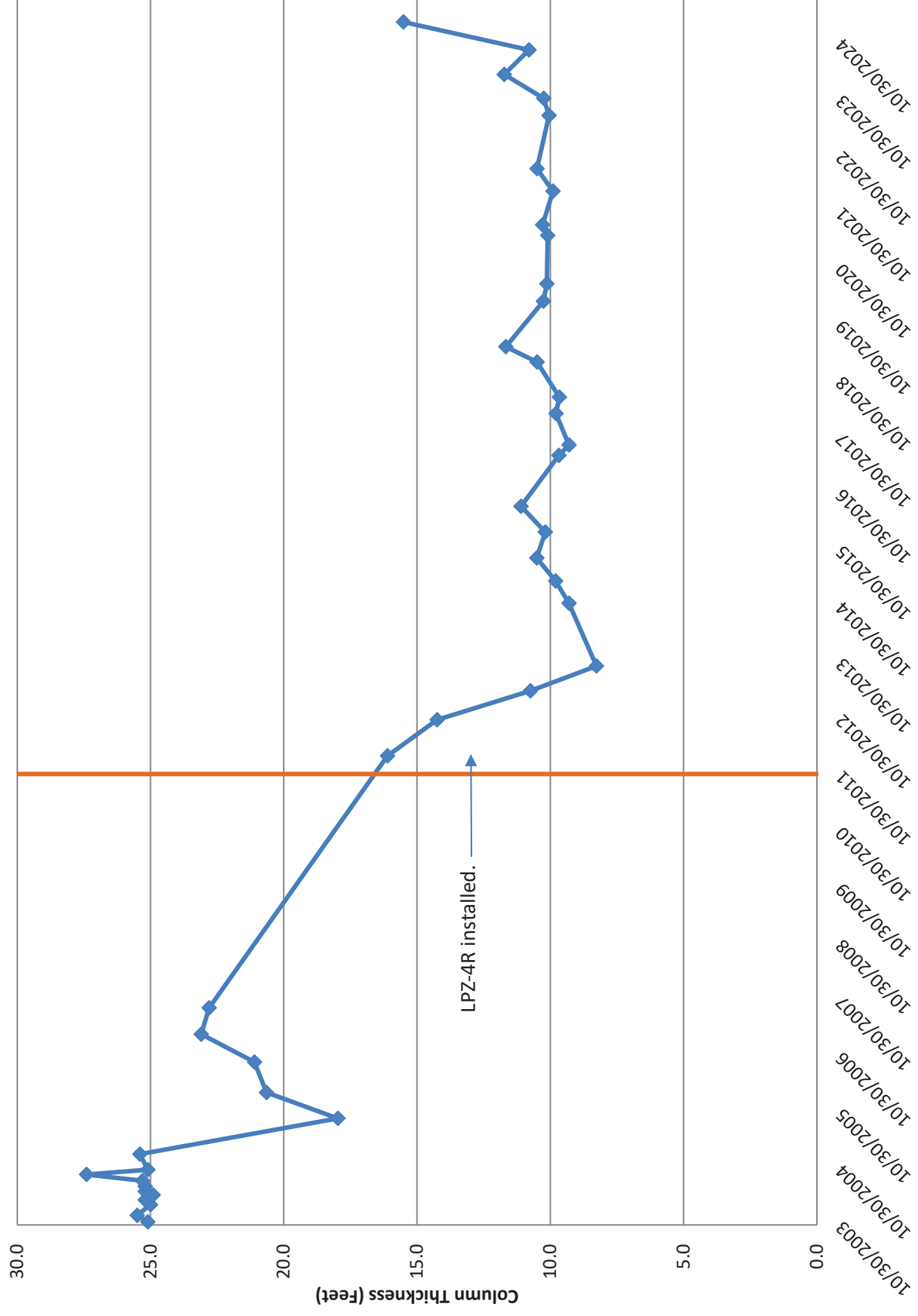
NM - Not measured

* Replacement piezometers LPZ-2R, LPZ-4R, and LPZ-5R installed in November 2011. TD represents total depths of replacement piezometers.

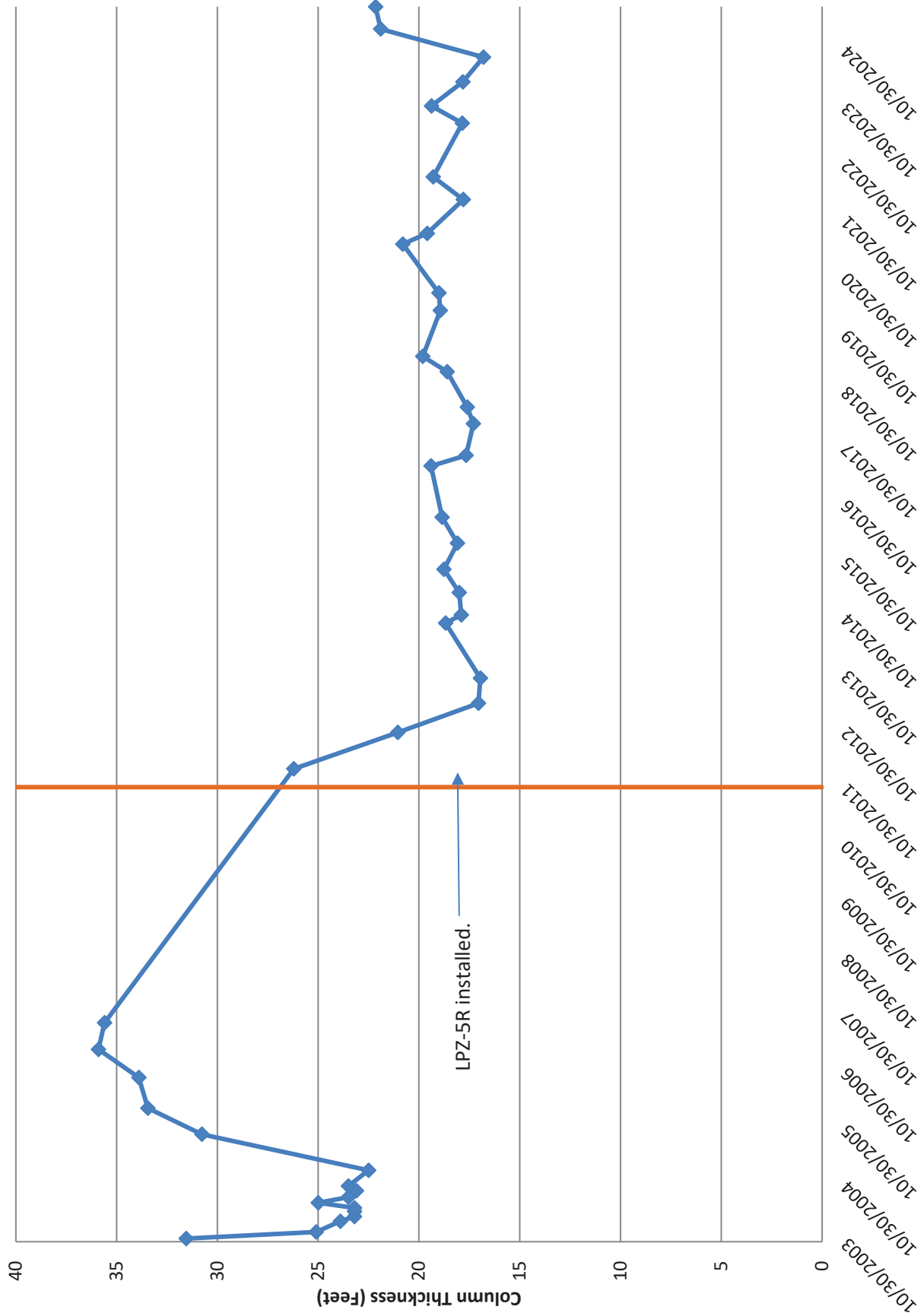
LPZ-2/LPZ-2R



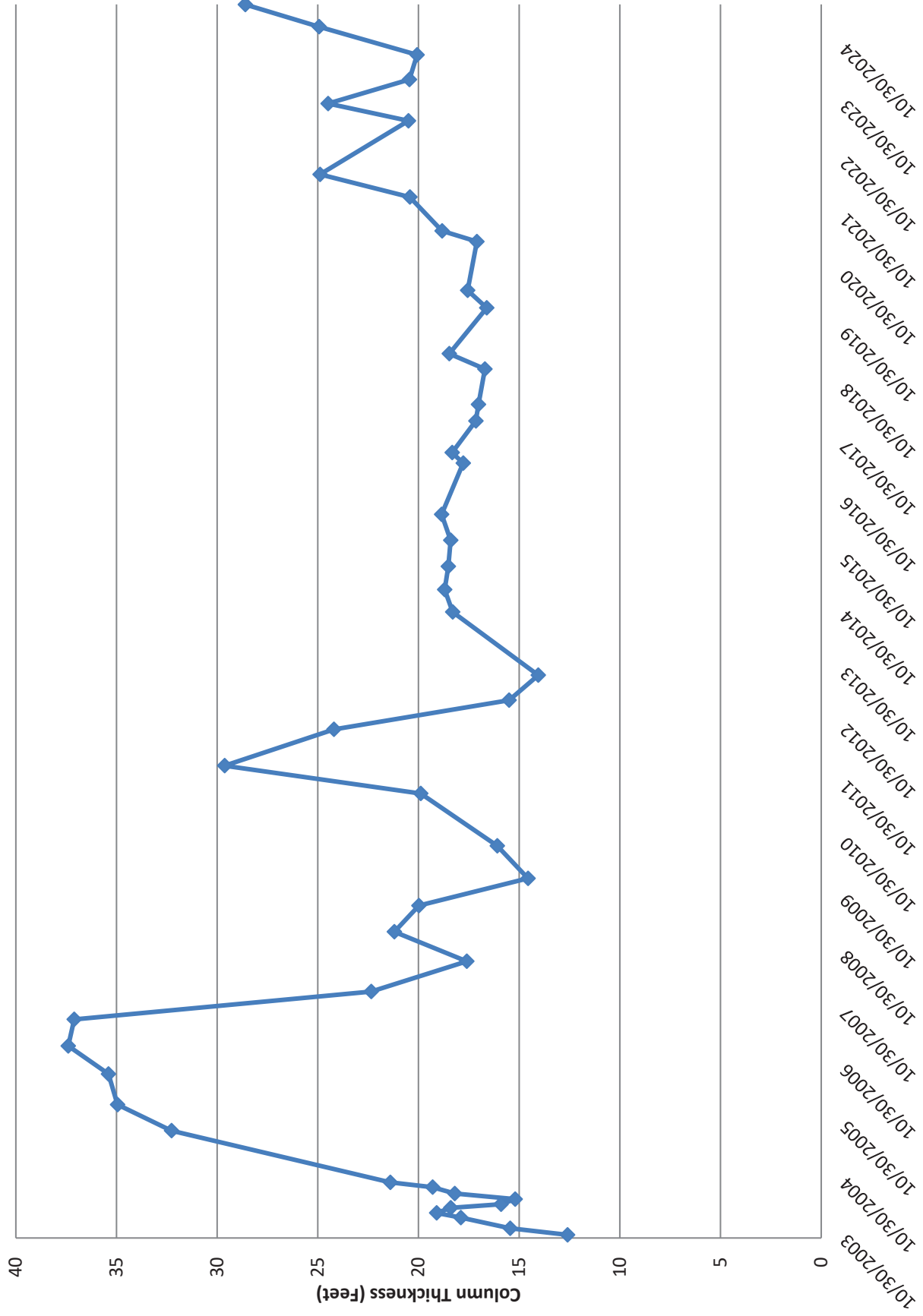
LPZ-4/LPZ-4R



LPZ-5/LPZ-5R



LPZ-6



ANALYTICAL REPORT

PREPARED FOR

Attn: Janeen Frey
Prairie Solid Waste Agency
1774 Lark Avenue
PO BOX 227
Creston, Iowa 50801

Generated 6/13/2024 9:28:54 AM

JOB DESCRIPTION

Prairie Solid Waste/Union County Leachate

JOB NUMBER

310-282305-1

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
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Case Narrative

Client: Prairie Solid Waste Agency
Project: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Job ID: 310-282305-1

Eurofins Cedar Falls

Job Narrative 310-282305-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample 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 sample was received on 5/30/2024 8:50 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.4°C.

GC/MS VOA

Method 624.1_PREC: The continuing calibration verification (CCV) associated with batch 310-423253 recovered above the upper control limit for Carbon tetrachloride (144%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 310-423253/3).

Method 624.1_PREC: The laboratory control sample (LCS) for analytical batch 310-423253 recovered outside control limits for the following analytes: Carbon tetrachloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

GC/MS Semi VOA

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

PCBs

Method 608.3_PCB_PREC: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 310-423264. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 608.3_PCB_PREC: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 310-423264. 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.

Pesticides

Method 608.3_Pest_PREC: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 310-423264. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 608.3_Pest_PREC: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 310-423264. 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.

Metals

Method 200.8_CWA: The initial calibration verification (ICV) result for batch 310-423882 was above the upper control limit. The affected analytes are: Silver. Sample results were non-detects, and have been reported as qualified data. Leachate (310-282305-1)

Eurofins Cedar Falls

Case Narrative

Client: Prairie Solid Waste Agency
Project: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Job ID: 310-282305-1 (Continued)

Eurofins Cedar Falls

Method 200.8_CWA: The ICSAB for batch 310-423882 was above the upper control limit. The affected analytes are: Silver. Sample results were non-detects, and have been reported as qualified data. Leachate (310-282305-1)

Method 200.8_CWA: The laboratory control sample (LCS) for preparation batch 310-423241 and analytical batch 310-423882 recovered outside control limits for the following analytes: Silver. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. Leachate (310-282305-1)

Method 245.2: The continuing calibration verification (CCV) associated with batch 310-423397 recovered above the upper control limit for Mercury. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: Leachate (310-282305-1).

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

General Chemistry

Method SM5210B_Calc: All the dilutions failed to deplete the method-required 2 mgO₂/L for the following samples: Leachate (310-282305-1). Only a "less than" result could be calculated from the least dilute preparation.

Method SM5210B_Calc: The glucose-glutamic acid standard (LCS) recovered outside the recovery limits specified in the method in batch 310-423089. The method holding time had expired, therefore the analysis was not repeated. The data was qualified and reported.

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: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-282305-1	Leachate	Water	05/29/24 08:00	05/30/24 08:50

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

Detection Summary

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Client Sample ID: Leachate

Lab Sample ID: 310-282305-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00220		0.00200	0.000530	mg/L	1		200.8	Total/NA
Barium	0.0561		0.00200	0.000660	mg/L	1		200.8	Total/NA
Iron	0.183		0.100	0.0360	mg/L	1		200.8	Total/NA
Magnesium	58.1		0.500	0.150	mg/L	1		200.8	Total/NA
Nickel	0.0117		0.00500	0.00210	mg/L	1		200.8	Total/NA
Zinc	0.0199	J	0.0200	0.00970	mg/L	1		200.8	Total/NA
Ammonia as N	11.4		2.50	1.05	mg/L	1		350.1	Total/NA
Total Kjeldahl Nitrogen	14.3		1.00	0.570	mg/L	1		351.2	Total/NA
Total Suspended Solids	11.0		7.50	5.55	mg/L	1		I-3765-85	Total/NA
Total Dissolved Solids	540		250	210	mg/L	1		SM 2540C	Total/NA
pH	8.3	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	18.6		1.00	0.500	mg/L	1		SM 5310C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Client Sample ID: Leachate

Lab Sample ID: 310-282305-1

Date Collected: 05/29/24 08:00

Matrix: Water

Date Received: 05/30/24 08:50

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.500		0.500	0.220	ug/L			06/01/24 06:58	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			06/01/24 06:58	1
Bromoform	<5.00		5.00	0.780	ug/L			06/01/24 06:58	1
Bromomethane	<4.00		4.00	1.10	ug/L			06/01/24 06:58	1
Carbon tetrachloride	<2.00	+	2.00	0.650	ug/L			06/01/24 06:58	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			06/01/24 06:58	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			06/01/24 06:58	1
Chloroethane	<4.00		4.00	0.790	ug/L			06/01/24 06:58	1
2-Chloroethyl vinyl ether	<2.00		2.00	1.70	ug/L			06/01/24 06:58	1
Chloroform	<3.00		3.00	1.30	ug/L			06/01/24 06:58	1
Chloromethane	<3.00		3.00	0.610	ug/L			06/01/24 06:58	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			06/01/24 06:58	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			06/01/24 06:58	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			06/01/24 06:58	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			06/01/24 06:58	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			06/01/24 06:58	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			06/01/24 06:58	1
1,3-Dichloropropene, Total	<5.00		5.00	0.560	ug/L			06/01/24 06:58	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			06/01/24 06:58	1
Methylene Chloride	<5.00		5.00	1.70	ug/L			06/01/24 06:58	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			06/01/24 06:58	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			06/01/24 06:58	1
Toluene	<1.00		1.00	0.430	ug/L			06/01/24 06:58	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			06/01/24 06:58	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			06/01/24 06:58	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			06/01/24 06:58	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			06/01/24 06:58	1
Trichloroethene	<1.00		1.00	0.430	ug/L			06/01/24 06:58	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/01/24 06:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130		06/01/24 06:58	1
Dibromofluoromethane (Surr)	115		70 - 130		06/01/24 06:58	1
Toluene-d8 (Surr)	96		70 - 130		06/01/24 06:58	1

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<10.0		10.0	0.560	ug/L		06/04/24 13:08	06/07/24 17:10	1
1,2-Dichlorobenzene	<10.0		10.0	0.620	ug/L		06/04/24 13:08	06/07/24 17:10	1
1,3-Dichlorobenzene	<10.0		10.0	0.640	ug/L		06/04/24 13:08	06/07/24 17:10	1
1,4-Dichlorobenzene	<10.0		10.0	0.640	ug/L		06/04/24 13:08	06/07/24 17:10	1
2,4,5-Trichlorophenol	<10.0		10.0	5.30	ug/L		06/04/24 13:08	06/07/24 17:10	1
2,4,6-Trichlorophenol	<10.0		10.0	5.00	ug/L		06/04/24 13:08	06/07/24 17:10	1
2,4-Dichlorophenol	<10.0		10.0	0.850	ug/L		06/04/24 13:08	06/07/24 17:10	1
2,4-Dimethylphenol	<10.0		10.0	0.580	ug/L		06/04/24 13:08	06/07/24 17:10	1
2,4-Dinitrophenol	<20.0		20.0	13.0	ug/L		06/04/24 13:08	06/07/24 17:10	1
2,4-Dinitrotoluene	<10.0		10.0	6.40	ug/L		06/04/24 13:08	06/07/24 17:10	1
2,6-Dinitrotoluene	<10.0		10.0	0.520	ug/L		06/04/24 13:08	06/07/24 17:10	1
2-Chloronaphthalene	<10.0		10.0	0.640	ug/L		06/04/24 13:08	06/07/24 17:10	1
2-Chlorophenol	<10.0		10.0	0.540	ug/L		06/04/24 13:08	06/07/24 17:10	1

Eurofins Cedar Falls

Client Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Client Sample ID: Leachate

Lab Sample ID: 310-282305-1

Date Collected: 05/29/24 08:00

Matrix: Water

Date Received: 05/30/24 08:50

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitrophenol	<10.0		10.0	6.80	ug/L		06/04/24 13:08	06/07/24 17:10	1
3,3'-Dichlorobenzidine	<10.0		10.0	1.40	ug/L		06/04/24 13:08	06/07/24 17:10	1
4,6-Dinitro-2-methylphenol	<10.0		10.0	6.90	ug/L		06/04/24 13:08	06/07/24 17:10	1
4-Bromophenyl phenyl ether	<10.0		10.0	0.700	ug/L		06/04/24 13:08	06/07/24 17:10	1
4-Chloro-3-methylphenol	<10.0		10.0	0.840	ug/L		06/04/24 13:08	06/07/24 17:10	1
4-Chlorophenyl phenyl ether	<10.0		10.0	0.690	ug/L		06/04/24 13:08	06/07/24 17:10	1
4-Nitrophenol	<10.0		10.0	7.60	ug/L		06/04/24 13:08	06/07/24 17:10	1
Acenaphthene	<10.0		10.0	0.640	ug/L		06/04/24 13:08	06/07/24 17:10	1
Acenaphthylene	<10.0		10.0	0.720	ug/L		06/04/24 13:08	06/07/24 17:10	1
Anthracene	<10.0		10.0	0.870	ug/L		06/04/24 13:08	06/07/24 17:10	1
Benzo[a]anthracene	<10.0		10.0	0.850	ug/L		06/04/24 13:08	06/07/24 17:10	1
Benzo[a]pyrene	<10.0		10.0	8.10	ug/L		06/04/24 13:08	06/07/24 17:10	1
Benzo[b]fluoranthene	<10.0		10.0	4.90	ug/L		06/04/24 13:08	06/07/24 17:10	1
Benzo[g,h,i]perylene	<10.0		10.0	6.30	ug/L		06/04/24 13:08	06/07/24 17:10	1
Benzo[k]fluoranthene	<10.0		10.0	2.20	ug/L		06/04/24 13:08	06/07/24 17:10	1
Benzoic acid	<100		100	17.0	ug/L		06/04/24 13:08	06/07/24 17:10	1
Benzyl alcohol	<10.0		10.0	1.30	ug/L		06/04/24 13:08	06/07/24 17:10	1
Bis(2-chloroethoxy)methane	<10.0		10.0	0.760	ug/L		06/04/24 13:08	06/07/24 17:10	1
Bis(2-chloroethyl)ether	<10.0		10.0	0.820	ug/L		06/04/24 13:08	06/07/24 17:10	1
bis (2-chloroisopropyl) ether	<10.0		10.0	0.540	ug/L		06/04/24 13:08	06/07/24 17:10	1
Bis(2-ethylhexyl) phthalate	<10.0		10.0	5.50	ug/L		06/04/24 13:08	06/07/24 17:10	1
Butyl benzyl phthalate	<10.0		10.0	5.40	ug/L		06/04/24 13:08	06/07/24 17:10	1
Chrysene	<10.0		10.0	0.870	ug/L		06/04/24 13:08	06/07/24 17:10	1
Dibenz(a,h)anthracene	<10.0		10.0	3.90	ug/L		06/04/24 13:08	06/07/24 17:10	1
Dibenzofuran	<10.0		10.0	0.740	ug/L		06/04/24 13:08	06/07/24 17:10	1
Diethyl phthalate	<10.0		10.0	1.70	ug/L		06/04/24 13:08	06/07/24 17:10	1
Dimethyl phthalate	<10.0		10.0	1.00	ug/L		06/04/24 13:08	06/07/24 17:10	1
Di-n-butyl phthalate	<10.0		10.0	5.60	ug/L		06/04/24 13:08	06/07/24 17:10	1
Di-n-octyl phthalate	<20.0		20.0	7.00	ug/L		06/04/24 13:08	06/07/24 17:10	1
Fluoranthene	<10.0		10.0	1.70	ug/L		06/04/24 13:08	06/07/24 17:10	1
Fluorene	<10.0		10.0	0.790	ug/L		06/04/24 13:08	06/07/24 17:10	1
Hexachlorobenzene	<10.0		10.0	0.700	ug/L		06/04/24 13:08	06/07/24 17:10	1
Hexachlorobutadiene	<10.0		10.0	0.860	ug/L		06/04/24 13:08	06/07/24 17:10	1
Hexachlorocyclopentadiene	<10.0		10.0	5.10	ug/L		06/04/24 13:08	06/07/24 17:10	1
Hexachloroethane	<10.0		10.0	0.970	ug/L		06/04/24 13:08	06/07/24 17:10	1
Indeno[1,2,3-cd]pyrene	<10.0		10.0	4.20	ug/L		06/04/24 13:08	06/07/24 17:10	1
Isophorone	<10.0		10.0	0.930	ug/L		06/04/24 13:08	06/07/24 17:10	1
Naphthalene	<10.0		10.0	6.10	ug/L		06/04/24 13:08	06/07/24 17:10	1
Nitrobenzene	<10.0		10.0	0.800	ug/L		06/04/24 13:08	06/07/24 17:10	1
N-Nitrosodi-n-propylamine	<10.0		10.0	0.920	ug/L		06/04/24 13:08	06/07/24 17:10	1
N-Nitrosodiphenylamine	<10.0		10.0	0.750	ug/L		06/04/24 13:08	06/07/24 17:10	1
Pentachlorophenol	<10.0		10.0	9.60	ug/L		06/04/24 13:08	06/07/24 17:10	1
Phenanthrene	<10.0		10.0	0.790	ug/L		06/04/24 13:08	06/07/24 17:10	1
Pyrene	<10.0		10.0	0.790	ug/L		06/04/24 13:08	06/07/24 17:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	70		25 - 110	06/04/24 13:08	06/07/24 17:10	1
Phenol-d5 (Surr)	68		21 - 110	06/04/24 13:08	06/07/24 17:10	1
Nitrobenzene-d5 (Surr)	104		45 - 129	06/04/24 13:08	06/07/24 17:10	1
2-Fluorobiphenyl (Surr)	96		39 - 118	06/04/24 13:08	06/07/24 17:10	1

Eurofins Cedar Falls

Client Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Client Sample ID: Leachate

Lab Sample ID: 310-282305-1

Date Collected: 05/29/24 08:00

Matrix: Water

Date Received: 05/30/24 08:50

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (SUR)	95		27 - 136	06/04/24 13:08	06/07/24 17:10	1
Terphenyl-d14	120		12 - 144	06/04/24 13:08	06/07/24 17:10	1

Method: EPA 608.3 - Organochlorine Pesticides in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	<0.0640		0.0640	0.0270	ug/L		05/31/24 13:32	06/07/24 20:14	1
4,4'-DDE	<0.0640		0.0640	0.0270	ug/L		05/31/24 13:32	06/07/24 20:14	1
4,4'-DDT	<0.0640		0.0640	0.0420	ug/L		05/31/24 13:32	06/07/24 20:14	1
Aldrin	<0.0640		0.0640	0.0320	ug/L		05/31/24 13:32	06/07/24 20:14	1
beta-BHC	<0.0640		0.0640	0.0370	ug/L		05/31/24 13:32	06/07/24 20:14	1
Chlordane (technical)	<2.00		2.00	0.810	ug/L		05/31/24 13:32	06/07/24 20:14	1
delta-BHC	<0.0640		0.0640	0.0270	ug/L		05/31/24 13:32	06/07/24 20:14	1
Dieldrin	<0.0640		0.0640	0.0260	ug/L		05/31/24 13:32	06/07/24 20:14	1
Endosulfan I	<0.0640		0.0640	0.0330	ug/L		05/31/24 13:32	06/07/24 20:14	1
Endosulfan II	<0.0640		0.0640	0.0290	ug/L		05/31/24 13:32	06/07/24 20:14	1
Endosulfan sulfate	<0.0640		0.0640	0.0300	ug/L		05/31/24 13:32	06/07/24 20:14	1
Endrin	<0.0640		0.0640	0.0260	ug/L		05/31/24 13:32	06/07/24 20:14	1
Endrin aldehyde	<0.0640		0.0640	0.0290	ug/L		05/31/24 13:32	06/07/24 20:14	1
gamma-BHC (Lindane)	<0.0640		0.0640	0.0360	ug/L		05/31/24 13:32	06/07/24 20:14	1
Heptachlor	<0.0640		0.0640	0.0330	ug/L		05/31/24 13:32	06/07/24 20:14	1
Heptachlor epoxide	<0.0640		0.0640	0.0290	ug/L		05/31/24 13:32	06/07/24 20:14	1
Toxaphene	<2.00		2.00	0.690	ug/L		05/31/24 13:32	06/07/24 20:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	65		10 - 136	05/31/24 13:32	06/07/24 20:14	1
Tetrachloro-m-xylene	66		10 - 130	05/31/24 13:32	06/07/24 20:14	1

Method: EPA 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.800		0.800	0.170	ug/L		05/31/24 13:32	06/07/24 20:14	1
PCB-1221	<0.800		0.800	0.170	ug/L		05/31/24 13:32	06/07/24 20:14	1
PCB-1232	<0.800		0.800	0.170	ug/L		05/31/24 13:32	06/07/24 20:14	1
PCB-1242	<0.800		0.800	0.170	ug/L		05/31/24 13:32	06/07/24 20:14	1
PCB-1248	<0.800		0.800	0.110	ug/L		05/31/24 13:32	06/07/24 20:14	1
PCB-1254	<0.800		0.800	0.110	ug/L		05/31/24 13:32	06/07/24 20:14	1
PCB-1260	<0.800		0.800	0.110	ug/L		05/31/24 13:32	06/07/24 20:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	65		10 - 136	05/31/24 13:32	06/07/24 20:14	1
Tetrachloro-m-xylene (Surr)	66		10 - 130	05/31/24 13:32	06/07/24 20:14	1

Method: EPA 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00220		0.00200	0.000530	mg/L		06/03/24 09:00	06/06/24 20:28	1
Barium	0.0561		0.00200	0.000660	mg/L		06/03/24 09:00	06/06/24 20:28	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		06/03/24 09:00	06/06/24 20:28	1
Chromium	<0.00500		0.00500	0.00120	mg/L		06/03/24 09:00	06/06/24 20:28	1
Copper	<0.00500		0.00500	0.00180	mg/L		06/03/24 09:00	06/06/24 20:28	1
Iron	0.183		0.100	0.0360	mg/L		06/03/24 09:00	06/06/24 20:28	1
Lead	<0.000500		0.000500	0.000260	mg/L		06/03/24 09:00	06/06/24 20:28	1

Eurofins Cedar Falls

Client Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Client Sample ID: Leachate

Lab Sample ID: 310-282305-1

Date Collected: 05/29/24 08:00

Matrix: Water

Date Received: 05/30/24 08:50

Method: EPA 200.8 - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	58.1		0.500	0.150	mg/L		06/03/24 09:00	06/06/24 20:28	1
Molybdenum	<0.00200		0.00200	0.00130	mg/L		06/03/24 09:00	06/06/24 20:28	1
Nickel	0.0117		0.00500	0.00210	mg/L		06/03/24 09:00	06/06/24 20:28	1
Selenium	<0.00500		0.00500	0.00140	mg/L		06/03/24 09:00	06/06/24 20:28	1
Silver	<0.00100	*+ ^1+ ^6+	0.00100	0.000500	mg/L		06/03/24 09:00	06/06/24 20:28	1
Zinc	0.0199	J	0.0200	0.00970	mg/L		06/03/24 09:00	06/06/24 20:28	1

Method: EPA 245.2 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200	^+	0.000200	0.000110	mg/L		05/31/24 13:20	06/03/24 12:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	<6.4		6.4	5.8	mg/L		06/05/24 17:59	06/05/24 17:59	1
Ammonia as N (EPA 350.1)	11.4		2.50	1.05	mg/L		06/06/24 11:02	06/06/24 21:20	1
Total Kjeldahl Nitrogen (EPA 351.2)	14.3		1.00	0.570	mg/L		05/31/24 05:12	05/31/24 16:24	1
Total Suspended Solids (USGS I-3765-85)	11.0		7.50	5.55	mg/L			05/30/24 14:22	1
Total Dissolved Solids (SM 2540C)	540		250	210	mg/L			05/31/24 16:59	1
Biochemical Oxygen Demand (SM 5210B)	<12.0	*-	12.0	12.0	mg/L			05/30/24 09:56	4
Total Organic Carbon (SM 5310C)	18.6		1.00	0.500	mg/L			06/01/24 01:54	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	8.3	HF	1.0	1.0	SU			05/30/24 10:56	1

Definitions/Glossary

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

Metals

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
^1+	Initial Calibration Verification (ICV) is outside acceptance limits, high biased.
^6+	Interference Check Standard (ICSA and/or ICSAB) is outside acceptance limits, high biased.
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
*-	LCS and/or LCSD is outside acceptance limits, low biased.
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (70-130)	DBFM (70-130)	TOL (70-130)
310-282305-1	Leachate	103	115	96
LCS 310-423253/6	Lab Control Sample	101	101	101
LCS 310-423253/7	Lab Control Sample	102	114	96
MB 310-423253/5	Method Blank	103	115	96

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		2FP (25-110)	PHL (21-110)	NBZ (45-129)	FBP (39-118)	TBP (27-136)	TPHL (12-144)
310-282305-1	Leachate	70	68	104	96	95	120
LCS 310-423508/2-A	Lab Control Sample	64	60	88	78	93	105
LCSD 310-423508/3-A	Lab Control Sample Dup	70	65	96	92	97	114
MB 310-423508/1-A	Method Blank	64	61	99	87	90	106

Surrogate Legend

2FP = 2-Fluorophenol (Surr)

PHL = Phenol-d5 (Surr)

NBZ = Nitrobenzene-d5 (Surr)

FBP = 2-Fluorobiphenyl (Surr)

TBP = 2,4,6-Tribromophenol (SUR)

TPHL = Terphenyl-d14

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		DCB1 (10-136)	TCX1 (10-130)
310-282305-1	Leachate	65	66
LCS 310-423264/2-A	Lab Control Sample	76	69
LCSD 310-423264/3-A	Lab Control Sample Dup	79	72
MB 310-423264/1-A	Method Blank	72	61

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		DCB1 (10-136)	TCX1 (10-130)
310-282305-1	Leachate	65	66
LCS 310-423264/4-A	Lab Control Sample	72	66

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Surrogate Summary

Client: Prairie Solid Waste Agency

Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	DCB1 (10-136)	TCX1 (10-130)
LCSD 310-423264/5-A	Lab Control Sample Dup	75	69
MB 310-423264/1-A	Method Blank	72	61
Surrogate Legend			
DCB = DCB Decachlorobiphenyl (Surr)			
TCX = Tetrachloro-m-xylene (Surr)			

QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 310-423253/5

Matrix: Water

Analysis Batch: 423253

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.500		0.500	0.220	ug/L			06/01/24 00:09	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			06/01/24 00:09	1
Bromoform	<5.00		5.00	0.780	ug/L			06/01/24 00:09	1
Bromomethane	<4.00		4.00	1.10	ug/L			06/01/24 00:09	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			06/01/24 00:09	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			06/01/24 00:09	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			06/01/24 00:09	1
Chloroethane	<4.00		4.00	0.790	ug/L			06/01/24 00:09	1
2-Chloroethyl vinyl ether	<2.00		2.00	1.70	ug/L			06/01/24 00:09	1
Chloroform	<3.00		3.00	1.30	ug/L			06/01/24 00:09	1
Chloromethane	<3.00		3.00	0.610	ug/L			06/01/24 00:09	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			06/01/24 00:09	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			06/01/24 00:09	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			06/01/24 00:09	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			06/01/24 00:09	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			06/01/24 00:09	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			06/01/24 00:09	1
1,3-Dichloropropene, Total	<5.00		5.00	0.560	ug/L			06/01/24 00:09	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			06/01/24 00:09	1
Methylene Chloride	<5.00		5.00	1.70	ug/L			06/01/24 00:09	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			06/01/24 00:09	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			06/01/24 00:09	1
Toluene	<1.00		1.00	0.430	ug/L			06/01/24 00:09	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			06/01/24 00:09	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			06/01/24 00:09	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			06/01/24 00:09	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			06/01/24 00:09	1
Trichloroethene	<1.00		1.00	0.430	ug/L			06/01/24 00:09	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/01/24 00:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130		06/01/24 00:05	1
Dibromofluoromethane (Surr)	118		70 - 130		06/01/24 00:05	1
Toluene-d9 (Surr)	56		70 - 130		06/01/24 00:05	1

Lab Sample ID: LCS 310-423253/6

Matrix: Water

Analysis Batch: 423253

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	20.0	22.72		ug/L		114	70 - 130
Bromodichloromethane	20.0	22.28		ug/L		111	70 - 130
Bromoform	20.0	20.21		ug/L		101	70 - 130
Carbon tetrachloride	20.0	27.11	*+	ug/L		136	70 - 130
Chlorobenzene	20.0	21.53		ug/L		108	70 - 130
Chlorodibromomethane	20.0	21.36		ug/L		107	70 - 130
2-Chloroethyl vinyl ether	20.0	19.29		ug/L		96	48 - 150
Chloroform	20.0	22.59		ug/L		113	70 - 130

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-423253/6

Matrix: Water

Analysis Batch: 423253

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	20.0	22.22		ug/L		111	70 - 130
cis-1,3-Dichloropropene	20.0	22.25		ug/L		111	70 - 130
1,1-Dichloroethane	20.0	22.57		ug/L		113	70 - 130
1,2-Dichloroethane	20.0	22.35		ug/L		112	70 - 130
1,1-Dichloroethene	20.0	23.17		ug/L		116	63 - 132
1,2-Dichloropropane	20.0	22.68		ug/L		113	70 - 130
Ethylbenzene	20.0	22.30		ug/L		112	70 - 130
Methylene Chloride	20.0	21.91		ug/L		110	60 - 140
1,1,2,2-Tetrachloroethane	20.0	18.31		ug/L		92	68 - 130
Tetrachloroethene	20.0	23.25		ug/L		116	70 - 130
Toluene	20.0	22.66		ug/L		113	70 - 130
trans-1,2-Dichloroethene	20.0	23.70		ug/L		119	70 - 130
trans-1,3-Dichloropropene	20.0	20.93		ug/L		105	69 - 130
1,1,1-Trichloroethane	20.0	25.39		ug/L		127	70 - 130
1,1,2-Trichloroethane	20.0	19.91		ug/L		100	70 - 130
Trichloroethene	20.0	24.18		ug/L		121	70 - 130

Surrogate	%Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
Dibromofluoromethane (Surr)	101		70 - 130
Toluene-d9 (Surr)	101		70 - 130

Lab Sample ID: LCS 310-423253/7

Matrix: Water

Analysis Batch: 423253

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromomethane	20.0	18.44		ug/L		92	23 - 150
Chloroethane	20.0	19.78		ug/L		99	54 - 136
Chloromethane	20.0	18.19		ug/L		91	38 - 150
Vinyl chloride	20.0	20.72		ug/L		104	56 - 140

Surrogate	%Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
Dibromofluoromethane (Surr)	114		70 - 130
Toluene-d9 (Surr)	56		70 - 130

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 310-423508/1-A

Matrix: Water

Analysis Batch: 423966

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423508

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<10.0		10.0	0.560	ug/L		06/04/24 13:08	06/07/24 15:30	1
1,2-Dichlorobenzene	<10.0		10.0	0.620	ug/L		06/04/24 13:08	06/07/24 15:30	1
1,3-Dichlorobenzene	<10.0		10.0	0.640	ug/L		06/04/24 13:08	06/07/24 15:30	1
1,4-Dichlorobenzene	<10.0		10.0	0.640	ug/L		06/04/24 13:08	06/07/24 15:30	1

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 310-423508/1-A

Matrix: Water

Analysis Batch: 423966

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423508

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	<10.0		10.0	5.30	ug/L		06/04/24 13:08	06/07/24 15:30	1
2,4,6-Trichlorophenol	<10.0		10.0	5.00	ug/L		06/04/24 13:08	06/07/24 15:30	1
2,4-Dichlorophenol	<10.0		10.0	0.850	ug/L		06/04/24 13:08	06/07/24 15:30	1
2,4-Dimethylphenol	<10.0		10.0	0.580	ug/L		06/04/24 13:08	06/07/24 15:30	1
2,4-Dinitrophenol	<20.0		20.0	13.0	ug/L		06/04/24 13:08	06/07/24 15:30	1
2,4-Dinitrotoluene	<10.0		10.0	6.40	ug/L		06/04/24 13:08	06/07/24 15:30	1
2,6-Dinitrotoluene	<10.0		10.0	0.520	ug/L		06/04/24 13:08	06/07/24 15:30	1
2-Chloronaphthalene	<10.0		10.0	0.640	ug/L		06/04/24 13:08	06/07/24 15:30	1
2-Chlorophenol	<10.0		10.0	0.540	ug/L		06/04/24 13:08	06/07/24 15:30	1
2-Nitrophenol	<10.0		10.0	6.80	ug/L		06/04/24 13:08	06/07/24 15:30	1
3,3'-Dichlorobenzidine	<10.0		10.0	1.40	ug/L		06/04/24 13:08	06/07/24 15:30	1
4,6-Dinitro-2-methylphenol	<10.0		10.0	6.90	ug/L		06/04/24 13:08	06/07/24 15:30	1
4-Bromophenyl phenyl ether	<10.0		10.0	0.700	ug/L		06/04/24 13:08	06/07/24 15:30	1
4-Chloro-3-methylphenol	<10.0		10.0	0.840	ug/L		06/04/24 13:08	06/07/24 15:30	1
4-Chlorophenyl phenyl ether	<10.0		10.0	0.690	ug/L		06/04/24 13:08	06/07/24 15:30	1
4-Nitrophenol	<10.0		10.0	7.60	ug/L		06/04/24 13:08	06/07/24 15:30	1
Acenaphthene	<10.0		10.0	0.640	ug/L		06/04/24 13:08	06/07/24 15:30	1
Acenaphthylene	<10.0		10.0	0.720	ug/L		06/04/24 13:08	06/07/24 15:30	1
Anthracene	<10.0		10.0	0.870	ug/L		06/04/24 13:08	06/07/24 15:30	1
Benzo[a]anthracene	<10.0		10.0	0.850	ug/L		06/04/24 13:08	06/07/24 15:30	1
Benzo[a]pyrene	<10.0		10.0	8.10	ug/L		06/04/24 13:08	06/07/24 15:30	1
Benzo[b]fluoranthene	<10.0		10.0	4.90	ug/L		06/04/24 13:08	06/07/24 15:30	1
Benzo[g,h,i]perylene	<10.0		10.0	6.30	ug/L		06/04/24 13:08	06/07/24 15:30	1
Benzo[k]fluoranthene	<10.0		10.0	2.20	ug/L		06/04/24 13:08	06/07/24 15:30	1
Benzoic acid	<100		100	17.0	ug/L		06/04/24 13:08	06/07/24 15:30	1
Benzyl alcohol	<10.0		10.0	1.30	ug/L		06/04/24 13:08	06/07/24 15:30	1
Bis(2-chloroethoxy)methane	<10.0		10.0	0.760	ug/L		06/04/24 13:08	06/07/24 15:30	1
Bis(2-chloroethyl)ether	<10.0		10.0	0.820	ug/L		06/04/24 13:08	06/07/24 15:30	1
bis (2-chloroisopropyl) ether	<10.0		10.0	0.540	ug/L		06/04/24 13:08	06/07/24 15:30	1
Bis(2-ethylhexyl) phthalate	<10.0		10.0	5.50	ug/L		06/04/24 13:08	06/07/24 15:30	1
Butyl benzyl phthalate	<10.0		10.0	5.40	ug/L		06/04/24 13:08	06/07/24 15:30	1
Chrysene	<10.0		10.0	0.870	ug/L		06/04/24 13:08	06/07/24 15:30	1
Dibenz(a,h)anthracene	<10.0		10.0	3.90	ug/L		06/04/24 13:08	06/07/24 15:30	1
Dibenzofuran	<10.0		10.0	0.740	ug/L		06/04/24 13:08	06/07/24 15:30	1
Diethyl phthalate	<10.0		10.0	1.70	ug/L		06/04/24 13:08	06/07/24 15:30	1
Dimethyl phthalate	<10.0		10.0	1.00	ug/L		06/04/24 13:08	06/07/24 15:30	1
Di-n-butyl phthalate	<10.0		10.0	5.60	ug/L		06/04/24 13:08	06/07/24 15:30	1
Di-n-octyl phthalate	<20.0		20.0	7.00	ug/L		06/04/24 13:08	06/07/24 15:30	1
Fluoranthene	<10.0		10.0	1.70	ug/L		06/04/24 13:08	06/07/24 15:30	1
Fluorene	<10.0		10.0	0.790	ug/L		06/04/24 13:08	06/07/24 15:30	1
Hexachlorobenzene	<10.0		10.0	0.700	ug/L		06/04/24 13:08	06/07/24 15:30	1
Hexachlorobutadiene	<10.0		10.0	0.860	ug/L		06/04/24 13:08	06/07/24 15:30	1
Hexachlorocyclopentadiene	<10.0		10.0	5.10	ug/L		06/04/24 13:08	06/07/24 15:30	1
Hexachloroethane	<10.0		10.0	0.970	ug/L		06/04/24 13:08	06/07/24 15:30	1
Indeno[1,2,3-cd]pyrene	<10.0		10.0	4.20	ug/L		06/04/24 13:08	06/07/24 15:30	1
Isophorone	<10.0		10.0	0.930	ug/L		06/04/24 13:08	06/07/24 15:30	1
Naphthalene	<10.0		10.0	6.10	ug/L		06/04/24 13:08	06/07/24 15:30	1
Nitrobenzene	<10.0		10.0	0.800	ug/L		06/04/24 13:08	06/07/24 15:30	1
N-Nitrosodi-n-propylamine	<10.0		10.0	0.920	ug/L		06/04/24 13:08	06/07/24 15:30	1

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 310-423508/1-A

Matrix: Water

Analysis Batch: 423966

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423508

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiphenylamine	<10.0		10.0	0.750	ug/L		06/04/24 13:08	06/07/24 15:30	1
Pentachlorophenol	<10.0		10.0	9.60	ug/L		06/04/24 13:08	06/07/24 15:30	1
Phenanthrene	<10.0		10.0	0.790	ug/L		06/04/24 13:08	06/07/24 15:30	1
Pyrene	<10.0		10.0	0.790	ug/L		06/04/24 13:08	06/07/24 15:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	64		28 - 110	06/04/24 13:09	06/07/24 18:30	1
Phenol-d8 (Surr)	61		21 - 110	06/04/24 13:09	06/07/24 18:30	1
Nitrobenzene-d8 (Surr)	55		48 - 125	06/04/24 13:09	06/07/24 18:30	1
2-Fluorobiphenyl (Surr)	97		35 - 119	06/04/24 13:09	06/07/24 18:30	1
2,4,6-Tribromophenol (SUR)	50		27 - 136	06/04/24 13:09	06/07/24 18:30	1
Terphenyl-d14	106		12 - 144	06/04/24 13:09	06/07/24 18:30	1

Lab Sample ID: LCS 310-423508/2-A

Matrix: Water

Analysis Batch: 423966

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 423508

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,4-Trichlorobenzene	100	90.68		ug/L		91	44 - 110
1,2-Dichlorobenzene	100	90.64		ug/L		91	31 - 110
1,3-Dichlorobenzene	100	93.19		ug/L		93	28 - 110
1,4-Dichlorobenzene	100	95.06		ug/L		95	28 - 110
2,4,5-Trichlorophenol	100	92.56		ug/L		93	35 - 133
2,4,6-Trichlorophenol	100	101.7		ug/L		102	37 - 139
2,4-Dichlorophenol	100	96.12		ug/L		96	41 - 124
2,4-Dimethylphenol	100	80.20		ug/L		80	32 - 120
2,4-Dinitrophenol	200	184.8		ug/L		92	10 - 138
2,4-Dinitrotoluene	100	106.8		ug/L		107	47 - 137
2,6-Dinitrotoluene	100	101.8		ug/L		102	51 - 130
2-Chloronaphthalene	100	94.88		ug/L		95	60 - 110
2-Chlorophenol	100	84.45		ug/L		84	44 - 117
2-Nitrophenol	100	90.21		ug/L		90	41 - 129
4,6-Dinitro-2-methylphenol	200	218.5		ug/L		109	22 - 143
4-Bromophenyl phenyl ether	100	90.40		ug/L		90	53 - 119
4-Chloro-3-methylphenol	100	91.32		ug/L		91	49 - 130
4-Chlorophenyl phenyl ether	100	93.08		ug/L		93	44 - 116
4-Nitrophenol	200	105.0		ug/L		53	18 - 110
Acenaphthene	100	96.98		ug/L		97	47 - 110
Acenaphthylene	100	94.76		ug/L		95	40 - 110
Anthracene	100	95.87		ug/L		96	51 - 120
Benzo[a]anthracene	100	89.94		ug/L		90	51 - 123
Benzo[a]pyrene	100	95.19		ug/L		95	48 - 125
Benzo[b]fluoranthene	100	90.10		ug/L		90	49 - 129
Benzo[g,h,i]perylene	100	95.55		ug/L		96	43 - 139
Benzo[k]fluoranthene	100	97.48		ug/L		97	47 - 130
Benzyl alcohol	100	88.34		ug/L		88	39 - 128
Bis(2-chloroethoxy)methane	100	90.89		ug/L		91	48 - 121
Bis(2-chloroethyl)ether	100	95.74		ug/L		96	43 - 123

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-423508/2-A

Matrix: Water

Analysis Batch: 423966

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 423508

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
bis (2-chloroisopropyl) ether	100	88.31		ug/L		88	36 - 123
Bis(2-ethylhexyl) phthalate	100	103.9		ug/L		104	43 - 143
Butyl benzyl phthalate	100	97.57		ug/L		98	46 - 135
Chrysene	100	93.32		ug/L		93	51 - 125
Dibenz(a,h)anthracene	100	94.99		ug/L		95	38 - 149
Dibenzofuran	100	95.31		ug/L		95	45 - 112
Diethyl phthalate	100	104.3		ug/L		104	43 - 120
Dimethyl phthalate	100	112.6		ug/L		113	43 - 120
Di-n-butyl phthalate	100	105.7		ug/L		106	50 - 120
Di-n-octyl phthalate	100	101.1		ug/L		101	34 - 146
Fluoranthene	100	92.37		ug/L		92	47 - 128
Fluorene	100	95.27		ug/L		95	59 - 119
Hexachlorobenzene	100	92.15		ug/L		92	48 - 119
Hexachlorobutadiene	100	92.01		ug/L		92	32 - 110
Hexachlorocyclopentadiene	100	54.70		ug/L		55	10 - 110
Hexachloroethane	100	74.19		ug/L		74	40 - 110
Indeno[1,2,3-cd]pyrene	100	99.55		ug/L		100	37 - 150
Isophorone	100	88.40		ug/L		88	50 - 125
Naphthalene	100	84.69		ug/L		85	38 - 110
Nitrobenzene	100	85.11		ug/L		85	47 - 116
N-Nitrosodi-n-propylamine	100	87.14		ug/L		87	45 - 130
N-Nitrosodiphenylamine	100	99.98		ug/L		100	49 - 121
Pentachlorophenol	200	163.9		ug/L		82	26 - 133
Phenanthrene	100	93.62		ug/L		94	54 - 117
Pyrene	100	97.43		ug/L		97	52 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorophenol (Surr)	64		28 - 110
Phenol-d8 (Surr)	60		21 - 110
Nitrobenzene-d8 (Surr)	99		48 - 125
2-Fluorobiphenyl (Surr)	79		35 - 119
2,4,6-Tribromophenol (SUR)	53		27 - 136
Terphenyl-d14	108		12 - 144

Lab Sample ID: LCSD 310-423508/3-A

Matrix: Water

Analysis Batch: 423966

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 423508

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	100	91.70		ug/L		92	44 - 110	1	35
1,2-Dichlorobenzene	100	92.48		ug/L		92	31 - 110	2	35
1,3-Dichlorobenzene	100	95.24		ug/L		95	28 - 110	2	35
1,4-Dichlorobenzene	100	96.69		ug/L		97	28 - 110	2	35
2,4,5-Trichlorophenol	100	94.53		ug/L		95	35 - 133	2	35
2,4,6-Trichlorophenol	100	104.1		ug/L		104	37 - 139	2	35
2,4-Dichlorophenol	100	98.80		ug/L		99	41 - 124	3	35
2,4-Dimethylphenol	100	84.35		ug/L		84	32 - 120	5	35
2,4-Dinitrophenol	200	185.4		ug/L		93	10 - 138	0	35

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 310-423508/3-A

Matrix: Water

Analysis Batch: 423966

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 423508

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4-Dinitrotoluene	100	103.8		ug/L		104	47 - 137	3	35
2,6-Dinitrotoluene	100	103.8		ug/L		104	51 - 130	2	35
2-Chloronaphthalene	100	92.91		ug/L		93	60 - 110	2	24
2-Chlorophenol	100	87.05		ug/L		87	44 - 117	3	35
2-Nitrophenol	100	92.95		ug/L		93	41 - 129	3	35
4,6-Dinitro-2-methylphenol	200	221.2		ug/L		111	22 - 143	1	35
4-Bromophenyl phenyl ether	100	94.25		ug/L		94	53 - 119	4	35
4-Chloro-3-methylphenol	100	92.52		ug/L		93	49 - 130	1	35
4-Chlorophenyl phenyl ether	100	93.11		ug/L		93	44 - 116	0	35
4-Nitrophenol	200	103.3		ug/L		52	18 - 110	2	35
Acenaphthene	100	100.3		ug/L		100	47 - 110	3	35
Acenaphthylene	100	95.32		ug/L		95	40 - 110	1	35
Anthracene	100	97.64		ug/L		98	51 - 120	2	35
Benzo[a]anthracene	100	93.26		ug/L		93	51 - 123	4	35
Benzo[a]pyrene	100	99.36		ug/L		99	48 - 125	4	35
Benzo[b]fluoranthene	100	94.44		ug/L		94	49 - 129	5	35
Benzo[g,h,i]perylene	100	99.61		ug/L		100	43 - 139	4	35
Benzo[k]fluoranthene	100	101.4		ug/L		101	47 - 130	4	35
Benzyl alcohol	100	89.90		ug/L		90	39 - 128	2	35
Bis(2-chloroethoxy)methane	100	91.70		ug/L		92	48 - 121	1	35
Bis(2-chloroethyl)ether	100	97.64		ug/L		98	43 - 123	2	35
bis (2-chloroisopropyl) ether	100	89.47		ug/L		89	36 - 123	1	35
Bis(2-ethylhexyl) phthalate	100	107.7		ug/L		108	43 - 143	4	35
Butyl benzyl phthalate	100	99.22		ug/L		99	46 - 135	2	35
Chrysene	100	95.80		ug/L		96	51 - 125	3	35
Dibenz(a,h)anthracene	100	95.83		ug/L		96	38 - 149	1	35
Dibenzofuran	100	96.61		ug/L		97	45 - 112	1	35
Diethyl phthalate	100	103.1		ug/L		103	43 - 120	1	35
Dimethyl phthalate	100	114.1		ug/L		114	43 - 120	1	35
Di-n-butyl phthalate	100	109.7		ug/L		110	50 - 120	4	35
Di-n-octyl phthalate	100	107.9		ug/L		108	34 - 146	6	35
Fluoranthene	100	94.74		ug/L		95	47 - 128	3	35
Fluorene	100	94.49		ug/L		94	59 - 119	1	35
Hexachlorobenzene	100	91.35		ug/L		91	48 - 119	1	35
Hexachlorobutadiene	100	92.28		ug/L		92	32 - 110	0	35
Hexachlorocyclopentadiene	100	55.73		ug/L		56	10 - 110	2	35
Hexachloroethane	100	76.47		ug/L		76	40 - 110	3	35
Indeno[1,2,3-cd]pyrene	100	101.8		ug/L		102	37 - 150	2	35
Isophorone	100	89.84		ug/L		90	50 - 125	2	35
Naphthalene	100	87.37		ug/L		87	38 - 110	3	35
Nitrobenzene	100	85.78		ug/L		86	47 - 116	1	35
N-Nitrosodi-n-propylamine	100	88.99		ug/L		89	45 - 130	2	35
N-Nitrosodiphenylamine	100	101.4		ug/L		101	49 - 121	1	35
Pentachlorophenol	200	172.2		ug/L		86	26 - 133	5	35
Phenanthrene	100	95.48		ug/L		95	54 - 117	2	35
Pyrene	100	98.57		ug/L		99	52 - 120	1	35

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 310-423508/3-A

Matrix: Water

Analysis Batch: 423966

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 423508

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
2-Fluorophenol (Surr)	70		28 - 110
Phenol-d8 (Surr)	68		21 - 110
Nitrobenzene-d8 (Surr)	56		48 - 125
2-Fluorobiphenyl (Surr)	52		35 - 119
2,4,6-Tribromophenol (SUR)	57		27 - 136
Terphenyl-d14	114		12 - 144

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 310-423264/1-A

Matrix: Water

Analysis Batch: 423817

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423264

Analyte	MB	MB								
	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
4,4'-DDD	<0.0640		0.0640	0.0270	ug/L		05/31/24 13:32	06/07/24 18:54	1	
4,4'-DDE	<0.0640		0.0640	0.0270	ug/L		05/31/24 13:32	06/07/24 18:54	1	
4,4'-DDT	<0.0640		0.0640	0.0420	ug/L		05/31/24 13:32	06/07/24 18:54	1	
Aldrin	<0.0640		0.0640	0.0320	ug/L		05/31/24 13:32	06/07/24 18:54	1	
beta-BHC	<0.0640		0.0640	0.0370	ug/L		05/31/24 13:32	06/07/24 18:54	1	
Chlordane (technical)	<2.00		2.00	0.810	ug/L		05/31/24 13:32	06/07/24 18:54	1	
delta-BHC	<0.0640		0.0640	0.0270	ug/L		05/31/24 13:32	06/07/24 18:54	1	
Dieldrin	<0.0640		0.0640	0.0260	ug/L		05/31/24 13:32	06/07/24 18:54	1	
Endosulfan I	<0.0640		0.0640	0.0330	ug/L		05/31/24 13:32	06/07/24 18:54	1	
Endosulfan II	<0.0640		0.0640	0.0290	ug/L		05/31/24 13:32	06/07/24 18:54	1	
Endosulfan sulfate	<0.0640		0.0640	0.0300	ug/L		05/31/24 13:32	06/07/24 18:54	1	
Endrin	<0.0640		0.0640	0.0260	ug/L		05/31/24 13:32	06/07/24 18:54	1	
Endrin aldehyde	<0.0640		0.0640	0.0290	ug/L		05/31/24 13:32	06/07/24 18:54	1	
gamma-BHC (Lindane)	<0.0640		0.0640	0.0360	ug/L		05/31/24 13:32	06/07/24 18:54	1	
Heptachlor	<0.0640		0.0640	0.0330	ug/L		05/31/24 13:32	06/07/24 18:54	1	
Heptachlor epoxide	<0.0640		0.0640	0.0290	ug/L		05/31/24 13:32	06/07/24 18:54	1	
Toxaphene	<2.00		2.00	0.690	ug/L		05/31/24 13:32	06/07/24 18:54	1	

	MB	MB								
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil	Fac	
DCB Decachlorobiphenyl (Surr)	72		10 - 136			08/31/24 13:32	06/07/24 19:84	1		
Tetrachloro-m-xylene	61		10 - 130			08/31/24 13:32	06/07/24 19:84	1		

Lab Sample ID: LCS 310-423264/2-A

Matrix: Water

Analysis Batch: 423817

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 423264

	Spike	LCS	LCS					%Rec		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits			
4,4'-DDD	1.00	0.8624		ug/L		86	36 - 141			
4,4'-DDE	1.00	0.7816		ug/L		78	34 - 130			
4,4'-DDT	1.00	0.9594		ug/L		96	25 - 150			
Aldrin	1.00	0.6159		ug/L		62	42 - 120			
beta-BHC	1.00	0.8163		ug/L		82	37 - 136			
delta-BHC	1.00	0.8134		ug/L		81	33 - 134			
Dieldrin	1.00	0.8729		ug/L		87	39 - 130			

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCS 310-423264/2-A

Matrix: Water

Analysis Batch: 423817

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 423264

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Endosulfan I	1.00	0.7771		ug/L		78	45 - 120	
Endosulfan II	1.00	0.8021		ug/L		80	14 - 120	
Endosulfan sulfate	1.00	0.9194		ug/L		92	36 - 144	
Endrin	1.00	0.8637		ug/L		86	39 - 140	
Endrin aldehyde	1.00	0.7366		ug/L		74	32 - 137	
gamma-BHC (Lindane)	1.00	0.8007		ug/L		80	36 - 132	
Heptachlor	1.00	0.7864		ug/L		79	34 - 120	
Heptachlor epoxide	1.00	0.8335		ug/L		83	38 - 133	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr)	76		10 - 136
Tetrachloro-m-xylene	65		10 - 130

Lab Sample ID: LCSD 310-423264/3-A

Matrix: Water

Analysis Batch: 423817

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 423264

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD	Limit
4,4'-DDD	1.00	0.8968		ug/L		90	36 - 141		4	35
4,4'-DDE	1.00	0.8186		ug/L		82	34 - 130		5	35
4,4'-DDT	1.00	0.9903		ug/L		99	25 - 150		3	35
Aldrin	1.00	0.6290		ug/L		63	42 - 120		2	35
beta-BHC	1.00	0.8568		ug/L		86	37 - 136		5	35
delta-BHC	1.00	0.8494		ug/L		85	33 - 134		4	35
Dieldrin	1.00	0.9062		ug/L		91	39 - 130		4	35
Endosulfan I	1.00	0.8167		ug/L		82	45 - 120		5	28
Endosulfan II	1.00	0.8335		ug/L		83	14 - 120		4	35
Endosulfan sulfate	1.00	0.9393		ug/L		94	36 - 144		2	35
Endrin	1.00	0.8738		ug/L		87	39 - 140		1	35
Endrin aldehyde	1.00	0.7737		ug/L		77	32 - 137		5	35
gamma-BHC (Lindane)	1.00	0.8464		ug/L		85	36 - 132		6	35
Heptachlor	1.00	0.8283		ug/L		83	34 - 120		5	35
Heptachlor epoxide	1.00	0.8726		ug/L		87	38 - 133		5	26

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr)	75		10 - 136
Tetrachloro-m-xylene	72		10 - 130

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 310-423264/1-A

Matrix: Water

Analysis Batch: 423818

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423264

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-1016	<0.800		0.800	0.170	ug/L		05/31/24 13:32	06/07/24 18:54	1
PCB-1221	<0.800		0.800	0.170	ug/L		05/31/24 13:32	06/07/24 18:54	1
PCB-1232	<0.800		0.800	0.170	ug/L		05/31/24 13:32	06/07/24 18:54	1

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Lab Sample ID: MB 310-423264/1-A

Matrix: Water

Analysis Batch: 423818

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423264

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1242	<0.800		0.800	0.170	ug/L		05/31/24 13:32	06/07/24 18:54	1
PCB-1248	<0.800		0.800	0.110	ug/L		05/31/24 13:32	06/07/24 18:54	1
PCB-1254	<0.800		0.800	0.110	ug/L		05/31/24 13:32	06/07/24 18:54	1
PCB-1260	<0.800		0.800	0.110	ug/L		05/31/24 13:32	06/07/24 18:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	72		10 - 136	08/31/24 13:32	06/07/24 19:84	1
Tetrachloro-m-xylene (Surr)	61		10 - 130	08/31/24 13:32	06/07/24 19:84	1

Lab Sample ID: LCS 310-423264/4-A

Matrix: Water

Analysis Batch: 423818

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 423264

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
PCB-1016	10.0	8.021		ug/L		80	50 - 133
PCB-1260	10.0	5.576		ug/L		56	31 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	72		10 - 136
Tetrachloro-m-xylene (Surr)	66		10 - 130

Lab Sample ID: LCSD 310-423264/5-A

Matrix: Water

Analysis Batch: 423818

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 423264

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
PCB-1016	10.0	6.683		ug/L		67	50 - 133	18	35
PCB-1260	10.0	5.346		ug/L		53	31 - 133	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	78		10 - 136
Tetrachloro-m-xylene (Surr)	65		10 - 130

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 310-423241/1-A

Matrix: Water

Analysis Batch: 423882

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		06/03/24 09:00	06/06/24 18:38	1
Barium	<0.00200		0.00200	0.000660	mg/L		06/03/24 09:00	06/06/24 18:38	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		06/03/24 09:00	06/06/24 18:38	1
Chromium	<0.00500		0.00500	0.00120	mg/L		06/03/24 09:00	06/06/24 18:38	1
Copper	<0.00500		0.00500	0.00180	mg/L		06/03/24 09:00	06/06/24 18:38	1
Iron	<0.100		0.100	0.0360	mg/L		06/03/24 09:00	06/06/24 18:38	1
Lead	<0.000500		0.000500	0.000260	mg/L		06/03/24 09:00	06/06/24 18:38	1
Molybdenum	<0.00200		0.00200	0.00130	mg/L		06/03/24 09:00	06/06/24 18:38	1

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 310-423241/1-A

Matrix: Water

Analysis Batch: 423882

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	<0.00500		0.00500	0.00210	mg/L		06/03/24 09:00	06/06/24 18:38	1
Selenium	<0.00500		0.00500	0.00140	mg/L		06/03/24 09:00	06/06/24 18:38	1
Silver	<0.00100	^1+ ^6+	0.00100	0.000500	mg/L		06/03/24 09:00	06/06/24 18:38	1
Zinc	<0.0200		0.0200	0.00970	mg/L		06/03/24 09:00	06/06/24 18:38	1

Lab Sample ID: MB 310-423241/1-A

Matrix: Water

Analysis Batch: 424262

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	<0.500		0.500	0.150	mg/L		06/03/24 09:00	06/11/24 17:45	1

Lab Sample ID: LCS 310-423241/2-A

Matrix: Water

Analysis Batch: 423882

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 423241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.200	0.2016		mg/L		101	85 - 115
Barium	0.100	0.1055		mg/L		105	85 - 115
Cadmium	0.100	0.09432		mg/L		94	85 - 115
Chromium	0.100	0.09888		mg/L		99	85 - 115
Copper	0.200	0.1931		mg/L		97	85 - 115
Iron	0.200	0.1919		mg/L		96	85 - 115
Lead	0.200	0.1916		mg/L		96	85 - 115
Molybdenum	0.200	0.1942		mg/L		97	85 - 115
Nickel	0.200	0.1977		mg/L		99	85 - 115
Selenium	0.400	0.3777		mg/L		94	85 - 115
Silver	0.100	0.1396	*+ ^1+ ^6+	mg/L		140	85 - 115
Zinc	0.200	0.2140		mg/L		107	85 - 115

Lab Sample ID: LCS 310-423241/2-A

Matrix: Water

Analysis Batch: 424262

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 423241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Magnesium	2.00	1.958		mg/L		98	85 - 115

Method: 245.2 - Mercury (CVAA)

Lab Sample ID: MB 310-423192/1-A

Matrix: Water

Analysis Batch: 423397

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423192

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200	^+	0.000200	0.000110	mg/L		05/31/24 13:20	06/03/24 11:35	1

Eurofins Cedar Falls

QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Method: 245.2 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 310-423192/2-A
Matrix: Water
Analysis Batch: 423397

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 423192

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001801	^+	mg/L		108	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 310-423686/1-A
Matrix: Water
Analysis Batch: 423824

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 423686

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	<5.0		5.0	4.5	mg/L		06/05/24 17:59	06/05/24 17:59	1

Lab Sample ID: LCS 310-423686/2-A
Matrix: Water
Analysis Batch: 423824

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 423686

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	33.70		mg/L		84	78 - 114

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 310-423796/1-A
Matrix: Water
Analysis Batch: 423864

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 423796

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	<0.500		0.500	0.210	mg/L		06/06/24 11:02	06/06/24 20:37	1

Lab Sample ID: LCS 310-423796/2-A
Matrix: Water
Analysis Batch: 423864

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 423796

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia as N	4.00	4.049		mg/L		101	90 - 110

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 310-423161/1-A
Matrix: Water
Analysis Batch: 423281

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 423161

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	<1.00		1.00	0.570	mg/L		05/31/24 05:12	05/31/24 16:19	1

Lab Sample ID: LCS 310-423161/2-A
Matrix: Water
Analysis Batch: 423281

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 423161

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Kjeldahl Nitrogen	4.01	4.100		mg/L		102	90 - 110

Eurofins Cedar Falls

QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

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

Lab Sample ID: MB 310-423131/1

Matrix: Water

Analysis Batch: 423131

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	3.70	mg/L			05/30/24 14:22	1

Lab Sample ID: LCS 310-423131/2

Matrix: Water

Analysis Batch: 423131

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

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

Lab Sample ID: MB 310-423286/1

Matrix: Water

Analysis Batch: 423286

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<50.0		50.0	42.0	mg/L			05/31/24 16:59	1

Lab Sample ID: LCS 310-423286/2

Matrix: Water

Analysis Batch: 423286

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	940.0		mg/L		94	88 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-423113/1

Matrix: Water

Analysis Batch: 423113

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

Lab Sample ID: LCS 310-423113/15

Matrix: Water

Analysis Batch: 423113

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 310-423089/1

Matrix: Water

Analysis Batch: 423089

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	<3.00		3.00	3.00	mg/L			05/30/24 09:30	1

Eurofins Cedar Falls

QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Method: SM 5210B - BOD, 5-Day (Continued)

Lab Sample ID: LCS 310-423089/2

Matrix: Water

Analysis Batch: 423089

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	198	155.0	*-	mg/L		78	85 - 115

Method: SM 5310C - TOC

Lab Sample ID: MB 310-423315/11

Matrix: Water

Analysis Batch: 423315

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	<1.00		1.00	0.500	mg/L			05/31/24 18:40	1

Lab Sample ID: LCS 310-423315/12

Matrix: Water

Analysis Batch: 423315

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	9.99	10.46		mg/L		105	85 - 115

QC Association Summary

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

GC/MS VOA

Analysis Batch: 462672

9a0 SamLib #	Client SamLib #	I rbl DyLb	MatriP	MbthoT	I rbl Batch
310-282305-1	Leachate	Total/NA	Water	624.1	
MB 310-423253/5	Method Blank	Total/NA	Water	624.1	
LCS 310-423253/6	Lab Control Sample	Total/NA	Water	624.1	
LCS 310-423253/7	Lab Control Sample	Total/NA	Water	624.1	

GC/MS Sbmi VOA

I rbl Batch: 4627xd

9a0 SamLib #	Client SamLib #	I rbl DyLb	MatriP	MbthoT	I rbl Batch
310-282305-1	Leachate	Total/NA	Water	625	
MB 310-423508/1-A	Method Blank	Total/NA	Water	625	
LCS 310-423508/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 310-423508/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 462833

9a0 SamLib #	Client SamLib #	I rbl DyLb	MatriP	MbthoT	I rbl Batch
310-282305-1	Leachate	Total/NA	Water	625.1	423508
MB 310-423508/1-A	Method Blank	Total/NA	Water	625.1	423508
LCS 310-423508/2-A	Lab Control Sample	Total/NA	Water	625.1	423508
LCSD 310-423508/3-A	Lab Control Sample Dup	Total/NA	Water	625.1	423508

GC Sbmi VOA

I rbl Batch: 462634

9a0 SamLib #	Client SamLib #	I rbl DyLb	MatriP	MbthoT	I rbl Batch
310-282305-1	Leachate	Total/NA	Water	608	
MB 310-423264/1-A	Method Blank	Total/NA	Water	608	
LCS 310-423264/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 310-423264/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 310-423264/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 310-423264/5-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 462d15

9a0 SamLib #	Client SamLib #	I rbl DyLb	MatriP	MbthoT	I rbl Batch
310-282305-1	Leachate	Total/NA	Water	608.3	423264
MB 310-423264/1-A	Method Blank	Total/NA	Water	608.3	423264
LCS 310-423264/2-A	Lab Control Sample	Total/NA	Water	608.3	423264
LCSD 310-423264/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	423264

Analysis Batch: 462d1d

9a0 SamLib #	Client SamLib #	I rbl DyLb	MatriP	MbthoT	I rbl Batch
310-282305-1	Leachate	Total/NA	Water	608.3	423264
MB 310-423264/1-A	Method Blank	Total/NA	Water	608.3	423264
LCS 310-423264/4-A	Lab Control Sample	Total/NA	Water	608.3	423264
LCSD 310-423264/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	423264

Mbtals

I rbl Batch: 462186

9a0 SamLib #	Client SamLib #	I rbl DyLb	MatriP	MbthoT	I rbl Batch
310-282305-1	Leachate	Total/NA	Water	245.1	
MB 310-423192/1-A	Method Blank	Total/NA	Water	245.1	

Eurofins Cedar Falls

QC Association Summary

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Mbtals (ContinubT)

I rBL Batch: 462186 (ContinubT)

9a0 SamLib Ꝁ	Clibnt SamLib Ꝁ	I rBL DyLb	MatriP	MbthoT	I rBL Batch
LCS 310-423192/2-A	Lab Control Sample	Total/NA	Water	245.1	

I rBL Batch: 462641

9a0 SamLib Ꝁ	Clibnt SamLib Ꝁ	I rBL DyLb	MatriP	MbthoT	I rBL Batch
310-282305-1	Leachate	Total/NA	Water	200.8	
MB 310-423241/1-A	Method Blank	Total/NA	Water	200.8	
LCS 310-423241/2-A	Lab Control Sample	Total/NA	Water	200.8	

Analysis Batch: 462285

9a0 SamLib Ꝁ	Clibnt SamLib Ꝁ	I rBL DyLb	MatriP	MbthoT	I rBL Batch
310-282305-1	Leachate	Total/NA	Water	245.2	423192
MB 310-423192/1-A	Method Blank	Total/NA	Water	245.2	423192
LCS 310-423192/2-A	Lab Control Sample	Total/NA	Water	245.2	423192

Analysis Batch: 462dd6

9a0 SamLib Ꝁ	Clibnt SamLib Ꝁ	I rBL DyLb	MatriP	MbthoT	I rBL Batch
310-282305-1	Leachate	Total/NA	Water	200.8	423241
MB 310-423241/1-A	Method Blank	Total/NA	Water	200.8	423241
LCS 310-423241/2-A	Lab Control Sample	Total/NA	Water	200.8	423241

Analysis Batch: 464636

9a0 SamLib Ꝁ	Clibnt SamLib Ꝁ	I rBL DyLb	MatriP	MbthoT	I rBL Batch
MB 310-423241/1-A	Method Blank	Total/NA	Water	200.8	423241
LCS 310-423241/2-A	Lab Control Sample	Total/NA	Water	200.8	423241

Gbnbral Chbmistry

Analysis Batch: 462xd8

9a0 SamLib Ꝁ	Clibnt SamLib Ꝁ	I rBL DyLb	MatriP	MbthoT	I rBL Batch
310-282305-1	Leachate	Total/NA	Water	SM 5210B	
USB 310-423089/1	Method Blank	Total/NA	Water	SM 5210B	
LCS 310-423089/2	Lab Control Sample	Total/NA	Water	SM 5210B	

Analysis Batch: 462112

9a0 SamLib Ꝁ	Clibnt SamLib Ꝁ	I rBL DyLb	MatriP	MbthoT	I rBL Batch
310-282305-1	Leachate	Total/NA	Water	SM 4500 H+ B	
LCS 310-423113/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCS 310-423113/15	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 462121

9a0 SamLib Ꝁ	Clibnt SamLib Ꝁ	I rBL DyLb	MatriP	MbthoT	I rBL Batch
310-282305-1	Leachate	Total/NA	Water	I-3765-85	
MB 310-423131/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-423131/2	Lab Control Sample	Total/NA	Water	I-3765-85	

I rBL Batch: 462131

9a0 SamLib Ꝁ	Clibnt SamLib Ꝁ	I rBL DyLb	MatriP	MbthoT	I rBL Batch
310-282305-1	Leachate	Total/NA	Water	351.2	
MB 310-423161/1-A	Method Blank	Total/NA	Water	351.2	
LCS 310-423161/2-A	Lab Control Sample	Total/NA	Water	351.2	

Eurofins Cedar Falls

QC Association Summary

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Gbnbral Chbmistry

Analysis Batch: 4626d1

9a0 SamLib ꝑ	Clibnt SamLib ꝑ	I rbl DyLb	MatriP	MbthoT	I rbl Batch
310-282305-1	Leachate	Total/NA	Water	351.2	423161
MB 310-423161/1-A	Method Blank	Total/NA	Water	351.2	423161
LCS 310-423161/2-A	Lab Control Sample	Total/NA	Water	351.2	423161

Analysis Batch: 4626d3

9a0 SamLib ꝑ	Clibnt SamLib ꝑ	I rbl DyLb	MatriP	MbthoT	I rbl Batch
310-282305-1	Leachate	Total/NA	Water	SM 2540C	
MB 310-423286/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-423286/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 462217

9a0 SamLib ꝑ	Clibnt SamLib ꝑ	I rbl DyLb	MatriP	MbthoT	I rbl Batch
310-282305-1	Leachate	Total/NA	Water	SM 5310C	
MB 310-423315/11	Method Blank	Total/NA	Water	SM 5310C	
LCS 310-423315/12	Lab Control Sample	Total/NA	Water	SM 5310C	

I rbl Batch: 4623d3

9a0 SamLib ꝑ	Clibnt SamLib ꝑ	I rbl DyLb	MatriP	MbthoT	I rbl Batch
310-282305-1	Leachate	Total/NA	Water	1664A	
MB 310-423686/1-A	Method Blank	Total/NA	Water	1664A	
LCS 310-423686/2-A	Lab Control Sample	Total/NA	Water	1664A	

I rbl Batch: 462583

9a0 SamLib ꝑ	Clibnt SamLib ꝑ	I rbl DyLb	MatriP	MbthoT	I rbl Batch
310-282305-1	Leachate	Total/NA	Water	Distill/Ammonia	
MB 310-423796/1-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 310-423796/2-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	

Analysis Batch: 462d64

9a0 SamLib ꝑ	Clibnt SamLib ꝑ	I rbl DyLb	MatriP	MbthoT	I rbl Batch
310-282305-1	Leachate	Total/NA	Water	1664A	423686
MB 310-423686/1-A	Method Blank	Total/NA	Water	1664A	423686
LCS 310-423686/2-A	Lab Control Sample	Total/NA	Water	1664A	423686

Analysis Batch: 462d34

9a0 SamLib ꝑ	Clibnt SamLib ꝑ	I rbl DyLb	MatriP	MbthoT	I rbl Batch
310-282305-1	Leachate	Total/NA	Water	350.1	423796
MB 310-423796/1-A	Method Blank	Total/NA	Water	350.1	423796
LCS 310-423796/2-A	Lab Control Sample	Total/NA	Water	350.1	423796

Lab Chronicle

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Client Sample ID: Leachate

Lab Sample ID: 310-282305-1

Date Collected: 05/29/24 08:00

Matrix: Water

Date Received: 05/30/24 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	624.1		1	423253	FE5V	EET CF	06/01/24 06:58
Total/NA	Prep	625			423508	JT8P	EET CF	06/04/24 13:08
Total/NA	Analysis	625.1		1	423966	L0FS	EET CF	06/07/24 17:10
Total/NA	Prep	608			423264	JT8P	EET CF	05/31/24 13:32
Total/NA	Analysis	608.3		1	423817	BW2O	EET CF	06/07/24 20:14
Total/NA	Prep	608			423264	JT8P	EET CF	05/31/24 13:32
Total/NA	Analysis	608.3		1	423818	BW2O	EET CF	06/07/24 20:14
Total/NA	Prep	200.8			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	200.8		1	423882	NFT2	EET CF	06/06/24 20:28
Total/NA	Prep	245.1			423192	DHM5	EET CF	05/31/24 13:20
Total/NA	Analysis	245.2		1	423397	A6US	EET CF	06/03/24 12:32
Total/NA	Prep	1664A			423686	A3GU	EET CF	06/05/24 17:59
Total/NA	Analysis	1664A		1	423824	A3GU	EET CF	06/05/24 17:59
Total/NA	Prep	Distill/Ammonia			423796	MQ8M	EET CF	06/06/24 11:02
Total/NA	Analysis	350.1		1	423864	ZJX4	EET CF	06/06/24 21:20
Total/NA	Prep	351.2			423161	W9YR	EET CF	05/31/24 05:12
Total/NA	Analysis	351.2		1	423281	ZJX4	EET CF	05/31/24 16:24
Total/NA	Analysis	I-3765-85		1	423131	HE7K	EET CF	05/30/24 14:22
Total/NA	Analysis	SM 2540C		1	423286	ENB7	EET CF	05/31/24 16:59
Total/NA	Analysis	SM 4500 H+ B		1	423113	W9YR	EET CF	05/30/24 10:56
Total/NA	Analysis	SM 5210B		4	423089	W9YR	EET CF	05/30/24 09:56
Total/NA	Analysis	SM 5310C		1	423315	HE7K	EET CF	06/01/24 01:54

Laboratory References:

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

Accreditation/Certification Summary

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
624.1		Water	1,3-Dichloropropene, Total
625.1	625	Water	1,2-Dichlorobenzene
625.1	625	Water	1,3-Dichlorobenzene
625.1	625	Water	1,4-Dichlorobenzene
625.1	625	Water	Dibenzofuran

Method Summary

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-282305-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET CF
625.1	Semivolatile Organic Compounds (GC/MS)	EPA	EET CF
608.3	Organochlorine Pesticides in Water	EPA	EET CF
608.3	Polychlorinated Biphenyls (PCBs) (GC)	EPA	EET CF
200.8	Metals (ICP/MS)	EPA	EET CF
245.2	Mercury (CVAA)	EPA	EET CF
1664A	HEM and SGT-HEM	1664A	EET CF
350.1	Nitrogen, Ammonia	EPA	EET CF
351.2	Nitrogen, Total Kjeldahl	EPA	EET CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
SM 5210B	BOD, 5-Day	SM	EET CF
SM 5310C	TOC	SM	EET CF
1664A	HEM and SGT-HEM (SPE)	1664A	EET CF
200.8	Preparation, Total Metals	EPA	EET CF
245.1	Preparation, Mercury	EPA	EET CF
351.2	Nitrogen, Total Kjeldahl	EPA	EET CF
608	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CF
625	Liquid-Liquid Extraction	EPA	EET CF
Distill/Ammonia	Distillation, Ammonia	None	EET CF

Protocol References:

1664A = EPA-821-98-002

EPA = US Environmental Protection Agency

None = None

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

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

Laboratory References:

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



Environment Testing
America



310-282305 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Prairie Solid Waste Agency</u>			
City/State:	CITY	STATE	Project:
		<u>IA</u>	
Receipt Information			
Date/Time Received:	DATE	TIME	Received By:
	<u>5-30-24</u>	<u>850</u>	<u>mc</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 # _____ of _____	
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>X</u>	Correction Factor (°C): <u>0</u>	
Temp Blank Temperature: If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>4.4</u>	Corrected Temp (°C): <u>4.4</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			

Login Sample Receipt Checklist

Client: Prairie Solid Waste Agency

Job Number: 310-282305-1

Login Number: 282305

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Costello, Mackenzie K

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

ANALYTICAL REPORT

PREPARED FOR

Attn: Janeen Frey
Prairie Solid Waste Agency
1774 Lark Avenue
PO BOX 227
Creston, Iowa 50801

Generated 6/3/2025 9:48:48 AM

JOB DESCRIPTION

Prairie Solid Waste/Union County Leachate

JOB NUMBER

310-306751-1

Eurofins Cedar Falls

Job Notes

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

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

Authorization



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6/3/2025 9:48:48 AM

Authorized for release by
Samuel Miller, Project Management Assistant I
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Case Narrative

Client: Prairie Solid Waste Agency
Project: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Job ID: 310-306751-1

Eurofins Cedar Falls

Job Narrative 310-306751-1

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 sample was received on 5/20/2025 9:05 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 7.4°C.

GC/MS VOA

Method 624.1_PREC: The method requirement for no headspace was not met. The following volatile sample was analyzed with headspace in the sample container: Leachate (310-306751-1).

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

GC/MS Semi VOA

Method 625.1_PREC: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 310-455556. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 625.1_PREC: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 310-455556 and analytical batch 310-456136 recovered outside control limits for the following analytes: 2,4-Dinitrophenol.

Method 625.1_PREC: The following sample was diluted due to the nature of the sample matrix: Leachate (310-306751-1). Elevated reporting limits (RLs) are provided.

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

PCBs

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

Pesticides

Method 608.3_Pest_PREC: The continuing calibration verification (CCV) associated with batch 310-455853 recovered above the upper control limit for Endosulfan I. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

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

Method SM5210B_Calc: The glucose-glutamic acid standard (LCS) recovered outside the recovery limits specified in the method in batch 310-455277. The method holding time had expired, therefore the analysis was not repeated. The data was qualified and reported.

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: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-306751-1	Leachate	Water	05/19/25 10:20	05/20/25 09:05

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

Detection Summary

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Client Sample ID: Leachate

Lab Sample ID: 310-306751-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00219		0.00200	0.000530	mg/L	1		200.8	Total/NA
Barium	0.0976		0.00200	0.000660	mg/L	1		200.8	Total/NA
Iron	1.04		0.100	0.0500	mg/L	1		200.8	Total/NA
Magnesium	64.4		0.500	0.150	mg/L	1		200.8	Total/NA
Nickel	0.0183		0.00500	0.00230	mg/L	1		200.8	Total/NA
Ammonia as N	32.6		4.69	1.97	mg/L	9.38		350.1	Total/NA
Total Kjeldahl Nitrogen	30.4		10.0	6.20	mg/L	10		351.2	Total/NA
Total Suspended Solids	22.7		5.00	3.50	mg/L	1		I-3765-85	Total/NA
Total Dissolved Solids	910		250	180	mg/L	1		SM 2540C	Total/NA
pH	8.4	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	49.8		40.0	20.0	mg/L	40		SM 5310C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Client Sample ID: Leachate

Lab Sample ID: 310-306751-1

Date Collected: 05/19/25 10:20

Matrix: Water

Date Received: 05/20/25 09:05

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.500		0.500	0.220	ug/L			05/21/25 17:08	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			05/21/25 17:08	1
Bromoform	<5.00		5.00	0.780	ug/L			05/21/25 17:08	1
Bromomethane	<4.00		4.00	1.10	ug/L			05/21/25 17:08	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			05/21/25 17:08	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			05/21/25 17:08	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			05/21/25 17:08	1
Chloroethane	<4.00		4.00	0.790	ug/L			05/21/25 17:08	1
2-Chloroethyl vinyl ether	<2.00		2.00	1.70	ug/L			05/21/25 17:08	1
Chloroform	<3.00		3.00	1.30	ug/L			05/21/25 17:08	1
Chloromethane	<3.00		3.00	0.610	ug/L			05/21/25 17:08	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			05/21/25 17:08	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			05/21/25 17:08	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			05/21/25 17:08	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			05/21/25 17:08	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			05/21/25 17:08	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			05/21/25 17:08	1
1,3-Dichloropropene, Total	<5.00		5.00	0.560	ug/L			05/21/25 17:08	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			05/21/25 17:08	1
Methylene Chloride	<5.00		5.00	1.70	ug/L			05/21/25 17:08	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			05/21/25 17:08	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			05/21/25 17:08	1
Toluene	<1.00		1.00	0.430	ug/L			05/21/25 17:08	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			05/21/25 17:08	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			05/21/25 17:08	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			05/21/25 17:08	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			05/21/25 17:08	1
Trichloroethene	<1.00		1.00	0.430	ug/L			05/21/25 17:08	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			05/21/25 17:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	11		03 - 763		3/ 2675/ 7: 50	7
8-Bromofluoromethane (Surr)	777		1 - 773		3/ 2675/ 7: 50	7
Toluene-90 (Surr)	17		03 - 763		3/ 2675/ 7: 50	7

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<50.0		50.0	2.80	ug/L		05/23/25 08:23	05/30/25 17:54	5
1,2-Dichlorobenzene	<50.0		50.0	3.10	ug/L		05/23/25 08:23	05/30/25 17:54	5
1,3-Dichlorobenzene	<50.0		50.0	3.20	ug/L		05/23/25 08:23	05/30/25 17:54	5
1,4-Dichlorobenzene	<50.0		50.0	3.20	ug/L		05/23/25 08:23	05/30/25 17:54	5
2,4,5-Trichlorophenol	<50.0		50.0	26.5	ug/L		05/23/25 08:23	05/30/25 17:54	5
2,4,6-Trichlorophenol	<50.0		50.0	25.0	ug/L		05/23/25 08:23	05/30/25 17:54	5
2,4-Dichlorophenol	<50.0		50.0	4.25	ug/L		05/23/25 08:23	05/30/25 17:54	5
2,4-Dimethylphenol	<50.0		50.0	2.90	ug/L		05/23/25 08:23	05/30/25 17:54	5
2,4-Dinitrophenol	<100	*1	100	65.0	ug/L		05/23/25 08:23	05/30/25 17:54	5
2,4-Dinitrotoluene	<50.0		50.0	32.0	ug/L		05/23/25 08:23	05/30/25 17:54	5
2,6-Dinitrotoluene	<50.0		50.0	2.60	ug/L		05/23/25 08:23	05/30/25 17:54	5
2-Chloronaphthalene	<50.0		50.0	3.20	ug/L		05/23/25 08:23	05/30/25 17:54	5
2-Chlorophenol	<50.0		50.0	2.70	ug/L		05/23/25 08:23	05/30/25 17:54	5

Eurofins Cedar Falls

Client Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Client Sample ID: Leachate

Lab Sample ID: 310-306751-1

Date Collected: 05/19/25 10:20

Matrix: Water

Date Received: 05/20/25 09:05

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitrophenol	<50.0		50.0	34.0	ug/L		05/23/25 08:23	05/30/25 17:54	5
3,3'-Dichlorobenzidine	<50.0		50.0	7.00	ug/L		05/23/25 08:23	05/30/25 17:54	5
4,6-Dinitro-2-methylphenol	<50.0		50.0	34.5	ug/L		05/23/25 08:23	05/30/25 17:54	5
4-Bromophenyl phenyl ether	<50.0		50.0	3.50	ug/L		05/23/25 08:23	05/30/25 17:54	5
4-Chloro-3-methylphenol	<50.0		50.0	4.20	ug/L		05/23/25 08:23	05/30/25 17:54	5
4-Chlorophenyl phenyl ether	<50.0		50.0	3.45	ug/L		05/23/25 08:23	05/30/25 17:54	5
4-Nitrophenol	<50.0		50.0	38.0	ug/L		05/23/25 08:23	05/30/25 17:54	5
Acenaphthene	<50.0		50.0	3.20	ug/L		05/23/25 08:23	05/30/25 17:54	5
Acenaphthylene	<50.0		50.0	3.60	ug/L		05/23/25 08:23	05/30/25 17:54	5
Anthracene	<50.0		50.0	4.35	ug/L		05/23/25 08:23	05/30/25 17:54	5
Benzo[a]anthracene	<50.0		50.0	4.25	ug/L		05/23/25 08:23	05/30/25 17:54	5
Benzo[a]pyrene	<50.0		50.0	40.5	ug/L		05/23/25 08:23	05/30/25 17:54	5
Benzo[b]fluoranthene	<50.0		50.0	24.5	ug/L		05/23/25 08:23	05/30/25 17:54	5
Benzo[g,h,i]perylene	<50.0		50.0	31.5	ug/L		05/23/25 08:23	05/30/25 17:54	5
Benzo[k]fluoranthene	<50.0		50.0	11.0	ug/L		05/23/25 08:23	05/30/25 17:54	5
Benzoic acid	<500		500	85.0	ug/L		05/23/25 08:23	05/30/25 17:54	5
Benzyl alcohol	<50.0		50.0	6.50	ug/L		05/23/25 08:23	05/30/25 17:54	5
Bis(2-chloroethoxy)methane	<50.0		50.0	3.80	ug/L		05/23/25 08:23	05/30/25 17:54	5
Bis(2-chloroethyl)ether	<50.0		50.0	4.10	ug/L		05/23/25 08:23	05/30/25 17:54	5
bis (2-chloroisopropyl) ether	<50.0		50.0	2.70	ug/L		05/23/25 08:23	05/30/25 17:54	5
Bis(2-ethylhexyl) phthalate	<50.0		50.0	27.5	ug/L		05/23/25 08:23	05/30/25 17:54	5
Butyl benzyl phthalate	<50.0		50.0	27.0	ug/L		05/23/25 08:23	05/30/25 17:54	5
Chrysene	<50.0		50.0	4.35	ug/L		05/23/25 08:23	05/30/25 17:54	5
Dibenz(a,h)anthracene	<50.0		50.0	19.5	ug/L		05/23/25 08:23	05/30/25 17:54	5
Dibenzofuran	<50.0		50.0	3.70	ug/L		05/23/25 08:23	05/30/25 17:54	5
Diethyl phthalate	<50.0		50.0	8.50	ug/L		05/23/25 08:23	05/30/25 17:54	5
Dimethyl phthalate	<50.0		50.0	5.00	ug/L		05/23/25 08:23	05/30/25 17:54	5
Di-n-butyl phthalate	<50.0		50.0	28.0	ug/L		05/23/25 08:23	05/30/25 17:54	5
Di-n-octyl phthalate	<100		100	35.0	ug/L		05/23/25 08:23	05/30/25 17:54	5
Fluoranthene	<50.0		50.0	8.50	ug/L		05/23/25 08:23	05/30/25 17:54	5
Fluorene	<50.0		50.0	3.95	ug/L		05/23/25 08:23	05/30/25 17:54	5
Hexachlorobenzene	<50.0		50.0	3.50	ug/L		05/23/25 08:23	05/30/25 17:54	5
Hexachlorobutadiene	<50.0		50.0	4.30	ug/L		05/23/25 08:23	05/30/25 17:54	5
Hexachlorocyclopentadiene	<50.0		50.0	25.5	ug/L		05/23/25 08:23	05/30/25 17:54	5
Hexachloroethane	<50.0		50.0	4.85	ug/L		05/23/25 08:23	05/30/25 17:54	5
Indeno[1,2,3-cd]pyrene	<50.0		50.0	21.0	ug/L		05/23/25 08:23	05/30/25 17:54	5
Isophorone	<50.0		50.0	4.65	ug/L		05/23/25 08:23	05/30/25 17:54	5
Naphthalene	<50.0		50.0	30.5	ug/L		05/23/25 08:23	05/30/25 17:54	5
Nitrobenzene	<50.0		50.0	4.00	ug/L		05/23/25 08:23	05/30/25 17:54	5
N-Nitrosodi-n-propylamine	<50.0		50.0	4.60	ug/L		05/23/25 08:23	05/30/25 17:54	5
N-Nitrosodiphenylamine	<50.0		50.0	3.75	ug/L		05/23/25 08:23	05/30/25 17:54	5
Pentachlorophenol	<50.0		50.0	48.0	ug/L		05/23/25 08:23	05/30/25 17:54	5
Phenanthrene	<50.0		50.0	3.95	ug/L		05/23/25 08:23	05/30/25 17:54	5
Pyrene	<50.0		50.0	3.95	ug/L		05/23/25 08:23	05/30/25 17:54	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
6-Fluoropt enol (Surr)	T6		67 - 773	3/ 2T26/ 305T	3/ 2T326/ 7: 5 4	/
Pt enol-9/ (Surr)	47		67 - 773	3/ 2T26/ 305T	3/ 2T326/ 7: 5 4	/
Nitrobenzene-9/ (Surr)	: 7		T1 - 743	3/ 2T26/ 305T	3/ 2T326/ 7: 5 4	/
6-Fluorobpt enyl (Surr)	aa		TT - 76a	3/ 2T26/ 305T	3/ 2T326/ 7: 5 4	/

Eurofins Cedar Falls

Client Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Client Sample ID: Leachate

Lab Sample ID: 310-306751-1

Date Collected: 05/19/25 10:20

Matrix: Water

Date Received: 05/20/25 09:05

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
6,4,a-dibromopt enol (SUR)	40		63 - 744	3/ 2625/ 305T	3/ 2325/ 7: 5 4	/
derpt enyl-974	a1		77 - 7/ 3	3/ 2625/ 305T	3/ 2325/ 7: 5 4	/

Method: EPA 608.3 - Organochlorine Pesticides in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	<0.0640		0.0640	0.0270	ug/L		05/22/25 11:44	05/28/25 12:34	1
4,4'-DDE	<0.0640		0.0640	0.0270	ug/L		05/22/25 11:44	05/28/25 12:34	1
4,4'-DDT	<0.0640		0.0640	0.0420	ug/L		05/22/25 11:44	05/28/25 12:34	1
Aldrin	<0.0640		0.0640	0.0320	ug/L		05/22/25 11:44	05/28/25 12:34	1
beta-BHC	<0.0640		0.0640	0.0370	ug/L		05/22/25 11:44	05/28/25 12:34	1
Chlordane (technical)	<2.00		2.00	0.810	ug/L		05/22/25 11:44	05/28/25 12:34	1
delta-BHC	<0.0640		0.0640	0.0270	ug/L		05/22/25 11:44	05/28/25 12:34	1
Dieldrin	<0.0640		0.0640	0.0260	ug/L		05/22/25 11:44	05/28/25 12:34	1
Endosulfan I	<0.0640		0.0640	0.0330	ug/L		05/22/25 11:44	05/28/25 12:34	1
Endosulfan II	<0.0640		0.0640	0.0290	ug/L		05/22/25 11:44	05/28/25 12:34	1
Endosulfan sulfate	<0.0640		0.0640	0.0300	ug/L		05/22/25 11:44	05/28/25 12:34	1
Endrin	<0.0640		0.0640	0.0260	ug/L		05/22/25 11:44	05/28/25 12:34	1
Endrin aldehyde	<0.0640		0.0640	0.0290	ug/L		05/22/25 11:44	05/28/25 12:34	1
gamma-BHC (Lindane)	<0.0640		0.0640	0.0360	ug/L		05/22/25 11:44	05/28/25 12:34	1
Heptachlor	<0.0640		0.0640	0.0330	ug/L		05/22/25 11:44	05/28/25 12:34	1
Heptachlor epoxide	<0.0640		0.0640	0.0290	ug/L		05/22/25 11:44	05/28/25 12:34	1
Toxaphene	<2.00		2.00	0.690	ug/L		05/22/25 11:44	05/28/25 12:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
8 CB 8 echct lorobpt enyl (Surr)	T:		73 - 76a	3/ 2625/ 7754	3/ 2025/ 765T4	7
deirhct lono-m-xylene	44		73 - 764	3/ 2625/ 7754	3/ 2025/ 765T4	7

Method: EPA 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.800		0.800	0.170	ug/L		05/22/25 11:44	05/28/25 12:34	1
PCB-1221	<0.800		0.800	0.170	ug/L		05/22/25 11:44	05/28/25 12:34	1
PCB-1232	<0.800		0.800	0.170	ug/L		05/22/25 11:44	05/28/25 12:34	1
PCB-1242	<0.800		0.800	0.170	ug/L		05/22/25 11:44	05/28/25 12:34	1
PCB-1248	<0.800		0.800	0.110	ug/L		05/22/25 11:44	05/28/25 12:34	1
PCB-1254	<0.800		0.800	0.110	ug/L		05/22/25 11:44	05/28/25 12:34	1
PCB-1260	<0.800		0.800	0.110	ug/L		05/22/25 11:44	05/28/25 12:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
8 CB 8 echct lorobpt enyl (Surr)	T:		73 - 76a	3/ 2625/ 7754	3/ 2025/ 765T4	7
deirhct lono-m-xylene (Surr)	44		73 - 764	3/ 2625/ 7754	3/ 2025/ 765T4	7

Method: EPA 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00219		0.00200	0.000530	mg/L		05/21/25 09:00	05/22/25 18:07	1
Barium	0.0976		0.00200	0.000660	mg/L		05/21/25 09:00	05/22/25 18:07	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		05/21/25 09:00	05/22/25 18:07	1
Chromium	<0.00500		0.00500	0.00180	mg/L		05/21/25 09:00	05/22/25 18:07	1
Copper	<0.00500		0.00500	0.00320	mg/L		05/21/25 09:00	05/22/25 18:07	1
Iron	1.04		0.100	0.0500	mg/L		05/21/25 09:00	05/22/25 18:07	1
Lead	<0.000500		0.000500	0.000330	mg/L		05/21/25 09:00	05/22/25 18:07	1

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Client Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Client Sample ID: Leachate

Lab Sample ID: 310-306751-1

Date Collected: 05/19/25 10:20

Matrix: Water

Date Received: 05/20/25 09:05

Method: EPA 200.8 - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	64.4		0.500	0.150	mg/L		05/21/25 09:00	05/22/25 18:07	1
Molybdenum	<0.00200		0.00200	0.00130	mg/L		05/21/25 09:00	05/22/25 18:07	1
Nickel	0.0183		0.00500	0.00230	mg/L		05/21/25 09:00	05/22/25 18:07	1
Selenium	<0.00500		0.00500	0.00140	mg/L		05/21/25 09:00	05/22/25 18:07	1
Silver	<0.00100		0.00100	0.000500	mg/L		05/21/25 09:00	05/22/25 18:07	1
Zinc	<0.0200		0.0200	0.0130	mg/L		05/21/25 09:00	05/22/25 18:07	1

Method: EPA 245.2 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200	0.000110	mg/L		06/02/25 09:55	06/02/25 15:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	<5.1		5.1	3.2	mg/L		05/22/25 06:00	05/22/25 06:00	1
Ammonia as N (EPA 350.1)	32.6		4.69	1.97	mg/L		05/27/25 09:08	05/27/25 20:22	9.38
Total Kjeldahl Nitrogen (EPA 351.2)	30.4		10.0	6.20	mg/L		05/21/25 07:04	05/21/25 16:53	10
Total Suspended Solids (USGS I-3765-85)	22.7		5.00	3.50	mg/L			05/20/25 16:13	1
Total Dissolved Solids (SM 2540C)	910		250	180	mg/L			05/21/25 12:55	1
Biochemical Oxygen Demand (SM 5210B)	<12.0	*-	12.0	12.0	mg/L			05/21/25 07:24	4
Total Organic Carbon (SM 5310C)	49.8		40.0	20.0	mg/L			05/27/25 17:01	40
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	8.4	HF	1.0	1.0	SU			05/20/25 09:40	1

Definitions/Glossary

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Qualifiers

GC/MS SeV i OAc

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.

General Chemistry

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Glossary

Abbreviation	These are only used abbreviations that 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: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-302851-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate recovery (Acceptance Limits)		
		FRF (70-120)	DFRM (36-180)	TOL (70-120)
310-302851-1	Leachate	99	111	93
LCS 310-655315/8	Lab Control Sa4 mle	98	100	101
LCS 310-655315/7	Lab Control Sa4 mle	99	11p	95
MB 310-655315/2	Method Blank	99	109	95
Surrogate Legend				
BFB = 6-Bro4 ofluorobenzene (Surr)				
DBFM = Dibro4 ofluoro4 ethane (Surr)				
TOL = Toluene-d7 (Surr)				

Method: 629.1 - SemiVolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate recovery (Acceptance Limits)					
		2RP (21-110)	PHL (21-110)	NFZ (88-140)	RFP (88-126)	TFP (20-144)	TPHL (18-190)
310-302851-1	Leachate	3p	61	81	22	67	29
LCS 310-655552/p-A	Lab Control Sa4 mle	8p	20	91	72	108	92
LCSD 310-655552/3-A	Lab Control Sa4 mle Dum	8p	58	90	71	99	92
MB 310-655552/1-A	Method Blank	27	56	73	27	7p	79
Surrogate Legend							
pFP = p-Fluorophenol (Surr)							
PHL = Phenol-d5 (Surr)							
NBZ = Nitrobenzene-d5 (Surr)							
FBP = p-Fluorobiphenyl (Surr)							
TBP = p,6,2-Tribro4 phenol (SUR)							
TPHL = Terphenyl-d16							

Method: 607.B- Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate recovery (Acceptance Limits)	
		DCF1 (10-126)	TCX1 (10-124)
310-302851-1	Leachate	38	66
LCS 310-655682/6-A	Lab Control Sa4 mle	27	25
LCSD 310-655682/5-A	Lab Control Sa4 mle Dum	69	58
MB 310-655682/1-A	Method Blank	63	57
Surrogate Legend			
DCB = DCB Decachlorobiphenyl (Surr)			
TCX = Tetrachloro-4 -xylene			

Method: 607.B- Polychlorinated Biphenyls (PCF s) (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate recovery (Acceptance Limits)	
		DCF1 (10-126)	TCX1 (10-124)
310-302851-1	Leachate	38	66
LCS 310-655682/p-A	Lab Control Sa4 mle	68	57

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Surrogate Summary

Client: Prairie Solid Waste Agency

Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-302851-1

Method: 607.B- Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	DCF1 (10-126)	TCX1 (10-124)
LCSD 310-655682/3-A	Lab Control Sample	50	50
MB 310-655682/1-A	Method Blank	63	57
Surrogate Legend			
DCB = DCB Decachlorobiphenyl (Surr)			
TCX = Tetrachloro-4-xylene (Surr)			

QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 310-455315/6

Matrix: Water

Analysis Batch: 455315

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.500		0.500	0.220	ug/L			05/21/25 13:00	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			05/21/25 13:00	1
Bromoform	<5.00		5.00	0.780	ug/L			05/21/25 13:00	1
Bromomethane	<4.00		4.00	1.10	ug/L			05/21/25 13:00	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			05/21/25 13:00	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			05/21/25 13:00	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			05/21/25 13:00	1
Chloroethane	<4.00		4.00	0.790	ug/L			05/21/25 13:00	1
2-Chloroethyl vinyl ether	<2.00		2.00	1.70	ug/L			05/21/25 13:00	1
Chloroform	<3.00		3.00	1.30	ug/L			05/21/25 13:00	1
Chloromethane	<3.00		3.00	0.610	ug/L			05/21/25 13:00	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			05/21/25 13:00	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			05/21/25 13:00	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			05/21/25 13:00	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			05/21/25 13:00	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			05/21/25 13:00	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			05/21/25 13:00	1
1,3-Dichloropropene, Total	<5.00		5.00	0.560	ug/L			05/21/25 13:00	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			05/21/25 13:00	1
Methylene Chloride	<5.00		5.00	1.70	ug/L			05/21/25 13:00	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			05/21/25 13:00	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			05/21/25 13:00	1
Toluene	<1.00		1.00	0.430	ug/L			05/21/25 13:00	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			05/21/25 13:00	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			05/21/25 13:00	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			05/21/25 13:00	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			05/21/25 13:00	1
Trichloroethene	<1.00		1.00	0.430	ug/L			05/21/25 13:00	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			05/21/25 13:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	11		03 - 763		3/ 2676/ 7: 53	7
8-Bromofluoromethane (Surr)	731		aT - 7: 3		3/ 2676/ 7: 53	7
doluene-90 (Surr)	1/		03 - 763		3/ 2676/ 7: 53	7

Lab Sample ID: LCS 310-455315/%

Matrix: Water

Analysis Batch: 455315

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
Benzene	20.0	20.27		ug/L		101	71 - 125
Bromodichloromethane	20.0	20.40		ug/L		102	70 - 122
Bromoform	20.0	18.64		ug/L		93	70 - 122
Carbon tetrachloride	20.0	23.32		ug/L		117	70 - 130
Chlorobenzene	20.0	20.09		ug/L		100	74 - 120
Chlorodibromomethane	20.0	18.93		ug/L		95	70 - 121
2-Chloroethyl vinyl ether	20.0	20.57		ug/L		103	50 - 150
Chloroform	20.0	22.63		ug/L		113	72 - 122

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-455315/%

Matrix: Water

Analysis Batch: 455315

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
cis-1,2-Dichloroethene	20.0	21.20		ug/L		106	72 - 123
cis-1,3-Dichloropropene	20.0	19.29		ug/L		96	72 - 123
1,1-Dichloroethane	20.0	20.99		ug/L		105	70 - 127
1,2-Dichloroethane	20.0	22.65		ug/L		113	70 - 125
1,1-Dichloroethene	20.0	21.60		ug/L		108	64 - 134
1,2-Dichloropropane	20.0	19.80		ug/L		99	72 - 128
Ethylbenzene	20.0	21.08		ug/L		105	75 - 120
Methylene Chloride	20.0	20.72		ug/L		104	72 - 128
1,1,2,2-Tetrachloroethane	20.0	19.73		ug/L		99	70 - 122
Tetrachloroethene	20.0	20.53		ug/L		103	70 - 128
Toluene	20.0	21.85		ug/L		109	74 - 120
trans-1,2-Dichloroethene	20.0	20.77		ug/L		104	70 - 127
trans-1,3-Dichloropropene	20.0	18.79		ug/L		94	67 - 123
1,1,1-Trichloroethane	20.0	22.40		ug/L		112	70 - 130
1,1,2-Trichloroethane	20.0	19.47		ug/L		97	75 - 121
Trichloroethene	20.0	19.76		ug/L		99	70 - 128

Surrogate	%Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	1a		03 - 763
8-Bromofluoromethane (Surr)	733		aT - 7: 3
doluene-90 (Surr)	737		03 - 763

Lab Sample ID: LCS 310-455315/v

Matrix: Water

Analysis Batch: 455315

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
Bromomethane	20.0	16.33		ug/L		82	33 - 138
Chloroethane	20.0	19.25		ug/L		96	59 - 139
Chloromethane	20.0	17.31		ug/L		87	52 - 146
Vinyl chloride	20.0	18.95		ug/L		95	60 - 142

Surrogate	%Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	11		03 - 763
8-Bromofluoromethane (Surr)	776		aT - 7: 3
doluene-90 (Surr)	1/		03 - 763

Method: 625.1 - Semi-volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 310-455556/1-A

Matrix: Water

Analysis Batch: 456136

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 455556

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<10.0		10.0	0.560	ug/L		05/23/25 08:23	05/30/25 16:22	1
1,2-Dichlorobenzene	<10.0		10.0	0.620	ug/L		05/23/25 08:23	05/30/25 16:22	1
1,3-Dichlorobenzene	<10.0		10.0	0.640	ug/L		05/23/25 08:23	05/30/25 16:22	1
1,4-Dichlorobenzene	<10.0		10.0	0.640	ug/L		05/23/25 08:23	05/30/25 16:22	1

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Method: 625.1 - Semi8olatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 310-455556/1-A

Matrix: Water

Analysis Batch: 456136

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 455556

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	<10.0		10.0	5.30	ug/L		05/23/25 08:23	05/30/25 16:22	1
2,4,6-Trichlorophenol	<10.0		10.0	5.00	ug/L		05/23/25 08:23	05/30/25 16:22	1
2,4-Dichlorophenol	<10.0		10.0	0.850	ug/L		05/23/25 08:23	05/30/25 16:22	1
2,4-Dimethylphenol	<10.0		10.0	0.580	ug/L		05/23/25 08:23	05/30/25 16:22	1
2,4-Dinitrophenol	<20.0		20.0	13.0	ug/L		05/23/25 08:23	05/30/25 16:22	1
2,4-Dinitrotoluene	<10.0		10.0	6.40	ug/L		05/23/25 08:23	05/30/25 16:22	1
2,6-Dinitrotoluene	<10.0		10.0	0.520	ug/L		05/23/25 08:23	05/30/25 16:22	1
2-Chloronaphthalene	<10.0		10.0	0.640	ug/L		05/23/25 08:23	05/30/25 16:22	1
2-Chlorophenol	<10.0		10.0	0.540	ug/L		05/23/25 08:23	05/30/25 16:22	1
2-Nitrophenol	<10.0		10.0	6.80	ug/L		05/23/25 08:23	05/30/25 16:22	1
3,3'-Dichlorobenzidine	<10.0		10.0	1.40	ug/L		05/23/25 08:23	05/30/25 16:22	1
4,6-Dinitro-2-methylphenol	<10.0		10.0	6.90	ug/L		05/23/25 08:23	05/30/25 16:22	1
4-Bromophenyl phenyl ether	<10.0		10.0	0.700	ug/L		05/23/25 08:23	05/30/25 16:22	1
4-Chloro-3-methylphenol	<10.0		10.0	0.840	ug/L		05/23/25 08:23	05/30/25 16:22	1
4-Chlorophenyl phenyl ether	<10.0		10.0	0.690	ug/L		05/23/25 08:23	05/30/25 16:22	1
4-Nitrophenol	<10.0		10.0	7.60	ug/L		05/23/25 08:23	05/30/25 16:22	1
Acenaphthene	<10.0		10.0	0.640	ug/L		05/23/25 08:23	05/30/25 16:22	1
Acenaphthylene	<10.0		10.0	0.720	ug/L		05/23/25 08:23	05/30/25 16:22	1
Anthracene	<10.0		10.0	0.870	ug/L		05/23/25 08:23	05/30/25 16:22	1
Benzo[a]anthracene	<10.0		10.0	0.850	ug/L		05/23/25 08:23	05/30/25 16:22	1
Benzo[a]pyrene	<10.0		10.0	8.10	ug/L		05/23/25 08:23	05/30/25 16:22	1
Benzo[b]fluoranthene	<10.0		10.0	4.90	ug/L		05/23/25 08:23	05/30/25 16:22	1
Benzo[g,h,i]perylene	<10.0		10.0	6.30	ug/L		05/23/25 08:23	05/30/25 16:22	1
Benzo[k]fluoranthene	<10.0		10.0	2.20	ug/L		05/23/25 08:23	05/30/25 16:22	1
Benzoic acid	<100		100	17.0	ug/L		05/23/25 08:23	05/30/25 16:22	1
Benzyl alcohol	<10.0		10.0	1.30	ug/L		05/23/25 08:23	05/30/25 16:22	1
Bis(2-chloroethoxy)methane	<10.0		10.0	0.760	ug/L		05/23/25 08:23	05/30/25 16:22	1
Bis(2-chloroethyl)ether	<10.0		10.0	0.820	ug/L		05/23/25 08:23	05/30/25 16:22	1
bis (2-chloroisopropyl) ether	<10.0		10.0	0.540	ug/L		05/23/25 08:23	05/30/25 16:22	1
Bis(2-ethylhexyl) phthalate	<10.0		10.0	5.50	ug/L		05/23/25 08:23	05/30/25 16:22	1
Butyl benzyl phthalate	<10.0		10.0	5.40	ug/L		05/23/25 08:23	05/30/25 16:22	1
Chrysene	<10.0		10.0	0.870	ug/L		05/23/25 08:23	05/30/25 16:22	1
Dibenz(a,h)anthracene	<10.0		10.0	3.90	ug/L		05/23/25 08:23	05/30/25 16:22	1
Dibenzofuran	<10.0		10.0	0.740	ug/L		05/23/25 08:23	05/30/25 16:22	1
Diethyl phthalate	<10.0		10.0	1.70	ug/L		05/23/25 08:23	05/30/25 16:22	1
Dimethyl phthalate	<10.0		10.0	1.00	ug/L		05/23/25 08:23	05/30/25 16:22	1
Di-n-butyl phthalate	<10.0		10.0	5.60	ug/L		05/23/25 08:23	05/30/25 16:22	1
Di-n-octyl phthalate	<20.0		20.0	7.00	ug/L		05/23/25 08:23	05/30/25 16:22	1
Fluoranthene	<10.0		10.0	1.70	ug/L		05/23/25 08:23	05/30/25 16:22	1
Fluorene	<10.0		10.0	0.790	ug/L		05/23/25 08:23	05/30/25 16:22	1
Hexachlorobenzene	<10.0		10.0	0.700	ug/L		05/23/25 08:23	05/30/25 16:22	1
Hexachlorobutadiene	<10.0		10.0	0.860	ug/L		05/23/25 08:23	05/30/25 16:22	1
Hexachlorocyclopentadiene	<10.0		10.0	5.10	ug/L		05/23/25 08:23	05/30/25 16:22	1
Hexachloroethane	<10.0		10.0	0.970	ug/L		05/23/25 08:23	05/30/25 16:22	1
Indeno[1,2,3-cd]pyrene	<10.0		10.0	4.20	ug/L		05/23/25 08:23	05/30/25 16:22	1
Isophorone	<10.0		10.0	0.930	ug/L		05/23/25 08:23	05/30/25 16:22	1
Naphthalene	<10.0		10.0	6.10	ug/L		05/23/25 08:23	05/30/25 16:22	1
Nitrobenzene	<10.0		10.0	0.800	ug/L		05/23/25 08:23	05/30/25 16:22	1
N-Nitrosodi-n-propylamine	<10.0		10.0	0.920	ug/L		05/23/25 08:23	05/30/25 16:22	1

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Method: 625.1 - Semi-volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 310-455556/1-A

Matrix: Water

Analysis Batch: 456136

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 455556

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiphenylamine	<10.0		10.0	0.750	ug/L		05/23/25 08:23	05/30/25 16:22	1
Pentachlorophenol	<10.0		10.0	9.60	ug/L		05/23/25 08:23	05/30/25 16:22	1
Phenanthrene	<10.0		10.0	0.790	ug/L		05/23/25 08:23	05/30/25 16:22	1
Pyrene	<10.0		10.0	0.790	ug/L		05/23/25 08:23	05/30/25 16:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
6-Fluoropt enol (Surr)	T0		67 - 773	3/ 2 30/ 30/	3/ 2 30/ 7T56	7
Pt enol-9/ (Surr)	/ 4		67 - 773	3/ 2 30/ 30/	3/ 2 30/ 7T56	7
Nitrobenzene-9/ (Surr)	0:		: 1 - 743	3/ 2 30/ 30/	3/ 2 30/ 7T56	7
6-Fluorobenzyl enyl (Surr)	T0		: - 767	3/ 2 30/ 30/	3/ 2 30/ 7T56	7
6,4-T-dibromopt enol (SUR)	06		63 - 744	3/ 2 30/ 30/	3/ 2 30/ 7T56	7
derpt enyl-974	01		7: - 7/ 3	3/ 2 30/ 30/	3/ 2 30/ 7T56	7

Lab Sample ID: LCS 310-455556/2-A

Matrix: Water

Analysis Batch: 456136

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 455556

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
1,2,4-Trichlorobenzene	100	61.21		ug/L		61	44 - 110
1,2-Dichlorobenzene	100	53.36		ug/L		53	31 - 110
1,3-Dichlorobenzene	100	52.12		ug/L		52	29 - 110
1,4-Dichlorobenzene	100	51.69		ug/L		52	29 - 110
2,4,5-Trichlorophenol	100	91.21		ug/L		91	39 - 136
2,4,6-Trichlorophenol	100	89.06		ug/L		89	37 - 141
2,4-Dichlorophenol	100	91.85		ug/L		92	44 - 131
2,4-Dimethylphenol	100	87.64		ug/L		88	32 - 120
2,4-Dinitrophenol	200	45.69		ug/L		23	10 - 150
2,4-Dinitrotoluene	100	98.30		ug/L		98	48 - 136
2,6-Dinitrotoluene	100	92.43		ug/L		92	50 - 135
2-Chloronaphthalene	100	72.72		ug/L		73	60 - 112
2-Chlorophenol	100	82.58		ug/L		83	43 - 119
2-Nitrophenol	100	86.49		ug/L		86	36 - 144
4,6-Dinitro-2-methylphenol	200	112.5		ug/L		56	22 - 150
4-Bromophenyl phenyl ether	100	90.66		ug/L		91	53 - 127
4-Chloro-3-methylphenol	100	93.07		ug/L		93	51 - 132
4-Chlorophenyl phenyl ether	100	85.29		ug/L		85	44 - 118
4-Nitrophenol	200	124.9		ug/L		62	22 - 110
Acenaphthene	100	80.91		ug/L		81	47 - 118
Acenaphthylene	100	78.70		ug/L		79	39 - 115
Anthracene	100	90.58		ug/L		91	49 - 127
Benzo[a]anthracene	100	89.56		ug/L		90	49 - 126
Benzo[a]pyrene	100	91.15		ug/L		91	44 - 133
Benzo[b]fluoranthene	100	96.19		ug/L		96	44 - 136
Benzo[g,h,i]perylene	100	106.9		ug/L		107	42 - 135
Benzo[k]fluoranthene	100	91.15		ug/L		91	49 - 134
Benzyl alcohol	100	82.92		ug/L		83	46 - 123
Bis(2-chloroethoxy)methane	100	89.44		ug/L		89	44 - 126
Bis(2-chloroethyl)ether	100	79.29		ug/L		79	41 - 116

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Method: 625.1 - Semi-volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-455556/2-A

Matrix: Water

Analysis Batch: 456136

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 455556

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
bis (2-chloroisopropyl) ether	100	67.67		ug/L		68	36 - 115
Bis(2-ethylhexyl) phthalate	100	92.21		ug/L		92	46 - 138
Butyl benzyl phthalate	100	95.96		ug/L		96	47 - 133
Chrysene	100	91.52		ug/L		92	50 - 128
Dibenz(a,h)anthracene	100	108.8		ug/L		109	36 - 146
Dibenzofuran	100	79.66		ug/L		80	44 - 114
Diethyl phthalate	100	95.90		ug/L		96	43 - 120
Dimethyl phthalate	100	96.79		ug/L		97	46 - 120
Di-n-butyl phthalate	100	104.1		ug/L		104	49 - 120
Di-n-octyl phthalate	100	96.89		ug/L		97	33 - 146
Fluoranthene	100	93.73		ug/L		94	49 - 132
Fluorene	100	86.32		ug/L		86	59 - 118
Hexachlorobenzene	100	92.35		ug/L		92	42 - 134
Hexachlorobutadiene	100	65.07		ug/L		65	29 - 110
Hexachlorocyclopentadiene	100	37.92		ug/L		38	10 - 110
Hexachloroethane	100	49.84		ug/L		50	40 - 110
Indeno[1,2,3-cd]pyrene	100	103.5		ug/L		103	36 - 149
Isophorone	100	92.30		ug/L		92	46 - 126
Naphthalene	100	68.66		ug/L		69	34 - 110
Nitrobenzene	100	85.54		ug/L		86	42 - 123
N-Nitrosodi-n-propylamine	100	82.84		ug/L		83	44 - 124
N-Nitrosodiphenylamine	100	90.31		ug/L		90	43 - 132
Pentachlorophenol	200	150.9		ug/L		75	28 - 142
Phenanthrene	100	89.85		ug/L		90	54 - 120
Pyrene	100	91.56		ug/L		92	52 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
6-Fluoropt enol (Surr)	a6		67 - 773
Pt enol-9/ (Surr)	T3		67 - 773
Nitrobenzene-9/ (Surr)	17		1 - 743
6-Fluorobenzot enyl (Surr)	OT		1 - 767
6,4,7-trinitrophenol (SUR)	73a		63 - 744
derpt enyl-974	1T		7 - 7/3

Lab Sample ID: LCSD 310-455556/3-A

Matrix: Water

Analysis Batch: 456136

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 455556

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	7 Rec	7 Rec Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	100	63.06		ug/L		63	44 - 110	3	35
1,2-Dichlorobenzene	100	56.87		ug/L		57	31 - 110	6	35
1,3-Dichlorobenzene	100	54.47		ug/L		54	29 - 110	4	35
1,4-Dichlorobenzene	100	54.34		ug/L		54	29 - 110	5	35
2,4,5-Trichlorophenol	100	88.41		ug/L		88	39 - 136	3	35
2,4,6-Trichlorophenol	100	88.24		ug/L		88	37 - 141	1	35
2,4-Dichlorophenol	100	90.31		ug/L		90	44 - 131	2	35
2,4-Dimethylphenol	100	90.08		ug/L		90	32 - 120	3	35
2,4-Dinitrophenol	200	70.53	*1	ug/L		35	10 - 150	43	35

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Method: 625.1 - SemiVolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 310-455556/3-A

Matrix: Water

Analysis Batch: 456136

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 455556

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	7 Rec	7 Rec Limits	RPD	RPD Limit
2,4-Dinitrotoluene	100	93.76		ug/L		94	48 - 136	5	35
2,6-Dinitrotoluene	100	94.56		ug/L		95	50 - 135	2	35
2-Chloronaphthalene	100	74.61		ug/L		75	60 - 112	3	24
2-Chlorophenol	100	80.40		ug/L		80	43 - 119	3	35
2-Nitrophenol	100	88.11		ug/L		88	36 - 144	2	35
4,6-Dinitro-2-methylphenol	200	148.5		ug/L		74	22 - 150	28	35
4-Bromophenyl phenyl ether	100	94.29		ug/L		94	53 - 127	4	35
4-Chloro-3-methylphenol	100	93.54		ug/L		94	51 - 132	1	35
4-Chlorophenyl phenyl ether	100	84.18		ug/L		84	44 - 118	1	35
4-Nitrophenol	200	123.9		ug/L		62	22 - 110	1	35
Acenaphthene	100	81.29		ug/L		81	47 - 118	0	35
Acenaphthylene	100	80.38		ug/L		80	39 - 115	2	35
Anthracene	100	94.68		ug/L		95	49 - 127	4	35
Benzo[a]anthracene	100	93.88		ug/L		94	49 - 126	5	35
Benzo[a]pyrene	100	98.30		ug/L		98	44 - 133	8	35
Benzo[b]fluoranthene	100	99.05		ug/L		99	44 - 136	3	35
Benzo[g,h,i]perylene	100	116.0		ug/L		116	42 - 135	8	35
Benzo[k]fluoranthene	100	94.57		ug/L		95	49 - 134	4	35
Benzyl alcohol	100	82.59		ug/L		83	46 - 123	0	35
Bis(2-chloroethoxy)methane	100	90.69		ug/L		91	44 - 126	1	35
Bis(2-chloroethyl)ether	100	76.43		ug/L		76	41 - 116	4	35
bis (2-chloroisopropyl) ether	100	71.30		ug/L		71	36 - 115	5	35
Bis(2-ethylhexyl) phthalate	100	92.55		ug/L		93	46 - 138	0	35
Butyl benzyl phthalate	100	99.30		ug/L		99	47 - 133	3	35
Chrysene	100	93.92		ug/L		94	50 - 128	3	35
Dibenz(a,h)anthracene	100	105.9		ug/L		106	36 - 146	3	35
Dibenzofuran	100	78.56		ug/L		79	44 - 114	1	35
Diethyl phthalate	100	90.47		ug/L		90	43 - 120	6	35
Dimethyl phthalate	100	96.22		ug/L		96	46 - 120	1	35
Di-n-butyl phthalate	100	108.3		ug/L		108	49 - 120	4	35
Di-n-octyl phthalate	100	99.36		ug/L		99	33 - 146	3	35
Fluoranthene	100	103.8		ug/L		104	49 - 132	10	35
Fluorene	100	84.74		ug/L		85	59 - 118	2	35
Hexachlorobenzene	100	95.83		ug/L		96	42 - 134	4	35
Hexachlorobutadiene	100	67.06		ug/L		67	29 - 110	3	35
Hexachlorocyclopentadiene	100	38.01		ug/L		38	10 - 110	0	35
Hexachloroethane	100	54.76		ug/L		55	40 - 110	9	35
Indeno[1,2,3-cd]pyrene	100	111.1		ug/L		111	36 - 149	7	35
Isophorone	100	92.80		ug/L		93	46 - 126	1	35
Naphthalene	100	71.35		ug/L		71	34 - 110	4	35
Nitrobenzene	100	89.11		ug/L		89	42 - 123	4	35
N-Nitrosodi-n-propylamine	100	84.48		ug/L		84	44 - 124	2	35
N-Nitrosodiphenylamine	100	92.00		ug/L		92	43 - 132	2	35
Pentachlorophenol	200	170.4		ug/L		85	28 - 142	12	35
Phenanthrene	100	94.45		ug/L		94	54 - 120	5	35
Pyrene	100	94.21		ug/L		94	52 - 120	3	35

Eurofins Cedar Falls

QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Method: 625.1 - Semi-volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 310-455556/3-A

Matrix: Water

Analysis Batch: 456136

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 455556

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
6-Fluoropt enol (Surr)	a6		67 - 773
Pt enol-9/ (Surr)	/ a		67 - 773
NDrobenzene-9/ (Surr)	13		: 1 - 743
6-Fluorobpt enyl (Surr)	07		: : - 76T
6,4,T-dropt enol (SUR)	11		63 - 744
derpt enyl-974	1T		7: - 7/ 3

Method: 60v.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 310-4554%6/1-A

Matrix: Water

Analysis Batch: 455v53

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 4554%6

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	<0.0640		0.0640	0.0270	ug/L		05/22/25 11:44	05/28/25 10:37	1
4,4'-DDE	<0.0640		0.0640	0.0270	ug/L		05/22/25 11:44	05/28/25 10:37	1
4,4'-DDT	<0.0640		0.0640	0.0420	ug/L		05/22/25 11:44	05/28/25 10:37	1
Aldrin	<0.0640		0.0640	0.0320	ug/L		05/22/25 11:44	05/28/25 10:37	1
beta-BHC	<0.0640		0.0640	0.0370	ug/L		05/22/25 11:44	05/28/25 10:37	1
Chlordane (technical)	<2.00		2.00	0.810	ug/L		05/22/25 11:44	05/28/25 10:37	1
delta-BHC	<0.0640		0.0640	0.0270	ug/L		05/22/25 11:44	05/28/25 10:37	1
Dieldrin	<0.0640		0.0640	0.0260	ug/L		05/22/25 11:44	05/28/25 10:37	1
Endosulfan I	<0.0640		0.0640	0.0330	ug/L		05/22/25 11:44	05/28/25 10:37	1
Endosulfan II	<0.0640		0.0640	0.0290	ug/L		05/22/25 11:44	05/28/25 10:37	1
Endosulfan sulfate	<0.0640		0.0640	0.0300	ug/L		05/22/25 11:44	05/28/25 10:37	1
Endrin	<0.0640		0.0640	0.0260	ug/L		05/22/25 11:44	05/28/25 10:37	1
Endrin aldehyde	<0.0640		0.0640	0.0290	ug/L		05/22/25 11:44	05/28/25 10:37	1
gamma-BHC (Lindane)	<0.0640		0.0640	0.0360	ug/L		05/22/25 11:44	05/28/25 10:37	1
Heptachlor	<0.0640		0.0640	0.0330	ug/L		05/22/25 11:44	05/28/25 10:37	1
Heptachlor epoxide	<0.0640		0.0640	0.0290	ug/L		05/22/25 11:44	05/28/25 10:37	1
Toxaphene	<2.00		2.00	0.690	ug/L		05/22/25 11:44	05/28/25 10:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
8 CB 8 echct lorobpt enyl (Surr)	4:		73 - 76T	3/ 2625/ 7754	3/ 2625/ 735 a	7
deirhct loto-m-xylene	/ 0		73 - 764	3/ 2625/ 7754	3/ 2625/ 735 a	7

Lab Sample ID: LCS 310-4554%6/4-A

Matrix: Water

Analysis Batch: 455v53

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 4554%6

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
4,4'-DDD	1.00	0.7114		ug/L		71	41 - 117
4,4'-DDE	1.00	0.6440		ug/L		64	35 - 110
4,4'-DDT	1.00	0.7446		ug/L		74	26 - 123
Aldrin	1.00	0.6920		ug/L		69	42 - 110
beta-BHC	1.00	0.7598		ug/L		76	38 - 114
delta-BHC	1.00	0.6131		ug/L		61	34 - 114
Dieldrin	1.00	0.8052		ug/L		81	37 - 114

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Method: 60v.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCS 310-4554%6/4-A

Matrix: Water

Analysis Batch: 455v53

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 4554%6

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits	
Endosulfan I	1.00	0.7247		ug/L		72	45 - 113	
Endosulfan II	1.00	0.6404		ug/L		64	12 - 113	
Endosulfan sulfate	1.00	0.7462		ug/L		75	35 - 123	
Endrin	1.00	0.7703		ug/L		77	36 - 119	
Endrin aldehyde	1.00	0.7268		ug/L		73	37 - 111	
gamma-BHC (Lindane)	1.00	0.7735		ug/L		77	35 - 113	
Heptachlor	1.00	0.7692		ug/L		77	34 - 110	
Heptachlor epoxide	1.00	0.8208		ug/L		82	38 - 114	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
8 CB 8 echct lorobdt enyl (Surr)	T0		73 - 76T
deirhct loto-m-xylene	T/		73 - 764

Lab Sample ID: LCSD 310-4554%6/5-A

Matrix: Water

Analysis Batch: 455v53

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 4554%6

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	7 Rec	7 Rec Limits		RPD Limit	
4,4'-DDD	1.00	0.5918		ug/L		59	41 - 117		18	34
4,4'-DDE	1.00	0.5544		ug/L		55	35 - 110		15	35
4,4'-DDT	1.00	0.6048		ug/L		60	26 - 123		21	35
Aldrin	1.00	0.6129		ug/L		61	42 - 110		12	35
beta-BHC	1.00	0.6381		ug/L		64	38 - 114		17	35
delta-BHC	1.00	0.5097		ug/L		51	34 - 114		18	35
Dieldrin	1.00	0.6693		ug/L		67	37 - 114		18	35
Endosulfan I	1.00	0.6108		ug/L		61	45 - 113		17	28
Endosulfan II	1.00	0.5235		ug/L		52	12 - 113		20	35
Endosulfan sulfate	1.00	0.6222		ug/L		62	35 - 123		18	35
Endrin	1.00	0.6267		ug/L		63	36 - 119		21	35
Endrin aldehyde	1.00	0.5927		ug/L		59	37 - 111		20	35
gamma-BHC (Lindane)	1.00	0.6520		ug/L		65	35 - 113		17	35
Heptachlor	1.00	0.6642		ug/L		66	34 - 110		15	35
Heptachlor epoxide	1.00	0.6829		ug/L		68	38 - 114		18	26

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
8 CB 8 echct lorobdt enyl (Surr)	41		73 - 76T
deirhct loto-m-xylene	/ a		73 - 764

Method: 60v.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 310-4554%6/1-A

Matrix: Water

Analysis Batch: 455v55

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 4554%6

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-1016	<0.800		0.800	0.170	ug/L		05/22/25 11:44	05/28/25 10:37	1
PCB-1221	<0.800		0.800	0.170	ug/L		05/22/25 11:44	05/28/25 10:37	1
PCB-1232	<0.800		0.800	0.170	ug/L		05/22/25 11:44	05/28/25 10:37	1

Eurofins Cedar Falls

QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Method: 60v.3 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Lab Sample ID: MB 310-4554%6/1-A

Matrix: Water

Analysis Batch: 455v55

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 4554%6

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1242	<0.800		0.800	0.170	ug/L		05/22/25 11:44	05/28/25 10:37	1
PCB-1248	<0.800		0.800	0.110	ug/L		05/22/25 11:44	05/28/25 10:37	1
PCB-1254	<0.800		0.800	0.110	ug/L		05/22/25 11:44	05/28/25 10:37	1
PCB-1260	<0.800		0.800	0.110	ug/L		05/22/25 11:44	05/28/25 10:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
8 CB 8 echct lorobpt enyl (Surr)	4:		73 - 76T	3/ 2625/ 7754	3/ 26025/ 735 a	7
deirhct loto-m-xylene (Surr)	/ 0		73 - 764	3/ 2625/ 7754	3/ 26025/ 735 a	7

Lab Sample ID: LCS 310-4554%6/2-A

Matrix: Water

Analysis Batch: 455v55

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 4554%6

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
PCB-1016	10.0	7.361		ug/L		74	50 - 123
PCB-1260	10.0	6.027		ug/L		60	38 - 118

Surrogate	LCS %Recovery	LCS Qualifier	Limits
8 CB 8 echct lorobpt enyl (Surr)	4a		73 - 76T
deirhct loto-m-xylene (Surr)	/ 0		73 - 764

Lab Sample ID: LCSD 310-4554%6/3-A

Matrix: Water

Analysis Batch: 455v55

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 4554%6

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	7 Rec	7 Rec Limits	RPD	RPD Limit
PCB-1016	10.0	7.240		ug/L		72	50 - 123	2	33
PCB-1260	10.0	6.079		ug/L		61	38 - 118	1	33

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
8 CB 8 echct lorobpt enyl (Surr)	/ 3		73 - 76T
deirhct loto-m-xylene (Surr)	/ 3		73 - 764

Method: 200.v - Metals (ICP/MS)

Lab Sample ID: MB 310-45523%1-A

Matrix: Water

Analysis Batch: 455552

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45523%

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		05/21/25 09:00	05/22/25 16:52	1
Barium	<0.00200		0.00200	0.000660	mg/L		05/21/25 09:00	05/22/25 16:52	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		05/21/25 09:00	05/22/25 16:52	1
Chromium	<0.00500		0.00500	0.00180	mg/L		05/21/25 09:00	05/22/25 16:52	1
Copper	<0.00500		0.00500	0.00320	mg/L		05/21/25 09:00	05/22/25 16:52	1
Iron	<0.100		0.100	0.0500	mg/L		05/21/25 09:00	05/22/25 16:52	1
Lead	<0.000500		0.000500	0.000330	mg/L		05/21/25 09:00	05/22/25 16:52	1
Magnesium	<0.500		0.500	0.150	mg/L		05/21/25 09:00	05/22/25 16:52	1

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Method: 200.v - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 310-45523%1-A

Matrix: Water

Analysis Batch: 455552

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45523%

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	<0.00200		0.00200	0.00130	mg/L		05/21/25 09:00	05/22/25 16:52	1
Nickel	<0.00500		0.00500	0.00230	mg/L		05/21/25 09:00	05/22/25 16:52	1
Selenium	<0.00500		0.00500	0.00140	mg/L		05/21/25 09:00	05/22/25 16:52	1
Silver	<0.00100		0.00100	0.000500	mg/L		05/21/25 09:00	05/22/25 16:52	1
Zinc	<0.0200		0.0200	0.0130	mg/L		05/21/25 09:00	05/22/25 16:52	1

Lab Sample ID: LCS 310-45523%2-A

Matrix: Water

Analysis Batch: 455552

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45523%

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
Arsenic	0.400	0.4541		mg/L		114	85 - 115
Barium	0.200	0.2141		mg/L		107	85 - 115
Cadmium	0.200	0.2156		mg/L		108	85 - 115
Chromium	0.200	0.2170		mg/L		109	85 - 115
Copper	0.400	0.4441		mg/L		111	85 - 115
Iron	0.400	0.4525		mg/L		113	85 - 115
Lead	0.400	0.4415		mg/L		110	85 - 115
Magnesium	4.00	4.126		mg/L		103	85 - 115
Molybdenum	0.400	0.4302		mg/L		108	85 - 115
Nickel	0.400	0.4567		mg/L		114	85 - 115
Selenium	0.800	0.8217		mg/L		103	85 - 115
Silver	0.300	0.2879		mg/L		96	85 - 115
Zinc	0.400	0.3919		mg/L		98	85 - 115

Method: 245.2 - Mercury (CVAA)

Lab Sample ID: MB 310-455943/1-A

Matrix: Water

Analysis Batch: 4563v0

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 455943

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200	0.000110	mg/L		06/02/25 09:55	06/02/25 15:03	1

Lab Sample ID: LCS 310-455943/2-A

Matrix: Water

Analysis Batch: 4563v0

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 455943

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
Mercury	0.00167	0.001666		mg/L		100	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 310-455334/1-A

Matrix: Water

Analysis Batch: 455454

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 455334

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	<5.0		5.0	3.1	mg/L		05/22/25 06:00	05/22/25 06:00	1

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Method: 1664A - HEM and SGT-HEM (Continued)

Lab Sample ID: LCS 310-455334/2-A

Matrix: Water

Analysis Batch: 455454

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 455334

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
HEM (Oil & Grease)	40.0	36.10		mg/L		90	78 - 114

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 310-455%2v/1-A

Matrix: Water

Analysis Batch: 455v40

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 455%2v

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	<0.500		0.500	0.210	mg/L		05/27/25 09:08	05/27/25 20:03	1

Lab Sample ID: LCS 310-455%2v/2-A

Matrix: Water

Analysis Batch: 455v40

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 455%2v

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
Ammonia as N	4.00	3.735		mg/L		93	90 - 110

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 310-4552v0/1-A

Matrix: Water

Analysis Batch: 455405

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 4552v0

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	<1.00		1.00	0.620	mg/L		05/21/25 07:04	05/21/25 16:28	1

Lab Sample ID: LCS 310-4552v0/2-A

Matrix: Water

Analysis Batch: 455405

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 4552v0

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
Total Kjeldahl Nitrogen	4.01	3.880		mg/L		97	90 - 110

Method: I-3%65-v5 - Residue, Non-filterable (TSS)

Lab Sample ID: MB 310-455265/1

Matrix: Water

Analysis Batch: 455265

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			05/20/25 16:13	1

Lab Sample ID: LCS 310-455265/2

Matrix: Water

Analysis Batch: 455265

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
Total Suspended Solids	100	109.0		mg/L		109	81 - 116

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QC Sample Results

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

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

Lab Sample ID: MB 310-4553%2/1

Matrix: Water

Analysis Batch: 4553%2

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<50.0		50.0	36.0	mg/L			05/21/25 12:55	1

Lab Sample ID: LCS 310-4553%2/2

Matrix: Water

Analysis Batch: 4553%2

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
Total Dissolved Solids	1000	954.0		mg/L		95	88 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-455140/1

Matrix: Water

Analysis Batch: 455140

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
pH	7.00	7.0		SU		100	98 - 102

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 310-4552%%1

Matrix: Water

Analysis Batch: 4552%%

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	<3.00		3.00	3.00	mg/L			05/21/25 06:18	1

Lab Sample ID: LCS 310-4552%%2

Matrix: Water

Analysis Batch: 4552%%

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
Biochemical Oxygen Demand	198	120.0	*-	mg/L		61	85 - 115

Method: SM 5310C - TOC

Lab Sample ID: MB 310-455v94/11

Matrix: Water

Analysis Batch: 455v94

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	<1.00		1.00	0.500	mg/L			05/27/25 14:37	1

Lab Sample ID: LCS 310-455v94/12

Matrix: Water

Analysis Batch: 455v94

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	7 Rec	7 Rec Limits
Total Organic Carbon	9.99	10.30		mg/L		103	85 - 115

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QC Association Summary

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-302851-1

GC/MS VOA

Analysis Batch: 455315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	264.1	
MB 310-455315/2	Method Blank	Total/NA	Water	264.1	
LCS 310-455315/8	Lab Control Sample	Total/NA	Water	264.1	
LCS 310-455315/7	Lab Control Sample	Total/NA	Water	264.1	

GC/MS Semi VOA

Prep Batch: 455556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	265	
MB 310-455552/1-A	Method Blank	Total/NA	Water	265	
LCS 310-455552/6-A	Lab Control Sample	Total/NA	Water	265	
LCSD 310-455552/3-A	Lab Control Sample Dup	Total/NA	Water	265	

Analysis Batch: 456136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	265.1	455552
MB 310-455552/1-A	Method Blank	Total/NA	Water	265.1	455552
LCS 310-455552/6-A	Lab Control Sample	Total/NA	Water	265.1	455552
LCSD 310-455552/3-A	Lab Control Sample Dup	Total/NA	Water	265.1	455552

GC Semi VOA

Prep Batch: 455476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	207	
MB 310-455482/1-A	Method Blank	Total/NA	Water	207	
LCS 310-455482/6-A	Lab Control Sample	Total/NA	Water	207	
LCS 310-455482/4-A	Lab Control Sample	Total/NA	Water	207	
LCSD 310-455482/3-A	Lab Control Sample Dup	Total/NA	Water	207	
LCSD 310-455482/5-A	Lab Control Sample Dup	Total/NA	Water	207	

Analysis Batch: 455853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	207.3	455482
MB 310-455482/1-A	Method Blank	Total/NA	Water	207.3	455482
LCS 310-455482/4-A	Lab Control Sample	Total/NA	Water	207.3	455482
LCSD 310-455482/5-A	Lab Control Sample Dup	Total/NA	Water	207.3	455482

Analysis Batch: 455855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	207.3	455482
MB 310-455482/1-A	Method Blank	Total/NA	Water	207.3	455482
LCS 310-455482/6-A	Lab Control Sample	Total/NA	Water	207.3	455482
LCSD 310-455482/3-A	Lab Control Sample Dup	Total/NA	Water	207.3	455482

Metals

Prep Batch: 455237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	600.7	
MB 310-455638/1-A	Method Blank	Total/NA	Water	600.7	

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QC Association Summary

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-302851-1

Metals (Continued)

Prep Batch: 455237 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-455638/6-A	Lab Control Sample	Total/NA	Water	600.7	

Analysis Batch: 455552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	600.7	455638
MB 310-455638/1-A	Method Blank	Total/NA	Water	600.7	455638
LCS 310-455638/6-A	Lab Control Sample	Total/NA	Water	600.7	455638

Prep Batch: 455943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	645.1	
MB 310-455F43/1-A	Method Blank	Total/NA	Water	645.1	
LCS 310-455F43/6-A	Lab Control Sample	Total/NA	Water	645.1	

Analysis Batch: 456380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	645.6	455F43
MB 310-455F43/1-A	Method Blank	Total/NA	Water	645.6	455F43
LCS 310-455F43/6-A	Lab Control Sample	Total/NA	Water	645.6	455F43

General Chemistry

Analysis Batch: 455140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	SM 4500 H+ B	
LCS 310-455140/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 455265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	I-3825-75	
MB 310-455625/1	Method Blank	Total/NA	Water	I-3825-75	
LCS 310-455625/6	Lab Control Sample	Total/NA	Water	I-3825-75	

Analysis Batch: 455277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	SM 5610B	
USB 310-455688/1	Method Blank	Total/NA	Water	SM 5610B	
LCS 310-455688/6	Lab Control Sample	Total/NA	Water	SM 5610B	

Prep Batch: 455280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	351.6	
MB 310-455670/1-A	Method Blank	Total/NA	Water	351.6	
LCS 310-455670/6-A	Lab Control Sample	Total/NA	Water	351.6	

Prep Batch: 455334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	1224A	
MB 310-455334/1-A	Method Blank	Total/NA	Water	1224A	
LCS 310-455334/6-A	Lab Control Sample	Total/NA	Water	1224A	

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QC Association Summary

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-302851-1

General Chemistry

Analysis Batch: 455372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	SM 6540C	
MB 310-455386/1	Method Blank	Total/NA	Water	SM 6540C	
LCS 310-455386/6	Lab Control Sample	Total/NA	Water	SM 6540C	

Analysis Batch: 455405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	351.6	455670
MB 310-455670/1-A	Method Blank	Total/NA	Water	351.6	455670
LCS 310-455670/6-A	Lab Control Sample	Total/NA	Water	351.6	455670

Analysis Batch: 455454

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	1224A	455334
MB 310-455334/1-A	Method Blank	Total/NA	Water	1224A	455334
LCS 310-455334/6-A	Lab Control Sample	Total/NA	Water	1224A	455334

Prep Batch: 455728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	Distill/Ammonia	
MB 310-455867/1-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 310-455867/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	

Analysis Batch: 455840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	350.1	455867
MB 310-455867/1-A	Method Blank	Total/NA	Water	350.1	455867
LCS 310-455867/6-A	Lab Control Sample	Total/NA	Water	350.1	455867

Analysis Batch: 455894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-302851-1	Leachate	Total/NA	Water	SM 5310C	
MB 310-4557F4/11	Method Blank	Total/NA	Water	SM 5310C	
LCS 310-4557F4/16	Lab Control Sample	Total/NA	Water	SM 5310C	

Lab Chronicle

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-302851-1

Client Sample ID: Leachate

Lab Sample ID: 310-306751-1

Date Collected: 05/19/25 10:20

Matrix: Water

Date Received: 05/20/25 09:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Votal/NA	Analysis	264.1		1	455315	WSFE	FFV CT	05/61/65 18:0E
Votal/NA	Prep	265			455552	J597	FFV CT	05/63/65 0E:63
Votal/NA	Analysis	265.1		5	452132	B8OK	FFV CT	05/30/65 18:54
Votal/NA	Prep	20E			455482	J597	FFV CT	05/66/65 11:44
Votal/NA	Analysis	20E.3		1	455E53	9W6M	FFV CT	05/6E/65 16:34
Votal/NA	Prep	20E			455482	J597	FFV CT	05/66/65 11:44
Votal/NA	Analysis	20E.3		1	455E55	9W6M	FFV CT	05/6E/65 16:34
Votal/NA	Prep	600.E			455638	HVK5	FFV CT	05/61/65 0G00
Votal/NA	Analysis	600.E		1	455556	NTV6	FFV CT	05/66/65 1E:08
Votal/NA	Prep	645.1			455G43	T5mW	FFV CT	02/06/65 0G55
Votal/NA	Analysis	645.6		1	4523E0	HVK5	FFV CT	02/06/65 15:31
Votal/NA	Prep	1224A			455334	DQU1	FFV CT	05/66/65 02:00
Votal/NA	Analysis	1224A		1	455454	DQU1	FFV CT	05/66/65 02:00
Votal/NA	Prep	Distill/AZ Z onia			45586E	7 LVG	FFV CT	05/68/65 0G0E
Votal/NA	Analysis	350.1		G3E	455E40	KJX4	FFV CT	05/68/65 60:66
Votal/NA	Prep	351.6			4556E0	WGO7	FFV CT	05/61/65 08:04
Votal/NA	Analysis	351.6		10	455405	KJX4	FFV CT	05/61/65 12:53
Votal/NA	Analysis	I-3825-E5		1	455625	mDUG	FFV CT	05/60/65 12:13
Votal/NA	Analysis	Sm 6540C		1	455386	mDUG	FFV CT	05/61/65 16:55
Votal/NA	Analysis	Sm 4500 YR9		1	455140	WGO7	FFV CT	05/60/65 0G40
Votal/NA	Analysis	Sm 56109		4	455688	WGO7	FFV CT	05/61/65 08:64
Votal/NA	Analysis	Sm 5310C		40	455EG4	YF8+	FFV CT	05/68/65 18:01

Laboratory References:

FFV CT = Furofins Cedar Talls, 301GBenture Way, Cedar Talls, IA 50213, VFL (31G)688-6401

Accreditation/Certification Summary

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-306751-1

Laboratory: Eurofins Cedar Falls

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

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

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

Analysis Method	Prep Method	Matrix	Analyte
624.1		Water	1,3-Dichloropropene, Total
625.1	625	Water	1,2-Dichlorobenzene
625.1	625	Water	1,3-Dichlorobenzene
625.1	625	Water	1,4-Dichlorobenzene
625.1	625	Water	Dibenzofuran

Method Summary

Client: Prairie Solid Waste Agency
Project/Site: Prairie Solid Waste/Union County Leachate

Job ID: 310-302851-1

Method	Method Description	Protocol	Laboratory
264.1	Volatile Organic Compounds (GC/MS)	EPA	EET CF
265.1	Semivolatile Organic Compounds (GC/MS)	EPA	EET CF
20B.3	Organochlorine Pesticides in Water	EPA	EET CF
20B.3	Polychlorinated Biphenyls (PCHs) (GC)	EPA	EET CF
600.B	Metals (ICP/MS)	EPA	EET CF
645.6	Mercury (CVAA)	EPA	EET CF
1224A	NEM and SGT-NEM	1224A	EET CF
350.1	, itrogenKAmmonia	EPA	EET CF
351.6	, itrogenKTotal 7 jeldahl	EPA	EET CF
I-3825-B5	ResidueK, on-filterable (TSS)	USGS	EET CF
SM 6540C	SolidsKTotal Dissolved (TDS)	SM	EET CF
SM 4500 N+ H	pN	SM	EET CF
SM 5610H	HODK5-Day	SM	EET CF
SM 5310C	TOC	SM	EET CF
1224A	NEM and SGT-NEM (SPE)	1224A	EET CF
600.B	PreparationKTotal Metals	EPA	EET CF
645.1	PreparationKMercury	EPA	EET CF
351.6	, itrogenKTotal 7 jeldahl	EPA	EET CF
20B	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CF
265	Liquid-Liquid Extraction	EPA	EET CF
Distill/Ammonia	DistillationKAmmonia	, one	EET CF

Protocol References:

1224A = EPA-B61-9B-006

EPA = US Environmental Protection Agency

, one = , one

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

USGS = "Methods For Analysis Of Water And Fluvial Sediments"KUSGSK19B9

Laboratory References:

EET CF = Eurofins Cedar FallsK3019 Venture WayKCedar FallsKIA 50213KTEL (319)688-6401



Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Prairie Solid</u>			
City/State:	<u>Creston</u>	STATE: <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE: <u>5/20/25</u>	TIME: <u>0905</u>	Received By: <u>R</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 # _____ of _____
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>10.0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>9.0</u>		Corrected Temp (°C): <u>9.0</u>	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>PL 1L NT</u>	CONTAINER 2 <u>PL 250 N, hxl</u>	
Uncorrected Temp (°C):	<u>74</u>	<u>72</u>	
Corrected Temp (°C):	<u>74</u>	<u>72</u>	
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			
<u>temp on top of cooler</u>			

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

Chain of Custody Record

eurofins

[illegible]

Login Sample Receipt Checklist

Client: Prairie Solid Waste Agency

Job Number: 310-306751-1

Login Number: 306751

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Homolar, Dana J

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	No date or time on COC or sample containers
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 G

2025 Landfill Gas Annual Report

Gas Monitoring Summary
2025 Landfill Gas Annual Report
Union County Landfill
Permit No. 88-SDP-01-79C

ID	Name	Type	Description	Methane Results (% LEL)											
				9/10/2024	S (Y/N)	12/31/2024	S (Y/N)	3/10/2025	S (Y/N)	5/13/2025	S (Y/N)	8/1/2025	S (Y/N)	11/7/2025	S (Y/N)
#1	LFGW-1	Subsurface	Vadose zone north of the landfill.	0%	N	NM*	-	0%	Y	NM*	-	0%	Y	NM*	-
#2	LFGW-2	Subsurface	Vadose zone west of the landfill.	0%	Y	NM*	-	0%	Y	NM*	-	0%	Y	NM*	-
#3	PZ-21	Subsurface	Vadose zone east of the landfill.	0%	Y	NM*	-	0%	Y	NM*	-	0%	Y	NM*	-
#4	Scale House	Indoor	Inside scale house.	0%		0%		0%		0%		0%		0%	
#5	RCC Processing Area	Indoor	Inside RCC processing area.	0%		0%		0%		0%		0%		0%	
#7	Transfer Station	Indoor	Inside transfer station.	0%		0%		0%		0%		0%		0%	
#8	Break Shack	Indoor	Inside break shack.	0%		0%		0%		0%		0%		0%	

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

* - NM indicates not measured. Monitoring points #1, #2, and #3 are measured semi-annually.

There were no action levels exceeded during this reporting period.

