SCS ENGINEERS

Transmittal

West Des Moines, IA

PROJECT:	Louisa Co,FY27 Env Comp & On-Call,IA 27225461.27	DATE:	11/9/2026
SUBJECT:	2026-11-09_Louisa County Sanitary Landfill - 58-SDP-01-74C - 2025-2026 Biennial Water Quality Report	TRANSMITTAL ID:	00001
PURPOSE:	For your review and comment	VIA:	Info Exchange

FROM

NAME	COMPANY	EMAIL	PHONE
Nathan Ohrt West Des Moines, IA	SCS Engineers	NOhrt@scsengineers.com	+1-515-415-9220

TO

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

REMARKS:

Good afternoon Brad:

SCS Engineers, on behalf of the Louisa County Regional Solid Waste Agency, has completed this Biennial Water Quality Report for the Louisa County Sanitary Landfill for the years 2025-2026. The report is available for download below. If you have any questions or comments regarding this report, please contact me at the number below.

SCS ENGINEERS

Nathan Ohrt
Senior Project Professional
nohrt@scsengineers.com
O: 319-331-9613
1690 All-State Court, Suite 100
West Des Moines, Iowa

DESCRIPTION OF CONTENTS

QTY	DATED	TITLE	NOTES
1	11/9/2026	2026-11-09_Louisa County Sanitary Landfill - 58-SDP-01-74C - 2025-2026 Biennial Water Quality Report.pdf	

Transmittal

DATE: 11/9/2026
TRANSMITTAL ID: 00001

COPIES:

Adam Shutt	(Louisa County Regional Solid Waste Agency)
Nathan Ohrt	(SCS Engineers)
Becky Jolly	

1690 All-State Court
Suite 100
West Des Moines, Iowa 50265
515-631-6160
File No. 27225461.27

November 9, 2026

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

Subject: 2025-2026 Biennial Water Quality Report
Louisa County Sanitary Landfill
Permit No. 58-SDP-01-74C

Dear Brad:

SCS Engineers, on behalf of the Louisa County Regional Solid Waste Agency, has completed this Biennial Water Quality Report for the Louisa County Sanitary Landfill for the years 2025-2026, as described in Permit Amendment No. 17, dated December 27, 2022 (Doc #105379), and Permit Amendment No. 18, dated March 24, 2025 (Doc #112530). Services were performed in general accordance with the requirements of the 1989 Iowa Administrative Code (IAC) 567-103(455B), the 2008 IAC 567-113.10(2)"f", the current requirements for implementation of the Hydrologic Monitoring System Plan (HMSP), and the Permit Amendments mentioned above. Please find enclosed the 2025-2026 Biennial Water Quality Report for the Louisa County Sanitary Landfill.

If you have any questions regarding this report, please contact Nathan Ohrt at the number below.

Sincerely,

Nathan Ohrt
Senior Project Professional
SCS Engineers
319-331-9613
nohrt@scsengineers.com

Sean Marczewski
Senior Project Professional
SCS Engineers
712-661-9682
smarczewski@scsengineers.com

CC: Mr. Adam H. Shutt, P.E., Louisa County Engineer's Office

2025–2026 Biennial Water Quality Report

LOUISA COUNTY REGIONAL SOLID WASTE AGENCY | Louisa County Sanitary Landfill

Cairo, IA 52738 | Permit No. 58-SDP-01-74C

SCS ENGINEERS

1690 All-State Court, Suite 100 | West Des Moines, IA 50265
515-631-6160 | scsengineers.com

Project No. 27225461.27 | November 2026

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Certification

Prepared by:  Date: 11/9/2026

Nathan Ohrt

Reviewed by:  Date: 11/9/2026

Sean Marczewski

Certification page (PE or groundwater scientist signature) **101.3(455B) (Doc #118257)**

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.

1.0 Introduction

1.1 PURPOSE

SCS Engineers (SCS), on behalf of the Louisa County Regional Solid Waste Agency, has completed the required groundwater sampling and statistical evaluation at the closed Louisa County Sanitary Landfill (Landfill). This report was prepared in accordance with the requirements of the 1989 Iowa Administrative Code (IAC) 567-103(455B) and applicable permit amendments. This report summarizes the 2025-2026 site groundwater monitoring program as described in Permit Amendment #17 dated December 27, 2022 (Doc #105379).

1.2 REPORT PRIORITY

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

- **Department review urgency**: None.
- **Department review impact on rules schedule**: None.
- **Action or activities on hold pending Department review or comment**: None.
- **Actions and/or permit amendments needed**: None.

1.3 RESPONSE TO DNR COMMENTS

No response is required for groundwater items at this time.

1.4 SITE LOCATION

The Landfill is depicted on **Figure 1**, Approved Monitoring Network. The Landfill is located approximately seven miles west of Wapello, Iowa, and one-half mile north of Cairo, Iowa. The Landfill is in the SW ¼, SW ¼, Section 21, T74N, R4W in Louisa County, Iowa.

1.5 BACKGROUND

The geology and hydrogeology of the Landfill was described in *Hydrogeological Investigation and Leachate Assessment Report for the Louisa County Landfill*, dated August 1990 (Doc #13831), and prepared by James M. Montgomery Consulting Engineers, Inc. (1990 HIR). According to current maps, the Landfill is located on a 16.2-acre property and the solid waste disposal area covers approximately 8.2 acres. The Landfill ceased accepting waste and closed on January 31, 1993 (Doc #13850). The closure permit was issued October 21, 1994 (Doc #13798). The permit expiration date of October 21, 2024 was extended five years to October 21, 2029 (Doc #110877) for further evaluation of criteria necessary to end post-closure.

1.6 SAMPLING SUMMARY

Table 1 summarizes the HMSP monitoring points and sampling conducted during the April 2025 and July-August 2026 sampling events.

Table 1. 2025-2026 AWQR Reporting Period Monitoring Summary

Monitoring Well	April 2025	July – August 2026
MW-18 (u)	Reduced Metals List, TSS	Reduced Metals List, TSS
MW-13		Reduced Metals List, TSS
MW-14	Reduced Metals List, TSS, Appendix I VOCs	
MW-15		Reduced Metals List, TSS
MW-19	Reduced Metals List, TSS, Appendix I VOCs	
SW-2*		

(u) – Upgradient monitoring well.
TSS – Total Suspended Solids.
VOC – Volatile Organic Compound.
Reduced Metals List Includes: Arsenic, Barium, Cadmium, Cobalt, Lead, Nickel, Selenium, and Zinc.
*A sample was collected from monitoring point SW-2 during the 2024 sampling event. A sample will be attempted next during the 2027 sampling event.

A surface water sample from monitoring point SW-2 was collected during the 2024 reporting period; therefore, in accordance with Permit Amendment #17 (Doc #105379), a sample from monitoring point SW-2 will be attempted next in 2027 and every three years after if a sample is able to be obtained.

The reporting period for this AWQR is the 2025-2026 calendar years and includes the April 2025 and July-August 2026 sampling events. The field sampling forms and laboratory analytical data sheets for the 2025 and 2026 sampling events are included in **Appendices A** and **B-1**, respectively. Data validation documentation is included in **Appendix B-2**.

2.0 Hydrogeological Site Summary

2.1 GEOLOGY OF THE SITE

The following information regarding the geology of the site was obtained from the previously referenced 1990 HIR:

...the surface soils in the area are derived from windblown loess and glacial till. The surface soils at the site are described as loam to silty clay loam. The Iowa Soil Conservation Survey report for Louisa County, Iowa identifies this soil as part of the Clinton-Lindley Association group of soils.

...the upland glacial deposits consist of a loess mantle of clayey silt over a light brown, sandy, silty clay. Underneath the clay, a gray, sandy, silty clay is present. The downslope glacial deposits consist of a light brown, sandy, silty clay overlying a dark gray clay.

Boring logs indicate that the uppermost bedrock systems at the landfill are Devonian units consisting of a sequence of dolomites, shales, and limestones. The geologic units comprising this system are (from youngest to oldest in descending order) the Lime Creek Formation, Cedar

Valley Limestone, and Wapsipinicon Formation. The Lime Creek Formation, which is part of the upper Devonian Series, is classified as an aquiclude. The Cedar Valley Limestone and Wapsipinicon Formation are part of the Middle Devonian Series, which is classified as an aquifer. According to D.L. Gordon, of the Iowa Geologic Survey, in his report entitled, Groundwater Resources of Louisa County (#80-58WRD), water from this aquifer is highly mineralized, contains extremely high total dissolved solids and elevated concentrations of sulfate. These conditions make the water from this aquifer unfit for human and animal consumption in most parts of the county, including the area surrounding the Louisa County Sanitary Landfill.

Based on the IGSB boring log Form #13812, the elevation of the bedrock is approximately 479 feet NGVD. Therefore, the depth to bedrock is approximately 170 feet in the lowlands and approximately 240 feet in the highlands.

2.2 HYDROLOGY OF THE SITE

The following hydrological information for the site was obtained from the previously referenced 1990 HIR:

All of the surface water draining from the site and adjacent area flows to a small stream leaving the northern boundary of the Louisa County Sanitary Landfill. The landfill operation uses a deep ravine as the fill area. Drainage through the ravine has been modified to flow through a 1,380-foot long reinforced concrete pipe in a generally south to north orientation.

The water table is found within the surficial deposits at the site.

According to the geological cross sections in the 1990 HIR, the water table is within the glacial till layer.

3.0 Monitoring Well Maintenance and Performance Evaluation

A maintenance and performance evaluation of the monitoring wells is required in accordance with IAC 567-113.10(2)"f" as approved in Permit Amendment #9 (Doc #80138).

Topics requiring biennial examination are discussed below.

3.1 WATER LEVEL MEASUREMENTS

The results of the water level measurements obtained by SCS during the 2025-2026 sampling events are summarized in **Table 2**.

Table 2. Water Level Evaluation Summary

Monitoring Point	Top of Screen Elevation	Groundwater Elevation	
		April 2025	July 2026
MW-5	629.4	NA (Artesian)	NA (Artesian)
MW-7	642.9	653.90	652.85
MW-13	644.1	653.38	649.65
MW-14	686.0	678.71	NA (Dry)

Monitoring Point	Top of Screen Elevation	Groundwater Elevation	
		April 2025	July 2026
MW-15	649.0	650.23	649.13
MW-17	640.8	657.46	661.36
MW-18	695.8	701.53	702.63*
MW-19	653.7	660.24	655.82

All measurements in feet above mean sea level.
* - Measurement taken in August 2026.
▬ - Water elevation within the screened interval.

Water levels were observed to be above the screened intervals during the 2025-2026 sampling events except for monitoring well MW-14 during the April 2025 sampling event, when the water level was within the screened interval, and during the August 2026 sampling event, when the well was dry. Water levels during this reporting period remained generally consistent with previous measurements. Based on the information in **Table 2**, the monitoring wells are located sufficiently to detect a release from the Landfill, should one occur. Additionally, the monitoring wells are appropriately placed horizontally, generally no more than 600 feet from other monitoring wells, or at alternate spacing criteria dependent upon groundwater flow paths.

3.2 GROUNDWATER FLOW

Groundwater contours were determined for the Landfill using water elevation data collected by SCS personnel during the July 2026 sampling event. These contours are presented in **Figure 2**. The groundwater contours indicate that the water table flows from the east and west and converges along the approximate south-north alignment of the drainage pipe. The converging groundwater flow appears to generally flow north from the northern waste boundary and south from the southern waste boundary. The southerly flow direction likely reverses at some location south of the Landfill, as creek flow indicates a northerly slope to the ravine in which the pipe beneath the Landfill is located.

3.3 WELL DEPTH EVALUATION

IAC 567-113.10(2)*"f"*(3) requires measurements of well depths to ensure that wells are physically intact and not filling with sediment. The monitoring well depths measured during this reporting period are included in **Table 3**.

Table 3. Total Well Depth Evaluation

Monitoring Point	Installed Well Depth (feet)	April 2025		July 2026	
		Measured Well Depth (feet)	Difference from Installed Depth (feet)	Measured Well Depth (feet)	Difference from Installed Depth (feet)
MW-5	36.7	37.1	-0.4	37.0	-0.3
MW-7	30.0	30.5	-0.5	30.2	-0.2
MW-13	17.1	17.0	0.1	17.0	0.1

Monitoring Point	Installed Well Depth (feet)	April 2025		July 2026	
		Measured Well Depth (feet)	Difference from Installed Depth (feet)	Measured Well Depth (feet)	Difference from Installed Depth (feet)
MW-14	22.1	22.1	0.0	22.1	0.0
MW-15	17.2	17.2	0.0	17.2	0.0
MW-17	34.0	34.1	-0.1	34.0	0.0
MW-18	38.2	38.4	-0.2	38.3*	-0.1
MW-19	23.2	23.3	-0.1	23.2	0.0

* - Measurement taken in August 2026.

As shown in **Table 3**, the monitoring well depths measured during the 2025-2026 sampling event were within 0.5 of the installed depths. The depth measurements are consistent with historical well depth measurements.

The monitoring wells produced sufficient water volumes for sampling during the 2025-2026 sampling event, except for monitoring well MW-14 during the July 2026 sampling event. Based on the depth evaluation, siltation is not occurring to a sufficient extent to adversely affect sampling.

3.4 WELL RECHARGE EVALUATION

IAC 567-113.21(2)"f"(4) requires a biennial evaluation of well recharge rates and chemistry to determine if well deterioration is occurring. The table below shows the flow rates from this reporting period to the flow rates of recent reporting periods.

Table 4. Flow Rate Evaluation

Monitoring Point	March 2021 (L/min)	May 2023 (L/min)	2025-2026 (L/min)
MW-13	0.166	Sampling not required.	0.104
MW-14	0.192	0.150	0.150
MW-15	0.171	Sampling not required.	0.127
MW-18	0.158	0.150	0.133 – 0.158
MW-19	0.157	0.150	0.158

Flow rates during this reporting period remain generally consistent with recent low-flow rates at the Landfill. Factors including time for parameter stabilization and pumping rate account for differences in flow rate between monitoring wells and reporting periods.

3.5 SAMPLING POINT OBSERVATIONS

The cap of the protective metal casing of monitoring well MW-18 was damaged and would not close properly. SCS staff will repair the casing during the next on-site project.

Sampling of surface water monitoring point SW-2 is required every three years in accordance with Permit Amendment #17 dated December 27, 2022 (Doc #105379). A sample was obtained during the 2024 reporting period; therefore, the next sample will be attempted in 2027.

3.6 MONITORING SYSTEMS RECOMMENDATIONS

No changes to the monitoring system are recommended at this time.

4.0 Evaluation of Water Quality Parameters

The analytical results of the groundwater monitoring points and surface water monitoring points for this reporting period at the Landfill are presented in **Appendix C** (Reporting Period Summary of Groundwater Chemistry). The statistical output, which includes time series graphs, Mann-Kendall trend table and graphs, and confidence interval table and graphs, is included in **Appendix D**.

Groundwater monitoring was performed in accordance with Permit Amendment #17 issued December 27, 2022 (Doc #105379), which required sampling of a reduced metals list and TSS annually for background monitoring well MW-18 and biennially for monitoring wells MW-13, MW-14, MW-15, and MW-19. Surface water sampling at monitoring point SW-2 was required in 2024 and during every third year following an obtainable sample. As a sample was obtained during the 2024 reporting period, sampling will be attempted again during the 2027 reporting period. Sampling results are summarized in **Table 5**.

Table 5. 2025-2026 Constituent Concentration Summary

Constituent	GWPS	MW-18 (u)	MW-13	MW-14	MW-15	MW-19
Arsenic (mg/L)	0.01					
Barium (mg/L)	2.0	0.0252 – 0.0309	0.0709	0.0370	0.101	0.0178
Cadmium (mg/L)	0.005			0.000413		0.000221
Cobalt (mg/L)	0.0021	0.000539 – 0.00239	0.0025	0.0006		0.000939
Lead (mg/L)	0.015			0.00052		
Nickel (mg/L)	0.1	0.00348	0.0138	0.00643	0.00826	
Selenium (mg/L)	0.05					
Zinc (mg/L)	2.0					
Total Suspended Solids (mg/L)	None	3.38 – 6.50	3.13	12.1	2.38	<1.88

(u): Upgradient monitoring well.
J flag concentrations are not included in the table.

The measured concentrations were compared to current Iowa Statewide Standards for protected groundwater sources (GWPS). Cobalt was above the GWPS in monitoring wells MW-13 and MW-18 during the 2026 sampling event. There were no VOC detections above the reporting limit measured during this reporting period.

Trends

Mann-Kendall trend analysis was conducted for the most recent eight samples, including the 2025-2026 sampling events. Mann-Kendall trend table and graphs are included in **Appendix D**. There were no statistically significant trends during this reporting period.

Confidence Intervals

Confidence intervals were calculated on detected monitoring well-constituent pairs. Lower confidence limits remained below the GWPS for all monitoring well-constituent pairs. A confidence interval summary table and graphs are in **Appendix D**. There were no statistically significant levels (SSLs) above a GWPS measured during this reporting period.

4.1 POTENTIAL RECEPTORS

Pursuant to guidance from the DNR, if maximum contaminant levels (MCLs) are exceeded at any groundwater monitoring point, information is to be provided regarding potential receptors. There were no MCL exceedances during this reporting period.

4.2 QA/QC INFORMATION

The quality assurance/quality control (QA/QC) program for the Landfill follows similar protocols as included in the HMSP. Data validation procedures were performed on analytical results for laboratory quality control samples and a quality assurance assessment of the data was conducted as the data were generated. The QA review procedure provides documentation of the accuracy and precision of the analytical data and confirms that the analyses were sufficiently sensitive to detect constituents at levels below regulatory standards, where such standards exist. SCS then conducted QA/QC data validation of the produced data, which included review of sample handling, analytical sensitivity and blanks, accuracy, and precision.

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

4.3 CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE MONITORING

No changes to the monitoring plan are recommended at this time. The 2027 and 2028 sampling parameters are shown in **Table 6**.

Table 6. 2027 & 2028 Reporting Period Sampling Schedule

Monitoring Point	2027 Annual	2028 Annual
MW-18 (u)	Reduced Metals List 1, TSS	Reduced Metals List 1, TSS
MW-13	Not sampled	Reduced Metals List 2, TSS
MW-14	Reduced Metals List 2, Appendix I VOCs, TSS	Not sampled

Monitoring Point	2027 Annual	2028 Annual
MW-15	Not sampled	Reduced Metals List 2, TSS
MW-19	Reduced Metals List 2, Appendix I VOCs, TSS	Not sampled
SW-2*	Appendix I, TSS	Appendix I, TSS (if no sample is obtained in 2027)

(u) – Upgradient monitoring well.
TSS – Total Suspended Solids.
VOC – Volatile Organic Compound.
Reduced Metals List 1 Includes: Arsenic, Barium, Cobalt, Lead, and Nickel (Doc #112530).
Reduced Metals List 2 Includes: Arsenic, Barium, Cadmium, Cobalt, Lead, Nickel, Selenium, and Zinc.
Not Sampled – Downgradient monitoring wells are sampled in alternate years.
* SW-2 is required to be sampled every three years. A sample was last obtained during the 2024 reporting period.

5.0 General Comments

The analysis and opinions expressed in this report are based upon data obtained from the samples collected at the indicated locations and from any other information discussed in this report. This report does not reflect any variation in subsurface stratigraphy, hydrogeology, or chemical concentrations that may occur between sampling locations or across the site. Actual subsurface conditions may vary and may not become evident without further exploration.

SCS has prepared this report for the exclusive use of our client for the specific application to the project discussed. No warranty is expressly stated or implied in this report with regard to the condition of substrate and groundwater below the surface of the facility. SCS has relied upon information furnished by others as noted in the report, and SCS accepts no responsibility for any deficiency, misstatements, or inaccuracy in this report as a result of misstatements, omissions, misrepresentations, fraudulent, or inaccurate information or data provided by others.

6.0 References

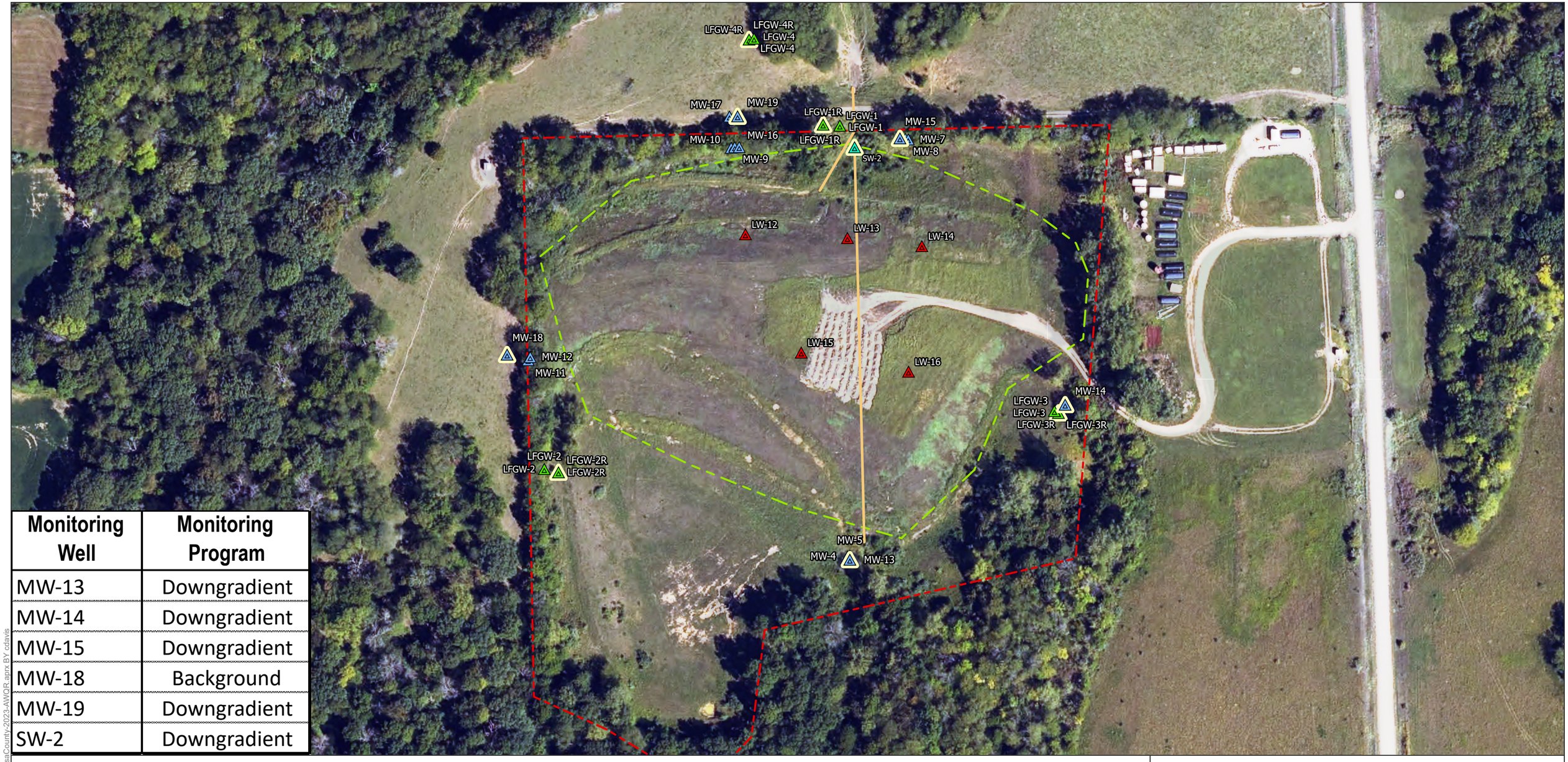
1. James M. Montgomery Consulting Engineers, Inc. *Hydrogeological Investigation and Leachate Assessment Report for the Louisa County Sanitary Landfill*, prepared for the Louisa County Regional Solid Waste Agency, Wapello, Iowa, August 1990 (Doc #13831).

2. James M. Montgomery Consulting Engineers. *Hydrologic Investigation Report, Louisa County Sanitary Landfill*, August 1992.

3. Iowa Department of Natural Resources. Annual Report 1997, *Registry of Hazardous Waste or Hazardous Substance Disposal Sites and Hazardous Waste Remedial Fund*, January 1998.

4. SCS Engineers. *2024 Annual Water Quality Report, Louisa County Sanitary Landfill (Closed)*, December 2024 (Doc #111556).

FIGURES



Monitoring Well	Monitoring Program
MW-13	Downgradient
MW-14	Downgradient
MW-15	Downgradient
MW-18	Background
MW-19	Downgradient
SW-2	Downgradient

Legend

- Surface Water Monitoring Point
- Monitoring Well
- HMSP Monitoring Well
- Leachate Monitoring Point
- Methane Monitoring Point
- Culvert
- Located Waste Boundary
- Approximate Property Boundary

N
W E
S

0 110 220
Feet

1 inch = 146 feet

Approved Monitoring Network

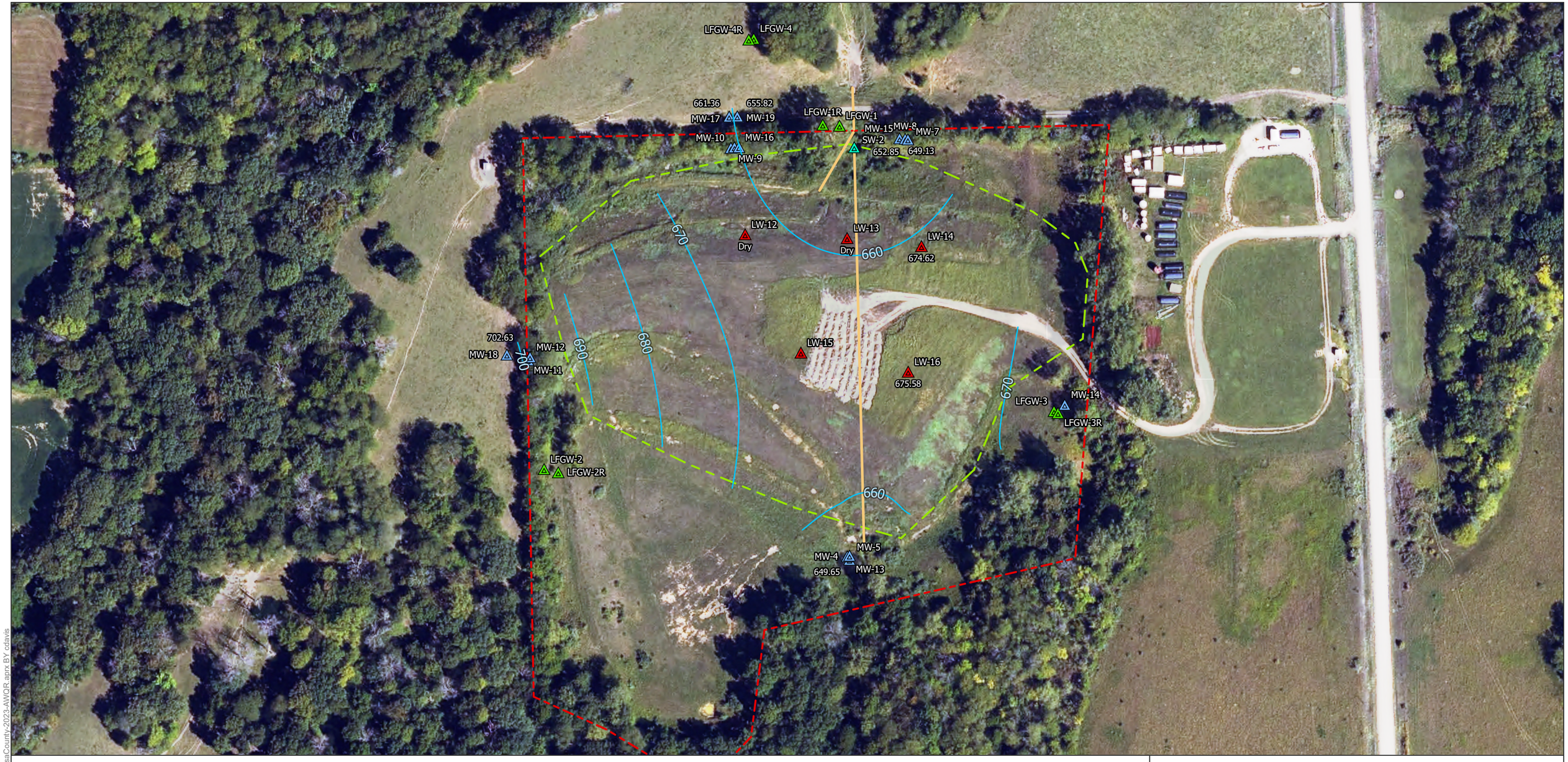
Louisa County Sanitary Landfill
9194 Q Avenue
Cairo, IA

Figure 1	Sep 2026

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USDA NAIP, Iowa State University GIS Facility



Legend

- Approximate Groundwater Contours Based on Field Measurments Taken July 30, 2026
- Monitoring Well
- Surface Water Monitoring Point
- Leachate Monitoring Point
- Methane Monitoring Point
- Culvert
- Located Waste Boundary
- Approximate Property Boundary

N
W E
S

0 110 220
Feet

1 inch = 146 feet

Groundwater Contours

Louisa County Sanitary Landfill
9194 Q Avenue
Cairo, IA

Figure 2	Sep 2026

SCS ENGINEERS

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USDA NAIP, Iowa State University GIS Facility

APPENDIX A | FIELD SAMPLING FORMS

FORM FOR GROUNDWATER SAMPLING

Project:	**Louisa County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-14**	Date:	**4/2/2025**
Gradient:	Down	Sampler:	Konner Roth

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

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	22.1
Initial Static Water Level (feet):	19.40
Initial Groundwater Elevation (ft-amsl):	678.71
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 Conductance (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
11:57 AM	Purging start time.						
12:00 PM	12.2	2.2	2598.4	6.66	32.8	1.9	
12:03 PM	12.2	3.4	2519.2	6.67	81.4	1.4	
12:06 PM	12.3	3.7	2455.4	6.67	102.4	1.3	
12:09 PM	12.4	3.5	2457.0	6.66	102.1	1.3	
	Parameters stabilized, sample collected.						

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

D. WELL MAINTENANCE

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

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Louisa County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-18**	Date:	**4/2/2025**
Gradient:	Up	Sampler:	Konner Roth

A. MW/PIEZOMETER CONDITIONS

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

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

Measured Well Total Depth (feet):	38.4
Initial Static Water Level (feet):	22.10
Initial Groundwater Elevation (ft-amsl):	701.53
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 Conductance (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
12:55 PM	Purging start time.						
12:58 PM	16.3	2.9	1310.3	7.05	142.8	2.4	
1:01 PM	16.2	1.6	1280.3	7.02	142.6	4.1	
1:04 PM	16.2	0.9	1158.7	7.01	143.8	4.2	
1:07 PM	16.3	0.6	1089.0	7.00	141.5	4.5	
1:10 PM	16.1	0.5	1071.9	7.00	140.5	3.0	
	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):	15:00
Average Purge Rate (mL/min):	113.33

D. WELL MAINTENANCE

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

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Louisa County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-19**	Date:	**4/2/2025**
Gradient:	Down	Sampler:	Konner Roth

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

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	23.3
Initial Static Water Level (feet):	5.62
Initial Groundwater Elevation (ft-amsl):	660.24
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 Conductance (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
1:42 PM	Purging start time.						
1:45 PM	14.6	0.8	1365.8	6.84	186.1	2.4	
1:48 PM	14.7	0.5	1361.7	6.85	180.3	4.6	
1:51 PM	14.7	0.3	1359.3	6.85	175.5	6.9	
1:54 PM	14.8	0.2	1359.2	6.85	171.6	8.4	
	Parameters stabilized, sample collected.						

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

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

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Louisa County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-13**	Date:	**7/30/2026**
Gradient:	Down	Sampler:	Garrett Horak

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

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	17.0
Initial Static Water Level (feet):	6.50
Initial Groundwater Elevation (ft-amsl):	649.65
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 Conductance (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
10:21 AM	Purging start time.						
10:21 AM	18.6	7.7	1253.9	7.36	240.2	253.5	
10:24 AM	15.6	4.1	1043.6	8.01	227.2	4.0	
10:27 AM	15.7	2.8	1048.0	8.34	216.2	4.4	
10:30 AM	15.6	2.2	1048.1	8.60	193.7	4.1	
10:33 AM	15.7	1.8	1055.4	8.81	119.6	4.3	
10:36 AM	15.7	1.5	1055.6	8.98	9.4	4.6	
10:39 AM	15.8	1.2	1059.7	9.11	-47.7	4.9	
10:42 AM	15.9	1.1	1064.1	9.17	-78.3	5.2	
10:45 AM	15.0	1.0	1041.7	9.15	-95.4	3.9	
	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):	24:00
Average Purge Rate (mL/min):	104.17

D. WELL MAINTENANCE

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

Additional Comments:	Color: Clear Odor: None Tried to run peri pump as slowly as possible

FORM FOR GROUNDWATER SAMPLING

Project:	**Louisa County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-15**	Date:	**7/30/2026**
Gradient:	Down	Sampler:	Garrett Horak

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

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	17.2
Initial Static Water Level (feet):	12.09
Initial Groundwater Elevation (ft-amsl):	649.13
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 Conductance (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
1:04 PM	Purging start time.						
1:07 PM	18.3	4.1	1524.5	8.59	159.0	7.3	
1:10 PM	19.6	3.0	1444.7	8.37	156.7	6.3	
1:13 PM	16.2	2.7	1157.8	8.53	153.3	4.8	
1:16 PM	15.7	2.4	1142.1	8.51	149.8	4.7	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.9
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	15:00
Average Purge Rate (mL/min):	126.67

D. WELL MAINTENANCE

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

Additional Comments:	Color: Clear Odor: None Duplicate sample - New 6000b lock installed.

FORM FOR GROUNDWATER SAMPLING

Project:	**Louisa County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-18**	Date:	**8/12/2026**
Gradient:	Up	Sampler:	Garrett Horak

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

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	38.3
Initial Static Water Level (feet):	21.00
Initial Groundwater Elevation (ft-amsl):	702.63
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 Conductance (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
8:18 PM	Purging start time.						
8:21 PM	18.2	4.3	221.6	11.37	173.3	18.0	
8:24 PM	18.0	4.5	254.3	11.57	173.4	20.1	
8:28 PM	18.1	4.4	253.5	11.58	175.1	20.8	
8:30 PM	18.1	4.5	259.6	11.60	177.8	20.9	
	Parameters stabilized, sample collected.						

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

D. WELL MAINTENANCE

Does the well require any future maintenance?	Yes	
If yes, explain:	Needs new casing or case head.	

Additional Comments:	Color: Clear Odor: None

APPENDIX B-1 | LABORATORY ANALYTICAL DATA SHEETS

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 4/15/2025 11:39:09 AM

JOB DESCRIPTION

2025 Annual Groundwater Sampling
Louisa County Sanitary Landfill

JOB NUMBER

310-303437-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

my EOL

Job Notes

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

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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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Job ID: 310-303437-1 Eurofins Cedar Falls

Job Narrative
310-303437-1

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

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

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

Receipt
The samples were received on 4/3/2025 4:50 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.9°C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 310-450677 recovered outside of the control limits for Dichlorodifluoromethane (-24.0%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 310-450677/4).

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

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

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

Sample Summary

Client: SCS Engineers
Project/Site: 2025 Annual Groundwater Sampling

Job ID: 310-303437-1
SDG: Louisa County Sanitary Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-303437-1	MW-14	Ground Water	04/02/25 12:30	04/03/25 16:50
310-303437-2	MW-18	Ground Water	04/02/25 14:35	04/03/25 16:50
310-303437-3	MW-19	Ground Water	04/02/25 13:30	04/03/25 16:50
310-303437-4	MW-D	Ground Water	04/02/25 13:30	04/03/25 16:50
310-303437-5	Trip Blank	Water	04/02/25 00:00	04/03/25 16:50

Detection Summary

Client: SCS Engineers
Project/Site: 2025 Annual Groundwater Sampling

Job ID: 310-303437-1
SDG: Louisa County Sanitary Landfill

Client Sample ID: MW-14 — Lab Sample ID: 310-303437-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichlorofluoromethane	1.56	J	4.00	0.380	ug/L	1		8260D	Total/NA
Barium	0.0370		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cadmium	0.000413		0.000200	0.000100	mg/L	1		6020B	Total/NA
Cobalt	0.000600		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000520	B	0.000500	0.000330	mg/L	1		6020B	Total/NA
Nickel	0.00643		0.00500	0.00230	mg/L	1		6020B	Total/NA
Total Suspended Solids	12.1		1.88	1.31	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-18 — Lab Sample ID: 310-303437-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0252		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.000539		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000390	J B	0.000500	0.000330	mg/L	1		6020B	Total/NA
Total Suspended Solids	3.38		1.88	1.31	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-19 — Lab Sample ID: 310-303437-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0178		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cadmium	0.000221		0.000200	0.000100	mg/L	1		6020B	Total/NA
Cobalt	0.000939		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000423	J B	0.000500	0.000330	mg/L	1		6020B	Total/NA
Nickel	0.00306	J	0.00500	0.00230	mg/L	1		6020B	Total/NA

Client Sample ID: MW-D — Lab Sample ID: 310-303437-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0190		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cadmium	0.000702		0.000200	0.000100	mg/L	1		6020B	Total/NA
Cobalt	0.000993		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000847	B	0.000500	0.000330	mg/L	1		6020B	Total/NA
Nickel	0.00369	J	0.00500	0.00230	mg/L	1		6020B	Total/NA
Zinc	0.0136	J	0.0200	0.0130	mg/L	1		6020B	Total/NA
Total Suspended Solids	2.75		1.88	1.31	mg/L	1		I-3765-85	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 310-303437-5

No Detections.

This Detection Summary does not include radiochemical test results.

Quantitation Limit Exceptions Summary

Client: SCS Engineers
Job ID: 310-303437-1
Project/Site: 2025 Annual Groundwater Sampling
SDG: Louisa County Sanitary Landfill

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	Ground Water	Total/NA	ug/L	1.20	5
8260D	1,2-Dibromo-3-Chloropropane	Water	Total/NA	ug/L	1.20	5
8260D	1,2-Dibromoethane (EDB)	Ground Water	Total/NA	ug/L	0.340	1
8260D	1,2-Dibromoethane (EDB)	Water	Total/NA	ug/L	0.340	1

Client: SCS Engineers
Project/Site: 2025 Annual Groundwater Sampling

Job ID: 310-303437-1
SDG: Louisa County Sanitary Landfill

Client Sample ID: MW-14
Date Collected: 04/02/25 12:30
Date Received: 04/03/25 16:50

Lab Sample ID: 310-303437-1
Matrix: Ground Water

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			04/05/25 04:41	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			04/05/25 04:41	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			04/05/25 04:41	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			04/05/25 04:41	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			04/05/25 04:41	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			04/05/25 04:41	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			04/05/25 04:41	1
1,2-Dibromo-3-Chloropropane	<1.20		1.20	1.20	ug/L			04/05/25 04:41	1
1,2-Dibromoethane (EDB)	<0.340		0.340	0.340	ug/L			04/05/25 04:41	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			04/05/25 04:41	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			04/05/25 04:41	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			04/05/25 04:41	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			04/05/25 04:41	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			04/05/25 04:41	1
2-Hexanone	<10.0		10.0	2.00	ug/L			04/05/25 04:41	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			04/05/25 04:41	1
Acetone	<10.0		10.0	3.10	ug/L			04/05/25 04:41	1
Acrylonitrile	<10.0		10.0	2.20	ug/L			04/05/25 04:41	1
Benzene	<0.500		0.500	0.220	ug/L			04/05/25 04:41	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			04/05/25 04:41	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			04/05/25 04:41	1
Bromoform	<5.00		5.00	0.780	ug/L			04/05/25 04:41	1
Bromomethane	<4.00		4.00	1.10	ug/L			04/05/25 04:41	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			04/05/25 04:41	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			04/05/25 04:41	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			04/05/25 04:41	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			04/05/25 04:41	1
Chloroethane	<4.00		4.00	0.790	ug/L			04/05/25 04:41	1
Chloroform	<3.00		3.00	1.30	ug/L			04/05/25 04:41	1
Chloromethane	<3.00		3.00	0.610	ug/L			04/05/25 04:41	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			04/05/25 04:41	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			04/05/25 04:41	1
Dibromomethane	<1.00		1.00	0.330	ug/L			04/05/25 04:41	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			04/05/25 04:41	1
Iodomethane	<10.0		10.0	7.00	ug/L			04/05/25 04:41	1
Methylene Chloride	<5.00		5.00	1.70	ug/L			04/05/25 04:41	1
Styrene	<1.00		1.00	0.370	ug/L			04/05/25 04:41	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			04/05/25 04:41	1
Toluene	<1.00		1.00	0.430	ug/L			04/05/25 04:41	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			04/05/25 04:41	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			04/05/25 04:41	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			04/05/25 04:41	1
Trichloroethene	<1.00		1.00	0.430	ug/L			04/05/25 04:41	1
Trichlorofluoromethane	**1.56**	**J**	4.00	0.380	ug/L			04/05/25 04:41	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			04/05/25 04:41	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			04/05/25 04:41	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			04/05/25 04:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*124*		*73 - 130*		*04/05/25 04:41*	*1*

Client: SCS Engineers
Project/Site: 2025 Annual Groundwater Sampling

Job ID: 310-303437-1
SDG: Louisa County Sanitary Landfill

Client Sample ID: MW-14
Date Collected: 04/02/25 12:30
Date Received: 04/03/25 16:50

Lab Sample ID: 310-303437-1
Matrix: Ground Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*92*		*80 - 120*		*04/05/25 04:41*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*04/05/25 04:41*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		04/07/25 09:30	04/09/25 18:46	1
Barium	**0.0370**		0.00200	0.000660	mg/L		04/07/25 09:30	04/09/25 18:46	1
Cadmium	**0.000413**		0.000200	0.000100	mg/L		04/07/25 09:30	04/09/25 18:46	1
Cobalt	**0.000600**		0.000500	0.000170	mg/L		04/07/25 09:30	04/09/25 18:46	1
Lead	**0.000520**	**B**	0.000500	0.000330	mg/L		04/07/25 09:30	04/09/25 18:46	1
Nickel	**0.00643**		0.00500	0.00230	mg/L		04/07/25 09:30	04/14/25 13:44	1
Selenium	<0.00500		0.00500	0.00140	mg/L		04/07/25 09:30	04/09/25 18:46	1
Zinc	<0.0200		0.0200	0.0130	mg/L		04/07/25 09:30	04/10/25 13:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**12.1**		1.88	1.31	mg/L			04/04/25 10:28	1

Client Sample Results

Client: SCS Engineers
Project/Site: 2025 Annual Groundwater Sampling

Job ID: 310-303437-1
SDG: Louisa County Sanitary Landfill

Client Sample ID: MW-18

Date Collected: 04/02/25 14:35
Date Received: 04/03/25 16:50

Lab Sample ID: 310-303437-2

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		04/07/25 09:30	04/09/25 18:48	1
Barium	**0.0252**		0.00200	0.000660	mg/L		04/07/25 09:30	04/09/25 18:48	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		04/07/25 09:30	04/09/25 18:48	1
Cobalt	**0.000539**		0.000500	0.000170	mg/L		04/07/25 09:30	04/09/25 18:48	1
Lead	**0.000390**	**J B**	0.000500	0.000330	mg/L		04/07/25 09:30	04/09/25 18:48	1
Nickel	<0.00500		0.00500	0.00230	mg/L		04/07/25 09:30	04/14/25 13:46	1
Selenium	<0.00500		0.00500	0.00140	mg/L		04/07/25 09:30	04/09/25 18:48	1
Zinc	<0.0200		0.0200	0.0130	mg/L		04/07/25 09:30	04/10/25 14:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**3.38**		1.88	1.31	mg/L			04/04/25 10:28	1

Client: SCS Engineers
Project/Site: 2025 Annual Groundwater Sampling

Job ID: 310-303437-1
SDG: Louisa County Sanitary Landfill

Client Sample ID: MW-19
Date Collected: 04/02/25 13:30
Date Received: 04/03/25 16:50

Lab Sample ID: 310-303437-3
Matrix: Ground Water

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			04/05/25 05:02	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			04/05/25 05:02	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			04/05/25 05:02	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			04/05/25 05:02	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			04/05/25 05:02	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			04/05/25 05:02	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			04/05/25 05:02	1
1,2-Dibromo-3-Chloropropane	<1.20		1.20	1.20	ug/L			04/05/25 05:02	1
1,2-Dibromoethane (EDB)	<0.340		0.340	0.340	ug/L			04/05/25 05:02	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			04/05/25 05:02	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			04/05/25 05:02	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			04/05/25 05:02	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			04/05/25 05:02	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			04/05/25 05:02	1
2-Hexanone	<10.0		10.0	2.00	ug/L			04/05/25 05:02	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			04/05/25 05:02	1
Acetone	<10.0		10.0	3.10	ug/L			04/05/25 05:02	1
Acrylonitrile	<10.0		10.0	2.20	ug/L			04/05/25 05:02	1
Benzene	<0.500		0.500	0.220	ug/L			04/05/25 05:02	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			04/05/25 05:02	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			04/05/25 05:02	1
Bromoform	<5.00		5.00	0.780	ug/L			04/05/25 05:02	1
Bromomethane	<4.00		4.00	1.10	ug/L			04/05/25 05:02	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			04/05/25 05:02	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			04/05/25 05:02	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			04/05/25 05:02	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			04/05/25 05:02	1
Chloroethane	<4.00		4.00	0.790	ug/L			04/05/25 05:02	1
Chloroform	<3.00		3.00	1.30	ug/L			04/05/25 05:02	1
Chloromethane	<3.00		3.00	0.610	ug/L			04/05/25 05:02	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			04/05/25 05:02	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			04/05/25 05:02	1
Dibromomethane	<1.00		1.00	0.330	ug/L			04/05/25 05:02	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			04/05/25 05:02	1
Iodomethane	<10.0		10.0	7.00	ug/L			04/05/25 05:02	1
Methylene Chloride	<5.00		5.00	1.70	ug/L			04/05/25 05:02	1
Styrene	<1.00		1.00	0.370	ug/L			04/05/25 05:02	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			04/05/25 05:02	1
Toluene	<1.00		1.00	0.430	ug/L			04/05/25 05:02	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			04/05/25 05:02	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			04/05/25 05:02	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			04/05/25 05:02	1
Trichloroethene	<1.00		1.00	0.430	ug/L			04/05/25 05:02	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			04/05/25 05:02	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			04/05/25 05:02	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			04/05/25 05:02	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			04/05/25 05:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*125*		*73 - 130*		*04/05/25 05:02*	*1*

Client Sample ID: MW-19

Date Collected: 04/02/25 13:30
Date Received: 04/03/25 16:50

Lab Sample ID: 310-303437-3

Matrix: Ground Water

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*90*		*80 - 120*		*04/05/25 05:02*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*04/05/25 05:02*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		04/07/25 09:30	04/09/25 18:43	1
Barium	**0.0178**		0.00200	0.000660	mg/L		04/07/25 09:30	04/09/25 18:43	1
Cadmium	**0.000221**		0.000200	0.000100	mg/L		04/07/25 09:30	04/09/25 18:43	1
Cobalt	**0.000939**		0.000500	0.000170	mg/L		04/07/25 09:30	04/09/25 18:43	1
Lead	**0.000423**	**J B**	0.000500	0.000330	mg/L		04/07/25 09:30	04/09/25 18:43	1
Nickel	**0.00306**	**J**	0.00500	0.00230	mg/L		04/07/25 09:30	04/14/25 13:41	1
Selenium	<0.00500		0.00500	0.00140	mg/L		04/07/25 09:30	04/09/25 18:43	1
Zinc	<0.0200		0.0200	0.0130	mg/L		04/07/25 09:30	04/10/25 13:55	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			04/04/25 10:28	1

Client: SCS Engineers
Project/Site: 2025 Annual Groundwater Sampling

Job ID: 310-303437-1
SDG: Louisa County Sanitary Landfill

Client Sample ID: MW-D
Date Collected: 04/02/25 13:30
Date Received: 04/03/25 16:50

Lab Sample ID: 310-303437-4
Matrix: Ground Water

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			04/05/25 05:24	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			04/05/25 05:24	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			04/05/25 05:24	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			04/05/25 05:24	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			04/05/25 05:24	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			04/05/25 05:24	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			04/05/25 05:24	1
1,2-Dibromo-3-Chloropropane	<1.20		1.20	1.20	ug/L			04/05/25 05:24	1
1,2-Dibromoethane (EDB)	<0.340		0.340	0.340	ug/L			04/05/25 05:24	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			04/05/25 05:24	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			04/05/25 05:24	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			04/05/25 05:24	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			04/05/25 05:24	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			04/05/25 05:24	1
2-Hexanone	<10.0		10.0	2.00	ug/L			04/05/25 05:24	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			04/05/25 05:24	1
Acetone	<10.0		10.0	3.10	ug/L			04/05/25 05:24	1
Acrylonitrile	<10.0		10.0	2.20	ug/L			04/05/25 05:24	1
Benzene	<0.500		0.500	0.220	ug/L			04/05/25 05:24	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			04/05/25 05:24	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			04/05/25 05:24	1
Bromoform	<5.00		5.00	0.780	ug/L			04/05/25 05:24	1
Bromomethane	<4.00		4.00	1.10	ug/L			04/05/25 05:24	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			04/05/25 05:24	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			04/05/25 05:24	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			04/05/25 05:24	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			04/05/25 05:24	1
Chloroethane	<4.00		4.00	0.790	ug/L			04/05/25 05:24	1
Chloroform	<3.00		3.00	1.30	ug/L			04/05/25 05:24	1
Chloromethane	<3.00		3.00	0.610	ug/L			04/05/25 05:24	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			04/05/25 05:24	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			04/05/25 05:24	1
Dibromomethane	<1.00		1.00	0.330	ug/L			04/05/25 05:24	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			04/05/25 05:24	1
Iodomethane	<10.0		10.0	7.00	ug/L			04/05/25 05:24	1
Methylene Chloride	<5.00		5.00	1.70	ug/L			04/05/25 05:24	1
Styrene	<1.00		1.00	0.370	ug/L			04/05/25 05:24	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			04/05/25 05:24	1
Toluene	<1.00		1.00	0.430	ug/L			04/05/25 05:24	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			04/05/25 05:24	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			04/05/25 05:24	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			04/05/25 05:24	1
Trichloroethene	<1.00		1.00	0.430	ug/L			04/05/25 05:24	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			04/05/25 05:24	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			04/05/25 05:24	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			04/05/25 05:24	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			04/05/25 05:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*125*		*73 - 130*		*04/05/25 05:24*	*1*

Client: SCS Engineers
Project/Site: 2025 Annual Groundwater Sampling

Job ID: 310-303437-1
SDG: Louisa County Sanitary Landfill

Client Sample ID: MW-D
Date Collected: 04/02/25 13:30
Date Received: 04/03/25 16:50

Lab Sample ID: 310-303437-4
Matrix: Ground Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*93*		*80 - 120*		*04/05/25 05:24*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*04/05/25 05:24*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		04/07/25 09:30	04/09/25 18:50	1
Barium	**0.0190**		0.00200	0.000660	mg/L		04/07/25 09:30	04/09/25 18:50	1
Cadmium	**0.000702**		0.000200	0.000100	mg/L		04/07/25 09:30	04/09/25 18:50	1
Cobalt	**0.000993**		0.000500	0.000170	mg/L		04/07/25 09:30	04/09/25 18:50	1
Lead	**0.000847**	**B**	0.000500	0.000330	mg/L		04/07/25 09:30	04/09/25 18:50	1
Nickel	**0.00369**	**J**	0.00500	0.00230	mg/L		04/07/25 09:30	04/14/25 13:49	1
Selenium	<0.00500		0.00500	0.00140	mg/L		04/07/25 09:30	04/09/25 18:50	1
Zinc	**0.0136**	**J**	0.0200	0.0130	mg/L		04/07/25 09:30	04/10/25 14:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**2.75**		1.88	1.31	mg/L			04/04/25 10:28	1

Client Sample ID: Trip Blank
Date Collected: 04/02/25 00:00
Date Received: 04/03/25 16:50

Lab Sample ID: 310-303437-5
Matrix: Water

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			04/04/25 23:58	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			04/04/25 23:58	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			04/04/25 23:58	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			04/04/25 23:58	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			04/04/25 23:58	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			04/04/25 23:58	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			04/04/25 23:58	1
1,2-Dibromo-3-Chloropropane	<1.20		1.20	1.20	ug/L			04/04/25 23:58	1
1,2-Dibromoethane (EDB)	<0.340		0.340	0.340	ug/L			04/04/25 23:58	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			04/04/25 23:58	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			04/04/25 23:58	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			04/04/25 23:58	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			04/04/25 23:58	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			04/04/25 23:58	1
2-Hexanone	<10.0		10.0	2.00	ug/L			04/04/25 23:58	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			04/04/25 23:58	1
Acetone	<10.0		10.0	3.10	ug/L			04/04/25 23:58	1
Acrylonitrile	<10.0		10.0	2.20	ug/L			04/04/25 23:58	1
Benzene	<0.500		0.500	0.220	ug/L			04/04/25 23:58	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			04/04/25 23:58	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			04/04/25 23:58	1
Bromoform	<5.00		5.00	0.780	ug/L			04/04/25 23:58	1
Bromomethane	<4.00		4.00	1.10	ug/L			04/04/25 23:58	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			04/04/25 23:58	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			04/04/25 23:58	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			04/04/25 23:58	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			04/04/25 23:58	1
Chloroethane	<4.00		4.00	0.790	ug/L			04/04/25 23:58	1
Chloroform	<3.00		3.00	1.30	ug/L			04/04/25 23:58	1
Chloromethane	<3.00		3.00	0.610	ug/L			04/04/25 23:58	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			04/04/25 23:58	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			04/04/25 23:58	1
Dibromomethane	<1.00		1.00	0.330	ug/L			04/04/25 23:58	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			04/04/25 23:58	1
Iodomethane	<10.0		10.0	7.00	ug/L			04/04/25 23:58	1
Methylene Chloride	<5.00		5.00	1.70	ug/L			04/04/25 23:58	1
Styrene	<1.00		1.00	0.370	ug/L			04/04/25 23:58	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			04/04/25 23:58	1
Toluene	<1.00		1.00	0.430	ug/L			04/04/25 23:58	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			04/04/25 23:58	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			04/04/25 23:58	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			04/04/25 23:58	1
Trichloroethene	<1.00		1.00	0.430	ug/L			04/04/25 23:58	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			04/04/25 23:58	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			04/04/25 23:58	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			04/04/25 23:58	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			04/04/25 23:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*114*		*73 - 130*		*04/04/25 23:58*	*1*

Client: SCS Engineers
Project/Site: 2025 Annual Groundwater Sampling

Job ID: 310-303437-1
SDG: Louisa County Sanitary Landfill

Client Sample ID: Trip Blank
Date Collected: 04/02/25 00:00
Date Received: 04/03/25 16:50

Lab Sample ID: 310-303437-5
Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*94*		*80 - 120*		*04/04/25 23:58*	*1*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*04/04/25 23:58*	*1*

Qualifiers

GC/MS VOA

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

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)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Surrogate Summary

Client: SCS Engineers
Project/Site: 2025 Annual Groundwater Sampling

Job ID: 310-303437-1
SDG: Louisa County Sanitary Landfill

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

Matrix: Ground Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		DBFM	TOL	BFB
Lab Sample ID	Client Sample ID	(73-130)	(80-120)	(80-120)
310-303437-1	MW-14	124	92	101
310-303437-3	MW-19	125	90	102
310-303437-4	MW-D	125	93	101

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**

		Percent Surrogate Recovery (Acceptance Limits)		
		DBFM	TOL	BFB
Lab Sample ID	Client Sample ID	(73-130)	(80-120)	(80-120)
310-303437-5	Trip Blank	114	94	106
LCS 310-450677/7	Lab Control Sample	99	101	96
LCS 310-450677/8	Lab Control Sample	113	94	109
MB 310-450677/6	Method Blank	121	93	107

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

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

Lab Sample ID: MB 310-450677/6
Matrix: Water
Analysis Batch: 450677

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			04/04/25 21:25	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			04/04/25 21:25	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			04/04/25 21:25	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			04/04/25 21:25	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			04/04/25 21:25	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			04/04/25 21:25	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			04/04/25 21:25	1
1,2-Dibromo-3-Chloropropane	<1.20		1.20	1.20	ug/L			04/04/25 21:25	1
1,2-Dibromoethane (EDB)	<0.340		0.340	0.340	ug/L			04/04/25 21:25	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			04/04/25 21:25	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			04/04/25 21:25	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			04/04/25 21:25	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			04/04/25 21:25	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			04/04/25 21:25	1
2-Hexanone	<10.0		10.0	2.00	ug/L			04/04/25 21:25	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			04/04/25 21:25	1
Acetone	<10.0		10.0	3.10	ug/L			04/04/25 21:25	1
Acrylonitrile	<10.0		10.0	2.20	ug/L			04/04/25 21:25	1
Benzene	<0.500		0.500	0.220	ug/L			04/04/25 21:25	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			04/04/25 21:25	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			04/04/25 21:25	1
Bromoform	<5.00		5.00	0.780	ug/L			04/04/25 21:25	1
Bromomethane	<4.00		4.00	1.10	ug/L			04/04/25 21:25	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			04/04/25 21:25	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			04/04/25 21:25	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			04/04/25 21:25	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			04/04/25 21:25	1
Chloroethane	<4.00		4.00	0.790	ug/L			04/04/25 21:25	1
Chloroform	<3.00		3.00	1.30	ug/L			04/04/25 21:25	1
Chloromethane	<3.00		3.00	0.610	ug/L			04/04/25 21:25	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			04/04/25 21:25	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			04/04/25 21:25	1
Dibromomethane	<1.00		1.00	0.330	ug/L			04/04/25 21:25	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			04/04/25 21:25	1
Iodomethane	<10.0		10.0	7.00	ug/L			04/04/25 21:25	1
Methylene Chloride	<5.00		5.00	1.70	ug/L			04/04/25 21:25	1
Styrene	<1.00		1.00	0.370	ug/L			04/04/25 21:25	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			04/04/25 21:25	1
Toluene	<1.00		1.00	0.430	ug/L			04/04/25 21:25	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			04/04/25 21:25	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			04/04/25 21:25	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			04/04/25 21:25	1
Trichloroethene	<1.00		1.00	0.430	ug/L			04/04/25 21:25	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			04/04/25 21:25	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			04/04/25 21:25	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			04/04/25 21:25	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			04/04/25 21:25	1

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

Lab Sample ID: MB 310-450677/6
Matrix: Water
Analysis Batch: 450677

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*121*		*73 - 130*		*04/04/25 21:25*	*1*
Toluene-d8 (Surr)	*93*		*80 - 120*		*04/04/25 21:25*	*1*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*04/04/25 21:25*	*1*

Lab Sample ID: LCS 310-450677/7
Matrix: Water
Analysis Batch: 450677

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	18.05		ug/L		90	71 - 120
1,1,1-Trichloroethane	20.0	19.88		ug/L		99	73 - 129
1,1,2,2-Tetrachloroethane	20.0	18.63		ug/L		93	68 - 124
1,1,2-Trichloroethane	20.0	18.87		ug/L		94	73 - 123
1,1-Dichloroethane	20.0	19.51		ug/L		98	70 - 127
1,1-Dichloroethene	20.0	19.50		ug/L		97	63 - 132
1,2,3-Trichloropropane	20.0	18.35		ug/L		92	65 - 127
1,2-Dibromo-3-Chloropropane	20.0	16.66		ug/L		83	50 - 150
1,2-Dibromoethane (EDB)	20.0	19.30		ug/L		96	75 - 125
1,2-Dichlorobenzene	20.0	18.57		ug/L		93	74 - 120
1,2-Dichloroethane	20.0	19.94		ug/L		100	71 - 125
1,2-Dichloropropane	20.0	21.43		ug/L		107	73 - 124
1,4-Dichlorobenzene	20.0	18.53		ug/L		93	72 - 120
2-Butanone (MEK)	40.0	40.37		ug/L		101	50 - 150
2-Hexanone	40.0	31.42		ug/L		79	60 - 140
4-Methyl-2-pentanone (MIBK)	40.0	34.05		ug/L		85	60 - 139
Acetone	40.0	34.29		ug/L		86	50 - 150
Acrylonitrile	200	176.1		ug/L		88	50 - 150
Benzene	20.0	18.99		ug/L		95	72 - 124
Bromochloromethane	20.0	19.82		ug/L		99	73 - 130
Bromodichloromethane	20.0	18.22		ug/L		91	74 - 122
Bromoform	20.0	17.78		ug/L		89	61 - 122
Carbon disulfide	20.0	21.41		ug/L		107	59 - 135
Carbon tetrachloride	20.0	20.05		ug/L		100	67 - 132
Chlorobenzene	20.0	19.73		ug/L		99	76 - 120
Chlorodibromomethane	20.0	18.30		ug/L		91	71 - 121
Chloroform	20.0	19.14		ug/L		96	72 - 125
cis-1,2-Dichloroethene	20.0	19.77		ug/L		99	74 - 123
cis-1,3-Dichloropropene	20.0	17.79		ug/L		89	71 - 125
Dibromomethane	20.0	19.96		ug/L		100	74 - 125
Ethylbenzene	20.0	18.21		ug/L		91	74 - 122
Iodomethane	20.0	22.85		ug/L		114	10 - 150
Methylene Chloride	20.0	20.47		ug/L		102	50 - 150
Styrene	20.0	18.23		ug/L		91	74 - 121
Tetrachloroethene	20.0	18.84		ug/L		94	71 - 130
Toluene	20.0	20.32		ug/L		102	74 - 123
trans-1,2-Dichloroethene	20.0	21.74		ug/L		109	70 - 126
trans-1,3-Dichloropropene	20.0	17.82		ug/L		89	69 - 123
trans-1,4-Dichloro-2-butene	20.0	16.31		ug/L		82	50 - 150

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

Lab Sample ID: LCS 310-450677/7
Matrix: Water
Analysis Batch: 450677

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Trichloroethene	20.0	19.94		ug/L		100	72 - 126
Vinyl acetate	40.0	41.98		ug/L		105	50 - 150
Xylenes, Total	40.0	36.65		ug/L		92	73 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*99*		*73 - 130*
Toluene-d8 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*

Lab Sample ID: LCS 310-450677/8
Matrix: Water
Analysis Batch: 450677

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	20.70		ug/L		103	23 - 150
Chloroethane	20.0	21.31		ug/L		107	54 - 136
Chloromethane	20.0	22.41		ug/L		112	38 - 150
Trichlorofluoromethane	20.0	21.07		ug/L		105	54 - 149
Vinyl chloride	20.0	21.55		ug/L		108	56 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*113*		*73 - 130*
Toluene-d8 (Surr)	*94*		*80 - 120*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-450750/1-A
Matrix: Water
Analysis Batch: 451166

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450750

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		04/07/25 09:30	04/09/25 18:22	1
Barium	<0.00200		0.00200	0.000660	mg/L		04/07/25 09:30	04/09/25 18:22	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		04/07/25 09:30	04/09/25 18:22	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		04/07/25 09:30	04/09/25 18:22	1
Lead	0.0003310	J	0.000500	0.000330	mg/L		04/07/25 09:30	04/09/25 18:22	1
Selenium	<0.00500		0.00500	0.00140	mg/L		04/07/25 09:30	04/09/25 18:22	1

Lab Sample ID: MB 310-450750/1-A
Matrix: Water
Analysis Batch: 451313

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450750

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	<0.0200		0.0200	0.0130	mg/L		04/07/25 09:30	04/10/25 13:43	1

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

Lab Sample ID: MB 310-450750/1-A
Matrix: Water
Analysis Batch: 451606

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450750

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	<0.00500		0.00500	0.00230	mg/L		04/07/25 09:30	04/14/25 13:27	1

Lab Sample ID: LCS 310-450750/2-A
Matrix: Water
Analysis Batch: 451166

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450750

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.200	0.1998		mg/L		100	80 - 120
Barium	0.100	0.09952		mg/L		100	80 - 120
Cadmium	0.100	0.09851		mg/L		99	80 - 120
Cobalt	0.100	0.1030		mg/L		103	80 - 120
Lead	0.200	0.1934		mg/L		97	80 - 120
Selenium	0.400	0.3768		mg/L		94	80 - 120

Lab Sample ID: LCS 310-450750/2-A
Matrix: Water
Analysis Batch: 451313

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450750

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Zinc	0.200	0.1928		mg/L		96	80 - 120

Lab Sample ID: LCS 310-450750/2-A
Matrix: Water
Analysis Batch: 451606

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450750

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nickel	0.200	0.2153		mg/L		108	80 - 120

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

Lab Sample ID: MB 310-450706/1
Matrix: Water
Analysis Batch: 450706

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.50	mg/L			04/04/25 10:28	1

Lab Sample ID: LCS 310-450706/2
Matrix: Water
Analysis Batch: 450706

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	101.0		mg/L		101	81 - 116

GC/MS VOA

Analysis Batch: 450677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303437-1	MW-14	Total/NA	Ground Water	8260D	
310-303437-3	MW-19	Total/NA	Ground Water	8260D	
310-303437-4	MW-D	Total/NA	Ground Water	8260D	
310-303437-5	Trip Blank	Total/NA	Water	8260D	
MB 310-450677/6	Method Blank	Total/NA	Water	8260D	
LCS 310-450677/7	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-450677/8	Lab Control Sample	Total/NA	Water	8260D	

Metals

Prep Batch: 450750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303437-1	MW-14	Total/NA	Ground Water	3005A	
310-303437-2	MW-18	Total/NA	Ground Water	3005A	
310-303437-3	MW-19	Total/NA	Ground Water	3005A	
310-303437-4	MW-D	Total/NA	Ground Water	3005A	
MB 310-450750/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-450750/2-A	Lab Control Sample	Total/NA	Water	3005A	

Analysis Batch: 451166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303437-1	MW-14	Total/NA	Ground Water	6020B	450750
310-303437-2	MW-18	Total/NA	Ground Water	6020B	450750
310-303437-3	MW-19	Total/NA	Ground Water	6020B	450750
310-303437-4	MW-D	Total/NA	Ground Water	6020B	450750
MB 310-450750/1-A	Method Blank	Total/NA	Water	6020B	450750
LCS 310-450750/2-A	Lab Control Sample	Total/NA	Water	6020B	450750

Analysis Batch: 451313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303437-1	MW-14	Total/NA	Ground Water	6020B	450750
310-303437-2	MW-18	Total/NA	Ground Water	6020B	450750
310-303437-3	MW-19	Total/NA	Ground Water	6020B	450750
310-303437-4	MW-D	Total/NA	Ground Water	6020B	450750
MB 310-450750/1-A	Method Blank	Total/NA	Water	6020B	450750
LCS 310-450750/2-A	Lab Control Sample	Total/NA	Water	6020B	450750

Analysis Batch: 451606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303437-1	MW-14	Total/NA	Ground Water	6020B	450750
310-303437-2	MW-18	Total/NA	Ground Water	6020B	450750
310-303437-3	MW-19	Total/NA	Ground Water	6020B	450750
310-303437-4	MW-D	Total/NA	Ground Water	6020B	450750
MB 310-450750/1-A	Method Blank	Total/NA	Water	6020B	450750
LCS 310-450750/2-A	Lab Control Sample	Total/NA	Water	6020B	450750

General Chemistry

Analysis Batch: 450706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303437-1	MW-14	Total/NA	Ground Water	I-3765-85	
310-303437-2	MW-18	Total/NA	Ground Water	I-3765-85	

General Chemistry (Continued)

Analysis Batch: 450706 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303437-3	MW-19	Total/NA	Ground Water	I-3765-85	
310-303437-4	MW-D	Total/NA	Ground Water	I-3765-85	
MB 310-450706/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-450706/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Lab Chronicle

Client: SCS Engineers
Project/Site: 2025 Annual Groundwater Sampling

Job ID: 310-303437-1
SDG: Louisa County Sanitary Landfill

Client Sample ID: MW-14

Date Collected: 04/02/25 12:30
Date Received: 04/03/25 16:50

Lab Sample ID: 310-303437-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	450677	WSE8	EET CF	04/05/25 04:41
Total/NA	Prep	3005A			450750	Y3EC	EET CF	04/07/25 09:30
Total/NA	Analysis	6020B		1	451166	NFT2	EET CF	04/09/25 18:46
Total/NA	Prep	3005A			450750	Y3EC	EET CF	04/07/25 09:30
Total/NA	Analysis	6020B		1	451313	NFT2	EET CF	04/10/25 13:58
Total/NA	Prep	3005A			450750	Y3EC	EET CF	04/07/25 09:30
Total/NA	Analysis	6020B		1	451606	NFT2	EET CF	04/14/25 13:44
Total/NA	Analysis	I-3765-85		1	450706	DGU1	EET CF	04/04/25 10:28

Client Sample ID: MW-18

Date Collected: 04/02/25 14:35
Date Received: 04/03/25 16:50

Lab Sample ID: 310-303437-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			450750	Y3EC	EET CF	04/07/25 09:30
Total/NA	Analysis	6020B		1	451166	NFT2	EET CF	04/09/25 18:48
Total/NA	Prep	3005A			450750	Y3EC	EET CF	04/07/25 09:30
Total/NA	Analysis	6020B		1	451313	NFT2	EET CF	04/10/25 14:00
Total/NA	Prep	3005A			450750	Y3EC	EET CF	04/07/25 09:30
Total/NA	Analysis	6020B		1	451606	NFT2	EET CF	04/14/25 13:46
Total/NA	Analysis	I-3765-85		1	450706	DGU1	EET CF	04/04/25 10:28

Client Sample ID: MW-19

Date Collected: 04/02/25 13:30
Date Received: 04/03/25 16:50

Lab Sample ID: 310-303437-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	450677	WSE8	EET CF	04/05/25 05:02
Total/NA	Prep	3005A			450750	Y3EC	EET CF	04/07/25 09:30
Total/NA	Analysis	6020B		1	451166	NFT2	EET CF	04/09/25 18:43
Total/NA	Prep	3005A			450750	Y3EC	EET CF	04/07/25 09:30
Total/NA	Analysis	6020B		1	451313	NFT2	EET CF	04/10/25 13:55
Total/NA	Prep	3005A			450750	Y3EC	EET CF	04/07/25 09:30
Total/NA	Analysis	6020B		1	451606	NFT2	EET CF	04/14/25 13:41
Total/NA	Analysis	I-3765-85		1	450706	DGU1	EET CF	04/04/25 10:28

Client Sample ID: MW-D

Date Collected: 04/02/25 13:30
Date Received: 04/03/25 16:50

Lab Sample ID: 310-303437-4

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	450677	WSE8	EET CF	04/05/25 05:24
Total/NA	Prep	3005A			450750	Y3EC	EET CF	04/07/25 09:30
Total/NA	Analysis	6020B		1	451166	NFT2	EET CF	04/09/25 18:50

Lab Chronicle

Client: SCS Engineers
Project/Site: 2025 Annual Groundwater Sampling

Job ID: 310-303437-1
SDG: Louisa County Sanitary Landfill

Client Sample ID: MW-D

Lab Sample ID: 310-303437-4

Date Collected: 04/02/25 13:30

Matrix: Ground Water

Date Received: 04/03/25 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			450750	Y3EC	EET CF	04/07/25 09:30
Total/NA	Analysis	6020B		1	451313	NFT2	EET CF	04/10/25 14:02
Total/NA	Prep	3005A			450750	Y3EC	EET CF	04/07/25 09:30
Total/NA	Analysis	6020B		1	451606	NFT2	EET CF	04/14/25 13:49
Total/NA	Analysis	I-3765-85		1	450706	DGU1	EET CF	04/04/25 10:28

Client Sample ID: Trip Blank

Lab Sample ID: 310-303437-5

Date Collected: 04/02/25 00:00

Matrix: Water

Date Received: 04/03/25 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	450677	WSE8	EET CF	04/04/25 23:58

Laboratory References:

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

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-303437-1
Project/Site: 2025 Annual Groundwater Sampling
SDG: Louisa County Sanitary Landfill

Laboratory: Eurofins Cedar Falls

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

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

Method Summary

Client: SCS Engineers
Project/Site: 2025 Annual Groundwater Sampling

Job ID: 310-303437-1
SDG: Louisa County Sanitary Landfill

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
5030B	Purge and Trap	SW846	EET CF

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

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310-303437 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY West Des Moine STATE IA Project:

Receipt Information

Date/Time Received: DATE 4/3/25 TIME 1650 Received By: B

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? ↓

all

Temperature Record

Coolant. ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 2 Correction Factor (°C): 0

• **Temp Blank Temperature** – *If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature*

Uncorrected Temp (°C): 1.9 Corrected Temp (°C). 1.9

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE. If yes, contact PM before proceeding If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613-6907
phone 319.277.2401 fax 319.277.2425

TestAmerica Des Moines SC
214

Chain of Custody Record

eurofins

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other

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

Client Contact	Project Manager: Ben Madson	Site Contact: Ben Madson	Date:	COC No
SCS Engineers	Email: bmadson@scsengineers.com	Lab Contact: Samuel Miller	Carrier:	1 of 1 COCs
1690 All-State Court, Suite 100	Cell 515-776-9255			Sampler
West Des Moines, IA 50265	**Analysis Turnaround Time**			**For Lab Use Only:**
515-631-6160	☐ CALENDAR DAYS ☐ WORKING DAYS			Walk-in Client:
	Other:			Lab Sampling
Project Name 2025 Annual Groundwater Sampling	☐ 2 weeks			
Site Louisa County Sanitary Landfill	☐ 1 week			Job / SDG No
P O # 27223216 25	☐ 2 days			
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Appendix I VOCs	Reduced Metals List*	TSS	Trip Blank	Sample Specific Notes
MW-14	4-2-25	12:30	G	GW				X	X	X		Reduced Metals List: Arsenic, Barium, Cadmium, Cobalt, Lead, Nickel, Selenium, and Zinc.
MW-18	4-2-25	2:35	G	GW					X	X		
MW-19	4-2-25	1:30	G	GW				X	X	X		
MW-D	4-2-25	1:30	G	GW				X	X	X		
Trip Blank											X	Include trip blanks in every cooler containing VOC sample containers

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☐Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:
***Reduced Metals List:** Arsenic, Barium, Cadmium, Cobalt, Lead, Nickel, Selenium, and Zinc.

Custody Seals Intact. ☐ Yes ☐ No	Custody Seal No .		Cooler Temp (°C) Obs'd _____ Corr'd _____ Therm ID No _____		
Relinquished by: Garrett Horan	Company: SCS	Date/Time: 4-3 9:30	Received by:	Company:	Date/Time
Relinquished by:	Company:	Date/Time	Received by:	Company:	Date/Time
Relinquished by	Company:	Date/Time	Received in Laboratory by:	Company:	Date/Time: 4/3/25 1600

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-303437-1
SDG Number: Louisa County Sanitary Landfill

Login Number: 303437
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls

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

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

ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

Louisa 2026 Annual HMSP

JOB NUMBER

310-337749-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

my EOL

Job Notes

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

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

Authorization



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

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Job Narrative
310-337749-1

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 7/31/2026 3:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.1°C.

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

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

Sample Summary

Client: SCS Engineers
Project/Site: Louisa 2026 Annual HMSP

Job ID: 310-337749-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
310-337749-1	MW-13	Ground Water	07/30/26 11:00	07/31/26 15:40	Iowa
310-337749-2	MW-15	Ground Water	07/30/26 13:46	07/31/26 15:40	Iowa
310-337749-3	MW-D	Ground Water	07/30/26 13:46	07/31/26 15:40	Iowa

Detection Summary

Client: SCS Engineers
Project/Site: Louisa 2026 Annual HMSP

Job ID: 310-337749-1

Client Sample ID: MW-13 — Lab Sample ID: 310-337749-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.000423	J	0.00100	0.000232	mg/L	1		6020B	Total Recoverable
Barium	0.0709		0.00250	0.00139	mg/L	1		6020B	Total Recoverable
Cobalt	0.00250		0.00100	0.000402	mg/L	1		6020B	Total Recoverable
Nickel	0.0138		0.00200	0.000625	mg/L	1		6020B	Total Recoverable
Total Suspended Solids	3.13		1.88	1.05	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-15 — Lab Sample ID: 310-337749-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.101		0.00250	0.00139	mg/L	1		6020B	Total Recoverable
Cobalt	0.000638	J	0.00100	0.000402	mg/L	1		6020B	Total Recoverable
Nickel	0.00826		0.00200	0.000625	mg/L	1		6020B	Total Recoverable
Total Suspended Solids	2.38		1.88	1.05	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-D — Lab Sample ID: 310-337749-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.103		0.00250	0.00139	mg/L	1		6020B	Total Recoverable
Nickel	0.00740		0.00200	0.000625	mg/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client: SCS Engineers
Project/Site: Louisa 2026 Annual HMSP

Job ID: 310-337749-1

Client Sample ID: MW-13
Date Collected: 07/30/26 11:00
Date Received: 07/31/26 15:40

Lab Sample ID: 310-337749-1
Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.000423**	**J**	0.00100	0.000232	mg/L		08/07/26 08:37	08/17/26 13:42	1
Barium	**0.0709**		0.00250	0.00139	mg/L		08/07/26 08:37	08/17/26 13:42	1
Cadmium	<0.000500		0.000500	0.000167	mg/L		08/07/26 08:37	08/12/26 18:13	1
Cobalt	**0.00250**		0.00100	0.000402	mg/L		08/07/26 08:37	08/17/26 13:42	1
Lead	<0.000500		0.000500	0.000186	mg/L		08/07/26 08:37	08/12/26 18:13	1
Nickel	**0.0138**		0.00200	0.000625	mg/L		08/07/26 08:37	08/17/26 13:42	1
Selenium	<0.00250		0.00250	0.000982	mg/L		08/07/26 08:37	08/12/26 18:13	1
Zinc	<0.0200		0.0200	0.00692	mg/L		08/07/26 08:37	08/12/26 18:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**3.13**		1.88	1.05	mg/L			08/03/26 11:05	1

Client Sample Results

Client: SCS Engineers
Project/Site: Louisa 2026 Annual HMSP

Job ID: 310-337749-1

Client Sample ID: MW-15

Date Collected: 07/30/26 13:46
Date Received: 07/31/26 15:40

Lab Sample ID: 310-337749-2

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00100		0.00100	0.000232	mg/L		08/07/26 08:37	08/17/26 13:45	1
Barium	**0.101**		0.00250	0.00139	mg/L		08/07/26 08:37	08/17/26 13:45	1
Cadmium	<0.000500		0.000500	0.000167	mg/L		08/07/26 08:37	08/12/26 18:16	1
Cobalt	**0.000638**	**J**	0.00100	0.000402	mg/L		08/07/26 08:37	08/17/26 13:45	1
Lead	<0.000500		0.000500	0.000186	mg/L		08/07/26 08:37	08/12/26 18:16	1
Nickel	**0.00826**		0.00200	0.000625	mg/L		08/07/26 08:37	08/17/26 13:45	1
Selenium	<0.00250		0.00250	0.000982	mg/L		08/07/26 08:37	08/12/26 18:16	1
Zinc	<0.0200		0.0200	0.00692	mg/L		08/07/26 08:37	08/12/26 18:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**2.38**		1.88	1.05	mg/L			08/03/26 11:05	1

Client: SCS Engineers
Job ID: 310-337749-1
Project/Site: Louisa 2026 Annual HMSP

Client Sample ID: MW-D
Lab Sample ID: 310-337749-3
Date Collected: 07/30/26 13:46
Matrix: Ground Water
Date Received: 07/31/26 15:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00100		0.00100	0.000232	mg/L		08/07/26 08:37	08/17/26 13:48	1
Barium	**0.103**		0.00250	0.00139	mg/L		08/07/26 08:37	08/17/26 13:48	1
Cadmium	<0.000500		0.000500	0.000167	mg/L		08/07/26 08:37	08/12/26 18:19	1
Cobalt	<0.00100		0.00100	0.000402	mg/L		08/07/26 08:37	08/12/26 18:19	1
Lead	<0.000500		0.000500	0.000186	mg/L		08/07/26 08:37	08/12/26 18:19	1
Nickel	**0.00740**		0.00200	0.000625	mg/L		08/07/26 08:37	08/17/26 13:48	1
Selenium	<0.00250		0.00250	0.000982	mg/L		08/07/26 08:37	08/12/26 18:19	1
Zinc	<0.0200		0.0200	0.00692	mg/L		08/07/26 08:37	08/12/26 18:19	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	1.05	mg/L			08/03/26 11:05	1

Qualifiers

Metals

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

Glossary

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

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 500-878523/1-A
Matrix: Water
Analysis Batch: 879234

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 878523

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00100		0.00100	0.000232	mg/L		08/07/26 08:37	08/12/26 17:03	1
Barium	<0.00250		0.00250	0.00139	mg/L		08/07/26 08:37	08/12/26 17:03	1
Cadmium	<0.000500		0.000500	0.000167	mg/L		08/07/26 08:37	08/12/26 17:03	1
Cobalt	<0.00100		0.00100	0.000402	mg/L		08/07/26 08:37	08/12/26 17:03	1
Lead	<0.000500		0.000500	0.000186	mg/L		08/07/26 08:37	08/12/26 17:03	1
Nickel	<0.00200		0.00200	0.000625	mg/L		08/07/26 08:37	08/12/26 17:03	1
Selenium	<0.00250		0.00250	0.000982	mg/L		08/07/26 08:37	08/12/26 17:03	1
Zinc	<0.0200		0.0200	0.00692	mg/L		08/07/26 08:37	08/12/26 17:03	1

Lab Sample ID: LCS 500-878523/2-A
Matrix: Water
Analysis Batch: 879234

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 878523

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.1031		mg/L		103	80 - 120
Barium	0.500	0.5078		mg/L		102	80 - 120
Cadmium	0.0500	0.05251		mg/L		105	80 - 120
Cobalt	0.500	0.5237		mg/L		105	80 - 120
Lead	0.100	0.1012		mg/L		101	80 - 120
Nickel	0.500	0.5057		mg/L		101	80 - 120
Selenium	0.100	0.1026		mg/L		103	80 - 120
Zinc	0.500	0.5162		mg/L		103	80 - 120

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

Lab Sample ID: MB 310-496390/1
Matrix: Water
Analysis Batch: 496390

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	2.80	mg/L			08/03/26 11:05	1

Lab Sample ID: LCS 310-496390/2
Matrix: Water
Analysis Batch: 496390

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	98.00		mg/L		98	82 - 117

QC Association Summary

Client: SCS Engineers
Project/Site: Louisa 2026 Annual HMSP

Job ID: 310-337749-1

Metals

Prep Batch: 878523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-337749-1	MW-13	Total Recoverable	Ground Water	3005A	
310-337749-2	MW-15	Total Recoverable	Ground Water	3005A	
310-337749-3	MW-D	Total Recoverable	Ground Water	3005A	
MB 500-878523/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-878523/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 879234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-337749-1	MW-13	Total Recoverable	Ground Water	6020B	878523
310-337749-2	MW-15	Total Recoverable	Ground Water	6020B	878523
310-337749-3	MW-D	Total Recoverable	Ground Water	6020B	878523
MB 500-878523/1-A	Method Blank	Total Recoverable	Water	6020B	878523
LCS 500-878523/2-A	Lab Control Sample	Total Recoverable	Water	6020B	878523

Analysis Batch: 879734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-337749-1	MW-13	Total Recoverable	Ground Water	6020B	878523
310-337749-2	MW-15	Total Recoverable	Ground Water	6020B	878523
310-337749-3	MW-D	Total Recoverable	Ground Water	6020B	878523

General Chemistry

Analysis Batch: 496390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-337749-1	MW-13	Total/NA	Ground Water	I-3765-85	
310-337749-2	MW-15	Total/NA	Ground Water	I-3765-85	
310-337749-3	MW-D	Total/NA	Ground Water	I-3765-85	
MB 310-496390/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-496390/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Lab Chronicle

Client: SCS Engineers
Project/Site: Louisa 2026 Annual HMSP

Job ID: 310-337749-1

Client Sample ID: MW-13

Date Collected: 07/30/26 11:00
Date Received: 07/31/26 15:40

Lab Sample ID: 310-337749-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			878523	BDE	EET CHI	08/07/26 08:37 - 08/07/26 14:37 [1]
Total Recoverable	Analysis	6020B		1	879234	RN	EET CHI	08/12/26 18:13
Total Recoverable	Prep	3005A			878523	BDE	EET CHI	08/07/26 08:37 - 08/07/26 14:37 [1]
Total Recoverable	Analysis	6020B		1	879734	S1Z	EET CHI	08/17/26 13:42
Total/NA	Analysis	I-3765-85		1	496390	KNJC	EET CF	08/03/26 11:05

Client Sample ID: MW-15

Date Collected: 07/30/26 13:46
Date Received: 07/31/26 15:40

Lab Sample ID: 310-337749-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			878523	BDE	EET CHI	08/07/26 08:37 - 08/07/26 14:37 [1]
Total Recoverable	Analysis	6020B		1	879234	RN	EET CHI	08/12/26 18:16
Total Recoverable	Prep	3005A			878523	BDE	EET CHI	08/07/26 08:37 - 08/07/26 14:37 [1]
Total Recoverable	Analysis	6020B		1	879734	S1Z	EET CHI	08/17/26 13:45
Total/NA	Analysis	I-3765-85		1	496390	KNJC	EET CF	08/03/26 11:05

Client Sample ID: MW-D

Date Collected: 07/30/26 13:46
Date Received: 07/31/26 15:40

Lab Sample ID: 310-337749-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			878523	BDE	EET CHI	08/07/26 08:37 - 08/07/26 14:37 [1]
Total Recoverable	Analysis	6020B		1	879234	RN	EET CHI	08/12/26 18:19
Total Recoverable	Prep	3005A			878523	BDE	EET CHI	08/07/26 08:37 - 08/07/26 14:37 [1]
Total Recoverable	Analysis	6020B		1	879734	S1Z	EET CHI	08/17/26 13:48
Total/NA	Analysis	I-3765-85		1	496390	KNJC	EET CF	08/03/26 11:05

[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
Job ID: 310-337749-1
Project/Site: Louisa 2026 Annual HMSP

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-27

Laboratory: Eurofins Chicago

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	082	05-01-28

Method Summary

Client: SCS Engineers
Job ID: 310-337749-1
Project/Site: Louisa 2026 Annual HMSP

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET CHI
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
3005A	Preparation, Total Recoverable or Dissolved Metals	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

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310-337749 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 7/31/26 | TIME 1810 | Received By: JL

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? ↓

No Trip Blank - on COC

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: RC | Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1.1 | Corrected Temp (°C): 1.1

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp °C:		
Corrected Temp °C:		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls IA 50613-6907
phone 319 277 2401 fax 319.277 2425

Chain of Custody Record

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

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

Client Contact	Project Manager. Nathan Ohrt	Site Contact.	Date	COC No
SCS Engineers	Email nohrt@scsengineers.com	Lab Contact: Sam Miller	Carrier:	___1___ of ___1___ COCs
1690 All-State Court, Suite 100	Cell 319-331-9613			Sampler
West Des Moines, IA 50265	**Analysis Turnaround Time**			**For Lab Use Only:**
515-631-6160	☐ CALENDAR DAYS ☐ WORKING DAYS			Walk-in Client:
	Other:_____			Lab Sampling
Project Name. Louisa 2026 Annual HMSP	☐ 2 weeks			
Site Louisa County Sanitary Landfill	☐ 1 week			Job / SDG No
P O # 27223216 27	☐ 2 days			
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Reduced Metals List*	Total Suspended Solids	Trip Blank	Sample Specific Notes
MW-18	-	-	G	GW				X	X		Reduced Metals List: Arsenic, Barium, Cadmium, Cobalt, Lead, Nickel, Selenium, and Zinc.
MW-13	7-30	1100	G	GW				X	X		
MW-15	7-30	1346	G	GW				X	X		
MW-D	7-30	1346	G	GW				X	X		
Trip Blank										X	Include trip blanks in every cooler containing VOC sample containers.

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:
***Reduced Metals List:** Arsenic, Barium Cadmium Cobalt, Lead Nickel Selenium and Zinc.

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No		Cooler Temp (°C) Obs'd:_____ Corr'd _____	Therm ID No _____	
Relinquished by: Garrett Horais	Company: SCS	Date/Time: 7-31 10a	Received by:	Company: Eurofins	Date/Time: 7-31-26 12:21 pm
Relinquished by:	Company:	Date/Time	Received by	Company:	Date/Time.
Relinquished by:	Company	Date/Time	Received in Laboratory by:	Company:	Date/Time: 1546

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8/17/2026

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Miller Samuel	Carrier Tracking No(s): N/A	COC No: 310-97083.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Samuel.Miller@et.eurofinsus.com	State of Origin: Iowa	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): State Program Iowa		Job #: 310-337749-1
Address: 18410 Crossing Drive, Suite E,	Due Date Requested: 8/11/2026			
City: Tinley Park	TAT Requested (days): N/A			
State, Zip: IL, 60487				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Louisa 2026 Annual HMSP	Project #: 31005089			
Site: N/A	SSOW#: N/A			

310-337749 COC

Analysis Requested

Preservation Codes:

Other: N/A

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020B/3005A Reduced Metals List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-13 (310-337749-1)	7/30/26	11:00 Central	G	Water			X	1	
MW-15 (310-337749-2)	7/30/26	13.46 Central	G	Water			X	1	
MW-D (310-337749-3)	7/30/26	13.46 Central	G	Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time: 8/3/26 1050	Company	Received by:	Date/Time: 8/4/26 1225	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: Unchilled

8/17/2026

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-337749-1

Login Number: 337749

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Hirsch, Preston

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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 <6mm (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: 310-337749-1

Login Number: 337749
List Number: 2
Creator: Scott, Sherri L

List Source: Eurofins Chicago
List Creation: 08/04/26 01:42 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	Unchilled
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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 8/28/2026 10:42:38 AM

JOB DESCRIPTION

Louisa 2026 Annual HMSP

JOB NUMBER

310-338736-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

my EOL

Job Notes

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

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

Authorization



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

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Job ID: 310-338736-1 — Eurofins Cedar Falls

Job Narrative
310-338736-1

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 sample was received on 8/14/2026 4:15 PM. 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 2.8°C.

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

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

Sample Summary

Client: SCS Engineers
Project/Site: Louisa 2026 Annual HMSP

Job ID: 310-338736-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
310-338736-1	MW-18	Ground Water	08/12/26 20:39	08/14/26 16:15	Iowa

Detection Summary

Client: SCS Engineers
Project/Site: Louisa 2026 Annual HMSP

Job ID: 310-338736-1

Client Sample ID: MW-18

Lab Sample ID: 310-338736-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.000271	J	0.00100	0.000232	mg/L	1		6020B	Total Recoverable
Barium	0.0309		0.00250	0.00139	mg/L	1		6020B	Total Recoverable
Cobalt	0.00239		0.00100	0.000402	mg/L	1		6020B	Total Recoverable
Nickel	0.00348		0.00200	0.000625	mg/L	1		6020B	Total Recoverable
Total Suspended Solids	6.50		1.88	1.05	mg/L	1		I-3765-85	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: SCS Engineers
Project/Site: Louisa 2026 Annual HMSP

Job ID: 310-338736-1

Client Sample ID: MW-18

Date Collected: 08/12/26 20:39
Date Received: 08/14/26 16:15

Lab Sample ID: 310-338736-1

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.000271**	**J**	0.00100	0.000232	mg/L		08/24/26 08:39	08/27/26 22:05	1
Barium	**0.0309**		0.00250	0.00139	mg/L		08/24/26 08:39	08/27/26 22:05	1
Cadmium	<0.000500		0.000500	0.000167	mg/L		08/24/26 08:39	08/27/26 22:05	1
Cobalt	**0.00239**		0.00100	0.000402	mg/L		08/24/26 08:39	08/27/26 22:05	1
Lead	<0.000500		0.000500	0.000186	mg/L		08/24/26 08:39	08/27/26 22:05	1
Nickel	**0.00348**		0.00200	0.000625	mg/L		08/24/26 08:39	08/27/26 22:05	1
Selenium	<0.00250		0.00250	0.000982	mg/L		08/24/26 08:39	08/27/26 22:05	1
Zinc	<0.0200		0.0200	0.00692	mg/L		08/24/26 08:39	08/27/26 22:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**6.50**		1.88	1.05	mg/L			08/17/26 10:14	1

Qualifiers

Metals

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

Glossary

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

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 500-880568/1-A
Matrix: Water
Analysis Batch: 881340

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 880568

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00100		0.00100	0.000232	mg/L		08/24/26 08:39	08/27/26 20:22	1
Barium	<0.00250		0.00250	0.00139	mg/L		08/24/26 08:39	08/27/26 20:22	1
Cadmium	<0.000500		0.000500	0.000167	mg/L		08/24/26 08:39	08/27/26 20:22	1
Cobalt	<0.00100		0.00100	0.000402	mg/L		08/24/26 08:39	08/27/26 20:22	1
Lead	<0.000500		0.000500	0.000186	mg/L		08/24/26 08:39	08/27/26 20:22	1
Nickel	<0.00200		0.00200	0.000625	mg/L		08/24/26 08:39	08/27/26 20:22	1
Selenium	<0.00250		0.00250	0.000982	mg/L		08/24/26 08:39	08/27/26 20:22	1
Zinc	<0.0200		0.0200	0.00692	mg/L		08/24/26 08:39	08/27/26 20:22	1

Lab Sample ID: LCS 500-880568/2-A
Matrix: Water
Analysis Batch: 881340

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 880568

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.1039		mg/L		104	80 - 120
Barium	0.500	0.5145		mg/L		103	80 - 120
Cadmium	0.0500	0.05303		mg/L		106	80 - 120
Cobalt	0.500	0.5421		mg/L		108	80 - 120
Lead	0.100	0.1042		mg/L		104	80 - 120
Nickel	0.500	0.5193		mg/L		104	80 - 120
Selenium	0.100	0.1013		mg/L		101	80 - 120
Zinc	0.500	0.5189		mg/L		104	80 - 120

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

Lab Sample ID: MB 310-497676/1
Matrix: Water
Analysis Batch: 497676

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	2.80	mg/L			08/17/26 10:14	1

Lab Sample ID: LCS 310-497676/2
Matrix: Water
Analysis Batch: 497676

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	93.00		mg/L		93	82 - 117

QC Association Summary

Client: SCS Engineers
Project/Site: Louisa 2026 Annual HMSP

Job ID: 310-338736-1

Metals

Prep Batch: 880568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-338736-1	MW-18	Total Recoverable	Ground Water	3005A	
MB 500-880568/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-880568/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 881340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-338736-1	MW-18	Total Recoverable	Ground Water	6020B	880568
MB 500-880568/1-A	Method Blank	Total Recoverable	Water	6020B	880568
LCS 500-880568/2-A	Lab Control Sample	Total Recoverable	Water	6020B	880568

General Chemistry

Analysis Batch: 497676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-338736-1	MW-18	Total/NA	Ground Water	I-3765-85	
MB 310-497676/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-497676/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Lab Chronicle

Client: SCS Engineers
Project/Site: Louisa 2026 Annual HMSP

Job ID: 310-338736-1

Client Sample ID: MW-18

Date Collected: 08/12/26 20:39
Date Received: 08/14/26 16:15

Lab Sample ID: 310-338736-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			880568	BDE	EET CHI	08/24/26 08:39 - 08/24/26 14:39 [1]
Total Recoverable	Analysis	6020B		1	881340	RN	EET CHI	08/27/26 22:05
Total/NA	Analysis	I-3765-85		1	497676	HE7K	EET CF	08/17/26 10:14

[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
Job ID: 310-338736-1
Project/Site: Louisa 2026 Annual HMSP

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-27

Laboratory: Eurofins Chicago

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	082	05-01-28

Method Summary

Client: SCS Engineers
Job ID: 310-338736-1
Project/Site: Louisa 2026 Annual HMSP

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET CHI
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CHI

Protocol References:

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

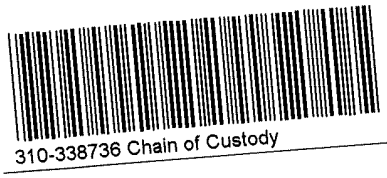
USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

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

eurofins | Environment Testing



Cooler/Sample Receipt and Temperature

Client Information			
Client: SCS			
City/State: CITY		STATE	Project:
Receipt Information			
Date/Time Received: DATE 8/14/26		TIME 1615	Received By:

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: EF	Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 2.8	Corrected Temp (°C): 2.8

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp °C:		
Corrected Temp °C:		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls IA 50613-6907
phone 319 277 2401 fax 319 277 2425

Chain of Custody Record

eurofins Environment Testing America

Regulatory Program: ☐ DW ☐ NPDES ☑ RCRA ☐ Other:

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

Client Contact	Project Manager: Nathan Ohrt	Site Contact:	Date	COC No
SCS Engineers	Email nohrt@scsengineers.com	Lab Contact: Sam Miller	Carrier:	1 of 1 COCs
1690 All-State Court Suite 100	Cell 319-331-9613			Sampler:
West Des Moines, IA 50265	**Analysis Turnaround Time**			For Lab Use Only:
515-631-6160	☐ CALENDAR DAYS ☐ WORKING DAYS			Walk-in Client:
	Other:			Lab Sampling
Project Name Louisa 2026 Annual HMSP	☐ 2 weeks			
Site Louisa County Sanitary Landfill	☐ 1 week			Job / SDG No
P O # 27223216.27	☐ 2 days ☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Reduced Metals List*	Total Suspended Solids	Trip Blank	Sample Specific Notes
MW-18	5-12	2039	G	GW				X	X		Reduced Metals List: Arsenic, Barium Cadmium Cobalt, Lead Nickel Selenium and Zinc.
[redacted]											NO Sample, retest of MW-18 only
[redacted]											
[redacted]											
Trip Blank										X	Include trip blanks in every cooler containing VOC sample containers.

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

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

Special Instructions/QC Requirements & Comments.
***Reduced Metals List:** Arsenic, Barium Cadmium Cobalt, Lead Nickel Selenium and Zinc.

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No	Cooler Temp (°C) Obs'd _____ Corr'd _____	Therm ID No _____

Relinquished by Garrett Horak	Company: SCS	Date/Time: 5-14 900	Received by	Company:	Date/Time
Relinquished by:	Company:	Date/Time	Received by	Company:	Date/Time
Relinquished by:	Company:	Date/Time	Received in Laboratory by:	Company:	Date/Time: 5/14/19 1613

:019

8/28/2026

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

Chain of Custody Record

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Miller Samuel	Carrier Tracking No(s): N/A	COC No: 310-97564 1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Samuel.Miller@et.eurofinsus com	State of Origin: Iowa	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): State Program Iowa		Job #: 310-338736-1
Address: 18410 Crossing Drive, Suite E,	Due Date Requested: 8/26/2026			Preservation Codes:
City: Tinley Park	TAT Requested (days): N/A			
State, Zip: IL, 60487				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Louisa 2026 Annual HMSP	Project #: 31005089			
Site: N/A	SSOW#: N/A			Other: N/A

Analysis Requested

310-338736 COC

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020B/3005A Reduced Metals List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-18 (310-338736-1)	8/12/26	20:39 Central	G	Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I II III IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		8/26 1245			08/18/26 1305	EETA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks.

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-338736-1

Login Number: 338736

List Number: 1

Creator: Schaufenbuel, Erin

List Source: Eurofins Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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 <6mm (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: 310-338736-1

Login Number: 338736
List Number: 2
Creator: Schmidt, Kara

List Source: Eurofins Chicago
List Creation: 08/18/26 04:55 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	Unchilled
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 <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX B-2 | DATA VALIDATION DOCUMENTATION

Completed by: Nathan Ohrt
Date of Sampling: 4/2/2025
Lab Report Date: 4/15/2025
Site Name: Louisa County Sanitary Landfill
Project Type: HMSP - Annual
Lab Report Number: 310-303437

	OK	NO	N/A	NOTES
Sample Collection and Sample Handling				
Chain of Custody	X			
Temperature	X			
Preservation	X			
Condition	X			
Case Narrative	X			
Holding Times	X			
Analytical Sensitivity and Blanks				
Method Blank Detections	X			No detections.
Trip Blank Detections	X			No detections.
Accuracy				
ICV/CCV		X		The continuing calibration verification (CCV) recovered outside of the control limits for Dichlorodifluoromethane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable; the associated samples were non-detect so the data was reported.
LCS/LCSD	X			
MS/MSD	X			
Surrogates (organics only)	X			
Precision				
QA/QC Sample RPDs	X			
Field Duplicates	X			Sample MW-19 and duplicate sample MW-D had less than 50% RPD for analyzed parameters except for cadmium (104%).

Completed by: Nathan Ohrt
Date of Sampling: 7/30/2026
Lab Report Date: 8/17/2026
Site Name: Louisa County Sanitary Landfill
Project Type: HMSP - Annual
Lab Report Number: 310-337749

	OK	NO	N/A	NOTES
Sample Collection and Sample Handling				
Chain of Custody	X			
Temperature	X			
Preservation	X			
Condition	X			
Case Narrative	X			
Holding Times	X			
Analytical Sensitivity and Blanks				
Method Blank Detections	X			No detections.
Trip Blank Detections			X	
Accuracy				
ICV/CCV	X			
LCS/LCSD	X			
MS/MSD	X			
Surrogates (organics only)	X			
Precision				
QA/QC Sample RPDs	X			
Field Duplicates	X			Sample MW-15 and duplicate sample MW-D had less than 50% RPD for analyzed parameters.

Completed by: Nathan Ohrt
Date of Sampling: 8/12/2026
Lab Report Date: 8/28/2026
Site Name: Louisa County Sanitary Landfill
Project Type: HMSP - Annual
Lab Report Number: 310-338736

	OK	NO	N/A	NOTES
Sample Collection and Sample Handling				
Chain of Custody	X			
Temperature	X			
Preservation	X			
Condition	X			
Case Narrative	X			
Holding Times	X			
Analytical Sensitivity and Blanks				
Method Blank Detections	X			No detections.
Trip Blank Detections			X	
Accuracy				
ICV/CCV	X			
LCS/LCSD	X			
MS/MSD	X			
Surrogates (organics only)	X			
Precision				
QA/QC Sample RPDs	X			
Field Duplicates			X	

APPENDIX C | REPORTING PERIOD SUMMARY OF GROUNDWATER CHEMISTRY

SCS ENGINEERS

Summary of Groundwater Chemistry

Louisa County Sanitary Landfill (Closed) - 58-SDP-01-74C

Total Metals Constituents	Sample Date	MW-18 UPG	MW-13 DNG	MW-14 DNG	MW-15 DNG	MW-19 DNG	SW-2 DNG
Arsenic, mg/L (CAS NO - 7440-38-2)	4/2/2025	< 0.002	N/A	< 0.002	N/A	< 0.002	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 0.002	N/A
	7/30/2026	N/A	0.000423*	N/A	< 0.001	N/A	N/A
	7/30/2026	N/A	N/A	N/A	< 0.001	N/A	N/A
	8/12/2026	0.000271*	N/A	N/A	N/A	N/A	N/A
Barium, mg/L (CAS NO - 7440-39-3)	4/2/2025	**0.0252**	N/A	**0.037**	N/A	**0.019**	N/A
	4/2/2025	N/A	N/A	N/A	N/A	**0.0178**	N/A
	7/30/2026	N/A	**0.0709**	N/A	**0.101**	N/A	N/A
	7/30/2026	N/A	N/A	N/A	**0.103**	N/A	N/A
	8/12/2026	**0.0309**	N/A	N/A	N/A	N/A	N/A
Cadmium, mg/L (CAS NO - 7440-43-9)	4/2/2025	< 0.0002	N/A	**0.000413**	N/A	**0.000702**	N/A
	4/2/2025	N/A	N/A	N/A	N/A	**0.000221**	N/A
	7/30/2026	N/A	< 0.0005	N/A	< 0.0005	N/A	N/A
	7/30/2026	N/A	N/A	N/A	< 0.0005	N/A	N/A
	8/12/2026	< 0.0005	N/A	N/A	N/A	N/A	N/A
Cobalt, mg/L (CAS NO - 7440-48-4)	4/2/2025	**0.000539**	N/A	**0.0006**	N/A	**0.000939**	N/A
	4/2/2025	N/A	N/A	N/A	N/A	**0.000993**	N/A
	7/30/2026	N/A	**0.0025**	N/A	< 0.001	N/A	N/A
	7/30/2026	N/A	N/A	N/A	0.000638*	N/A	N/A
	8/12/2026	**0.00239**	N/A	N/A	N/A	N/A	N/A
Lead, mg/L (CAS NO - 7439-92-1)	4/2/2025	0.00039*	N/A	**0.00052**	N/A	**0.000847**	N/A
	4/2/2025	N/A	N/A	N/A	N/A	0.000423*	N/A
	7/30/2026	N/A	< 0.0005	N/A	< 0.0005	N/A	N/A
	7/30/2026	N/A	N/A	N/A	< 0.0005	N/A	N/A
	8/12/2026	< 0.0005	N/A	N/A	N/A	N/A	N/A
Nickel, mg/L (CAS NO - 7440-02-0)	4/2/2025	< 0.005	N/A	**0.00643**	N/A	0.00369*	N/A
	4/2/2025	N/A	N/A	N/A	N/A	0.00306*	N/A
	7/30/2026	N/A	**0.0138**	N/A	**0.0074**	N/A	N/A
	7/30/2026	N/A	N/A	N/A	**0.00826**	N/A	N/A
	8/12/2026	**0.00348**	N/A	N/A	N/A	N/A	N/A
Selenium, mg/L (CAS NO - 7782-49-2)	4/2/2025	< 0.005	N/A	< 0.005	N/A	< 0.005	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 0.005	N/A
	7/30/2026	N/A	< 0.0025	N/A	< 0.0025	N/A	N/A
	7/30/2026	N/A	N/A	N/A	< 0.0025	N/A	N/A
	8/12/2026	< 0.0025	N/A	N/A	N/A	N/A	N/A
Zinc, mg/L (CAS NO - 7440-66-6)	4/2/2025	< 0.02	N/A	< 0.02	N/A	< 0.02	N/A
	4/2/2025	N/A	N/A	N/A	N/A	0.0136*	N/A
	7/30/2026	N/A	< 0.02	N/A	< 0.02	N/A	N/A
	7/30/2026	N/A	N/A	N/A	< 0.02	N/A	N/A
	8/12/2026	< 0.02	N/A	N/A	N/A	N/A	N/A
Total Suspended Solids, mg/L (CAS NO - TSS)	4/2/2025	**3.38**	N/A	**12.1**	N/A	**2.75**	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1.88	N/A
	7/30/2026	N/A	**3.13**	N/A	**2.38**	N/A	N/A
	7/30/2026	N/A	N/A	N/A	< 1.88	N/A	N/A
	8/12/2026	**6.5**	N/A	N/A	N/A	N/A	N/A

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

Denotes Detection.
Denotes Confirmed Outlier. Statistically Excluded.

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

SCS ENGINEERS

Summary of Groundwater Chemistry

Louisa County Sanitary Landfill (Closed) - 58-SDP-01-74C

Appendix I VOC Constituents	Sample Date	MW-18 UPG	MW-13 DNG	MW-14 DNG	MW-15 DNG	MW-19 DNG	SW-2 DNG
1,1,1,2-Tetrachloroethane, ug/L (CAS NO - 630-20-6)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
1,1,1-Trichloroethane, ug/L (CAS NO - 71-55-6)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
1,1,2,2-Tetrachloroethane, ug/L (CAS NO - 79-34-5)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
1,1,2-Trichloroethane, ug/L (CAS NO - 79-00-5)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
1,1-Dichloroethane, ug/L (CAS NO - 75-34-3)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
1,1-Dichloroethene, ug/L (CAS NO - 75-35-4)	4/2/2025	N/A	N/A	< 2	N/A	< 2	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 2	N/A
1,2,3-Trichloropropane, ug/L (CAS NO - 96-18-4)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
1,2-Dibromo-3-Chloropropane, ug/L (CAS NO - 96-12-8)	4/2/2025	N/A	N/A	< 1.2	N/A	< 1.2	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1.2	N/A
1,2-Dibromoethane [EDB], ug/L (CAS NO - 106-93-4)	4/2/2025	N/A	N/A	< 0.34	N/A	< 0.34	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 0.34	N/A
1,2-Dichlorobenzene, ug/L (CAS NO - 95-50-1)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
1,2-Dichloroethane, ug/L (CAS NO - 107-06-2)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
1,2-Dichloropropane, ug/L (CAS NO - 78-87-5)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
1,4-Dichlorobenzene, ug/L (CAS NO - 106-46-7)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
2-Butanone, ug/L (CAS NO - 78-93-3)	4/2/2025	N/A	N/A	< 10	N/A	< 10	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 10	N/A
2-Hexanone, ug/L (CAS NO - 591-78-6)	4/2/2025	N/A	N/A	< 10	N/A	< 10	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 10	N/A
4-Methyl-2-Pentanone, ug/L (CAS NO - 108-10-1)	4/2/2025	N/A	N/A	< 10	N/A	< 10	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 10	N/A
Acetone, ug/L (CAS NO - 67-64-1)	4/2/2025	N/A	N/A	< 10	N/A	< 10	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 10	N/A
Acrylonitrile, ug/L (CAS NO - 107-13-1)	4/2/2025	N/A	N/A	< 10	N/A	< 10	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 10	N/A
Benzene, ug/L (CAS NO - 71-43-2)	4/2/2025	N/A	N/A	< 0.5	N/A	< 0.5	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 0.5	N/A
Bromochloromethane, ug/L (CAS NO - 74-97-5)	4/2/2025	N/A	N/A	< 5	N/A	< 5	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 5	N/A
Bromodichloromethane, ug/L (CAS NO - 75-27-4)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
Bromoform, ug/L (CAS NO - 75-25-2)	4/2/2025	N/A	N/A	< 5	N/A	< 5	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 5	N/A
Bromomethane, ug/L (CAS NO - 74-83-9)	4/2/2025	N/A	N/A	< 4	N/A	< 4	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 4	N/A
Carbon Disulfide, ug/L (CAS NO - 75-15-0)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
Carbon Tetrachloride, ug/L (CAS NO - 56-23-5)	4/2/2025	N/A	N/A	< 2	N/A	< 2	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 2	N/A
Chlorobenzene, ug/L (CAS NO - 108-90-7)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
Chlorodibromomethane, ug/L (CAS NO - 124-48-1)	4/2/2025	N/A	N/A	< 5	N/A	< 5	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 5	N/A
Chloroethane, ug/L (CAS NO - 75-00-3)	4/2/2025	N/A	N/A	< 4	N/A	< 4	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 4	N/A
Chloroform, ug/L (CAS NO - 67-66-3)	4/2/2025	N/A	N/A	< 3	N/A	< 3	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 3	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry

Louisa County Sanitary Landfill (Closed) - 58-SDP-01-74C

Appendix I VOC Constituents	Sample Date	MW-18 UPG	MW-13 DNG	MW-14 DNG	MW-15 DNG	MW-19 DNG	SW-2 DNG
Chloromethane, ug/L (CAS NO - 74-87-3)	4/2/2025	N/A	N/A	< 3	N/A	< 3	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 3	N/A
cis-1,2-Dichloroethene, ug/L (CAS NO - 156-59-2)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
cis-1,3-Dichloropropene, ug/L (CAS NO - 10061-01-5)	4/2/2025	N/A	N/A	< 5	N/A	< 5	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 5	N/A
Ethylbenzene, ug/L (CAS NO - 100-41-4)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
Iodomethane, ug/L (CAS NO - 74-88-4)	4/2/2025	N/A	N/A	< 10	N/A	< 10	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 10	N/A
Methylene Bromide, ug/L (CAS NO - 74-95-3)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
Methylene Chloride, ug/L (CAS NO - 75-09-2)	4/2/2025	N/A	N/A	< 5	N/A	< 5	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 5	N/A
Styrene, ug/L (CAS NO - 100-42-5)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
Tetrachloroethene, ug/L (CAS NO - 127-18-4)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
Toluene, ug/L (CAS NO - 108-88-3)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
trans-1,2-Dichloroethene, ug/L (CAS NO - 156-60-5)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
trans-1,3-Dichloropropene, ug/L (CAS NO - 10061-02-6)	4/2/2025	N/A	N/A	< 5	N/A	< 5	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 5	N/A
trans-1,4-Dichloro-2-Butene, ug/L (CAS NO - 110-57-6)	4/2/2025	N/A	N/A	< 10	N/A	< 10	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 10	N/A
Trichloroethene, ug/L (CAS NO - 79-01-6)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
Trichlorofluoromethane, ug/L (CAS NO - 75-69-4)	4/2/2025	N/A	N/A	1.56*	N/A	< 4	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 4	N/A
Vinyl Acetate, ug/L (CAS NO - 108-05-4)	4/2/2025	N/A	N/A	< 10	N/A	< 10	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 10	N/A
Vinyl Chloride, ug/L (CAS NO - 75-01-4)	4/2/2025	N/A	N/A	< 1	N/A	< 1	N/A
	4/2/2025	N/A	N/A	N/A	N/A	< 1	N/A
Xylenes, total, ug/L (CAS NO - 1330-20-7)	4/2/2025	N/A	N/A	< 3	N/A	< 3	N/A
	4/2/2025	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.

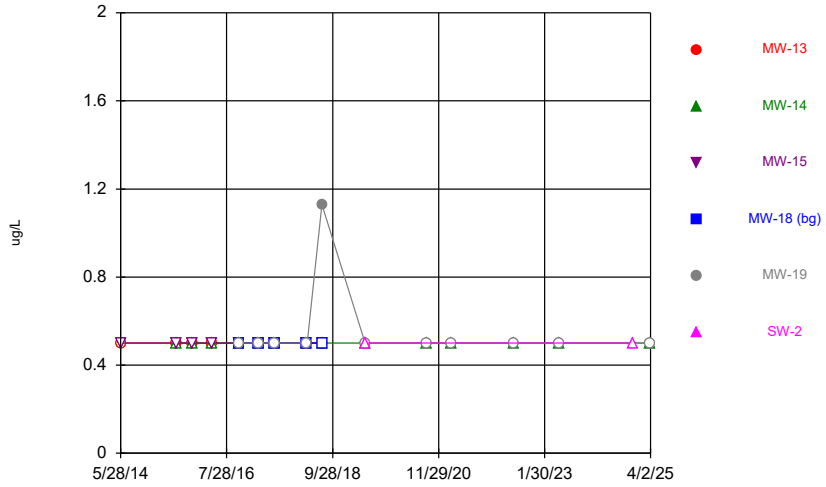
Denotes Detection.
Denotes Confirmed Outlier. Statistically Excluded.

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

APPENDIX D | STATISTICAL OUTPUT

Sanitas™ v.10.1.08 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

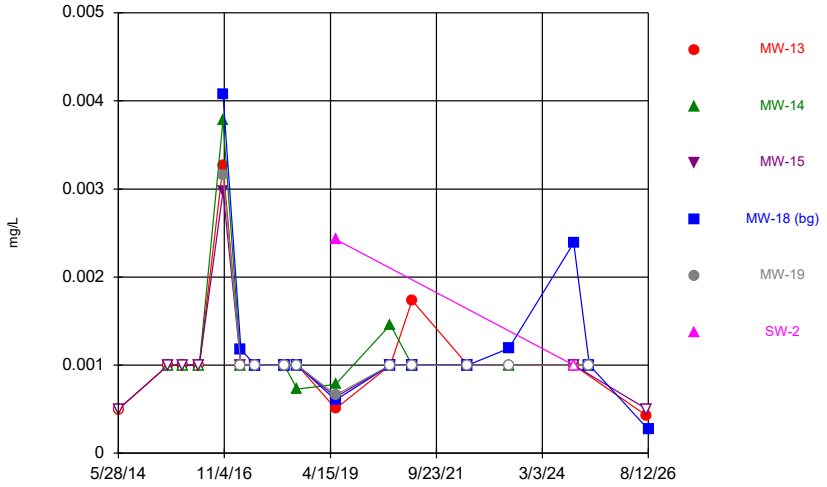
Time Series



Constituent: 1,2-Dichloroethane Analysis Run 9/28/2026 11:12 AM View: 2026 WQR-TimeSeries
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW Sanitas

Sanitas™ v.10.1.08 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

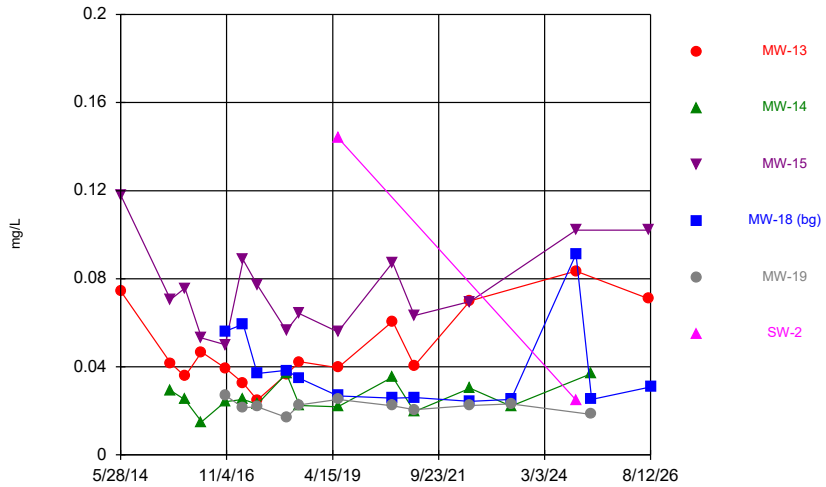
Time Series



Constituent: Arsenic Analysis Run 9/28/2026 11:12 AM View: 2026 WQR-TimeSeries
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW Sanitas

Sanitas™ v.10.1.08 Software licensed to SCS Engineers. UG

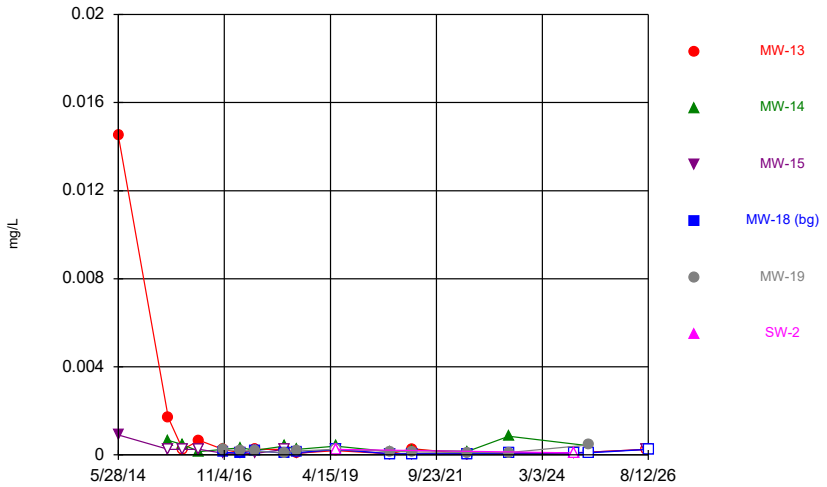
Time Series



Constituent: Barium Analysis Run 9/28/2026 11:12 AM View: 2026 WQR-TimeSeries
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW Sanitas

Sanitas™ v.10.1.08 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

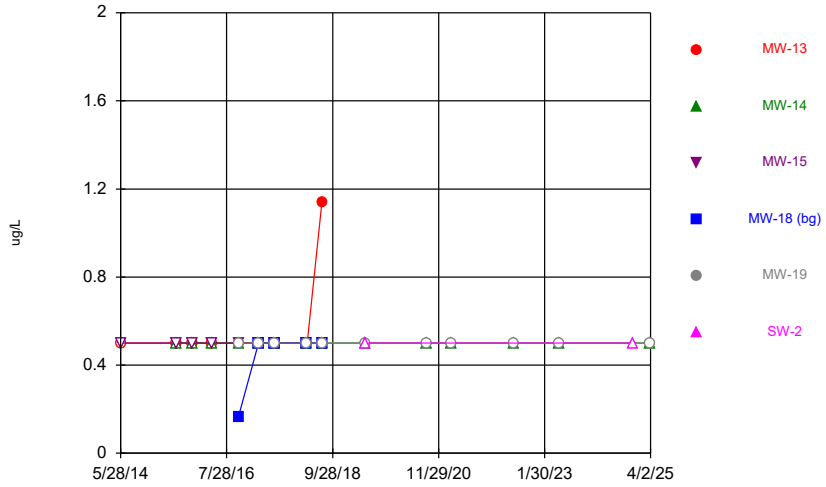
Time Series



Constituent: Cadmium Analysis Run 9/28/2026 11:12 AM View: 2026 WQR-TimeSeries
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW Sanitas

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Hollow symbols indicate censored values.

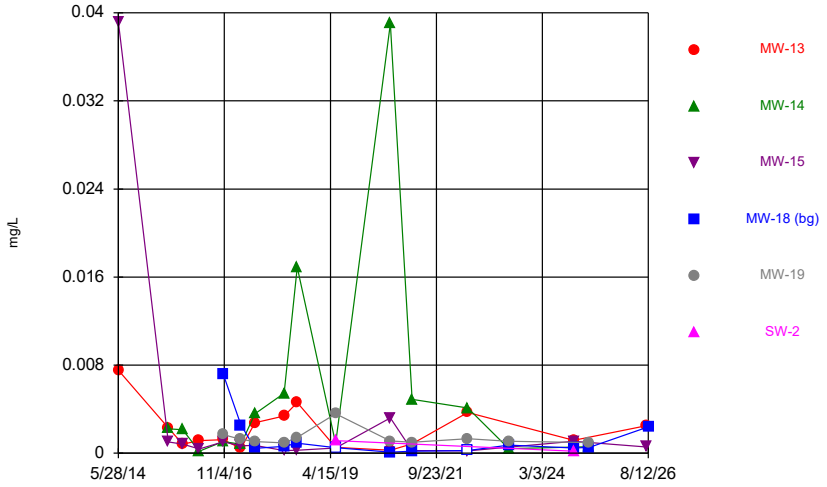
Time Series



Constituent: Carbon Disulfide Analysis Run 9/28/2026 11:12 AM View: 2026 WQR-TimeSeries
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW Sanitas

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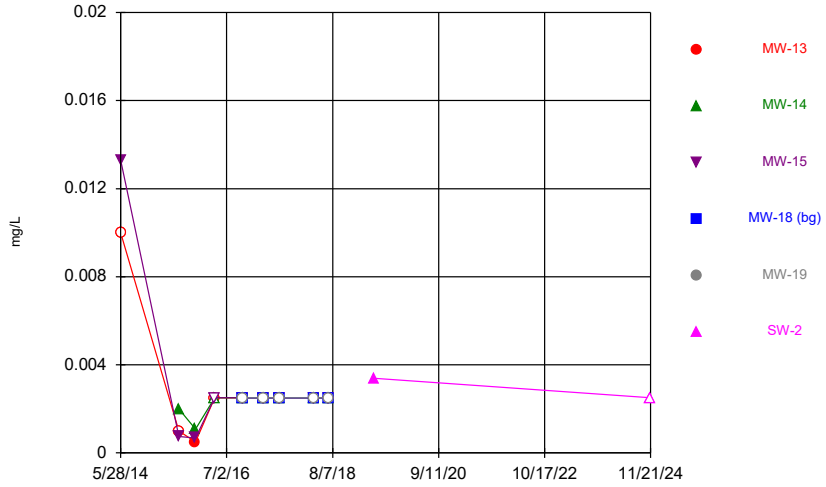
Time Series



Constituent: Cobalt Analysis Run 9/28/2026 11:12 AM View: 2026 WQR-TimeSeries
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW Sanitas

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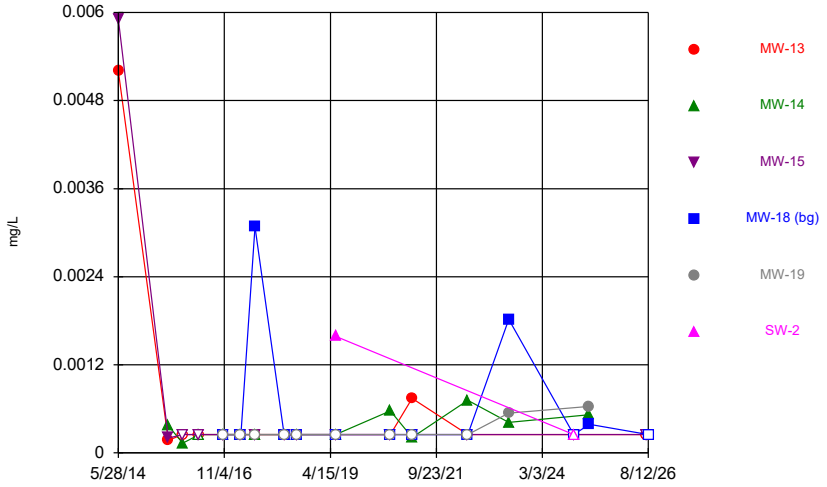
Time Series



Constituent: Copper Analysis Run 9/28/2026 11:12 AM View: 2026 WQR-TimeSeries
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW Sanitas

Sanitas™ v.10.1.08 Software licensed to SCS Engineers. UG
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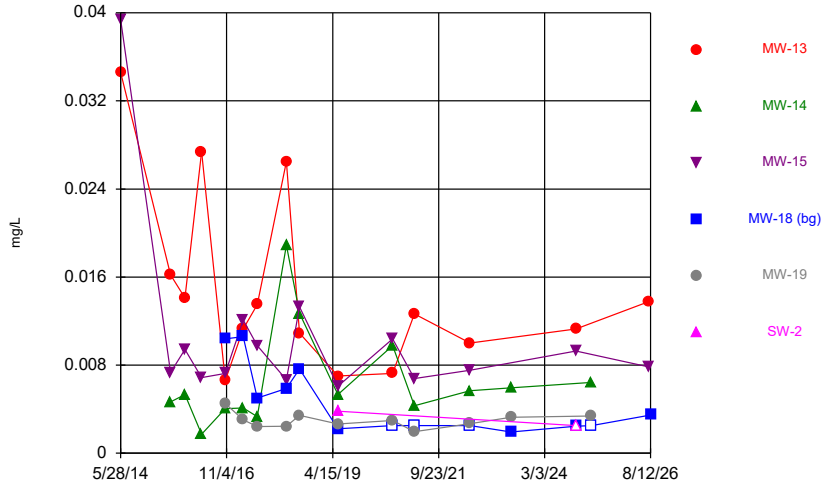
Time Series



Constituent: Lead Analysis Run 9/28/2026 11:12 AM View: 2026 WQR-TimeSeries
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW Sanitas

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Hollow symbols indicate censored values.

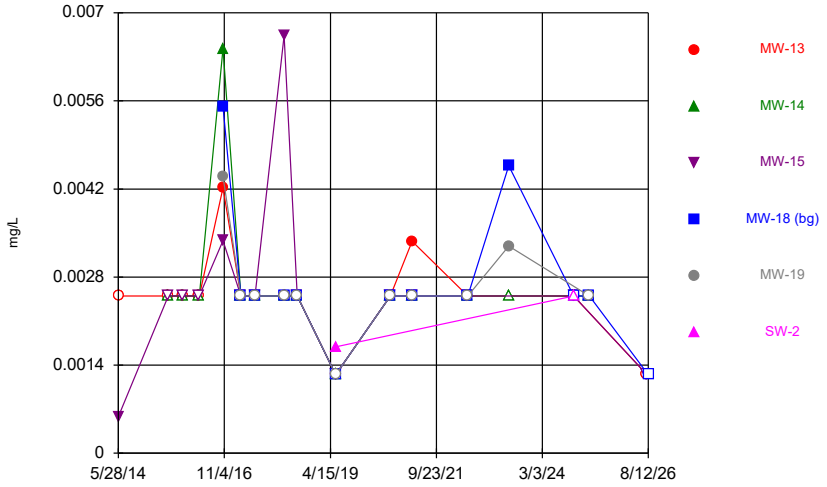
Time Series



Constituent: Nickel Analysis Run 9/28/2026 11:13 AM View: 2026 WQR-TimeSeries
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW Sanitas

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Hollow symbols indicate censored values.

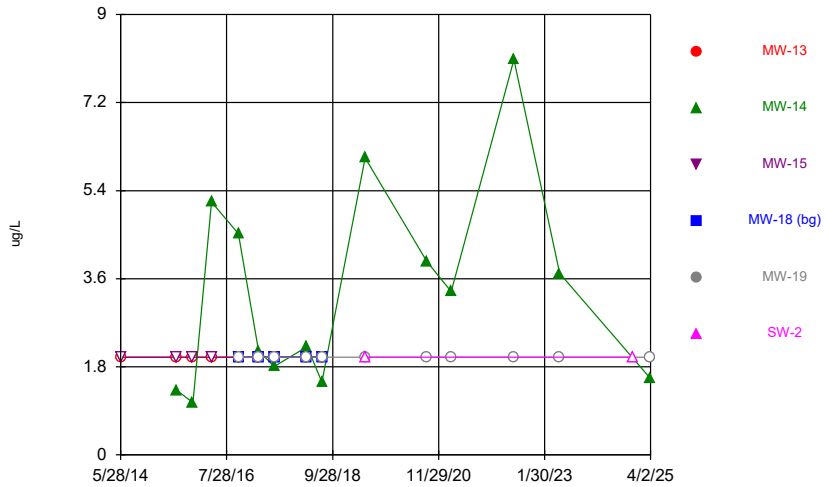
Time Series



Constituent: Selenium Analysis Run 9/28/2026 11:13 AM View: 2026 WQR-TimeSeries
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW Sanitas

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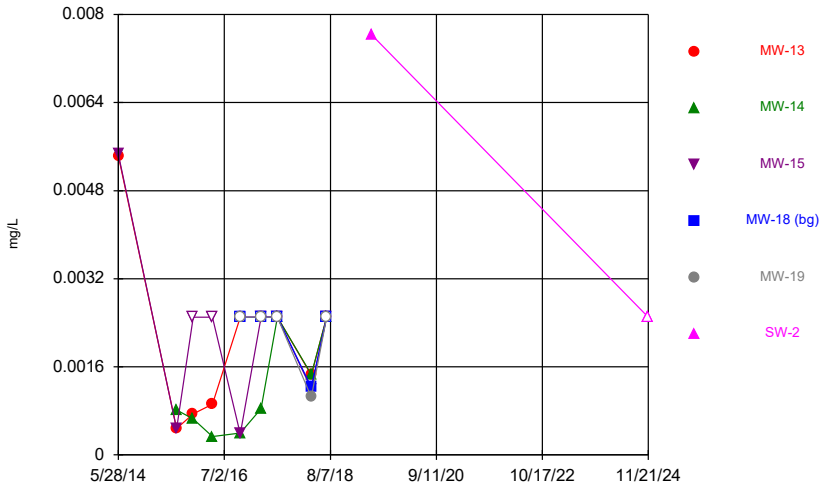
Time Series



Constituent: Trichlorofluoromethane Analysis Run 9/28/2026 11:13 AM View: 2026 WQR-TimeSeries
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW Sanitas

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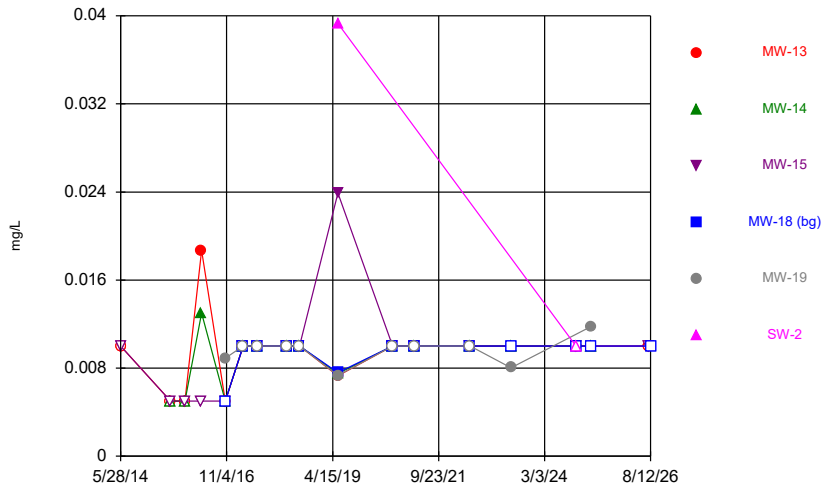
Time Series



Constituent: Vanadium Analysis Run 9/28/2026 11:13 AM View: 2026 WQR-TimeSeries
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW Sanitas

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Hollow symbols indicate censored values.

Time Series



Constituent: Zinc Analysis Run 9/28/2026 11:13 AM View: 2026 WQR-TimeSeries

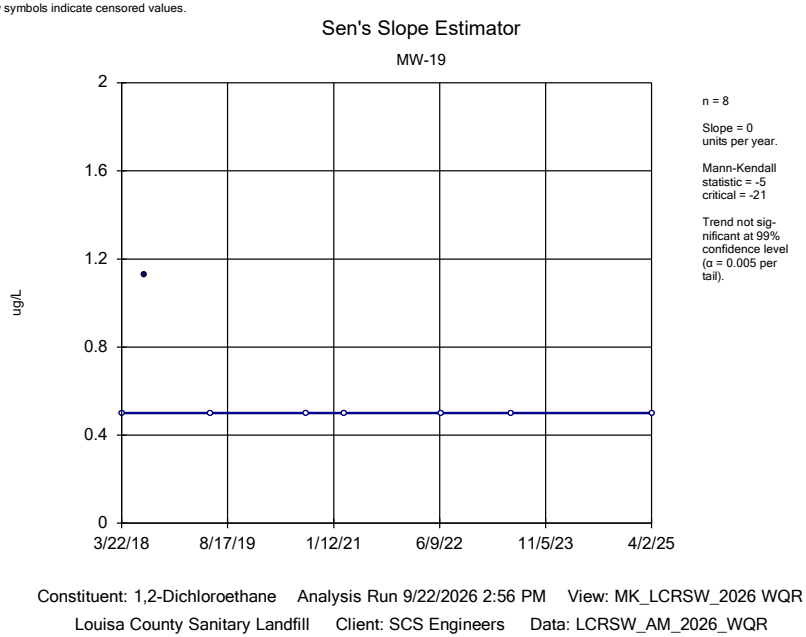
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW Sanitas

Trend Test

Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR Printed 9/22/2026, 2:58 PM

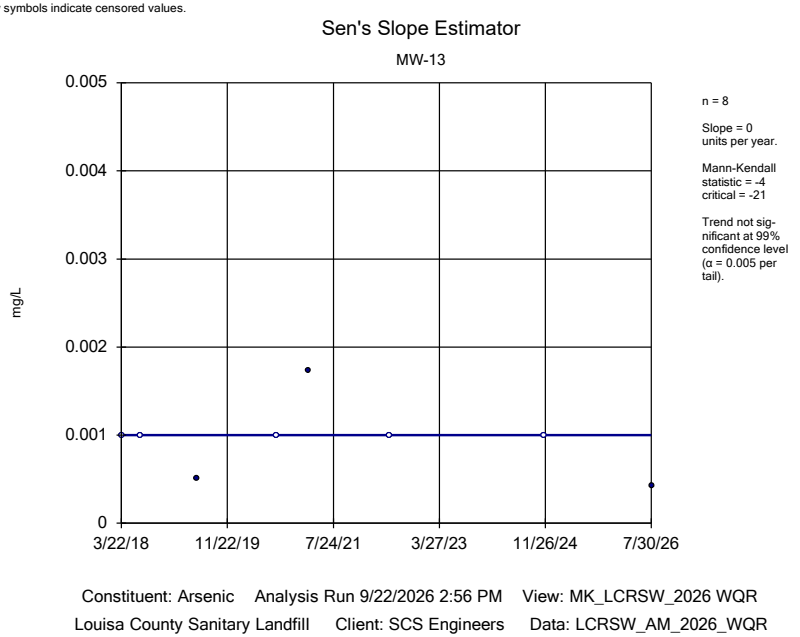
Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Alpha	Method
1,2-Dichloroethane (ug/L)	MW-19	0	-5	-21	No	8	87.5	0.01	NP
Arsenic (mg/L)	MW-13	0	-4	-21	No	8	62.5	0.01	NP
Arsenic (mg/L)	MW-18	0	4	21	No	8	50	0.01	NP
Barium (mg/L)	MW-13	0.005448	20	21	No	8	0	0.01	NP
Barium (mg/L)	MW-15	0.004836	17	21	No	8	0	0.01	NP
Barium (mg/L)	MW-18	0.0001429	1	21	No	8	0	0.01	NP
Barium (mg/L)	MW-14	-0.00001342	0	21	No	8	0	0.01	NP
Barium (mg/L)	MW-19	0.00001026	0	21	No	8	0	0.01	NP
Cadmium (mg/L)	MW-13	-0.000001402	-1	-21	No	8	50	0.01	NP
Cadmium (mg/L)	MW-14	0.000002117	4	21	No	8	12.5	0.01	NP
Cadmium (mg/L)	MW-19	-0.000002152	-2	-21	No	8	12.5	0.01	NP
Carbon Disulfide (ug/L)	MW-13	0	7	21	No	8	87.5	0.01	NP
Cobalt (mg/L)	MW-13	-0.00001485	0	21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-15	0.00003682	5	21	No	8	25	0.01	NP
Cobalt (mg/L)	MW-18	0.00009375	16	21	No	8	25	0.01	NP
Cobalt (mg/L)	MW-14	-0.001012	-14	-21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-19	-0.00003224	-6	-21	No	8	0	0.01	NP
Lead (mg/L)	MW-13	0	1	21	No	8	87.5	0.01	NP
Lead (mg/L)	MW-18	0	5	21	No	8	75	0.01	NP
Lead (mg/L)	MW-14	0.00003924	9	21	No	8	37.5	0.01	NP
Lead (mg/L)	MW-19	0	13	21	No	8	75	0.01	NP
Nickel (mg/L)	MW-13	0.0002011	4	21	No	8	0	0.01	NP
Nickel (mg/L)	MW-15	0.0001057	4	21	No	8	0	0.01	NP
Nickel (mg/L)	MW-18	0.00004535	8	21	No	8	50	0.01	NP
Nickel (mg/L)	MW-14	-0.001374	-8	-21	No	8	0	0.01	NP
Nickel (mg/L)	MW-19	0.00009542	8	21	No	8	0	0.01	NP
Selenium (mg/L)	MW-15	0	-9	-21	No	8	87.5	0.01	NP
Trichlorofluoromethane...	MW-14	0.08836	2	21	No	8	0	0.01	NP
Zinc (mg/L)	MW-15	0	-3	-21	No	8	87.5	0.01	NP

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Hollow symbols indicate censored values.



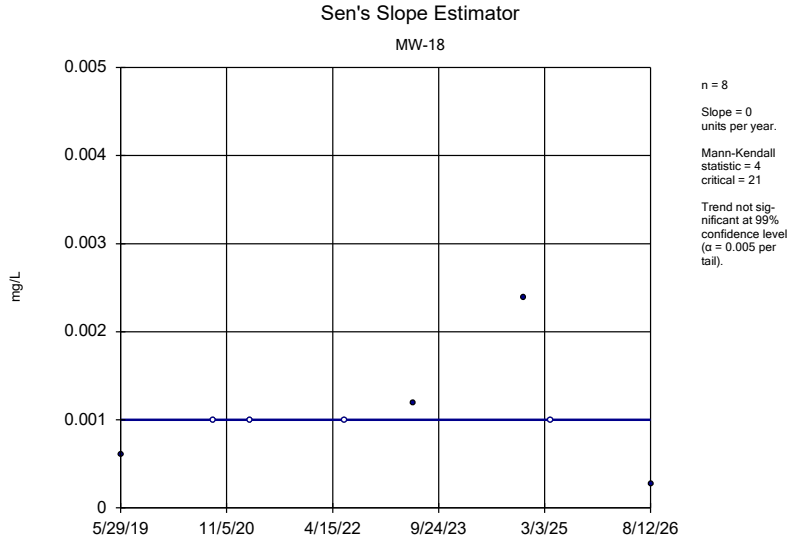
Constituent: 1,2-Dichloroethane Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

Sanitas™ v.10.1.08 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.



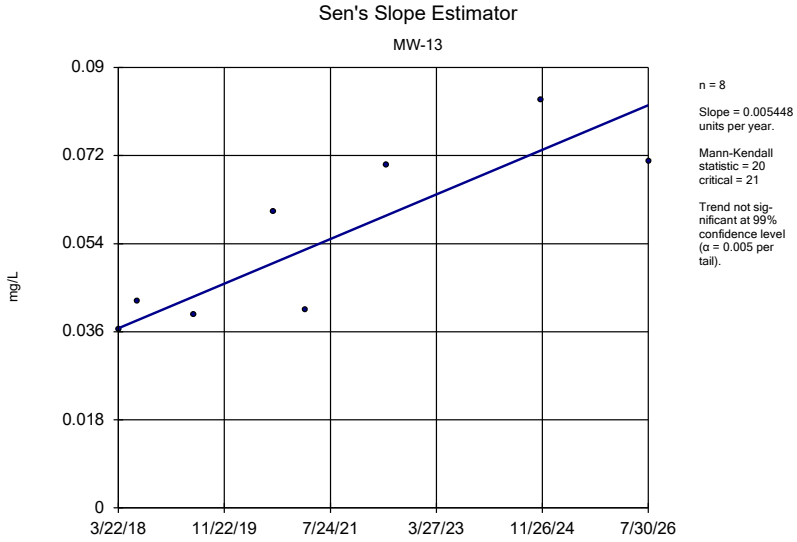
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Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Hollow symbols indicate censored values.



Constituent: Arsenic Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

Sanitas™ v.10.1.08 Software licensed to SCS Engineers. UG

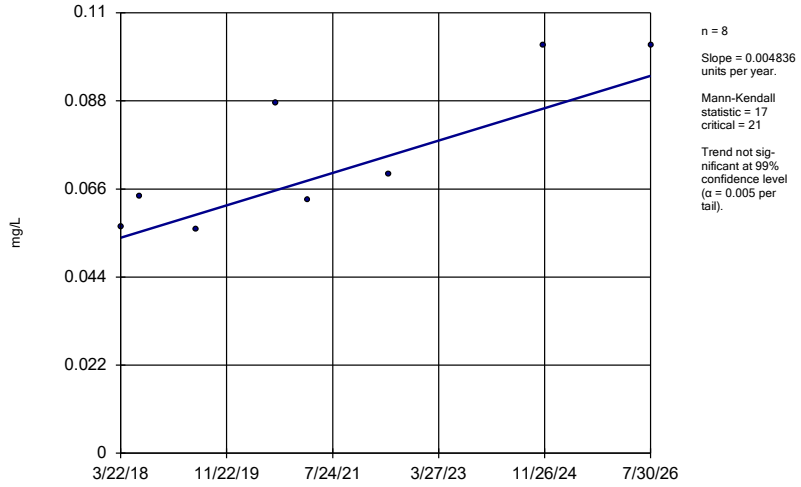


Constituent: Barium Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Sen's Slope Estimator

MW-15



n = 8

Slope = 0.004836 units per year.

Mann-Kendall statistic = 17 critical = 21

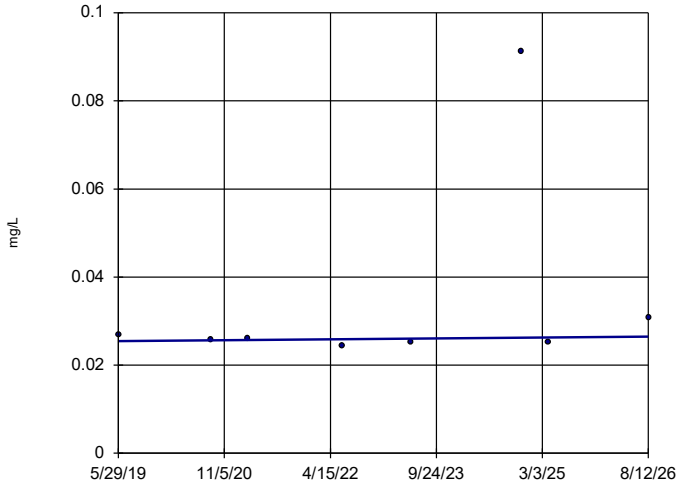
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Sen's Slope Estimator

MW-18



n = 8

Slope = 0.0001429 units per year.

Mann-Kendall statistic = 1 critical = 21

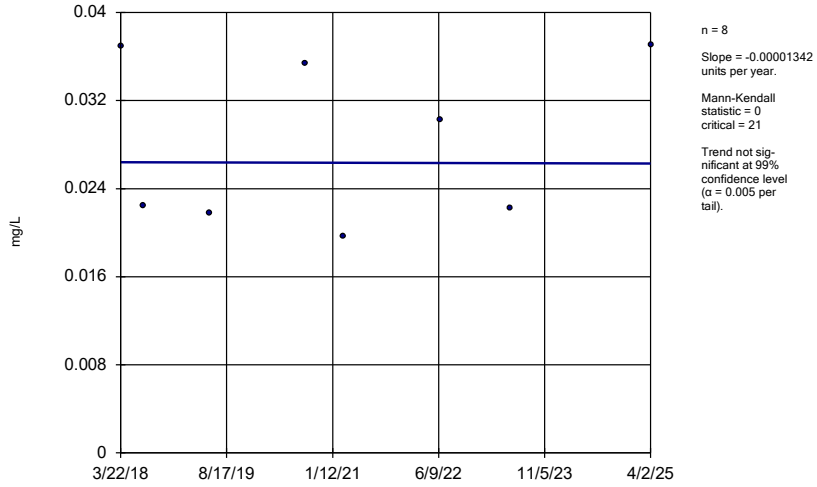
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

Sanitas™ v.10.1.08 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-14



n = 8

Slope = -0.00001342 units per year.

Mann-Kendall statistic = 0 critical = 21

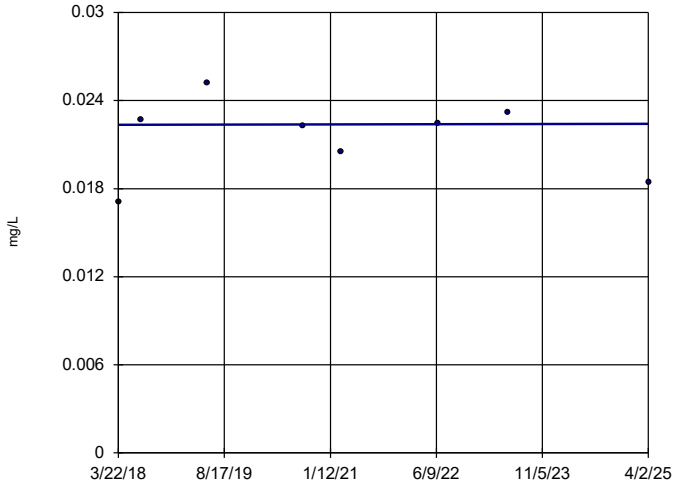
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

Sanitas™ v.10.1.08 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-19



n = 8

Slope = 0.00001026 units per year.

Mann-Kendall statistic = 0 critical = 21

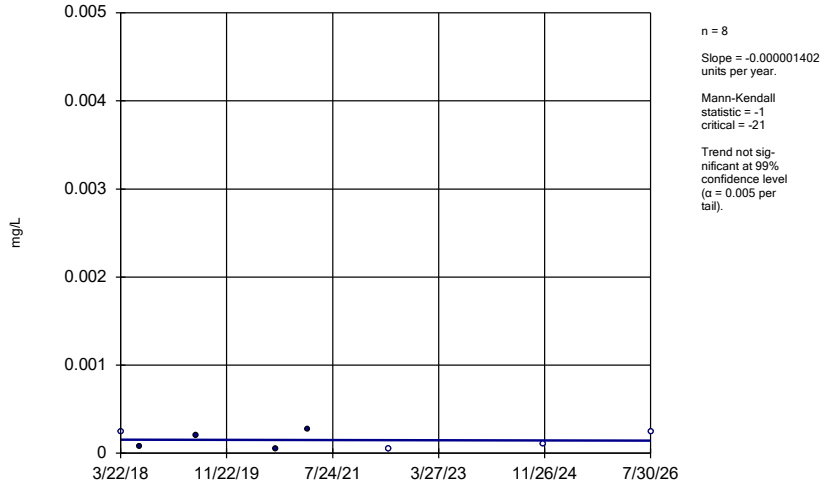
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-13



n = 8

Slope = -0.000001402 units per year.

Mann-Kendall statistic = -1
critical = -21

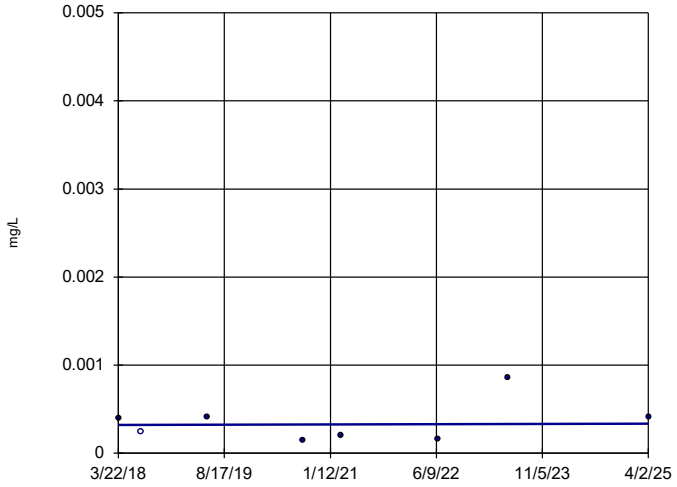
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cadmium Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-14



n = 8

Slope = 0.000002117 units per year.

Mann-Kendall statistic = 4
critical = 21

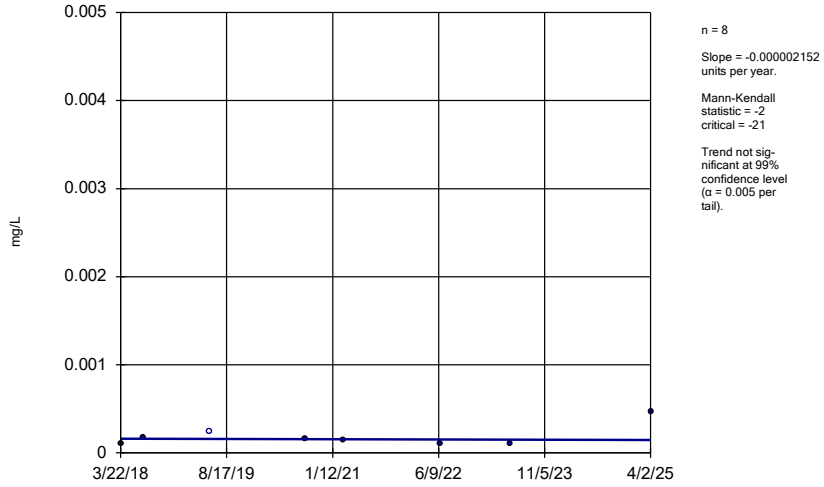
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cadmium Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-19



n = 8

Slope = -0.000002152 units per year.

Mann-Kendall statistic = -2
critical = -21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cadmium Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-13



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 7
critical = 21

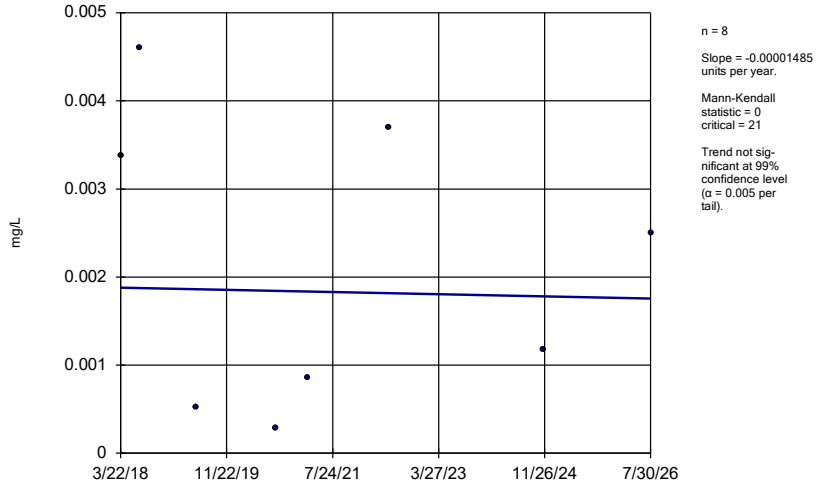
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Carbon Disulfide Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Sen's Slope Estimator

MW-13



n = 8

Slope = -0.00001485 units per year.

Mann-Kendall statistic = 0
critical = 21

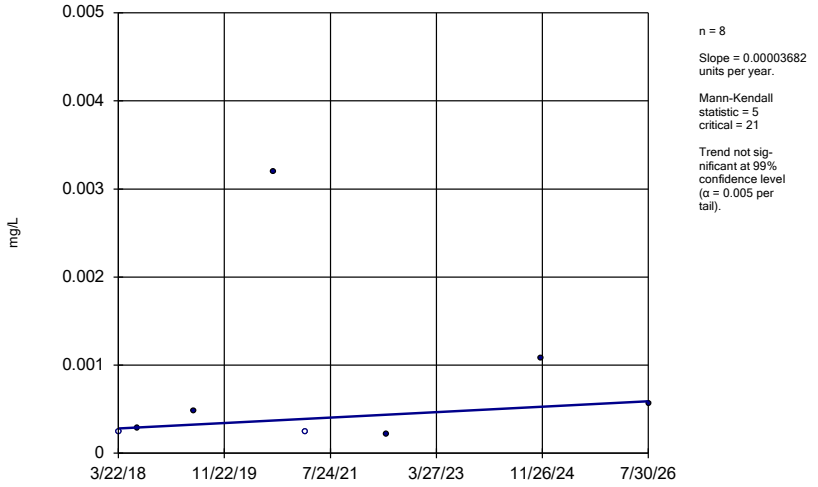
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-15



n = 8

Slope = 0.00003682 units per year.

Mann-Kendall statistic = 5
critical = 21

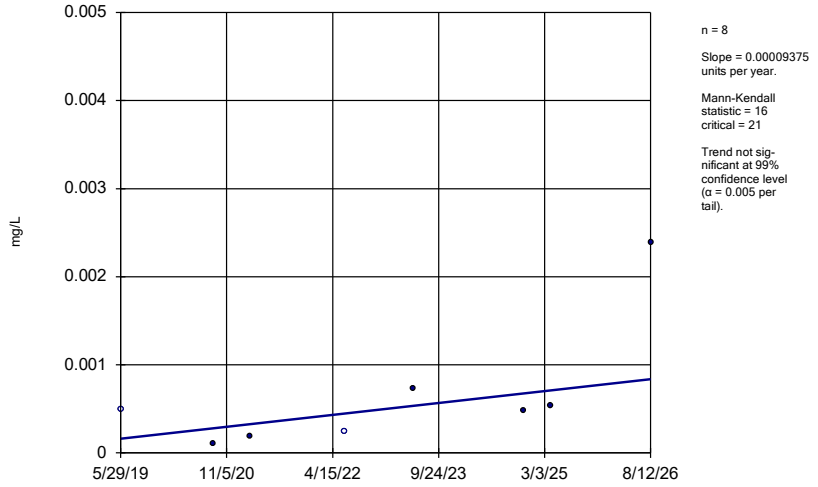
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-18



n = 8

Slope = 0.00009375 units per year.

Mann-Kendall statistic = 16
critical = 21

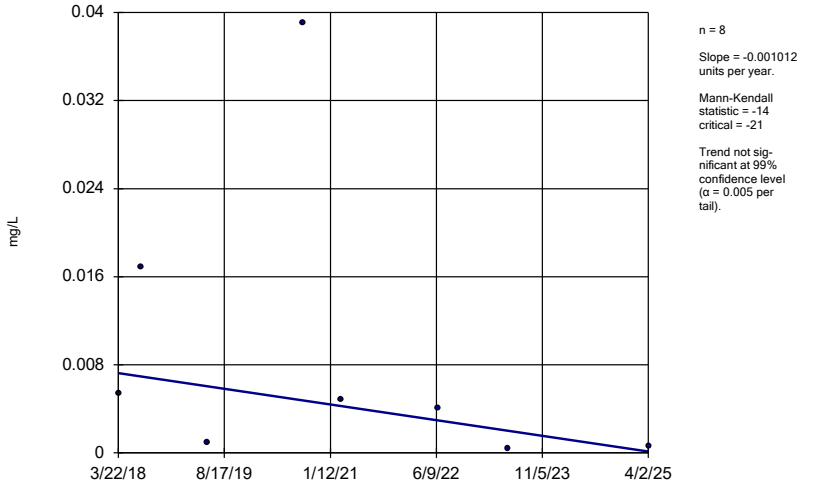
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Sen's Slope Estimator

MW-14



n = 8

Slope = -0.001012 units per year.

Mann-Kendall statistic = -14
critical = -21

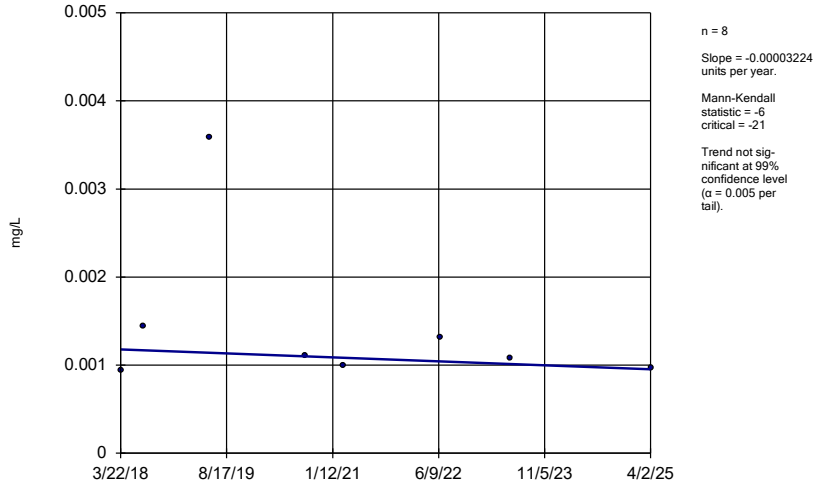
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Sen's Slope Estimator

MW-19



n = 8

Slope = -0.00003224 units per year.

Mann-Kendall statistic = -6 critical = -21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR

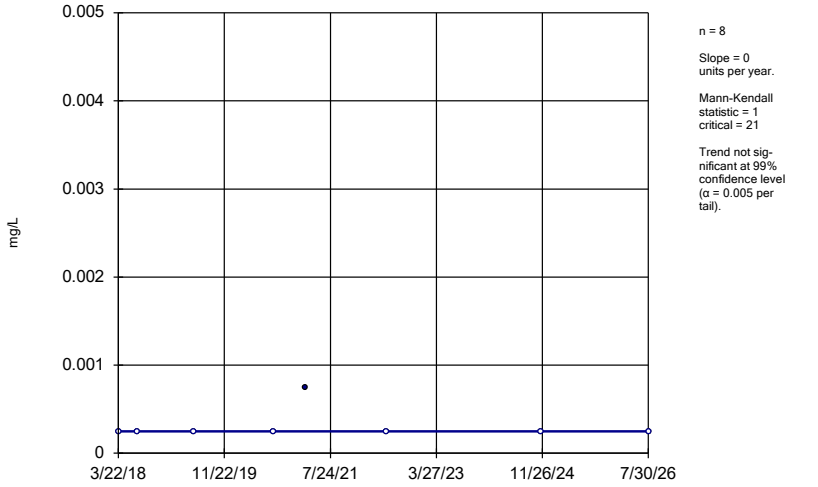
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

Sanitas™ v.10.1.08 Software licensed to SCS Engineers. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-13



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 1 critical = 21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lead Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR

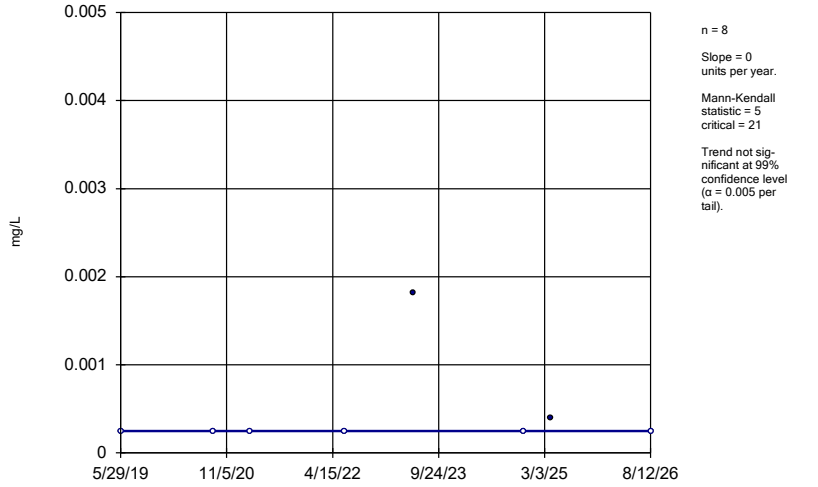
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-18



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 5 critical = 21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lead Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR

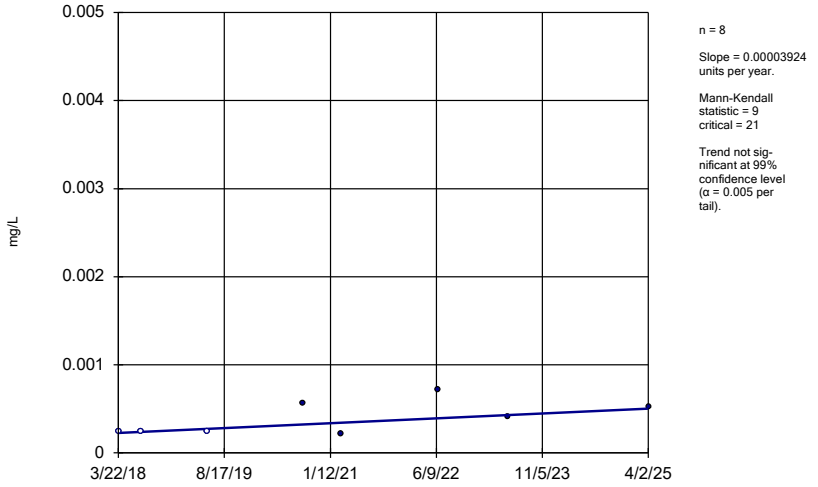
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-14



n = 8

Slope = 0.00003924 units per year.

Mann-Kendall statistic = 9 critical = 21

Trend not significant at 99% confidence level (α = 0.005 per tail).

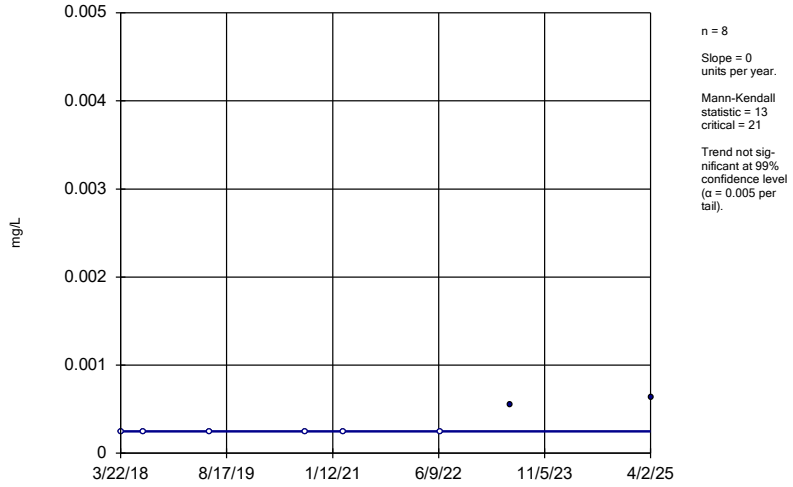
Constituent: Lead Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR

Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

Sanitas™ v.10.1.08 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-19



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 13
critical = 21

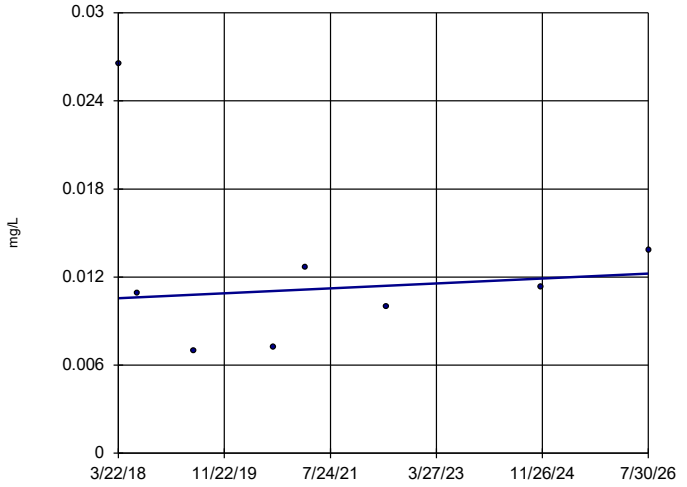
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lead Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Sen's Slope Estimator

MW-13



n = 8

Slope = 0.0002011 units per year.

Mann-Kendall statistic = 4
critical = 21

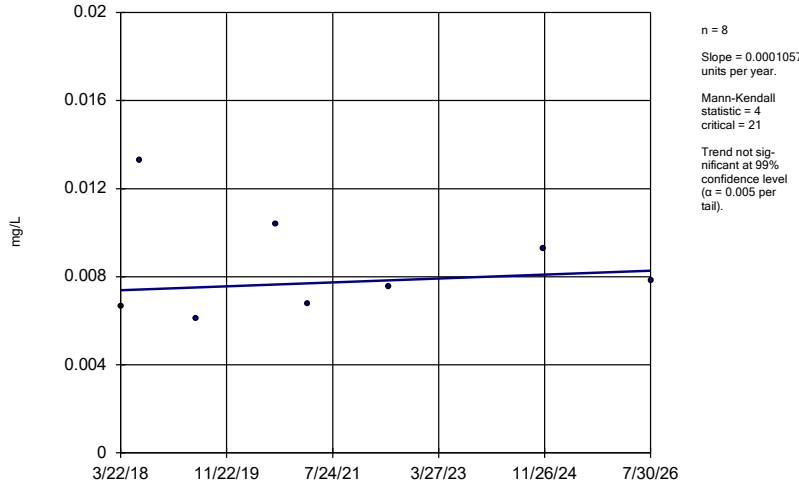
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Nickel Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Sen's Slope Estimator

MW-15



n = 8

Slope = 0.0001057 units per year.

Mann-Kendall statistic = 4
critical = 21

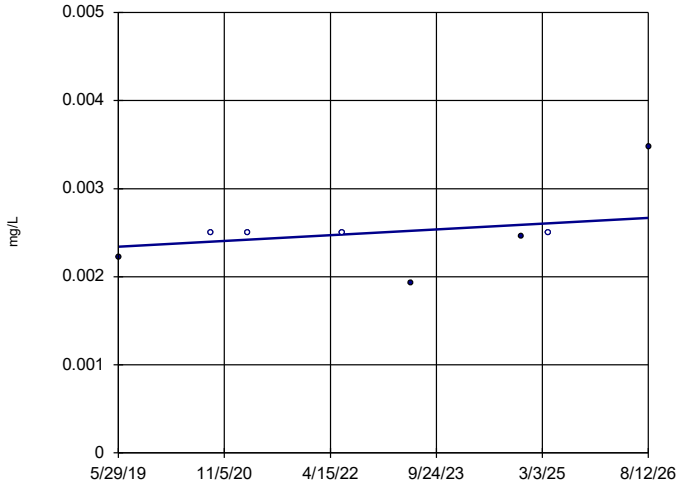
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Nickel Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-18



n = 8

Slope = 0.00004535 units per year.

Mann-Kendall statistic = 8
critical = 21

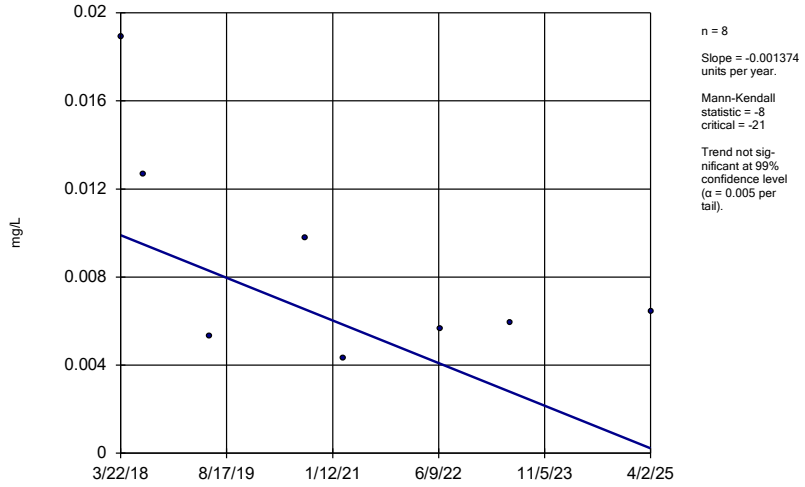
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Nickel Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Sen's Slope Estimator

MW-14



n = 8

Slope = -0.001374 units per year.

Mann-Kendall statistic = -8 critical = -21

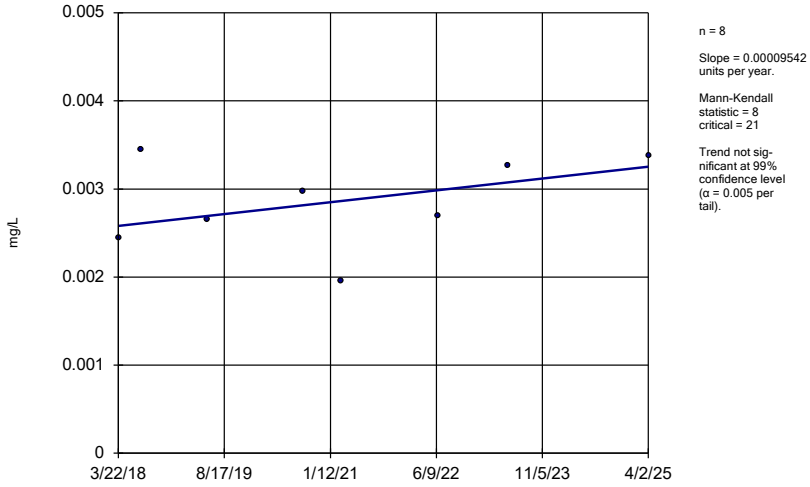
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Nickel Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Sen's Slope Estimator

MW-19



n = 8

Slope = 0.00009542 units per year.

Mann-Kendall statistic = 8 critical = 21

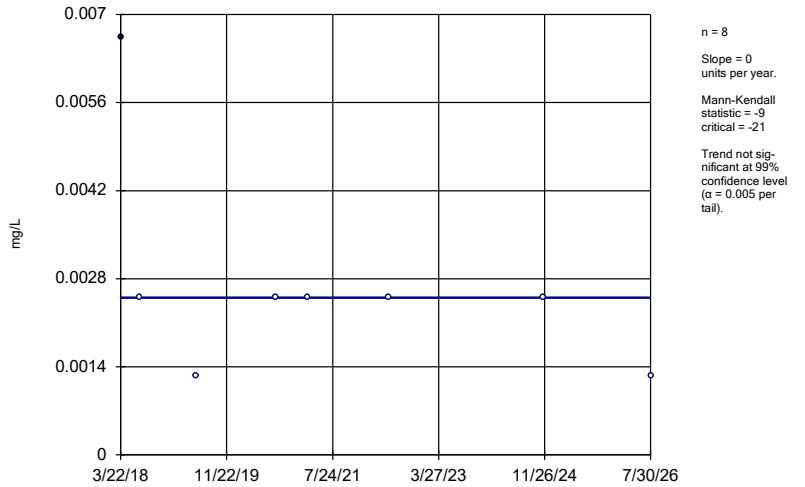
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Nickel Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-15



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = -9 critical = -21

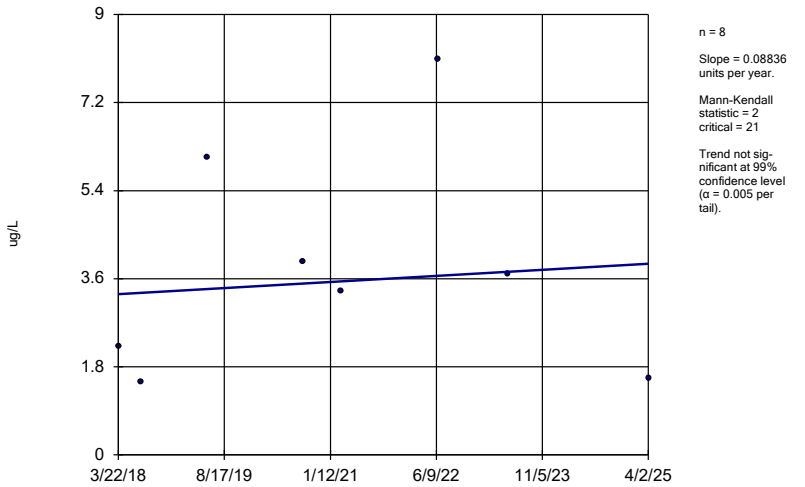
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Selenium Analysis Run 9/22/2026 2:56 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Sen's Slope Estimator

MW-14



n = 8

Slope = 0.08836 units per year.

Mann-Kendall statistic = 2 critical = 21

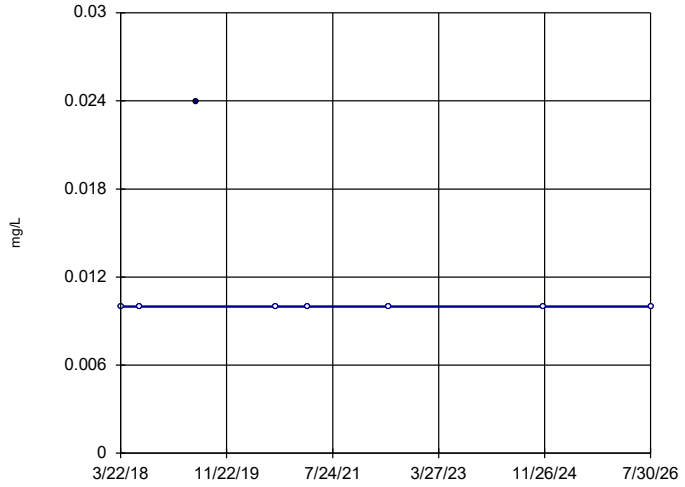
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Trichlorofluoromethane Analysis Run 9/22/2026 2:57 PM View: MK_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-15



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = -3 critical = -21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Zinc Analysis Run 9/22/2026 2:57 PM View: MK_LCRSW_2026 WQR

Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

Confidence Interval

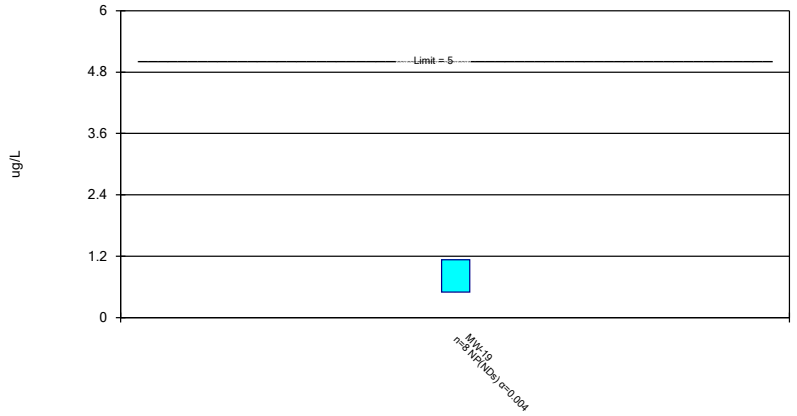
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR Printed 9/22/2026, 3:28 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
1,2-Dichloroethane (ug/L)	MW-19	1.13	0.5	5	No	8	87.5	No	0.004	NP (NDs)
Arsenic (mg/L)	MW-13	0.001735	0.000423	0.01	No	8	62.5	No	0.004	NP (NDs)
Arsenic (mg/L)	MW-18	0.001606	0.0001951	0.01	No	8	50	No	0.01	Param.
Barium (mg/L)	MW-13	0.07454	0.03644	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-15	0.09555	0.0546	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-18	0.0911	0.0244	2	No	8	0	No	0.004	NP (normality)
Barium (mg/L)	MW-14	0.03615	0.02028	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-19	0.0243	0.01866	2	No	8	0	No	0.01	Param.
Cadmium (mg/L)	MW-13	0.0002139	0.0000353	0.005	No	8	50	No	0.01	Param.
Cadmium (mg/L)	MW-14	0.0005994	0.0001109	0.005	No	8	12.5	No	0.01	Param.
Cadmium (mg/L)	MW-19	0.000317	0.00006003	0.005	No	8	12.5	No	0.01	Param.
Carbon Disulfide (ug/L)	MW-13	1.14	0.5	700	No	8	87.5	No	0.004	NP (NDs)
Cobalt (mg/L)	MW-13	0.003868	0.00039	0.0021	No	8	0	No	0.01	Param.
Cobalt (mg/L)	MW-15	0.0032	0.000216	0.0021	No	8	25	No	0.004	NP (normality)
Cobalt (mg/L)	MW-18	0.00239	0.000111	0.0021	No	8	25	No	0.004	NP (normality)
Cobalt (mg/L)	MW-14	0.039	0.000413	0.0021	No	8	0	No	0.004	NP (normality)
Cobalt (mg/L)	MW-19	0.00358	0.000935	0.0021	No	8	0	No	0.004	NP (normality)
Lead (mg/L)	MW-13	0.000745	0.00025	0.015	No	8	87.5	No	0.004	NP (NDs)
Lead (mg/L)	MW-18	0.00182	0.00025	0.015	No	8	75	No	0.004	NP (NDs)
Lead (mg/L)	MW-14	0.0006019	0.000241	0.015	No	8	37.5	No	0.01	Param.
Lead (mg/L)	MW-19	0.000635	0.00025	0.015	No	8	75	No	0.004	NP (NDs)
Nickel (mg/L)	MW-13	0.01896	0.005897	0.1	No	8	0	No	0.01	Param.
Nickel (mg/L)	MW-15	0.01104	0.005925	0.1	No	8	0	No	0.01	Param.
Nickel (mg/L)	MW-18	0.00314	0.001902	0.1	No	8	50	No	0.01	Param.
Nickel (mg/L)	MW-14	0.01391	0.003352	0.1	No	8	0	No	0.01	Param.
Nickel (mg/L)	MW-19	0.003398	0.002303	0.1	No	8	0	No	0.01	Param.
Selenium (mg/L)	MW-15	0.00664	0.00125	0.05	No	8	87.5	No	0.004	NP (NDs)
Trichlorofluoromethane (ug/L)	MW-14	6.225	1.378	2000	No	8	0	No	0.01	Param.
Zinc (mg/L)	MW-15	0.0239	0.01	2	No	8	87.5	No	0.004	NP (NDs)

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Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

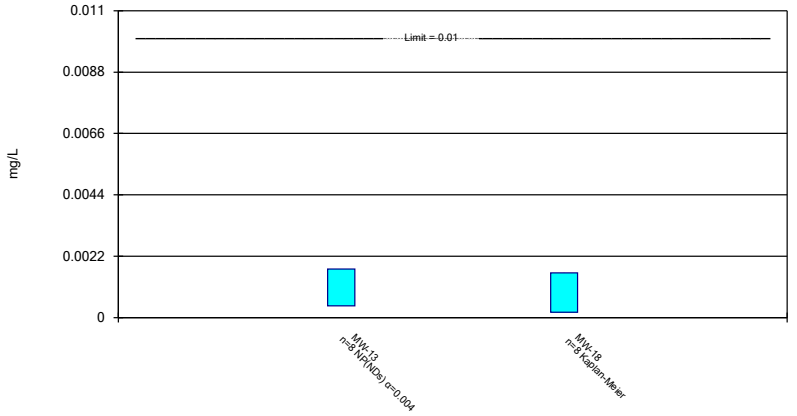


Constituent: 1,2-Dichloroethane Analysis Run 9/22/2026 3:21 PM View: Confidence Interval_LCRSW_202
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.

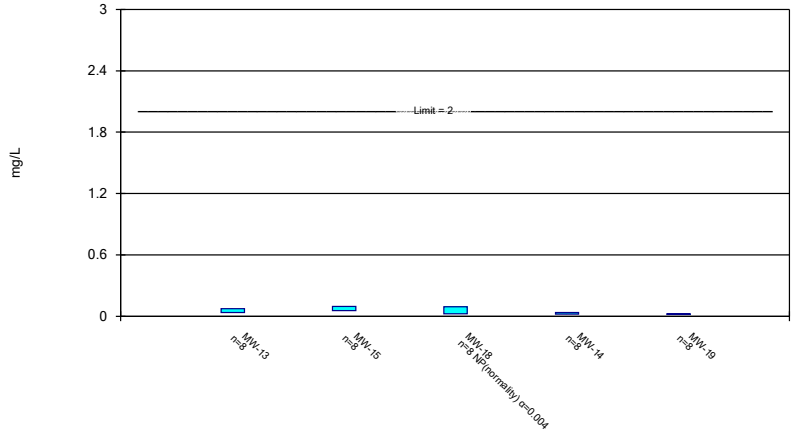


Constituent: Arsenic Analysis Run 9/22/2026 3:21 PM View: Confidence Interval_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.

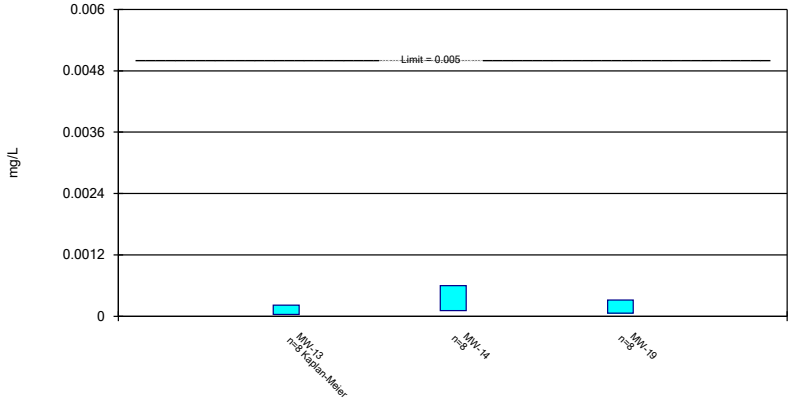


Constituent: Barium Analysis Run 9/22/2026 3:21 PM View: Confidence Interval_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.

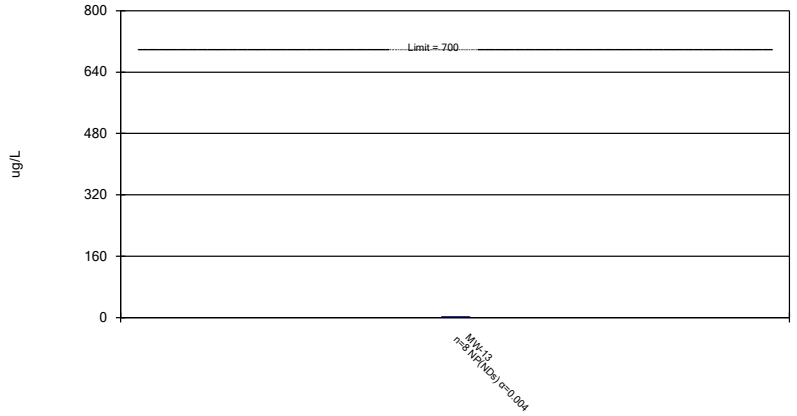


Constituent: Cadmium Analysis Run 9/22/2026 3:21 PM View: Confidence Interval_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

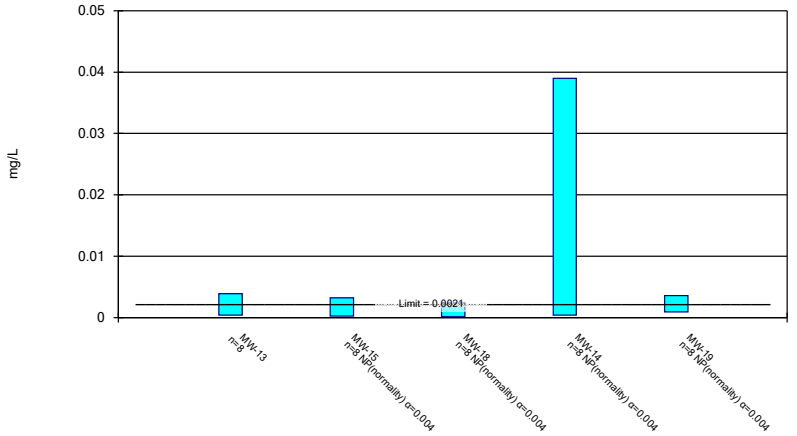


Constituent: Carbon Disulfide Analysis Run 9/22/2026 3:21 PM View: Confidence Interval_LCRSW_2026
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.

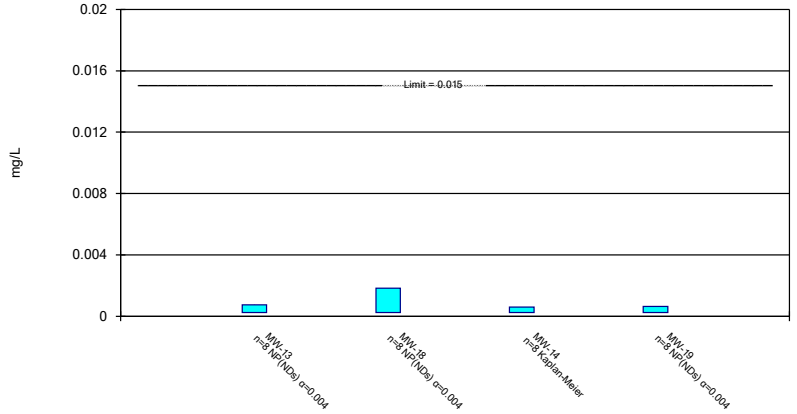


Constituent: Cobalt Analysis Run 9/22/2026 3:21 PM View: Confidence Interval_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.

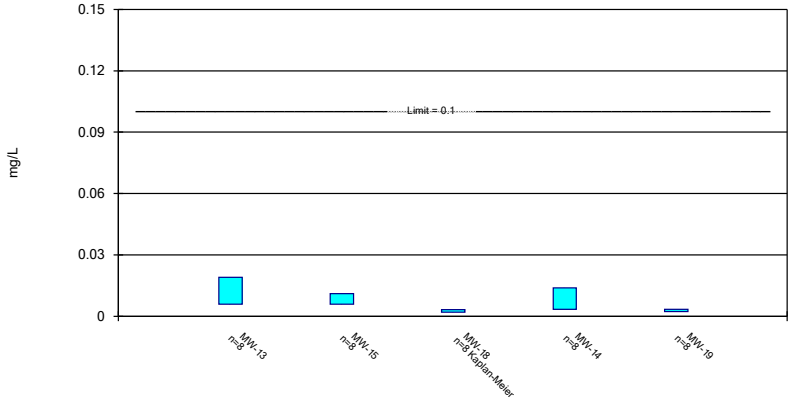


Constituent: Lead Analysis Run 9/22/2026 3:21 PM View: Confidence Interval_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.

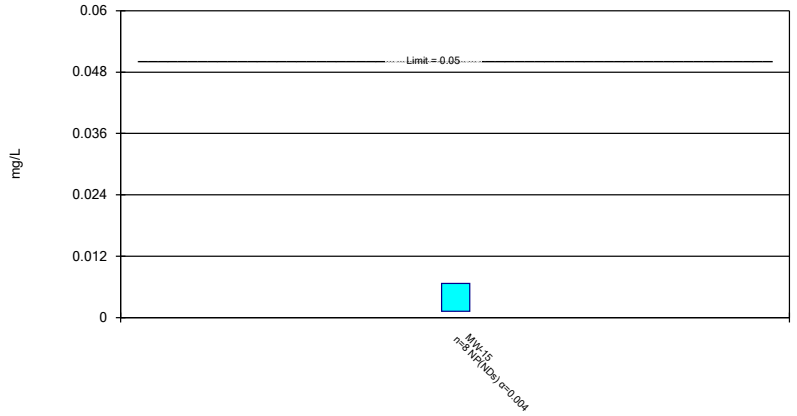


Constituent: Nickel Analysis Run 9/22/2026 3:21 PM View: Confidence Interval_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

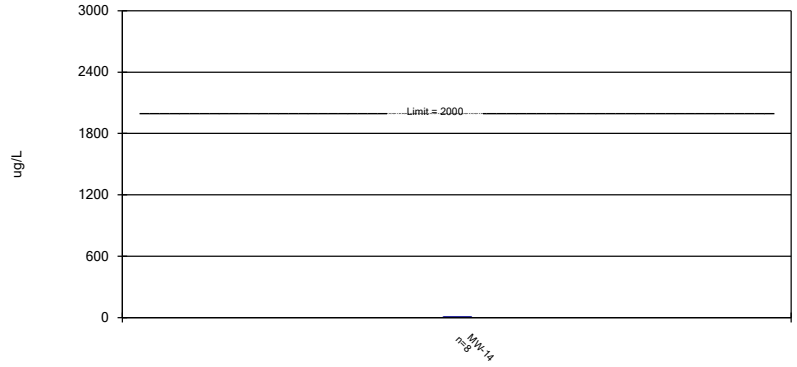


Constituent: Selenium Analysis Run 9/22/2026 3:21 PM View: Confidence Interval_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.

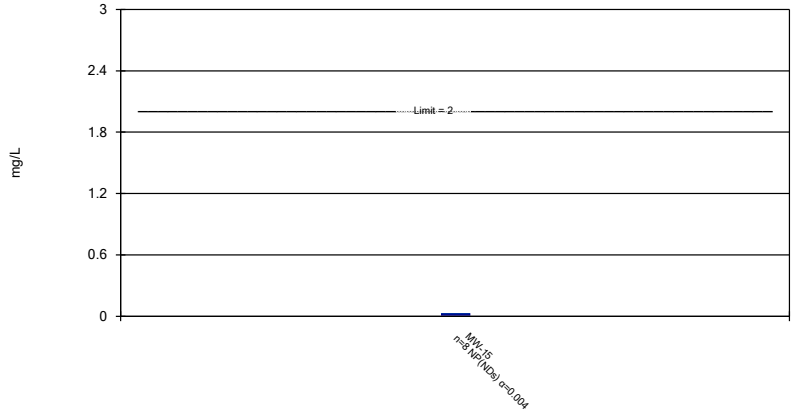


Constituent: Trichlorofluoromethane Analysis Run 9/22/2026 3:21 PM View: Confidence Interval_LCRSW
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR

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Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Zinc Analysis Run 9/22/2026 3:21 PM View: Confidence Interval_LCRSW_2026 WQR
Louisa County Sanitary Landfill Client: SCS Engineers Data: LCRSW_AM_2026_WQR