

West Des Moines, IA

PROJECT: BV County, FY26 Env Comp, IA 27225284.26      DATE: 4/23/2026

SUBJECT: Buena Vista County Sanitary Landfill - 11-SDP-01-74C - 2025 Biennial Water Quality Report, 2025 Leachate Control System Performance Evaluation Report, and 2025 Landfill Gas Annual Report      TRANSMITTAL ID: 00004

PURPOSE: For your approval      VIA: Info Exchange

FROM

NAME	COMPANY	EMAIL	PHONE
Sean Marczewski West Des Moines, IA	SCS Engineers	SMarczewski@scsengineers.com	+1-515-631-6152

TO

NAME	COMPANY	EMAIL	PHONE
Mike Smith 502 East 9th Street Des Moines IA 50319-0034 United States	Iowa, State of	mike.smith@dnr.iowa.gov	515-725-8200

REMARKS: Mike -

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

Thanks,

Sean A. Marczewski  
Senior Project Professional  
SCS Engineers  
1690 All-State Court, Suite 100  
West Des Moines, Iowa 50265  
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# Transmittal

DATE: 4/23/2026  
TRANSMITTAL ID: 00004

## DESCRIPTION OF CONTENTS

QTY	DATED	TITLE	NOTES
1	4/23/2026	20240423_Buena Vista County Sanitary Landfill_ 2025BWQR.LCSPER.MMR_v1.0.pdf	

## COPIES:

Becky Jolly  
Lori Dicks (Buena Vista County Solid Waste Commission)  
Michael Morgan (SCS Engineers)  
Sean Marczewski (SCS Engineers)

April 23, 2026  
File No. 27225284.26

Mr. Mike Smith, P.E.  
Iowa Department of Natural Resources  
Land Quality Bureau  
6200 Park Avenue  
Des Moines, Iowa 50321

Subject: 2025 Biennial Water Quality Report, 2025 Annual Leachate Control System Performance Evaluation Report, and 2025 Annual Landfill Gas Report  
Buena Vista County Sanitary Landfill  
Permit No. 11-SDP-01-74C

Dear Mike:

SCS Engineers, on behalf of the Buena Vista County Solid Waste Commission (Commission), is submitting this correspondence notifying the Iowa Department of Natural Resources (DNR) of the results of the 2025 groundwater sampling and statistical evaluation. SCS Engineers completed the following items associated with the 2025 sampling event at the Buena Vista County Sanitary Landfill (Landfill):

- Groundwater sampling in accordance with Table 2 of the 2023 Biennial Water Quality Report and Permit Amendment No. 11 (Doc #101444) was completed on July 8, 2025;
- Statistical evaluation of groundwater data associated with the 2025 sampling event;
- Field sampling forms; and
- Compilation of laboratory analytical data.

A map of the approved monitoring network is shown in **Figure 1**. The reporting period summary of groundwater chemistry is contained in **Attachment A**. Analytical data prior to 2025 are available in the 2023 Biennial Water Quality Report dated January 5, 2024 (Doc #108590). The statistical evaluation is discussed herein, and statistical outputs are included in **Attachment B**. Field sampling forms and laboratory analytical reports for the reporting period are included as **Attachment C** and **Attachment D**, respectively.

The 2025 Leachate Control System Performance Evaluation Report and the 2025 Landfill Gas Annual Report are included as **Appendix A** and **Appendix B**, respectively.

## Background

The Commission has been actively pursuing the collection of data necessary for the eventual ending of post-closure care activities required under Permit No. 11-SDP-01-74C. The following is a summary of relevant correspondence from June 2019 through the end of 2025 that together describe the progression toward leachate collection cessation and the current groundwater sampling requirements for the MSWLF units.



- Commission correspondence dated June 12, 2019 (Doc #95402), which requested the recession of Permit No. 11-SDP-02-87C and cessation of leachate collection from the eastern MSWLF unit regulated under Permit No. 11-SDP-01-74C.
- 2019 Annual Water Quality Report dated July 15, 2019 (Doc #95570), which requested biennial groundwater sampling for Appendix I parameters from monitoring wells MW-2, MW-8, and MW-10.
- DNR correspondences dated September 3, 2019 (Doc #95828 and Doc# 95829), which rescinded Permit No. 11-SDP-02-87C and moved any remaining regulatory requirements for the western MSWLF units to Permit No. 11-SDP-01-74C and approved the cessation of leachate collection from the eastern MSWLF unit as Permit Amendment No. 10 to Permit No. 11-SDP-01-74C.
- Leachate Control System Performance Evaluation Report and Landfill Gas Annual Report dated January 28, 2020 (Doc No. 96891), which reported that valves were installed in the leachate collection lines on October 23, 2019, and closed on the same date to temporarily cease leachate collection from the eastern MSWLF unit. Pre-shutoff composite leachate samples from leachate piezometers were collected on October 7, 2019.
- Post-shutoff composite leachate samples were collected from the leachate lagoon on June 8, 2020, and September 22, 2022. Analytical leachate test results were reported in the Leachate Control System Performance Evaluation Report and Landfill Gas Annual Report dated December 4, 2020 (Doc #99069) and the Leachate Control System Performance Evaluation Report and Landfill Gas Annual Report dated January 30, 2023 (Doc #105662), respectively.
- A composite leachate sample was collected from leachate piezometers LW-1 and LW-2, along with a composite leachate sample from leachate piezometers LW-5 and LW-6 on September 30, 2021, in order to give insight into the maturity of the leachate within the waste mass. Analytical leachate test results were reported in the Leachate Control System Performance Evaluation Report and Landfill Gas Annual Report dated January 30, 2023 (Doc #105662).
- DNR correspondence dated October 15, 2021 (Doc No. 101444), which approved biennial groundwater sampling from monitoring wells MW-2, MW-8, and MW-10 as Permit Amendment No. 11 to Permit No. 11-SDP-01-74C.
- DNR correspondence dated January 24, 2024 (Doc #108896) required an evaluation of potential impacts to human health and the environment that shutting down leachate collection may cause.
- Correspondence dated May 30, 2024 (Doc #110175) presented a schedule for evaluating the potential impact of shutting down the leachate collection system. The schedule was approved by the DNR in correspondence dated June 14, 2024 (Doc #110252). An extension of the submittal date for the evaluation report is requested to June 30, 2026.

The intended purpose of the groundwater sampling from monitoring wells surrounding the eastern MSWLF unit is to evaluate whether or not the cessation of leachate collection from the eastern MSWLF unit is having an adverse effect on groundwater quality. Therefore, the statistical evaluation of groundwater analytical data, consisting of trend analysis and confidence interval evaluations, is intended to identify changes in the groundwater quality surrounding the eastern MSWLF unit. The results of the statistical evaluations are discussed below.

As noted during a previous site visit, a small volume of liquid was observed flowing through the final manhole prior to discharge into the leachate lagoon, indicating that the collection of leachate from the MSWLF unit may not have entirely ceased. A construction effort to create a complete physical disconnect of the leachate collection piping from the manholes on the southwest and southeast sides of the MSWLF unit was being pursued; however, that effort was halted in anticipation of a requirement to perform a review of leachate collection cessation to further evaluate the appropriateness of permanently ceasing leachate collection from the MSWLF unit. Documentation of this effort will be provided under separate cover.

### Trend Analysis

Mann-Kendall statistics can provide an indication of general trending in the data. The Mann-Kendall output is contained in **Attachment B**. Using an  $\alpha=0.01$ , the statistically significant trends shown in **Table 1** were identified:

**Table 1. Mann-Kendall Statistically Significant Trends**

Monitoring Well	Constituent	Trend
MW-10	Benzene	Decreasing
	cis-1,2-Dichloroethene	Decreasing

The decreasing trends for benzene and cis-1,2-dichloroethene in monitoring well MW-10 are based on the most recent eight sampling events. It should be noted that chloroethane, trans-1,2-dichloroethene, and vinyl chloride concentrations in monitoring well MW-10 samples are declining at a more significant rate than indicated by the statistics, as one-half the reporting limit was used as the concentration when a J flag was not indicated. Benzene, trans-1,2-dichloroethene, and vinyl chloride were not detected in the 2025 samples. Cis-1,2-dichloroethene was measured at a concentration of 3.16  $\mu\text{g/L}$ , which is less than 5% of the groundwater protection standard of 70  $\mu\text{g/L}$ . Overall, the trends observed at the Buena Vista County Landfill during the 2025 reporting period were stable or decreasing, with each of the organic compounds showing decreasing trends. Over 65 percent of the Mann-Kendall statistics were either zero or negative (see **Attachment B**).

### Confidence Interval Analysis

There were no exceedances of the GWPS at statistically significant levels (SSLs) noted during the 2025 statistical evaluation (see **Attachment B**). Confidence intervals were developed from the eight most recent sampling events.

### Recommendations

Given the limited groundwater impact at the Landfill and the predominantly steady-to-decreasing concentration trends, continued biennial groundwater sampling, as approved in Permit Amendment No. 11 (Doc #101444), is recommended. The schedule and monitoring program for the upcoming

three sampling events is shown in **Table 2**, notwithstanding an approval to end post-closure care earlier than the schedule shown.

**Table 2. Recommended Groundwater Sampling Events**

Monitoring Point	2027	2029
MW-2	Appendix I, TSS	Appendix I, TSS
MW-8	Appendix I, TSS	Appendix I, TSS
MW-10	Appendix I, TSS	Appendix I, TSS

TSS: Total Suspended Solids

If you have any questions regarding this report, please contact Sean at (712) 661-9682.

Sincerely,



Michael Morgan  
Associate Professional  
SCS Engineers

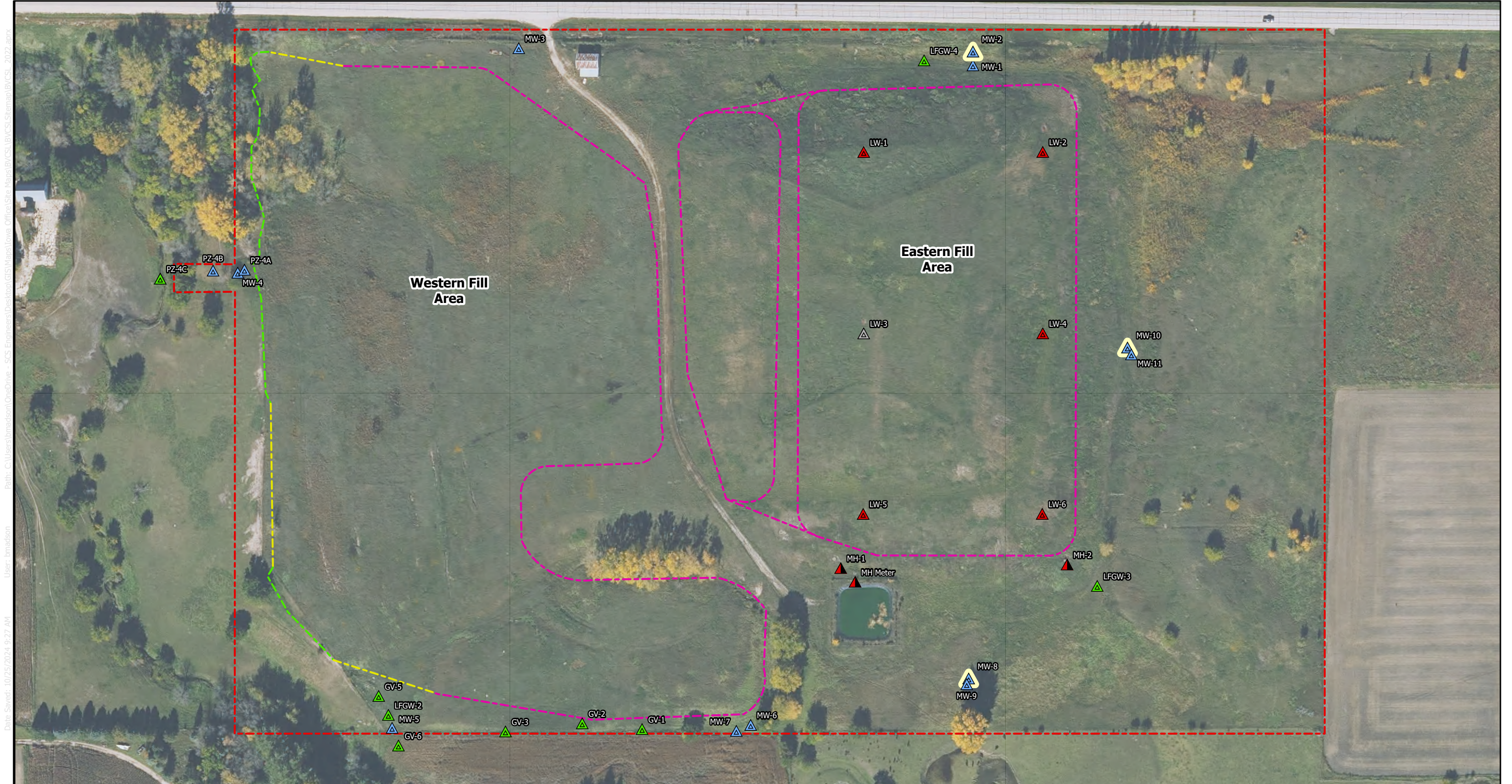


Sean Marczewski  
Senior Project Professional  
SCS Engineers

MAM/SAM

Copy: Lori Dicks, Buena Vista County Sanitary Landfill Commission

**Figure 1**  
Approved Monitoring Network



Date Saved: 10/25/2024 9:37 AM  
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 Path: C:\Users\hmadson\Desktop\GIS\MapInfo\Buena Vista County Sanitary Landfill\MapInfo\Buena Vista County Sanitary Landfill\Buena Vista County Sanitary Landfill.mxd

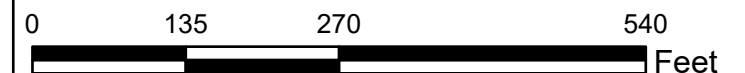
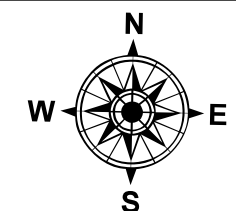


## Approved Monitoring Network

### Legend

- |  |  |  |                                      |  |                               |
|--|--|--|--------------------------------------|--|-------------------------------|
|  | HMSF Monitoring Well                     |  | Leachate Manholes                    |  | Approximate Waste Boundary    |
|  | Monitoring Well                          |  | Damaged Leachate Monitoring Location |  | Interpolated Waste Boundary   |
|  | Approximate Leachate Monitoring Location |  | Approximate Methane Point            |  | Approximate Property Boundary |
|  | Located Waste Boundary (2018)            |  |                                      |  |                               |

Buena Vista County Sanitary  
 Landfill  
 Storm Lake, Iowa  
 Project No: 27225284.26  
 Drawing Date: April 2026



**Figure 1**

## **Attachment A**

### Reporting Period Summary of Groundwater Chemistry

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## Summary of Groundwater Chemistry

Buena Vista County Sanitary Landfill - 11-SDP-01-74P

Total Metals Constituents	Sample Date	MW-2 UPG	MW-8 DNG	MW-10 DNG
Antimony, mg/L (CAS NO - 7440-36-0)	7/8/2025	< 0.002	< 0.002	< 0.002
	7/8/2025	N/A	N/A	< 0.002
Arsenic, mg/L (CAS NO - 7440-38-2)	7/8/2025	< 0.002	0.00059*	0.0104
	7/8/2025	N/A	N/A	0.0099
Barium, mg/L (CAS NO - 7440-39-3)	7/8/2025	0.261	0.212	0.623
	7/8/2025	N/A	N/A	0.647
Beryllium, mg/L (CAS NO - 7440-41-7)	7/8/2025	< 0.001	< 0.001	< 0.001
	7/8/2025	N/A	N/A	< 0.001
Cadmium, mg/L (CAS NO - 7440-43-9)	7/8/2025	0.000163*	< 0.0002	< 0.0002
	7/8/2025	N/A	N/A	< 0.0002
Chromium, mg/L (CAS NO - 7440-47-3)	7/8/2025	< 0.005	< 0.005	< 0.005
	7/8/2025	N/A	N/A	< 0.005
Cobalt, mg/L (CAS NO - 7440-48-4)	7/8/2025	0.00192	< 0.0005	0.000843
	7/8/2025	N/A	N/A	0.000697
Copper, mg/L (CAS NO - 7440-50-8)	7/8/2025	< 0.005	< 0.005	< 0.005
	7/8/2025	N/A	N/A	< 0.005
Lead, mg/L (CAS NO - 7439-92-1)	7/8/2025	0.00189	< 0.0005	< 0.0005
	7/8/2025	N/A	N/A	< 0.0005
Nickel, mg/L (CAS NO - 7440-02-0)	7/8/2025	0.0245	< 0.005	0.0149
	7/8/2025	N/A	N/A	0.0156
Selenium, mg/L (CAS NO - 7782-49-2)	7/8/2025	0.00166*	< 0.005	< 0.005
	7/8/2025	N/A	N/A	< 0.005
Silver, mg/L (CAS NO - 7440-22-4)	7/8/2025	< 0.001	< 0.001	< 0.001
	7/8/2025	N/A	N/A	< 0.001
Thallium, mg/L (CAS NO - 7440-28-0)	7/8/2025	< 0.001	< 0.001	< 0.001
	7/8/2025	N/A	N/A	< 0.001
Vanadium, mg/L (CAS NO - 7440-62-2)	7/8/2025	< 0.005	< 0.005	< 0.005
	7/8/2025	N/A	N/A	< 0.005
Zinc, mg/L (CAS NO - 7440-66-6)	7/8/2025	< 0.02	0.0142*	< 0.02
	7/8/2025	N/A	N/A	< 0.02
Total Suspended Solids, mg/L (CAS NO - TSS)	7/8/2025	5.75	< 1.88	14.5
	7/8/2025	N/A	N/A	14

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

Buena Vista County Sanitary Landfill - 11-SDP-01-74P

Appendix I VOC Constituents	Sample Date	MW-2 UPG	MW-8 DNG	MW-10 DNG
1,1,1,2-Tetrachloroethane, ug/L (CAS NO - 630-20-6)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
1,1,1-Trichloroethane, ug/L (CAS NO - 71-55-6)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
1,1,2,2-Tetrachloroethane, ug/L (CAS NO - 79-34-5)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
1,1,2-Trichloroethane, ug/L (CAS NO - 79-00-5)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
1,1-Dichloroethane, ug/L (CAS NO - 75-34-3)	7/8/2025	< 1	< 1	0.368*
	7/8/2025	N/A	N/A	0.363*
1,1-Dichloroethene, ug/L (CAS NO - 75-35-4)	7/8/2025	< 2	< 2	< 2
	7/8/2025	N/A	N/A	< 2
1,2,3-Trichloropropane, ug/L (CAS NO - 96-18-4)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
1,2-Dibromo-3-Chloropropane, ug/L (CAS NO - 96-12-8)	7/8/2025	< 5	< 5	< 5
	7/8/2025	N/A	N/A	< 5
1,2-Dibromoethane [EDB], ug/L (CAS NO - 106-93-4)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
1,2-Dichlorobenzene, ug/L (CAS NO - 95-50-1)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
1,2-Dichloroethane, ug/L (CAS NO - 107-06-2)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
1,2-Dichloropropane, ug/L (CAS NO - 78-87-5)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
1,4-Dichlorobenzene, ug/L (CAS NO - 106-46-7)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
2-Butanone, ug/L (CAS NO - 78-93-3)	7/8/2025	< 10	< 10	< 10
	7/8/2025	N/A	N/A	< 10
2-Hexanone, ug/L (CAS NO - 591-78-6)	7/8/2025	< 10	< 10	< 10
	7/8/2025	N/A	N/A	< 10
4-Methyl-2-Pentanone, ug/L (CAS NO - 108-10-1)	7/8/2025	< 10	< 10	< 10
	7/8/2025	N/A	N/A	< 10
Acetone, ug/L (CAS NO - 67-64-1)	7/8/2025	< 10	< 10	< 10
	7/8/2025	N/A	N/A	< 10
Acrylonitrile, ug/L (CAS NO - 107-13-1)	7/8/2025	< 5	< 5	< 5
	7/8/2025	N/A	N/A	< 5
Benzene, ug/L (CAS NO - 71-43-2)	7/8/2025	< 0.5	< 0.5	< 0.5
	7/8/2025	N/A	N/A	< 0.5
Bromochloromethane, ug/L (CAS NO - 74-97-5)	7/8/2025	< 5	< 5	< 5
	7/8/2025	N/A	N/A	< 5
Bromodichloromethane, ug/L (CAS NO - 75-27-4)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
Bromoform, ug/L (CAS NO - 75-25-2)	7/8/2025	< 5	< 5	< 5
	7/8/2025	N/A	N/A	< 5
Bromomethane, ug/L (CAS NO - 74-83-9)	7/8/2025	< 4	< 4	< 4
	7/8/2025	N/A	N/A	< 4
Carbon Disulfide, ug/L (CAS NO - 75-15-0)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
Carbon Tetrachloride, ug/L (CAS NO - 56-23-5)	7/8/2025	< 2	< 2	< 2
	7/8/2025	N/A	N/A	< 2
Chlorobenzene, ug/L (CAS NO - 108-90-7)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
Chlorodibromomethane, ug/L (CAS NO - 124-48-1)	7/8/2025	< 5	< 5	< 5
	7/8/2025	N/A	N/A	< 5

# SCS ENGINEERS

## Summary of Groundwater Chemistry

Buena Vista County Sanitary Landfill - 11-SDP-01-74P

Appendix I VOC Constituents	Sample Date	MW-2 UPG	MW-8 DNG	MW-10 DNG
Chloroethane, ug/L (CAS NO - 75-00-3)	7/8/2025	< 4	< 4	1.13*
	7/8/2025	N/A	N/A	1.12*
Chloroform, ug/L (CAS NO - 67-66-3)	7/8/2025	< 3	< 3	< 3
	7/8/2025	N/A	N/A	< 3
Chloromethane, ug/L (CAS NO - 74-87-3)	7/8/2025	< 3	< 3	< 3
	7/8/2025	N/A	N/A	< 3
cis-1,2-Dichloroethene, ug/L (CAS NO - 156-59-2)	7/8/2025	< 1	< 1	2.8
	7/8/2025	N/A	N/A	3.16
cis-1,3-Dichloropropene, ug/L (CAS NO - 10061-01-5)	7/8/2025	< 5	< 5	< 5
	7/8/2025	N/A	N/A	< 5
Ethylbenzene, ug/L (CAS NO - 100-41-4)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
Iodomethane, ug/L (CAS NO - 74-88-4)	7/8/2025	< 10	< 10	< 10
	7/8/2025	N/A	N/A	< 10
Methylene Bromide, ug/L (CAS NO - 74-95-3)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
Methylene Chloride, ug/L (CAS NO - 75-09-2)	7/8/2025	< 5	< 5	< 5
	7/8/2025	N/A	N/A	< 5
Styrene, ug/L (CAS NO - 100-42-5)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
Tetrachloroethene, ug/L (CAS NO - 127-18-4)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
Toluene, ug/L (CAS NO - 108-88-3)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
trans-1,2-Dichloroethene, ug/L (CAS NO - 156-60-5)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
trans-1,3-Dichloropropene, ug/L (CAS NO - 10061-02-6)	7/8/2025	< 5	< 5	< 5
	7/8/2025	N/A	N/A	< 5
trans-1,4-Dichloro-2-Butene, ug/L (CAS NO - 110-57-6)	7/8/2025	< 10	< 10	< 10
	7/8/2025	N/A	N/A	< 10
Trichloroethene, ug/L (CAS NO - 79-01-6)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
Trichlorofluoromethane, ug/L (CAS NO - 75-69-4)	7/8/2025	< 4	< 4	< 4
	7/8/2025	N/A	N/A	< 4
Vinyl Acetate, ug/L (CAS NO - 108-05-4)	7/8/2025	< 10	< 10	< 10
	7/8/2025	N/A	N/A	< 10
Vinyl Chloride, ug/L (CAS NO - 75-01-4)	7/8/2025	< 1	< 1	< 1
	7/8/2025	N/A	N/A	< 1
Xylenes, total, ug/L (CAS NO - 1330-20-7)	7/8/2025	< 3	< 3	< 3
	7/8/2025	N/A	N/A	< 3

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.

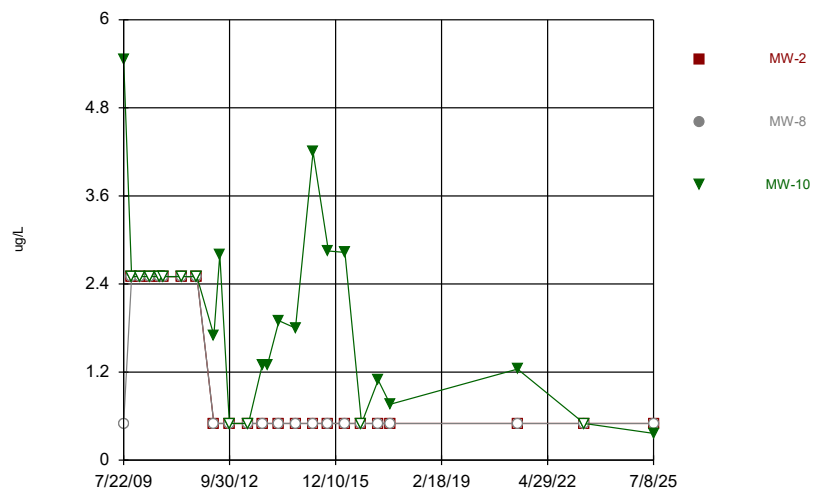
## Attachment B

### Statistical Outputs

- Time Series Plots
- Sen's Slope/Mann-Kendall Summary Table and Graphs
- Confidence Interval Summary Table and Graphs

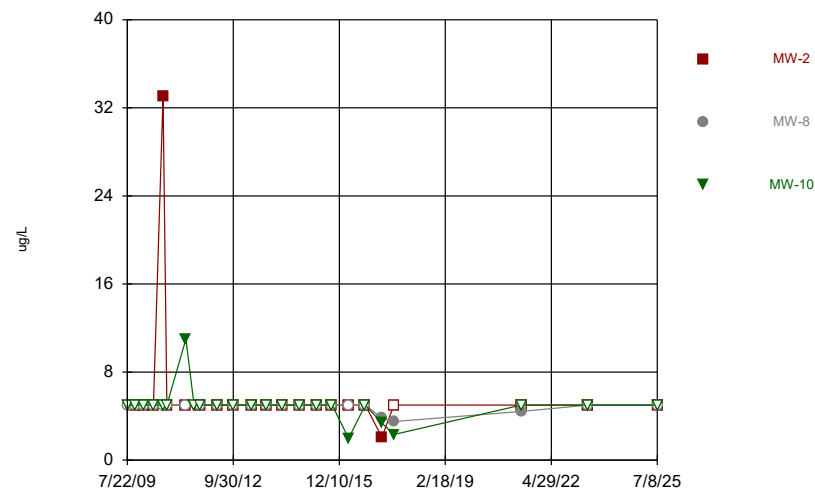
## Time Series Plots

Time Series



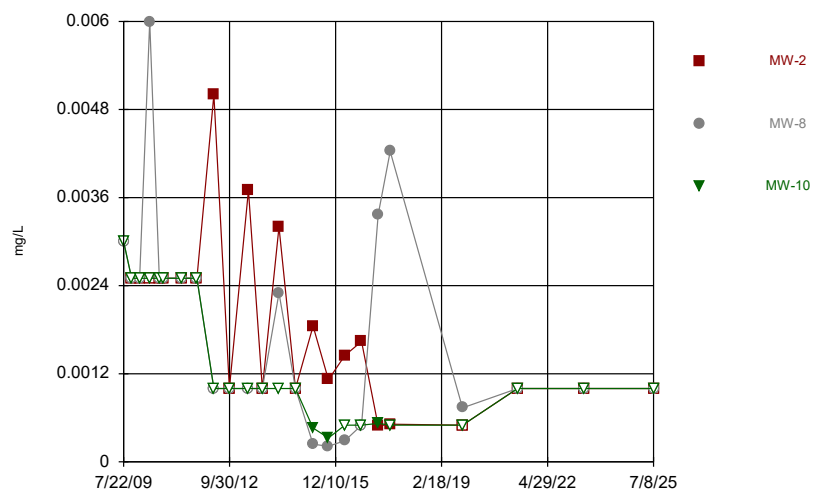
Constituent: 1,1-Dichloroethane Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
 Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

Time Series



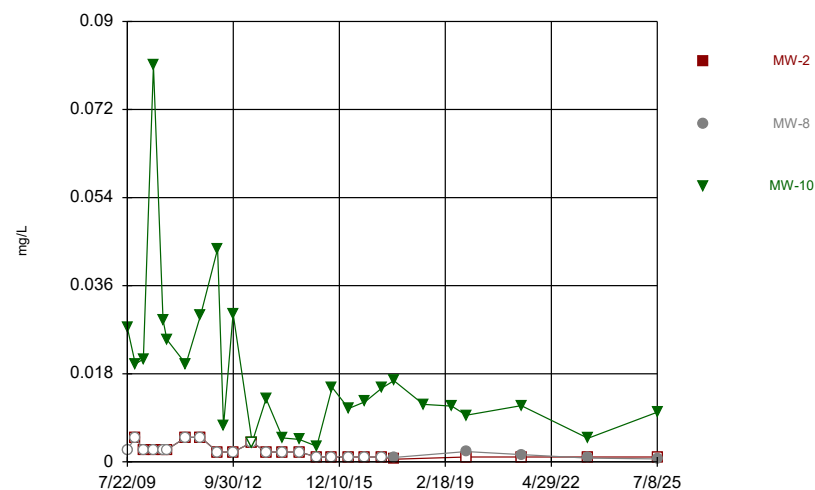
Constituent: Acetone Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
 Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

Time Series



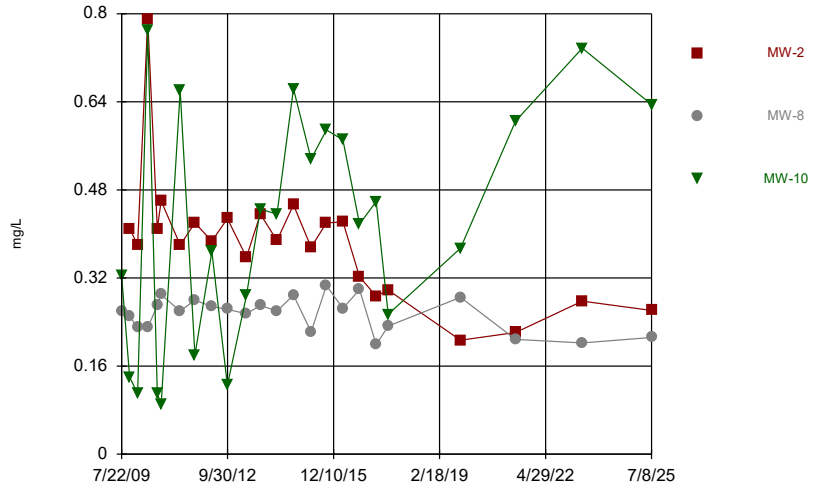
Constituent: Antimony Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
 Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

Time Series



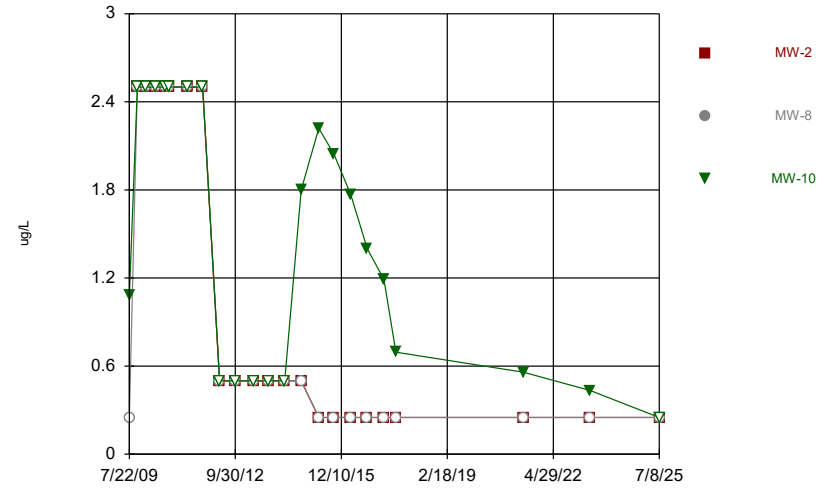
Constituent: Arsenic Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
 Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

Time Series



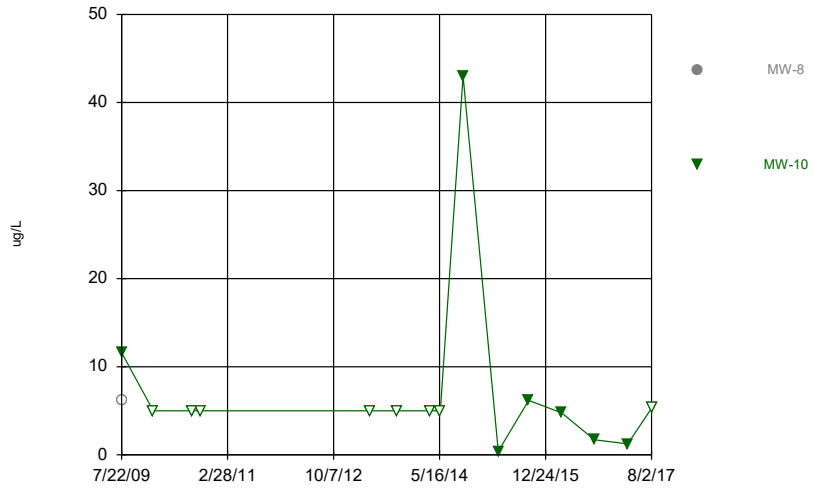
Constituent: Barium Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

Time Series



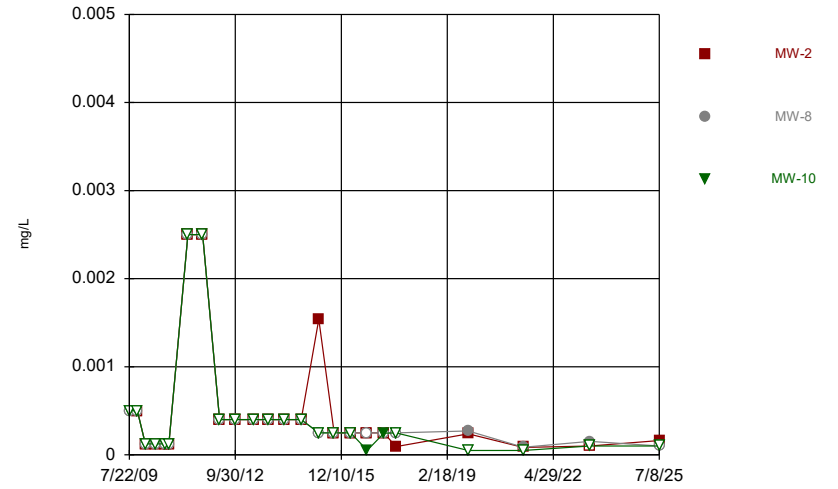
Constituent: Benzene Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

Time Series



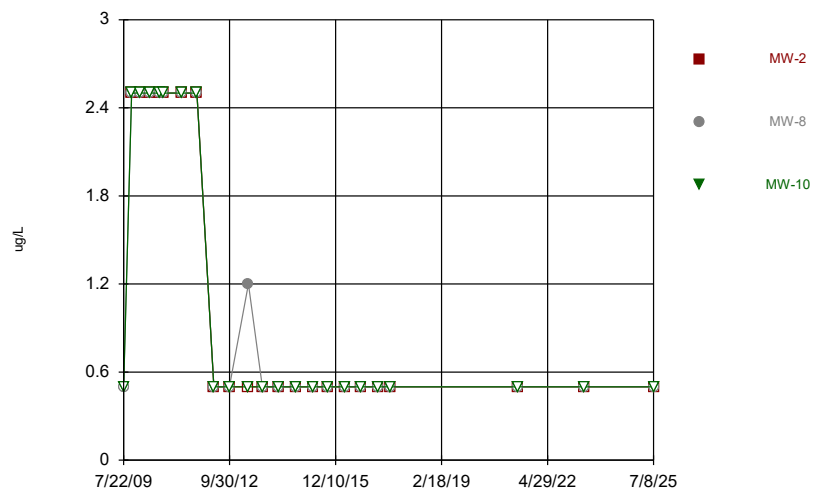
Constituent: Bis[2-ethylhexyl]phthalate Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

Time Series



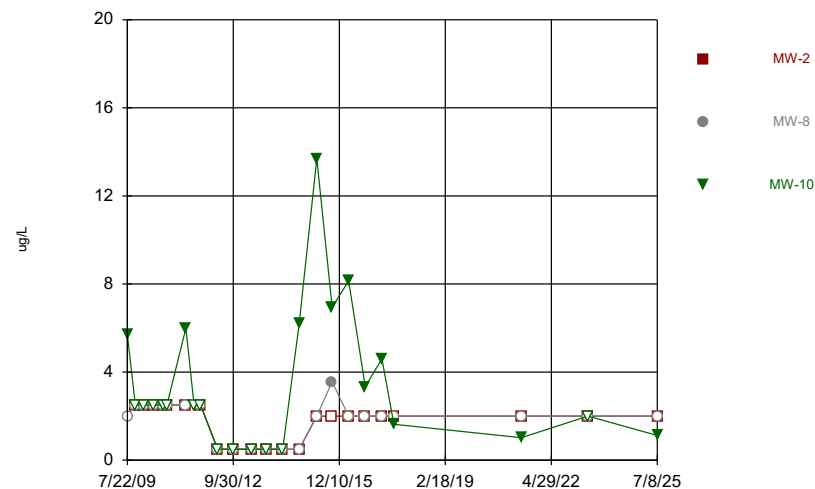
Constituent: Cadmium Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

### Time Series



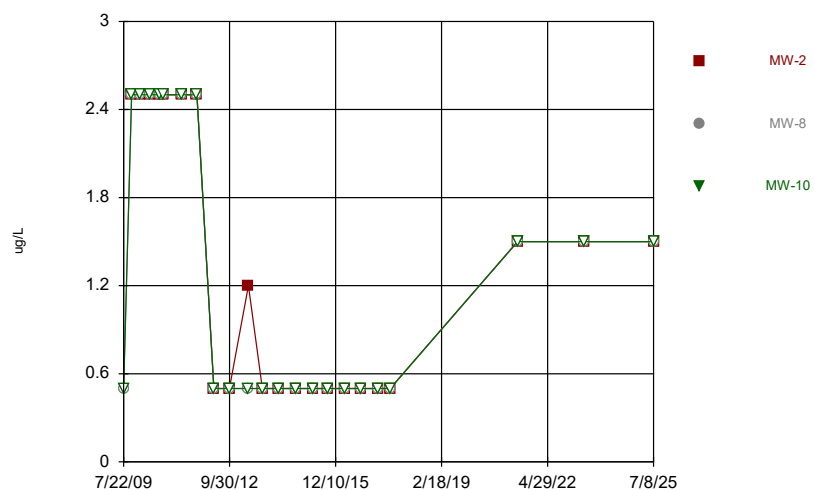
Constituent: Chlorobenzene Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

### Time Series



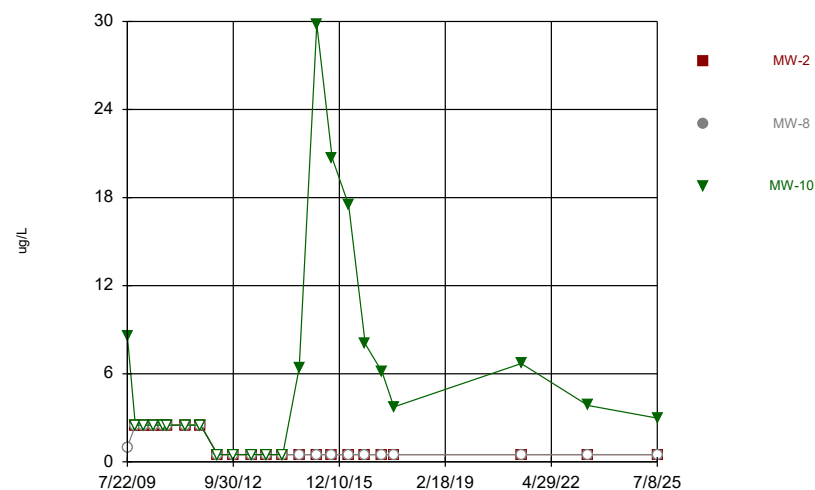
Constituent: Chloroethane Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

### Time Series



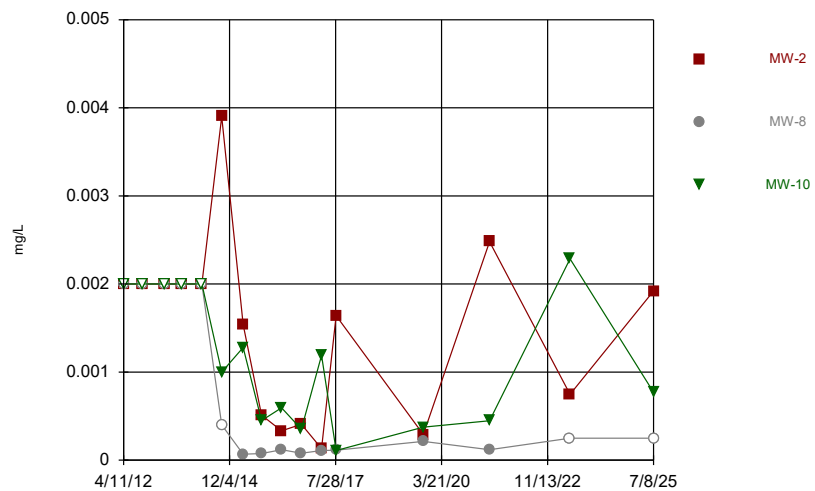
Constituent: Chloroform Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

### Time Series



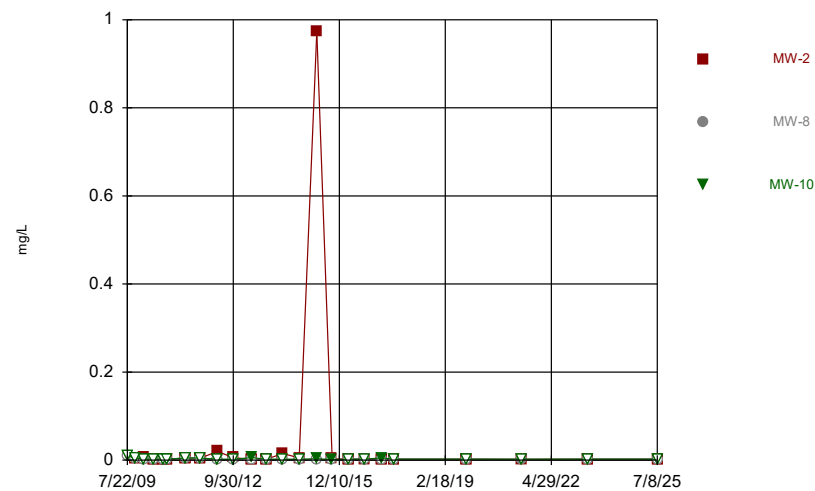
Constituent: cis-1,2-Dichloroethene Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

### Time Series



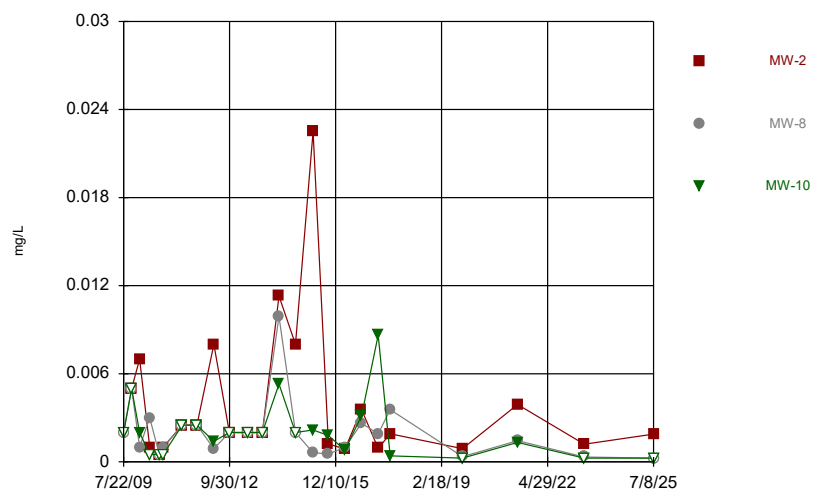
Constituent: Cobalt Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

### Time Series



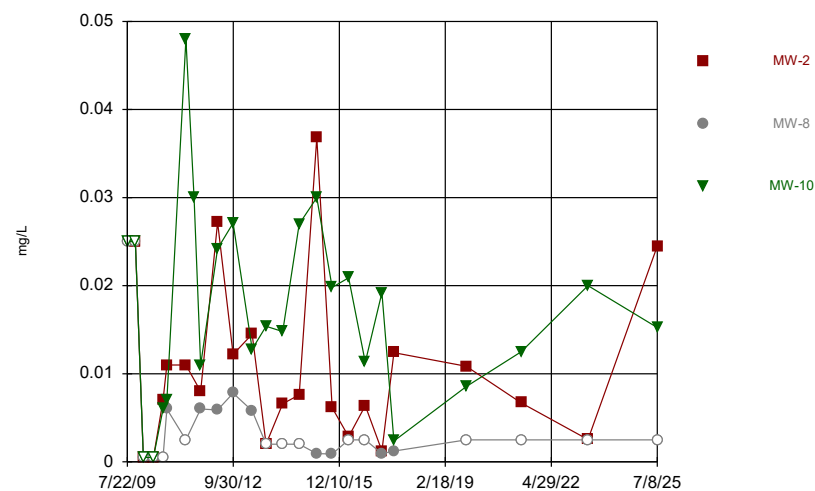
Constituent: Copper Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

### Time Series



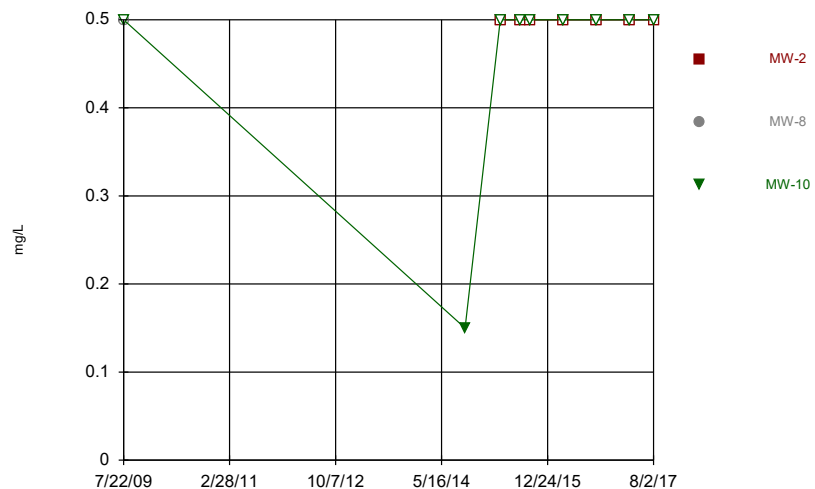
Constituent: Lead Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

### Time Series



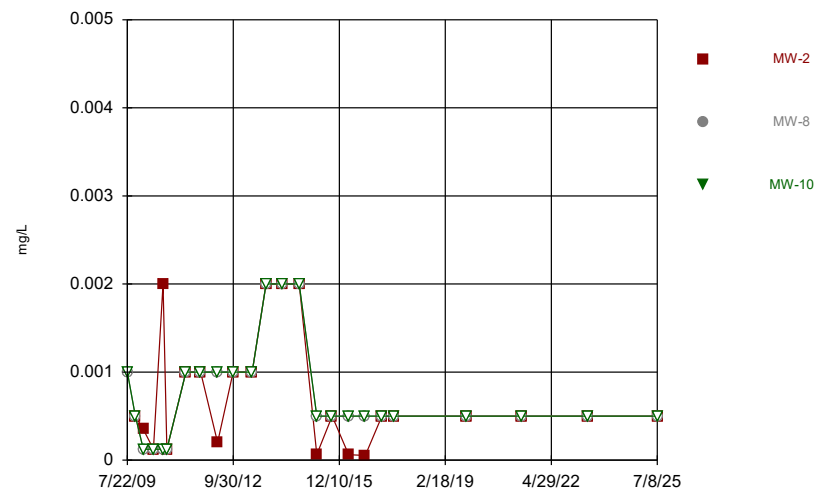
Constituent: Nickel Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

### Time Series



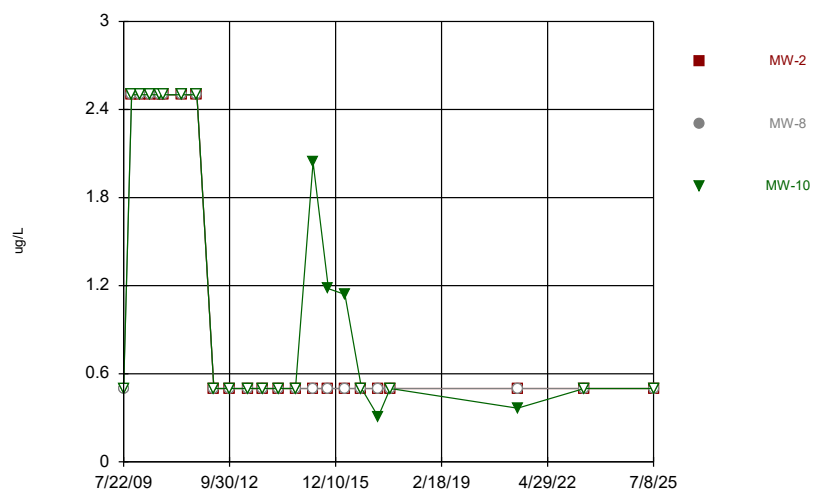
Constituent: Sulfide Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
 Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

### Time Series



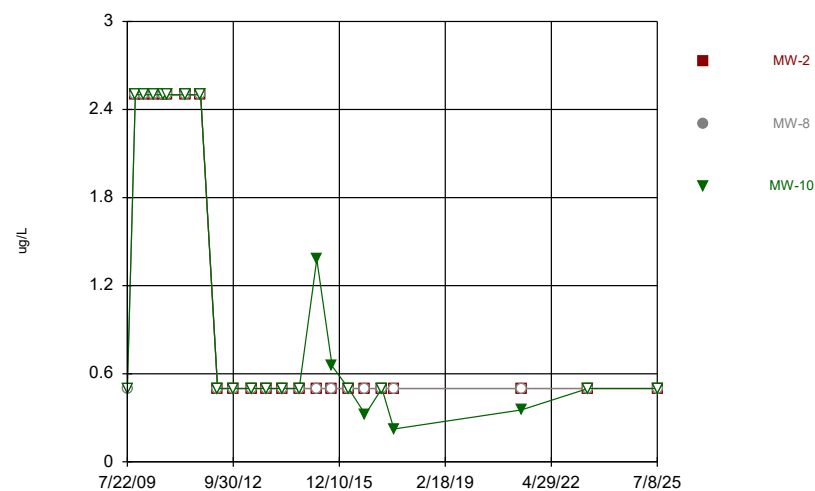
Constituent: Thallium Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
 Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

### Time Series



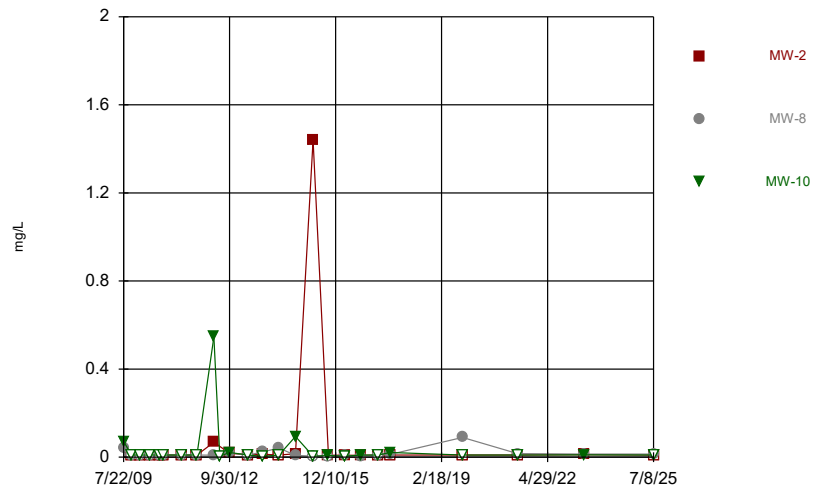
Constituent: trans-1,2-Dichloroethene Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
 Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

### Time Series



Constituent: Vinyl Chloride Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
 Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

### Time Series



Constituent: Zinc Analysis Run 10/23/2025 12:35 PM View: 2025AWQR - Time Series  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: Sanitas BV Master

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

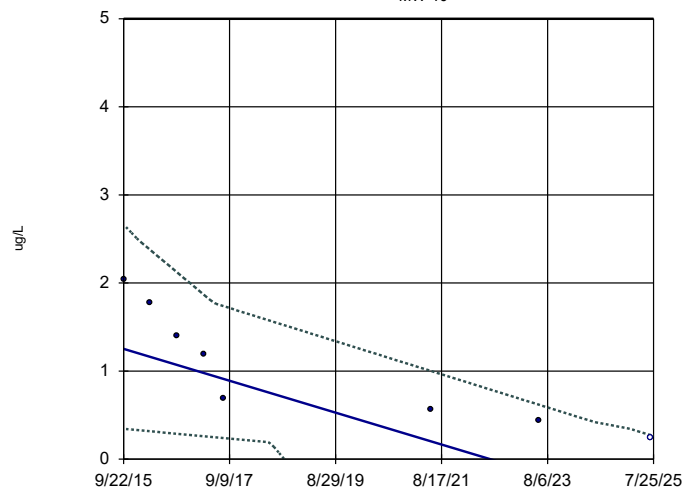
# Theil Sen/Trend Test

Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR Printed 10/23/2025, 1:45 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Alpha</u>	<u>Method</u>
<b>Benzene (ug/L)</b>	<b>MW-10</b>	<b>-0.1839</b>	<b>-28</b>	<b>-21</b>	<b>Yes</b>	<b>8</b>	<b>12.5</b>	<b>0.01</b>	<b>NP</b>
<b>cis-1,2-Dichloroethene (ug/L)</b>	<b>MW-10</b>	<b>-1.851</b>	<b>-22</b>	<b>-21</b>	<b>Yes</b>	<b>8</b>	<b>0</b>	<b>0.01</b>	<b>NP</b>

### Sen's Slope and 99% Confidence Band

MW-10

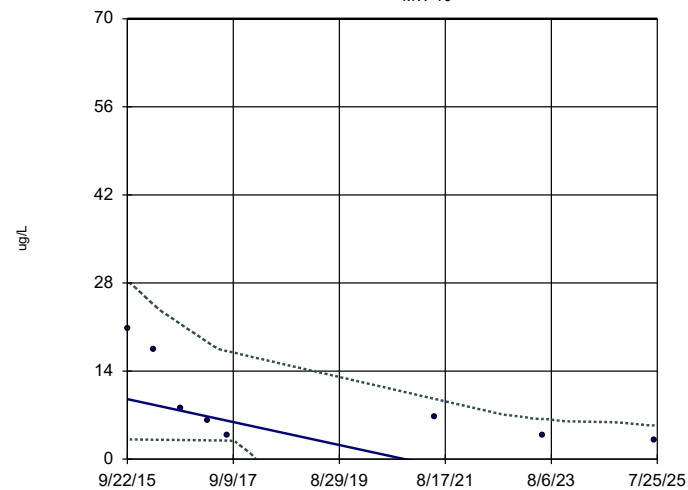


n = 8  
Slope = -0.1839  
units per year.  
Mann-Kendall  
statistic = -28  
critical = -21  
Decreasing trend  
significant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).  
Confidence band is  
below GWPS ug/L (5).

Constituent: Benzene Analysis Run 10/23/2025 1:42 PM View: 2025\_AWQR-Theil\_Sen  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope and 99% Confidence Band

MW-10



n = 8  
Slope = -1.851  
units per year.  
Mann-Kendall  
statistic = -22  
critical = -21  
Decreasing trend  
significant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).  
Confidence band is  
below GWPS ug/L (70).

Constituent: cis-1,2-Dichloroethene Analysis Run 10/23/2025 1:42 PM View: 2025\_AWQR-Theil\_Sen  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

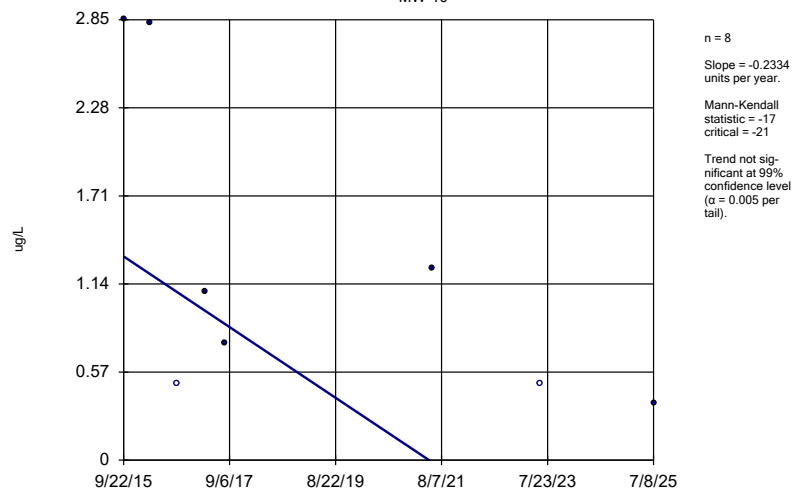
# Trend Test

Buena Vista County Sanitary Landfill    Client: SCS Engineers    Data: BVCSL\_AM\_2025\_AWQR    Printed 10/23/2025, 12:52 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Alpha</u>	<u>Method</u>
1,1-Dichloroethane (ug/L)	MW-10	-0.2334	-17	-21	No	8	25	0.01	NP
Antimony (mg/L)	MW-2	0	-1	-21	No	8	50	0.01	NP
Antimony (mg/L)	MW-8	0.00007321	9	21	No	8	50	0.01	NP
Arsenic (mg/L)	MW-8	-0.00003814	-9	-21	No	8	37.5	0.01	NP
Arsenic (mg/L)	MW-10	-0.001304	-18	-21	No	8	0	0.01	NP
Barium (mg/L)	MW-2	-0.01651	-16	-21	No	8	0	0.01	NP
Barium (mg/L)	MW-8	-0.005456	-8	-21	No	8	0	0.01	NP
Barium (mg/L)	MW-10	0.02387	10	21	No	8	0	0.01	NP
<b>Benzene (ug/L)</b>	<b>MW-10</b>	<b>-0.1839</b>	<b>-28</b>	<b>-21</b>	<b>Yes</b>	<b>8</b>	<b>12.5</b>	<b>0.01</b>	<b>NP</b>
Bis[2-ethylhexyl]phthalate (ug/L)	MW-10	-1.126	-6	-21	No	8	25	0.01	NP
Cadmium (mg/L)	MW-2	-0.000009618	-13	-21	No	8	50	0.01	NP
Cadmium (mg/L)	MW-8	-0.00001503	-10	-21	No	8	62.5	0.01	NP
Chloroethane (ug/L)	MW-10	-0.6181	-18	-21	No	8	12.5	0.01	NP
<b>cis-1,2-Dichloroethene (ug/L)</b>	<b>MW-10</b>	<b>-1.851</b>	<b>-22</b>	<b>-21</b>	<b>Yes</b>	<b>8</b>	<b>0</b>	<b>0.01</b>	<b>NP</b>
Cobalt (mg/L)	MW-2	0.0001373	12	21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-10	0.00004582	8	21	No	8	0	0.01	NP
Copper (mg/L)	MW-10	0	-3	-21	No	8	87.5	0.01	NP
Lead (mg/L)	MW-2	0.00005157	6	21	No	8	0	0.01	NP
Lead (mg/L)	MW-8	-0.0001873	-14	-21	No	8	12.5	0.01	NP
Lead (mg/L)	MW-10	-0.0001153	-13	-21	No	8	37.5	0.01	NP
Nickel (mg/L)	MW-2	0.00138	8	21	No	8	0	0.01	NP
Nickel (mg/L)	MW-10	0.000002021	0	21	No	8	0	0.01	NP
Sulfide (mg/L)	MW-10	0	7	21	No	8	87.5	0.01	NP
trans-1,2-Dichloroethene (ug/L)	MW-10	-0.05199	-10	-21	No	8	50	0.01	NP
Zinc (mg/L)	MW-8	0.0009596	16	21	No	8	12.5	0.01	NP
Zinc (mg/L)	MW-10	0	8	21	No	8	62.5	0.01	NP

### Sen's Slope Estimator

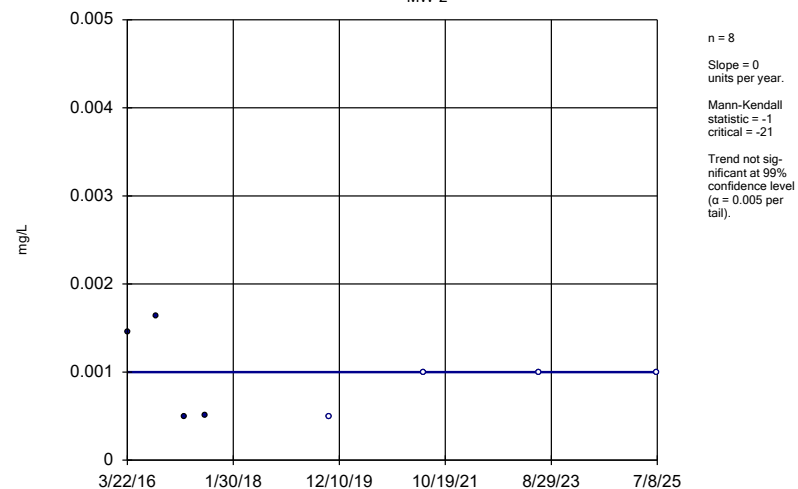
MW-10



Constituent: 1,1-Dichloroethane Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

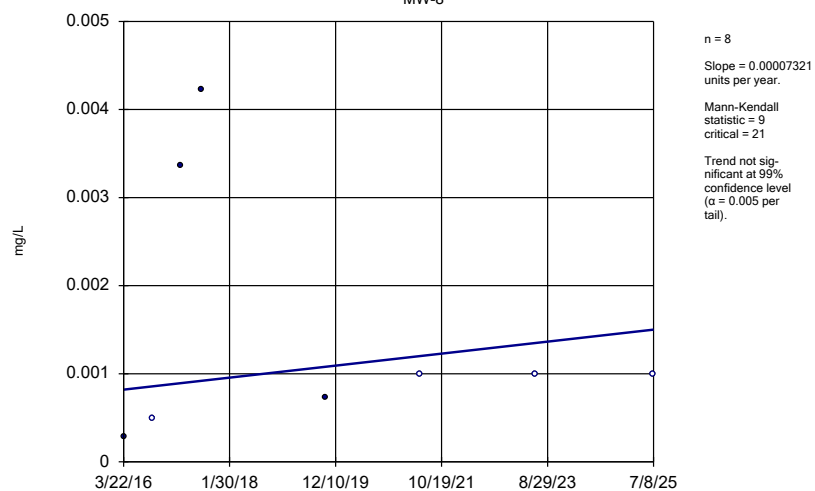
MW-2



Constituent: Antimony Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

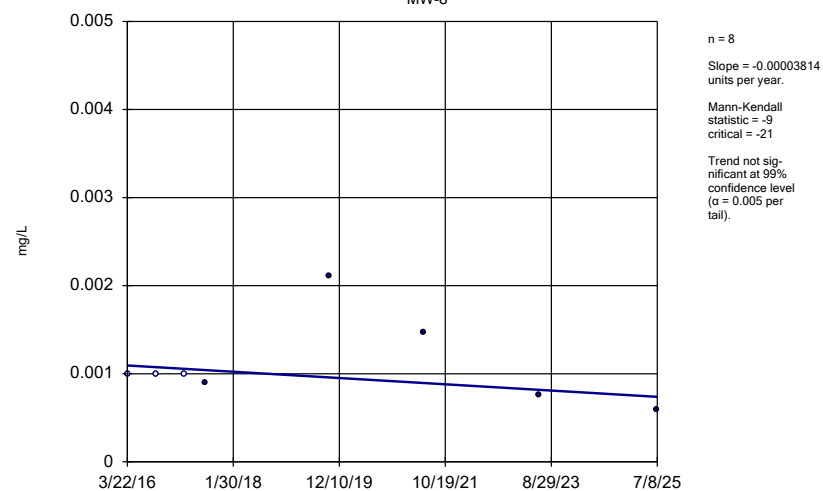
MW-8



Constituent: Antimony Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

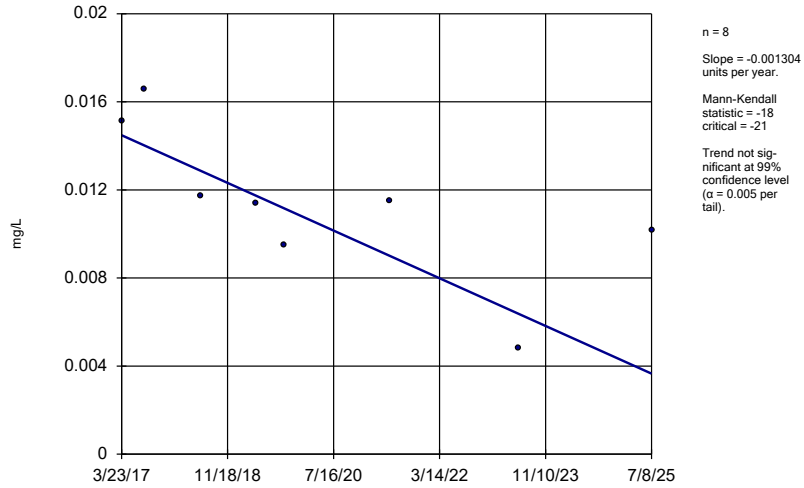
MW-8



Constituent: Arsenic Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

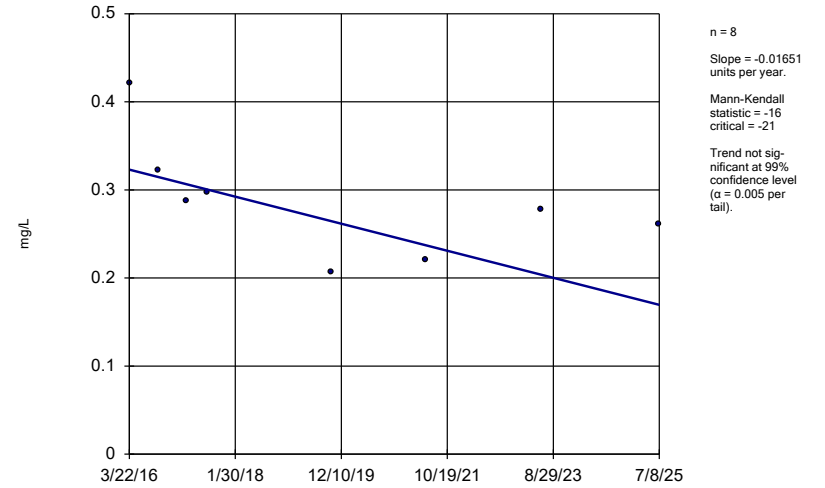
MW-10



Constituent: Arsenic Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

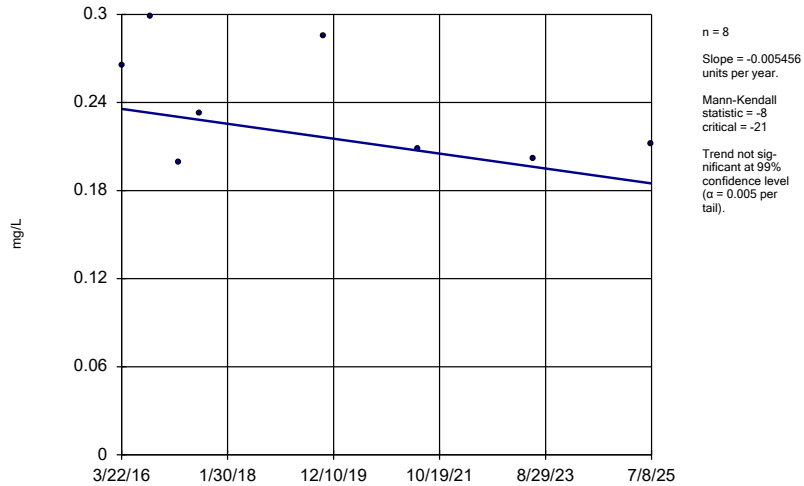
MW-2



Constituent: Barium Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

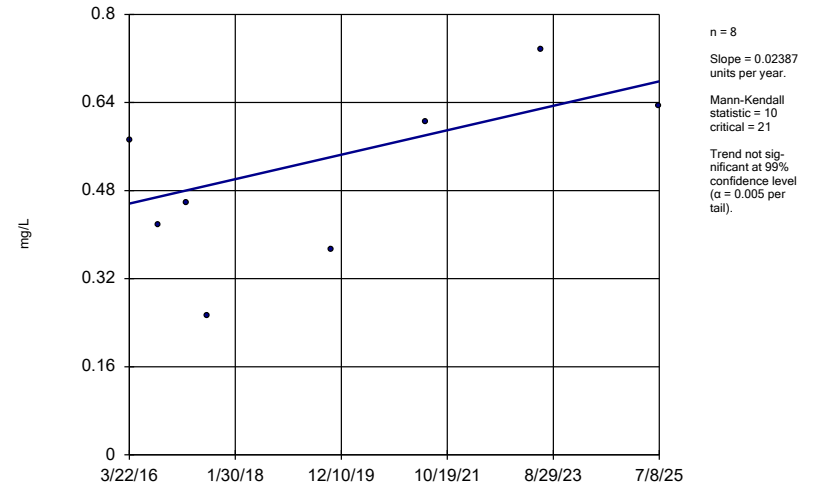
MW-8



Constituent: Barium Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

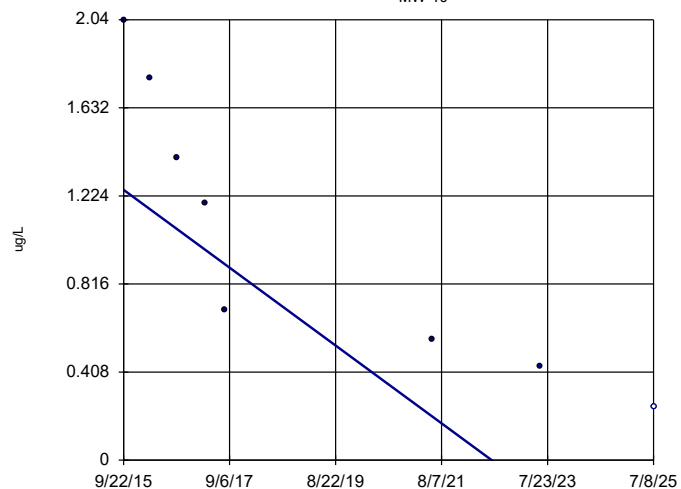
MW-10



Constituent: Barium Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

MW-10

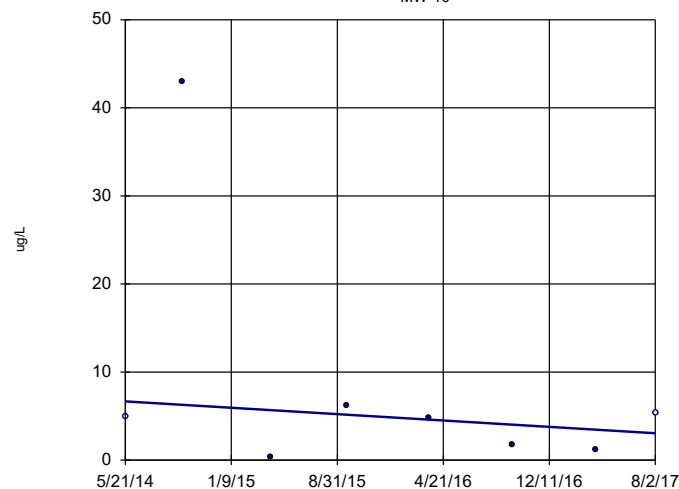


n = 8  
Slope = -0.1839  
units per year.  
Mann-Kendall  
statistic = -28  
critical = -21  
Decreasing trend  
significant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Benzene Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

MW-10

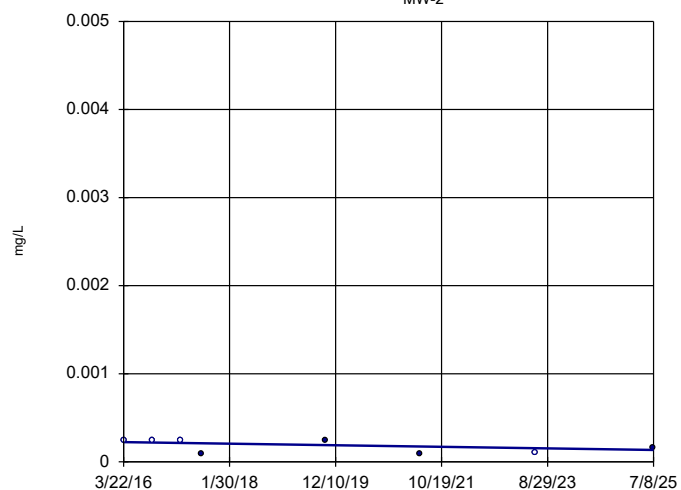


n = 8  
Slope = -1.126  
units per year.  
Mann-Kendall  
statistic = -6  
critical = -21  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Bis[2-ethylhexyl]phthalate Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Ke  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

MW-2

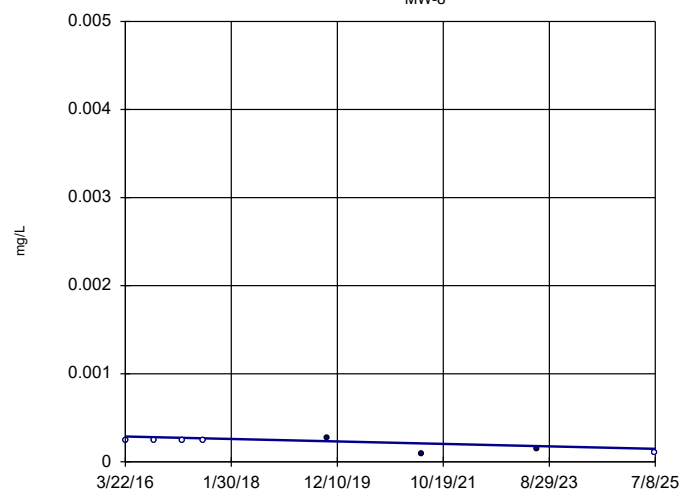


n = 8  
Slope = -0.000009618  
units per year.  
Mann-Kendall  
statistic = -13  
critical = -21  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Cadmium Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

MW-8

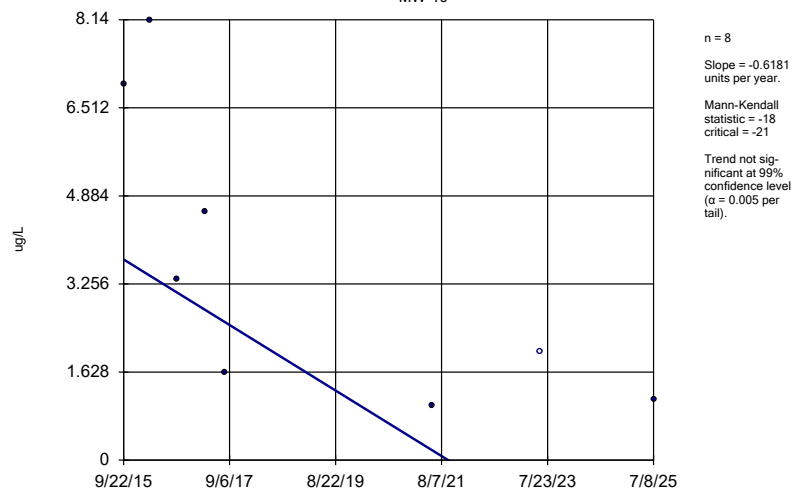


n = 8  
Slope = -0.00001503  
units per year.  
Mann-Kendall  
statistic = -10  
critical = -21  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Cadmium Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

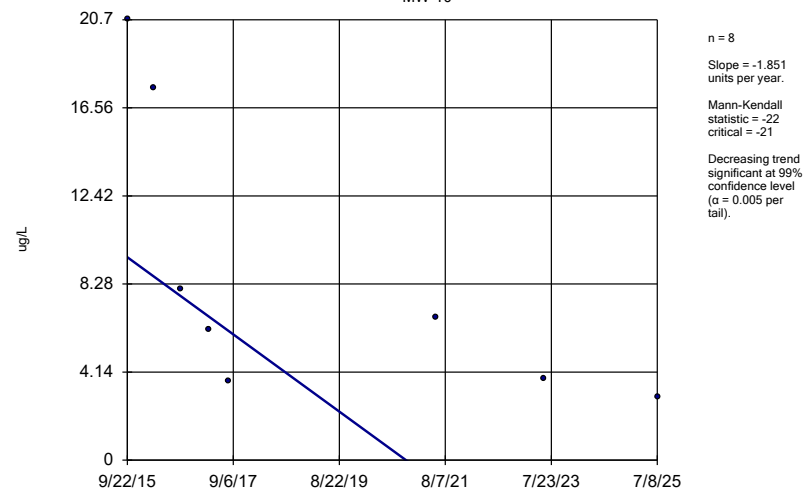
MW-10



Constituent: Chloroethane Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
 Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

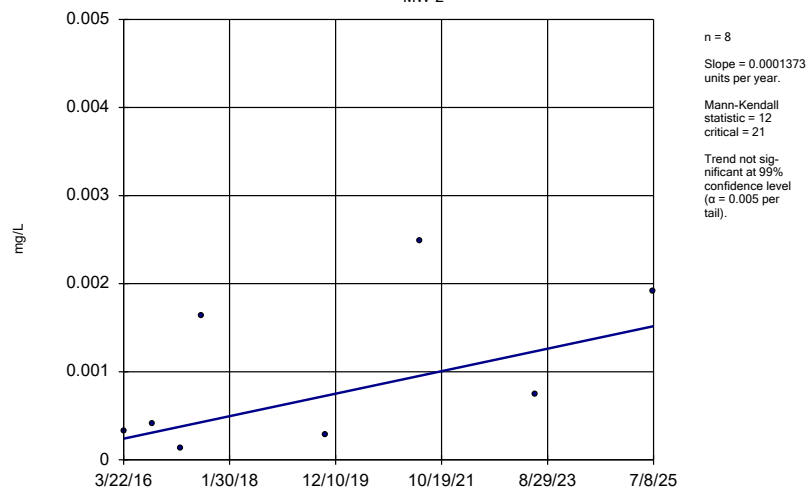
MW-10



Constituent: cis-1,2-Dichloroethene Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
 Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

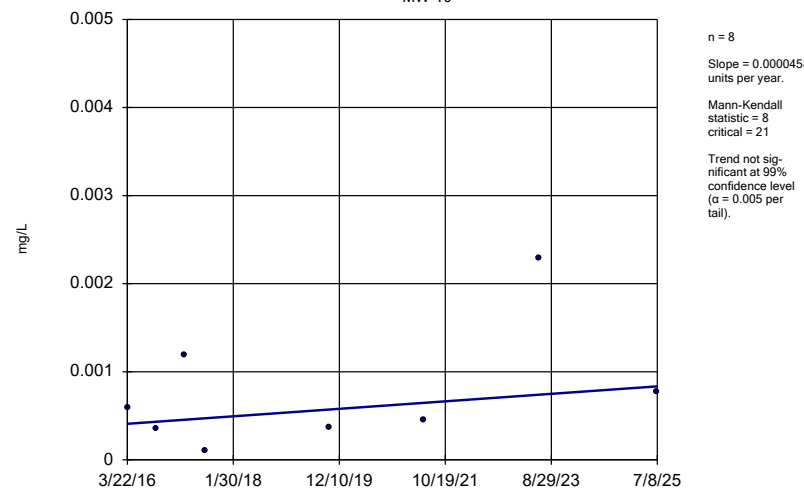
MW-2



Constituent: Cobalt Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
 Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

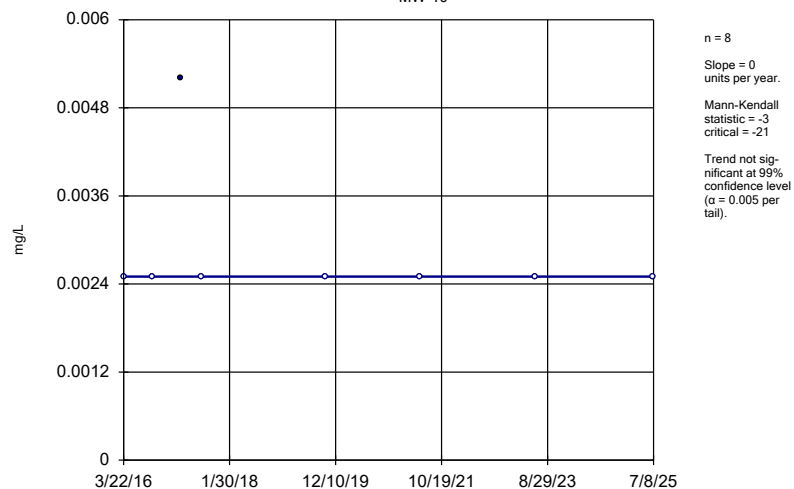
MW-10



Constituent: Cobalt Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
 Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

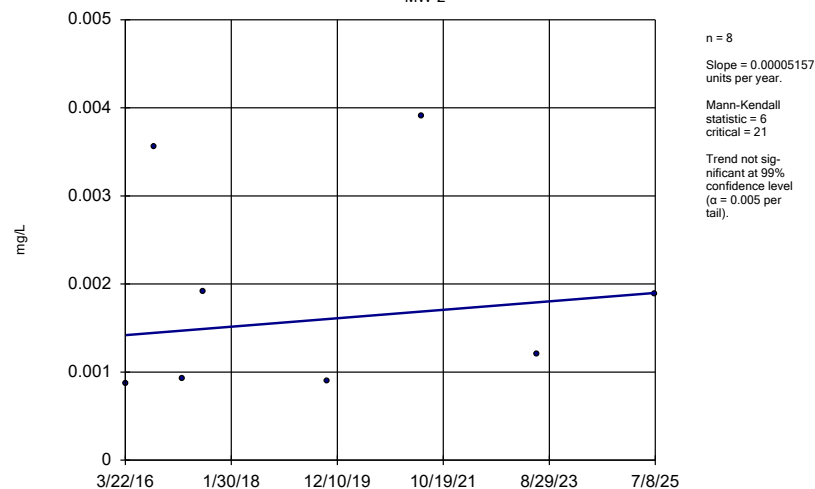
MW-10



Constituent: Copper Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

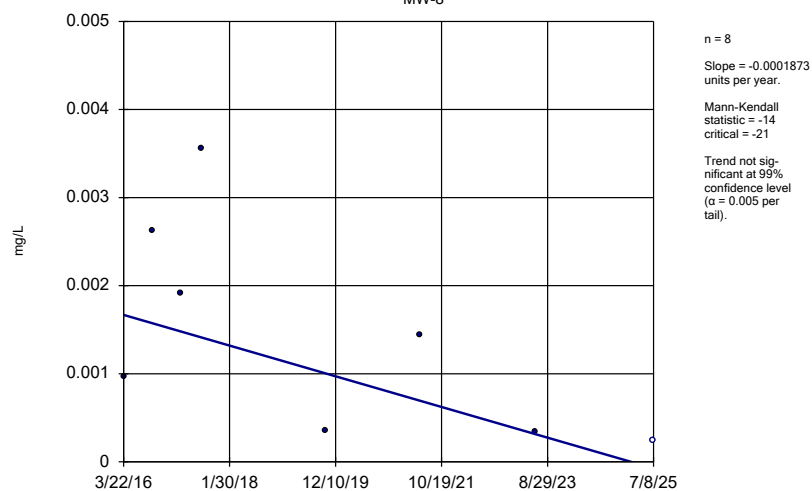
MW-2



Constituent: Lead Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

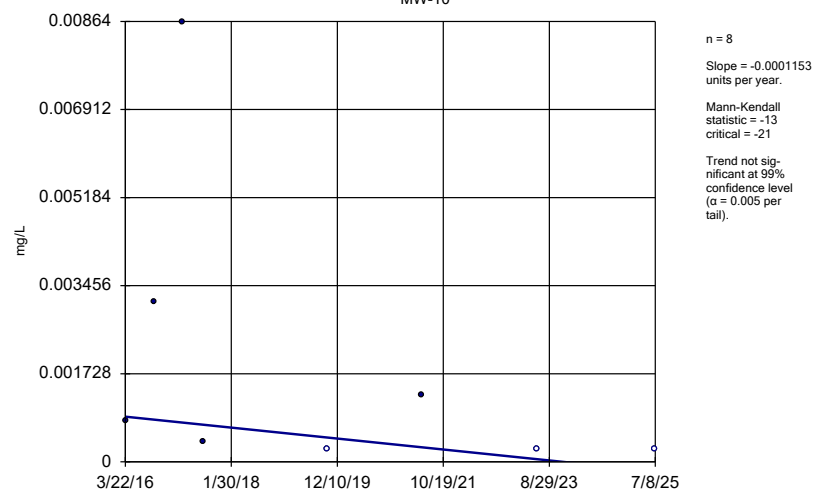
MW-8



Constituent: Lead Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

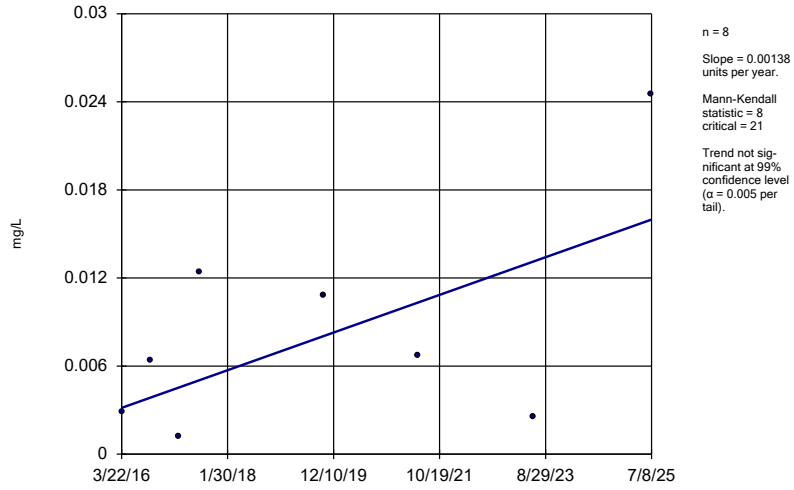
MW-10



Constituent: Lead Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

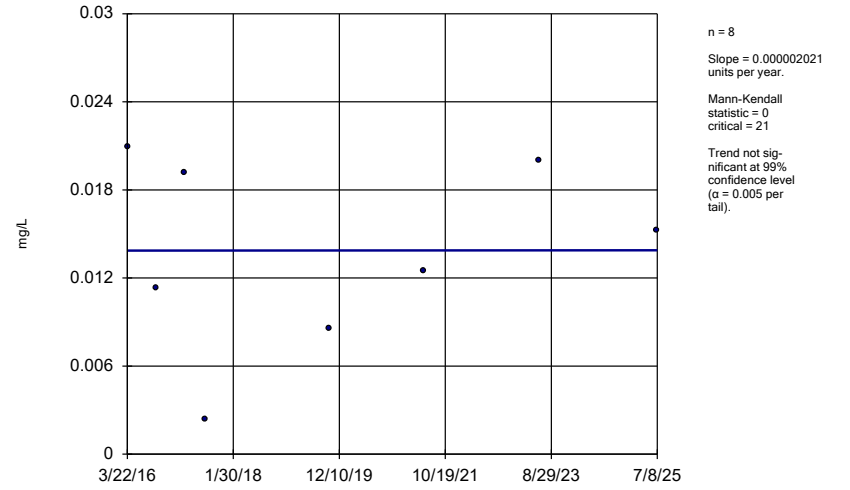
MW-2



Constituent: Nickel Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

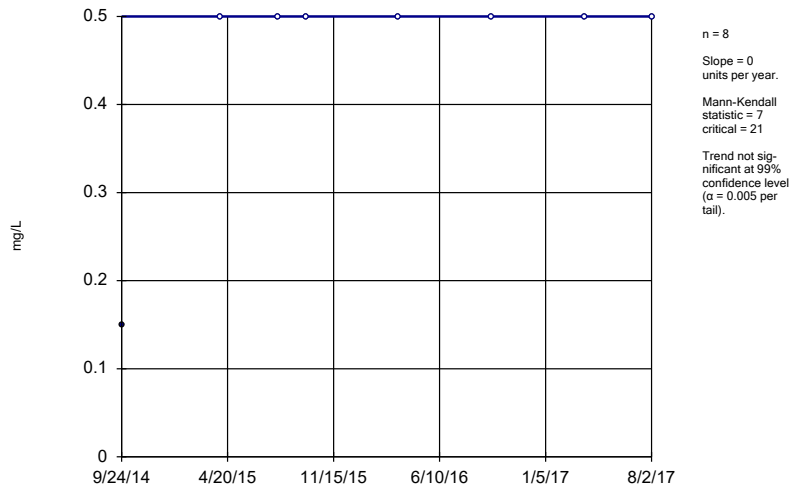
MW-10



Constituent: Nickel Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

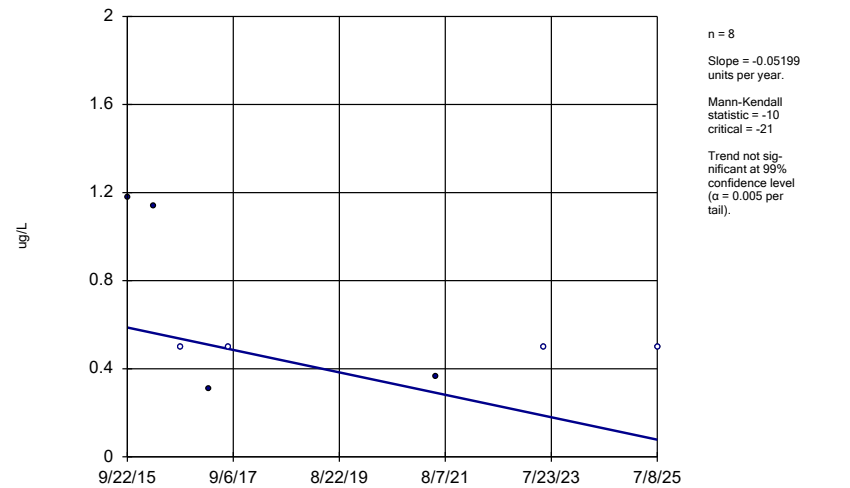
MW-10



Constituent: Sulfide Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

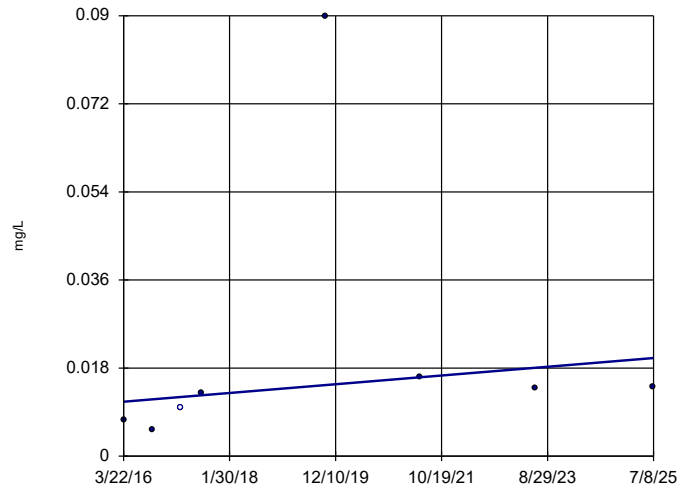
MW-10



Constituent: trans-1,2-Dichloroethene Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Ken  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

MW-8

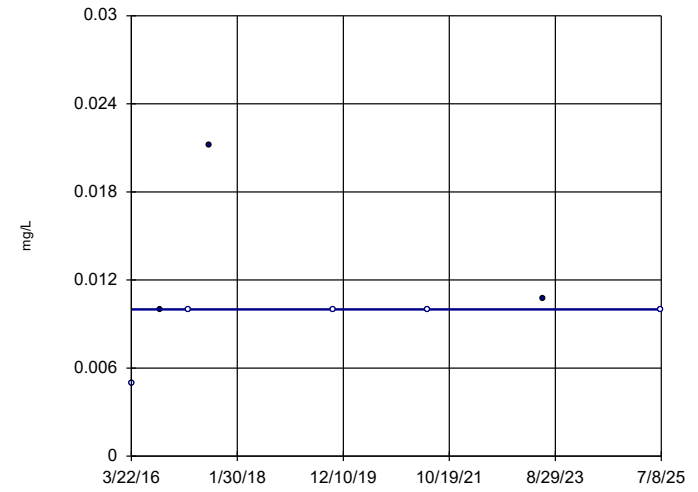


n = 8  
Slope = 0.0009596  
units per year.  
Mann-Kendall  
statistic = 16  
critical = 21  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Zinc Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Sen's Slope Estimator

MW-10



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

Constituent: Zinc Analysis Run 10/23/2025 12:49 PM View: 2025\_AWQR-Mann\_Kendall  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

## Confidence Interval Summary Table and Graphs

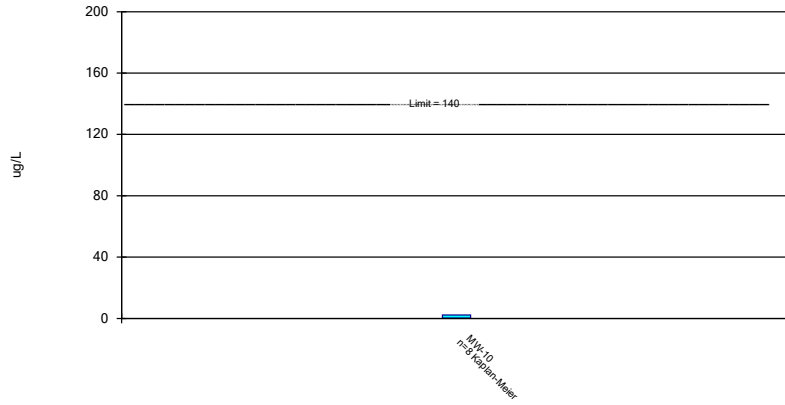
# Confidence Interval

Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR Printed 10/23/2025, 1:33 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
1,1-Dichloroethane (ug/L)	MW-10	2.283	0.2836	140	No	8	25	No	0.01	Param.
Antimony (mg/L)	MW-2	0.001464	0.0003721	0.006	No	8	50	No	0.01	Param.
Antimony (mg/L)	MW-8	0.002874	0	0.006	No	8	50	No	0.01	Param.
Arsenic (mg/L)	MW-8	0.001605	0.0005482	0.05148	No	8	37.5	No	0.01	Param.
Arsenic (mg/L)	MW-10	0.01514	0.007572	0.05148	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-2	0.3576	0.2164	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-8	0.28	0.1958	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-10	0.6743	0.339	2	No	8	0	No	0.01	Param.
Bis[2-ethylhexyl]phthalate (ug/L)	MW-10	43	0.412	6	No	8	25	No	0.004	NP (normality)
Cadmium (mg/L)	MW-2	0.0002017	0.00007599	0.005	No	8	50	No	0.01	Param.
Cadmium (mg/L)	MW-8	0.000272	0.0000865	0.005	No	8	62.5	No	0.004	NP (NDs)
Chloroethane (ug/L)	MW-10	6.493	0.7083	2800	No	8	12.5	No	0.01	Param.
Cobalt (mg/L)	MW-2	0.001939	0.00004922	0.0021	No	8	0	No	0.01	Param.
Cobalt (mg/L)	MW-10	0.001501	0.00002958	0.0021	No	8	0	No	0.01	Param.
Copper (mg/L)	MW-10	0.0052	0.0025	1.3	No	8	87.5	No	0.004	NP (NDs)
Lead (mg/L)	MW-2	0.003181	0.0006077	0.015	No	8	0	No	0.01	Param.
Lead (mg/L)	MW-8	0.002709	0.0001546	0.015	No	8	12.5	No	0.01	Param.
Lead (mg/L)	MW-10	0.00864	0.00025	0.015	No	8	37.5	No	0.004	NP (normality)
Nickel (mg/L)	MW-2	0.01649	0.000377	0.1	No	8	0	No	0.01	Param.
Nickel (mg/L)	MW-10	0.02054	0.006981	0.1	No	8	0	No	0.01	Param.
Sulfide (mg/L)	MW-10	0.5	0.15	1	No	8	87.5	No	0.004	NP (NDs)
trans-1,2-Dichloroethene (ug/L)	MW-10	1.18	0.308	100	No	8	50	No	0.004	NP (normality)
Zinc (mg/L)	MW-8	0.09	0.00536	2	No	8	12.5	No	0.004	NP (normality)
Zinc (mg/L)	MW-10	0.0212	0.005	2	No	8	62.5	No	0.004	NP (NDs)

### Parametric Confidence Interval

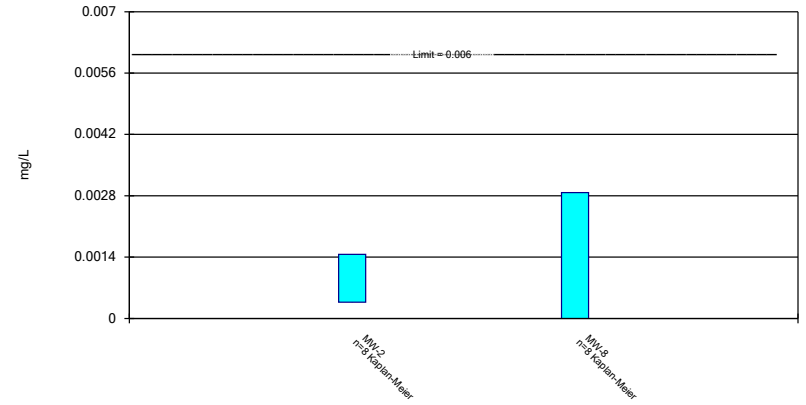
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: 1,1-Dichloroethane Analysis Run 10/23/2025 1:30 PM View: 2025\_AWQR-Confidence\_Interv  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Parametric Confidence Interval

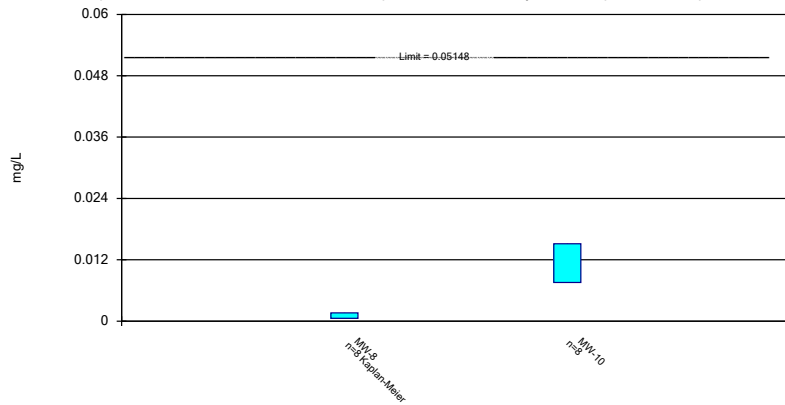
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Antimony Analysis Run 10/23/2025 1:30 PM View: 2025\_AWQR-Confidence\_Interv  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Parametric Confidence Interval

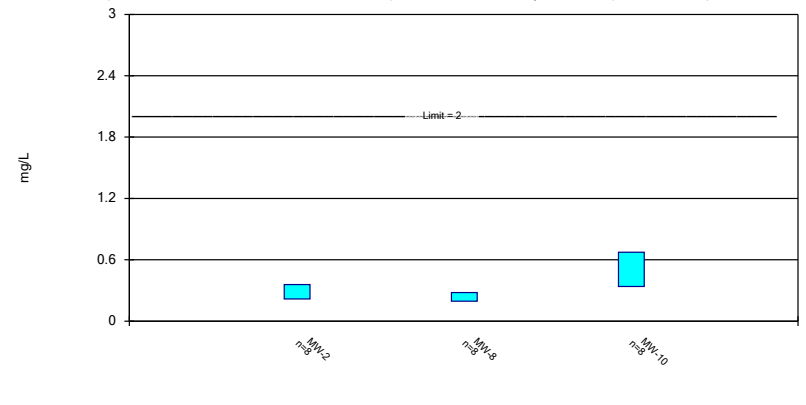
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Arsenic Analysis Run 10/23/2025 1:30 PM View: 2025\_AWQR-Confidence\_Interv  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Parametric Confidence Interval

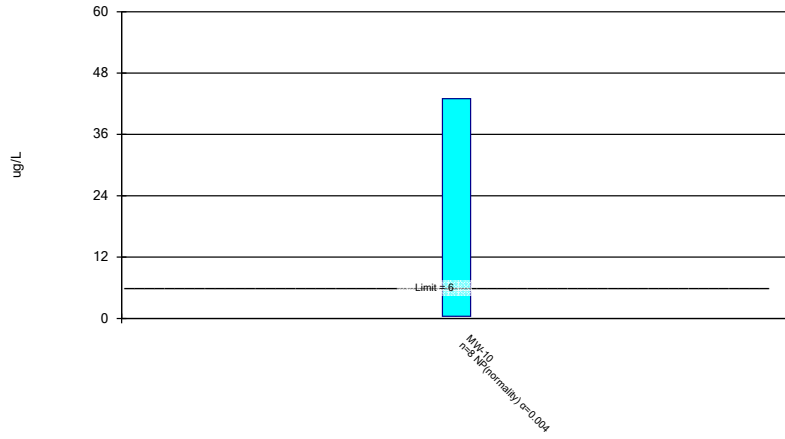
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Barium Analysis Run 10/23/2025 1:30 PM View: 2025\_AWQR-Confidence\_Interv  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Non-Parametric Confidence Interval

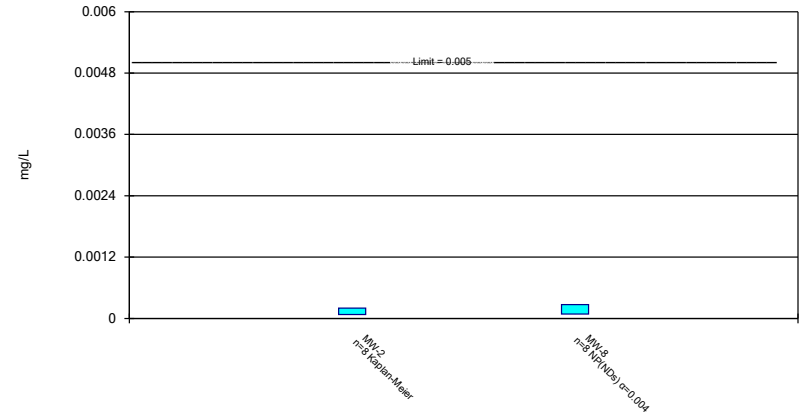
Compliance Limit is not exceeded.



Constituent: Bis[2-ethylhexyl]phthalate Analysis Run 10/23/2025 1:30 PM View: 2025\_AWQR-Confidence  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Parametric and Non-Parametric (NP) Confidence Interval

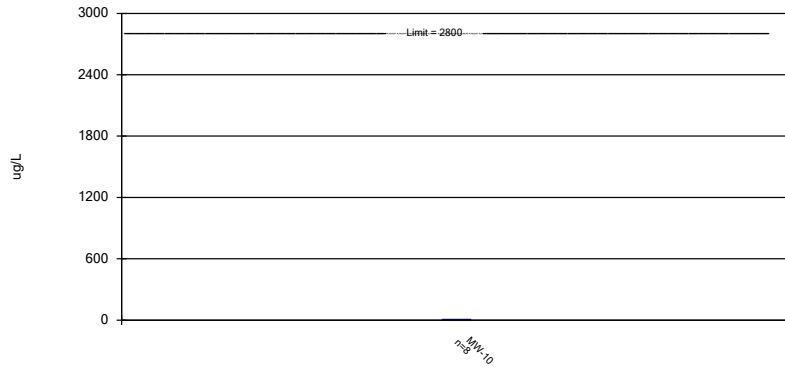
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Cadmium Analysis Run 10/23/2025 1:30 PM View: 2025\_AWQR-Confidence\_Interval  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Parametric Confidence Interval

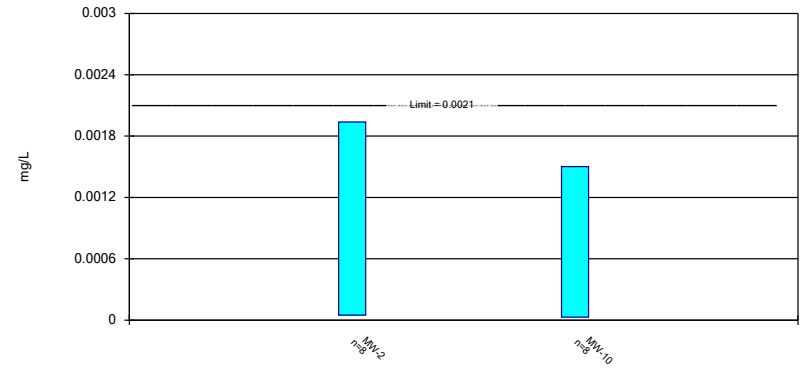
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Chloroethane Analysis Run 10/23/2025 1:30 PM View: 2025\_AWQR-Confidence\_Interval  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Parametric Confidence Interval

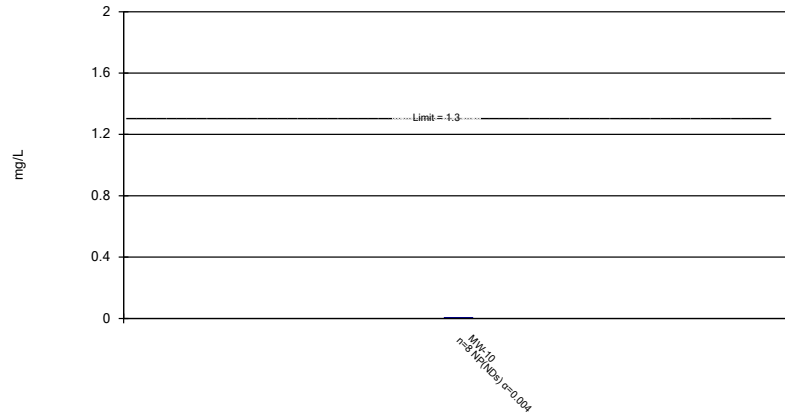
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Cobalt Analysis Run 10/23/2025 1:30 PM View: 2025\_AWQR-Confidence\_Interval  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Non-Parametric Confidence Interval

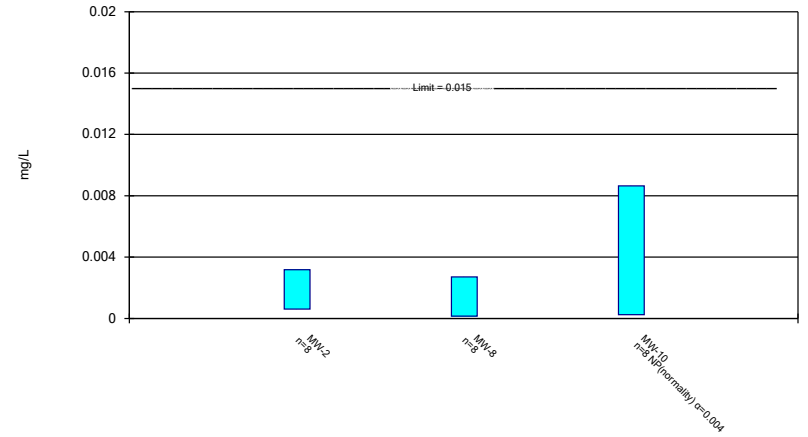
Compliance Limit is not exceeded.



Constituent: Copper Analysis Run 10/23/2025 1:30 PM View: 2025\_AWQR-Confidence\_Interval  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Parametric and Non-Parametric (NP) Confidence Interval

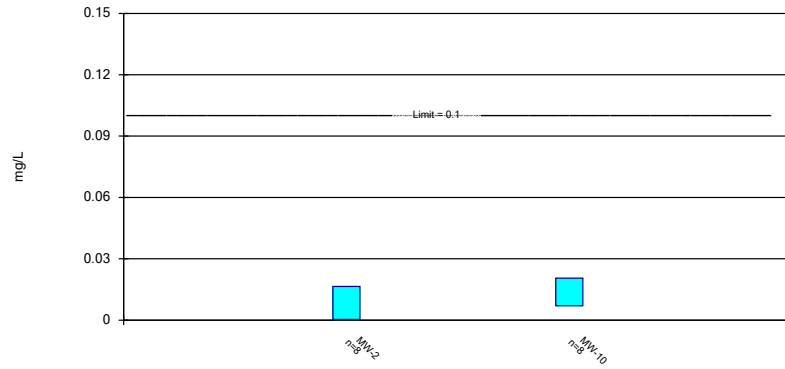
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Lead Analysis Run 10/23/2025 1:30 PM View: 2025\_AWQR-Confidence\_Interval  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Parametric Confidence Interval

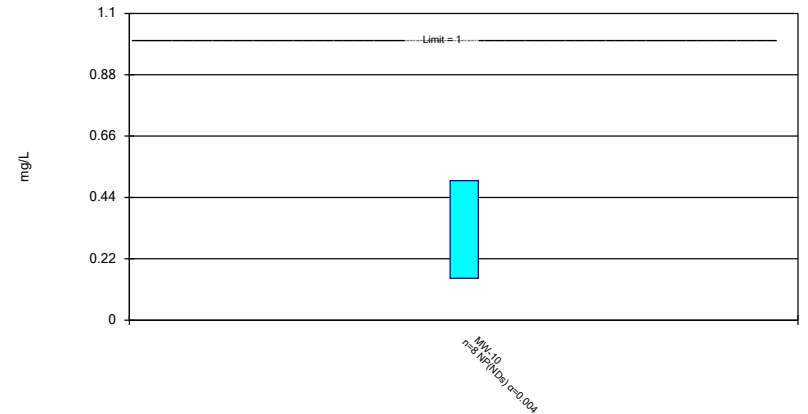
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Nickel Analysis Run 10/23/2025 1:30 PM View: 2025\_AWQR-Confidence\_Interval  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Non-Parametric Confidence Interval

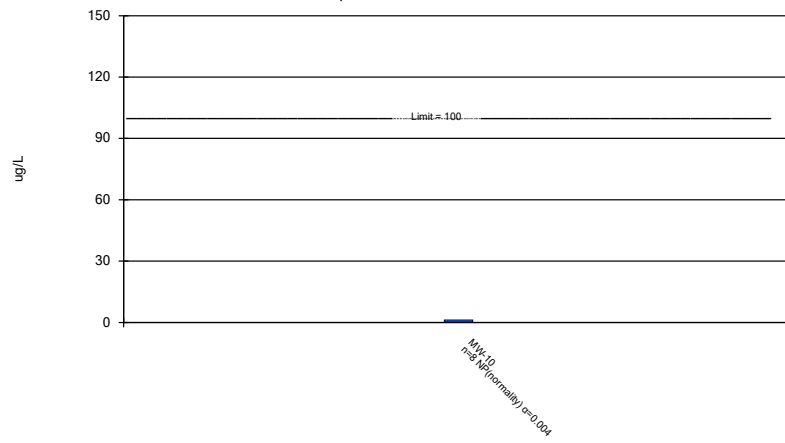
Compliance Limit is not exceeded.



Constituent: Sulfide Analysis Run 10/23/2025 1:30 PM View: 2025\_AWQR-Confidence\_Interval  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Non-Parametric Confidence Interval

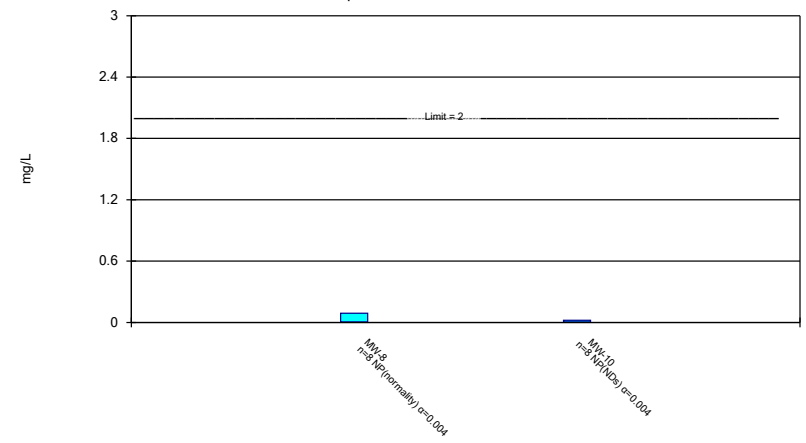
Compliance Limit is not exceeded.



Constituent: trans-1,2-Dichloroethene Analysis Run 10/23/2025 1:30 PM View: 2025\_AWQR-Confidence\_  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

### Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Zinc Analysis Run 10/23/2025 1:30 PM View: 2025\_AWQR-Confidence\_Interval  
Buena Vista County Sanitary Landfill Client: SCS Engineers Data: BVCSL\_AM\_2025\_AWQR

Attachment C  
Field Sampling Forms







Attachment D  
Laboratory Analytical Reports



# ANALYTICAL REPORT

## PREPARED FOR

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

Generated 7/17/2025 11:52:13 AM

## JOB DESCRIPTION

BV County 2025 GW Sampling Event  
Buena Vista County Sanitary Landfill

## JOB NUMBER

310-310714-1

# Eurofins Cedar Falls

## Job Notes

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

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

## Authorization



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7/17/2025 11:52:13 AM

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

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# Case Narrative

Client: SCS Engineers  
Project: BV County 2025 GW Sampling Event

Job ID: 310-310714-1

**Job ID: 310-310714-1**

**Eurofins Cedar Falls**

## Job Narrative 310-310714-1

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 7/10/2025 4:15 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 -0.3°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 310-460229 recovered outside of the control limits for trans-1,3-Dichloropropene (-21.7%D) and Chlorodibromomethane (-21.0%D). The LCS associated with this CCV passed CCV criteria for the affected analytes; therefore, the data have been reported. The associated sample is:(CCV 310-460229/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 310-460229 recovered outside of the control limits for Bromomethane (-33.5%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 310-460229/4).

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.

Eurofins Cedar Falls

# Sample Summary

Client: SCS Engineers  
Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
SDG: Buena Vista County Sanitary Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-310714-1	MW-2	Water	07/08/25 14:26	07/10/25 16:15
310-310714-2	MW-8	Water	07/08/25 16:01	07/10/25 16:15
310-310714-3	MW-10	Water	07/08/25 15:00	07/10/25 16:15
310-310714-4	MW-D	Water	07/08/25 15:14	07/10/25 16:15
310-310714-5	Trip Blank	Water	07/08/25 00:00	07/10/25 16:15

1

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## Detection Summary

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

### Client Sample ID: MW-2

### Lab Sample ID: 310-310714-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.261		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cadmium	0.000163	J	0.000200	0.000100	mg/L	1		6020B	Total/NA
Cobalt	0.00192		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.00189		0.000500	0.000330	mg/L	1		6020B	Total/NA
Nickel	0.0245		0.00500	0.00230	mg/L	1		6020B	Total/NA
Selenium	0.00166	J	0.00500	0.00140	mg/L	1		6020B	Total/NA
Total Suspended Solids	5.75		1.88	1.31	mg/L	1		I-3765-85	Total/NA

### Client Sample ID: MW-8

### Lab Sample ID: 310-310714-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.000590	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.212		0.00200	0.000660	mg/L	1		6020B	Total/NA
Zinc	0.0142	J	0.0200	0.0130	mg/L	1		6020B	Total/NA

### Client Sample ID: MW-10

### Lab Sample ID: 310-310714-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.363	J	1.00	0.220	ug/L	1		8260D	Total/NA
Chloroethane	1.13	J	4.00	0.790	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	3.16		1.00	0.210	ug/L	1		8260D	Total/NA
Arsenic	0.0104		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.647		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.000843		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0156		0.00500	0.00230	mg/L	1		6020B	Total/NA
Total Suspended Solids	14.0		7.50	5.25	mg/L	1		I-3765-85	Total/NA

### Client Sample ID: MW-D

### Lab Sample ID: 310-310714-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.368	J	1.00	0.220	ug/L	1		8260D	Total/NA
Chloroethane	1.12	J	4.00	0.790	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	2.80		1.00	0.210	ug/L	1		8260D	Total/NA
Arsenic	0.00990		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.623		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.000697		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0149		0.00500	0.00230	mg/L	1		6020B	Total/NA
Total Suspended Solids	14.5		7.50	5.25	mg/L	1		I-3765-85	Total/NA

### Client Sample ID: Trip Blank

### Lab Sample ID: 310-310714-5

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

# Client Sample Results

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

**Client Sample ID: MW-2**

**Lab Sample ID: 310-310714-1**

Date Collected: 07/08/25 14:26

Matrix: Water

Date Received: 07/10/25 16:15

**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			07/12/25 04:51	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/12/25 04:51	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/12/25 04:51	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/12/25 04:51	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/12/25 04:51	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/12/25 04:51	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/12/25 04:51	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/12/25 04:51	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/12/25 04:51	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/12/25 04:51	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/12/25 04:51	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/12/25 04:51	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/12/25 04:51	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/12/25 04:51	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/12/25 04:51	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/12/25 04:51	1
Acetone	<10.0		10.0	3.10	ug/L			07/12/25 04:51	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/12/25 04:51	1
Benzene	<0.500		0.500	0.220	ug/L			07/12/25 04:51	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/12/25 04:51	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/12/25 04:51	1
Bromoform	<5.00		5.00	0.780	ug/L			07/12/25 04:51	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/12/25 04:51	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/12/25 04:51	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/12/25 04:51	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/12/25 04:51	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/12/25 04:51	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/12/25 04:51	1
Chloroform	<3.00		3.00	1.30	ug/L			07/12/25 04:51	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/12/25 04:51	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/12/25 04:51	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/12/25 04:51	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/12/25 04:51	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/12/25 04:51	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/12/25 04:51	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/12/25 04:51	1
Styrene	<1.00		1.00	0.370	ug/L			07/12/25 04:51	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/12/25 04:51	1
Toluene	<1.00		1.00	0.430	ug/L			07/12/25 04:51	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/12/25 04:51	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/12/25 04:51	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/12/25 04:51	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/12/25 04:51	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/12/25 04:51	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/12/25 04:51	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/12/25 04:51	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/12/25 04:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	109		76 - 130		07/12/25 04:51	1

Eurofins Cedar Falls

# Client Sample Results

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

**Client Sample ID: MW-2**

**Lab Sample ID: 310-310714-1**

Date Collected: 07/08/25 14:26

Matrix: Water

Date Received: 07/10/25 16:15

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		07/12/25 04:51	1
4-Bromofluorobenzene (Surr)	100		80 - 120		07/12/25 04:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		07/15/25 09:15	07/16/25 14:58	1
Arsenic	<0.00200		0.00200	0.000530	mg/L		07/15/25 09:15	07/16/25 14:58	1
<b>Barium</b>	<b>0.261</b>		0.00200	0.000660	mg/L		07/15/25 09:15	07/16/25 14:58	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		07/15/25 09:15	07/16/25 14:58	1
<b>Cadmium</b>	<b>0.000163 J</b>		0.000200	0.000100	mg/L		07/15/25 09:15	07/16/25 14:58	1
Chromium	<0.00500		0.00500	0.00180	mg/L		07/15/25 09:15	07/16/25 14:58	1
<b>Cobalt</b>	<b>0.00192</b>		0.000500	0.000170	mg/L		07/15/25 09:15	07/16/25 14:58	1
Copper	<0.00500		0.00500	0.00320	mg/L		07/15/25 09:15	07/16/25 14:58	1
<b>Lead</b>	<b>0.00189</b>		0.000500	0.000330	mg/L		07/15/25 09:15	07/16/25 14:58	1
<b>Nickel</b>	<b>0.0245</b>		0.00500	0.00230	mg/L		07/15/25 09:15	07/16/25 14:58	1
<b>Selenium</b>	<b>0.00166 J</b>		0.00500	0.00140	mg/L		07/15/25 09:15	07/16/25 14:58	1
Silver	<0.00100		0.00100	0.000500	mg/L		07/15/25 09:15	07/16/25 14:58	1
Thallium	<0.00100		0.00100	0.000570	mg/L		07/15/25 09:15	07/16/25 14:58	1
Vanadium	<0.00500		0.00500	0.00170	mg/L		07/15/25 09:15	07/16/25 14:58	1
Zinc	<0.0200		0.0200	0.0130	mg/L		07/15/25 09:15	07/16/25 14:58	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Suspended Solids (USGS I-3765-85)</b>	<b>5.75</b>		1.88	1.31	mg/L			07/14/25 15:49	1

# Client Sample Results

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

**Client Sample ID: MW-8**

**Lab Sample ID: 310-310714-2**

Date Collected: 07/08/25 16:01

Matrix: Water

Date Received: 07/10/25 16:15

**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			07/12/25 05:14	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/12/25 05:14	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/12/25 05:14	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/12/25 05:14	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/12/25 05:14	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/12/25 05:14	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/12/25 05:14	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/12/25 05:14	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/12/25 05:14	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/12/25 05:14	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/12/25 05:14	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/12/25 05:14	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/12/25 05:14	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/12/25 05:14	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/12/25 05:14	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/12/25 05:14	1
Acetone	<10.0		10.0	3.10	ug/L			07/12/25 05:14	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/12/25 05:14	1
Benzene	<0.500		0.500	0.220	ug/L			07/12/25 05:14	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/12/25 05:14	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/12/25 05:14	1
Bromoform	<5.00		5.00	0.780	ug/L			07/12/25 05:14	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/12/25 05:14	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/12/25 05:14	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/12/25 05:14	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/12/25 05:14	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/12/25 05:14	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/12/25 05:14	1
Chloroform	<3.00		3.00	1.30	ug/L			07/12/25 05:14	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/12/25 05:14	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/12/25 05:14	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/12/25 05:14	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/12/25 05:14	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/12/25 05:14	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/12/25 05:14	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/12/25 05:14	1
Styrene	<1.00		1.00	0.370	ug/L			07/12/25 05:14	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/12/25 05:14	1
Toluene	<1.00		1.00	0.430	ug/L			07/12/25 05:14	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/12/25 05:14	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/12/25 05:14	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/12/25 05:14	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/12/25 05:14	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/12/25 05:14	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/12/25 05:14	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/12/25 05:14	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/12/25 05:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	108		76 - 130		07/12/25 05:14	1

Eurofins Cedar Falls

# Client Sample Results

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

**Client Sample ID: MW-8**

**Lab Sample ID: 310-310714-2**

Date Collected: 07/08/25 16:01

Matrix: Water

Date Received: 07/10/25 16:15

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		80 - 120		07/12/25 05:14	1
4-Bromofluorobenzene (Surr)	103		80 - 120		07/12/25 05:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		07/15/25 09:15	07/16/25 15:00	1
<b>Arsenic</b>	<b>0.000590</b>	<b>J</b>	0.00200	0.000530	mg/L		07/15/25 09:15	07/16/25 15:00	1
<b>Barium</b>	<b>0.212</b>		0.00200	0.000660	mg/L		07/15/25 09:15	07/16/25 15:00	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		07/15/25 09:15	07/16/25 15:00	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/15/25 09:15	07/16/25 15:00	1
Chromium	<0.00500		0.00500	0.00180	mg/L		07/15/25 09:15	07/16/25 15:00	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		07/15/25 09:15	07/16/25 15:00	1
Copper	<0.00500		0.00500	0.00320	mg/L		07/15/25 09:15	07/16/25 15:00	1
Lead	<0.000500		0.000500	0.000330	mg/L		07/15/25 09:15	07/16/25 15:00	1
Nickel	<0.00500		0.00500	0.00230	mg/L		07/15/25 09:15	07/16/25 15:00	1
Selenium	<0.00500		0.00500	0.00140	mg/L		07/15/25 09:15	07/16/25 15:00	1
Silver	<0.00100		0.00100	0.000500	mg/L		07/15/25 09:15	07/16/25 15:00	1
Thallium	<0.00100		0.00100	0.000570	mg/L		07/15/25 09:15	07/16/25 15:00	1
Vanadium	<0.00500		0.00500	0.00170	mg/L		07/15/25 09:15	07/16/25 15:00	1
<b>Zinc</b>	<b>0.0142</b>	<b>J</b>	0.0200	0.0130	mg/L		07/15/25 09:15	07/16/25 15:00	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			07/14/25 15:49	1

# Client Sample Results

Client: SCS Engineers  
Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
SDG: Buena Vista County Sanitary Landfill

**Client Sample ID: MW-10**

**Lab Sample ID: 310-310714-3**

Date Collected: 07/08/25 15:00

Matrix: Water

Date Received: 07/10/25 16:15

**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			07/12/25 05:36	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/12/25 05:36	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/12/25 05:36	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/12/25 05:36	1
<b>1,1-Dichloroethane</b>	<b>0.363</b>	<b>J</b>	1.00	0.220	ug/L			07/12/25 05:36	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/12/25 05:36	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/12/25 05:36	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/12/25 05:36	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/12/25 05:36	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/12/25 05:36	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/12/25 05:36	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/12/25 05:36	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/12/25 05:36	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/12/25 05:36	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/12/25 05:36	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/12/25 05:36	1
Acetone	<10.0		10.0	3.10	ug/L			07/12/25 05:36	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/12/25 05:36	1
Benzene	<0.500		0.500	0.220	ug/L			07/12/25 05:36	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/12/25 05:36	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/12/25 05:36	1
Bromoform	<5.00		5.00	0.780	ug/L			07/12/25 05:36	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/12/25 05:36	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/12/25 05:36	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/12/25 05:36	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/12/25 05:36	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/12/25 05:36	1
<b>Chloroethane</b>	<b>1.13</b>	<b>J</b>	4.00	0.790	ug/L			07/12/25 05:36	1
Chloroform	<3.00		3.00	1.30	ug/L			07/12/25 05:36	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/12/25 05:36	1
<b>cis-1,2-Dichloroethene</b>	<b>3.16</b>		1.00	0.210	ug/L			07/12/25 05:36	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/12/25 05:36	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/12/25 05:36	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/12/25 05:36	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/12/25 05:36	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/12/25 05:36	1
Styrene	<1.00		1.00	0.370	ug/L			07/12/25 05:36	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/12/25 05:36	1
Toluene	<1.00		1.00	0.430	ug/L			07/12/25 05:36	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/12/25 05:36	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/12/25 05:36	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/12/25 05:36	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/12/25 05:36	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/12/25 05:36	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/12/25 05:36	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/12/25 05:36	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/12/25 05:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	111		76 - 130		07/12/25 05:36	1

Eurofins Cedar Falls

# Client Sample Results

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

**Client Sample ID: MW-10**

**Lab Sample ID: 310-310714-3**

Date Collected: 07/08/25 15:00

Matrix: Water

Date Received: 07/10/25 16:15

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 120		07/12/25 05:36	1
4-Bromofluorobenzene (Surr)	101		80 - 120		07/12/25 05:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		07/15/25 09:15	07/16/25 15:03	1
<b>Arsenic</b>	<b>0.0104</b>		0.00200	0.000530	mg/L		07/15/25 09:15	07/16/25 15:03	1
<b>Barium</b>	<b>0.647</b>		0.00200	0.000660	mg/L		07/15/25 09:15	07/16/25 15:03	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		07/15/25 09:15	07/16/25 15:03	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/15/25 09:15	07/16/25 15:03	1
Chromium	<0.00500		0.00500	0.00180	mg/L		07/15/25 09:15	07/16/25 15:03	1
<b>Cobalt</b>	<b>0.000843</b>		0.000500	0.000170	mg/L		07/15/25 09:15	07/16/25 15:03	1
Copper	<0.00500		0.00500	0.00320	mg/L		07/15/25 09:15	07/16/25 15:03	1
Lead	<0.000500		0.000500	0.000330	mg/L		07/15/25 09:15	07/16/25 15:03	1
<b>Nickel</b>	<b>0.0156</b>		0.00500	0.00230	mg/L		07/15/25 09:15	07/16/25 15:03	1
Selenium	<0.00500		0.00500	0.00140	mg/L		07/15/25 09:15	07/16/25 15:03	1
Silver	<0.00100		0.00100	0.000500	mg/L		07/15/25 09:15	07/16/25 15:03	1
Thallium	<0.00100		0.00100	0.000570	mg/L		07/15/25 09:15	07/16/25 15:03	1
Vanadium	<0.00500		0.00500	0.00170	mg/L		07/15/25 09:15	07/16/25 15:03	1
Zinc	<0.0200		0.0200	0.0130	mg/L		07/15/25 09:15	07/16/25 15:03	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Suspended Solids (USGS I-3765-85)</b>	<b>14.0</b>		7.50	5.25	mg/L			07/14/25 15:09	1

# Client Sample Results

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

**Client Sample ID: MW-D**

**Lab Sample ID: 310-310714-4**

Date Collected: 07/08/25 15:14

Matrix: Water

Date Received: 07/10/25 16:15

**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			07/12/25 05:59	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/12/25 05:59	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/12/25 05:59	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/12/25 05:59	1
<b>1,1-Dichloroethane</b>	<b>0.368</b>	<b>J</b>	1.00	0.220	ug/L			07/12/25 05:59	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/12/25 05:59	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/12/25 05:59	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/12/25 05:59	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/12/25 05:59	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/12/25 05:59	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/12/25 05:59	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/12/25 05:59	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/12/25 05:59	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/12/25 05:59	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/12/25 05:59	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/12/25 05:59	1
Acetone	<10.0		10.0	3.10	ug/L			07/12/25 05:59	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/12/25 05:59	1
Benzene	<0.500		0.500	0.220	ug/L			07/12/25 05:59	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/12/25 05:59	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/12/25 05:59	1
Bromoform	<5.00		5.00	0.780	ug/L			07/12/25 05:59	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/12/25 05:59	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/12/25 05:59	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/12/25 05:59	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/12/25 05:59	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/12/25 05:59	1
<b>Chloroethane</b>	<b>1.12</b>	<b>J</b>	4.00	0.790	ug/L			07/12/25 05:59	1
Chloroform	<3.00		3.00	1.30	ug/L			07/12/25 05:59	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/12/25 05:59	1
<b>cis-1,2-Dichloroethene</b>	<b>2.80</b>		1.00	0.210	ug/L			07/12/25 05:59	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/12/25 05:59	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/12/25 05:59	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/12/25 05:59	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/12/25 05:59	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/12/25 05:59	1
Styrene	<1.00		1.00	0.370	ug/L			07/12/25 05:59	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/12/25 05:59	1
Toluene	<1.00		1.00	0.430	ug/L			07/12/25 05:59	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/12/25 05:59	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/12/25 05:59	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/12/25 05:59	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/12/25 05:59	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/12/25 05:59	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/12/25 05:59	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/12/25 05:59	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/12/25 05:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	112		76 - 130		07/12/25 05:59	1

Eurofins Cedar Falls

# Client Sample Results

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

**Client Sample ID: MW-D**

**Lab Sample ID: 310-310714-4**

Date Collected: 07/08/25 15:14

Matrix: Water

Date Received: 07/10/25 16:15

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	95		80 - 120		07/12/25 05:59	1
4-Bromofluorobenzene (Surr)	107		80 - 120		07/12/25 05:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		07/15/25 09:15	07/16/25 15:06	1
<b>Arsenic</b>	<b>0.00990</b>		0.00200	0.000530	mg/L		07/15/25 09:15	07/16/25 15:06	1
<b>Barium</b>	<b>0.623</b>		0.00200	0.000660	mg/L		07/15/25 09:15	07/16/25 15:06	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		07/15/25 09:15	07/16/25 15:06	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/15/25 09:15	07/16/25 15:06	1
Chromium	<0.00500		0.00500	0.00180	mg/L		07/15/25 09:15	07/16/25 15:06	1
<b>Cobalt</b>	<b>0.000697</b>		0.000500	0.000170	mg/L		07/15/25 09:15	07/16/25 15:06	1
Copper	<0.00500		0.00500	0.00320	mg/L		07/15/25 09:15	07/16/25 15:06	1
Lead	<0.000500		0.000500	0.000330	mg/L		07/15/25 09:15	07/16/25 15:06	1
<b>Nickel</b>	<b>0.0149</b>		0.00500	0.00230	mg/L		07/15/25 09:15	07/16/25 15:06	1
Selenium	<0.00500		0.00500	0.00140	mg/L		07/15/25 09:15	07/16/25 15:06	1
Silver	<0.00100		0.00100	0.000500	mg/L		07/15/25 09:15	07/16/25 15:06	1
Thallium	<0.00100		0.00100	0.000570	mg/L		07/15/25 09:15	07/16/25 15:06	1
Vanadium	<0.00500		0.00500	0.00170	mg/L		07/15/25 09:15	07/16/25 15:06	1
Zinc	<0.0200		0.0200	0.0130	mg/L		07/15/25 09:15	07/16/25 15:06	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Suspended Solids (USGS I-3765-85)</b>	<b>14.5</b>		7.50	5.25	mg/L			07/14/25 15:49	1

# Client Sample Results

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

**Client Sample ID: Trip Blank**

**Lab Sample ID: 310-310714-5**

Date Collected: 07/08/25 00:00

Matrix: Water

Date Received: 07/10/25 16:15

**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			07/12/25 03:44	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/12/25 03:44	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/12/25 03:44	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/12/25 03:44	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/12/25 03:44	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/12/25 03:44	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/12/25 03:44	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/12/25 03:44	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/12/25 03:44	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/12/25 03:44	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/12/25 03:44	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/12/25 03:44	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/12/25 03:44	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/12/25 03:44	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/12/25 03:44	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/12/25 03:44	1
Acetone	<10.0		10.0	3.10	ug/L			07/12/25 03:44	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/12/25 03:44	1
Benzene	<0.500		0.500	0.220	ug/L			07/12/25 03:44	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/12/25 03:44	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/12/25 03:44	1
Bromoform	<5.00		5.00	0.780	ug/L			07/12/25 03:44	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/12/25 03:44	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/12/25 03:44	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/12/25 03:44	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/12/25 03:44	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/12/25 03:44	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/12/25 03:44	1
Chloroform	<3.00		3.00	1.30	ug/L			07/12/25 03:44	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/12/25 03:44	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/12/25 03:44	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/12/25 03:44	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/12/25 03:44	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/12/25 03:44	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/12/25 03:44	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/12/25 03:44	1
Styrene	<1.00		1.00	0.370	ug/L			07/12/25 03:44	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/12/25 03:44	1
Toluene	<1.00		1.00	0.430	ug/L			07/12/25 03:44	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/12/25 03:44	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/12/25 03:44	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/12/25 03:44	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/12/25 03:44	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/12/25 03:44	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/12/25 03:44	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/12/25 03:44	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/12/25 03:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	109		76 - 130		07/12/25 03:44	1

Eurofins Cedar Falls

# Client Sample Results

Client: SCS Engineers  
Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
SDG: Buena Vista County Sanitary Landfill

**Client Sample ID: Trip Blank**

**Lab Sample ID: 310-310714-5**

Date Collected: 07/08/25 00:00

Matrix: Water

Date Received: 07/10/25 16:15

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

<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
Toluene-d8 (Surr)	98		80 - 120		07/12/25 03:44	1
4-Bromofluorobenzene (Surr)	106		80 - 120		07/12/25 03:44	1

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# Definitions/Glossary

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

## 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
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: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
SDG: Buena Vista County Sanitary Landfill

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DBFM	TOL	BFB
		(76-130)	(80-120)	(80-120)
310-310714-1	MW-2	109	98	100
310-310714-2	MW-8	108	96	103
310-310714-3	MW-10	111	97	101
310-310714-4	MW-D	112	95	107
310-310714-5	Trip Blank	109	98	106
LCS 310-460229/7	Lab Control Sample	100	102	101
LCS 310-460229/8	Lab Control Sample	109	96	103
MB 310-460229/6	Method Blank	107	97	105

### Surrogate Legend

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

# QC Sample Results

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

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

**Lab Sample ID: MB 310-460229/6**  
**Matrix: Water**  
**Analysis Batch: 460229**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/12/25 02:36	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/12/25 02:36	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/12/25 02:36	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/12/25 02:36	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/12/25 02:36	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/12/25 02:36	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/12/25 02:36	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/12/25 02:36	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/12/25 02:36	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/12/25 02:36	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/12/25 02:36	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/12/25 02:36	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/12/25 02:36	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/12/25 02:36	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/12/25 02:36	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/12/25 02:36	1
Acetone	<10.0		10.0	3.10	ug/L			07/12/25 02:36	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/12/25 02:36	1
Benzene	<0.500		0.500	0.220	ug/L			07/12/25 02:36	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/12/25 02:36	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/12/25 02:36	1
Bromoform	<5.00		5.00	0.780	ug/L			07/12/25 02:36	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/12/25 02:36	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/12/25 02:36	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/12/25 02:36	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/12/25 02:36	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/12/25 02:36	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/12/25 02:36	1
Chloroform	<3.00		3.00	1.30	ug/L			07/12/25 02:36	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/12/25 02:36	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/12/25 02:36	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/12/25 02:36	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/12/25 02:36	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/12/25 02:36	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/12/25 02:36	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/12/25 02:36	1
Styrene	<1.00		1.00	0.370	ug/L			07/12/25 02:36	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/12/25 02:36	1
Toluene	<1.00		1.00	0.430	ug/L			07/12/25 02:36	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/12/25 02:36	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/12/25 02:36	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/12/25 02:36	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/12/25 02:36	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/12/25 02:36	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/12/25 02:36	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/12/25 02:36	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/12/25 02:36	1

# QC Sample Results

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

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

**Lab Sample ID: MB 310-460229/6**  
**Matrix: Water**  
**Analysis Batch: 460229**

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

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	107		76 - 130		07/12/25 02:36	1
Toluene-d8 (Surr)	97		80 - 120		07/12/25 02:36	1
4-Bromofluorobenzene (Surr)	105		80 - 120		07/12/25 02:36	1

**Lab Sample ID: LCS 310-460229/7**  
**Matrix: Water**  
**Analysis Batch: 460229**

**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	18.84		ug/L		94	70 - 121
1,1,1,1-Trichloroethane	20.0	20.86		ug/L		104	69 - 130
1,1,1,2,2-Tetrachloroethane	20.0	18.20		ug/L		91	70 - 122
1,1,2-Trichloroethane	20.0	16.72		ug/L		84	75 - 121
1,1-Dichloroethane	20.0	21.44		ug/L		107	69 - 127
1,1-Dichloroethane	20.0	21.93		ug/L		110	64 - 134
1,2,3-Trichloropropane	20.0	18.47		ug/L		92	70 - 122
1,2-Dibromo-3-chloropropane	20.0	21.01		ug/L		105	62 - 132
1,2-Dibromoethane (EDB)	20.0	17.78		ug/L		89	74 - 122
1,2-Dichlorobenzene	20.0	19.74		ug/L		99	74 - 120
1,2-Dichloroethane	20.0	19.98		ug/L		100	68 - 125
1,2-Dichloropropane	20.0	19.60		ug/L		98	72 - 128
1,4-Dichlorobenzene	20.0	19.47		ug/L		97	72 - 120
2-Butanone (MEK)	40.0	36.81		ug/L		92	60 - 134
2-Hexanone	40.0	38.22		ug/L		96	62 - 139
4-Methyl-2-pentanone (MIBK)	40.0	34.75		ug/L		87	62 - 136
Acetone	40.0	41.99		ug/L		105	59 - 136
Acrylonitrile	200	194.3		ug/L		97	50 - 150
Benzene	20.0	19.50		ug/L		97	71 - 125
Bromochloromethane	20.0	21.36		ug/L		107	69 - 131
Bromodichloromethane	20.0	18.15		ug/L		91	70 - 122
Bromoform	20.0	16.99		ug/L		85	62 - 122
Carbon disulfide	20.0	22.01		ug/L		110	58 - 137
Carbon tetrachloride	20.0	21.81		ug/L		109	63 - 136
Chlorobenzene	20.0	18.47		ug/L		92	74 - 120
Chlorodibromomethane	20.0	17.16		ug/L		86	69 - 121
Chloroform	20.0	20.30		ug/L		102	72 - 122
cis-1,2-Dichloroethene	20.0	19.95		ug/L		100	72 - 123
cis-1,3-Dichloropropene	20.0	17.07		ug/L		85	72 - 123
Dibromomethane	20.0	20.26		ug/L		101	72 - 122
Ethylbenzene	20.0	19.45		ug/L		97	75 - 120
Iodomethane	20.0	12.47		ug/L		62	18 - 150
Methylene chloride	20.0	20.73		ug/L		104	72 - 128
Styrene	20.0	19.53		ug/L		98	74 - 122
Tetrachloroethene	20.0	19.36		ug/L		97	70 - 128
Toluene	20.0	18.71		ug/L		94	74 - 120
trans-1,2-Dichloroethene	20.0	20.96		ug/L		105	67 - 127
trans-1,3-Dichloropropene	20.0	16.75		ug/L		84	67 - 123
trans-1,4-Dichloro-2-butene	20.0	15.61		ug/L		78	50 - 150

# QC Sample Results

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

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

**Lab Sample ID: LCS 310-460229/7**  
**Matrix: Water**  
**Analysis Batch: 460229**

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

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec Limits
	Added	Result	Qualifier				
Trichloroethene	20.0	18.59		ug/L		93	70 - 128
Vinyl acetate	40.0	36.82		ug/L		92	50 - 150
Xylenes, Total	40.0	38.74		ug/L		97	74 - 121

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	100		76 - 130
Toluene-d8 (Surr)	102		80 - 120
4-Bromofluorobenzene (Surr)	101		80 - 120

**Lab Sample ID: LCS 310-460229/8**  
**Matrix: Water**  
**Analysis Batch: 460229**

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

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec Limits
	Added	Result	Qualifier				
Bromomethane	20.0	13.31		ug/L		67	33 - 138
Chloroethane	20.0	18.26		ug/L		91	59 - 139
Chloromethane	20.0	17.42		ug/L		87	52 - 146
Trichlorofluoromethane	20.0	19.84		ug/L		99	55 - 150
Vinyl chloride	20.0	17.88		ug/L		89	60 - 142

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	109		76 - 130
Toluene-d8 (Surr)	96		80 - 120
4-Bromofluorobenzene (Surr)	103		80 - 120

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

**Lab Sample ID: MB 310-460425/1-A**  
**Matrix: Water**  
**Analysis Batch: 460764**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 460425**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<0.00200		0.00200	0.00100	mg/L		07/15/25 09:15	07/16/25 14:22	1
Arsenic	<0.00200		0.00200	0.000530	mg/L		07/15/25 09:15	07/16/25 14:22	1
Barium	<0.00200		0.00200	0.000660	mg/L		07/15/25 09:15	07/16/25 14:22	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		07/15/25 09:15	07/16/25 14:22	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/15/25 09:15	07/16/25 14:22	1
Chromium	<0.00500		0.00500	0.00180	mg/L		07/15/25 09:15	07/16/25 14:22	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		07/15/25 09:15	07/16/25 14:22	1
Copper	<0.00500		0.00500	0.00320	mg/L		07/15/25 09:15	07/16/25 14:22	1
Lead	<0.000500		0.000500	0.000330	mg/L		07/15/25 09:15	07/16/25 14:22	1
Nickel	<0.00500		0.00500	0.00230	mg/L		07/15/25 09:15	07/16/25 14:22	1
Selenium	<0.00500		0.00500	0.00140	mg/L		07/15/25 09:15	07/16/25 14:22	1
Silver	<0.00100		0.00100	0.000500	mg/L		07/15/25 09:15	07/16/25 14:22	1
Thallium	<0.00100		0.00100	0.000570	mg/L		07/15/25 09:15	07/16/25 14:22	1
Vanadium	<0.00500		0.00500	0.00170	mg/L		07/15/25 09:15	07/16/25 14:22	1
Zinc	<0.0200		0.0200	0.0130	mg/L		07/15/25 09:15	07/16/25 14:22	1

Eurofins Cedar Falls

# QC Sample Results

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

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

**Lab Sample ID: LCS 310-460425/2-A**  
**Matrix: Water**  
**Analysis Batch: 460764**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 460425**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Antimony	0.200	0.2156		mg/L		108	80 - 120	
Arsenic	0.200	0.2038		mg/L		102	80 - 120	
Barium	0.100	0.1014		mg/L		101	80 - 120	
Beryllium	0.100	0.09976		mg/L		100	80 - 120	
Cadmium	0.100	0.1003		mg/L		100	80 - 120	
Chromium	0.100	0.1009		mg/L		101	80 - 120	
Cobalt	0.100	0.1004		mg/L		100	80 - 120	
Copper	0.200	0.2042		mg/L		102	80 - 120	
Lead	0.200	0.2032		mg/L		102	80 - 120	
Nickel	0.200	0.2019		mg/L		101	80 - 120	
Selenium	0.400	0.3912		mg/L		98	80 - 120	
Silver	0.100	0.1114		mg/L		111	80 - 120	
Thallium	0.100	0.09142		mg/L		91	80 - 120	
Vanadium	0.100	0.1009		mg/L		101	80 - 120	
Zinc	0.200	0.1889		mg/L		94	80 - 120	

**Lab Sample ID: 310-310714-4 DU**  
**Matrix: Water**  
**Analysis Batch: 460764**

**Client Sample ID: MW-D**  
**Prep Type: Total/NA**  
**Prep Batch: 460425**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD Limit	
							RPD	Limit
Antimony	<0.00200		<0.00200		mg/L		NC	20
Arsenic	0.00990		0.009907		mg/L		0.06	20
Barium	0.623		0.6333		mg/L		2	20
Beryllium	<0.00100		<0.00100		mg/L		NC	20
Cadmium	<0.000200		<0.000200		mg/L		NC	20
Chromium	<0.00500		<0.00500		mg/L		NC	20
Cobalt	0.000697		0.0006650		mg/L		5	20
Copper	<0.00500		<0.00500		mg/L		NC	20
Lead	<0.000500		<0.000500		mg/L		NC	20
Nickel	0.0149		0.01475		mg/L		1	20
Selenium	<0.00500		<0.00500		mg/L		NC	20
Silver	<0.00100		<0.00100		mg/L		NC	20
Thallium	<0.00100		<0.00100		mg/L		NC	20
Vanadium	<0.00500		<0.00500		mg/L		NC	20
Zinc	<0.0200		<0.0200		mg/L		NC	20

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

**Lab Sample ID: MB 310-460417/1**  
**Matrix: Water**  
**Analysis Batch: 460417**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

# QC Sample Results

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

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

**Lab Sample ID: LCS 310-460417/2**  
**Matrix: Water**  
**Analysis Batch: 460417**

**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	82 - 117

**Lab Sample ID: MB 310-460421/1**  
**Matrix: Water**  
**Analysis Batch: 460421**

**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			07/14/25 15:49	1

**Lab Sample ID: LCS 310-460421/2**  
**Matrix: Water**  
**Analysis Batch: 460421**

**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	103.0		mg/L		103	82 - 117

# QC Association Summary

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

## GC/MS VOA

### Analysis Batch: 460229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-310714-1	MW-2	Total/NA	Water	8260D	
310-310714-2	MW-8	Total/NA	Water	8260D	
310-310714-3	MW-10	Total/NA	Water	8260D	
310-310714-4	MW-D	Total/NA	Water	8260D	
310-310714-5	Trip Blank	Total/NA	Water	8260D	
MB 310-460229/6	Method Blank	Total/NA	Water	8260D	
LCS 310-460229/7	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-460229/8	Lab Control Sample	Total/NA	Water	8260D	

## Metals

### Prep Batch: 460425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-310714-1	MW-2	Total/NA	Water	3005A	
310-310714-2	MW-8	Total/NA	Water	3005A	
310-310714-3	MW-10	Total/NA	Water	3005A	
310-310714-4	MW-D	Total/NA	Water	3005A	
MB 310-460425/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-460425/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-310714-4 DU	MW-D	Total/NA	Water	3005A	

### Analysis Batch: 460764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-310714-1	MW-2	Total/NA	Water	6020B	460425
310-310714-2	MW-8	Total/NA	Water	6020B	460425
310-310714-3	MW-10	Total/NA	Water	6020B	460425
310-310714-4	MW-D	Total/NA	Water	6020B	460425
MB 310-460425/1-A	Method Blank	Total/NA	Water	6020B	460425
LCS 310-460425/2-A	Lab Control Sample	Total/NA	Water	6020B	460425
310-310714-4 DU	MW-D	Total/NA	Water	6020B	460425

## General Chemistry

### Analysis Batch: 460417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-310714-3	MW-10	Total/NA	Water	I-3765-85	
MB 310-460417/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-460417/2	Lab Control Sample	Total/NA	Water	I-3765-85	

### Analysis Batch: 460421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-310714-1	MW-2	Total/NA	Water	I-3765-85	
310-310714-2	MW-8	Total/NA	Water	I-3765-85	
310-310714-4	MW-D	Total/NA	Water	I-3765-85	
MB 310-460421/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-460421/2	Lab Control Sample	Total/NA	Water	I-3765-85	

# Lab Chronicle

Client: SCS Engineers  
 Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
 SDG: Buena Vista County Sanitary Landfill

**Client Sample ID: MW-2**  
 Date Collected: 07/08/25 14:26  
 Date Received: 07/10/25 16:15

**Lab Sample ID: 310-310714-1**  
 Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	460229	WSE8	EET CF	07/12/25 04:51
Total/NA	Prep	3005A			460425	QTZ5	EET CF	07/15/25 09:15
Total/NA	Analysis	6020B		1	460764	NFT2	EET CF	07/16/25 14:58
Total/NA	Analysis	I-3765-85		1	460421	E6KR	EET CF	07/14/25 15:49

**Client Sample ID: MW-8**  
 Date Collected: 07/08/25 16:01  
 Date Received: 07/10/25 16:15

**Lab Sample ID: 310-310714-2**  
 Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	460229	WSE8	EET CF	07/12/25 05:14
Total/NA	Prep	3005A			460425	QTZ5	EET CF	07/15/25 09:15
Total/NA	Analysis	6020B		1	460764	NFT2	EET CF	07/16/25 15:00
Total/NA	Analysis	I-3765-85		1	460421	E6KR	EET CF	07/14/25 15:49

**Client Sample ID: MW-10**  
 Date Collected: 07/08/25 15:00  
 Date Received: 07/10/25 16:15

**Lab Sample ID: 310-310714-3**  
 Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	460229	WSE8	EET CF	07/12/25 05:36
Total/NA	Prep	3005A			460425	QTZ5	EET CF	07/15/25 09:15
Total/NA	Analysis	6020B		1	460764	NFT2	EET CF	07/16/25 15:03
Total/NA	Analysis	I-3765-85		1	460417	E6KR	EET CF	07/14/25 15:09

**Client Sample ID: MW-D**  
 Date Collected: 07/08/25 15:14  
 Date Received: 07/10/25 16:15

**Lab Sample ID: 310-310714-4**  
 Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	460229	WSE8	EET CF	07/12/25 05:59
Total/NA	Prep	3005A			460425	QTZ5	EET CF	07/15/25 09:15
Total/NA	Analysis	6020B		1	460764	NFT2	EET CF	07/16/25 15:06
Total/NA	Analysis	I-3765-85		1	460421	E6KR	EET CF	07/14/25 15:49

**Client Sample ID: Trip Blank**  
 Date Collected: 07/08/25 00:00  
 Date Received: 07/10/25 16:15

**Lab Sample ID: 310-310714-5**  
 Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	460229	WSE8	EET CF	07/12/25 03:44

**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: 310-310714-1

Project/Site: BV County 2025 GW Sampling Event

SDG: Buena Vista 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

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

# Method Summary

Client: SCS Engineers  
Project/Site: BV County 2025 GW Sampling Event

Job ID: 310-310714-1  
SDG: Buena Vista 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





Environment Testing  
America



310-310714 Chain of Custody

### Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client. <u>ScS</u>			
City/State.	CITY <u>W. Des Moines</u>	STATE <u>IA</u>	Project
<b>Receipt Information</b>			
Date/Time Received:	DATE <u>7-10-25</u>	TIME <u>1615</u>	Received By: <u>PH</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes: Cooler ID.</i>			
Multiple Coolers? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Cooler # ____ of ____</i>			
Cooler Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No</i>			
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No</i>			
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes Which VOA samples are in cooler? ↓</i>			
<u>All</u>			
<b>Temperature Record</b>			
Coolant <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>AH</u>		Correction Factor (°C). <u>0</u>	
• <b>Temp Blank Temperature</b> – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C). <u>-0.3</u>		Corrected Temp (°C). <u>-0.3</u>	
• <b>Sample Container Temperature</b>			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C).			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) <i>If yes: Is there evidence that the chilling process began?</i> <input type="checkbox"/> Yes <input type="checkbox"/> 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?) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
NOTE If yes, contact PM before proceeding If no, proceed with login			
<b>Additional Comments</b>			



## Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-310714-1  
SDG Number: Buena Vista County Sanitary Landfill

**Login Number: 310714**

**List Number: 1**

**Creator: Cappi, Sage**

**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	



## Appendix A

# Leachate Control System Performance Evaluation Report

# 2025 Leachate Control System Performance Evaluation Report

Buena Vista County Sanitary Landfill  
1263 630<sup>th</sup> Street  
Storm Lake, Iowa 50588

Permit No. 11-SDP-01-74C

Prepared for:

Buena Vista County Solid Waste Commission

**SCS ENGINEERS**

27225284.26 | April 2026

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

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## 1.0 DESCRIPTION OF EXISTING LEACHATE CONTROL SYSTEM

SCS Engineers (SCS), on behalf of the Buena Vista County Solid Waste Commission (Commission), has prepared this Leachate Control System Performance Evaluation Report (LCSPER) for the closed Buena Vista County Sanitary Landfill (Landfill). This LCSPER was prepared in general accordance with the requirements specified in the facility's closure permit issued on July 2, 2008 (Permit No. 11-SDP-01-74C) and applicable amendments. This LCSPER describes the leachate control system, discusses maintenance activities, provides an evaluation of the effectiveness of the system, and, if necessary, makes recommendations for additional control measures. The reporting period for this report is January through December 2025.

### 1.1 LOCATION OF CONTROL SYSTEM

The Landfill property is depicted in **Figure 1**. The Landfill property consists of approximately 50 acres generally within the NW  $\frac{1}{4}$  of the NE  $\frac{1}{4}$  of Section 19, T90N, R36W, Buena Vista County, Iowa.

The components of the leachate control system for the Landfill are described below and are shown in **Figure 1**. A leachate control system was constructed in 1996 in the easternmost cell, consisting of a leachate gravity pipe collection system along with a leachate storage lagoon. In addition, a cutoff drain tile was installed across the north end of this area to intercept and divert and/or lower existing groundwater.

- Extraction Drains. The extraction drains flow to manholes MH-1, MH-2, and Meter MH.
- Leachate Monitoring Wells. This system includes five leachate monitoring wells: LW-1, LW-2, LW-4, LW-5, and LW-6. In correspondence dated April 4, 2022 (Doc #102680), the Iowa Department of Natural Resources (DNR) approved the removal of measuring point LW-3 due to damage.

### 1.2 APPROVED CHANGES TO SYSTEM

The DNR approved the request to temporarily suspend leachate collection from the easternmost cell on September 3, 2019 (Doc #95828). However, a small flow of liquid was subsequently observed in MH-1, indicating that the flow may be circumventing the plugged lines and still entering the manhole. A sample was collected from the leachate lagoon on September 22, 2022, and analyzed for chloride, ammonia as nitrogen, total suspended solids (TSS), biochemical oxygen demand (BOD), chemical oxygen demand (COD), and pH. It is unclear from the analytical results whether the liquid in the lagoon is leachate or not.

### 1.3 PROPOSED CHANGES TO SYSTEM

As noted during a previous site visit, a small volume of liquid was observed flowing through the final manhole prior to discharge into the leachate lagoon, indicating that the collection of leachate from the MSWLF unit may not have entirely ceased. A construction effort to create a complete physical disconnect of the leachate collection piping from the manholes on the southwest and southeast sides of the MSWLF unit was being pursued. In correspondence dated January 24, 2024 (Doc #108896), the Iowa Department of Natural Resources (DNR) required an evaluation of the impact of shutting off the leachate collection system as part of the process to potentially allow continuing with the current cessation of leachate collection at the Buena Vista County Sanitary Landfill (Landfill). A

plan and schedule for completing this evaluation were submitted in correspondence dated May 30, 2024 (Doc #110175) and approved in correspondence dated June 14, 2024 (Doc #110252). Since approval of the plan and schedule, additional conversations with the DNR have taken place regarding the content requirements and findings necessary to evaluate, and if appropriate, justify the permanent cessation of leachate collection at a landfill in Iowa. A leachate collection system cessation review will be provided under separate cover. No changes were made during the reporting period.

## **2.0 MAINTENANCE**

### **2.1 LAST DATE OF CLEANING AND INSPECTION**

The last cleaning and inspection of the leachate control system occurred in the fall of 2018 by Rehab Systems, Inc.

### **2.2 DATE FOR NEXT CLEANING AND INSPECTION**

Cleaning of the leachate collection lines is not scheduled at this time as the lines are closed and leachate is not intentionally being collected.

### **2.3 MAINTENANCE PERFORMED ON PUMPS, VALVES, TANKS, LAGOONS, CONTROLS, ETC.**

There was no maintenance performed on the leachate system during the reporting period.

## **3.0 PERFORMANCE**

### **3.1 HEAD LEVEL MEASUREMENTS AND LEACHATE ELEVATIONS**

Monthly leachate head level measurements were required by Amendment No. 9 dated May 1, 2019 (Doc #95050) to the site's closure permit. The request to suspend leachate collection was approved in Amendment No. 10 dated September 3, 2019 (Doc #95828). A provision of the approval included monthly head measurements of the six leachate monitoring wells and the two newly installed head monitoring points in the manholes for twelve months. In conjunction with the 2021 Leachate Control System Performance Evaluation Report (Doc #102680), a request was made to change the monthly head measurements to quarterly and to remove measurement point LW-3; these requests were approved in DNR correspondence dated April 4, 2022 (Doc #102718). Graphs showing the historical leachate level trends are included in **Attachment A**.

### **3.2 EFFECTIVENESS OF LEACHATE SYSTEM IN ATTAINING MINIMUM ACHIEVABLE LEVELS**

During this reporting period, the leachate wells had thicknesses ranging from dry in LW-1, LW-2, LW-4, and LW-6 to 4.85 feet in LW-5. The minimum and maximum column thickness values were within historical ranges measured in the last five years for LW-1, LW-2, LW-4, LW-5, and LW-6. The minimum and maximum for the reporting period and historical column thickness values for each leachate well are provided in **Table 1**.

**Table 1. Reporting Period and Historical Column Thicknesses**

Leachate Well	Reporting Period		Historical	
	Minimum (ft)	Maximum (ft)	Minimum (ft)	Maximum (ft)
LW-1	0.00	0.48	0.00	3.85
LW-2	0.00	1.91	0.14	4.24
LW-4	0.00	0.25	0.00	2.43
LW-5	4.63	4.85	1.35	7.85
LW-6	0.00	1.15	0.00	3.98

### **3.3 VOLUME OF LEACHATE RECIRCULATED**

Leachate is not recirculated at the facility.

### **3.4 VOLUME OF LEACHATE TREATED ON-SITE**

Leachate is not treated on-site.

### **3.5 VOLUME OF LEACHATE TREATED OFF-SITE**

Approximately 124,000 gallons were hauled to the City of Storm Lake POTW during this reporting period.

### **3.6 STORAGE CAPACITY**

On-site leachate storage capacity is approximately 350,000 gallons.

### **3.7 LEACHATE QUALITY TESTING RESULTS**

Leachate quality testing results for the samples collected during the reporting period are included in Attachment B.

## **4.0 GENERAL COMMENTS**

The analysis and opinions expressed in this report are based upon data obtained from the field measurements at the indicated locations and from any other information discussed in this report. This report does not reflect any variations in fluid levels that may occur between measurement 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, and the report has been prepared in accordance with generally accepted environmental engineering practices. No warranties, either express or implied, are intended or made. In the event any changes in the nature or location of leachate accumulations or other subsurface conditions, as outlined in this report, are observed, the conclusions contained herein cannot be considered valid unless changes are reviewed and the opinions of this report are modified or verified in writing by SCS.

## Figure 1

Leachate Control System



## **Attachment A**

### Historical Leachate Column Thicknesses

**Table A.1**  
**Historical Leachate Column Thickness**  
**Buena Vista County Landfill**  
**Permit No. 11-SDP-1-74P**

<b>Date</b>	<b>LW-1</b>	<b>LW-2</b>	<b>LW-3</b>	<b>LW-4</b>	<b>LW-5</b>	<b>LW-6</b>
<b>Well Depth (ft)</b>	<b>33.35</b>	<b>25.24</b>	<b>52.03</b>	<b>27.23</b>	<b>28.95</b>	<b>22.48</b>
Jan-11	0.25	0.54	17.83	D	5.17	0.88
Feb-11	0.17	0.66	17.78	D	5.22	0.96
Mar-11	0.21	0.64	17.85	D	5.27	1.08
Apr-11	0.23	0.94	17.95	D	5.34	0.88
May-11	0.85	1.24	18.63	D	5.92	0.48
Jun-11	0.25	1.74	19.53	1.23	6.42	3.08
Jul-11	0.85	1.44	19.73	1.33	6.12	3.98
Aug-11	0.05	0.74	18.53	D	5.42	2.98
Sep-11	0.05	1.74	18.53	0.23	5.72	2.48
Oct-11	0.05	1.64	18.43	0.23	5.72	2.48
Nov-11	0.05	1.34	18.13	0.23	5.52	2.28
Dec-11	0.05	1.84	18.13	0.23	5.52	2.28
Jan-12	0.25	0.59	18.13	0.13	5.72	1.18
Feb-12	0.25	0.69	20.63	0.13	4.82	0.98
Mar-12	0.14	0.88	17.23	0.11	5.37	0.66
Apr-12	0.00	0.54	17.43	0.33	5.52	0.58
May-12	0.00	0.14	18.13	0.53	5.32	0.18
Jun-12	0.00	0.44	17.83	0.13	5.02	0.08
Jul-12	0.00	0.59	18.18	D	5.02	0.00
Aug-12	0.00	0.54	18.33	D	4.92	0.00
Sep-12	0.09	0.54	18.13	D	5.22	0.32
Oct-12	0.00	0.44	17.08	D	5.30	0.38
Nov-12	0.00	0.54	17.83	D	5.12	0.38
Dec-12	0.00	0.44	17.93	D	5.22	0.28
Jan-13	0.00	0.64	19.33	D	5.02	0.00
Feb-13	0.00	0.34	17.53	D	5.52	0.88
Mar-13	0.00	0.44	17.63	D	5.62	0.98
Apr-13	0.00	0.54	17.73	1.53	5.02	0.00
May-13	0.00	0.54	17.73	1.53	5.02	0.00
Jun-13	0.00	0.44	17.73	1.53	4.92	0.00
Jul-13	0.00	0.74	17.53	1.63	4.92	0.00
Aug-13	0.00	0.74	17.63	0.63	4.52	0.00
Sep-13	0.05	0.44	17.43	D	5.52	0.98
Oct-13	0.15	0.34	17.53	D	5.62	0.98
Nov-13	0.05	0.44	17.03	D	5.22	0.78
Dec-13	0.05	0.14	17.23	D	5.32	0.88

**Table A.1**  
**Historical Leachate Column Thickness**  
**Buena Vista County Landfill**  
**Permit No. 11-SDP-1-74P**

<b>Date</b>	<b>LW-1</b>	<b>LW-2</b>	<b>LW-3</b>	<b>LW-4</b>	<b>LW-5</b>	<b>LW-6</b>
<b>Well Depth (ft)</b>	<b>33.35</b>	<b>25.24</b>	<b>52.03</b>	<b>27.23</b>	<b>28.95</b>	<b>22.48</b>
Jan-14	0.05	0.14	17.23	D	5.32	0.88
Feb-14	0.05	0.14	17.23	D	5.32	0.88
Mar-14	0.05	0.14	17.23	D	5.22	0.88
Apr-14	0.05	0.14	17.33	D	4.96	0.88
May-14	0.05	0.14	17.33	D	5.32	0.88
Jun-14	0.05	0.14	17.33	1.43	5.12	0.88
Jul-14	0.05	0.54	17.33	1.53	5.02	0.88
Aug-14	0.05	0.54	17.33	1.53	5.02	0.78
Sep-14	0.05	0.39	17.38	1.38	5.22	1.16
Oct-14	0.05	0.34	17.33	0.93	5.37	1.43
Nov-14	0.05	0.44	17.03	D	5.42	0.08
Dec-14	0.05	0.44	16.63	2.43	5.42	0.00
Jan-15	0.35	0.64	18.03	D	5.42	0.88
Feb-15	0.15	0.36	17.13	D	5.67	0.74
Mar-15	0.15	0.44	17.13	D	5.72	0.88
Apr-15	0.15	0.40	17.23	0.13	5.62	0.66
May-15	0.15	0.40	16.73	0.43	4.72	0.63
Jun-15	0.15	0.38	17.28	D	4.82	0.58
Jul-15	0.15	0.34	17.43	D	4.87	0.63
Aug-15	0.15	0.44	17.47	D	4.68	1.08
Sep-15	0.25	0.59	17.13	0.63	5.02	1.58
Oct-15	0.15	0.54	17.28	0.43	4.80	1.43
Nov-15	0.25	0.19	17.13	D	5.37	1.18
Dec-15	0.15	0.84	17.63	0.43	5.62	1.08
Jan-16	0.05	0.94	16.63	0.33	7.52	0.08
Feb-16	0.45	0.84	17.33	0.83	5.92	0.08
Mar-16	0.85	0.84	17.23	0.73	5.92	0.08
Apr-16	0.55	1.04	17.13	1.13	4.72	0.08
May-16	0.05	0.84	15.73	1.83	4.92	0.98
Jun-16	0.15	0.64	17.43	0.83	4.52	0.88
Jul-16	0.05	0.44	17.33	0.53	4.32	0.68
Aug-16	0.45	0.84	17.33	0.73	5.12	1.08
Sep-16	0.55	0.84	17.33	0.83	5.12	1.08
Oct-16	0.75	0.84	17.43	1.83	5.82	1.18
Nov-16	0.65	0.84	17.23	1.73	5.62	0.98
Dec-16	0.75	0.84	17.23	1.23	5.62	1.18

**Table A.1**  
**Historical Leachate Column Thickness**  
**Buena Vista County Landfill**  
**Permit No. 11-SDP-1-74P**

<b>Date</b>	<b>LW-1</b>	<b>LW-2</b>	<b>LW-3</b>	<b>LW-4</b>	<b>LW-5</b>	<b>LW-6</b>
<b>Well Depth (ft)</b>	<b>33.35</b>	<b>25.24</b>	<b>52.03</b>	<b>27.23</b>	<b>28.95</b>	<b>22.48</b>
Jan-17	0.55	0.84	17.13	0.13	5.62	1.28
Feb-17	0.55	0.94	17.13	0.03	5.72	1.18
Mar-17	0.75	1.04	17.33	0.23	5.92	1.38
Apr-17	0.85	1.04	17.08	1.63	4.72	0.98
May-17	0.45	1.14	16.53	0.33	4.32	1.18
Jun-17	0.45	0.94	16.53	0.03	4.32	0.88
Jul-17	0.25	1.04	16.33	0.03	4.22	0.98
Aug-17	0.65	1.14	16.68	2.03	5.12	1.38
Sep-17	0.75	1.14	16.68	D	5.02	1.28
Oct-17	0.95	1.14	16.53	D	5.42	0.68
Nov-17	1.05	3.44	26.53	0.43	5.35	1.38
Dec-17	1.15	4.04	25.83	D	4.75	1.08
Jan-18	0.85	1.24	16.43	0.33	4.85	1.28
Feb-18	0.45	1.04	14.53	0.33	4.75	1.08
Mar-18	0.25	0.84	14.53	0.33	4.55	0.88
Apr-18	0.05	1.24	14.43	0.33	4.65	1.08
May-18	0.45	1.24	14.43	0.83	5.05	1.18
Jun-18	0.25	1.04	23.53	0.73	5.15	1.28
Jul-18	1.15	0.74	24.23	1.03	5.75	1.28
Aug-18	0.65	0.64	24.33	0.93	5.25	0.78
Sep-18	0.85	1.34	D	D	5.03	1.28
Oct-18	0.85	1.44	D	D	6.05	1.28
Nov-18	0.95	1.34	D	D	5.45	1.38
Dec-18	1.05	1.54	D	D	5.45	1.38
Jan-19	1.15	1.74	F	F	5.45	1.38
Mar-19	1.35	1.74	F	F	5.85	0.38
Apr-19	0.95	1.54	28.23	0.03	5.95	1.48
Jul-19	3.85	2.24	28.33	0.23	5.95	1.48
Sep-19	1.45	2.74	28.33	0.33	5.85	0.38
Oct-19	1.15	1.94	14.03	1.73	5.65	1.88
Nov-19	0.55	0.84	29.13	0.03	5.75	1.38
Dec-19	1.25	0.94	29.23	0.03	6.75	1.28

**Table A.1**  
**Historical Leachate Column Thickness**  
**Buena Vista County Landfill**  
**Permit No. 11-SDP-1-74P**

<b>Date</b>	<b>LW-1</b>	<b>LW-2</b>	<b>LW-3</b>	<b>LW-4</b>	<b>LW-5</b>	<b>LW-6</b>
<b>Well Depth (ft)</b>	<b>33.35</b>	<b>25.24</b>	<b>52.03</b>	<b>27.23</b>	<b>28.95</b>	<b>22.48</b>
Feb-20	0.75	1.44	14.03	D	1.35	0.98
Mar-20	-	-	-	-	-	-
Apr-20	-	-	-	-	-	-
May-20	0.85	1.74	14.03	D	4.45	0.98
Jun-20	-	-	-	-	-	-
Jul-20	D	1.34	14.03	D	5.05	D
Sep-20	-	-	-	-	-	-
Oct-20	0.85	1.04	14.03	D	3.95	1.28
Jan-21	1.35	4.24	14.03	D	D	D
Feb-21	1.35	D	14.03	D	4.92	D
Mar-21	1.10	1.85	14.03	D	4.63	1.10
Apr-21	0.85	D	14.03	D	D	0.38
May-21	1.35	D	14.03	D	D	0.18
Jun-21	0.98	1.79	14.03	D	4.68	1.34
Jul-21	1.35	0.74	14.03	D	D	0.18
Aug-21	1.35	0.64	14.03	D	D	0.18
Sep-21	0.95	1.74	14.03	D	4.92	1.48
Oct-21	0.25	0.54	14.03	D	1.42	D
Dec-21	0.61	2.13	14.03	D	4.78	1.39

**Table A.1**  
**Historical Leachate Column Thickness**  
**Buena Vista County Landfill**  
**Permit No. 11-SDP-1-74P**

<b>Date</b>	<b>LW-1</b>	<b>LW-2</b>	<b>LW-3</b>	<b>LW-4</b>	<b>LW-5</b>	<b>LW-6</b>
<b>Well Depth (ft)</b>	<b>33.35</b>	<b>25.24</b>	<b>52.03</b>	<b>27.23</b>	<b>28.95</b>	<b>22.48</b>
Mar-22	0.27	F	D	F	4.77	1.14
Jun-22	0.20	1.95	D	0.89	4.86	2.42
Sep-22	0.43	1.70	D	D	4.83	3.25
Nov-22	0.39	1.84	D	D	4.71	1.46
Jan-23	0.37	1.68	R	D	4.80	3.21
Jun-23	NM	NM	R	NM	NM	NM
Sep-23	0.05	1.93	R	D	4.52	1.33
Dec-23	0.18	1.92	R	D	5.00	1.24
Mar-24	0.03	1.93	R	D	4.81	1.00
May-24	0.15	1.99	R	0.70	4.83	1.43
Jul-24	0.39	1.90	R	D	4.75	1.14
Oct-24	0.20	1.91	R	D	4.77	1.03
Jan-25	0.48	1.94	R	0.25	4.63	1.15
Apr-25	D	D	R	D	-	D
Jul-25	D	D	R	D	4.75	D
Oct-25	0.19	1.91	R	0.02	4.85	1.05

Notes:

NM - Not measured.

R - Removed measurement point.

D - Dry.

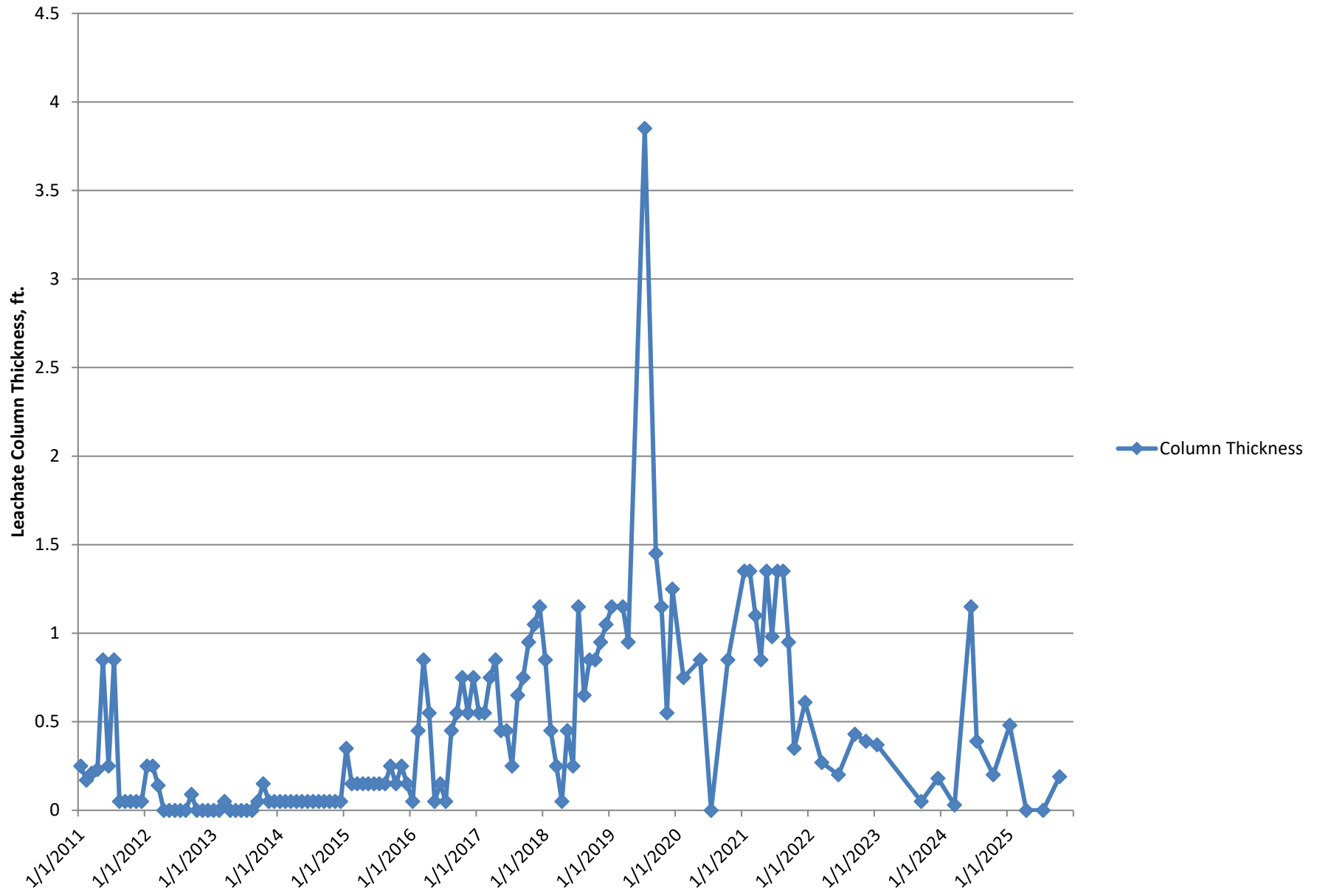
F - Frozen.

1) It should be noted that the 2023 Q2 measurements were inadvertently missed.

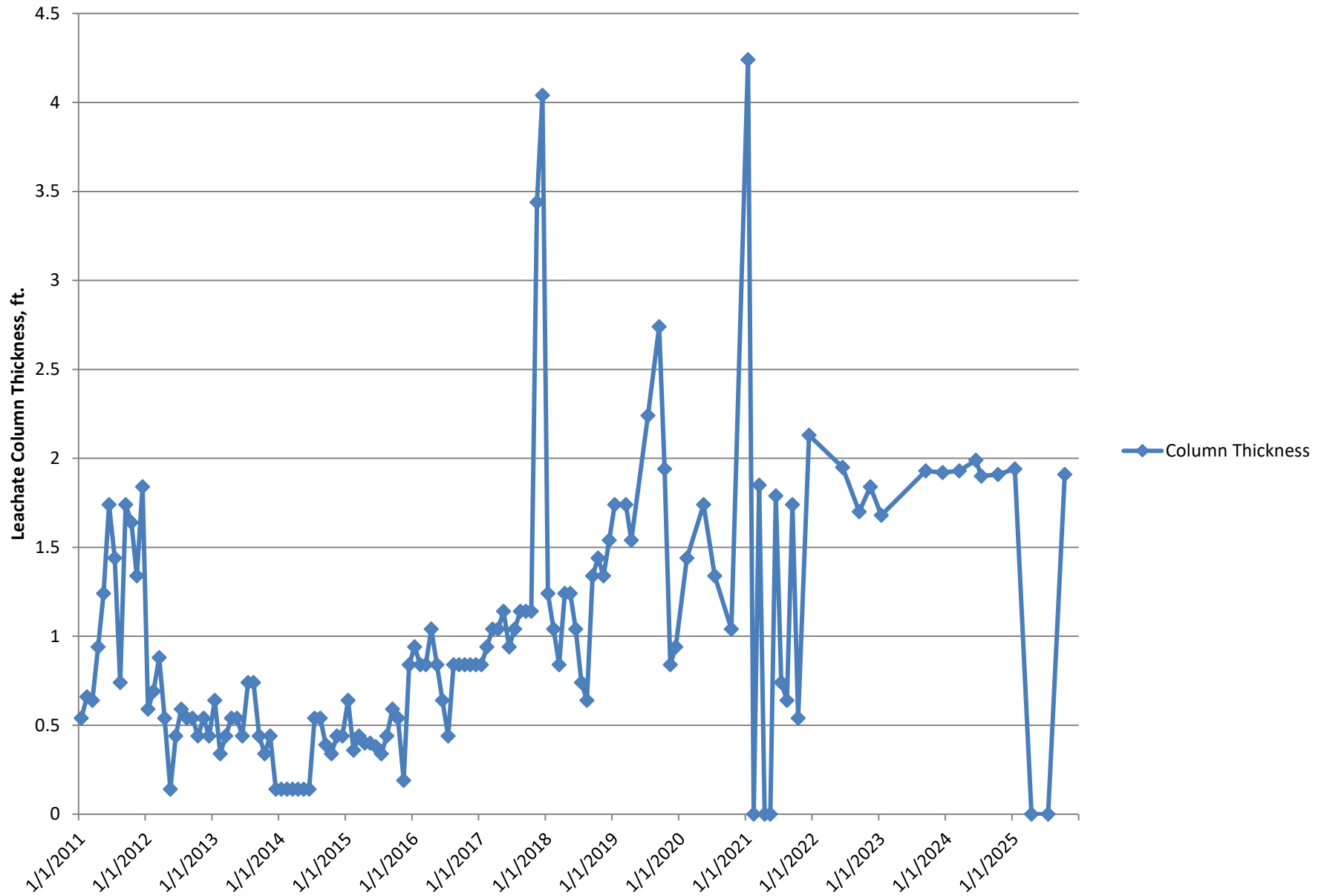
2) Measurements recorded in March, April, June, and September 2020 appeared erroneous and were removed from the dataset.

3) Measurement recorded in April 2025 at LW-5 appeared erroneous and was removed from the dataset.

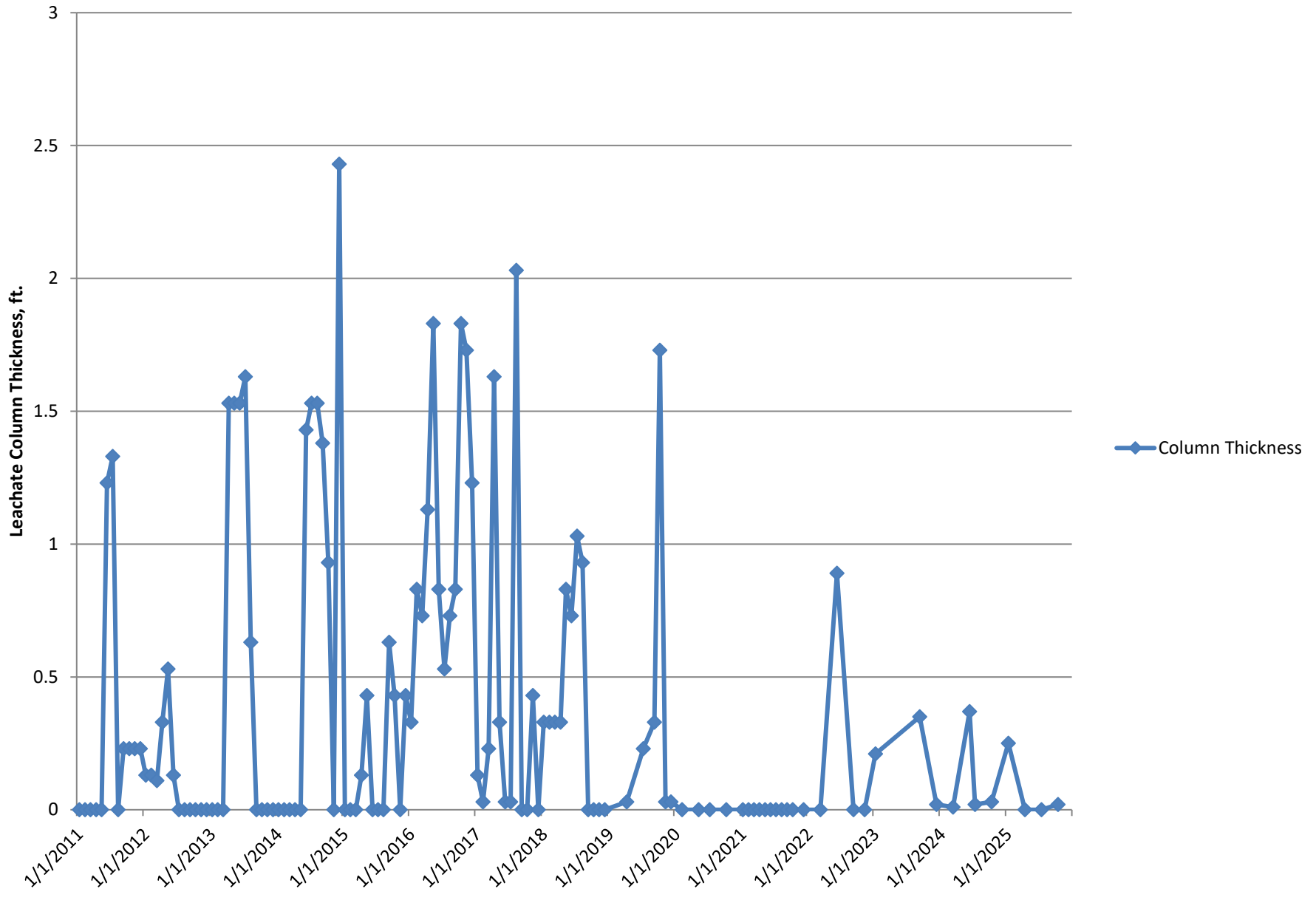
# LW-1



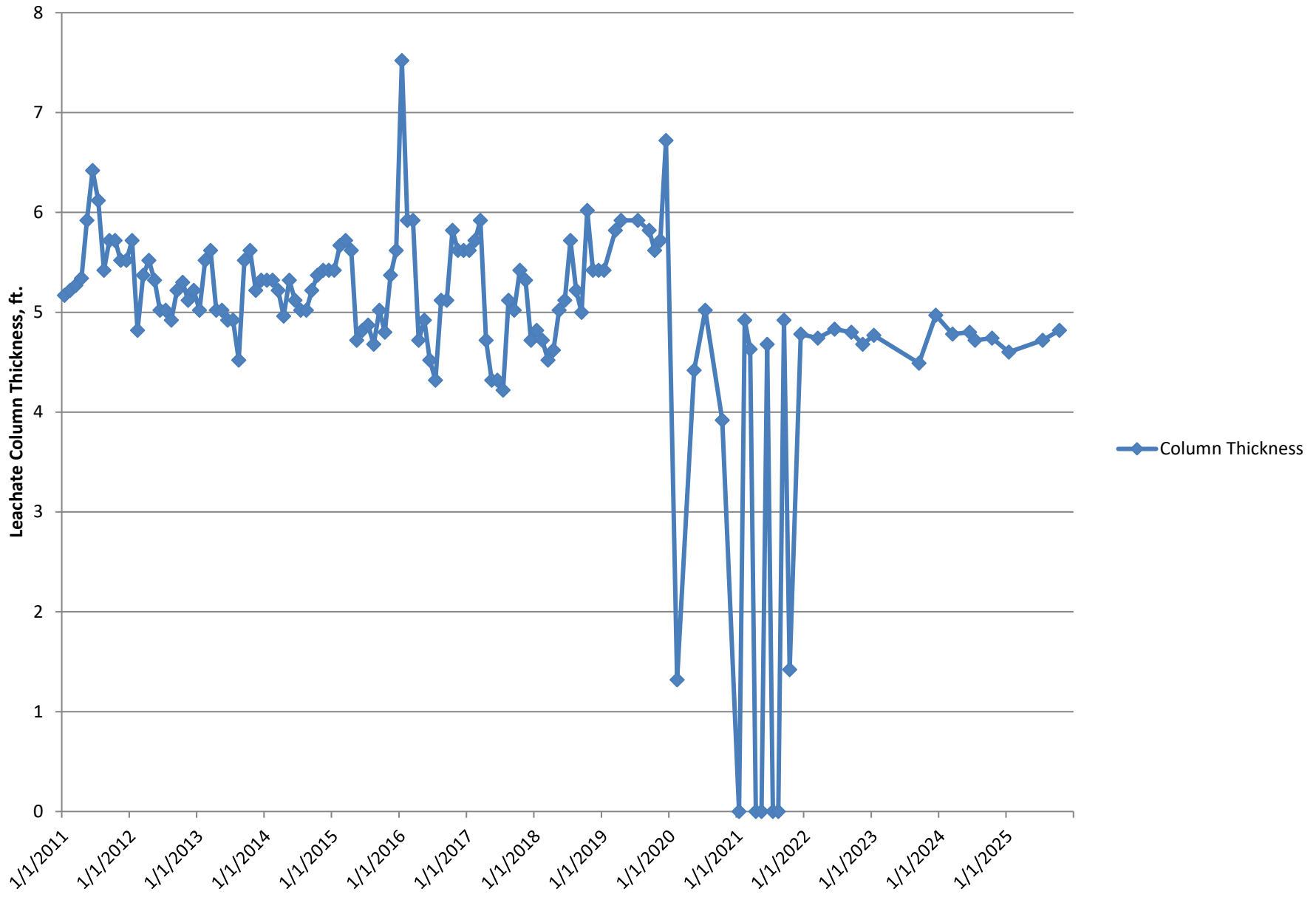
# LW-2



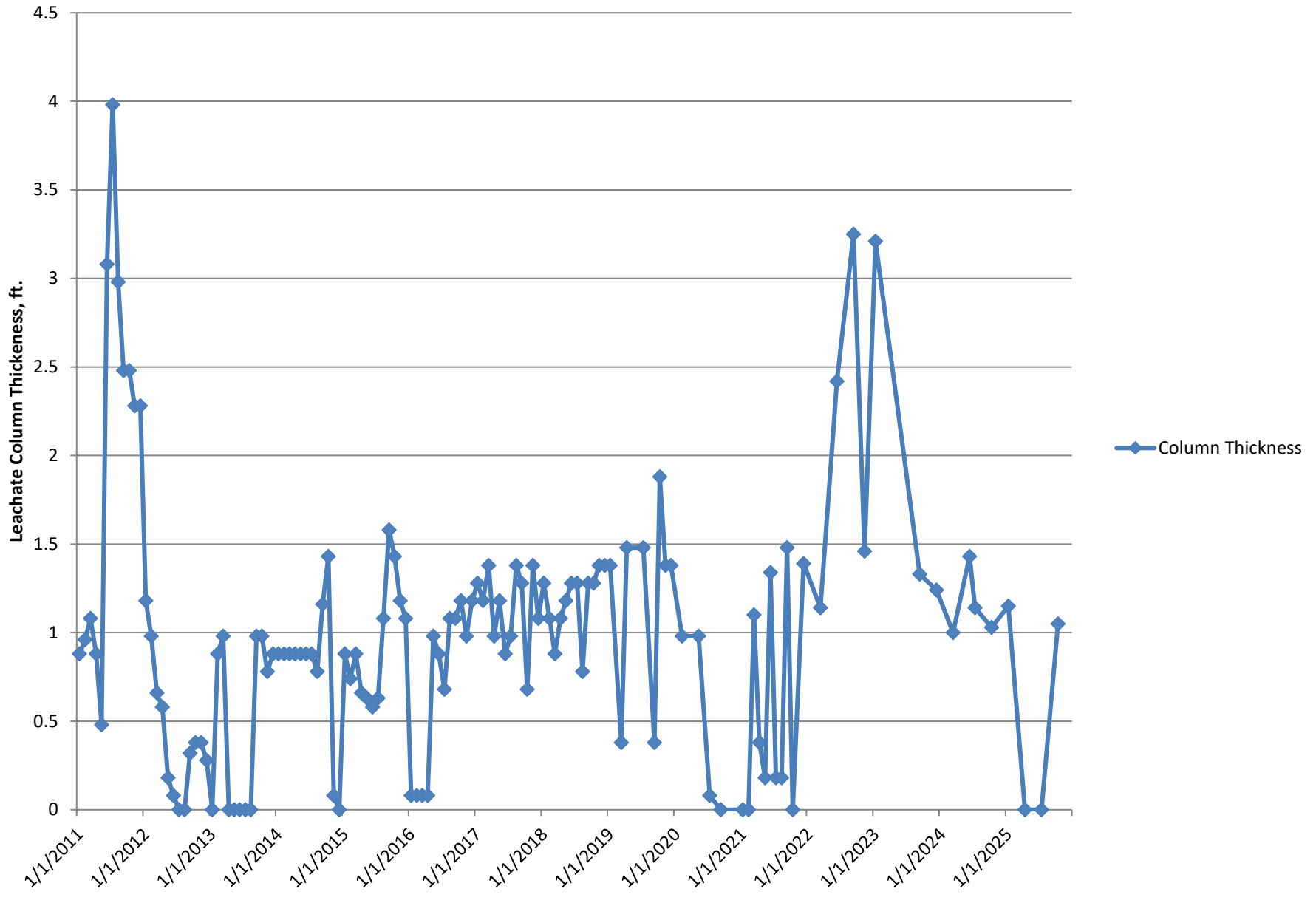
# LW-4



# LW-5



# LW-6





## **Attachment B**

### Laboratory Analytical Data



## Certificate of Analysis

Report Date: 7-15-2025  
Report Number: 25-196-0116  
Lab ID Number: 25021963

Buena Vista County Solid Waste Commission  
PO Box 1051  
Storm Lake, IA 50588

Date Submitted: 7-9-2025  
Date Received: 7-9-2025  
Contact: Lori Dicks  
Submitted By: Gustavo Muniz

**Sample Description:** BV County Recycle Center (Leachate) Grab  
**Sampled:** 7-9-2025 @ 13:20 by GM  
**Received:** 7-9-2025 @ 14:32 by ALO (10.1°C)

Page 1 of 1

Test Requested	Result	Analysis Date / Time	Analyst	Method
BOD (mg/L)	57.2	7-9-2025 16:06	SMK	SM 5210B - 2011
Total Kjeldahl Nitrogen (mg/L)	25.7	7-15-2025 7:56	RWT	CFR PAI-DK03
Total Suspended Solids (mg/L)	148	7-11-2025 11:27	SEW	SM 2540 D - 2011

**Comments**

Foundation Analytical Lab (IDNR Lab #396, USEPA Lab #IA01138) is certified by the Iowa Department of Natural Resources for the testing of wastewater and drinking water.

Upon receipt sample met requirements for analysis EXCEPT pH guidelines not met.

Field pH: 6.87; Field DO: 3.79; Field Temperature: 28.2

Respectfully submitted by

**Molly Lundsgaard**

Laboratory Administrator

**\*\* End Certificate of Analysis \*\***

Samples were received in acceptable condition unless denoted in the comments section of this report. Any temperature(s) recorded at receipt are +/- 1°C. All data for this report has been approved by Foundation Analytical Laboratory Management. The results depicted in this report apply to samples as submitted. It is not possible for Foundation Analytical Laboratory to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by Foundation Analytical Laboratory. As a mutual protection to clients, the public, and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

## Certificate of Analysis

Report Date: 7-21-2025  
Report Number: 25-202-0072  
Lab ID Number: 25022816

Buena Vista County Solid Waste Commission  
PO Box 1051  
Storm Lake, IA 50588

Date Submitted: 7-15-2025  
Date Received: 7-15-2025  
Contact: Lori Dicks  
Submitted By: Jeff Stamper

**Sample Description:** BV County Recycle Center (Leachate) Grab  
**Sampled:** 7-15-2025 @ 13:15 by JS  
**Received:** 7-15-2025 @ 15:25 by BRR (8.3°C)

Test Requested	Result	Analysis Date / Time	Analyst	Method
BOD (mg/L)	32.8	7-16-2025 8:55	SMK	SM 5210B - 2011
Total Kjeldahl Nitrogen (mg/L)	16	7-18-2025 8:00	RWT	CFR PAI-DK03
Total Suspended Solids (mg/L)	74	7-17-2025 8:27	MOM	SM 2540 D - 2011

### Comments

Foundation Analytical Lab (IDNR Lab #396, USEPA Lab #IA01138) is certified by the Iowa Department of Natural Resources for the testing of wastewater and drinking water.

Upon receipt sample met requirements for analysis.

The Sample was not at correct temperature at receipt but was acceptable because it was received within specified threshold with cooling (BOD (mg/L) @ 6 hrs, Total Kjeldahl Nitrogen (mg/L) @ 6 hrs, Total Suspended Solids (mg/L) @ 6 hrs).

Field pH: 7.08; Field DO: 9.8; Field Temperature: 29

Respectfully submitted by



**Molly Lundsgaard**  
Laboratory Administrator



## Certificate of Analysis

Report Date: 7-22-2025  
Report Number: 25-203-0209  
Lab ID Number: 25023113

Buena Vista County Solid Waste Commission  
PO Box 1051  
Storm Lake, IA 50588

Date Submitted: 7-16-2025  
Date Received: 7-16-2025  
Contact: Lori Dicks  
Submitted By: Saul Rosales

**Sample Description:** BV County Recycle Center (Leachate) Grab  
**Sampled:** 7-16-2025 @ 13:21 by SR  
**Received:** 7-16-2025 @ 14:20 by SKS (20.3°C)

Page 1 of 1

Test Requested	Result	Analysis Date / Time	Analyst	Method
BOD (mg/L)	13.1	7-16-2025 15:51	SMK	SM 5210B - 2011
Total Kjeldahl Nitrogen (mg/L)	8.39	7-22-2025 8:17	BMG	CFR PAI-DK03
Total Suspended Solids (mg/L)	32	7-17-2025 8:27	MOM	SM 2540 D - 2011

### Comments

Foundation Analytical Lab (IDNR Lab #396, USEPA Lab #IA01138) is certified by the Iowa Department of Natural Resources for the testing of wastewater and drinking water.

Upon receipt sample met requirements for analysis.

The Sample was not at correct temperature at receipt but was acceptable because it was received within specified threshold with cooling (BOD (mg/L) @ 6 hrs, Total Kjeldahl Nitrogen (mg/L) @ 6 hrs, Total Suspended Solids (mg/L) @ 6 hrs).

Respectfully submitted by

**Molly Lundsgaard**

Laboratory Administrator

**\*\* End Certificate of Analysis \*\***

Samples were received in acceptable condition unless denoted in the comments section of this report. Any temperature(s) recorded at receipt are + / - 1°C. All data for this report has been approved by Foundation Analytical Laboratory Management. The results depicted in this report apply to samples as submitted. It is not possible for Foundation Analytical Laboratory to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by Foundation Analytical Laboratory. As a mutual protection to clients, the public, and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



## Certificate of Analysis

Report Date: 7-23-2025  
Report Number: 25-204-0119  
Lab ID Number: 25023254

Buena Vista County Solid Waste Commission  
PO Box 1051  
Storm Lake, IA 50588

Date Submitted: 7-17-2025  
Date Received: 7-17-2025  
Contact: Lori Dicks  
Submitted By: Jeff Stamper

**Sample Description:** BV County Recycle Center (Leachate) Grab  
**Sampled:** 7-17-2025 @ 12:30 by JS  
**Received:** 7-17-2025 @ 13:17 by ZDW (13.8°C)

Test Requested	Result	Analysis Date / Time	Analyst	Method
BOD (mg/L)	16.2	7-18-2025 9:14	SMK	SM 5210B - 2011
Total Kjeldahl Nitrogen (mg/L)	8.45	7-23-2025 8:00	HMS	CFR PAI-DK03
Total Suspended Solids (mg/L)	24	7-22-2025 7:59	JRS	SM 2540 D - 2011

### Comments

Foundation Analytical Lab (IDNR Lab #396, USEPA Lab #IA01138) is certified by the Iowa Department of Natural Resources for the testing of wastewater and drinking water.

Upon receipt sample met requirements for analysis.

The Sample was not at correct temperature at receipt but was acceptable because it was received within specified threshold with cooling (BOD (mg/L) @ 6 hrs, Total Kjeldahl Nitrogen (mg/L) @ 6 hrs, Total Suspended Solids (mg/L) @ 6 hrs).

Field pH: 7.54; Field DO: 7.07; Field Temperature: 24.4

Respectfully submitted by

**Molly Lundsgaard**

Laboratory Administrator



## Certificate of Analysis

Report Date: 7-29-2025  
Report Number: 25-210-0053  
Lab ID Number: 25023866

Buena Vista County Solid Waste Commission  
PO Box 1051  
Storm Lake, IA 50588

Date Submitted: 7-23-2025  
Date Received: 7-23-2025  
Contact: Lori Dicks  
Submitted By: Eriberto Flores

**Sample Description:** BV County Recycle Center (Leachate) Grab  
**Sampled:** 7-23-2025 @ 11:05 by EF  
**Received:** 7-23-2025 @ 14:04 by ZDW (13.8°C)

Test Requested	Result	Analysis Date / Time	Analyst	Method
BOD (mg/L)	25.1	7-23-2025 15:12	ELW	SM 5210B - 2011
Total Kjeldahl Nitrogen (mg/L)	12.8	7-25-2025 8:24	ELW	CFR PAI-DK03
Total Suspended Solids (mg/L)	30	7-28-2025 8:00	BMG	SM 2540 D - 2011

**Comments**

Foundation Analytical Lab (IDNR Lab #396, USEPA Lab #IA01138) is certified by the Iowa Department of Natural Resources for the testing of wastewater and drinking water.

Upon receipt sample met requirements for analysis EXCEPT pH guidelines not met.

Field pH: 7.28; Field DO: 8.84; Field Temperature: 28.3

Respectfully submitted by

**Brittany Erickson**  
Quality Manager

**\*\* End Certificate of Analysis \*\***

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## Certificate of Analysis

Report Date: 7-30-2025  
Report Number: 25-211-0116  
Lab ID Number: 25024214

Buena Vista County Solid Waste Commission  
PO Box 1051  
Storm Lake, IA 50588

Date Submitted: 7-25-2025  
Date Received: 7-25-2025  
Contact: Lori Dicks

**Sample Description:** BV County Recycle Center (Leachate) Grab  
**Sampled:** 7-25-2025 @ 14:20 by SR  
**Received:** 7-25-2025 @ 15:21 by ZDW (21.0°C)

Page 1 of 2

Test Requested	Result	Analysis Date / Time	Analyst	Method
BOD (mg/L)	8.64	7-25-2025 15:45	ELW	SM 5210B - 2011
Total Kjeldahl Nitrogen (mg/L)	9.13	7-30-2025 7:53	BMG	CFR PAI-DK03
Total Suspended Solids (mg/L)	15	7-29-2025 8:21	JRS	SM 2540 D - 2011

### Comments

Foundation Analytical Lab (IDNR Lab #396, USEPA Lab #IA01138) is certified by the Iowa Department of Natural Resources for the testing of wastewater and drinking water.

Upon receipt sample met requirements for analysis.

The Sample was not at correct temperature at receipt but was acceptable because it was received within specified threshold with cooling (BOD (mg/L) @ 6 hrs, Total Kjeldahl Nitrogen (mg/L) @ 6 hrs, Total Suspended Solids (mg/L) @ 6 hrs, Total Suspended Solids (mg/L) @ 6 hrs).

Respectfully submitted by

**Brittany Erickson**  
Quality Manager



## Certificate of Analysis

Report Date: 8-18-2025  
Report Number: 25-230-0038  
Lab ID Number: 25026057

Buena Vista County Solid Waste Commission  
PO Box 1051  
Storm Lake, IA 50588

Date Submitted: 8-11-2025  
Date Received: 8-11-2025  
Contact: Lori Dicks

**Sample Description:** Leachate Pond Grab  
**Sampled:** 8-11-2025 @ 7:45 by LD  
**Received:** 8-11-2025 @ 8:57 by SKS (18.5°C)

Test Requested	Result	Analysis Date / Time	Analyst	Method
BOD (mg/L)	4.21	8-13-2025 7:43	MOM	SM 5210B - 2011
Total Kjeldahl Nitrogen (mg/L)	5.37	8-14-2025 8:02	BMG	CFR PAI-DK03
Total Suspended Solids (mg/L)	5.5	8-12-2025 7:58	MOM	SM 2540 D - 2011
Ammonia as N (mg/L)	3.06	8-14-2025 9:03	ELW	SM 4500 NH3C - 2011
Arsenic (ppm)	< 0.02	8-13-2025 15:02	ELW	EPA 200.8 (mod)
Barium (ppm)	0.195	8-13-2025 15:02	ELW	EPA 200.8 (mod)
Cadmium (ppm)	< 0.0004	8-13-2025 15:02	ELW	EPA 200.8 (mod)
Chromium (ppm)	< 0.002	8-13-2025 15:02	ELW	EPA 200.8 (mod)
Copper (ppm)	< 0.002	8-13-2025 15:02	ELW	EPA 200.8 (mod)
Iron (ppm)	0.882	8-13-2025 15:42	ELW	SM 3120 B - 2011
Lead (ppm)	< 0.001	8-13-2025 15:02	ELW	EPA 200.8 (mod)
Nickel (ppm)	0.0135	8-13-2025 15:02	ELW	EPA 200.8 (mod)
pH	7.85	8-11-2025 14:58	SEW	SM 4500-H B - 2011
Selenium (ppm)	0.00643	8-13-2025 15:02	ELW	EPA 200.8 (mod)
Silver (ppm)	< 0.002	8-13-2025 15:02	ELW	EPA 200.8 (mod)
Total Dissolved Solids (mg/L)	786	8-13-2025 12:11	JWM	SM 2540C - 2011
Zinc (ppm)	0.00702	8-13-2025 15:02	ELW	EPA 200.8 (mod)

**Comments**

Foundation Analytical Lab (IDNR Lab #396, USEPA Lab #IA01138) is certified by the Iowa Department of Natural Resources for the testing of wastewater and drinking water.

Upon receipt sample met requirements for analysis EXCEPT maximum hold time exceeded (pH).

Respectfully submitted by

**Molly Lundsgaard**  
Laboratory Administrator

**\*\* End Certificate of Analysis \*\***

Samples were received in acceptable condition unless denoted in the comments section of this report. Any temperature(s) recorded at receipt are +/- 1°C. All data for this report has been approved by Foundation Analytical Laboratory Management. The results depicted in this report apply to samples as submitted. It is not possible for Foundation Analytical Laboratory to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by Foundation Analytical Laboratory. As a mutual protection to clients, the public, and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



Collection Location leachate pond 26026057		Collector and Phone dicks lori	Client Reference buena vista csw	Accession # 2698624
STORM LAKE, IA		Collected 2025-08-11 07:57	Received 2025-08-13 13:15	Project
Report To	ABBI ORGEN FOUNDATION ANALYTICAL LABORATORY			Sample Description wastewater
	723 SLEEZER RD			Sample Type Non-Drinking Water
	CHEROKEE, IA 51012-			Sample Source
				Sample Note(s) 1

RESULTS OF ANALYSIS - FINAL REPORT

TEST	RESULT (mg/L)	QUANT LIMIT	ANALYSIS NOTE(S)
Total Organic Carbon, SM 5310 B			
<b>Total Organic Carbon</b>	<b>27</b>	<b>0.5</b>	
Mercury, EPA 245.2			
<b>Mercury</b>	<b>&lt;0.00020</b>	<b>0.0002</b>	

TEST	RESULT (ug/L)	QUANT LIMIT	ANALYSIS NOTE(S)
GCMS Volatiles, EPA 624			
<b>Chloromethane</b>	<b>&lt;5</b>	<b>5</b>	
<b>Bromomethane</b>	<b>&lt;5</b>	<b>5</b>	
<b>Vinyl chloride</b>	<b>&lt;5</b>	<b>5</b>	
<b>Chloroethane</b>	<b>&lt;5</b>	<b>5</b>	
<b>Methylene chloride</b>	<b>&lt;5</b>	<b>5</b>	
<b>1,1-Dichloroethene</b>	<b>&lt;5</b>	<b>5</b>	
<b>1,1-Dichloroethane</b>	<b>&lt;5</b>	<b>5</b>	
<b>Total 1,2-Dichloroethenes</b>	<b>&lt;5</b>	<b>5</b>	
<b>Chloroform</b>	<b>&lt;5</b>	<b>5</b>	
<b>1,2-Dichloroethane</b>	<b>&lt;5</b>	<b>5</b>	
<b>1,1,1-Trichloroethane</b>	<b>&lt;5</b>	<b>5</b>	
<b>Carbon tetrachloride</b>	<b>&lt;5</b>	<b>5</b>	
<b>Bromodichloromethane</b>	<b>&lt;5</b>	<b>5</b>	
<b>1,2-Dichloropropane</b>	<b>&lt;5</b>	<b>5</b>	
<b>cis-1,3-Dichloropropene</b>	<b>&lt;5</b>	<b>5</b>	
<b>Trichloroethene</b>	<b>&lt;5</b>	<b>5</b>	
<b>Dibromochloromethane</b>	<b>&lt;5</b>	<b>5</b>	
<b>1,1,2-Trichloroethane</b>	<b>&lt;5</b>	<b>5</b>	
<b>Benzene</b>	<b>&lt;5</b>	<b>5</b>	
<b>trans-1,3-Dichloropropene</b>	<b>&lt;5</b>	<b>5</b>	
<b>Bromoform</b>	<b>&lt;5</b>	<b>5</b>	
<b>Tetrachloroethene</b>	<b>&lt;5</b>	<b>5</b>	
<b>1,1,2,2-Tetrachloroethane</b>	<b>&lt;5</b>	<b>5</b>	
<b>Toluene</b>	<b>&lt;5</b>	<b>5</b>	
<b>Chlorobenzene</b>	<b>&lt;5</b>	<b>5</b>	
<b>Ethylbenzene</b>	<b>&lt;5</b>	<b>5</b>	
GCMS Volatiles, EPA 624 AAC			
<b>Acrolein</b>	<b>&lt;20.</b>	<b>20.</b>	
<b>Acrylonitrile</b>	<b>&lt;20.</b>	<b>20.</b>	
<b>2-Chloroethylvinyl ether</b>	<b>&lt;20.</b>	<b>20.</b>	

GCMS Semivolatiles, EPA 625



Collection Location	Collector	Client Reference	Accession #
leachate pond 26026057	dicks lori	buena vista csw	2698624

GCMS Semivolatiles, EPA 625

Phenol	<5	5
bis(2-Chloroethyl)ether	<5	5
2-Chlorophenol	<5	5
1,3-Dichlorobenzene	<5	5
1,4-Dichlorobenzene	<5	5
1,2-Dichlorobenzene	<5	5
2-Methylphenol	<5	5
2,2'-oxybis(1-Chloropropane)	<5	5
4-Methylphenol	<5	5
N-Nitroso-di-n-propylamine	<5	5
Hexachloroethane	<5	5
Nitrobenzene	<5	5
Isophorone	<5	5
2-Nitrophenol	<5	5
2,4-Dimethylphenol	<5	5
bis(2-Chloroethoxy) methane	<5	5
2,4-Dichlorophenol	<5	5
1,2,4-Trichlorobenzene	<5	5
Naphthalene	<5	5
4-Chloroaniline	<5	5
Hexachlorobutadiene	<5	5
4-Chloro-3-methylphenol	<5	5
2-Methylnaphthalene	<5	5
Hexachlorocyclopentadiene	<5	5
2,4,6-Trichlorophenol	<5	5
2,4,5-Trichlorophenol	<5	5
2-Chloronaphthalene	<5	5
2-Nitroaniline	<5	5
Dimethyl phthalate	<5	5
Acenaphthylene	<5	5
2,6-Dinitrotoluene	<5	5
3-Nitroaniline	<5	5
Acenaphthene	<5	5
2,4-Dinitrophenol	<5	5
4-Nitrophenol	<5	5
Dibenzofuran	<5	5
2,4-Dinitrotoluene	<5	5
Diethyl phthalate	<5	5
Fluorene	<5	5
4-Chlorophenyl phenyl ether	<5	5
4-Nitroaniline	<5	5
4,6-Dinitro-2-methylphenol	<5	5
N-Nitrosodiphenylamine	<5	5
4-Bromophenyl phenyl ether	<5	5
Hexachlorobenzene	<5	5
Pentachlorophenol	<5	5
Phenanthrene	<5	5
Carbazole	<5	5
Anthracene	<5	5
Di-n-butyl phthalate	<5	5
Fluoranthene	<5	5
Pyrene	<5	5
Butyl benzyl phthalate	<5	5
Benzo(a)anthracene	<5	5
3,3'-Dichlorobenzidine	<5	5

Collection Location leachate pond 26026057	Collector dicks lori	Client Reference buena vista csw	Accession # 2698624
---	-------------------------	-------------------------------------	------------------------

<u>TEST</u>	<u>RESULT (ug/L)</u>	<u>QUANT LIMIT</u>	<u>ANALYSIS NOTE(S)</u>
Chrysene	<5	5	
bis(2-Ethylhexyl)phthalate	<5	5	
Di-n-octyl phthalate	<5	5	
Benzo(b)fluoranthene	<5	5	
Benzo(k)fluoranthene	<5	5	
Benzo(a)pyrene	<5	5	
Indeno(1,2,3-cd)pyrene	<5	5	
Dibenzo(a,h)anthracene	<5	5	
Benzo(g,h,i)perylene	<5	5	
N-Nitrosodimethylamine	<5	5	
Benzidine	<5	5	
<i>Chlorinated Hydrocarbon Insecticides, EPA 608</i>			
Aldrin	<0.05	0.05	
alpha-BHC	<0.05	0.05	
beta-BHC	<0.05	0.05	
delta-BHC	<0.05	0.05	
Lindane	<0.05	0.05	
4,4'-DDD	<0.05	0.05	
4,4'-DDE	<0.05	0.05	
4,4'-DDT	<0.05	0.05	
Dieldrin	<0.05	0.05	
Endosulfan I	<0.05	0.05	
Endosulfan II	<0.05	0.05	
Endosulfan sulfate	<0.05	0.05	
Endrin	<0.05	0.05	
Endrin aldehyde	<0.05	0.05	
Endrin ketone	<0.05	0.05	
Heptachlor	<0.05	0.05	
Heptachlor epoxide	<0.05	0.05	
Methoxychlor	<0.05	0.05	
Chlordane	<0.05	0.05	
Toxaphene	<0.5	0.5	
Aroclor 1016	<0.5	0.5	
Aroclor 1221	<0.5	0.5	
Aroclor 1232	<0.5	0.5	
Aroclor 1242	<0.5	0.5	
Aroclor 1248	<0.5	0.5	
Aroclor 1254	<0.5	0.5	
Aroclor 1260	<0.5	0.5	

**SAMPLE AND ANALYSIS NOTES**

1. Unless otherwise noted, the sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

**ANALYSIS INFORMATION**

<u>TEST</u>	<u>ANALYZED</u>	<u>SITE</u>	<u>RELEASED</u>	<u>ANALYSIS PREP</u>
1. Total Organic Carbon, SM 5310 B	2025-09-08 09:45 AJB	3201	2025-09-09 11:14 JAE	
2. Mercury, EPA 245.2	2025-08-27 14:01 SGB	3201	2025-08-28 13:45 BRW	
3. GCMS Volatiles, EPA 624	2025-08-13 15:43 LJL	3200	2025-08-15 10:41 TGC	
4. GCMS Volatiles, EPA 624 AAC	2025-08-13 16:36 LJL	3200	2025-08-15 10:41 TGC	
5. GCMS Semivolatiles, EPA 625	2025-08-21 11:18 VER	3200	2025-08-21 15:52 TGC	Test 6

<b>Collection Location</b> leachate pond 26026057	<b>Collector</b> dicks lori	<b>Client Reference</b> buena vista csw	<b>Accession #</b> 2698624
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<b>TEST</b>	<b>ANALYZED</b>	<b>SITE</b>	<b>RELEASED</b>	<b>ANALYSIS PREP</b>
6. Prep by Separatory Funnel, EPA 625	2025-08-18 08:36 NH	3200	2025-08-19 07:53 MES	
7. Chlorinated Hydrocarbon Insecticides, EPA 608	2025-08-20 20:06 VER	3200	2025-08-21 15:44 TGC	Test 8
8. Prep by Separatory Funnel, EPA 608	2025-08-18 08:22 MW	3200	2025-08-19 07:53 MES	

**DESCRIPTION OF UNITS**

mg/L = Milligrams per Liter  
 ug/L = Micrograms per Liter

**SITE(S) PERFORMING TESTING**

- 3201 STATE HYGIENIC LAB AT THE UNIV. OF IOWA, IOWA LABORATORIES COMPLEX, 2220 S ANKENY BLVD, ANKENY, IA 50023; Phone 515/725-1600; Fax 515/725-1642; Dustin M. May, Ph.D., Associate Director; Michael A. Pentella, Ph.D., D(ABMM), Director; IOWA ENVIRONMENTAL LAB ID #397; CLIA ID Number 16D0709302
- 3200 STATE HYGIENIC LAB AT THE UNIV. OF IOWA, UNIVERSITY OF IOWA RESEARCH PARK, 2490 CROSSPARK RD, CORALVILLE, IA 52241; Phone 319/335-4500; Fax 319/335-4555; Dustin M. May, Ph.D., Associate Director; Michael A. Pentella, Ph.D., D(ABMM), Director; IOWA ENVIRONMENTAL LAB ID #027; CLIA ID Number 16D0648109

The result(s) of this report relate only to the items analyzed. Where the laboratory has not been responsible for the sampling stage the results apply only to the sample as received. This report shall not be reproduced except in full without the written approval of the laboratory. If you have any questions, please call Client Services at 800/421-IOWA (4692) or 319/335-4500.



## Certificate of Analysis

Report Date: 8-20-2025  
Report Number: 25-232-0152  
Lab ID Number: 25026762

Buena Vista County Solid Waste Commission  
PO Box 1051  
Storm Lake, IA 50588

Date Submitted: 8-14-2025  
Date Received: 8-14-2025  
Contact: Lori Dicks  
Submitted By: Jorge Tarin

**Sample Description:** BV County Recycle Center (Leachate) Grab  
**Sampled:** 8-14-2025 @ 13:15 by JT  
**Received:** 8-14-2025 @ 14:08 by SKS (14.4°C)

Test Requested	Result	Analysis Date / Time	Analyst	Method
BOD (mg/L)	13.1	8-15-2025 9:20	ELW	SM 5210B - 2011
Total Kjeldahl Nitrogen (mg/L)	12.1	8-20-2025 7:59	MOM	CFR PAI-DK03
Total Suspended Solids (mg/L)	85	8-19-2025 7:41	BJC	SM 2540 D - 2011

### Comments

Foundation Analytical Lab (IDNR Lab #396, USEPA Lab #IA01138) is certified by the Iowa Department of Natural Resources for the testing of wastewater and drinking water.

Upon receipt sample met requirements for analysis.

The Sample was not at correct temperature at receipt but was acceptable because it was received within specified threshold with cooling (BOD (mg/L) @ 6 hrs, Total Kjeldahl Nitrogen (mg/L) @ 6 hrs, Total Suspended Solids (mg/L) @ 6 hrs).

Field pH: 7.15; Field DO: 6.66; Field Temperature: 25.8

Respectfully submitted by

**Molly Lundsgaard**

Laboratory Administrator



## Certificate of Analysis

Report Date: 8-21-2025  
Report Number: 25-233-0069  
Lab ID Number: 25026889

Buena Vista County Solid Waste Commission  
PO Box 1051  
Storm Lake, IA 50588

Date Submitted: 8-15-2025  
Date Received: 8-15-2025  
Contact: Lori Dicks  
Submitted By: Jeff Stamper

**Sample Description:** BV County Recycle Center (Leachate) Grab  
**Sampled:** 8-15-2025 @ 12:15 by JS  
**Received:** 8-15-2025 @ 13:13 by SKS (22.5°C)

Test Requested	Result	Analysis Date / Time	Analyst	Method
BOD (mg/L)	15.3	8-15-2025 14:42	ELW	SM 5210B - 2011
Total Kjeldahl Nitrogen (mg/L)	11.2	8-21-2025 7:39	MOM	CFR PAI-DK03
Total Suspended Solids (mg/L)	86	8-19-2025 7:41	BJC	SM 2540 D - 2011

Comments
Foundation Analytical Lab (IDNR Lab #396, USEPA Lab #IA01138) is certified by the Iowa Department of Natural Resources for the testing of wastewater and drinking water.
Upon receipt sample met requirements for analysis.
The Sample was not at correct temperature at receipt but was acceptable because it was received within specified threshold with cooling (BOD (mg/L) @ 6 hrs, Total Kjeldahl Nitrogen (mg/L) @ 6 hrs, Total Suspended Solids (mg/L) @ 6 hrs).
Field pH: 7.53; Field DO: 8.47; Field Temperature: 27.9

Respectfully submitted by  
  
**Brittany Erickson**  
Quality Manager

Samples were received in acceptable condition unless denoted in the comments section of this report. Any temperature(s) recorded at receipt are + / - 1°C. All data for this report has been approved by Foundation Analytical Laboratory Management. The results depicted in this report apply to samples as submitted. It is not possible for Foundation Analytical Laboratory to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by Foundation Analytical Laboratory. As a mutual protection to clients, the public, and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Appendix B  
Landfill Gas Report



**Landfill Gas Monitoring - Field Measurement Recording Sheet**  
**2025 Methane Monitoring Event - Q1**  
**January - March 2025**

**Name of Facility:** Buena Vista County Solid Waste Commission

**Monitoring Equipment Used:** RKI GX-2012

**Date of Measurement:** 1/6/2025

**Equipment Calibration Date:** 1/6/2025

**Equipment Calibration Time:** 12:00 PM

**Weather Conditions:**

**Name of Sampler:** Cole Tesar

Temperature: 20°F

Barometric Pressure: 30.44" Hg

Other: \_\_\_\_\_

Compliance Sample Points	Measured Well Depth (ft)	Static Water Level (ft)	Groundwater Elevation	Top of Screen Elevation	Screen Exposed	Methane Concentration % of LEL	Comments
LFGW-2	21.20	20.85	1354.50	1374.22	yes	0%	Water in well possibly frozen affecting well depth measurement.
LFGW-3	18.30	12.55	1346.30	1349.97	yes	0%	
LFGW-4	12.75	8.25	1378.22	1379.95	yes	0%	
PZ-4C	13.47	8.75	1360.24	1360.76	yes	0%	
<b>Additional Sample Points</b>							
GV-1	24.65	Dry	NA	1366.72	yes	0%	Vent broken at base.
GV-2	30.20	28.15	1353.38	1372.17	yes	0%	
GV-3	29.25	28.82	1356.03	1376.25	yes	0%	
GV-5	25.30	24.91	1359.15	1374.29	yes	34%	
GV-6	25.40	Dry	NA	1369.83	yes	0%	

**Landfill Gas Monitoring - Field Measurement Recording Sheet**  
**2025 Methane Monitoring Event - Q2**  
**April - June 2025**

**Name of Facility:** Buena Vista County Solid Waste Commission

**Monitoring Equipment Used:** RKI GX-2012

**Date of Measurement:** 4/17/2025

**Equipment Calibration Date:** 4/17/2025

**Equipment Calibration Time:** 3:30 PM

**Weather Conditions:**

**Name of Sampler:** Garrett Horak

Temperature: 75°F

Barometric Pressure: 29.44" Hg

Other: Windy

Compliance Sample Points	Measured Well Depth (ft)	Static Water Level (ft)	Groundwater Elevation	Top of Screen Elevation	Screen Exposed	Methane Concentration % of LEL	Comments
LFGW-2	28.05	27.01	1354.90	1374.22	yes	0%	
LFGW-3	18.25	6.12	1351.85	1349.97	no	0%	
LFGW-4	12.71	9.70	1377.83	1379.95	yes	0%	
PZ-4C	13.48	8.35	1360.52	1360.76	yes	0%	
<b>Additional Sample Points</b>							
GV-1	30.03	Dry	NA	1366.72	yes	0%	Vent broken at base.
GV-2	29.76	Dry	NA	1372.17	yes	0%	
GV-3	29.34	Dry	NA	1376.25	yes	0%	
GV-5	25.50	Dry	NA	1374.29	yes	68%	
GV-6	25.41	Dry	NA	1369.83	yes	0%	

**Landfill Gas Monitoring - Field Measurement Recording Sheet**  
**2025 Methane Monitoring Event - Q3**  
**July - September 2025**

**Name of Facility:** Buena Vista County Solid Waste Commission

**Monitoring Equipment Used:** RKI GX-2012

**Date of Measurement:** 7/7/2025

**Equipment Calibration Date:** 7/7/2025

**Equipment Calibration Time:** NM

**Weather Conditions:**

**Name of Sampler:** Garrett Horak

Temperature: 72°F

Barometric Pressure: NM

Other: \_\_\_\_\_

Compliance Sample Points	Measured Well Depth (ft)	Static Water Level (ft)	Groundwater Elevation	Top of Screen Elevation	Screen Exposed	Methane Concentration % of LEL	Comments
LFGW-2	27.95	Dry	NA	1374.22	yes	>100%	Communication with the DNR on 12/6/2023 determined that because methane was not measured in GV-6, no further action was required with regard to this measurement.
LFGW-3	18.26	4.92	1353.05	1349.97	no	0%	
LFGW-4	12.78	3.61	1383.92	1379.95	no	0%	
PZ-4C	13.45	7.63	1361.24	1360.76	no	0%	
<b>Additional Sample Points</b>							
GV-1	NM	NM	NA	1366.72	NA	0%	Vent broken at base.
GV-2	30.14	Dry	NA	1372.17	yes	0%	
GV-3	29.25	Dry	NA	1376.25	yes	0%	
GV-5	25.30	23.47	1360.98	1374.29	yes	>100%	Communication with the DNR on 7/9/2025 determined that because methane was not measured in GV-6, no further action was required with regard to this measurement.
GV-6	25.41	Dry	NA	1369.83	yes	0%	

**Landfill Gas Monitoring - Field Measurement Recording Sheet**  
**2025 Methane Monitoring Event - Q4**  
**October - December 2025**

**Name of Facility:** Buena Vista County Solid Waste Commission

**Monitoring Equipment Used:** RKI GX-2012

**Date of Measurement:** 10/25/2025

**Equipment Calibration Date:** 10/25/2025

**Equipment Calibration Time:** 10:00 AM

**Weather Conditions:**

**Name of Sampler:** Sean Marczewski

Temperature: 55°F

Barometric Pressure: 28.57" Hg

Other: \_\_\_\_\_,

Compliance Sample Points	Measured Well Depth (ft)	Static Water Level (ft)	Groundwater Elevation	Top of Screen Elevation	Screen Exposed	Methane Concentration % of LEL	Comments
LFGW-2	28.01	27.01	1354.90	1374.22	yes	21%	
LFGW-3	18.30	9.75	1348.22	1349.97	yes	0%	
LFGW-4	12.75	4.99	1382.54	1379.95	no	0%	
PZ-4C	13.49	8.65	1360.22	1360.76	yes	0%	
<b>Additional Sample Points</b>							
GV-1	NM	NM	NA	1366.72	yes	0%	Vent broken at base.
GV-2	30.10	27.93	1354.28	1372.17	yes	0%	
GV-3	29.28	29.03	1356.29	1376.25	yes	0%	
GV-5	25.27	24.16	1360.29	1374.29	yes	>100%	Communication with the DNR on 7/9/2025 determined that because methane was not measured in GV-6, no further action was required with regard to this measurement.
GV-6	25.41	25.02	1355.11	1369.83	yes	0%	