

Attachment G

Post Well Development Laboratory Report

ANALYTICAL REPORT

PREPARED FOR

Attn: Stacie Sanborn
Vernon County Solid Waste & Recycling
S3705 County Road LF
Viroqua, Wisconsin 54665

Generated 12/5/2022 9:27:31 AM

JOB DESCRIPTION

Vernon County Landfill Expansion

JOB NUMBER

500-224890-1

Eurofins Chicago

Job Notes

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Authorization



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Case Narrative

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Job ID: 500-224890-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-224890-1

Comments

No additional comments.

Receipt

The samples were received on 11/4/2022 9:55 AM. 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 was 1.3° C.

GC/MS VOA

Method 8260B: The laboratory control sample (LCS) for analytical batch 500-684937 recovered outside control limits for the following analytes: Bromomethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260B: The continuing calibration verification (CCV) associated with batch 500-684937 recovered above the upper control limit for Bromomethane and Chloroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: Water Tank (500-224890-4) and TRIP BLANK (500-224890-5).

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

General Chemistry

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

Detection Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-224890-1

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	289		22.7	8.8	mg/L	1		SM 2540D	Total/NA
Chemical Oxygen Demand	10		10.0	6.0	mg/L	1		SM 5220C	Total/NA

Client Sample ID: MW-16

Lab Sample ID: 500-224890-2

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	273		35.7	13.8	mg/L	1		SM 2540D	Total/NA
Chemical Oxygen Demand	11.5		10.0	6.0	mg/L	1		SM 5220C	Total/NA

Client Sample ID: MW-17WT

Lab Sample ID: 500-224890-3

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	58.4		5.6	2.1	mg/L	1		SM 2540D	Total/NA
Chemical Oxygen Demand	11.0		10.0	6.0	mg/L	1		SM 5220C	Total/NA

Client Sample ID: Water Tank

Lab Sample ID: 500-224890-4

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.44	J	2.0	0.37	ug/L	1		8260B	Total/NA
1,1,2,2-Tetrachloroethane	0.81	J	1.0	0.40	ug/L	1		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-224890-5

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.21	J	0.50	0.16	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

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Method Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	EET CHI
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CHI
SM 5220C	COD	SM	EET CHI
5030B	Purge and Trap	SW846	EET CHI
SM 5220	COD	SM	EET CHI

Protocol References:

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

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

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-224890-1	MW-14WT	Water	11/02/22 14:00	11/04/22 09:55
500-224890-2	MW-16	Water	11/02/22 14:50	11/04/22 09:55
500-224890-3	MW-17WT	Water	11/02/22 15:20	11/04/22 09:55
500-224890-4	Water Tank	Water	11/02/22 15:30	11/04/22 09:55
500-224890-5	TRIP BLANK	Water	11/02/22 00:00	11/04/22 09:55

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-224890-1

Date Collected: 11/02/22 14:00

Matrix: Water

Date Received: 11/04/22 09:55

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	289		22.7	8.8	mg/L			11/08/22 10:47	1
Chemical Oxygen Demand (SM 5220C)	10		10.0	6.0	mg/L		11/23/22 10:30	11/23/22 14:05	1

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Client Sample ID: MW-16

Date Collected: 11/02/22 14:50

Date Received: 11/04/22 09:55

Lab Sample ID: 500-224890-2

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	273		35.7	13.8	mg/L			11/08/22 10:50	1
Chemical Oxygen Demand (SM 5220C)	11.5		10.0	6.0	mg/L		11/23/22 10:30	11/23/22 14:05	1

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-224890-3

Date Collected: 11/02/22 15:20

Matrix: Water

Date Received: 11/04/22 09:55

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	58.4		5.6	2.1	mg/L			11/08/22 10:53	1
Chemical Oxygen Demand (SM 5220C)	11.0		10.0	6.0	mg/L		11/23/22 10:30	11/23/22 14:05	1

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Client Sample ID: Water Tank

Lab Sample ID: 500-224890-4

Date Collected: 11/02/22 15:30

Matrix: Water

Date Received: 11/04/22 09:55

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			11/15/22 16:55	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/15/22 16:55	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/15/22 16:55	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/15/22 16:55	1
Bromoform	<0.48		1.0	0.48	ug/L			11/15/22 16:55	1
Bromomethane	<0.80	^c *	3.0	0.80	ug/L			11/15/22 16:55	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/15/22 16:55	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/15/22 16:55	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/15/22 16:55	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/15/22 16:55	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/15/22 16:55	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/15/22 16:55	1
Chloroethane	<0.51	^c	1.0	0.51	ug/L			11/15/22 16:55	1
Chloroform	0.44	J	2.0	0.37	ug/L			11/15/22 16:55	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/15/22 16:55	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/15/22 16:55	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/15/22 16:55	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/15/22 16:55	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/15/22 16:55	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/15/22 16:55	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/15/22 16:55	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/15/22 16:55	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/15/22 16:55	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			11/15/22 16:55	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/15/22 16:55	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/15/22 16:55	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/15/22 16:55	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/15/22 16:55	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/15/22 16:55	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/15/22 16:55	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/15/22 16:55	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/15/22 16:55	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/15/22 16:55	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/15/22 16:55	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/15/22 16:55	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/15/22 16:55	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/15/22 16:55	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/15/22 16:55	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/15/22 16:55	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/15/22 16:55	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/15/22 16:55	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/15/22 16:55	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/15/22 16:55	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/15/22 16:55	1
Styrene	<0.39		1.0	0.39	ug/L			11/15/22 16:55	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/15/22 16:55	1
1,1,2,2-Tetrachloroethane	0.81	J	1.0	0.40	ug/L			11/15/22 16:55	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/15/22 16:55	1
Toluene	<0.15		0.50	0.15	ug/L			11/15/22 16:55	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Client Sample ID: Water Tank

Lab Sample ID: 500-224890-4

Date Collected: 11/02/22 15:30

Matrix: Water

Date Received: 11/04/22 09:55

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/15/22 16:55	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/15/22 16:55	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/15/22 16:55	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/15/22 16:55	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/15/22 16:55	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/15/22 16:55	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			11/15/22 16:55	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/15/22 16:55	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/15/22 16:55	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			11/15/22 16:55	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/15/22 16:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		75 - 126		11/15/22 16:55	1
Toluene-d8 (Surr)	97		75 - 120		11/15/22 16:55	1
4-Bromofluorobenzene (Surr)	86		72 - 124		11/15/22 16:55	1
Dibromofluoromethane (Surr)	102		75 - 120		11/15/22 16:55	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	<1.9		5.0	1.9	mg/L			11/09/22 10:36	1
Chemical Oxygen Demand (SM 5220C)	<6.0		10.0	6.0	mg/L		11/23/22 10:30	11/23/22 14:05	1

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-224890-5

Date Collected: 11/02/22 00:00

Matrix: Water

Date Received: 11/04/22 09:55

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			11/15/22 17:19	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/15/22 17:19	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/15/22 17:19	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/15/22 17:19	1
Bromoform	<0.48		1.0	0.48	ug/L			11/15/22 17:19	1
Bromomethane	<0.80	^c *	3.0	0.80	ug/L			11/15/22 17:19	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/15/22 17:19	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/15/22 17:19	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/15/22 17:19	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/15/22 17:19	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/15/22 17:19	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/15/22 17:19	1
Chloroethane	<0.51	^c	1.0	0.51	ug/L			11/15/22 17:19	1
Chloroform	<0.37		2.0	0.37	ug/L			11/15/22 17:19	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/15/22 17:19	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/15/22 17:19	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/15/22 17:19	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/15/22 17:19	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/15/22 17:19	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/15/22 17:19	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/15/22 17:19	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/15/22 17:19	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/15/22 17:19	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			11/15/22 17:19	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/15/22 17:19	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/15/22 17:19	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/15/22 17:19	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/15/22 17:19	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/15/22 17:19	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/15/22 17:19	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/15/22 17:19	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/15/22 17:19	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/15/22 17:19	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/15/22 17:19	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/15/22 17:19	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/15/22 17:19	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/15/22 17:19	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/15/22 17:19	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/15/22 17:19	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/15/22 17:19	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/15/22 17:19	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/15/22 17:19	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/15/22 17:19	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/15/22 17:19	1
Styrene	<0.39		1.0	0.39	ug/L			11/15/22 17:19	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/15/22 17:19	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/15/22 17:19	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/15/22 17:19	1
Toluene	<0.15		0.50	0.15	ug/L			11/15/22 17:19	1

Eurofins Chicago

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-224890-5

Date Collected: 11/02/22 00:00

Matrix: Water

Date Received: 11/04/22 09:55

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/15/22 17:19	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/15/22 17:19	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/15/22 17:19	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/15/22 17:19	1
Trichloroethene	0.21	J	0.50	0.16	ug/L			11/15/22 17:19	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/15/22 17:19	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			11/15/22 17:19	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/15/22 17:19	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/15/22 17:19	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			11/15/22 17:19	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/15/22 17:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 126		11/15/22 17:19	1
Toluene-d8 (Surr)	97		75 - 120		11/15/22 17:19	1
4-Bromofluorobenzene (Surr)	87		72 - 124		11/15/22 17:19	1
Dibromofluoromethane (Surr)	103		75 - 120		11/15/22 17:19	1

Definitions/Glossary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
^c	CCV Recovery is outside acceptance limits.
J	Reported value was between the limit of detection and the limit of quantitation.

Glossary

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

QC Association Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

GC/MS VOA

Analysis Batch: 684937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-224890-4	Water Tank	Total/NA	Water	8260B	
500-224890-5	TRIP BLANK	Total/NA	Water	8260B	
MB 500-684937/6	Method Blank	Total/NA	Water	8260B	
LCS 500-684937/4	Lab Control Sample	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 683701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-224890-1	MW-14WT	Total/NA	Water	SM 2540D	
500-224890-2	MW-16	Total/NA	Water	SM 2540D	
500-224890-3	MW-17WT	Total/NA	Water	SM 2540D	
MB 500-683701/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-683701/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 683968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-224890-4	Water Tank	Total/NA	Water	SM 2540D	
MB 500-683968/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-683968/2	Lab Control Sample	Total/NA	Water	SM 2540D	
500-224890-4 DU	Water Tank	Total/NA	Water	SM 2540D	

Prep Batch: 686677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-224890-1	MW-14WT	Total/NA	Water	SM 5220	
500-224890-2	MW-16	Total/NA	Water	SM 5220	
500-224890-3	MW-17WT	Total/NA	Water	SM 5220	
500-224890-4	Water Tank	Total/NA	Water	SM 5220	
MB 500-686677/1-A	Method Blank	Total/NA	Water	SM 5220	
LCS 500-686677/2-A	Lab Control Sample	Total/NA	Water	SM 5220	

Analysis Batch: 686679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-224890-1	MW-14WT	Total/NA	Water	SM 5220C	686677
500-224890-2	MW-16	Total/NA	Water	SM 5220C	686677
500-224890-3	MW-17WT	Total/NA	Water	SM 5220C	686677
500-224890-4	Water Tank	Total/NA	Water	SM 5220C	686677
MB 500-686677/1-A	Method Blank	Total/NA	Water	SM 5220C	686677
LCS 500-686677/2-A	Lab Control Sample	Total/NA	Water	SM 5220C	686677

Surrogate Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (75-126)	TOL (75-120)	BFB (72-124)	DBFM (75-120)
500-224890-4	Water Tank	91	97	86	102
500-224890-5	TRIP BLANK	93	97	87	103
LCS 500-684937/4	Lab Control Sample	87	98	84	97
MB 500-684937/6	Method Blank	89	97	87	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-684937/6

Matrix: Water

Analysis Batch: 684937

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			11/15/22 10:59	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/15/22 10:59	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/15/22 10:59	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/15/22 10:59	1
Bromoform	<0.48		1.0	0.48	ug/L			11/15/22 10:59	1
Bromomethane	<0.80		3.0	0.80	ug/L			11/15/22 10:59	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/15/22 10:59	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/15/22 10:59	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/15/22 10:59	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/15/22 10:59	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/15/22 10:59	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/15/22 10:59	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/15/22 10:59	1
Chloroform	<0.37		2.0	0.37	ug/L			11/15/22 10:59	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/15/22 10:59	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/15/22 10:59	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/15/22 10:59	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/15/22 10:59	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/15/22 10:59	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/15/22 10:59	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/15/22 10:59	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/15/22 10:59	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/15/22 10:59	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			11/15/22 10:59	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/15/22 10:59	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/15/22 10:59	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/15/22 10:59	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/15/22 10:59	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/15/22 10:59	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/15/22 10:59	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/15/22 10:59	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/15/22 10:59	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/15/22 10:59	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/15/22 10:59	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/15/22 10:59	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/15/22 10:59	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/15/22 10:59	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/15/22 10:59	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/15/22 10:59	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/15/22 10:59	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/15/22 10:59	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/15/22 10:59	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/15/22 10:59	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/15/22 10:59	1
Styrene	<0.39		1.0	0.39	ug/L			11/15/22 10:59	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/15/22 10:59	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/15/22 10:59	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/15/22 10:59	1

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

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

Lab Sample ID: MB 500-684937/6

Matrix: Water

Analysis Batch: 684937

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.15		0.50	0.15	ug/L			11/15/22 10:59	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/15/22 10:59	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/15/22 10:59	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/15/22 10:59	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/15/22 10:59	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/15/22 10:59	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/15/22 10:59	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			11/15/22 10:59	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/15/22 10:59	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/15/22 10:59	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			11/15/22 10:59	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/15/22 10:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		75 - 126		11/15/22 10:59	1
Toluene-d8 (Surr)	97		75 - 120		11/15/22 10:59	1
4-Bromofluorobenzene (Surr)	87		72 - 124		11/15/22 10:59	1
Dibromofluoromethane (Surr)	100		75 - 120		11/15/22 10:59	1

Lab Sample ID: LCS 500-684937/4

Matrix: Water

Analysis Batch: 684937

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	50.0	46.2		ug/L		92	70 - 120
Bromobenzene	50.0	45.0		ug/L		90	70 - 122
Bromochloromethane	50.0	46.2		ug/L		92	65 - 122
Bromodichloromethane	50.0	49.1		ug/L		98	69 - 120
Bromoform	50.0	54.2		ug/L		108	56 - 132
Bromomethane	50.0	83.4 *		ug/L		167	40 - 152
n-Butylbenzene	50.0	48.9		ug/L		98	68 - 125
sec-Butylbenzene	50.0	47.2		ug/L		94	70 - 123
tert-Butylbenzene	50.0	46.7		ug/L		93	70 - 121
Carbon tetrachloride	50.0	49.0		ug/L		98	59 - 133
Chlorobenzene	50.0	48.1		ug/L		96	70 - 120
Dibromochloromethane	50.0	53.5		ug/L		107	68 - 125
Chloroethane	50.0	52.6		ug/L		105	48 - 136
Chloroform	50.0	44.0		ug/L		88	70 - 120
Chloromethane	50.0	53.3		ug/L		107	56 - 152
2-Chlorotoluene	50.0	43.4		ug/L		87	70 - 125
4-Chlorotoluene	50.0	47.3		ug/L		95	68 - 124
1,2-Dibromo-3-Chloropropane	50.0	43.9		ug/L		88	56 - 123
1,2-Dibromoethane	50.0	46.4		ug/L		93	70 - 125
Dibromomethane	50.0	46.5		ug/L		93	70 - 120
1,2-Dichlorobenzene	50.0	47.1		ug/L		94	70 - 125
1,3-Dichlorobenzene	50.0	45.3		ug/L		91	70 - 125
1,4-Dichlorobenzene	50.0	47.5		ug/L		95	70 - 120
Dichlorodifluoromethane	50.0	39.2		ug/L		78	40 - 159

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

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

Lab Sample ID: LCS 500-684937/4

Matrix: Water

Analysis Batch: 684937

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethane	50.0	44.0		ug/L		88	70 - 125
1,2-Dichloroethane	50.0	42.9		ug/L		86	68 - 127
1,1-Dichloroethene	50.0	45.9		ug/L		92	67 - 122
cis-1,2-Dichloroethene	50.0	45.6		ug/L		91	70 - 125
trans-1,2-Dichloroethene	50.0	46.9		ug/L		94	70 - 125
1,2-Dichloropropane	50.0	43.5		ug/L		87	67 - 130
1,3-Dichloropropane	50.0	46.6		ug/L		93	62 - 136
2,2-Dichloropropane	50.0	51.4		ug/L		103	58 - 139
1,1-Dichloropropene	50.0	46.1		ug/L		92	70 - 121
cis-1,3-Dichloropropene	50.0	47.4		ug/L		95	64 - 127
trans-1,3-Dichloropropene	50.0	48.0		ug/L		96	62 - 128
Ethylbenzene	50.0	48.3		ug/L		97	70 - 123
Hexachlorobutadiene	50.0	33.3		ug/L		67	51 - 150
Isopropylbenzene	50.0	45.7		ug/L		91	70 - 126
p-Isopropyltoluene	50.0	49.1		ug/L		98	70 - 125
Methylene Chloride	50.0	45.3		ug/L		91	69 - 125
Methyl tert-butyl ether	50.0	44.0		ug/L		88	55 - 123
Naphthalene	50.0	41.4		ug/L		83	53 - 144
N-Propylbenzene	50.0	47.9		ug/L		96	69 - 127
Styrene	50.0	51.1		ug/L		102	70 - 120
1,1,1,2-Tetrachloroethane	50.0	47.9		ug/L		96	70 - 125
1,1,2,2-Tetrachloroethane	50.0	47.0		ug/L		94	62 - 140
Tetrachloroethene	50.0	45.4		ug/L		91	70 - 128
Toluene	50.0	48.0		ug/L		96	70 - 125
1,2,3-Trichlorobenzene	50.0	37.4		ug/L		75	51 - 145
1,2,4-Trichlorobenzene	50.0	39.1		ug/L		78	57 - 137
1,1,1-Trichloroethane	50.0	47.3		ug/L		95	70 - 125
1,1,2-Trichloroethane	50.0	46.5		ug/L		93	71 - 130
Trichloroethene	50.0	47.3		ug/L		95	70 - 125
Trichlorofluoromethane	50.0	42.5		ug/L		85	55 - 128
1,2,3-Trichloropropane	50.0	44.9		ug/L		90	50 - 133
1,2,4-Trimethylbenzene	50.0	47.2		ug/L		94	70 - 123
1,3,5-Trimethylbenzene	50.0	47.5		ug/L		95	70 - 123
Vinyl chloride	50.0	50.9		ug/L		102	64 - 126
Xylenes, Total	100	96.9		ug/L		97	70 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	87		75 - 126
Toluene-d8 (Surr)	98		75 - 120
4-Bromofluorobenzene (Surr)	84		72 - 124
Dibromofluoromethane (Surr)	97		75 - 120

QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-683701/1
Matrix: Water
Analysis Batch: 683701

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<1.9		5.0	1.9	mg/L			11/08/22 09:43	1

Lab Sample ID: LCS 500-683701/2
Matrix: Water
Analysis Batch: 683701

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	200	180.0		mg/L		90	80 - 120

Lab Sample ID: MB 500-683968/1
Matrix: Water
Analysis Batch: 683968

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<1.9		5.0	1.9	mg/L			11/09/22 10:06	1

Lab Sample ID: LCS 500-683968/2
Matrix: Water
Analysis Batch: 683968

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	200	199.0		mg/L		100	80 - 120

Lab Sample ID: 500-224890-4 DU
Matrix: Water
Analysis Batch: 683968

Client Sample ID: Water Tank
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	<1.9		<1.9		mg/L		NC	5

Method: SM 5220C - COD

Lab Sample ID: MB 500-686677/1-A
Matrix: Water
Analysis Batch: 686679

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 686677

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	<6.0		10.0	6.0	mg/L		11/23/22 10:30	11/23/22 14:05	1

Lab Sample ID: LCS 500-686677/2-A
Matrix: Water
Analysis Batch: 686679

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 686677

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand	50.0	49.38		mg/L		99	85 - 115

Lab Chronicle

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Client Sample ID: MW-14WT

Date Collected: 11/02/22 14:00

Date Received: 11/04/22 09:55

Lab Sample ID: 500-224890-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540D		1	683701	EH	EET CHI	11/08/22 10:47 - 11/08/22 10:50 ¹
Total/NA	Prep	SM 5220			686677	LP	EET CHI	11/23/22 10:30 - 11/23/22 12:30 ¹
Total/NA	Analysis	SM 5220C		1	686679	LP	EET CHI	11/23/22 14:05

Client Sample ID: MW-16

Date Collected: 11/02/22 14:50

Date Received: 11/04/22 09:55

Lab Sample ID: 500-224890-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540D		1	683701	EH	EET CHI	11/08/22 10:50 - 11/08/22 10:53 ¹
Total/NA	Prep	SM 5220			686677	LP	EET CHI	11/23/22 10:30 - 11/23/22 12:30 ¹
Total/NA	Analysis	SM 5220C		1	686679	LP	EET CHI	11/23/22 14:05

Client Sample ID: MW-17WT

Date Collected: 11/02/22 15:20

Date Received: 11/04/22 09:55

Lab Sample ID: 500-224890-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540D		1	683701	EH	EET CHI	11/08/22 10:53 - 11/08/22 10:56 ¹
Total/NA	Prep	SM 5220			686677	LP	EET CHI	11/23/22 10:30 - 11/23/22 12:30 ¹
Total/NA	Analysis	SM 5220C		1	686679	LP	EET CHI	11/23/22 14:05

Client Sample ID: Water Tank

Date Collected: 11/02/22 15:30

Date Received: 11/04/22 09:55

Lab Sample ID: 500-224890-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	684937	W1T	EET CHI	11/15/22 16:55
Total/NA	Analysis	SM 2540D		1	683968	EH	EET CHI	11/09/22 10:36 - 11/09/22 10:39 ¹
Total/NA	Prep	SM 5220			686677	LP	EET CHI	11/23/22 10:30 - 11/23/22 12:30 ¹
Total/NA	Analysis	SM 5220C		1	686679	LP	EET CHI	11/23/22 14:05

Client Sample ID: TRIP BLANK

Date Collected: 11/02/22 00:00

Date Received: 11/04/22 09:55

Lab Sample ID: 500-224890-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	684937	W1T	EET CHI	11/15/22 17:19

¹ Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Eurofins Chicago

Accreditation/Certification Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-224890-1

Laboratory: Eurofins Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-23

1

2

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13

14

15

P one 708-534-5200 Fax 708-534 52 1

Chain of Custody Record



12/5/2022

ORIGIN ID:PHDA (715) 720-6200 SHIP DATE: 15SEP21
MR. MIKE ROHLIK ACTWGT: 10.00 LB
SHORT ELLIOTT HENDRICKSON, INC. DBA CAD: 0562071/CAFE3506
17424 108TH AVE.

CHIPPENAW FALLS, WI 54729
UNITED STATES US

10

EUROFINS TESTAMERICA CHICAGO
2417 BOND STREET

UNIVERSITY PARK IL 604843101

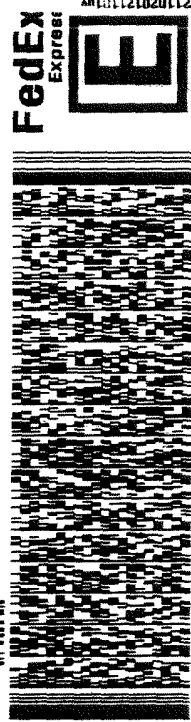
(708) 534-5200

REF: \$500 95091

RMA: |||||



500-224890 Waybi



TRK# 5174 1266 8831 RETURNS MON - SAT
0221 PRIORITY OVERNIGHT

FedEx FRI - 04 NOV 10:30A
TRK# 5174 1266 8831 PRIORITY OVERNIGHT
0221

Login Sample Receipt Checklist

Client: Vernon County Solid Waste & Recycling

Job Number: 500-224890-1

Login Number: 224890

List Number: 1

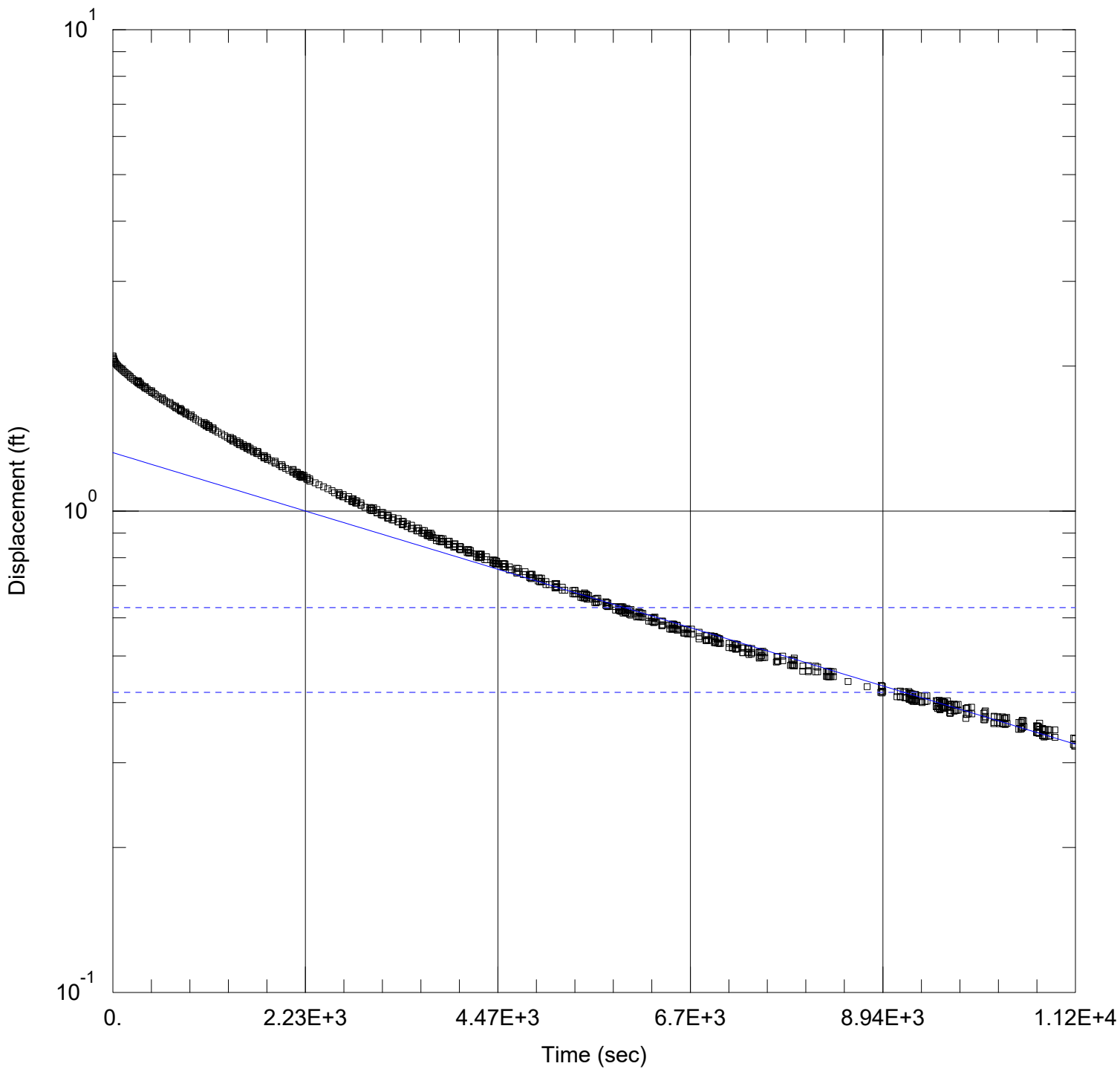
Creator: James, Jeff A

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Attachment H

In-Field Hydraulic Conductivity Results



MW-17WT RISING HEAD TEST

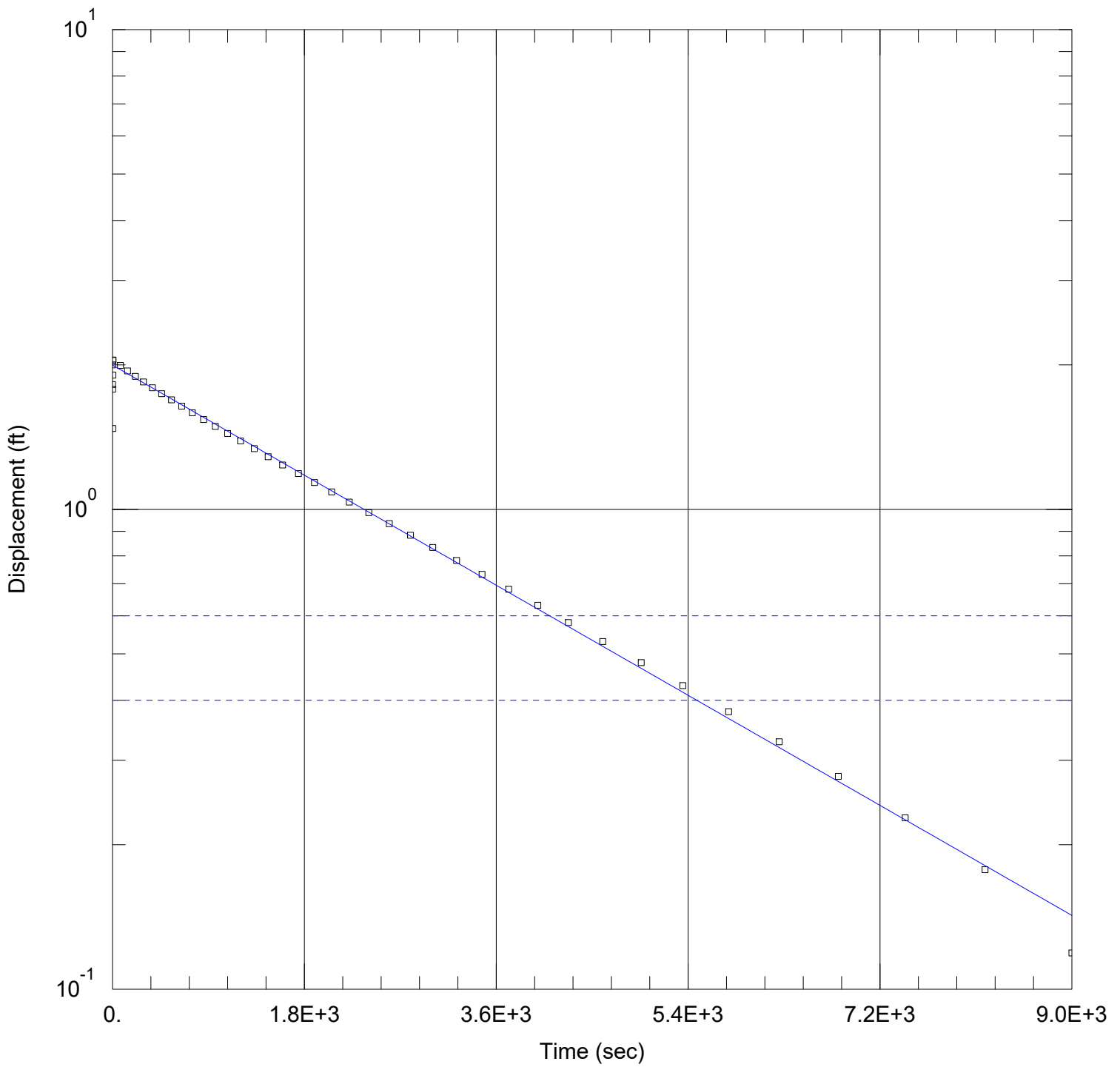
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 1.035E-5 cm/sec

y0 = 1.322 ft



MW-17WT FALLING HEAD TEST

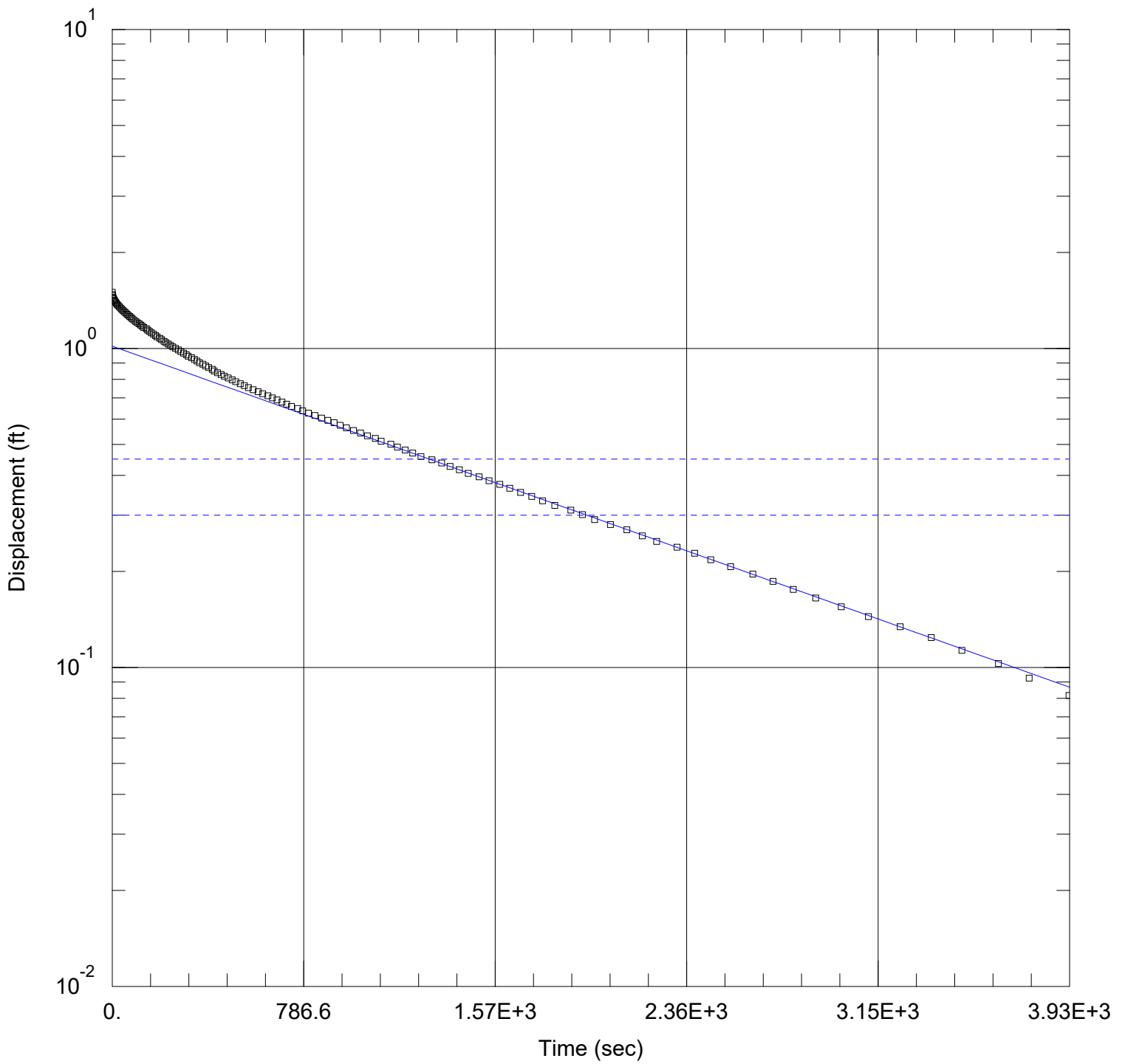
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 2.434E-5 cm/sec

y0 = 1.998 ft



MW-16 RISING HEAD TEST

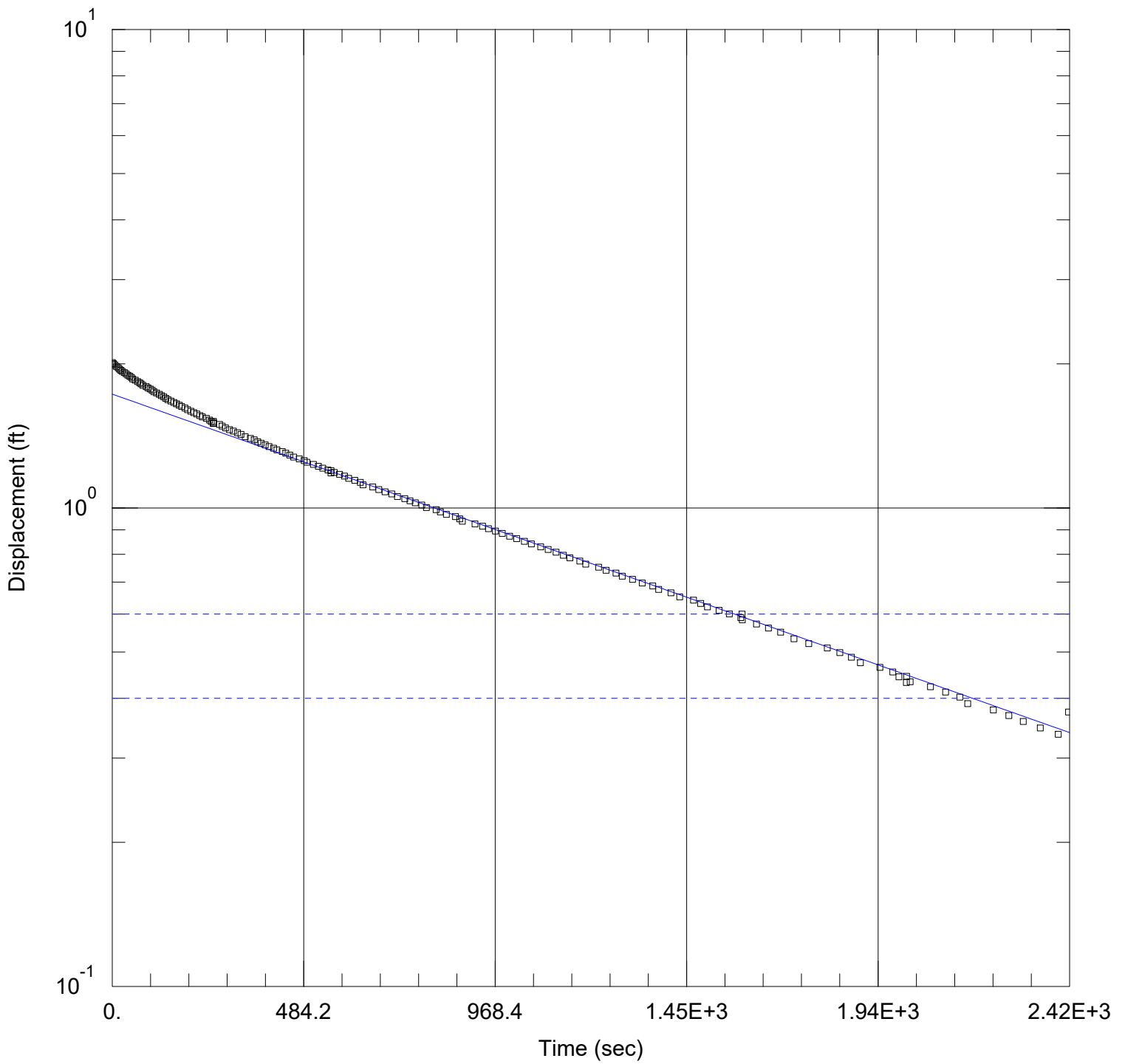
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.0003707 cm/sec

y0 = 1.017 ft



MW-16 FALLING HEAD TEST

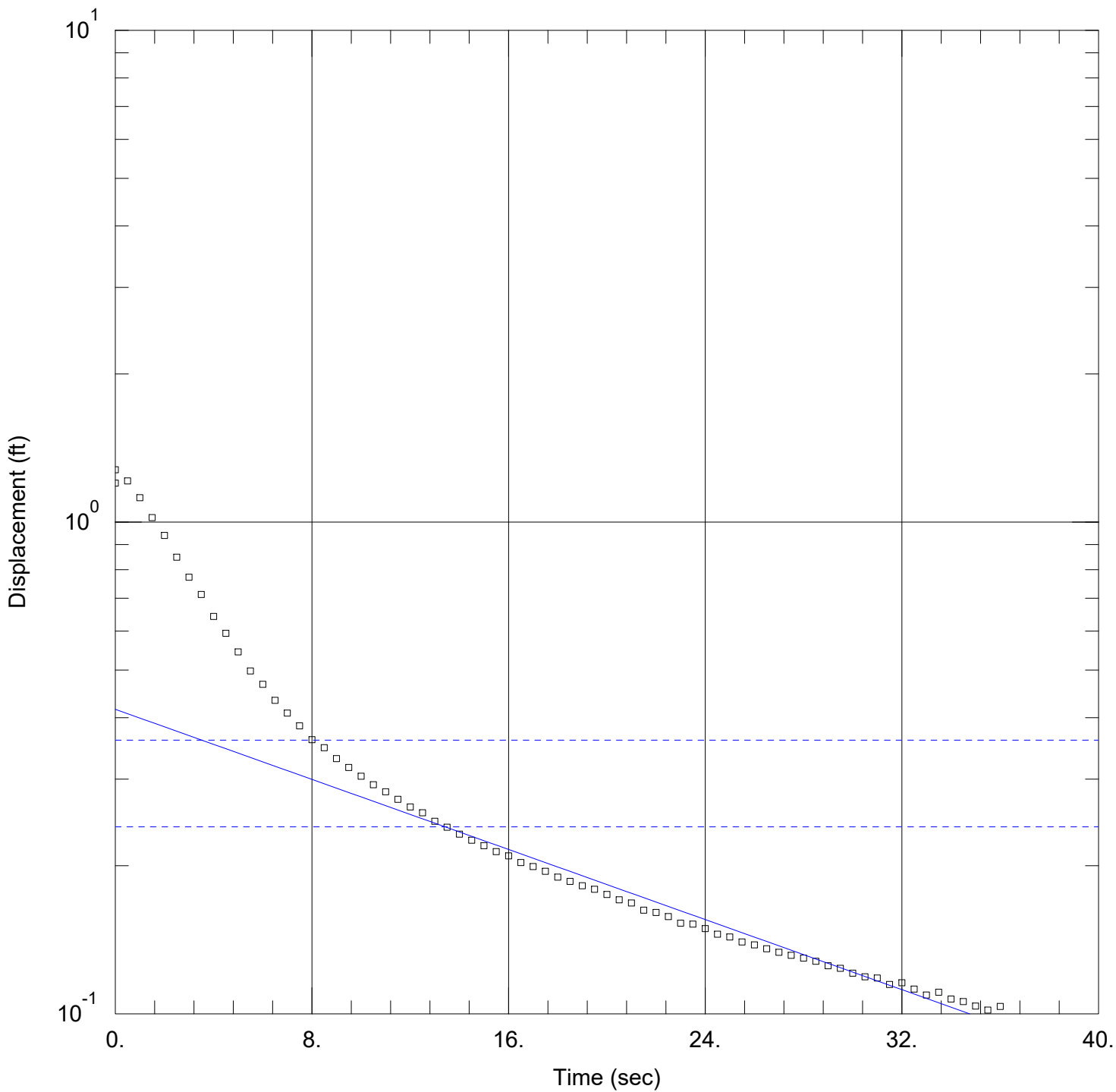
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.0003986 cm/sec

y0 = 1.729 ft



MW-14WT RISING HEAD TEST

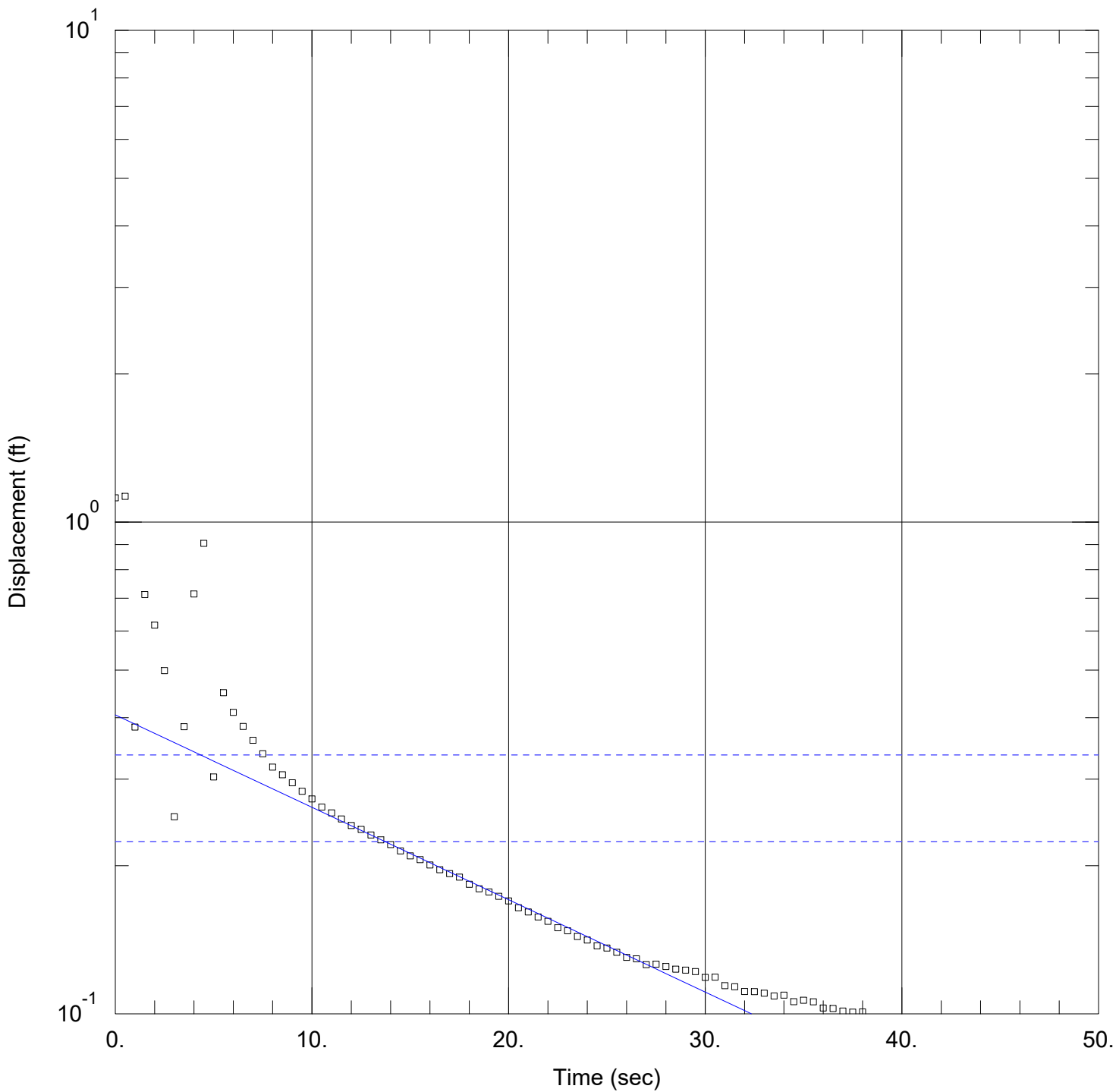
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.00994 cm/sec

y0 = 0.416 ft



MW-14WT FALLING HEAD TEST

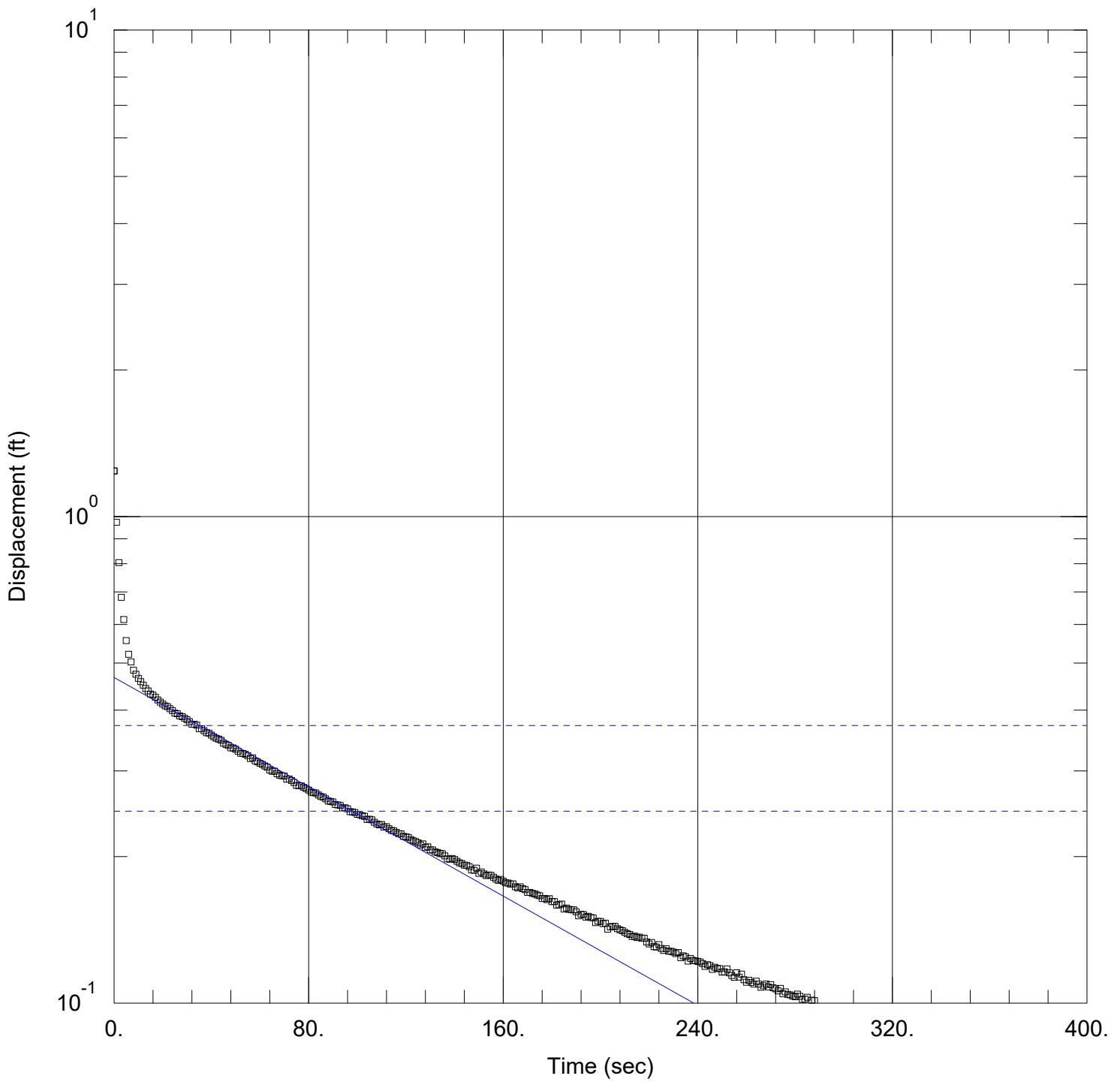
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.007884 cm/sec

y0 = 0.4053 ft



MW12 RISING HEAD TEST

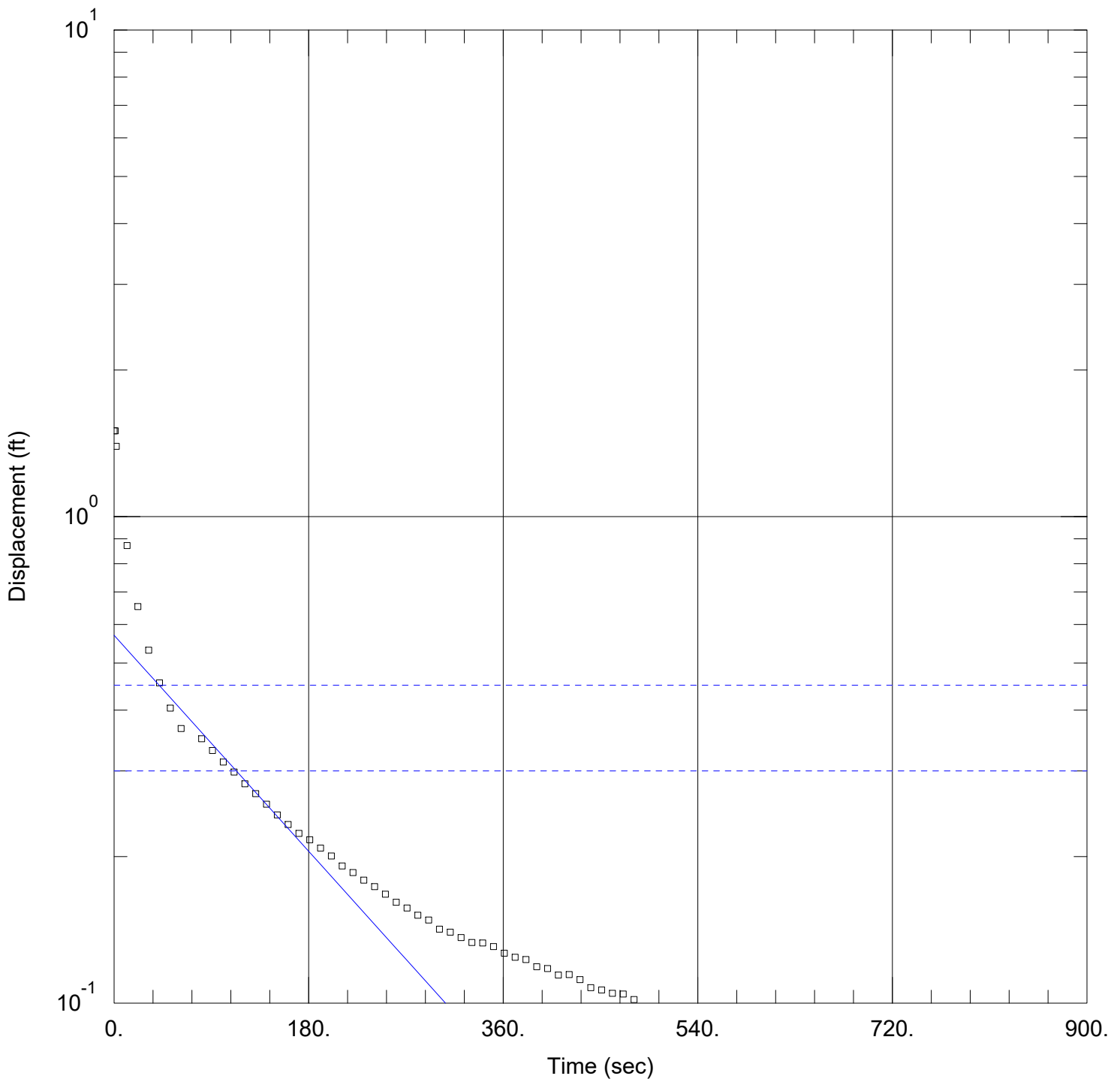
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.001178 cm/sec

y0 = 0.4669 ft



MW-12 FALLING HEAD TEST

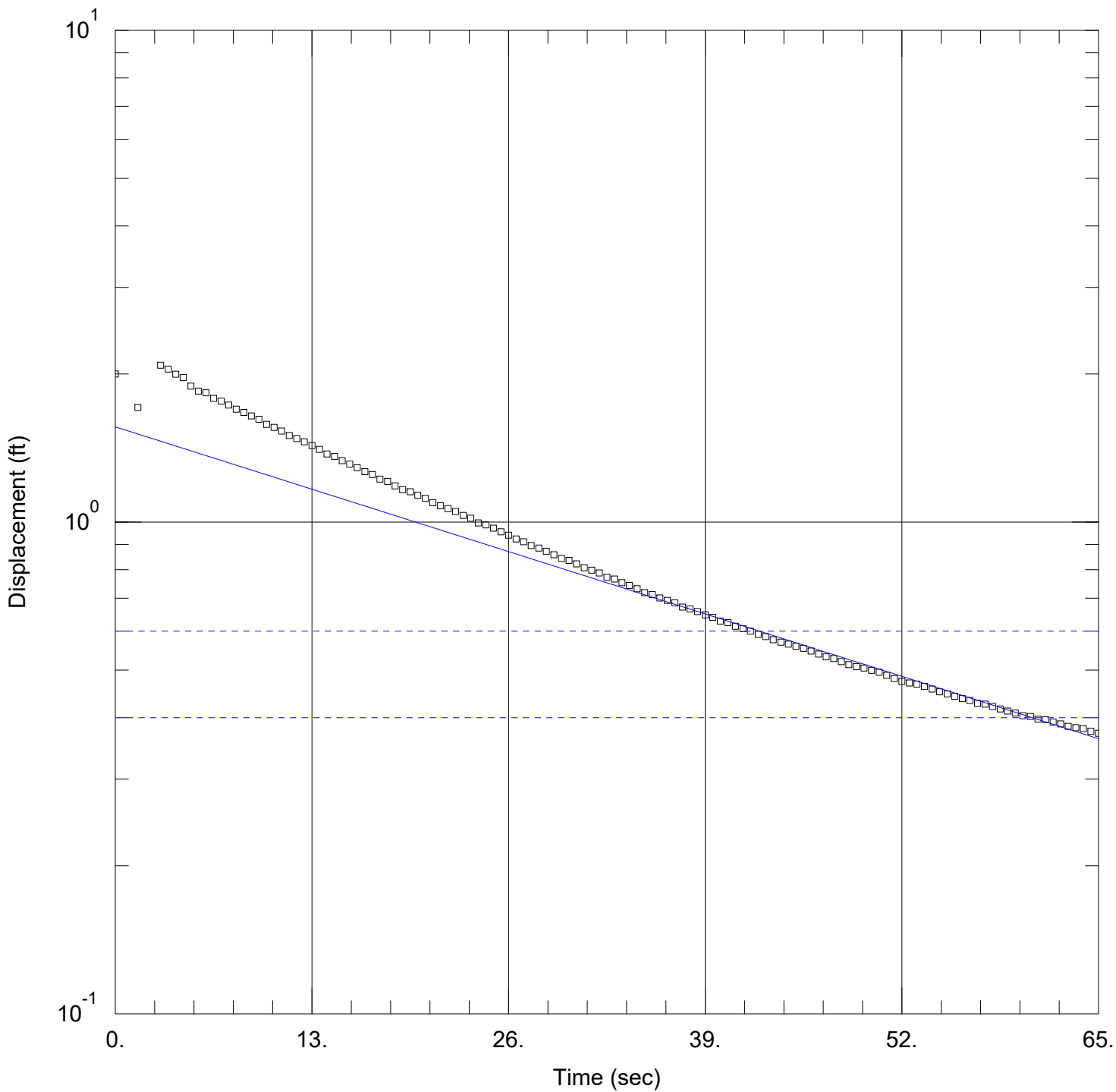
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.001035 cm/sec

y0 = 0.5701 ft



MW-2P RISING HEAD TEST

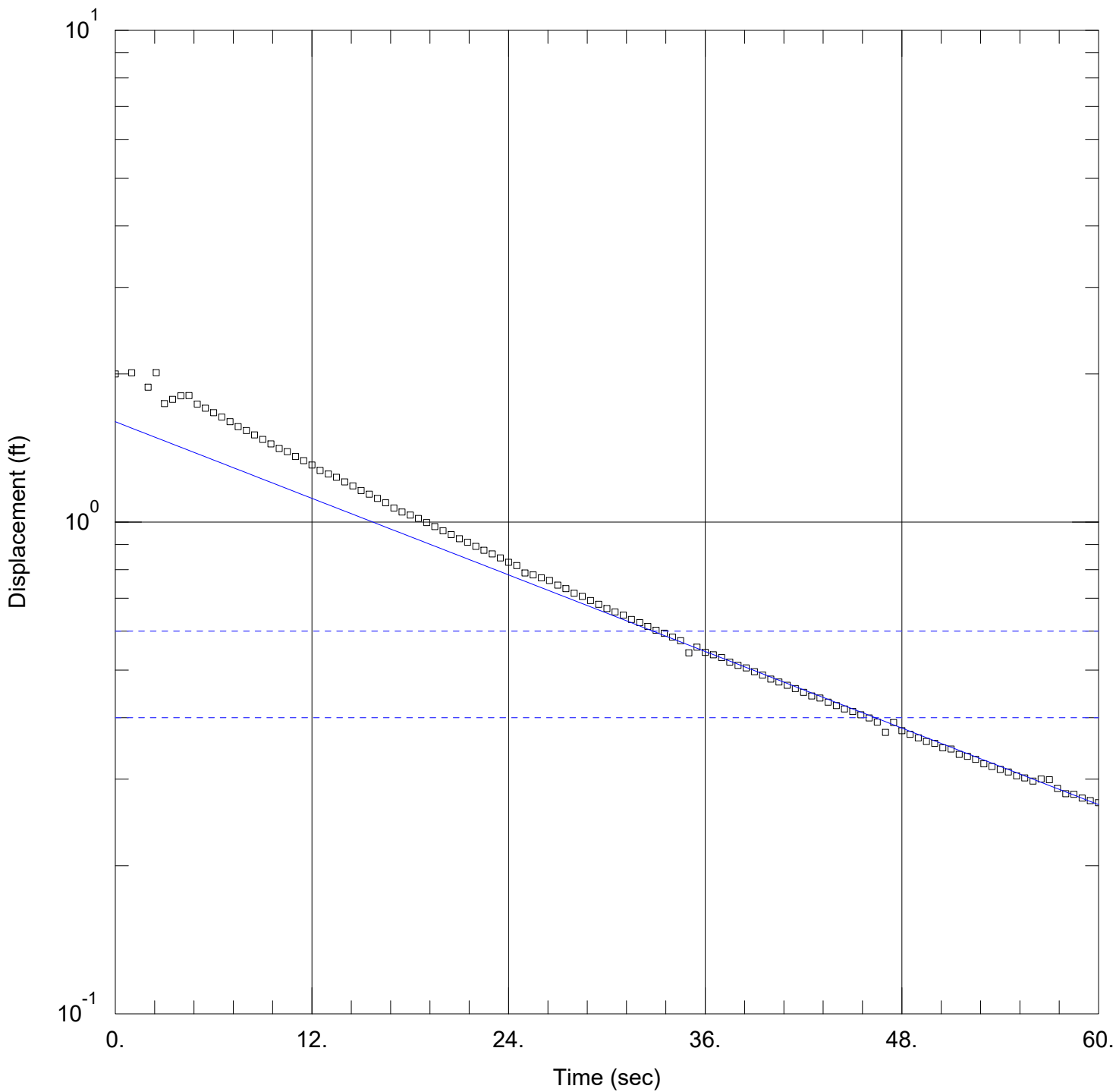
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.001638 cm/sec

y0 = 1.562 ft



MW-2P FALLING HEAD TEST

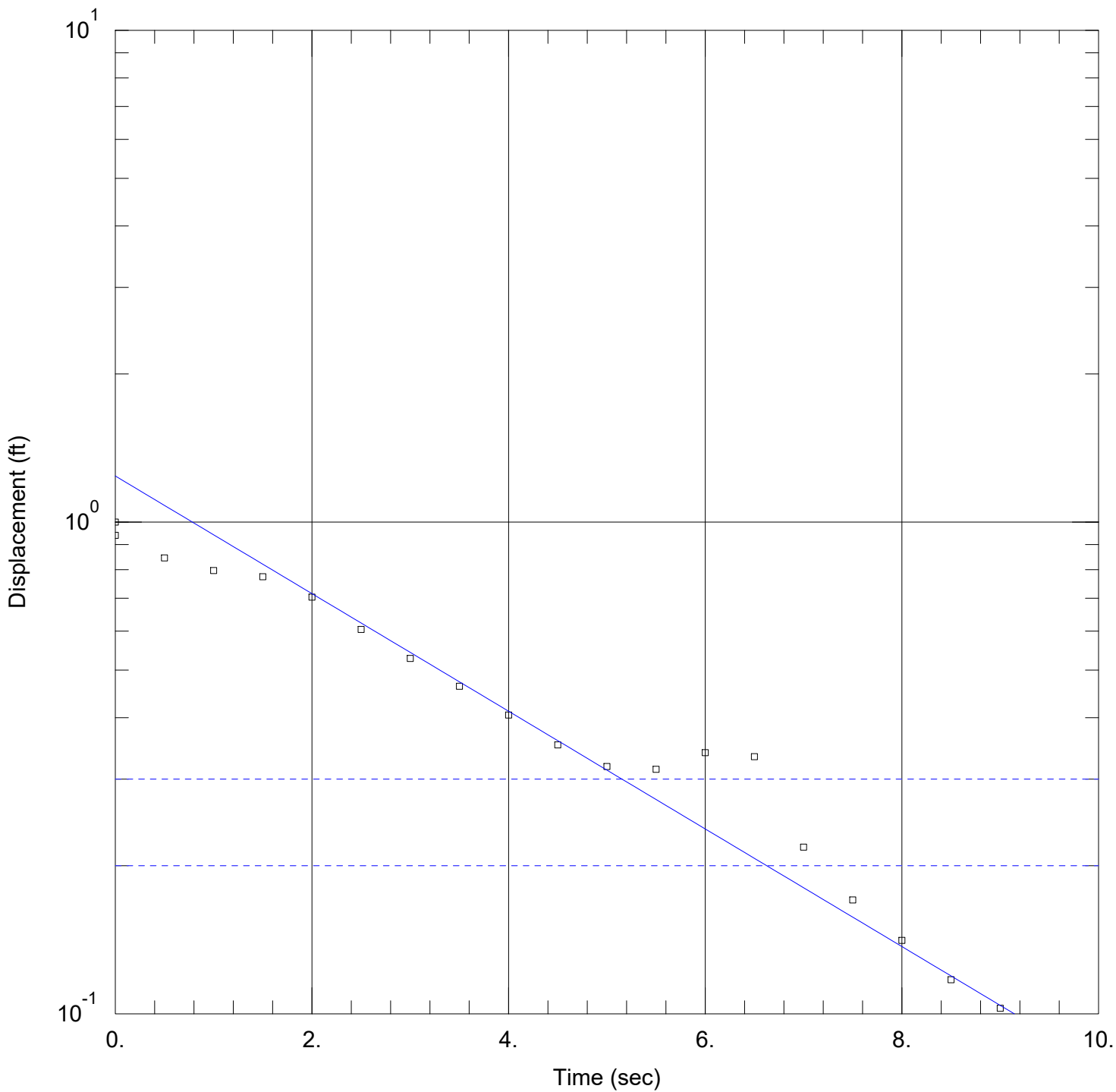
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.001491 cm/sec

y0 = 1.599 ft



MW-1R RISING HEAD TEST

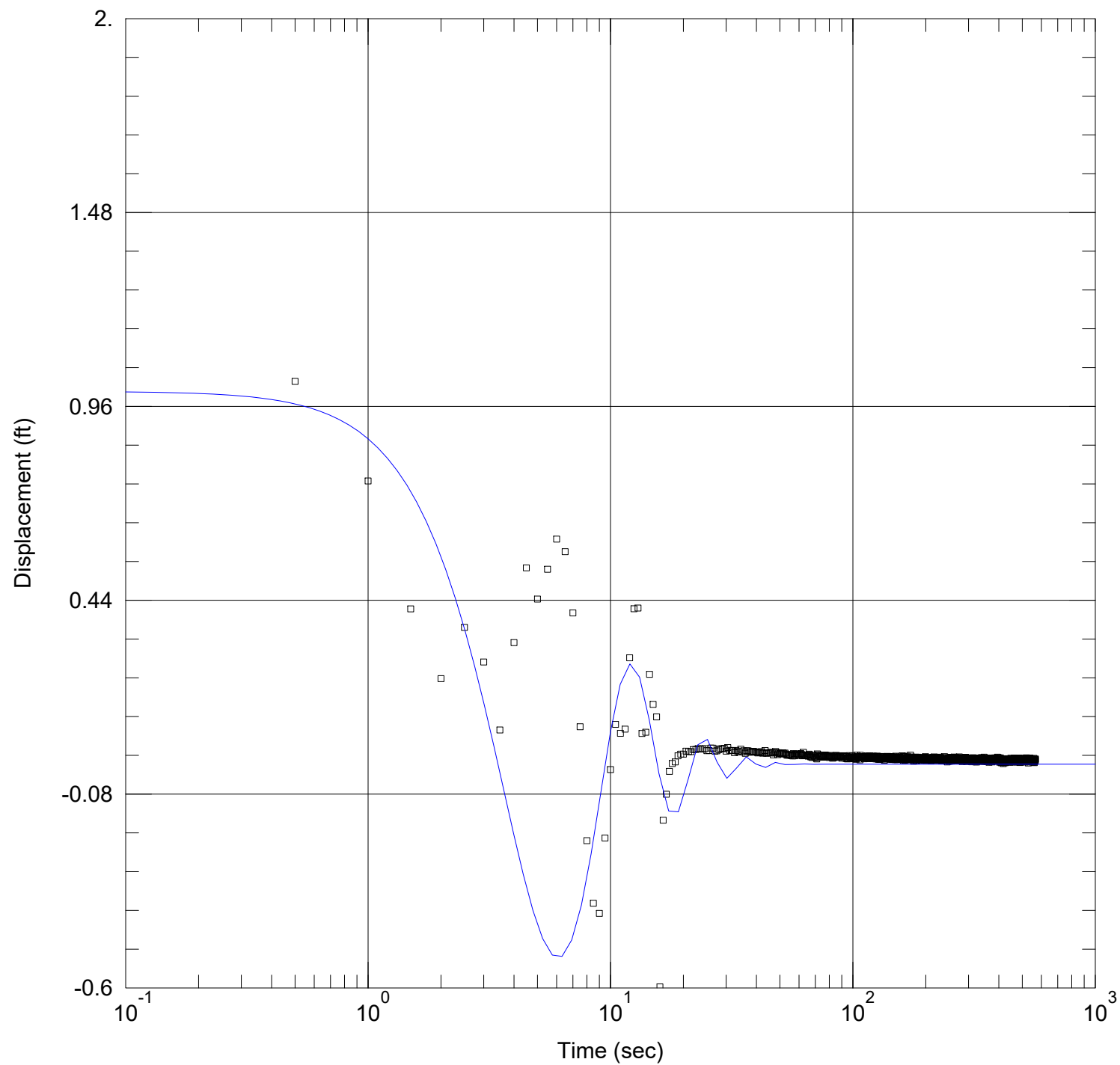
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.06674 cm/sec

y0 = 1.241 ft



MW-1R FALLING HEAD TES

SOLUTION

Aquifer Model: Unconfined

Solution Method: Springer-Gelhar

K = 0.09531 cm/sec

Le = 115.3 ft

Attachment I

Baseline Monitoring Laboratory Reports

ANALYTICAL REPORT

PREPARED FOR

Attn: Stacie Sanborn
Vernon County Solid Waste & Recycling
S3705 County Road LF
Viroqua, Wisconsin 54665

Generated 1/12/2023 4:38:09 PM Revision 1

JOB DESCRIPTION

Vernon County Landfill Expansion

JOB NUMBER

500-227292-1

Eurofins Chicago

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing North Central, LLC and its client. All questions regarding this report should be directed to the Eurofins Environment Testing North Central, LLC Project Manager who has signed this report.

Results relate only to the items tested and the sample(s) as received by the laboratory. The results, detection limits (LOD) and Quantitation Limits (LOQ) have been adjusted for sample dilutions and/or solids content.

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 Chicago Project Manager.

Authorization



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Revision 1

Authorized for release by
Sandie Fredrick, Project Manager II
Sandra.Fredrick@et.eurofinsus.com
(920)261-1660

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Case Narrative

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Job ID: 500-227292-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-227292-1

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 1/11/2023. The report (revision 1) is being revised due to: Client updated to reporting/invoicing direct to Vernon Co.

Receipt

The samples were received on 12/22/2022 10:25 AM. 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 was 1.0° C.

GC/MS VOA

Method 8260B: Methylene chloride was detected in the following items: MW-14WT (500-227292-1), MW-16 (500-227292-2), MW-17WT (500-227292-3) and Trip Blank-VOC (500-227292-4). Methylene chloride is a known lab contaminant; therefore all low level detects for this compound could be suspected as lab contamination.

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

Metals

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

Field Service / Mobile Lab

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

General Chemistry

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

Detection Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-227292-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	2.1	J	5.0	1.6	ug/L	1		8260B	Total/NA
Arsenic	0.70	J	1.0	0.23	ug/L	1		6020A	Dissolved
Barium	54		2.5	0.73	ug/L	1		6020A	Dissolved
Copper	0.70	J	2.0	0.50	ug/L	1		6020A	Dissolved
Manganese	460		2.5	0.79	ug/L	1		6020A	Dissolved
Hardness as calcium carbonate	240		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Sulfate	3.2		0.20	0.095	mg/L	1		300.0	Total/NA
Fluoride	0.20		0.20	0.067	mg/L	1		300.0	Total/NA
Chloride	5.0		0.40	0.34	mg/L	2		300.0	Dissolved
Nitrate Nitrite as N	0.21		0.10	0.041	mg/L	1		N07-0003	Dissolved
Alkalinity	230		5.0	3.7	mg/L	1		SM 2320B	Dissolved

Client Sample ID: MW-16

Lab Sample ID: 500-227292-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	2.0	J	5.0	1.6	ug/L	1		8260B	Total/NA
Arsenic	0.31	J	1.0	0.23	ug/L	1		6020A	Dissolved
Barium	70		2.5	0.73	ug/L	1		6020A	Dissolved
Copper	0.74	J	2.0	0.50	ug/L	1		6020A	Dissolved
Manganese	6.1		2.5	0.79	ug/L	1		6020A	Dissolved
Hardness as calcium carbonate	380		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Sulfate	16		0.40	0.19	mg/L	2		300.0	Total/NA
Fluoride	0.20		0.20	0.067	mg/L	1		300.0	Total/NA
Chloride	7.2		0.40	0.34	mg/L	2		300.0	Dissolved
Nitrate Nitrite as N	0.90		0.10	0.041	mg/L	1		N07-0003	Dissolved
Alkalinity	390		5.0	3.7	mg/L	1		SM 2320B	Dissolved

Client Sample ID: MW-17WT

Lab Sample ID: 500-227292-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	2.4	J	5.0	1.6	ug/L	1		8260B	Total/NA
Arsenic	0.52	J	1.0	0.23	ug/L	1		6020A	Dissolved
Barium	40		2.5	0.73	ug/L	1		6020A	Dissolved
Manganese	53		2.5	0.79	ug/L	1		6020A	Dissolved
Nickel	1.2	J	2.0	0.63	ug/L	1		6020A	Dissolved
Hardness as calcium carbonate	290		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Sulfate	7.2		0.20	0.095	mg/L	1		300.0	Total/NA
Fluoride	0.21		0.20	0.067	mg/L	1		300.0	Total/NA
Chloride	7.7		0.40	0.34	mg/L	2		300.0	Dissolved
Nitrate Nitrite as N	0.18		0.10	0.041	mg/L	1		N07-0003	Dissolved
Alkalinity	280		5.0	3.7	mg/L	1		SM 2320B	Dissolved

Client Sample ID: Trip Blank-VOC

Lab Sample ID: 500-227292-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	2.4	J	5.0	1.6	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Method Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	EET CHI
6020A	Metals (ICP/MS)	SW846	EET CHI
7470A	Mercury (CVAA)	SW846	EET CHI
SM 2340B	Total Hardness (as CaCO ₃) by calculation	SM	EET CHI
300.0	Anions, Ion Chromatography	MCAWW	EET CHI
N07-0003	Enzymatic Nitrate-Nitrite Nitrogen	EPA	EET CHI
SM 2320B	Alkalinity	SM	EET CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CHI
5030B	Purge and Trap	SW846	EET CHI
7470A	Preparation, Mercury	SW846	EET CHI

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

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

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-227292-1	MW-14WT	Water	12/20/22 08:00	12/22/22 10:25
500-227292-2	MW-16	Water	12/20/22 10:00	12/22/22 10:25
500-227292-3	MW-17WT	Water	12/20/22 11:00	12/22/22 10:25
500-227292-4	Trip Blank-VOC	Water	12/20/22 00:00	12/22/22 10:25

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-227292-1

Date Collected: 12/20/22 08:00

Matrix: Water

Date Received: 12/22/22 10:25

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			12/30/22 13:40	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			12/30/22 13:40	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			12/30/22 13:40	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			12/30/22 13:40	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			12/30/22 13:40	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			12/30/22 13:40	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			12/30/22 13:40	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			12/30/22 13:40	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			12/30/22 13:40	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			12/30/22 13:40	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			12/30/22 13:40	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			12/30/22 13:40	1
1,2-Dibromoethane (EDB)	<0.39		1.0	0.39	ug/L			12/30/22 13:40	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			12/30/22 13:40	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			12/30/22 13:40	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			12/30/22 13:40	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			12/30/22 13:40	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			12/30/22 13:40	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			12/30/22 13:40	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			12/30/22 13:40	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			12/30/22 13:40	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			12/30/22 13:40	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			12/30/22 13:40	1
Benzene	<0.15		0.50	0.15	ug/L			12/30/22 13:40	1
Bromobenzene	<0.36		1.0	0.36	ug/L			12/30/22 13:40	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			12/30/22 13:40	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			12/30/22 13:40	1
Bromoform	<0.48		1.0	0.48	ug/L			12/30/22 13:40	1
Bromomethane	<0.80		3.0	0.80	ug/L			12/30/22 13:40	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			12/30/22 13:40	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			12/30/22 13:40	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			12/30/22 13:40	1
Chloroethane	<0.51		1.0	0.51	ug/L			12/30/22 13:40	1
Chloroform	<0.37		2.0	0.37	ug/L			12/30/22 13:40	1
Chloromethane	<0.32		1.0	0.32	ug/L			12/30/22 13:40	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			12/30/22 13:40	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			12/30/22 13:40	1
Dibromomethane	<0.27		1.0	0.27	ug/L			12/30/22 13:40	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			12/30/22 13:40	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			12/30/22 13:40	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			12/30/22 13:40	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			12/30/22 13:40	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			12/30/22 13:40	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			12/30/22 13:40	1
Methylene Chloride	2.1	J	5.0	1.6	ug/L			12/30/22 13:40	1
Naphthalene	<0.34		1.0	0.34	ug/L			12/30/22 13:40	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			12/30/22 13:40	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			12/30/22 13:40	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			12/30/22 13:40	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-227292-1

Date Collected: 12/20/22 08:00

Matrix: Water

Date Received: 12/22/22 10:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			12/30/22 13:40	1
Styrene	<0.39		1.0	0.39	ug/L			12/30/22 13:40	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			12/30/22 13:40	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			12/30/22 13:40	1
Toluene	<0.15		0.50	0.15	ug/L			12/30/22 13:40	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			12/30/22 13:40	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			12/30/22 13:40	1
Trichloroethene	<0.16		0.50	0.16	ug/L			12/30/22 13:40	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			12/30/22 13:40	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			12/30/22 13:40	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			12/30/22 13:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		75 - 126		12/30/22 13:40	1
4-Bromofluorobenzene (Surr)	105		72 - 124		12/30/22 13:40	1
Dibromofluoromethane	95		75 - 120		12/30/22 13:40	1
Toluene-d8 (Surr)	98		75 - 120		12/30/22 13:40	1

Method: SW846 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.70	J	1.0	0.23	ug/L		01/03/23 09:28	01/04/23 20:51	1
Barium	54		2.5	0.73	ug/L		01/03/23 09:28	01/03/23 20:15	1
Cadmium	<0.17		0.50	0.17	ug/L		01/03/23 09:28	01/03/23 20:15	1
Chromium	<1.1		5.0	1.1	ug/L		01/03/23 09:28	01/03/23 20:15	1
Copper	0.70	J	2.0	0.50	ug/L		01/03/23 09:28	01/03/23 20:15	1
Lead	<0.19		0.50	0.19	ug/L		01/03/23 09:28	01/03/23 20:15	1
Manganese	460		2.5	0.79	ug/L		01/03/23 09:28	01/03/23 20:15	1
Selenium	<0.98		2.5	0.98	ug/L		01/03/23 09:28	01/03/23 20:15	1
Silver	<0.12		0.50	0.12	ug/L		01/03/23 09:28	01/03/23 20:15	1
Zinc	<6.9		20	6.9	ug/L		01/03/23 09:28	01/03/23 20:15	1

Method: SW846 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.098		0.20	0.098	ug/L		01/03/23 15:15	01/04/23 08:40	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	240		0.91	0.46	mg/L		01/03/23 09:28	01/05/23 15:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate (MCAWW 300.0)	3.2		0.20	0.095	mg/L			01/05/23 22:31	1
Fluoride (MCAWW 300.0)	0.20		0.20	0.067	mg/L			01/05/23 22:31	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (MCAWW 300.0)	5.0		0.40	0.34	mg/L			01/05/23 23:22	2
Nitrate Nitrite as N (EPA N07-0003)	0.21		0.10	0.041	mg/L			01/03/23 10:27	1
Alkalinity (SM 2320B)	230		5.0	3.7	mg/L			12/28/22 18:47	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Client Sample ID: MW-16

Lab Sample ID: 500-227292-2

Date Collected: 12/20/22 10:00

Matrix: Water

Date Received: 12/22/22 10:25

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			12/30/22 14:04	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			12/30/22 14:04	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			12/30/22 14:04	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			12/30/22 14:04	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			12/30/22 14:04	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			12/30/22 14:04	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			12/30/22 14:04	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			12/30/22 14:04	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			12/30/22 14:04	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			12/30/22 14:04	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			12/30/22 14:04	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			12/30/22 14:04	1
1,2-Dibromoethane (EDB)	<0.39		1.0	0.39	ug/L			12/30/22 14:04	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			12/30/22 14:04	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			12/30/22 14:04	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			12/30/22 14:04	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			12/30/22 14:04	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			12/30/22 14:04	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			12/30/22 14:04	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			12/30/22 14:04	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			12/30/22 14:04	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			12/30/22 14:04	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			12/30/22 14:04	1
Benzene	<0.15		0.50	0.15	ug/L			12/30/22 14:04	1
Bromobenzene	<0.36		1.0	0.36	ug/L			12/30/22 14:04	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			12/30/22 14:04	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			12/30/22 14:04	1
Bromoform	<0.48		1.0	0.48	ug/L			12/30/22 14:04	1
Bromomethane	<0.80		3.0	0.80	ug/L			12/30/22 14:04	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			12/30/22 14:04	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			12/30/22 14:04	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			12/30/22 14:04	1
Chloroethane	<0.51		1.0	0.51	ug/L			12/30/22 14:04	1
Chloroform	<0.37		2.0	0.37	ug/L			12/30/22 14:04	1
Chloromethane	<0.32		1.0	0.32	ug/L			12/30/22 14:04	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			12/30/22 14:04	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			12/30/22 14:04	1
Dibromomethane	<0.27		1.0	0.27	ug/L			12/30/22 14:04	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			12/30/22 14:04	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			12/30/22 14:04	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			12/30/22 14:04	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			12/30/22 14:04	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			12/30/22 14:04	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			12/30/22 14:04	1
Methylene Chloride	2.0 J		5.0	1.6	ug/L			12/30/22 14:04	1
Naphthalene	<0.34		1.0	0.34	ug/L			12/30/22 14:04	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			12/30/22 14:04	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			12/30/22 14:04	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			12/30/22 14:04	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Client Sample ID: MW-16

Lab Sample ID: 500-227292-2

Date Collected: 12/20/22 10:00

Matrix: Water

Date Received: 12/22/22 10:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			12/30/22 14:04	1
Styrene	<0.39		1.0	0.39	ug/L			12/30/22 14:04	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			12/30/22 14:04	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			12/30/22 14:04	1
Toluene	<0.15		0.50	0.15	ug/L			12/30/22 14:04	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			12/30/22 14:04	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			12/30/22 14:04	1
Trichloroethene	<0.16		0.50	0.16	ug/L			12/30/22 14:04	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			12/30/22 14:04	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			12/30/22 14:04	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			12/30/22 14:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 126		12/30/22 14:04	1
4-Bromofluorobenzene (Surr)	109		72 - 124		12/30/22 14:04	1
Dibromofluoromethane	96		75 - 120		12/30/22 14:04	1
Toluene-d8 (Surr)	98		75 - 120		12/30/22 14:04	1

Method: SW846 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.31	J	1.0	0.23	ug/L		01/03/23 09:28	01/04/23 20:55	1
Barium	70		2.5	0.73	ug/L		01/03/23 09:28	01/03/23 20:18	1
Cadmium	<0.17		0.50	0.17	ug/L		01/03/23 09:28	01/03/23 20:18	1
Chromium	<1.1		5.0	1.1	ug/L		01/03/23 09:28	01/03/23 20:18	1
Copper	0.74	J	2.0	0.50	ug/L		01/03/23 09:28	01/03/23 20:18	1
Lead	<0.19		0.50	0.19	ug/L		01/03/23 09:28	01/03/23 20:18	1
Manganese	6.1		2.5	0.79	ug/L		01/03/23 09:28	01/03/23 20:18	1
Selenium	<0.98		2.5	0.98	ug/L		01/03/23 09:28	01/03/23 20:18	1
Silver	<0.12		0.50	0.12	ug/L		01/03/23 09:28	01/03/23 20:18	1
Zinc	<6.9		20	6.9	ug/L		01/03/23 09:28	01/03/23 20:18	1

Method: SW846 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.098		0.20	0.098	ug/L		01/03/23 15:15	01/04/23 08:42	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	380		0.91	0.46	mg/L		01/03/23 09:28	01/05/23 15:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate (MCAWW 300.0)	16		0.40	0.19	mg/L			01/05/23 22:57	2
Fluoride (MCAWW 300.0)	0.20		0.20	0.067	mg/L			01/05/23 22:44	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (MCAWW 300.0)	7.2		0.40	0.34	mg/L			01/06/23 00:00	2
Nitrate Nitrite as N (EPA N07-0003)	0.90		0.10	0.041	mg/L			01/03/23 10:28	1
Alkalinity (SM 2320B)	390		5.0	3.7	mg/L			12/28/22 18:56	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-227292-3

Date Collected: 12/20/22 11:00

Matrix: Water

Date Received: 12/22/22 10:25

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			12/30/22 14:29	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			12/30/22 14:29	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			12/30/22 14:29	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			12/30/22 14:29	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			12/30/22 14:29	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			12/30/22 14:29	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			12/30/22 14:29	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			12/30/22 14:29	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			12/30/22 14:29	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			12/30/22 14:29	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			12/30/22 14:29	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			12/30/22 14:29	1
1,2-Dibromoethane (EDB)	<0.39		1.0	0.39	ug/L			12/30/22 14:29	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			12/30/22 14:29	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			12/30/22 14:29	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			12/30/22 14:29	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			12/30/22 14:29	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			12/30/22 14:29	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			12/30/22 14:29	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			12/30/22 14:29	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			12/30/22 14:29	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			12/30/22 14:29	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			12/30/22 14:29	1
Benzene	<0.15		0.50	0.15	ug/L			12/30/22 14:29	1
Bromobenzene	<0.36		1.0	0.36	ug/L			12/30/22 14:29	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			12/30/22 14:29	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			12/30/22 14:29	1
Bromoform	<0.48		1.0	0.48	ug/L			12/30/22 14:29	1
Bromomethane	<0.80		3.0	0.80	ug/L			12/30/22 14:29	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			12/30/22 14:29	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			12/30/22 14:29	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			12/30/22 14:29	1
Chloroethane	<0.51		1.0	0.51	ug/L			12/30/22 14:29	1
Chloroform	<0.37		2.0	0.37	ug/L			12/30/22 14:29	1
Chloromethane	<0.32		1.0	0.32	ug/L			12/30/22 14:29	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			12/30/22 14:29	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			12/30/22 14:29	1
Dibromomethane	<0.27		1.0	0.27	ug/L			12/30/22 14:29	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			12/30/22 14:29	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			12/30/22 14:29	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			12/30/22 14:29	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			12/30/22 14:29	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			12/30/22 14:29	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			12/30/22 14:29	1
Methylene Chloride	2.4 J		5.0	1.6	ug/L			12/30/22 14:29	1
Naphthalene	<0.34		1.0	0.34	ug/L			12/30/22 14:29	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			12/30/22 14:29	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			12/30/22 14:29	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			12/30/22 14:29	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-227292-3

Date Collected: 12/20/22 11:00

Matrix: Water

Date Received: 12/22/22 10:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			12/30/22 14:29	1
Styrene	<0.39		1.0	0.39	ug/L			12/30/22 14:29	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			12/30/22 14:29	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			12/30/22 14:29	1
Toluene	<0.15		0.50	0.15	ug/L			12/30/22 14:29	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			12/30/22 14:29	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			12/30/22 14:29	1
Trichloroethene	<0.16		0.50	0.16	ug/L			12/30/22 14:29	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			12/30/22 14:29	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			12/30/22 14:29	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			12/30/22 14:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 126		12/30/22 14:29	1
4-Bromofluorobenzene (Surr)	108		72 - 124		12/30/22 14:29	1
Dibromofluoromethane	99		75 - 120		12/30/22 14:29	1
Toluene-d8 (Surr)	99		75 - 120		12/30/22 14:29	1

Method: SW846 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.3		3.0	1.3	ug/L		01/03/23 09:28	01/03/23 20:22	1
Arsenic	0.52	J	1.0	0.23	ug/L		01/03/23 09:28	01/04/23 20:58	1
Barium	40		2.5	0.73	ug/L		01/03/23 09:28	01/03/23 20:22	1
Beryllium	<0.53		1.0	0.53	ug/L		01/03/23 09:28	01/03/23 20:22	1
Cadmium	<0.17		0.50	0.17	ug/L		01/03/23 09:28	01/03/23 20:22	1
Chromium	<1.1		5.0	1.1	ug/L		01/03/23 09:28	01/03/23 20:22	1
Cobalt	<0.40		1.0	0.40	ug/L		01/03/23 09:28	01/03/23 20:22	1
Copper	<0.50		2.0	0.50	ug/L		01/03/23 09:28	01/03/23 20:22	1
Lead	<0.19		0.50	0.19	ug/L		01/03/23 09:28	01/03/23 20:22	1
Manganese	53		2.5	0.79	ug/L		01/03/23 09:28	01/03/23 20:22	1
Nickel	1.2	J	2.0	0.63	ug/L		01/03/23 09:28	01/03/23 20:22	1
Selenium	<0.98		2.5	0.98	ug/L		01/03/23 09:28	01/03/23 20:22	1
Silver	<0.12		0.50	0.12	ug/L		01/03/23 09:28	01/03/23 20:22	1
Titanium	<1.8		5.0	1.8	ug/L		01/03/23 09:28	01/03/23 20:22	1
Vanadium	<2.2		5.0	2.2	ug/L		01/03/23 09:28	01/04/23 20:58	1
Zinc	<6.9		20	6.9	ug/L		01/03/23 09:28	01/03/23 20:22	1

Method: SW846 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.098		0.20	0.098	ug/L		01/03/23 15:15	01/04/23 08:44	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	290		0.91	0.46	mg/L		01/03/23 09:28	01/05/23 15:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate (MCAWW 300.0)	7.2		0.20	0.095	mg/L			01/05/23 23:09	1
Fluoride (MCAWW 300.0)	0.21		0.20	0.067	mg/L			01/05/23 23:09	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-227292-3

Date Collected: 12/20/22 11:00

Matrix: Water

Date Received: 12/22/22 10:25

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (MCAWW 300.0)	7.7		0.40	0.34	mg/L			01/06/23 00:13	2
Nitrate Nitrite as N (EPA N07-0003)	0.18		0.10	0.041	mg/L			01/03/23 10:28	1
Alkalinity (SM 2320B)	280		5.0	3.7	mg/L			12/28/22 19:03	1

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Client Sample ID: Trip Blank-VOC

Lab Sample ID: 500-227292-4

Date Collected: 12/20/22 00:00

Matrix: Water

Date Received: 12/22/22 10:25

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			12/30/22 14:52	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			12/30/22 14:52	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			12/30/22 14:52	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			12/30/22 14:52	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			12/30/22 14:52	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			12/30/22 14:52	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			12/30/22 14:52	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			12/30/22 14:52	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			12/30/22 14:52	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			12/30/22 14:52	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			12/30/22 14:52	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			12/30/22 14:52	1
1,2-Dibromoethane (EDB)	<0.39		1.0	0.39	ug/L			12/30/22 14:52	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			12/30/22 14:52	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			12/30/22 14:52	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			12/30/22 14:52	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			12/30/22 14:52	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			12/30/22 14:52	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			12/30/22 14:52	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			12/30/22 14:52	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			12/30/22 14:52	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			12/30/22 14:52	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			12/30/22 14:52	1
Benzene	<0.15		0.50	0.15	ug/L			12/30/22 14:52	1
Bromobenzene	<0.36		1.0	0.36	ug/L			12/30/22 14:52	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			12/30/22 14:52	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			12/30/22 14:52	1
Bromoform	<0.48		1.0	0.48	ug/L			12/30/22 14:52	1
Bromomethane	<0.80		3.0	0.80	ug/L			12/30/22 14:52	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			12/30/22 14:52	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			12/30/22 14:52	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			12/30/22 14:52	1
Chloroethane	<0.51		1.0	0.51	ug/L			12/30/22 14:52	1
Chloroform	<0.37		2.0	0.37	ug/L			12/30/22 14:52	1
Chloromethane	<0.32		1.0	0.32	ug/L			12/30/22 14:52	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			12/30/22 14:52	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			12/30/22 14:52	1
Dibromomethane	<0.27		1.0	0.27	ug/L			12/30/22 14:52	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			12/30/22 14:52	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			12/30/22 14:52	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			12/30/22 14:52	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			12/30/22 14:52	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			12/30/22 14:52	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			12/30/22 14:52	1
Methylene Chloride	2.4 J		5.0	1.6	ug/L			12/30/22 14:52	1
Naphthalene	<0.34		1.0	0.34	ug/L			12/30/22 14:52	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			12/30/22 14:52	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			12/30/22 14:52	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			12/30/22 14:52	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Client Sample ID: Trip Blank-VOC

Lab Sample ID: 500-227292-4

Date Collected: 12/20/22 00:00

Matrix: Water

Date Received: 12/22/22 10:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			12/30/22 14:52	1
Styrene	<0.39		1.0	0.39	ug/L			12/30/22 14:52	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			12/30/22 14:52	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			12/30/22 14:52	1
Toluene	<0.15		0.50	0.15	ug/L			12/30/22 14:52	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			12/30/22 14:52	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			12/30/22 14:52	1
Trichloroethene	<0.16		0.50	0.16	ug/L			12/30/22 14:52	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			12/30/22 14:52	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			12/30/22 14:52	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			12/30/22 14:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 126		12/30/22 14:52	1
4-Bromofluorobenzene (Surr)	109		72 - 124		12/30/22 14:52	1
Dibromofluoromethane	96		75 - 120		12/30/22 14:52	1
Toluene-d8 (Surr)	100		75 - 120		12/30/22 14:52	1

Definitions/Glossary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Qualifiers

GC/MS VOA

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

Metals

Qualifier	Qualifier Description
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

QC Association Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

GC/MS VOA

Analysis Batch: 691907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-227292-1	MW-14WT	Total/NA	Water	8260B	
500-227292-2	MW-16	Total/NA	Water	8260B	
500-227292-3	MW-17WT	Total/NA	Water	8260B	
500-227292-4	Trip Blank-VOC	Total/NA	Water	8260B	
MB 500-691907/7	Method Blank	Total/NA	Water	8260B	
LCS 500-691907/5	Lab Control Sample	Total/NA	Water	8260B	

Metals

Prep Batch: 692211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-227292-1	MW-14WT	Dissolved	Water	3005A	
500-227292-2	MW-16	Dissolved	Water	3005A	
500-227292-3	MW-17WT	Dissolved	Water	3005A	
MB 500-692211/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-692211/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 692296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-227292-1	MW-14WT	Dissolved	Water	7470A	
500-227292-2	MW-16	Dissolved	Water	7470A	
500-227292-3	MW-17WT	Dissolved	Water	7470A	
MB 500-692296/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-692296/13-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 692431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-227292-1	MW-14WT	Dissolved	Water	6020A	692211
500-227292-2	MW-16	Dissolved	Water	6020A	692211
500-227292-3	MW-17WT	Dissolved	Water	6020A	692211
MB 500-692211/1-A	Method Blank	Total Recoverable	Water	6020A	692211
LCS 500-692211/2-A	Lab Control Sample	Total Recoverable	Water	6020A	692211

Analysis Batch: 692442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-227292-1	MW-14WT	Dissolved	Water	7470A	692296
500-227292-2	MW-16	Dissolved	Water	7470A	692296
500-227292-3	MW-17WT	Dissolved	Water	7470A	692296
MB 500-692296/12-A	Method Blank	Total/NA	Water	7470A	692296
LCS 500-692296/13-A	Lab Control Sample	Total/NA	Water	7470A	692296

Analysis Batch: 692599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-227292-1	MW-14WT	Dissolved	Water	6020A	692211
500-227292-2	MW-16	Dissolved	Water	6020A	692211
500-227292-3	MW-17WT	Dissolved	Water	6020A	692211
MB 500-692211/1-A	Method Blank	Total Recoverable	Water	6020A	692211
LCS 500-692211/2-A	Lab Control Sample	Total Recoverable	Water	6020A	692211

QC Association Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Metals

Analysis Batch: 692688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-227292-1	MW-14WT	Dissolved	Water	SM 2340B	692211
500-227292-2	MW-16	Dissolved	Water	SM 2340B	692211
500-227292-3	MW-17WT	Dissolved	Water	SM 2340B	692211

General Chemistry

Analysis Batch: 691704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-227292-1	MW-14WT	Dissolved	Water	SM 2320B	
500-227292-2	MW-16	Dissolved	Water	SM 2320B	
500-227292-3	MW-17WT	Dissolved	Water	SM 2320B	
MB 500-691704/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-691704/4	Lab Control Sample	Total/NA	Water	SM 2320B	
500-227292-3 DU	MW-17WT	Dissolved	Water	SM 2320B	

Analysis Batch: 692250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-227292-1	MW-14WT	Dissolved	Water	N07-0003	
500-227292-2	MW-16	Dissolved	Water	N07-0003	
500-227292-3	MW-17WT	Dissolved	Water	N07-0003	
MB 500-692250/45	Method Blank	Total/NA	Water	N07-0003	
LCS 500-692250/46	Lab Control Sample	Total/NA	Water	N07-0003	

Analysis Batch: 692916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-227292-1	MW-14WT	Dissolved	Water	300.0	
500-227292-1	MW-14WT	Total/NA	Water	300.0	
500-227292-2	MW-16	Dissolved	Water	300.0	
500-227292-2	MW-16	Total/NA	Water	300.0	
500-227292-2	MW-16	Total/NA	Water	300.0	
500-227292-3	MW-17WT	Dissolved	Water	300.0	
500-227292-3	MW-17WT	Total/NA	Water	300.0	
MB 500-692916/30	Method Blank	Total/NA	Water	300.0	
LCS 500-692916/31	Lab Control Sample	Total/NA	Water	300.0	

Surrogate Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCA	BFB	DBFM	TOL
		(75-126)	(72-124)	(75-120)	(75-120)
500-227292-1	MW-14WT	91	105	95	98
500-227292-2	MW-16	94	109	96	98
500-227292-3	MW-17WT	95	108	99	99
500-227292-4	Trip Blank-VOC	93	109	96	100
LCS 500-691907/5	Lab Control Sample	94	110	97	99
MB 500-691907/7	Method Blank	96	109	99	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-691907/7

Matrix: Water

Analysis Batch: 691907

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			12/30/22 11:39	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			12/30/22 11:39	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			12/30/22 11:39	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			12/30/22 11:39	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			12/30/22 11:39	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			12/30/22 11:39	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			12/30/22 11:39	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			12/30/22 11:39	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			12/30/22 11:39	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			12/30/22 11:39	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			12/30/22 11:39	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			12/30/22 11:39	1
1,2-Dibromoethane (EDB)	<0.39		1.0	0.39	ug/L			12/30/22 11:39	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			12/30/22 11:39	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			12/30/22 11:39	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			12/30/22 11:39	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			12/30/22 11:39	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			12/30/22 11:39	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			12/30/22 11:39	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			12/30/22 11:39	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			12/30/22 11:39	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			12/30/22 11:39	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			12/30/22 11:39	1
Benzene	<0.15		0.50	0.15	ug/L			12/30/22 11:39	1
Bromobenzene	<0.36		1.0	0.36	ug/L			12/30/22 11:39	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			12/30/22 11:39	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			12/30/22 11:39	1
Bromoform	<0.48		1.0	0.48	ug/L			12/30/22 11:39	1
Bromomethane	<0.80		3.0	0.80	ug/L			12/30/22 11:39	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			12/30/22 11:39	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			12/30/22 11:39	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			12/30/22 11:39	1
Chloroethane	<0.51		1.0	0.51	ug/L			12/30/22 11:39	1
Chloroform	<0.37		2.0	0.37	ug/L			12/30/22 11:39	1
Chloromethane	<0.32		1.0	0.32	ug/L			12/30/22 11:39	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			12/30/22 11:39	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			12/30/22 11:39	1
Dibromomethane	<0.27		1.0	0.27	ug/L			12/30/22 11:39	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			12/30/22 11:39	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			12/30/22 11:39	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			12/30/22 11:39	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			12/30/22 11:39	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			12/30/22 11:39	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			12/30/22 11:39	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			12/30/22 11:39	1
Naphthalene	<0.34		1.0	0.34	ug/L			12/30/22 11:39	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			12/30/22 11:39	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			12/30/22 11:39	1

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

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

Lab Sample ID: MB 500-691907/7

Matrix: Water

Analysis Batch: 691907

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			12/30/22 11:39	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			12/30/22 11:39	1
Styrene	<0.39		1.0	0.39	ug/L			12/30/22 11:39	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			12/30/22 11:39	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			12/30/22 11:39	1
Toluene	<0.15		0.50	0.15	ug/L			12/30/22 11:39	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			12/30/22 11:39	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			12/30/22 11:39	1
Trichloroethene	<0.16		0.50	0.16	ug/L			12/30/22 11:39	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			12/30/22 11:39	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			12/30/22 11:39	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			12/30/22 11:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 126		12/30/22 11:39	1
4-Bromofluorobenzene (Surr)	109		72 - 124		12/30/22 11:39	1
Dibromofluoromethane	99		75 - 120		12/30/22 11:39	1
Toluene-d8 (Surr)	97		75 - 120		12/30/22 11:39	1

Lab Sample ID: LCS 500-691907/5

Matrix: Water

Analysis Batch: 691907

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	50.0	50.0		ug/L		100	70 - 125
1,1,1-Trichloroethane	50.0	47.7		ug/L		95	70 - 125
1,1,2,2-Tetrachloroethane	50.0	53.7		ug/L		107	62 - 140
1,1,2-Trichloroethane	50.0	49.9		ug/L		100	71 - 130
1,1-Dichloroethane	50.0	43.3		ug/L		87	70 - 125
1,1-Dichloroethene	50.0	37.8		ug/L		76	67 - 122
1,1-Dichloropropene	50.0	46.8		ug/L		94	70 - 121
1,2,3-Trichlorobenzene	50.0	31.9		ug/L		64	51 - 145
1,2,3-Trichloropropane	50.0	53.7		ug/L		107	50 - 133
1,2,4-Trichlorobenzene	50.0	35.7		ug/L		71	57 - 137
1,2,4-Trimethylbenzene	50.0	54.3		ug/L		109	70 - 123
1,2-Dibromo-3-Chloropropane	50.0	44.9		ug/L		90	56 - 123
1,2-Dibromoethane (EDB)	50.0	49.6		ug/L		99	70 - 125
1,2-Dichlorobenzene	50.0	47.8		ug/L		96	70 - 125
1,2-Dichloroethane	50.0	46.2		ug/L		92	68 - 127
1,2-Dichloropropane	50.0	45.0		ug/L		90	67 - 130
1,3,5-Trimethylbenzene	50.0	54.8		ug/L		110	70 - 123
1,3-Dichlorobenzene	50.0	49.6		ug/L		99	70 - 125
1,3-Dichloropropane	50.0	50.4		ug/L		101	62 - 136
1,4-Dichlorobenzene	50.0	49.4		ug/L		99	70 - 120
2,2-Dichloropropane	50.0	55.4		ug/L		111	58 - 139
2-Chlorotoluene	50.0	54.5		ug/L		109	70 - 125
4-Chlorotoluene	50.0	56.6		ug/L		113	68 - 124
Benzene	50.0	45.9		ug/L		92	70 - 120

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

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

Lab Sample ID: LCS 500-691907/5

Matrix: Water

Analysis Batch: 691907

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromobenzene	50.0	52.8		ug/L		106	70 - 122
Bromochloromethane	50.0	47.0		ug/L		94	65 - 122
Bromodichloromethane	50.0	52.2		ug/L		104	69 - 120
Bromoform	50.0	59.2		ug/L		118	56 - 132
Bromomethane	50.0	74.4		ug/L		149	40 - 152
Carbon tetrachloride	50.0	50.6		ug/L		101	59 - 133
Chlorobenzene	50.0	50.0		ug/L		100	70 - 120
Chlorodibromomethane	50.0	55.8		ug/L		112	68 - 125
Chloroethane	50.0	49.4		ug/L		99	48 - 136
Chloroform	50.0	46.7		ug/L		93	70 - 120
Chloromethane	50.0	34.8		ug/L		70	56 - 152
cis-1,2-Dichloroethene	50.0	46.8		ug/L		94	70 - 125
cis-1,3-Dichloropropene	50.0	50.1		ug/L		100	64 - 127
Dibromomethane	50.0	49.3		ug/L		99	70 - 120
Dichlorodifluoromethane	50.0	38.0		ug/L		76	40 - 159
Ethylbenzene	50.0	51.5		ug/L		103	70 - 123
Hexachlorobutadiene	50.0	31.8		ug/L		64	51 - 150
Isopropylbenzene	50.0	54.3		ug/L		109	70 - 126
Methyl tert-butyl ether	50.0	44.7		ug/L		89	55 - 123
Methylene Chloride	50.0	47.0		ug/L		94	69 - 125
Naphthalene	50.0	35.8		ug/L		72	53 - 144
n-Butylbenzene	50.0	51.5		ug/L		103	68 - 125
N-Propylbenzene	50.0	56.3		ug/L		113	69 - 127
p-Isopropyltoluene	50.0	52.0		ug/L		104	70 - 125
sec-Butylbenzene	50.0	53.0		ug/L		106	70 - 123
Styrene	50.0	53.9		ug/L		108	70 - 120
tert-Butylbenzene	50.0	52.5		ug/L		105	70 - 121
Tetrachloroethene	50.0	46.5		ug/L		93	70 - 128
Toluene	50.0	50.8		ug/L		102	70 - 125
trans-1,2-Dichloroethene	50.0	44.1		ug/L		88	70 - 125
trans-1,3-Dichloropropene	50.0	52.3		ug/L		105	62 - 128
Trichloroethene	50.0	47.0		ug/L		94	70 - 125
Trichlorofluoromethane	50.0	47.6		ug/L		95	55 - 128
Vinyl chloride	50.0	46.1		ug/L		92	64 - 126
Xylenes, Total	100	105		ug/L		105	70 - 125

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	94		75 - 126
4-Bromofluorobenzene (Surr)	110		72 - 124
Dibromofluoromethane	97		75 - 120
Toluene-d8 (Surr)	99		75 - 120

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-692211/1-A

Matrix: Water

Analysis Batch: 692431

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 692211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.3		3.0	1.3	ug/L		01/03/23 09:28	01/03/23 19:12	1
Barium	<0.73		2.5	0.73	ug/L		01/03/23 09:28	01/03/23 19:12	1
Beryllium	<0.53		1.0	0.53	ug/L		01/03/23 09:28	01/03/23 19:12	1
Cadmium	<0.17		0.50	0.17	ug/L		01/03/23 09:28	01/03/23 19:12	1
Chromium	<1.1		5.0	1.1	ug/L		01/03/23 09:28	01/03/23 19:12	1
Cobalt	<0.40		1.0	0.40	ug/L		01/03/23 09:28	01/03/23 19:12	1
Copper	<0.50		2.0	0.50	ug/L		01/03/23 09:28	01/03/23 19:12	1
Lead	<0.19		0.50	0.19	ug/L		01/03/23 09:28	01/03/23 19:12	1
Manganese	<0.79		2.5	0.79	ug/L		01/03/23 09:28	01/03/23 19:12	1
Nickel	<0.63		2.0	0.63	ug/L		01/03/23 09:28	01/03/23 19:12	1
Selenium	<0.98		2.5	0.98	ug/L		01/03/23 09:28	01/03/23 19:12	1
Silver	<0.12		0.50	0.12	ug/L		01/03/23 09:28	01/03/23 19:12	1
Titanium	<1.8		5.0	1.8	ug/L		01/03/23 09:28	01/03/23 19:12	1
Zinc	<6.9		20	6.9	ug/L		01/03/23 09:28	01/03/23 19:12	1

Lab Sample ID: MB 500-692211/1-A

Matrix: Water

Analysis Batch: 692599

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 692211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.23		1.0	0.23	ug/L		01/03/23 09:28	01/04/23 19:50	1
Vanadium	<2.2		5.0	2.2	ug/L		01/03/23 09:28	01/04/23 19:50	1

Lab Sample ID: LCS 500-692211/2-A

Matrix: Water

Analysis Batch: 692431

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 692211

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	500	497		ug/L		99	80 - 120
Barium	500	513		ug/L		103	80 - 120
Beryllium	50.0	49.6		ug/L		99	80 - 120
Cadmium	50.0	49.2		ug/L		98	80 - 120
Chromium	200	205		ug/L		102	80 - 120
Cobalt	500	513		ug/L		103	80 - 120
Copper	250	255		ug/L		102	80 - 120
Lead	100	103		ug/L		103	80 - 120
Manganese	500	514		ug/L		103	80 - 120
Nickel	500	522		ug/L		104	80 - 120
Selenium	100	102		ug/L		102	80 - 120
Silver	50.0	48.3		ug/L		97	80 - 120
Titanium	1000	1020		ug/L		102	80 - 120
Zinc	500	511		ug/L		102	80 - 120

Lab Sample ID: LCS 500-692211/2-A

Matrix: Water

Analysis Batch: 692599

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 692211

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	100	102		ug/L		102	80 - 120

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

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

Lab Sample ID: LCS 500-692211/2-A

Matrix: Water

Analysis Batch: 692599

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 692211

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vanadium	500	507		ug/L		101	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-692296/12-A

Matrix: Water

Analysis Batch: 692442

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 692296

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.098		0.20	0.098	ug/L		01/03/23 15:15	01/04/23 08:35	1

Lab Sample ID: LCS 500-692296/13-A

Matrix: Water

Analysis Batch: 692442

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 692296

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.98	1.89		ug/L		95	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 500-692916/30

Matrix: Water

Analysis Batch: 692916

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.17		0.20	0.17	mg/L			01/05/23 22:06	1
Sulfate	<0.095		0.20	0.095	mg/L			01/05/23 22:06	1
Fluoride	<0.067		0.20	0.067	mg/L			01/05/23 22:06	1

Lab Sample ID: LCS 500-692916/31

Matrix: Water

Analysis Batch: 692916

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	3.00	2.92		mg/L		97	90 - 110
Sulfate	5.00	4.97		mg/L		99	90 - 110
Fluoride	1.00	1.06		mg/L		106	90 - 110

Method: N07-0003 - Enzymatic Nitrate-Nitrite Nitrogen

Lab Sample ID: MB 500-692250/45

Matrix: Water

Analysis Batch: 692250

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.041		0.10	0.041	mg/L			01/03/23 10:22	1

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Method: N07-0003 - Enzymatic Nitrate-Nitrite Nitrogen (Continued)

Lab Sample ID: LCS 500-692250/46

Matrix: Water

Analysis Batch: 692250

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1.00	1.01		mg/L		101	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 500-691704/3

Matrix: Water

Analysis Batch: 691704

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	<3.7		5.0	3.7	mg/L			12/28/22 16:33	1

Lab Sample ID: LCS 500-691704/4

Matrix: Water

Analysis Batch: 691704

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	110		mg/L		110	90 - 110

Lab Sample ID: 500-227292-3 DU

Matrix: Water

Analysis Batch: 691704

Client Sample ID: MW-17WT

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	280		276		mg/L		0.2	20

Lab Chronicle

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Client Sample ID: MW-14WT

Date Collected: 12/20/22 08:00

Date Received: 12/22/22 10:25

Lab Sample ID: 500-227292-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	691907	JDD	EET CHI	12/30/22 13:40
Dissolved	Prep	3005A			692211	BDE	EET CHI	01/03/23 09:28 - 01/03/23 09:58 ¹
Dissolved	Analysis	6020A		1	692431	FXG	EET CHI	01/03/23 20:15
Dissolved	Prep	3005A			692211	BDE	EET CHI	01/03/23 09:28 - 01/03/23 09:58 ¹
Dissolved	Analysis	6020A		1	692599	FXG	EET CHI	01/04/23 20:51
Dissolved	Prep	7470A			692296	MJG	EET CHI	01/03/23 15:15 - 01/03/23 17:15 ¹
Dissolved	Analysis	7470A		1	692442	MJG	EET CHI	01/04/23 08:40
Dissolved	Prep	3005A			692211	BDE	EET CHI	01/03/23 09:28 - 01/03/23 09:58 ¹
Dissolved	Analysis	SM 2340B		1	692688	FXG	EET CHI	01/05/23 15:26
Dissolved	Analysis	300.0		2	692916	RES	EET CHI	01/05/23 23:22
Total/NA	Analysis	300.0		1	692916	RES	EET CHI	01/05/23 22:31
Dissolved	Analysis	N07-0003		1	692250	LP	EET CHI	01/03/23 10:27
Dissolved	Analysis	SM 2320B		1	691704	EH	EET CHI	12/28/22 18:47

Client Sample ID: MW-16

Date Collected: 12/20/22 10:00

Date Received: 12/22/22 10:25

Lab Sample ID: 500-227292-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	691907	JDD	EET CHI	12/30/22 14:04
Dissolved	Prep	3005A			692211	BDE	EET CHI	01/03/23 09:28 - 01/03/23 09:58 ¹
Dissolved	Analysis	6020A		1	692431	FXG	EET CHI	01/03/23 20:18
Dissolved	Prep	3005A			692211	BDE	EET CHI	01/03/23 09:28 - 01/03/23 09:58 ¹
Dissolved	Analysis	6020A		1	692599	FXG	EET CHI	01/04/23 20:55
Dissolved	Prep	7470A			692296	MJG	EET CHI	01/03/23 15:15 - 01/03/23 17:15 ¹
Dissolved	Analysis	7470A		1	692442	MJG	EET CHI	01/04/23 08:42
Dissolved	Prep	3005A			692211	BDE	EET CHI	01/03/23 09:28 - 01/03/23 09:58 ¹
Dissolved	Analysis	SM 2340B		1	692688	FXG	EET CHI	01/05/23 15:26
Dissolved	Analysis	300.0		2	692916	RES	EET CHI	01/06/23 00:00
Total/NA	Analysis	300.0		1	692916	RES	EET CHI	01/05/23 22:44
Total/NA	Analysis	300.0		2	692916	RES	EET CHI	01/05/23 22:57
Dissolved	Analysis	N07-0003		1	692250	LP	EET CHI	01/03/23 10:28
Dissolved	Analysis	SM 2320B		1	691704	EH	EET CHI	12/28/22 18:56

Client Sample ID: MW-17WT

Date Collected: 12/20/22 11:00

Date Received: 12/22/22 10:25

Lab Sample ID: 500-227292-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	691907	JDD	EET CHI	12/30/22 14:29
Dissolved	Prep	3005A			692211	BDE	EET CHI	01/03/23 09:28 - 01/03/23 09:58 ¹
Dissolved	Analysis	6020A		1	692431	FXG	EET CHI	01/03/23 20:22
Dissolved	Prep	3005A			692211	BDE	EET CHI	01/03/23 09:28 - 01/03/23 09:58 ¹
Dissolved	Analysis	6020A		1	692599	FXG	EET CHI	01/04/23 20:58

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Lab Chronicle

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-227292-3

Date Collected: 12/20/22 11:00

Matrix: Water

Date Received: 12/22/22 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	7470A			692296	MJG	EET CHI	01/03/23 15:15 - 01/03/23 17:15 ¹
Dissolved	Analysis	7470A		1	692442	MJG	EET CHI	01/04/23 08:44
Dissolved	Prep	3005A			692211	BDE	EET CHI	01/03/23 09:28 - 01/03/23 09:58 ¹
Dissolved	Analysis	SM 2340B		1	692688	FXG	EET CHI	01/05/23 15:26
Dissolved	Analysis	300.0		2	692916	RES	EET CHI	01/06/23 00:13
Total/NA	Analysis	300.0		1	692916	RES	EET CHI	01/05/23 23:09
Dissolved	Analysis	N07-0003		1	692250	LP	EET CHI	01/03/23 10:28
Dissolved	Analysis	SM 2320B		1	691704	EH	EET CHI	12/28/22 19:03

Client Sample ID: Trip Blank-VOC

Lab Sample ID: 500-227292-4

Date Collected: 12/20/22 00:00

Matrix: Water

Date Received: 12/22/22 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	691907	JDD	EET CHI	12/30/22 14:52

¹ Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-227292-1

Laboratory: Eurofins Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-23

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

1/12/2023 (Rev. 1)

TAL-0090(1016)

ORIGIN ID: RRLA (715) 933-2351
VERONICA ARANDA
SHORT ELLIOT HENDRICKSON
10 NORTH BRIGDE ST.
CHIPPEWA FALLS, WI 54729
UNITED STATES US

SHIP DATE: 09DEC22
ACTWGT: 2.5
CAD: 021



500-227292 Waybl

TO **SAMPLE RECEIPT**
EUROFINS
2417 BOND ST.

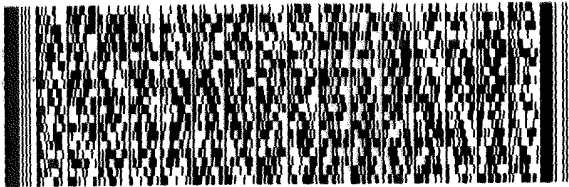
UNIVERSITY PARK IL 60484

(262) 202-6966
INVT: PO

REF:

DEPT:

RMA



FedEx
Express



FedEx

TRK#
0221

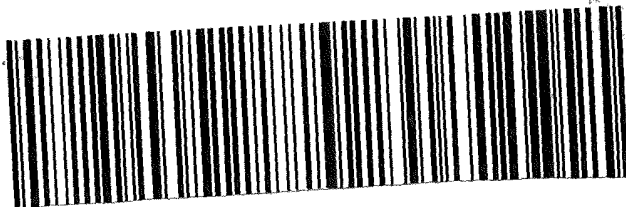
6155 6317 5260

79 JOTA

THU - 22 DEC 10:30A
PRIORITY OVERNIGHT

60484

IL-US ORD



4807

Login Sample Receipt Checklist

Client: Vernon County Solid Waste & Recycling

Job Number: 500-227292-1

Login Number: 227292

List Number: 1

Creator: Scott, Sherri L

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Stacie Sanborn
Vernon County Solid Waste & Recycling
S3705 County Road LF
Viroqua, Wisconsin 54665

Generated 2/7/2023 9:23:11 AM

JOB DESCRIPTION

Vernon County Landfill Expansion

JOB NUMBER

500-228520-1

Eurofins Chicago

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing North Central, LLC and its client. All questions regarding this report should be directed to the Eurofins Environment Testing North Central, LLC Project Manager who has signed this report.

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 Chicago Project Manager.

Authorization



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Authorized for release by
Sandie Fredrick, Project Manager II
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Case Narrative

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Job ID: 500-228520-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-228520-1

Receipt

The samples were received on 1/24/2023 9:30 AM. 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 was -0.5° C.

Receipt Exceptions

The container label for the following sample(s) did not match the information listed on the Chain-of-Custody (COC): Sample #2 "MW16" is checked off for "6020A-Sb/Be/Co/Ni/Ti/V" however extra nitric with those elements listed is for sample #3 "MW-17WT"

GC/MS VOA

Method 8260B: The following sample is a labeled trip blank. This trip blank ran twice and had matching detects above the reporting limit. Trip Blank-VOC (500-228520-4)

Method 8260B: Acetone was detected in the following samples: MW-14WT (500-228520-1) and Trip Blank-VOC (500-228520-4). Acetone is a known lab contaminant; therefore all low level detects for this compound could be suspected as lab contamination.

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

Metals

Method 6020B: The interference check standard solution (ICSA) associated with batch 500-696481 had results for Barium above the method detection limit (MDL). The vendor acknowledges that this element is trace impurities in the ICSA standard. These results are not indicative of a matrix interference.

Method 6020B: The method blank for preparation batch 500-695780 contained Boron above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method 6020B: The low level continuing calibration verification (ICVL) associated with batch 500-697312 recovered above the upper control limit for Copper. The samples associated with this ICVL were non-detects for the affected analyte; therefore, the data have been reported.

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

Field Service / Mobile Lab

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

General Chemistry

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

Detection Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-228520-1

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Acetone	4.1	J	10	1.7	ug/L	1		8260B	Total/NA
Xylenes, Total	0.32	J	1.0	0.22	ug/L	1		8260B	Total/NA
Arsenic	0.55	J	1.0	0.23	ug/L	1		6020B	Dissolved
Barium	47.5		2.5	0.73	ug/L	1		6020B	Dissolved
Boron	46.1	J B	50.0	12.7	ug/L	1		6020B	Dissolved
Copper	0.83	J B ^	2.0	0.50	ug/L	1		6020B	Dissolved
Manganese	272		2.5	0.79	ug/L	1		6020B	Dissolved
Hardness as calcium carbonate	238		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Chloride	5.6		0.20	0.17	mg/L	1		300.0	Dissolved
Fluoride	0.21		0.20	0.067	mg/L	1		300.0	Dissolved
Sulfate	3.1		0.20	0.095	mg/L	1		300.0	Dissolved
Nitrate Nitrite as N	0.25		0.10	0.041	mg/L	1		N07-0003	Dissolved
Alkalinity	211		5.0	3.7	mg/L	1		SM 2320B	Dissolved

Client Sample ID: MW-16

Lab Sample ID: 500-228520-2

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Barium	66.6		2.5	0.73	ug/L	1		6020B	Dissolved
Boron	45.0	J B	50.0	12.7	ug/L	1		6020B	Dissolved
Copper	1.5	J B ^	2.0	0.50	ug/L	1		6020B	Dissolved
Manganese	4.4		2.5	0.79	ug/L	1		6020B	Dissolved
Hardness as calcium carbonate	399		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Chloride	7.1		0.40	0.34	mg/L	2		300.0	Dissolved
Fluoride	0.18	J	0.20	0.067	mg/L	1		300.0	Dissolved
Sulfate	17.7		0.40	0.19	mg/L	2		300.0	Dissolved
Nitrate Nitrite as N	1.1		0.10	0.041	mg/L	1		N07-0003	Dissolved
Alkalinity	357		5.0	3.7	mg/L	1		SM 2320B	Dissolved

Client Sample ID: MW-17WT

Lab Sample ID: 500-228520-3

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Barium	69.4		2.5	0.73	ug/L	1		6020B	Dissolved
Boron	47.8	J B	50.0	12.7	ug/L	1		6020B	Dissolved
Copper	1.2	J B ^	2.0	0.50	ug/L	1		6020B	Dissolved
Lead	0.39	J	0.50	0.19	ug/L	1		6020B	Dissolved
Manganese	4.5		2.5	0.79	ug/L	1		6020B	Dissolved
Mercury	0.45	B	0.20	0.079	ug/L	1		7470A	Dissolved
Hardness as calcium carbonate	391		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Chloride	6.3		0.40	0.34	mg/L	2		300.0	Dissolved
Fluoride	0.18	J	0.20	0.067	mg/L	1		300.0	Dissolved
Sulfate	15.6		0.40	0.19	mg/L	2		300.0	Dissolved
Nitrate Nitrite as N	1.1		0.10	0.041	mg/L	1		N07-0003	Dissolved
Alkalinity	352		5.0	3.7	mg/L	1		SM 2320B	Dissolved

Client Sample ID: Trip Blank-VOC

Lab Sample ID: 500-228520-4

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Acetone	14		10	1.7	ug/L	1		8260B	Total/NA
Tetrahydrofuran	10		10	1.9	ug/L	1		8260B	Total/NA
Toluene	0.72		0.50	0.15	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	0.78	J B	1.0	0.36	ug/L	1		8260B	Total/NA
Xylenes, Total	0.75	J	1.0	0.22	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Method Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	EET CHI
6020B	Metals (ICP/MS)	SW846	EET CHI
7470A	Mercury (CVAA)	SW846	EET CHI
SM 2340B	Total Hardness (as CaCO ₃) by calculation	SM	EET CHI
300.0	Anions, Ion Chromatography	EPA	EET CHI
N07-0003	Enzymatic Nitrate-Nitrite Nitrogen	EPA	EET CHI
SM 2320B	Alkalinity	SM	EET CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CHI
5030B	Purge and Trap	SW846	EET CHI
7470A	Preparation, Mercury	SW846	EET CHI

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-228520-1	MW-14WT	Water	01/23/23 08:00	01/24/23 09:30
500-228520-2	MW-16	Water	01/23/23 09:00	01/24/23 09:30
500-228520-3	MW-17WT	Water	01/23/23 11:00	01/24/23 09:30
500-228520-4	Trip Blank-VOC	Water	01/23/23 00:00	01/24/23 09:30

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-228520-1

Date Collected: 01/23/23 08:00

Matrix: Water

Date Received: 01/24/23 09:30

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	4.1	J	10	1.7	ug/L			01/25/23 14:59	1
Benzene	<0.15		0.50	0.15	ug/L			01/25/23 14:59	1
Bromobenzene	<0.36		1.0	0.36	ug/L			01/25/23 14:59	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			01/25/23 14:59	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			01/25/23 14:59	1
Bromoform	<0.48		1.0	0.48	ug/L			01/25/23 14:59	1
Bromomethane	<0.80		3.0	0.80	ug/L			01/25/23 14:59	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			01/25/23 14:59	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			01/25/23 14:59	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			01/25/23 14:59	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			01/25/23 14:59	1
Chloroethane	<0.51		1.0	0.51	ug/L			01/25/23 14:59	1
Chloroform	<0.37		2.0	0.37	ug/L			01/25/23 14:59	1
Chloromethane	<0.32		1.0	0.32	ug/L			01/25/23 14:59	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			01/25/23 14:59	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			01/25/23 14:59	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			01/25/23 14:59	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			01/25/23 14:59	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			01/25/23 14:59	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			01/25/23 14:59	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			01/25/23 14:59	1
Dibromomethane	<0.27		1.0	0.27	ug/L			01/25/23 14:59	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			01/25/23 14:59	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			01/25/23 14:59	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			01/25/23 14:59	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			01/25/23 14:59	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			01/25/23 14:59	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			01/25/23 14:59	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			01/25/23 14:59	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			01/25/23 14:59	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			01/25/23 14:59	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			01/25/23 14:59	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			01/25/23 14:59	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			01/25/23 14:59	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			01/25/23 14:59	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			01/25/23 14:59	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			01/25/23 14:59	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			01/25/23 14:59	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			01/25/23 14:59	1
Naphthalene	<0.34		1.0	0.34	ug/L			01/25/23 14:59	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			01/25/23 14:59	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			01/25/23 14:59	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			01/25/23 14:59	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			01/25/23 14:59	1
Styrene	<0.39		1.0	0.39	ug/L			01/25/23 14:59	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			01/25/23 14:59	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			01/25/23 14:59	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			01/25/23 14:59	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			01/25/23 14:59	1

Eurofins Chicago

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-228520-1

Date Collected: 01/23/23 08:00

Matrix: Water

Date Received: 01/24/23 09:30

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	<1.9		10	1.9	ug/L			01/25/23 14:59	1
Toluene	<0.15		0.50	0.15	ug/L			01/25/23 14:59	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			01/25/23 14:59	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			01/25/23 14:59	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			01/25/23 14:59	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			01/25/23 14:59	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			01/25/23 14:59	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			01/25/23 14:59	1
Trichloroethene	<0.16		0.50	0.16	ug/L			01/25/23 14:59	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			01/25/23 14:59	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			01/25/23 14:59	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			01/25/23 14:59	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			01/25/23 14:59	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			01/25/23 14:59	1
Xylenes, Total	0.32	J	1.0	0.22	ug/L			01/25/23 14:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		72 - 124		01/25/23 14:59	1
Dibromofluoromethane (Surr)	98		75 - 120		01/25/23 14:59	1
1,2-Dichloroethane-d4 (Surr)	106		75 - 126		01/25/23 14:59	1
Toluene-d8 (Surr)	95		75 - 120		01/25/23 14:59	1

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.55	J	1.0	0.23	ug/L		01/25/23 08:45	01/26/23 17:10	1
Barium	47.5		2.5	0.73	ug/L		01/25/23 08:45	01/30/23 20:15	1
Boron	46.1	J B	50.0	12.7	ug/L		01/25/23 08:45	02/01/23 19:17	1
Cadmium	<0.17		0.50	0.17	ug/L		01/25/23 08:45	01/26/23 17:10	1
Chromium	<1.1		5.0	1.1	ug/L		01/25/23 08:45	01/26/23 17:10	1
Copper	0.83	J B ^	2.0	0.50	ug/L		01/25/23 08:45	02/01/23 19:17	1
Lead	<0.19		0.50	0.19	ug/L		01/25/23 08:45	01/26/23 17:10	1
Manganese	272		2.5	0.79	ug/L		01/25/23 08:45	01/26/23 17:10	1
Selenium	<0.98		2.5	0.98	ug/L		01/25/23 08:45	01/26/23 17:10	1
Silver	<0.12		0.50	0.12	ug/L		01/25/23 08:45	01/26/23 17:10	1
Zinc	<6.9		20.0	6.9	ug/L		01/25/23 08:45	01/26/23 17:10	1

Method: SW846 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.079	F2	0.20	0.079	ug/L		01/26/23 15:55	01/27/23 07:57	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	238		0.91	0.46	mg/L		01/25/23 08:45	01/31/23 13:13	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	5.6		0.20	0.17	mg/L			01/26/23 18:45	1
Fluoride (EPA 300.0)	0.21		0.20	0.067	mg/L			01/26/23 18:45	1
Sulfate (EPA 300.0)	3.1		0.20	0.095	mg/L			01/26/23 18:45	1
Nitrate Nitrite as N (EPA N07-0003)	0.25		0.10	0.041	mg/L			01/30/23 09:00	1
Alkalinity (SM 2320B)	211		5.0	3.7	mg/L			01/26/23 12:08	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Client Sample ID: MW-16

Lab Sample ID: 500-228520-2

Date Collected: 01/23/23 09:00

Matrix: Water

Date Received: 01/24/23 09:30

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<1.7		10	1.7	ug/L			01/25/23 15:25	1
Benzene	<0.15		0.50	0.15	ug/L			01/25/23 15:25	1
Bromobenzene	<0.36		1.0	0.36	ug/L			01/25/23 15:25	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			01/25/23 15:25	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			01/25/23 15:25	1
Bromoform	<0.48		1.0	0.48	ug/L			01/25/23 15:25	1
Bromomethane	<0.80		3.0	0.80	ug/L			01/25/23 15:25	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			01/25/23 15:25	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			01/25/23 15:25	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			01/25/23 15:25	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			01/25/23 15:25	1
Chloroethane	<0.51		1.0	0.51	ug/L			01/25/23 15:25	1
Chloroform	<0.37		2.0	0.37	ug/L			01/25/23 15:25	1
Chloromethane	<0.32		1.0	0.32	ug/L			01/25/23 15:25	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			01/25/23 15:25	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			01/25/23 15:25	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			01/25/23 15:25	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			01/25/23 15:25	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			01/25/23 15:25	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			01/25/23 15:25	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			01/25/23 15:25	1
Dibromomethane	<0.27		1.0	0.27	ug/L			01/25/23 15:25	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			01/25/23 15:25	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			01/25/23 15:25	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			01/25/23 15:25	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			01/25/23 15:25	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			01/25/23 15:25	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			01/25/23 15:25	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			01/25/23 15:25	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			01/25/23 15:25	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			01/25/23 15:25	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			01/25/23 15:25	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			01/25/23 15:25	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			01/25/23 15:25	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			01/25/23 15:25	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			01/25/23 15:25	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			01/25/23 15:25	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			01/25/23 15:25	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			01/25/23 15:25	1
Naphthalene	<0.34		1.0	0.34	ug/L			01/25/23 15:25	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			01/25/23 15:25	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			01/25/23 15:25	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			01/25/23 15:25	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			01/25/23 15:25	1
Styrene	<0.39		1.0	0.39	ug/L			01/25/23 15:25	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			01/25/23 15:25	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			01/25/23 15:25	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			01/25/23 15:25	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			01/25/23 15:25	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Client Sample ID: MW-16

Lab Sample ID: 500-228520-2

Date Collected: 01/23/23 09:00

Matrix: Water

Date Received: 01/24/23 09:30

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	<1.9		10	1.9	ug/L			01/25/23 15:25	1
Toluene	<0.15		0.50	0.15	ug/L			01/25/23 15:25	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			01/25/23 15:25	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			01/25/23 15:25	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			01/25/23 15:25	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			01/25/23 15:25	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			01/25/23 15:25	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			01/25/23 15:25	1
Trichloroethene	<0.16		0.50	0.16	ug/L			01/25/23 15:25	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			01/25/23 15:25	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			01/25/23 15:25	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			01/25/23 15:25	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			01/25/23 15:25	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			01/25/23 15:25	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			01/25/23 15:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		72 - 124		01/25/23 15:25	1
Dibromofluoromethane (Surr)	97		75 - 120		01/25/23 15:25	1
1,2-Dichloroethane-d4 (Surr)	106		75 - 126		01/25/23 15:25	1
Toluene-d8 (Surr)	95		75 - 120		01/25/23 15:25	1

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.23		1.0	0.23	ug/L		01/26/23 08:58	01/26/23 17:28	1
Barium	66.6		2.5	0.73	ug/L		01/26/23 08:58	01/30/23 19:48	1
Boron	45.0	J B	50.0	12.7	ug/L		01/26/23 08:58	02/01/23 19:27	1
Cadmium	<0.17		0.50	0.17	ug/L		01/26/23 08:58	01/26/23 17:28	1
Chromium	<1.1		5.0	1.1	ug/L		01/26/23 08:58	01/26/23 17:28	1
Copper	1.5	J B ^	2.0	0.50	ug/L		01/26/23 08:58	02/01/23 19:27	1
Lead	<0.19		0.50	0.19	ug/L		01/26/23 08:58	01/26/23 17:28	1
Manganese	4.4		2.5	0.79	ug/L		01/26/23 08:58	01/26/23 17:28	1
Selenium	<0.98		2.5	0.98	ug/L		01/26/23 08:58	01/26/23 17:28	1
Silver	<0.12		0.50	0.12	ug/L		01/26/23 08:58	01/26/23 17:28	1
Zinc	<6.9		20.0	6.9	ug/L		01/26/23 08:58	01/26/23 17:28	1

Method: SW846 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.079		0.20	0.079	ug/L		01/26/23 15:55	01/27/23 08:25	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	399		0.91	0.46	mg/L		01/25/23 08:45	01/31/23 13:13	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	7.1		0.40	0.34	mg/L			01/26/23 18:58	2
Fluoride (EPA 300.0)	0.18	J	0.20	0.067	mg/L			01/28/23 12:49	1
Sulfate (EPA 300.0)	17.7		0.40	0.19	mg/L			01/26/23 18:58	2
Nitrate Nitrite as N (EPA N07-0003)	1.1		0.10	0.041	mg/L			01/30/23 08:58	1
Alkalinity (SM 2320B)	357		5.0	3.7	mg/L			01/26/23 12:16	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-228520-3

Date Collected: 01/23/23 11:00

Matrix: Water

Date Received: 01/24/23 09:30

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<1.7		10	1.7	ug/L			01/25/23 15:52	1
Benzene	<0.15		0.50	0.15	ug/L			01/25/23 15:52	1
Bromobenzene	<0.36		1.0	0.36	ug/L			01/25/23 15:52	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			01/25/23 15:52	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			01/25/23 15:52	1
Bromoform	<0.48		1.0	0.48	ug/L			01/25/23 15:52	1
Bromomethane	<0.80		3.0	0.80	ug/L			01/25/23 15:52	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			01/25/23 15:52	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			01/25/23 15:52	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			01/25/23 15:52	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			01/25/23 15:52	1
Chloroethane	<0.51		1.0	0.51	ug/L			01/25/23 15:52	1
Chloroform	<0.37		2.0	0.37	ug/L			01/25/23 15:52	1
Chloromethane	<0.32		1.0	0.32	ug/L			01/25/23 15:52	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			01/25/23 15:52	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			01/25/23 15:52	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			01/25/23 15:52	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			01/25/23 15:52	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			01/25/23 15:52	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			01/25/23 15:52	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			01/25/23 15:52	1
Dibromomethane	<0.27		1.0	0.27	ug/L			01/25/23 15:52	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			01/25/23 15:52	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			01/25/23 15:52	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			01/25/23 15:52	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			01/25/23 15:52	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			01/25/23 15:52	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			01/25/23 15:52	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			01/25/23 15:52	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			01/25/23 15:52	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			01/25/23 15:52	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			01/25/23 15:52	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			01/25/23 15:52	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			01/25/23 15:52	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			01/25/23 15:52	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			01/25/23 15:52	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			01/25/23 15:52	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			01/25/23 15:52	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			01/25/23 15:52	1
Naphthalene	<0.34		1.0	0.34	ug/L			01/25/23 15:52	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			01/25/23 15:52	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			01/25/23 15:52	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			01/25/23 15:52	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			01/25/23 15:52	1
Styrene	<0.39		1.0	0.39	ug/L			01/25/23 15:52	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			01/25/23 15:52	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			01/25/23 15:52	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			01/25/23 15:52	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			01/25/23 15:52	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-228520-3

Date Collected: 01/23/23 11:00

Matrix: Water

Date Received: 01/24/23 09:30

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	<1.9		10	1.9	ug/L			01/25/23 15:52	1
Toluene	<0.15		0.50	0.15	ug/L			01/25/23 15:52	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			01/25/23 15:52	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			01/25/23 15:52	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			01/25/23 15:52	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			01/25/23 15:52	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			01/25/23 15:52	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			01/25/23 15:52	1
Trichloroethene	<0.16		0.50	0.16	ug/L			01/25/23 15:52	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			01/25/23 15:52	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			01/25/23 15:52	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			01/25/23 15:52	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			01/25/23 15:52	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			01/25/23 15:52	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			01/25/23 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		72 - 124		01/25/23 15:52	1
Dibromofluoromethane (Surr)	97		75 - 120		01/25/23 15:52	1
1,2-Dichloroethane-d4 (Surr)	107		75 - 126		01/25/23 15:52	1
Toluene-d8 (Surr)	95		75 - 120		01/25/23 15:52	1

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.3		3.0	1.3	ug/L		01/26/23 08:58	01/26/23 17:52	1
Arsenic	<0.23		1.0	0.23	ug/L		01/26/23 08:58	01/26/23 17:52	1
Barium	69.4		2.5	0.73	ug/L		01/26/23 08:58	01/30/23 20:05	1
Beryllium	<0.53		1.0	0.53	ug/L		01/26/23 08:58	01/26/23 17:52	1
Boron	47.8 J B		50.0	12.7	ug/L		01/26/23 08:58	02/01/23 19:52	1
Cadmium	<0.17		0.50	0.17	ug/L		01/26/23 08:58	01/26/23 17:52	1
Chromium	<1.1		5.0	1.1	ug/L		01/26/23 08:58	01/26/23 17:52	1
Cobalt	<0.40		1.0	0.40	ug/L		01/26/23 08:58	01/26/23 17:52	1
Copper	1.2 J B ^		2.0	0.50	ug/L		01/26/23 08:58	02/01/23 19:52	1
Lead	0.39 J		0.50	0.19	ug/L		01/26/23 08:58	01/26/23 17:52	1
Manganese	4.5		2.5	0.79	ug/L		01/26/23 08:58	01/26/23 17:52	1
Nickel	<0.63		2.0	0.63	ug/L		01/26/23 08:58	01/26/23 17:52	1
Selenium	<0.98		2.5	0.98	ug/L		01/26/23 08:58	01/26/23 17:52	1
Silver	<0.12		0.50	0.12	ug/L		01/26/23 08:58	01/26/23 17:52	1
Thallium	<0.57		2.0	0.57	ug/L		01/26/23 08:58	01/26/23 17:52	1
Vanadium	<2.2		5.0	2.2	ug/L		01/26/23 08:58	01/26/23 17:52	1
Zinc	<6.9		20.0	6.9	ug/L		01/26/23 08:58	01/26/23 17:52	1

Method: SW846 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.45 B		0.20	0.079	ug/L		01/26/23 15:55	01/27/23 08:27	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	391		0.91	0.46	mg/L		01/25/23 08:45	01/31/23 13:13	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-228520-3

Date Collected: 01/23/23 11:00

Matrix: Water

Date Received: 01/24/23 09:30

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	6.3		0.40	0.34	mg/L			01/26/23 19:11	2
Fluoride (EPA 300.0)	0.18	J	0.20	0.067	mg/L			01/28/23 12:37	1
Sulfate (EPA 300.0)	15.6		0.40	0.19	mg/L			01/26/23 19:11	2
Nitrate Nitrite as N (EPA N07-0003)	1.1		0.10	0.041	mg/L			01/30/23 09:00	1
Alkalinity (SM 2320B)	352		5.0	3.7	mg/L			01/31/23 12:14	1

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Client Sample ID: Trip Blank-VOC

Lab Sample ID: 500-228520-4

Date Collected: 01/23/23 00:00

Matrix: Water

Date Received: 01/24/23 09:30

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	14		10	1.7	ug/L			01/25/23 14:07	1
Benzene	<0.15		0.50	0.15	ug/L			01/25/23 14:07	1
Bromobenzene	<0.36		1.0	0.36	ug/L			01/25/23 14:07	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			01/25/23 14:07	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			01/25/23 14:07	1
Bromoform	<0.48		1.0	0.48	ug/L			01/25/23 14:07	1
Bromomethane	<0.80		3.0	0.80	ug/L			01/25/23 14:07	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			01/25/23 14:07	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			01/25/23 14:07	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			01/25/23 14:07	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			01/25/23 14:07	1
Chloroethane	<0.51		1.0	0.51	ug/L			01/25/23 14:07	1
Chloroform	<0.37		2.0	0.37	ug/L			01/25/23 14:07	1
Chloromethane	<0.32		1.0	0.32	ug/L			01/25/23 14:07	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			01/25/23 14:07	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			01/25/23 14:07	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			01/25/23 14:07	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			01/25/23 14:07	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			01/25/23 14:07	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			01/25/23 14:07	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			01/25/23 14:07	1
Dibromomethane	<0.27		1.0	0.27	ug/L			01/25/23 14:07	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			01/25/23 14:07	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			01/25/23 14:07	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			01/25/23 14:07	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			01/25/23 14:07	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			01/25/23 14:07	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			01/25/23 14:07	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			01/25/23 14:07	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			01/25/23 14:07	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			01/25/23 14:07	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			01/25/23 14:07	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			01/25/23 14:07	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			01/25/23 14:07	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			01/25/23 14:07	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			01/25/23 14:07	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			01/25/23 14:07	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			01/25/23 14:07	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			01/25/23 14:07	1
Naphthalene	<0.34		1.0	0.34	ug/L			01/25/23 14:07	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			01/25/23 14:07	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			01/25/23 14:07	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			01/25/23 14:07	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			01/25/23 14:07	1
Styrene	<0.39		1.0	0.39	ug/L			01/25/23 14:07	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			01/25/23 14:07	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			01/25/23 14:07	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			01/25/23 14:07	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			01/25/23 14:07	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Client Sample ID: Trip Blank-VOC

Lab Sample ID: 500-228520-4

Date Collected: 01/23/23 00:00

Matrix: Water

Date Received: 01/24/23 09:30

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	10		10	1.9	ug/L			01/25/23 14:07	1
Toluene	0.72		0.50	0.15	ug/L			01/25/23 14:07	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			01/25/23 14:07	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			01/25/23 14:07	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			01/25/23 14:07	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			01/25/23 14:07	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			01/25/23 14:07	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			01/25/23 14:07	1
Trichloroethene	<0.16		0.50	0.16	ug/L			01/25/23 14:07	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			01/25/23 14:07	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			01/25/23 14:07	1
1,2,4-Trimethylbenzene	0.78	J B	1.0	0.36	ug/L			01/25/23 14:07	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			01/25/23 14:07	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			01/25/23 14:07	1
Xylenes, Total	0.75	J	1.0	0.22	ug/L			01/25/23 14:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		72 - 124		01/25/23 14:07	1
Dibromofluoromethane (Surr)	97		75 - 120		01/25/23 14:07	1
1,2-Dichloroethane-d4 (Surr)	106		75 - 126		01/25/23 14:07	1
Toluene-d8 (Surr)	94		75 - 120		01/25/23 14:07	1

Definitions/Glossary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Reported value was between the limit of detection and the limit of quantitation.

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
B	Compound was found in the blank and sample.
F2	MS/MSD RPD exceeds control limits
J	Reported value was between the limit of detection and the limit of quantitation.

General Chemistry

Qualifier	Qualifier Description
J	Reported value was between the limit of detection and the limit of quantitation.

Glossary

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

QC Association Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

GC/MS VOA

Analysis Batch: 695530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-228520-1	MW-14WT	Total/NA	Water	8260B	
500-228520-2	MW-16	Total/NA	Water	8260B	
500-228520-3	MW-17WT	Total/NA	Water	8260B	
500-228520-4	Trip Blank-VOC	Total/NA	Water	8260B	
MB 500-695530/7	Method Blank	Total/NA	Water	8260B	
LCS 500-695530/5	Lab Control Sample	Total/NA	Water	8260B	

Metals

Prep Batch: 695558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-228520-1	MW-14WT	Dissolved	Water	3005A	
500-228520-2	MW-16	Dissolved	Water	3005A	
500-228520-3	MW-17WT	Dissolved	Water	3005A	
MB 500-695558/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-695558/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 695780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-228520-2	MW-16	Dissolved	Water	3005A	
500-228520-3	MW-17WT	Dissolved	Water	3005A	
MB 500-695780/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-695780/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-228520-2 MS	MW-16	Dissolved	Water	3005A	
500-228520-2 MSD	MW-16	Dissolved	Water	3005A	
500-228520-2 DU	MW-16	Dissolved	Water	3005A	

Prep Batch: 695914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-228520-1	MW-14WT	Dissolved	Water	7470A	
500-228520-2	MW-16	Dissolved	Water	7470A	
500-228520-3	MW-17WT	Dissolved	Water	7470A	
MB 500-695914/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-695914/13-A	Lab Control Sample	Total/NA	Water	7470A	
500-228520-1 MS	MW-14WT	Dissolved	Water	7470A	
500-228520-1 MSD	MW-14WT	Dissolved	Water	7470A	
500-228520-1 DU	MW-14WT	Dissolved	Water	7470A	

Analysis Batch: 696005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-228520-1	MW-14WT	Dissolved	Water	6020B	695558
500-228520-2	MW-16	Dissolved	Water	6020B	695780
500-228520-3	MW-17WT	Dissolved	Water	6020B	695780
MB 500-695558/1-A	Method Blank	Total Recoverable	Water	6020B	695558
MB 500-695780/1-A	Method Blank	Total Recoverable	Water	6020B	695780
LCS 500-695558/2-A	Lab Control Sample	Total Recoverable	Water	6020B	695558
LCS 500-695780/2-A	Lab Control Sample	Total Recoverable	Water	6020B	695780
500-228520-2 MS	MW-16	Dissolved	Water	6020B	695780
500-228520-2 MSD	MW-16	Dissolved	Water	6020B	695780
500-228520-2 DU	MW-16	Dissolved	Water	6020B	695780

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QC Association Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Metals

Analysis Batch: 696041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-228520-1	MW-14WT	Dissolved	Water	7470A	695914
500-228520-2	MW-16	Dissolved	Water	7470A	695914
500-228520-3	MW-17WT	Dissolved	Water	7470A	695914
MB 500-695914/12-A	Method Blank	Total/NA	Water	7470A	695914
LCS 500-695914/13-A	Lab Control Sample	Total/NA	Water	7470A	695914
500-228520-1 MS	MW-14WT	Dissolved	Water	7470A	695914
500-228520-1 MSD	MW-14WT	Dissolved	Water	7470A	695914
500-228520-1 DU	MW-14WT	Dissolved	Water	7470A	695914

Analysis Batch: 696481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-228520-1	MW-14WT	Dissolved	Water	6020B	695558
500-228520-2	MW-16	Dissolved	Water	6020B	695780
500-228520-3	MW-17WT	Dissolved	Water	6020B	695780
MB 500-695558/1-A	Method Blank	Total Recoverable	Water	6020B	695558
MB 500-695780/1-A	Method Blank	Total Recoverable	Water	6020B	695780
LCS 500-695558/2-A	Lab Control Sample	Total Recoverable	Water	6020B	695558
LCS 500-695780/2-A	Lab Control Sample	Total Recoverable	Water	6020B	695780
500-228520-2 MS	MW-16	Dissolved	Water	6020B	695780
500-228520-2 MSD	MW-16	Dissolved	Water	6020B	695780
500-228520-2 DU	MW-16	Dissolved	Water	6020B	695780

Analysis Batch: 696526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-228520-1	MW-14WT	Dissolved	Water	SM 2340B	695558
500-228520-2	MW-16	Dissolved	Water	SM 2340B	695558
500-228520-3	MW-17WT	Dissolved	Water	SM 2340B	695558

Analysis Batch: 697312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-228520-1	MW-14WT	Dissolved	Water	6020B	695558
500-228520-2	MW-16	Dissolved	Water	6020B	695780
500-228520-3	MW-17WT	Dissolved	Water	6020B	695780
MB 500-695558/1-A	Method Blank	Total Recoverable	Water	6020B	695558
MB 500-695780/1-A	Method Blank	Total Recoverable	Water	6020B	695780
LCS 500-695558/2-A	Lab Control Sample	Total Recoverable	Water	6020B	695558
LCS 500-695780/2-A	Lab Control Sample	Total Recoverable	Water	6020B	695780
500-228520-2 MS	MW-16	Dissolved	Water	6020B	695780
500-228520-2 MSD	MW-16	Dissolved	Water	6020B	695780
500-228520-2 DU	MW-16	Dissolved	Water	6020B	695780

General Chemistry

Analysis Batch: 695886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-228520-1	MW-14WT	Dissolved	Water	SM 2320B	
500-228520-2	MW-16	Dissolved	Water	SM 2320B	
MB 500-695886/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-695886/4	Lab Control Sample	Total/NA	Water	SM 2320B	
500-228520-2 DU	MW-16	Dissolved	Water	SM 2320B	

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QC Association Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

General Chemistry

Analysis Batch: 695991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-228520-1	MW-14WT	Dissolved	Water	300.0	
500-228520-2	MW-16	Dissolved	Water	300.0	
500-228520-3	MW-17WT	Dissolved	Water	300.0	
MB 500-695991/3	Method Blank	Total/NA	Water	300.0	
LCS 500-695991/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 696145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-228520-2	MW-16	Dissolved	Water	300.0	
500-228520-3	MW-17WT	Dissolved	Water	300.0	
MB 500-696145/11	Method Blank	Total/NA	Water	300.0	
LCS 500-696145/12	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 696282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-228520-1	MW-14WT	Dissolved	Water	N07-0003	
500-228520-2	MW-16	Dissolved	Water	N07-0003	
500-228520-3	MW-17WT	Dissolved	Water	N07-0003	
MB 500-696282/13	Method Blank	Total/NA	Water	N07-0003	
LCS 500-696282/14	Lab Control Sample	Total/NA	Water	N07-0003	
500-228520-2 MS	MW-16	Dissolved	Water	N07-0003	
500-228520-2 MSD	MW-16	Dissolved	Water	N07-0003	

Analysis Batch: 696554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-228520-3	MW-17WT	Dissolved	Water	SM 2320B	
MB 500-696554/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-696554/4	Lab Control Sample	Total/NA	Water	SM 2320B	

Surrogate Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	BFB	DBFM	DCA	TOL
		(72-124)	(75-120)	(75-126)	(75-120)
500-228520-1	MW-14WT	101	98	106	95
500-228520-2	MW-16	99	97	106	95
500-228520-3	MW-17WT	99	97	107	95
500-228520-4	Trip Blank-VOC	100	97	106	94
LCS 500-695530/5	Lab Control Sample	101	87	96	98
MB 500-695530/7	Method Blank	104	97	104	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-695530/7

Matrix: Water

Analysis Batch: 695530

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<1.7		10	1.7	ug/L			01/25/23 12:21	1
Benzene	<0.15		0.50	0.15	ug/L			01/25/23 12:21	1
Bromobenzene	<0.36		1.0	0.36	ug/L			01/25/23 12:21	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			01/25/23 12:21	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			01/25/23 12:21	1
Bromoform	<0.48		1.0	0.48	ug/L			01/25/23 12:21	1
Bromomethane	<0.80		3.0	0.80	ug/L			01/25/23 12:21	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			01/25/23 12:21	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			01/25/23 12:21	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			01/25/23 12:21	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			01/25/23 12:21	1
Chloroethane	<0.51		1.0	0.51	ug/L			01/25/23 12:21	1
Chloroform	<0.37		2.0	0.37	ug/L			01/25/23 12:21	1
Chloromethane	<0.32		1.0	0.32	ug/L			01/25/23 12:21	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			01/25/23 12:21	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			01/25/23 12:21	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			01/25/23 12:21	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			01/25/23 12:21	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			01/25/23 12:21	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			01/25/23 12:21	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			01/25/23 12:21	1
Dibromomethane	<0.27		1.0	0.27	ug/L			01/25/23 12:21	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			01/25/23 12:21	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			01/25/23 12:21	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			01/25/23 12:21	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			01/25/23 12:21	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			01/25/23 12:21	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			01/25/23 12:21	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			01/25/23 12:21	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			01/25/23 12:21	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			01/25/23 12:21	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			01/25/23 12:21	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			01/25/23 12:21	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			01/25/23 12:21	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			01/25/23 12:21	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			01/25/23 12:21	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			01/25/23 12:21	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			01/25/23 12:21	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			01/25/23 12:21	1
Naphthalene	0.786	J	1.0	0.34	ug/L			01/25/23 12:21	1
n-Butylbenzene	0.658	J	1.0	0.39	ug/L			01/25/23 12:21	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			01/25/23 12:21	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			01/25/23 12:21	1
sec-Butylbenzene	0.660	J	1.0	0.40	ug/L			01/25/23 12:21	1
Styrene	<0.39		1.0	0.39	ug/L			01/25/23 12:21	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			01/25/23 12:21	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			01/25/23 12:21	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			01/25/23 12:21	1

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

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

Lab Sample ID: MB 500-695530/7

Matrix: Water

Analysis Batch: 695530

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.37		1.0	0.37	ug/L			01/25/23 12:21	1
Tetrahydrofuran	<1.9		10	1.9	ug/L			01/25/23 12:21	1
Toluene	<0.15		0.50	0.15	ug/L			01/25/23 12:21	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			01/25/23 12:21	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			01/25/23 12:21	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			01/25/23 12:21	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			01/25/23 12:21	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			01/25/23 12:21	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			01/25/23 12:21	1
Trichloroethene	<0.16		0.50	0.16	ug/L			01/25/23 12:21	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			01/25/23 12:21	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			01/25/23 12:21	1
1,2,4-Trimethylbenzene	0.738	J	1.0	0.36	ug/L			01/25/23 12:21	1
1,3,5-Trimethylbenzene	0.781	J	1.0	0.25	ug/L			01/25/23 12:21	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			01/25/23 12:21	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			01/25/23 12:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		72 - 124		01/25/23 12:21	1
Dibromofluoromethane (Surr)	97		75 - 120		01/25/23 12:21	1
1,2-Dichloroethane-d4 (Surr)	104		75 - 126		01/25/23 12:21	1
Toluene-d8 (Surr)	95		75 - 120		01/25/23 12:21	1

Lab Sample ID: LCS 500-695530/5

Matrix: Water

Analysis Batch: 695530

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	40.0	34.6		ug/L		86	40 - 143
Benzene	40.0	42.2		ug/L		105	70 - 120
Bromobenzene	40.0	48.4		ug/L		121	70 - 122
Bromochloromethane	40.0	40.9		ug/L		102	65 - 122
Bromodichloromethane	40.0	41.5		ug/L		104	69 - 120
Bromoform	40.0	40.9		ug/L		102	56 - 132
Bromomethane	40.0	33.7		ug/L		84	40 - 152
2-Butanone (MEK)	40.0	35.1		ug/L		88	46 - 144
Carbon disulfide	40.0	35.6		ug/L		89	66 - 120
Carbon tetrachloride	40.0	35.5		ug/L		89	59 - 133
Chlorobenzene	40.0	43.5		ug/L		109	70 - 120
Chloroethane	40.0	38.8		ug/L		97	48 - 136
Chloroform	40.0	38.1		ug/L		95	70 - 120
Chloromethane	40.0	41.4		ug/L		103	56 - 152
2-Chlorotoluene	40.0	46.3		ug/L		116	70 - 125
4-Chlorotoluene	40.0	46.4		ug/L		116	68 - 124
cis-1,2-Dichloroethene	40.0	42.8		ug/L		107	70 - 125
cis-1,3-Dichloropropene	40.0	38.6		ug/L		96	64 - 127
Dibromochloromethane	40.0	41.8		ug/L		104	68 - 125
1,2-Dibromo-3-Chloropropane	40.0	36.3		ug/L		91	56 - 123

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

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

Lab Sample ID: LCS 500-695530/5

Matrix: Water

Analysis Batch: 695530

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromoethane	40.0	41.9		ug/L		105	70 - 125
Dibromomethane	40.0	39.1		ug/L		98	70 - 120
1,2-Dichlorobenzene	40.0	42.9		ug/L		107	70 - 125
1,3-Dichlorobenzene	40.0	44.3		ug/L		111	70 - 125
1,4-Dichlorobenzene	40.0	42.9		ug/L		107	70 - 120
Dichlorodifluoromethane	40.0	34.4		ug/L		86	40 - 159
1,1-Dichloroethane	40.0	43.3		ug/L		108	70 - 125
1,2-Dichloroethane	40.0	45.8		ug/L		114	68 - 127
1,1-Dichloroethene	40.0	39.1		ug/L		98	67 - 122
1,2-Dichloropropane	40.0	45.8		ug/L		114	67 - 130
1,3-Dichloropropane	40.0	43.1		ug/L		108	62 - 136
2,2-Dichloropropane	40.0	39.0		ug/L		98	58 - 139
1,1-Dichloropropene	40.0	40.8		ug/L		102	70 - 121
Ethylbenzene	40.0	43.7		ug/L		109	70 - 123
Hexachlorobutadiene	40.0	38.8		ug/L		97	51 - 150
Isopropylbenzene	40.0	39.9		ug/L		100	70 - 126
Methylene Chloride	40.0	39.1		ug/L		98	69 - 125
Methyl tert-butyl ether	40.0	38.2		ug/L		96	55 - 123
Naphthalene	40.0	32.3		ug/L		81	53 - 144
n-Butylbenzene	40.0	36.7		ug/L		92	68 - 125
N-Propylbenzene	40.0	40.6		ug/L		101	69 - 127
p-Isopropyltoluene	40.0	37.1		ug/L		93	70 - 125
sec-Butylbenzene	40.0	38.0		ug/L		95	70 - 123
Styrene	40.0	37.4		ug/L		94	70 - 120
tert-Butylbenzene	40.0	38.2		ug/L		95	70 - 121
1,1,1,2-Tetrachloroethane	40.0	41.1		ug/L		103	70 - 125
1,1,2,2-Tetrachloroethane	40.0	43.6		ug/L		109	62 - 140
Tetrachloroethene	40.0	44.0		ug/L		110	70 - 128
Tetrahydrofuran	80.0	72.0		ug/L		90	59 - 139
Toluene	40.0	43.9		ug/L		110	70 - 125
trans-1,2-Dichloroethene	40.0	41.6		ug/L		104	70 - 125
trans-1,3-Dichloropropene	40.0	38.3		ug/L		96	62 - 128
1,2,3-Trichlorobenzene	40.0	38.5		ug/L		96	51 - 145
1,2,4-Trichlorobenzene	40.0	39.2		ug/L		98	57 - 137
1,1,1-Trichloroethane	40.0	39.3		ug/L		98	70 - 125
1,1,2-Trichloroethane	40.0	45.1		ug/L		113	71 - 130
Trichloroethene	40.0	41.8		ug/L		105	70 - 125
Trichlorofluoromethane	40.0	33.0		ug/L		83	55 - 128
1,2,3-Trichloropropane	40.0	41.0		ug/L		103	50 - 133
1,2,4-Trimethylbenzene	40.0	39.5		ug/L		99	70 - 123
1,3,5-Trimethylbenzene	40.0	38.7		ug/L		97	70 - 123
Vinyl chloride	40.0	43.4		ug/L		108	64 - 126
Xylenes, Total	80.0	81.5		ug/L		102	70 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		72 - 124
Dibromofluoromethane (Surr)	87		75 - 120
1,2-Dichloroethane-d4 (Surr)	96		75 - 126

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

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

Lab Sample ID: LCS 500-695530/5

Matrix: Water

Analysis Batch: 695530

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)	98		75 - 120

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 500-695558/1-A

Matrix: Water

Analysis Batch: 696005

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 695558

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.23		1.0	0.23	ug/L		01/25/23 08:45	01/26/23 17:04	1
Cadmium	<0.17		0.50	0.17	ug/L		01/25/23 08:45	01/26/23 17:04	1
Chromium	<1.1		5.0	1.1	ug/L		01/25/23 08:45	01/26/23 17:04	1
Lead	<0.19		0.50	0.19	ug/L		01/25/23 08:45	01/26/23 17:04	1
Manganese	<0.79		2.5	0.79	ug/L		01/25/23 08:45	01/26/23 17:04	1
Selenium	<0.98		2.5	0.98	ug/L		01/25/23 08:45	01/26/23 17:04	1
Silver	<0.12		0.50	0.12	ug/L		01/25/23 08:45	01/26/23 17:04	1
Zinc	<6.9		20.0	6.9	ug/L		01/25/23 08:45	01/26/23 17:04	1

Lab Sample ID: MB 500-695558/1-A

Matrix: Water

Analysis Batch: 696481

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 695558

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.73		2.5	0.73	ug/L		01/25/23 08:45	01/30/23 20:08	1

Lab Sample ID: MB 500-695558/1-A

Matrix: Water

Analysis Batch: 697312

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 695558

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Boron	39.18	J	50.0	12.7	ug/L		01/25/23 08:45	02/01/23 19:10	1
Copper	0.902	J ^	2.0	0.50	ug/L		01/25/23 08:45	02/01/23 19:10	1

Lab Sample ID: LCS 500-695558/2-A

Matrix: Water

Analysis Batch: 696005

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 695558

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	100	97.52		ug/L		98	80 - 120
Cadmium	50.0	51.89		ug/L		104	80 - 120
Chromium	200	208.7		ug/L		104	80 - 120
Lead	100	100.7		ug/L		101	80 - 120
Manganese	500	522.8		ug/L		105	80 - 120
Selenium	100	99.67		ug/L		100	80 - 120
Silver	50.0	50.42		ug/L		101	80 - 120
Zinc	500	505.8		ug/L		101	80 - 120

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

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

Lab Sample ID: LCS 500-695558/2-A
Matrix: Water
Analysis Batch: 696481

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 695558

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	500	524.1		ug/L		105	80 - 120

Lab Sample ID: LCS 500-695558/2-A
Matrix: Water
Analysis Batch: 697312

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 695558

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1000	973.2		ug/L		97	80 - 120
Copper	250	263.5	^	ug/L		105	80 - 120

Lab Sample ID: MB 500-695780/1-A
Matrix: Water
Analysis Batch: 696005

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 695780

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.3		3.0	1.3	ug/L		01/26/23 08:58	01/26/23 17:21	1
Arsenic	<0.23		1.0	0.23	ug/L		01/26/23 08:58	01/26/23 17:21	1
Beryllium	<0.53		1.0	0.53	ug/L		01/26/23 08:58	01/26/23 17:21	1
Cadmium	<0.17		0.50	0.17	ug/L		01/26/23 08:58	01/26/23 17:21	1
Chromium	<1.1		5.0	1.1	ug/L		01/26/23 08:58	01/26/23 17:21	1
Cobalt	<0.40		1.0	0.40	ug/L		01/26/23 08:58	01/26/23 17:21	1
Lead	<0.19		0.50	0.19	ug/L		01/26/23 08:58	01/26/23 17:21	1
Manganese	<0.79		2.5	0.79	ug/L		01/26/23 08:58	01/26/23 17:21	1
Nickel	<0.63		2.0	0.63	ug/L		01/26/23 08:58	01/26/23 17:21	1
Selenium	<0.98		2.5	0.98	ug/L		01/26/23 08:58	01/26/23 17:21	1
Silver	<0.12		0.50	0.12	ug/L		01/26/23 08:58	01/26/23 17:21	1
Thallium	<0.57		2.0	0.57	ug/L		01/26/23 08:58	01/26/23 17:21	1
Vanadium	<2.2		5.0	2.2	ug/L		01/26/23 08:58	01/26/23 17:21	1
Zinc	<6.9		20.0	6.9	ug/L		01/26/23 08:58	01/26/23 17:21	1

Lab Sample ID: MB 500-695780/1-A
Matrix: Water
Analysis Batch: 696481

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 695780

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.3		3.0	1.3	ug/L		01/26/23 08:58	01/30/23 19:34	1
Barium	<0.73		2.5	0.73	ug/L		01/26/23 08:58	01/30/23 19:34	1
Cobalt	<0.40		1.0	0.40	ug/L		01/26/23 08:58	01/30/23 19:34	1
Nickel	<0.63		2.0	0.63	ug/L		01/26/23 08:58	01/30/23 19:34	1
Thallium	<0.57		2.0	0.57	ug/L		01/26/23 08:58	01/30/23 19:34	1
Vanadium	<2.2		5.0	2.2	ug/L		01/26/23 08:58	01/30/23 19:34	1

Lab Sample ID: MB 500-695780/1-A
Matrix: Water
Analysis Batch: 697312

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 695780

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Boron	67.41		50.0	12.7	ug/L		01/26/23 08:58	02/01/23 19:20	1
Copper	0.505	J ^	2.0	0.50	ug/L		01/26/23 08:58	02/01/23 19:20	1

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

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

Lab Sample ID: LCS 500-695780/2-A
Matrix: Water
Analysis Batch: 696005

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 695780

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	500	474.2		ug/L		95	80 - 120
Arsenic	100	94.11		ug/L		94	80 - 120
Beryllium	50.0	53.13		ug/L		106	80 - 120
Cadmium	50.0	50.15		ug/L		100	80 - 120
Chromium	200	196.3		ug/L		98	80 - 120
Cobalt	500	493.2		ug/L		99	80 - 120
Lead	100	99.22		ug/L		99	80 - 120
Manganese	500	491.0		ug/L		98	80 - 120
Nickel	500	504.6		ug/L		101	80 - 120
Selenium	100	94.66		ug/L		95	80 - 120
Silver	50.0	48.39		ug/L		97	80 - 120
Thallium	100	102.0		ug/L		102	80 - 120
Vanadium	500	485.4		ug/L		97	80 - 120
Zinc	500	487.8		ug/L		98	80 - 120

Lab Sample ID: LCS 500-695780/2-A
Matrix: Water
Analysis Batch: 696481

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 695780

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	500	506.9		ug/L		101	80 - 120
Barium	500	511.6		ug/L		102	80 - 120
Cobalt	500	497.4		ug/L		99	80 - 120
Nickel	500	505.6		ug/L		101	80 - 120
Thallium	100	106.2		ug/L		106	80 - 120
Vanadium	500	494.3		ug/L		99	80 - 120

Lab Sample ID: LCS 500-695780/2-A
Matrix: Water
Analysis Batch: 697312

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 695780

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1000	1032		ug/L		103	80 - 120
Copper	250	256.9	^	ug/L		103	80 - 120

Lab Sample ID: 500-228520-2 MS
Matrix: Water
Analysis Batch: 696005

Client Sample ID: MW-16
Prep Type: Dissolved
Prep Batch: 695780

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<1.3		500	493.8		ug/L		99	75 - 125
Arsenic	<0.23		100	98.28		ug/L		98	75 - 125
Beryllium	<0.53		50.0	52.55		ug/L		105	75 - 125
Cadmium	<0.17		50.0	51.27		ug/L		103	75 - 125
Chromium	<1.1		200	207.9		ug/L		104	75 - 125
Cobalt	<0.40		500	516.4		ug/L		103	75 - 125
Lead	<0.19		100	102.4		ug/L		102	75 - 125
Manganese	4.4		500	515.5		ug/L		102	75 - 125
Nickel	<0.63		500	524.6		ug/L		105	75 - 125

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

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

Lab Sample ID: 500-228520-2 MS

Matrix: Water

Analysis Batch: 696005

Client Sample ID: MW-16

Prep Type: Dissolved

Prep Batch: 695780

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	<0.98		100	98.66		ug/L		99	75 - 125
Silver	<0.12		50.0	50.67		ug/L		101	75 - 125
Thallium	<0.57		100	105.1		ug/L		105	75 - 125
Vanadium	<2.2		500	519.9		ug/L		104	75 - 125
Zinc	<6.9		500	502.8		ug/L		101	75 - 125

Lab Sample ID: 500-228520-2 MS

Matrix: Water

Analysis Batch: 696481

Client Sample ID: MW-16

Prep Type: Dissolved

Prep Batch: 695780

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<1.3		500	512.2		ug/L		102	75 - 125
Barium	66.6		500	574.8		ug/L		102	75 - 125
Cobalt	<0.40		500	491.2		ug/L		98	75 - 125
Nickel	0.67	J	500	493.2		ug/L		99	75 - 125
Thallium	<0.57		100	108.3		ug/L		108	75 - 125
Vanadium	<2.2		500	500.2		ug/L		100	75 - 125

Lab Sample ID: 500-228520-2 MS

Matrix: Water

Analysis Batch: 697312

Client Sample ID: MW-16

Prep Type: Dissolved

Prep Batch: 695780

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<1.3		500	514.8		ug/L		103	75 - 125
Beryllium	<0.53		50.0	50.73		ug/L		101	75 - 125
Boron	45.0	J B	1000	967.5		ug/L		92	75 - 125
Cobalt	<0.40		500	481.8		ug/L		96	75 - 125
Nickel	0.78	J	500	488.6		ug/L		98	75 - 125
Thallium	<0.57		100	103.9		ug/L		104	75 - 125
Vanadium	<2.2		500	493.6		ug/L		99	75 - 125

Lab Sample ID: 500-228520-2 MSD

Matrix: Water

Analysis Batch: 696005

Client Sample ID: MW-16

Prep Type: Dissolved

Prep Batch: 695780

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<1.3		500	491.2		ug/L		98	75 - 125	1	20
Arsenic	<0.23		100	97.98		ug/L		98	75 - 125	0	20
Beryllium	<0.53		50.0	58.54		ug/L		117	75 - 125	11	20
Cadmium	<0.17		50.0	50.31		ug/L		101	75 - 125	2	20
Chromium	<1.1		200	208.6		ug/L		104	75 - 125	0	20
Cobalt	<0.40		500	519.8		ug/L		104	75 - 125	1	20
Lead	<0.19		100	100.5		ug/L		101	75 - 125	2	20
Manganese	4.4		500	523.2		ug/L		104	75 - 125	1	20
Nickel	<0.63		500	524.9		ug/L		105	75 - 125	0	20
Selenium	<0.98		100	97.39		ug/L		97	75 - 125	1	20
Silver	<0.12		50.0	50.02		ug/L		100	75 - 125	1	20
Thallium	<0.57		100	103.2		ug/L		103	75 - 125	2	20
Vanadium	<2.2		500	524.8		ug/L		105	75 - 125	1	20

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

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

Lab Sample ID: 500-228520-2 MSD

Matrix: Water

Analysis Batch: 696005

Client Sample ID: MW-16

Prep Type: Dissolved

Prep Batch: 695780

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Zinc	<6.9		500	503.9		ug/L		101	75 - 125	0	20

Lab Sample ID: 500-228520-2 MSD

Matrix: Water

Analysis Batch: 696481

Client Sample ID: MW-16

Prep Type: Dissolved

Prep Batch: 695780

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<1.3		500	513.7		ug/L		103	75 - 125	0	20
Barium	66.6		500	576.6		ug/L		102	75 - 125	0	20
Cobalt	<0.40		500	497.1		ug/L		99	75 - 125	1	20
Nickel	0.67	J	500	500.1		ug/L		100	75 - 125	1	20
Thallium	<0.57		100	110.0		ug/L		110	75 - 125	2	20
Vanadium	<2.2		500	506.8		ug/L		101	75 - 125	1	20

Lab Sample ID: 500-228520-2 MSD

Matrix: Water

Analysis Batch: 697312

Client Sample ID: MW-16

Prep Type: Dissolved

Prep Batch: 695780

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<1.3		500	514.8		ug/L		103	75 - 125	0	20
Beryllium	<0.53		50.0	52.22		ug/L		104	75 - 125	3	20
Boron	45.0	J B	1000	984.2		ug/L		94	75 - 125	2	20
Cobalt	<0.40		500	484.7		ug/L		97	75 - 125	1	20
Nickel	0.78	J	500	492.1		ug/L		98	75 - 125	1	20
Thallium	<0.57		100	102.2		ug/L		102	75 - 125	2	20
Vanadium	<2.2		500	498.4		ug/L		100	75 - 125	1	20

Lab Sample ID: 500-228520-2 DU

Matrix: Water

Analysis Batch: 696005

Client Sample ID: MW-16

Prep Type: Dissolved

Prep Batch: 695780

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<1.3		<1.3		ug/L		NC	20
Arsenic	<0.23		<0.23		ug/L		NC	20
Beryllium	<0.53		<0.53		ug/L		NC	20
Cadmium	<0.17		<0.17		ug/L		NC	20
Chromium	<1.1		<1.1		ug/L		NC	20
Cobalt	<0.40		<0.40		ug/L		NC	20
Lead	<0.19		<0.19		ug/L		NC	20
Manganese	4.4		4.09		ug/L		6	20
Nickel	<0.63		<0.63		ug/L		NC	20
Selenium	<0.98		<0.98		ug/L		NC	20
Silver	<0.12		<0.12		ug/L		NC	20
Thallium	<0.57		<0.57		ug/L		NC	20
Vanadium	<2.2		<2.2		ug/L		NC	20
Zinc	<6.9		<6.9		ug/L		NC	20

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

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

Lab Sample ID: 500-228520-2 DU

Matrix: Water

Analysis Batch: 696481

Client Sample ID: MW-16

Prep Type: Dissolved

Prep Batch: 695780

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Antimony	<1.3		<1.3		ug/L		NC	20
Barium	66.6		65.32		ug/L		2	20
Cobalt	<0.40		<0.40		ug/L		NC	20
Nickel	0.67	J	<0.63		ug/L		NC	20
Thallium	<0.57		<0.57		ug/L		NC	20
Vanadium	<2.2		<2.2		ug/L		NC	20

Lab Sample ID: 500-228520-2 DU

Matrix: Water

Analysis Batch: 697312

Client Sample ID: MW-16

Prep Type: Dissolved

Prep Batch: 695780

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Antimony	<1.3		<1.3		ug/L		NC	20
Beryllium	<0.53		<0.53		ug/L		NC	20
Boron	45.0	J B	46.05	J	ug/L		2	20
Cobalt	<0.40		<0.40		ug/L		NC	20
Nickel	0.78	J	0.680	J	ug/L		13	20
Thallium	<0.57		<0.57		ug/L		NC	20
Vanadium	<2.2		<2.2		ug/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-695914/12-A

Matrix: Water

Analysis Batch: 696041

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 695914

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0860	J	0.20	0.079	ug/L		01/26/23 15:55	01/27/23 07:44	1

Lab Sample ID: LCS 500-695914/13-A

Matrix: Water

Analysis Batch: 696041

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 695914

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.98	1.94		ug/L		98	80 - 120

Lab Sample ID: 500-228520-1 MS

Matrix: Water

Analysis Batch: 696041

Client Sample ID: MW-14WT

Prep Type: Dissolved

Prep Batch: 695914

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.079	F2	1.00	0.945		ug/L		95	75 - 125

Lab Sample ID: 500-228520-1 MSD

Matrix: Water

Analysis Batch: 696041

Client Sample ID: MW-14WT

Prep Type: Dissolved

Prep Batch: 695914

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Mercury	<0.079	F2	1.00	1.19	F2	ug/L		119	75 - 125	23	20

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

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

Lab Sample ID: 500-228520-1 DU
Matrix: Water
Analysis Batch: 696041

Client Sample ID: MW-14WT
Prep Type: Dissolved
Prep Batch: 695914

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Mercury	<0.079	F2	<0.079		ug/L		NC	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 500-695991/3
Matrix: Water
Analysis Batch: 695991

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.17		0.20	0.17	mg/L			01/26/23 17:16	1
Fluoride	<0.067		0.20	0.067	mg/L			01/26/23 17:16	1
Sulfate	<0.095		0.20	0.095	mg/L			01/26/23 17:16	1

Lab Sample ID: LCS 500-695991/4
Matrix: Water
Analysis Batch: 695991

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	3.00	2.95		mg/L		98	90 - 110
Fluoride	1.00	1.09		mg/L		109	90 - 110
Sulfate	5.00	5.14		mg/L		103	90 - 110

Lab Sample ID: MB 500-696145/11
Matrix: Water
Analysis Batch: 696145

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.067		0.20	0.067	mg/L			01/28/23 14:05	1

Lab Sample ID: LCS 500-696145/12
Matrix: Water
Analysis Batch: 696145

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	1.00	1.01		mg/L		101	90 - 110

Method: N07-0003 - Enzymatic Nitrate-Nitrite Nitrogen

Lab Sample ID: MB 500-696282/13
Matrix: Water
Analysis Batch: 696282

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.041		0.10	0.041	mg/L			01/30/23 08:57	1

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Method: N07-0003 - Enzymatic Nitrate-Nitrite Nitrogen (Continued)

Lab Sample ID: LCS 500-696282/14

Matrix: Water

Analysis Batch: 696282

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1.00	0.987		mg/L		99	90 - 110

Lab Sample ID: 500-228520-2 MS

Matrix: Water

Analysis Batch: 696282

Client Sample ID: MW-16

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1.1		1.00	2.07		mg/L		94	90 - 110

Lab Sample ID: 500-228520-2 MSD

Matrix: Water

Analysis Batch: 696282

Client Sample ID: MW-16

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	1.1		1.00	2.08		mg/L		95	90 - 110	1	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 500-695886/3

Matrix: Water

Analysis Batch: 695886

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	<3.7		5.0	3.7	mg/L			01/26/23 08:56	1

Lab Sample ID: LCS 500-695886/4

Matrix: Water

Analysis Batch: 695886

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	98.70		mg/L		99	90 - 110

Lab Sample ID: MB 500-696554/3

Matrix: Water

Analysis Batch: 696554

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	<3.7		5.0	3.7	mg/L			01/31/23 12:00	1

Lab Sample ID: LCS 500-696554/4

Matrix: Water

Analysis Batch: 696554

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	99.23		mg/L		99	90 - 110

QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 500-228520-2 DU

Matrix: Water

Analysis Batch: 695886

Client Sample ID: MW-16

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	357		370.0		mg/L		4	20

Lab Chronicle

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Client Sample ID: MW-14WT

Date Collected: 01/23/23 08:00

Date Received: 01/24/23 09:30

Lab Sample ID: 500-228520-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	695530	W1T	EET CHI	01/25/23 14:59
Dissolved	Prep	3005A			695558	BDE	EET CHI	01/25/23 08:45 - 01/25/23 09:15 ¹
Dissolved	Analysis	6020B		1	697312	FXG	EET CHI	02/01/23 19:17
Dissolved	Prep	3005A			695558	BDE	EET CHI	01/25/23 08:45 - 01/25/23 09:15 ¹
Dissolved	Analysis	6020B		1	696005	FXG	EET CHI	01/26/23 17:10
Dissolved	Prep	3005A			695558	BDE	EET CHI	01/25/23 08:45 - 01/25/23 09:15 ¹
Dissolved	Analysis	6020B		1	696481	FXG	EET CHI	01/30/23 20:15
Dissolved	Prep	7470A			695914	MJG	EET CHI	01/26/23 15:55 - 01/26/23 17:55 ¹
Dissolved	Analysis	7470A		1	696041	MJG	EET CHI	01/27/23 07:57
Dissolved	Prep	3005A			695558	BDE	EET CHI	01/25/23 08:45 - 01/25/23 09:15 ¹
Dissolved	Analysis	SM 2340B		1	696526	FXG	EET CHI	01/31/23 13:13
Dissolved	Analysis	300.0		1	695991	MM	EET CHI	01/26/23 18:45
Dissolved	Analysis	N07-0003		1	696282	LP	EET CHI	01/30/23 09:00
Dissolved	Analysis	SM 2320B		1	695886	EH	EET CHI	01/26/23 12:08

Client Sample ID: MW-16

Date Collected: 01/23/23 09:00

Date Received: 01/24/23 09:30

Lab Sample ID: 500-228520-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	695530	W1T	EET CHI	01/25/23 15:25
Dissolved	Prep	3005A			695780	BDE	EET CHI	01/26/23 08:58 - 01/26/23 09:28 ¹
Dissolved	Analysis	6020B		1	697312	FXG	EET CHI	02/01/23 19:27
Dissolved	Prep	3005A			695780	BDE	EET CHI	01/26/23 08:58 - 01/26/23 09:28 ¹
Dissolved	Analysis	6020B		1	696005	FXG	EET CHI	01/26/23 17:28
Dissolved	Prep	3005A			695780	BDE	EET CHI	01/26/23 08:58 - 01/26/23 09:28 ¹
Dissolved	Analysis	6020B		1	696481	FXG	EET CHI	01/30/23 19:48
Dissolved	Prep	7470A			695914	MJG	EET CHI	01/26/23 15:55 - 01/26/23 17:55 ¹
Dissolved	Analysis	7470A		1	696041	MJG	EET CHI	01/27/23 08:25
Dissolved	Prep	3005A			695558	BDE	EET CHI	01/25/23 08:45 - 01/25/23 09:15 ¹
Dissolved	Analysis	SM 2340B		1	696526	FXG	EET CHI	01/31/23 13:13
Dissolved	Analysis	300.0		2	695991	MM	EET CHI	01/26/23 18:58
Dissolved	Analysis	300.0		1	696145	RES	EET CHI	01/28/23 12:49
Dissolved	Analysis	N07-0003		1	696282	LP	EET CHI	01/30/23 08:58
Dissolved	Analysis	SM 2320B		1	695886	EH	EET CHI	01/26/23 12:16

Client Sample ID: MW-17WT

Date Collected: 01/23/23 11:00

Date Received: 01/24/23 09:30

Lab Sample ID: 500-228520-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	695530	W1T	EET CHI	01/25/23 15:52
Dissolved	Prep	3005A			695780	BDE	EET CHI	01/26/23 08:58 - 01/26/23 09:28 ¹
Dissolved	Analysis	6020B		1	697312	FXG	EET CHI	02/01/23 19:52

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Lab Chronicle

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-228520-3

Date Collected: 01/23/23 11:00

Matrix: Water

Date Received: 01/24/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			695780	BDE	EET CHI	01/26/23 08:58 - 01/26/23 09:28 ¹
Dissolved	Analysis	6020B		1	696005	FXG	EET CHI	01/26/23 17:52
Dissolved	Prep	3005A			695780	BDE	EET CHI	01/26/23 08:58 - 01/26/23 09:28 ¹
Dissolved	Analysis	6020B		1	696481	FXG	EET CHI	01/30/23 20:05
Dissolved	Prep	7470A			695914	MJG	EET CHI	01/26/23 15:55 - 01/26/23 17:55 ¹
Dissolved	Analysis	7470A		1	696041	MJG	EET CHI	01/27/23 08:27
Dissolved	Prep	3005A			695558	BDE	EET CHI	01/25/23 08:45 - 01/25/23 09:15 ¹
Dissolved	Analysis	SM 2340B		1	696526	FXG	EET CHI	01/31/23 13:13
Dissolved	Analysis	300.0		2	695991	MM	EET CHI	01/26/23 19:11
Dissolved	Analysis	300.0		1	696145	RES	EET CHI	01/28/23 12:37
Dissolved	Analysis	N07-0003		1	696282	LP	EET CHI	01/30/23 09:00
Dissolved	Analysis	SM 2320B		1	696554	EH	EET CHI	01/31/23 12:14

Client Sample ID: Trip Blank-VOC

Lab Sample ID: 500-228520-4

Date Collected: 01/23/23 00:00

Matrix: Water

Date Received: 01/24/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	695530	W1T	EET CHI	01/25/23 14:07

¹ Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-228520-1

Laboratory: Eurofins Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-23

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

2417 Bond Street
University Park IL 60484
Phone (708) 534-5200

* Please Forward
Copy of Report to

Chain of Custody Record

Veronica Arancibia: varanda@sehinc.com



Environment Testing
America



Client Information		Sampler Veronica Aranda , SEH Inc.	Lab PM Fredrick Sandie			
Client Contact Stacie Sanborn		Phone 715-933-2351	E-Mail Sandra.Frednick@et.eurolinsus.com			
Company Vernon County Solid Waste & Recycling		PWSID	Carrier 500-228520 COC			
Address		Analysis Requested				
City:	Due Date Requested					
State Zip	TAT Requested (days)					
Phone	Compliance Project: Δ Yes Δ No					
Email	PO #:					
Project Name	WO #:					
Site	Project # -50020572-					
	SSOW#:					
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab) BT=Tissue, A=Air	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Total Number of containers	Special Instructions/Note
MW-14WT	11/23/23	8:00	G	Water	X X X X X X X X X X	
MW-16	11/23/23	9:00	G	Water	X X X X X X X X X X	
MW-17WT	11/23/23	11:00	G	Water	X X X X X X X X X X	
				Water		
				Water		
drip tank-VOC				Water		
				Water		
				Water		
				Water		
				Water		
				Water		
				Water		
				Water		
				Water		
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological					☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months	
Deliverable Requested I II III IV Other (specify)					Special Instructions/QC Requirements	
Empty Kit Relinquished by		Date	Time		Method of Shipment: <i>Cooler Ice</i>	
Relinquished by <i>[Signature]</i>	Date/Time 11/23/2023	Company <i>SEH Inc.</i>	Received by <i>Stephanie Hernandez</i>	Date/Time 11/24/23 0930	Company <i>EE TA</i>	
Relinquished by	Date/Time	Company	Received by	Date/Time	Company	
Relinquished by	Date/Time	Company	Received by	Date/Time	Company	
Custody Seals Intact. ☒ Yes Δ No			Custody Seal No <i>2110904</i>			
			Cooler Temperature(s) °C and Other Remarks <i>-0.3+-0.5</i>			

	MW-14WT	MW-16	MW-17WT
<u>Baseline/Detection</u>			
Alkalinity	x	x	x
Chloride	x	x	x
Hardness	x	x	x
Field Cond (FIELD)	x	x	x
pH (FIELD)	x	x	x
Temp (FIELD)	x	x	x
<u>Public Welfare</u>			
Copper	x	x	x
Manganese	x	x	x
Sulfate	x	x	x
Zinc	x	x	x
<u>Public Health</u>			
Arsenic	x	x	x
Barium	x	x	x
Cadmium	x	x	x
Chromium	x	x	x
Flouride	x	x	x
Lead	x	x	x
Mercury	x	x	x
N+N	x	x	x
Selenium	x	x	x
Silver	x	x	x
Boron	x	x	x
<u>Subtitle D Well Background</u>			
Antimony			x
Beryllium			x
Cobalt			x
Nickel			x
Thalium			x
Vanadium			x
VOCs (8260)	x	x	x

Sandra Fredrick

From: Brian Kent <bkent@sehinc.com>
Sent: Tuesday, January 24, 2023 3:27 PM
To: Sandra Fredrick; Stacie Sanborn; Veronica Aranda
Subject: RE: Eurofins Chicago Sample Login Confirmation files from 500-228520 Vernon County Landfill Expansion
Attachments: Baseline Sampling Requirements_Jan 23.xlsx

EXTERNAL EMAIL*

Sandie- please see attached spreadsheet with a summary of required parameters for each well. It appears that Veronica had requested that MW-16 have the extended subtitle D baseline parameters. **NOTE** it should be MW-17WT with the extended metals list per the attached spreadsheet. Please correct. Also, please note the VOC8260 list will likely need to be expanded to include the parameters listed below. Also, please confirm the metals (6020B) is the method with lower detection limit. We need to make sure the LOD/LOQ are above the applicable water standards. Thanks.

Chapter NR 507

APPENDIX III

VOLATILE ORGANIC COMPOUNDS FOR DETECTION MONITORING¹ AT MUNICIPAL SOLID WASTE LANDFILLS

Common name ²	CAS RN ³	Synonyms
Acetone ¹	67-64-1	2-Propanone
Benzene	71-43-2	
Bromodichloromethane	75-27-4	Dichlorobromomethane
Bromoform	75-25-2	Tribromomethane
Carbon disulfide ¹	75-15-0	
Carbon tetrachloride	56-23-5	Tetrachloromethane
Chlorobenzene	108-90-7	Monochlorobenzene
Chloroethane	75-00-3	Ethyl chloride
Chloroform	67-66-3	Trichloromethane
Dibromochloromethane	124-48-1	Chlorodibromomethane
1,2-Dibromo-3-chloropropane	96-12-8	DBCP
1,2-Dibromoethane	106-93-4	EDB; Ethylene dibromide
o-Dichlorobenzene	95-50-1	1,2-Dichlorobenzene
m-Dichlorobenzene	541-73-1	1,3-Dichlorobenzene
p-Dichlorobenzene	106-46-7	1,4-Dichlorobenzene
Dichlorodifluoromethane	75-71-8	Piccon 12, Difluorodichloromethane
1,1-Dichloroethane	75-34-3	
1,2-Dichloroethane	107-06-2	Ethylene dichloride
1,1-Dichloroethylene	75-35-4	Vinylidene chloride
cis-1,2-Dichloroethylene	156-59-2	cis-1,2-Dichloroethene
trans-1,2-Dichloroethylene	156-60-5	trans-1,2-Dichloroethene
1,2-Dichloropropane	78-87-5	
cis-1,3-Dichloropropylene	10061-01-5	cis-1,3-Dichloropropene, Z-Dichloropropylene
trans-1,3-Dichloropropylene	10061-02-6	trans-1,3-Dichloropropene, E-Dichloropropylene
Ethylbenzene	100-41-4	
Methyl bromide	74-83-9	Bromomethane
Methyl chloride	74-87-3	Chloromethane
Methylene bromide	74-95-3	Dibromomethane
Methylene chloride	75-09-2	Dichloromethane
Methyl ethyl ketone ¹	78-93-3	2-Butanone; MEK
Methyl tert-butyl ether	1634-04-4	MTBE
Naphthalene	91-20-3	
Styrene	100-42-5	Ethynylbenzene
Tetrachloroethylene	127-18-4	Perchloroethylene; Tetrachloroethene; PCE

Common name ²	CAS RN ³	Synonyms
Tetrahydrofuran ¹	109-99-9	THF
Toluene	108-88-3	Methylbenzene
1,1,1-Trichloroethane	71-55-6	Methylchloroform
1,1,2-Trichloroethane	79-00-5	
Trichloroethylene	79-01-6	Trichloroethene; TCE
Trichlorofluoromethane	75-69-4	Fluorotrichloromethane, Freon 11
Vinyl chloride	75-01-4	Chloroethene
Xylene (total) [see note 4]	1330-20-7	Dimethylbenzene

¹ Includes the individual Volatile Organic Compounds (VOCs) necessary when a VOC scan is required under ch. NR 507. Acetone, Carbon disulfide, Methyl ethyl ketone, and Tetrahydrofuran are exempted if EPA Method 8021 is used for the analysis.

² Common names are those widely used in government regulations, scientific publications and commerce; synonyms exist for many chemicals.

³ Chemical Abstracts Service registry number.

⁴ Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7).

Note: Wisconsin DNR GEMS parameter numbers for the substances listed in ch. NR 507 Appendix III can be found at <http://www.dnr.wi.gov/org/aw/wm/monitor/>.

Brian L. Kent, CHMM
Principal, Project Manager
Short Elliott Hendrickson Inc.
715.456.4621 mobile | 608.498.4844 direct

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From: Sandie Fredrick <Sandra.Fredrick@et.eurofinsus.com>

Sent: Tuesday, January 24, 2023 2:46 PM

To: Brian Kent <bkent@sehinc.com>; Stacie Sanborn <stacie.sanborn@vernoncounty.org>; Veronica Aranda <varanda@sehinc.com>

Subject: Eurofins Chicago Sample Login Confirmation files from 500-228520 Vernon County Landfill Expansion

Hello V - please definitely review this one - want to make sure we have what you need logged...

Some filtered - some not etc.

Thanks
Sandie

Attached, please find the Sample Confirmation files for job 500-228520; Vernon County Landfill Expansion

Please feel free to contact me if you have any questions.

Thank you.

Sandie Fredrick
Project Manager

Eurofins Chicago
Phone: 920-261-1660

E-mail: Sandra.Fredrick@et.eurofinsus.com
www.eurofinsus.com/env



Reference: [500-700451]
Attachments: 3

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ORIGIN ID:RRLA (715) 933-2351
VERONICA ARANDA
SHORT ELLIOT HENDRICKSON
10 NORTH BRIGDE ST.

CHIPPEWA FALLS, WI 54729
UNITED STATES US

SHIP DATE: 09DEC22
ACTWGT: 25.00 LB MAN
CAD: 0269688/CAFE3616



500-228520 Waybi

TO **SAMPLE RECEIPT**
EUROFINS
2417 BOND ST.

57773/0487/439

UNIVERSITY PARK IL 60484

(262) 202-5865

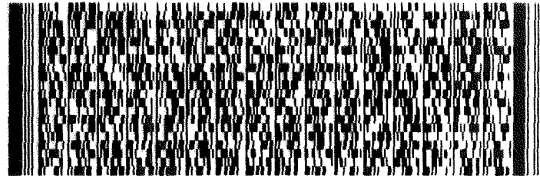
REF:

INU:

PO:

DEPT:

RMA: 011 0001 000



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48Q

Login Sample Receipt Checklist

Client: Vernon County Solid Waste & Recycling

Job Number: 500-228520-1

Login Number: 228520

List Source: Eurofins Chicago

List Number: 1

Creator: Hernandez, Stephanie

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	-0.5 Samples not frozen
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.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Stacie Sanborn
Vernon County Solid Waste & Recycling
S3705 County Road LF
Viroqua, Wisconsin 54665

Generated 3/16/2023 5:05:34 PM

JOB DESCRIPTION

Vernon County Landfill Expansion

JOB NUMBER

500-230147-1

Eurofins Chicago

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing North Central, LLC and its client. All questions regarding this report should be directed to the Eurofins Environment Testing North Central, LLC Project Manager who has signed this report.

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 Chicago Project Manager.

Authorization



Generated
3/16/2023 5:05:34 PM

Authorized for release by
Jodie Bracken, Project Management Assistant II
Jodie.Bracken@et.eurofinsus.com
Designee for
Sandie Fredrick, Project Manager II
Sandra.Fredrick@et.eurofinsus.com
(920)261-1660

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Case Narrative

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Job ID: 500-230147-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-230147-1

Comments

No additional comments.

Receipt

The samples were received on 3/2/2023 10:30 AM. 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 was 5.4° C.

GC/MS VOA

Methods 624.1, 8260B: Methylene chloride was detected in the following items: Trip Blank (500-230147-3). Methylene chloride is a known lab contaminant; therefore all low level detects for this compound could be suspected as lab contamination.

Method 8260B: The laboratory control sample (LCS) for analytical batch 500-701394 recovered outside control limits for the following analytes: 1,1,1-Trichloroethane and Bromomethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. MW-14WT (500-230147-1), MW-16 (500-230147-2) and Trip Blank (500-230147-3)

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

Metals

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

Field Service / Mobile Lab

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

General Chemistry

Method N07-0003: The prior continuing calibration verification (CCV) associated with batch 500-701264 recovered below the lower control limit at 89% recovery. The following continuing calibration verification (CCV) recovered within the acceptable control limit at 92% recovery. The associated Method Blank and Laboratory Control Sample were within control limits; therefore, the MB and LCS were qualified and reported.

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

Detection Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-230147-1

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.6		1.0	0.23	ug/L	1		6020B	Dissolved
Barium	92.4		2.5	0.73	ug/L	1		6020B	Dissolved
Beryllium	0.86	J	1.0	0.53	ug/L	1		6020B	Dissolved
Cadmium	0.23	J B	0.50	0.17	ug/L	1		6020B	Dissolved
Chromium	16.5		5.0	1.1	ug/L	1		6020B	Dissolved
Cobalt	4.1		1.0	0.40	ug/L	1		6020B	Dissolved
Copper	14.9	B	2.0	0.50	ug/L	1		6020B	Dissolved
Lead	5.1	B	0.50	0.19	ug/L	1		6020B	Dissolved
Manganese	759		2.5	0.79	ug/L	1		6020B	Dissolved
Nickel	12.1		2.0	0.63	ug/L	1		6020B	Dissolved
Vanadium	27.8		5.0	2.2	ug/L	1		6020B	Dissolved
Zinc	25.6		20.0	6.9	ug/L	1		6020B	Dissolved
Hardness as calcium carbonate	227		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Chloride	4.4		1.0	0.12	mg/L	1		300.0	Dissolved
Fluoride	0.24	J	1.0	0.19	mg/L	1		300.0	Dissolved
Sulfate	3.2		1.0	0.21	mg/L	1		300.0	Dissolved
Nitrate Nitrite as N	0.28		0.10	0.041	mg/L	1		N07-0003	Dissolved
Alkalinity	222		5.0	3.7	mg/L	1		SM 2320B	Dissolved

Client Sample ID: MW-16

Lab Sample ID: 500-230147-2

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Barium	63.3		2.5	0.73	ug/L	1		6020B	Dissolved
Boron	13.1	J	50.0	12.7	ug/L	1		6020B	Dissolved
Copper	1.1	J B	2.0	0.50	ug/L	1		6020B	Dissolved
Manganese	3.8		2.5	0.79	ug/L	1		6020B	Dissolved
Hardness as calcium carbonate	386		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Chloride	5.1		1.0	0.12	mg/L	1		300.0	Dissolved
Fluoride	0.22	J	1.0	0.19	mg/L	1		300.0	Dissolved
Sulfate	15.6		1.0	0.21	mg/L	1		300.0	Dissolved
Nitrate Nitrite as N	1.0		0.10	0.041	mg/L	1		N07-0003	Dissolved
Alkalinity	381		5.0	3.7	mg/L	1		SM 2320B	Dissolved

Client Sample ID: Trip Blank

Lab Sample ID: 500-230147-3

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	1.6	J	5.0	1.6	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Method Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	EET CHI
6020B	Metals (ICP/MS)	SW846	EET CHI
7470A	Mercury (CVAA)	SW846	EET CHI
SM 2340B	Total Hardness (as CaCO ₃) by calculation	SM	EET CHI
300.0	Anions, Ion Chromatography	EPA	EET CHI
N07-0003	Enzymatic Nitrate-Nitrite Nitrogen	EPA	EET CHI
SM 2320B	Alkalinity	SM	EET CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CHI
5030B	Purge and Trap	SW846	EET CHI
7470A	Preparation, Mercury	SW846	EET CHI

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-230147-1	MW-14WT	Water	03/01/23 08:00	03/02/23 10:30
500-230147-2	MW-16	Water	03/01/23 09:00	03/02/23 10:30
500-230147-3	Trip Blank	Water	03/01/23 00:00	03/02/23 10:30

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-230147-1

Date Collected: 03/01/23 08:00

Matrix: Water

Date Received: 03/02/23 10:30

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			03/07/23 16:19	1
Bromobenzene	<0.36		1.0	0.36	ug/L			03/07/23 16:19	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			03/07/23 16:19	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			03/07/23 16:19	1
Bromoform	<0.48		1.0	0.48	ug/L			03/07/23 16:19	1
Bromomethane	<0.80 *		3.0	0.80	ug/L			03/07/23 16:19	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			03/07/23 16:19	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			03/07/23 16:19	1
Chloroethane	<0.51		1.0	0.51	ug/L			03/07/23 16:19	1
Chloroform	<0.37		2.0	0.37	ug/L			03/07/23 16:19	1
Chloromethane	<0.32		1.0	0.32	ug/L			03/07/23 16:19	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			03/07/23 16:19	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			03/07/23 16:19	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			03/07/23 16:19	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			03/07/23 16:19	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			03/07/23 16:19	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			03/07/23 16:19	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			03/07/23 16:19	1
Dibromomethane	<0.27		1.0	0.27	ug/L			03/07/23 16:19	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			03/07/23 16:19	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			03/07/23 16:19	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			03/07/23 16:19	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			03/07/23 16:19	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			03/07/23 16:19	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			03/07/23 16:19	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			03/07/23 16:19	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			03/07/23 16:19	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			03/07/23 16:19	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			03/07/23 16:19	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			03/07/23 16:19	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			03/07/23 16:19	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			03/07/23 16:19	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			03/07/23 16:19	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			03/07/23 16:19	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			03/07/23 16:19	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			03/07/23 16:19	1
Naphthalene	<0.34		1.0	0.34	ug/L			03/07/23 16:19	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			03/07/23 16:19	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			03/07/23 16:19	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			03/07/23 16:19	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			03/07/23 16:19	1
Styrene	<0.39		1.0	0.39	ug/L			03/07/23 16:19	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			03/07/23 16:19	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			03/07/23 16:19	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			03/07/23 16:19	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			03/07/23 16:19	1
Toluene	<0.15		0.50	0.15	ug/L			03/07/23 16:19	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			03/07/23 16:19	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			03/07/23 16:19	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-230147-1

Date Collected: 03/01/23 08:00

Matrix: Water

Date Received: 03/02/23 10:30

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			03/07/23 16:19	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			03/07/23 16:19	1
1,1,1-Trichloroethane	<0.38	*	1.0	0.38	ug/L			03/07/23 16:19	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			03/07/23 16:19	1
Trichloroethene	<0.16		0.50	0.16	ug/L			03/07/23 16:19	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			03/07/23 16:19	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			03/07/23 16:19	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			03/07/23 16:19	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			03/07/23 16:19	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			03/07/23 16:19	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			03/07/23 16:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		72 - 124		03/07/23 16:19	1
Dibromofluoromethane (Surr)	106		75 - 120		03/07/23 16:19	1
1,2-Dichloroethane-d4 (Surr)	100		75 - 126		03/07/23 16:19	1
Toluene-d8 (Surr)	86		75 - 120		03/07/23 16:19	1

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.3		3.0	1.3	ug/L		03/06/23 15:41	03/07/23 19:20	1
Arsenic	2.6		1.0	0.23	ug/L		03/06/23 15:41	03/07/23 19:20	1
Barium	92.4		2.5	0.73	ug/L		03/06/23 15:41	03/07/23 19:20	1
Beryllium	0.86	J	1.0	0.53	ug/L		03/06/23 15:41	03/08/23 18:37	1
Boron	<12.7		50.0	12.7	ug/L		03/06/23 15:41	03/08/23 18:37	1
Cadmium	0.23	J B	0.50	0.17	ug/L		03/06/23 15:41	03/08/23 18:37	1
Chromium	16.5		5.0	1.1	ug/L		03/06/23 15:41	03/07/23 19:20	1
Cobalt	4.1		1.0	0.40	ug/L		03/06/23 15:41	03/07/23 19:20	1
Copper	14.9	B	2.0	0.50	ug/L		03/06/23 15:41	03/07/23 19:20	1
Lead	5.1	B	0.50	0.19	ug/L		03/06/23 15:41	03/08/23 18:37	1
Manganese	759		2.5	0.79	ug/L		03/06/23 15:41	03/07/23 19:20	1
Nickel	12.1		2.0	0.63	ug/L		03/06/23 15:41	03/07/23 19:20	1
Selenium	<0.98		2.5	0.98	ug/L		03/06/23 15:41	03/08/23 18:37	1
Silver	<0.12		0.50	0.12	ug/L		03/06/23 15:41	03/07/23 19:20	1
Thallium	<0.57		2.0	0.57	ug/L		03/06/23 15:41	03/07/23 19:20	1
Vanadium	27.8		5.0	2.2	ug/L		03/06/23 15:41	03/07/23 19:20	1
Zinc	25.6		20.0	6.9	ug/L		03/06/23 15:41	03/07/23 19:20	1

Method: SW846 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.079		0.20	0.079	ug/L		03/07/23 11:05	03/08/23 10:44	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	227		0.91	0.46	mg/L		03/06/23 15:41	03/09/23 10:06	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	4.4		1.0	0.12	mg/L			03/03/23 15:13	1
Fluoride (EPA 300.0)	0.24	J	1.0	0.19	mg/L			03/03/23 15:13	1
Sulfate (EPA 300.0)	3.2		1.0	0.21	mg/L			03/03/23 15:13	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-230147-1

Date Collected: 03/01/23 08:00

Matrix: Water

Date Received: 03/02/23 10:30

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA N07-0003)	0.28		0.10	0.041	mg/L			03/06/23 10:20	1
Alkalinity (SM 2320B)	222		5.0	3.7	mg/L			03/07/23 15:23	1

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Client Sample ID: MW-16

Lab Sample ID: 500-230147-2

Date Collected: 03/01/23 09:00

Matrix: Water

Date Received: 03/02/23 10:30

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			03/07/23 16:43	1
Bromobenzene	<0.36		1.0	0.36	ug/L			03/07/23 16:43	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			03/07/23 16:43	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			03/07/23 16:43	1
Bromoform	<0.48		1.0	0.48	ug/L			03/07/23 16:43	1
Bromomethane	<0.80 *		3.0	0.80	ug/L			03/07/23 16:43	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			03/07/23 16:43	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			03/07/23 16:43	1
Chloroethane	<0.51		1.0	0.51	ug/L			03/07/23 16:43	1
Chloroform	<0.37		2.0	0.37	ug/L			03/07/23 16:43	1
Chloromethane	<0.32		1.0	0.32	ug/L			03/07/23 16:43	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			03/07/23 16:43	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			03/07/23 16:43	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			03/07/23 16:43	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			03/07/23 16:43	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			03/07/23 16:43	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			03/07/23 16:43	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			03/07/23 16:43	1
Dibromomethane	<0.27		1.0	0.27	ug/L			03/07/23 16:43	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			03/07/23 16:43	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			03/07/23 16:43	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			03/07/23 16:43	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			03/07/23 16:43	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			03/07/23 16:43	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			03/07/23 16:43	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			03/07/23 16:43	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			03/07/23 16:43	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			03/07/23 16:43	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			03/07/23 16:43	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			03/07/23 16:43	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			03/07/23 16:43	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			03/07/23 16:43	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			03/07/23 16:43	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			03/07/23 16:43	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			03/07/23 16:43	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			03/07/23 16:43	1
Naphthalene	<0.34		1.0	0.34	ug/L			03/07/23 16:43	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			03/07/23 16:43	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			03/07/23 16:43	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			03/07/23 16:43	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			03/07/23 16:43	1
Styrene	<0.39		1.0	0.39	ug/L			03/07/23 16:43	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			03/07/23 16:43	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			03/07/23 16:43	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			03/07/23 16:43	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			03/07/23 16:43	1
Toluene	<0.15		0.50	0.15	ug/L			03/07/23 16:43	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			03/07/23 16:43	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			03/07/23 16:43	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Client Sample ID: MW-16

Lab Sample ID: 500-230147-2

Date Collected: 03/01/23 09:00

Matrix: Water

Date Received: 03/02/23 10:30

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			03/07/23 16:43	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			03/07/23 16:43	1
1,1,1-Trichloroethane	<0.38	*	1.0	0.38	ug/L			03/07/23 16:43	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			03/07/23 16:43	1
Trichloroethene	<0.16		0.50	0.16	ug/L			03/07/23 16:43	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			03/07/23 16:43	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			03/07/23 16:43	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			03/07/23 16:43	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			03/07/23 16:43	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			03/07/23 16:43	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			03/07/23 16:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		72 - 124		03/07/23 16:43	1
Dibromofluoromethane (Surr)	104		75 - 120		03/07/23 16:43	1
1,2-Dichloroethane-d4 (Surr)	99		75 - 126		03/07/23 16:43	1
Toluene-d8 (Surr)	86		75 - 120		03/07/23 16:43	1

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.3		3.0	1.3	ug/L		03/06/23 15:41	03/07/23 19:23	1
Arsenic	<0.23		1.0	0.23	ug/L		03/06/23 15:41	03/07/23 19:23	1
Barium	63.3		2.5	0.73	ug/L		03/06/23 15:41	03/07/23 19:23	1
Beryllium	<0.53		1.0	0.53	ug/L		03/06/23 15:41	03/08/23 18:41	1
Boron	13.1	J	50.0	12.7	ug/L		03/06/23 15:41	03/08/23 18:41	1
Cadmium	<0.17		0.50	0.17	ug/L		03/06/23 15:41	03/08/23 18:41	1
Chromium	<1.1		5.0	1.1	ug/L		03/06/23 15:41	03/07/23 19:23	1
Cobalt	<0.40		1.0	0.40	ug/L		03/06/23 15:41	03/07/23 19:23	1
Copper	1.1	J B	2.0	0.50	ug/L		03/06/23 15:41	03/07/23 19:23	1
Lead	<0.19		0.50	0.19	ug/L		03/06/23 15:41	03/08/23 18:41	1
Manganese	3.8		2.5	0.79	ug/L		03/06/23 15:41	03/07/23 19:23	1
Nickel	<0.63		2.0	0.63	ug/L		03/06/23 15:41	03/07/23 19:23	1
Selenium	<0.98		2.5	0.98	ug/L		03/06/23 15:41	03/08/23 18:41	1
Silver	<0.12		0.50	0.12	ug/L		03/06/23 15:41	03/07/23 19:23	1
Thallium	<0.57		2.0	0.57	ug/L		03/06/23 15:41	03/07/23 19:23	1
Vanadium	<2.2		5.0	2.2	ug/L		03/06/23 15:41	03/07/23 19:23	1
Zinc	<6.9		20.0	6.9	ug/L		03/06/23 15:41	03/07/23 19:23	1

Method: SW846 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.079		0.20	0.079	ug/L		03/07/23 11:05	03/08/23 10:46	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	386		0.91	0.46	mg/L		03/06/23 15:41	03/09/23 10:06	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	5.1		1.0	0.12	mg/L			03/03/23 15:28	1
Fluoride (EPA 300.0)	0.22	J	1.0	0.19	mg/L			03/03/23 15:28	1
Sulfate (EPA 300.0)	15.6		1.0	0.21	mg/L			03/03/23 15:28	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Client Sample ID: MW-16

Date Collected: 03/01/23 09:00

Date Received: 03/02/23 10:30

Lab Sample ID: 500-230147-2

Matrix: Water

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA N07-0003)	1.0		0.10	0.041	mg/L			03/06/23 10:20	1
Alkalinity (SM 2320B)	381		5.0	3.7	mg/L			03/07/23 15:23	1

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Client Sample ID: Trip Blank

Lab Sample ID: 500-230147-3

Date Collected: 03/01/23 00:00

Matrix: Water

Date Received: 03/02/23 10:30

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			03/07/23 15:55	1
Bromobenzene	<0.36		1.0	0.36	ug/L			03/07/23 15:55	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			03/07/23 15:55	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			03/07/23 15:55	1
Bromoform	<0.48		1.0	0.48	ug/L			03/07/23 15:55	1
Bromomethane	<0.80	*	3.0	0.80	ug/L			03/07/23 15:55	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			03/07/23 15:55	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			03/07/23 15:55	1
Chloroethane	<0.51		1.0	0.51	ug/L			03/07/23 15:55	1
Chloroform	<0.37		2.0	0.37	ug/L			03/07/23 15:55	1
Chloromethane	<0.32		1.0	0.32	ug/L			03/07/23 15:55	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			03/07/23 15:55	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			03/07/23 15:55	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			03/07/23 15:55	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			03/07/23 15:55	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			03/07/23 15:55	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			03/07/23 15:55	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			03/07/23 15:55	1
Dibromomethane	<0.27		1.0	0.27	ug/L			03/07/23 15:55	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			03/07/23 15:55	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			03/07/23 15:55	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			03/07/23 15:55	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			03/07/23 15:55	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			03/07/23 15:55	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			03/07/23 15:55	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			03/07/23 15:55	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			03/07/23 15:55	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			03/07/23 15:55	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			03/07/23 15:55	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			03/07/23 15:55	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			03/07/23 15:55	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			03/07/23 15:55	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			03/07/23 15:55	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			03/07/23 15:55	1
Methylene Chloride	1.6	J	5.0	1.6	ug/L			03/07/23 15:55	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			03/07/23 15:55	1
Naphthalene	<0.34		1.0	0.34	ug/L			03/07/23 15:55	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			03/07/23 15:55	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			03/07/23 15:55	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			03/07/23 15:55	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			03/07/23 15:55	1
Styrene	<0.39		1.0	0.39	ug/L			03/07/23 15:55	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			03/07/23 15:55	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			03/07/23 15:55	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			03/07/23 15:55	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			03/07/23 15:55	1
Toluene	<0.15		0.50	0.15	ug/L			03/07/23 15:55	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			03/07/23 15:55	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			03/07/23 15:55	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Client Sample ID: Trip Blank

Lab Sample ID: 500-230147-3

Date Collected: 03/01/23 00:00

Matrix: Water

Date Received: 03/02/23 10:30

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			03/07/23 15:55	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			03/07/23 15:55	1
1,1,1-Trichloroethane	<0.38	*	1.0	0.38	ug/L			03/07/23 15:55	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			03/07/23 15:55	1
Trichloroethene	<0.16		0.50	0.16	ug/L			03/07/23 15:55	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			03/07/23 15:55	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			03/07/23 15:55	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			03/07/23 15:55	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			03/07/23 15:55	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			03/07/23 15:55	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			03/07/23 15:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		72 - 124		03/07/23 15:55	1
Dibromofluoromethane (Surr)	90		75 - 120		03/07/23 15:55	1
1,2-Dichloroethane-d4 (Surr)	83		75 - 126		03/07/23 15:55	1
Toluene-d8 (Surr)	89		75 - 120		03/07/23 15:55	1

Definitions/Glossary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Reported value was between the limit of detection and the limit of quantitation.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Reported value was between the limit of detection and the limit of quantitation.

General Chemistry

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
J	Reported value was between the limit of detection and the limit of quantitation.

Glossary

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

QC Association Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

GC/MS VOA

Analysis Batch: 701394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-230147-1	MW-14WT	Total/NA	Water	8260B	
500-230147-2	MW-16	Total/NA	Water	8260B	
500-230147-3	Trip Blank	Total/NA	Water	8260B	
MB 500-701394/8	Method Blank	Total/NA	Water	8260B	
LCS 500-701394/9	Lab Control Sample	Total/NA	Water	8260B	

Metals

Prep Batch: 701302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-230147-1	MW-14WT	Dissolved	Water	3005A	
500-230147-2	MW-16	Dissolved	Water	3005A	
MB 500-701302/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-701302/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 701436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-230147-1	MW-14WT	Dissolved	Water	7470A	
500-230147-2	MW-16	Dissolved	Water	7470A	
MB 500-701436/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-701436/13-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 701606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-230147-1	MW-14WT	Dissolved	Water	6020B	701302
500-230147-2	MW-16	Dissolved	Water	6020B	701302
MB 500-701302/1-A	Method Blank	Total Recoverable	Water	6020B	701302
LCS 500-701302/2-A	Lab Control Sample	Total Recoverable	Water	6020B	701302

Analysis Batch: 701622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-230147-1	MW-14WT	Dissolved	Water	7470A	701436
500-230147-2	MW-16	Dissolved	Water	7470A	701436
MB 500-701436/12-A	Method Blank	Total/NA	Water	7470A	701436
LCS 500-701436/13-A	Lab Control Sample	Total/NA	Water	7470A	701436

Analysis Batch: 701771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-230147-1	MW-14WT	Dissolved	Water	6020B	701302
500-230147-2	MW-16	Dissolved	Water	6020B	701302
MB 500-701302/1-A	Method Blank	Total Recoverable	Water	6020B	701302
LCS 500-701302/2-A	Lab Control Sample	Total Recoverable	Water	6020B	701302

Analysis Batch: 701773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-230147-1	MW-14WT	Dissolved	Water	SM 2340B	701302
500-230147-2	MW-16	Dissolved	Water	SM 2340B	701302

QC Association Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

General Chemistry

Analysis Batch: 701132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-230147-1	MW-14WT	Dissolved	Water	300.0	
500-230147-2	MW-16	Dissolved	Water	300.0	
MB 500-701132/3	Method Blank	Total/NA	Water	300.0	
LCS 500-701132/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 701264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-230147-1	MW-14WT	Dissolved	Water	N07-0003	
500-230147-2	MW-16	Dissolved	Water	N07-0003	
MB 500-701264/77	Method Blank	Total/NA	Water	N07-0003	
LCS 500-701264/78	Lab Control Sample	Total/NA	Water	N07-0003	

Analysis Batch: 701519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-230147-1	MW-14WT	Dissolved	Water	SM 2320B	
500-230147-2	MW-16	Dissolved	Water	SM 2320B	
MB 500-701519/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-701519/4	Lab Control Sample	Total/NA	Water	SM 2320B	

Surrogate Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	BFB	DBFM	DCA	TOL
		(72-124)	(75-120)	(75-126)	(75-120)
500-230147-1	MW-14WT	94	106	100	86
500-230147-2	MW-16	93	104	99	86
500-230147-3	Trip Blank	96	90	83	89
LCS 500-701394/9	Lab Control Sample	91	108	89	88
MB 500-701394/8	Method Blank	95	104	95	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-701394/8

Matrix: Water

Analysis Batch: 701394

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			03/07/23 14:37	1
Bromobenzene	<0.36		1.0	0.36	ug/L			03/07/23 14:37	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			03/07/23 14:37	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			03/07/23 14:37	1
Bromoform	<0.48		1.0	0.48	ug/L			03/07/23 14:37	1
Bromomethane	<0.80		3.0	0.80	ug/L			03/07/23 14:37	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			03/07/23 14:37	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			03/07/23 14:37	1
Chloroethane	<0.51		1.0	0.51	ug/L			03/07/23 14:37	1
Chloroform	<0.37		2.0	0.37	ug/L			03/07/23 14:37	1
Chloromethane	<0.32		1.0	0.32	ug/L			03/07/23 14:37	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			03/07/23 14:37	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			03/07/23 14:37	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			03/07/23 14:37	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			03/07/23 14:37	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			03/07/23 14:37	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			03/07/23 14:37	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			03/07/23 14:37	1
Dibromomethane	<0.27		1.0	0.27	ug/L			03/07/23 14:37	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			03/07/23 14:37	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			03/07/23 14:37	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			03/07/23 14:37	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			03/07/23 14:37	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			03/07/23 14:37	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			03/07/23 14:37	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			03/07/23 14:37	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			03/07/23 14:37	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			03/07/23 14:37	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			03/07/23 14:37	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			03/07/23 14:37	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			03/07/23 14:37	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			03/07/23 14:37	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			03/07/23 14:37	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			03/07/23 14:37	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			03/07/23 14:37	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			03/07/23 14:37	1
Naphthalene	<0.34		1.0	0.34	ug/L			03/07/23 14:37	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			03/07/23 14:37	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			03/07/23 14:37	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			03/07/23 14:37	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			03/07/23 14:37	1
Styrene	<0.39		1.0	0.39	ug/L			03/07/23 14:37	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			03/07/23 14:37	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			03/07/23 14:37	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			03/07/23 14:37	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			03/07/23 14:37	1
Toluene	<0.15		0.50	0.15	ug/L			03/07/23 14:37	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			03/07/23 14:37	1

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

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

Lab Sample ID: MB 500-701394/8

Matrix: Water

Analysis Batch: 701394

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			03/07/23 14:37	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			03/07/23 14:37	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			03/07/23 14:37	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			03/07/23 14:37	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			03/07/23 14:37	1
Trichloroethene	<0.16		0.50	0.16	ug/L			03/07/23 14:37	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			03/07/23 14:37	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			03/07/23 14:37	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			03/07/23 14:37	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			03/07/23 14:37	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			03/07/23 14:37	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			03/07/23 14:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		72 - 124		03/07/23 14:37	1
Dibromofluoromethane (Surr)	104		75 - 120		03/07/23 14:37	1
1,2-Dichloroethane-d4 (Surr)	95		75 - 126		03/07/23 14:37	1
Toluene-d8 (Surr)	99		75 - 120		03/07/23 14:37	1

Lab Sample ID: LCS 500-701394/9

Matrix: Water

Analysis Batch: 701394

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	50.0	49.3		ug/L		99	70 - 120
Bromobenzene	50.0	49.6		ug/L		99	70 - 122
Bromochloromethane	50.0	60.8		ug/L		122	65 - 122
Bromodichloromethane	50.0	51.9		ug/L		104	69 - 120
Bromoform	50.0	41.5		ug/L		83	56 - 132
Bromomethane	50.0	85.1	*	ug/L		170	40 - 152
Carbon tetrachloride	50.0	66.1		ug/L		132	59 - 133
Chlorobenzene	50.0	49.8		ug/L		100	70 - 120
Chloroethane	50.0	51.3		ug/L		103	48 - 136
Chloroform	50.0	52.2		ug/L		104	70 - 120
Chloromethane	50.0	50.0		ug/L		100	56 - 152
2-Chlorotoluene	50.0	47.6		ug/L		95	70 - 125
4-Chlorotoluene	50.0	49.1		ug/L		98	68 - 124
cis-1,2-Dichloroethene	50.0	56.8		ug/L		114	70 - 125
cis-1,3-Dichloropropene	50.0	39.3		ug/L		79	64 - 127
Dibromochloromethane	50.0	49.4		ug/L		99	68 - 125
1,2-Dibromo-3-Chloropropane	50.0	37.1		ug/L		74	56 - 123
1,2-Dibromoethane	50.0	47.2		ug/L		94	70 - 125
Dibromomethane	50.0	50.5		ug/L		101	70 - 120
1,2-Dichlorobenzene	50.0	47.0		ug/L		94	70 - 125
1,3-Dichlorobenzene	50.0	48.4		ug/L		97	70 - 125
1,4-Dichlorobenzene	50.0	48.3		ug/L		97	70 - 120
Dichlorodifluoromethane	50.0	47.0		ug/L		94	40 - 159
1,1-Dichloroethane	50.0	46.9		ug/L		94	70 - 125

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

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

Lab Sample ID: LCS 500-701394/9

Matrix: Water

Analysis Batch: 701394

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichloroethane	50.0	43.5		ug/L		87	68 - 127
1,1-Dichloroethene	50.0	58.9		ug/L		118	67 - 122
1,2-Dichloropropane	50.0	47.9		ug/L		96	67 - 130
1,3-Dichloropropane	50.0	44.7		ug/L		89	62 - 136
2,2-Dichloropropane	50.0	60.7		ug/L		121	58 - 139
1,1-Dichloropropene	50.0	50.8		ug/L		102	70 - 121
Ethylbenzene	50.0	44.5		ug/L		89	70 - 123
Hexachlorobutadiene	50.0	45.2		ug/L		90	51 - 150
Isopropylbenzene	50.0	47.1		ug/L		94	70 - 126
Methylene Chloride	50.0	55.7		ug/L		111	69 - 125
Methyl tert-butyl ether	50.0	48.8		ug/L		98	55 - 123
Naphthalene	50.0	35.2		ug/L		70	53 - 144
n-Butylbenzene	50.0	44.8		ug/L		90	68 - 125
N-Propylbenzene	50.0	48.7		ug/L		97	69 - 127
p-Isopropyltoluene	50.0	46.9		ug/L		94	70 - 125
sec-Butylbenzene	50.0	47.4		ug/L		95	70 - 123
Styrene	50.0	46.0		ug/L		92	70 - 120
tert-Butylbenzene	50.0	46.2		ug/L		92	70 - 121
1,1,1,2-Tetrachloroethane	50.0	47.0		ug/L		94	70 - 125
1,1,2,2-Tetrachloroethane	50.0	46.7		ug/L		93	62 - 140
Tetrachloroethene	50.0	49.3		ug/L		99	70 - 128
Toluene	50.0	43.0		ug/L		86	70 - 125
trans-1,2-Dichloroethene	50.0	56.2		ug/L		112	70 - 125
trans-1,3-Dichloropropene	50.0	41.8		ug/L		84	62 - 128
1,2,3-Trichlorobenzene	50.0	35.8		ug/L		72	51 - 145
1,2,4-Trichlorobenzene	50.0	39.5		ug/L		79	57 - 137
1,1,1-Trichloroethane	50.0	62.8	*	ug/L		126	70 - 125
1,1,2-Trichloroethane	50.0	47.4		ug/L		95	71 - 130
Trichloroethene	50.0	49.4		ug/L		99	70 - 125
Trichlorofluoromethane	50.0	55.0		ug/L		110	55 - 128
1,2,3-Trichloropropane	50.0	48.9		ug/L		98	50 - 133
1,2,4-Trimethylbenzene	50.0	46.4		ug/L		93	70 - 123
1,3,5-Trimethylbenzene	50.0	47.1		ug/L		94	70 - 123
Vinyl chloride	50.0	58.5		ug/L		117	64 - 126
Xylenes, Total	100	89.0		ug/L		89	70 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		72 - 124
Dibromofluoromethane (Surr)	108		75 - 120
1,2-Dichloroethane-d4 (Surr)	89		75 - 126
Toluene-d8 (Surr)	88		75 - 120

QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 500-701302/1-A

Matrix: Water

Analysis Batch: 701606

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 701302

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.3		3.0	1.3	ug/L		03/06/23 15:41	03/07/23 19:13	1
Arsenic	<0.23		1.0	0.23	ug/L		03/06/23 15:41	03/07/23 19:13	1
Barium	<0.73		2.5	0.73	ug/L		03/06/23 15:41	03/07/23 19:13	1
Chromium	<1.1		5.0	1.1	ug/L		03/06/23 15:41	03/07/23 19:13	1
Cobalt	<0.40		1.0	0.40	ug/L		03/06/23 15:41	03/07/23 19:13	1
Copper	1.21	J	2.0	0.50	ug/L		03/06/23 15:41	03/07/23 19:13	1
Manganese	<0.79		2.5	0.79	ug/L		03/06/23 15:41	03/07/23 19:13	1
Nickel	<0.63		2.0	0.63	ug/L		03/06/23 15:41	03/07/23 19:13	1
Silver	<0.12		0.50	0.12	ug/L		03/06/23 15:41	03/07/23 19:13	1
Thallium	<0.57		2.0	0.57	ug/L		03/06/23 15:41	03/07/23 19:13	1
Vanadium	<2.2		5.0	2.2	ug/L		03/06/23 15:41	03/07/23 19:13	1
Zinc	<6.9		20.0	6.9	ug/L		03/06/23 15:41	03/07/23 19:13	1

Lab Sample ID: MB 500-701302/1-A

Matrix: Water

Analysis Batch: 701771

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 701302

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.53		1.0	0.53	ug/L		03/06/23 15:41	03/08/23 18:30	1
Boron	<12.7		50.0	12.7	ug/L		03/06/23 15:41	03/08/23 18:30	1
Cadmium	0.212	J	0.50	0.17	ug/L		03/06/23 15:41	03/08/23 18:30	1
Lead	0.241	J	0.50	0.19	ug/L		03/06/23 15:41	03/08/23 18:30	1
Selenium	<0.98		2.5	0.98	ug/L		03/06/23 15:41	03/08/23 18:30	1

Lab Sample ID: LCS 500-701302/2-A

Matrix: Water

Analysis Batch: 701606

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 701302

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	500	508.0		ug/L		102	80 - 120
Arsenic	100	98.22		ug/L		98	80 - 120
Barium	500	510.6		ug/L		102	80 - 120
Chromium	200	210.3		ug/L		105	80 - 120
Cobalt	500	488.6		ug/L		98	80 - 120
Copper	250	254.1		ug/L		102	80 - 120
Manganese	500	532.2		ug/L		106	80 - 120
Nickel	500	503.1		ug/L		101	80 - 120
Silver	50.0	51.63		ug/L		103	80 - 120
Thallium	100	105.2		ug/L		105	80 - 120
Vanadium	500	519.0		ug/L		104	80 - 120
Zinc	500	516.2		ug/L		103	80 - 120

Lab Sample ID: LCS 500-701302/2-A

Matrix: Water

Analysis Batch: 701771

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 701302

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	50.0	52.16		ug/L		104	80 - 120
Boron	1000	1019		ug/L		102	80 - 120

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

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

Lab Sample ID: LCS 500-701302/2-A

Matrix: Water

Analysis Batch: 701771

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 701302

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	50.0	52.79		ug/L		106	80 - 120
Lead	100	110.0		ug/L		110	80 - 120
Selenium	100	101.3		ug/L		101	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-701436/12-A

Matrix: Water

Analysis Batch: 701622

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 701436

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.079		0.20	0.079	ug/L		03/07/23 11:05	03/08/23 10:09	1

Lab Sample ID: LCS 500-701436/13-A

Matrix: Water

Analysis Batch: 701622

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 701436

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.98	1.98		ug/L		100	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 500-701132/3

Matrix: Water

Analysis Batch: 701132

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.12		1.0	0.12	mg/L			03/03/23 11:40	1
Fluoride	<0.19		1.0	0.19	mg/L			03/03/23 11:40	1
Sulfate	<0.21		1.0	0.21	mg/L			03/03/23 11:40	1

Lab Sample ID: LCS 500-701132/4

Matrix: Water

Analysis Batch: 701132

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.33		mg/L		102	90 - 110
Fluoride	20.0	19.91		mg/L		100	90 - 110
Sulfate	20.0	18.85		mg/L		94	90 - 110

Method: N07-0003 - Enzymatic Nitrate-Nitrite Nitrogen

Lab Sample ID: MB 500-701264/77

Matrix: Water

Analysis Batch: 701264

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.041	^	0.10	0.041	mg/L			03/06/23 10:17	1

Eurofins Chicago

QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Method: N07-0003 - Enzymatic Nitrate-Nitrite Nitrogen (Continued)

Lab Sample ID: LCS 500-701264/78

Matrix: Water

Analysis Batch: 701264

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1.00	0.946	^	mg/L		95	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 500-701519/3

Matrix: Water

Analysis Batch: 701519

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	<3.7		5.0	3.7	mg/L			03/07/23 15:23	1

Lab Sample ID: LCS 500-701519/4

Matrix: Water

Analysis Batch: 701519

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	102.7		mg/L		103	90 - 110

Lab Chronicle

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Client Sample ID: MW-14WT

Date Collected: 03/01/23 08:00

Date Received: 03/02/23 10:30

Lab Sample ID: 500-230147-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	701394	W1T	EET CHI	03/07/23 16:19
Dissolved	Prep	3005A			701302	RN	EET CHI	03/06/23 15:41 - 03/06/23 16:11 ¹
Dissolved	Analysis	6020B		1	701771	FXG	EET CHI	03/08/23 18:37
Dissolved	Prep	3005A			701302	RN	EET CHI	03/06/23 15:41 - 03/06/23 16:11 ¹
Dissolved	Analysis	6020B		1	701606	FXG	EET CHI	03/07/23 19:20
Dissolved	Prep	7470A			701436	MJG	EET CHI	03/07/23 11:05 - 03/07/23 13:05 ¹
Dissolved	Analysis	7470A		1	701622	MJG	EET CHI	03/08/23 10:44
Dissolved	Prep	3005A			701302	RN	EET CHI	03/06/23 15:41 - 03/06/23 16:11 ¹
Dissolved	Analysis	SM 2340B		1	701773	FXG	EET CHI	03/09/23 10:06
Dissolved	Analysis	300.0		1	701132	MM	EET CHI	03/03/23 15:13
Dissolved	Analysis	N07-0003		1	701264	LP	EET CHI	03/06/23 10:20
Dissolved	Analysis	SM 2320B		1	701519	EH	EET CHI	03/07/23 15:23

Client Sample ID: MW-16

Date Collected: 03/01/23 09:00

Date Received: 03/02/23 10:30

Lab Sample ID: 500-230147-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	701394	W1T	EET CHI	03/07/23 16:43
Dissolved	Prep	3005A			701302	RN	EET CHI	03/06/23 15:41 - 03/06/23 16:11 ¹
Dissolved	Analysis	6020B		1	701771	FXG	EET CHI	03/08/23 18:41
Dissolved	Prep	3005A			701302	RN	EET CHI	03/06/23 15:41 - 03/06/23 16:11 ¹
Dissolved	Analysis	6020B		1	701606	FXG	EET CHI	03/07/23 19:23
Dissolved	Prep	7470A			701436	MJG	EET CHI	03/07/23 11:05 - 03/07/23 13:05 ¹
Dissolved	Analysis	7470A		1	701622	MJG	EET CHI	03/08/23 10:46
Dissolved	Prep	3005A			701302	RN	EET CHI	03/06/23 15:41 - 03/06/23 16:11 ¹
Dissolved	Analysis	SM 2340B		1	701773	FXG	EET CHI	03/09/23 10:06
Dissolved	Analysis	300.0		1	701132	MM	EET CHI	03/03/23 15:28
Dissolved	Analysis	N07-0003		1	701264	LP	EET CHI	03/06/23 10:20
Dissolved	Analysis	SM 2320B		1	701519	EH	EET CHI	03/07/23 15:23

Client Sample ID: Trip Blank

Date Collected: 03/01/23 00:00

Date Received: 03/02/23 10:30

Lab Sample ID: 500-230147-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	701394	W1T	EET CHI	03/07/23 15:55

¹ Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Eurofins Chicago

Accreditation/Certification Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-230147-1

Laboratory: Eurofins Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-23

- 1
- 2
- 3
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- 10
- 11
- 12
- 13
- 14
- 15

* send copy of report to SEH, Inc.

Client Information						Lab PM							Carrier Tracking No(s)																										
Client Contact: Stacie Sanborn						Sampler: Veronica Aranda Phone: 715-933-2351							Fredrick Sandie E-Mail: Sandra.Fredrick@et.eurofinsus.com							COC No. 500-104724-44750 1																			
Company: Vernon County Solid Waste & Recycling						PWSID:							State of Origin:							Page: Page 1 of 1																			
Address:						Due Date Requested:							Analysis Requested							Job # 500-230147																			
City:						TAT Requested (days):														Preservation Codes																			
State Zip:						Compliance Project: Δ Yes Δ No														A HCL M Hexane B NaOH N None C Zn Acetate O AsNaO2 D Nitric Acid P Na2O4S E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G Amchlor S H2SO4 H Ascorbic Acid T TSP Dodecahydrate I Ice U Acetone J DI Water V MCAA K EDTA W pH 4-5 L EDA Y Trizma Z other (specify)																			
Phone:						PO #:														Other:																			
Email:						WO #:																																	
Project Name:						Project #: 50020572																																	
Site:						SSOW#:																																	
Sample Identification						Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water S=solid O=waste/oil, BT=Tissue, A=Air)		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)		SM2340B - Hardness - Diss. (Field Filtered)		2320B Alk Diss (Field Filtered)		300 - Chloride Diss (Field Filtered)		8260B - VOC 9200B		6020A - Cu/Mn/Zn Diss (Field Filtered)		300 Sulfate - Diss (Field Filtered)		6020A, 7470A - Diss. (Field Filtered) [As, Ba, Cd Cr Pb, Se, B Ag] + Hg		300 Fluoride Diss. (Field Filtered)		353.2 - N+N Diss (Field Filtered)		6020A - Sb/Be/Co/Ni/Ti/V - Diss (Field Filtered)		Total Number of containers		Special Instructions/Note	
MW-14 WT						3/1/23		800		g		Water				X		X		X		X		X		X		X		X									
MW-10						3/1/23		900		g		Water				X		X		X		X		X		X		X		X									
[REDACTED]						[REDACTED]		[REDACTED]		[REDACTED]		Water				[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]					
TRIP Blank										VA		Water				VA																							
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500-230147 Waybi

ORIGIN ID:RRLA (715) 933-2351
VERONICA ARANDA
SHORT ELLIOT HENDRICKSON
10 NORTH BRIGDE ST.

CHIPPEWA FALLS, WI 54729
UNITED STATES US

SHIP DATE: 09DEC22
ACTWGT: 25.00 LB MAN
CAD: 0269688/CAFE3616

TO **SAMPLE RECEIPT**
EUROFINS
2417 BOND ST.

UNIVERSITY PARK IL 60484

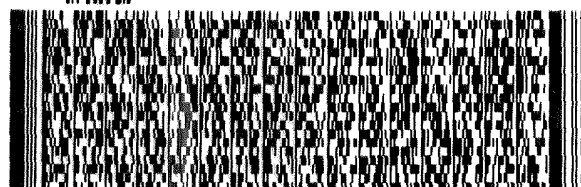
(262) 202-5955

REF :

IND
PO:

DEPT:

RMA. ||| |||| |||



FedEx
Express



199703063001



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RETURNS MON-SAT

PRIORITY OVERNIGHT

THU - 02 MAR AA
PRIORITY OVERNIGHT 484

60484

IL-US
ORD



Mar2023 EAU 581G7/9982/C0B8

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3/16/2023

Login Sample Receipt Checklist

Client: Vernon County Solid Waste & Recycling

Job Number: 500-230147-1

Login Number: 230147

List Number: 1

Creator: Scott, Sherri L

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Stacie Sanborn
Vernon County Solid Waste & Recycling
S3705 County Road LF
Viroqua, Wisconsin 54665

Generated 4/11/2023 5:27:38 PM

JOB DESCRIPTION

Vernon County Landfill Expansion

JOB NUMBER

500-231307-1

Eurofins Chicago

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing North Central, LLC and its client. All questions regarding this report should be directed to the Eurofins Environment Testing North Central, LLC Project Manager who has signed this report.

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 Chicago Project Manager.

Authorization



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Authorized for release by
Sandie Fredrick, Project Manager II
Sandra.Fredrick@et.eurofinsus.com
(920)261-1660

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Case Narrative

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Job ID: 500-231307-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-231307-1

Comments

No additional comments.

Receipt

The samples were received on 3/28/2023 10:10 AM. 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 was 2.1° C.

GC/MS VOA

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

Metals

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

Field Service / Mobile Lab

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

General Chemistry

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

Detection Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-231307-1

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.50	J	1.0	0.23	ug/L	1		6020B	Dissolved
Barium	32.8		2.5	0.73	ug/L	1		6020B	Dissolved
Boron	19.0	J	50.0	12.7	ug/L	1		6020B	Dissolved
Copper	0.62	J	2.0	0.50	ug/L	1		6020B	Dissolved
Manganese	12.2		2.5	0.79	ug/L	1		6020B	Dissolved
Nickel	0.73	J	2.0	0.63	ug/L	1		6020B	Dissolved
Hardness as calcium carbonate	270		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Chloride	4.5		1.0	0.12	mg/L	1		300.0	Dissolved
Fluoride	0.27	J	1.0	0.19	mg/L	1		300.0	Dissolved
Sulfate	5.4		1.0	0.21	mg/L	1		300.0	Dissolved
Nitrate Nitrite as N	0.20		0.10	0.041	mg/L	1		N07-0003	Dissolved
Alkalinity	265		5.0	3.7	mg/L	1		SM 2320B	Dissolved

Client Sample ID: MW-14WT

Lab Sample ID: 500-231307-2

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.0		1.0	0.23	ug/L	1		6020B	Dissolved
Barium	47.4		2.5	0.73	ug/L	1		6020B	Dissolved
Boron	13.4	J	50.0	12.7	ug/L	1		6020B	Dissolved
Chromium	1.4	J	5.0	1.1	ug/L	1		6020B	Dissolved
Copper	1.3	J	2.0	0.50	ug/L	1		6020B	Dissolved
Lead	0.39	J	0.50	0.19	ug/L	1		6020B	Dissolved
Manganese	303		2.5	0.79	ug/L	1		6020B	Dissolved
Hardness as calcium carbonate	234		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Chloride	4.3		1.0	0.12	mg/L	1		300.0	Dissolved
Fluoride	0.28	J	1.0	0.19	mg/L	1		300.0	Dissolved
Sulfate	3.0		1.0	0.21	mg/L	1		300.0	Dissolved
Nitrate Nitrite as N	0.28		0.10	0.041	mg/L	1		N07-0003	Dissolved
Alkalinity	224		5.0	3.7	mg/L	1		SM 2320B	Dissolved

Client Sample ID: MW-16

Lab Sample ID: 500-231307-3

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.61	J	1.0	0.23	ug/L	1		6020B	Dissolved
Barium	61.0		2.5	0.73	ug/L	1		6020B	Dissolved
Boron	19.2	J	50.0	12.7	ug/L	1		6020B	Dissolved
Copper	2.6		2.0	0.50	ug/L	1		6020B	Dissolved
Manganese	5.3		2.5	0.79	ug/L	1		6020B	Dissolved
Hardness as calcium carbonate	355		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Chloride	5.9		1.0	0.12	mg/L	1		300.0	Dissolved
Fluoride	0.27	J	1.0	0.19	mg/L	1		300.0	Dissolved
Sulfate	14.0		1.0	0.21	mg/L	1		300.0	Dissolved
Nitrate Nitrite as N	0.67		0.10	0.041	mg/L	1		N07-0003	Dissolved
Alkalinity	376		5.0	3.7	mg/L	1		SM 2320B	Dissolved

This Detection Summary does not include radiochemical test results.

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Method Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	EET CHI
6020B	Metals (ICP/MS)	SW846	EET CHI
7470A	Mercury (CVAA)	SW846	EET CHI
SM 2340B	Total Hardness (as CaCO ₃) by calculation	SM	EET CHI
300.0	Anions, Ion Chromatography	EPA	EET CHI
N07-0003	Enzymatic Nitrate-Nitrite Nitrogen	EPA	EET CHI
SM 2320B	Alkalinity	SM	EET CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CHI
5030B	Purge and Trap	SW846	EET CHI
7470A	Preparation, Mercury	SW846	EET CHI

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-231307-1	MW-17WT	Water	03/27/23 08:00	03/28/23 10:10
500-231307-2	MW-14WT	Water	03/27/23 10:00	03/28/23 10:10
500-231307-3	MW-16	Water	03/27/23 12:00	03/28/23 10:10

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-231307-1

Date Collected: 03/27/23 08:00

Matrix: Water

Date Received: 03/28/23 10:10

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<1.7		10	1.7	ug/L			04/07/23 19:00	1
Benzene	<0.15		0.50	0.15	ug/L			04/07/23 19:00	1
Bromobenzene	<0.36		1.0	0.36	ug/L			04/07/23 19:00	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			04/07/23 19:00	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			04/07/23 19:00	1
Bromoform	<0.48		1.0	0.48	ug/L			04/07/23 19:00	1
Bromomethane	<0.80		3.0	0.80	ug/L			04/07/23 19:00	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			04/07/23 19:00	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			04/07/23 19:00	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			04/07/23 19:00	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			04/07/23 19:00	1
Chloroethane	<0.51		1.0	0.51	ug/L			04/07/23 19:00	1
Chloroform	<0.37		2.0	0.37	ug/L			04/07/23 19:00	1
Chloromethane	<0.32		1.0	0.32	ug/L			04/07/23 19:00	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			04/07/23 19:00	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			04/07/23 19:00	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			04/07/23 19:00	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			04/07/23 19:00	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			04/07/23 19:00	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			04/07/23 19:00	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			04/07/23 19:00	1
Dibromomethane	<0.27		1.0	0.27	ug/L			04/07/23 19:00	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			04/07/23 19:00	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			04/07/23 19:00	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			04/07/23 19:00	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			04/07/23 19:00	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			04/07/23 19:00	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			04/07/23 19:00	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			04/07/23 19:00	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			04/07/23 19:00	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			04/07/23 19:00	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			04/07/23 19:00	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			04/07/23 19:00	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			04/07/23 19:00	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			04/07/23 19:00	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			04/07/23 19:00	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			04/07/23 19:00	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			04/07/23 19:00	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			04/07/23 19:00	1
Naphthalene	<0.34		1.0	0.34	ug/L			04/07/23 19:00	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			04/07/23 19:00	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			04/07/23 19:00	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			04/07/23 19:00	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			04/07/23 19:00	1
Styrene	<0.39		1.0	0.39	ug/L			04/07/23 19:00	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			04/07/23 19:00	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			04/07/23 19:00	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			04/07/23 19:00	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			04/07/23 19:00	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-231307-1

Date Collected: 03/27/23 08:00

Matrix: Water

Date Received: 03/28/23 10:10

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	<1.9		10	1.9	ug/L			04/07/23 19:00	1
Toluene	<0.15		0.50	0.15	ug/L			04/07/23 19:00	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			04/07/23 19:00	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			04/07/23 19:00	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			04/07/23 19:00	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			04/07/23 19:00	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			04/07/23 19:00	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			04/07/23 19:00	1
Trichloroethene	<0.16		0.50	0.16	ug/L			04/07/23 19:00	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			04/07/23 19:00	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			04/07/23 19:00	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			04/07/23 19:00	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			04/07/23 19:00	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			04/07/23 19:00	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			04/07/23 19:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		72 - 124		04/07/23 19:00	1
Dibromofluoromethane (Surr)	95		75 - 120		04/07/23 19:00	1
1,2-Dichloroethane-d4 (Surr)	98		75 - 126		04/07/23 19:00	1
Toluene-d8 (Surr)	102		75 - 120		04/07/23 19:00	1

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.3		3.0	1.3	ug/L		04/04/23 09:31	04/04/23 18:34	1
Arsenic	0.50	J	1.0	0.23	ug/L		04/04/23 09:31	04/04/23 18:34	1
Barium	32.8		2.5	0.73	ug/L		04/04/23 09:31	04/04/23 18:34	1
Beryllium	<0.53		1.0	0.53	ug/L		04/04/23 09:31	04/04/23 18:34	1
Boron	19.0	J	50.0	12.7	ug/L		04/04/23 09:31	04/04/23 18:34	1
Cadmium	<0.17		0.50	0.17	ug/L		04/04/23 09:31	04/04/23 18:34	1
Chromium	<1.1		5.0	1.1	ug/L		04/04/23 09:31	04/04/23 18:34	1
Cobalt	<0.40		1.0	0.40	ug/L		04/04/23 09:31	04/04/23 18:34	1
Copper	0.62	J	2.0	0.50	ug/L		04/04/23 09:31	04/04/23 18:34	1
Lead	<0.19		0.50	0.19	ug/L		04/04/23 09:31	04/04/23 18:34	1
Manganese	12.2		2.5	0.79	ug/L		04/04/23 09:31	04/04/23 18:34	1
Nickel	0.73	J	2.0	0.63	ug/L		04/04/23 09:31	04/04/23 18:34	1
Selenium	<0.98		2.5	0.98	ug/L		04/04/23 09:31	04/04/23 18:34	1
Silver	<0.12		0.50	0.12	ug/L		04/04/23 09:31	04/04/23 18:34	1
Thallium	<0.57		2.0	0.57	ug/L		04/04/23 09:31	04/04/23 18:34	1
Vanadium	<2.2		5.0	2.2	ug/L		04/04/23 09:31	04/05/23 15:35	1
Zinc	<6.9		20.0	6.9	ug/L		04/04/23 09:31	04/04/23 18:34	1

Method: SW846 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.079		0.20	0.079	ug/L		04/03/23 14:55	04/04/23 07:45	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	270		0.91	0.46	mg/L		04/04/23 09:31	04/05/23 16:24	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-231307-1

Date Collected: 03/27/23 08:00

Matrix: Water

Date Received: 03/28/23 10:10

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	4.5		1.0	0.12	mg/L			03/29/23 17:08	1
Fluoride (EPA 300.0)	0.27	J	1.0	0.19	mg/L			03/29/23 17:08	1
Sulfate (EPA 300.0)	5.4		1.0	0.21	mg/L			03/29/23 17:08	1
Nitrate Nitrite as N (EPA N07-0003)	0.20		0.10	0.041	mg/L			04/03/23 10:06	1
Alkalinity (SM 2320B)	265		5.0	3.7	mg/L			03/30/23 15:13	1

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-231307-2

Date Collected: 03/27/23 10:00

Matrix: Water

Date Received: 03/28/23 10:10

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<1.7		10	1.7	ug/L			04/07/23 19:23	1
Benzene	<0.15		0.50	0.15	ug/L			04/07/23 19:23	1
Bromobenzene	<0.36		1.0	0.36	ug/L			04/07/23 19:23	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			04/07/23 19:23	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			04/07/23 19:23	1
Bromoform	<0.48		1.0	0.48	ug/L			04/07/23 19:23	1
Bromomethane	<0.80		3.0	0.80	ug/L			04/07/23 19:23	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			04/07/23 19:23	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			04/07/23 19:23	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			04/07/23 19:23	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			04/07/23 19:23	1
Chloroethane	<0.51		1.0	0.51	ug/L			04/07/23 19:23	1
Chloroform	<0.37		2.0	0.37	ug/L			04/07/23 19:23	1
Chloromethane	<0.32		1.0	0.32	ug/L			04/07/23 19:23	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			04/07/23 19:23	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			04/07/23 19:23	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			04/07/23 19:23	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			04/07/23 19:23	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			04/07/23 19:23	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			04/07/23 19:23	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			04/07/23 19:23	1
Dibromomethane	<0.27		1.0	0.27	ug/L			04/07/23 19:23	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			04/07/23 19:23	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			04/07/23 19:23	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			04/07/23 19:23	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			04/07/23 19:23	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			04/07/23 19:23	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			04/07/23 19:23	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			04/07/23 19:23	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			04/07/23 19:23	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			04/07/23 19:23	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			04/07/23 19:23	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			04/07/23 19:23	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			04/07/23 19:23	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			04/07/23 19:23	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			04/07/23 19:23	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			04/07/23 19:23	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			04/07/23 19:23	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			04/07/23 19:23	1
Naphthalene	<0.34		1.0	0.34	ug/L			04/07/23 19:23	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			04/07/23 19:23	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			04/07/23 19:23	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			04/07/23 19:23	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			04/07/23 19:23	1
Styrene	<0.39		1.0	0.39	ug/L			04/07/23 19:23	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			04/07/23 19:23	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			04/07/23 19:23	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			04/07/23 19:23	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			04/07/23 19:23	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-231307-2

Date Collected: 03/27/23 10:00

Matrix: Water

Date Received: 03/28/23 10:10

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	<1.9		10	1.9	ug/L			04/07/23 19:23	1
Toluene	<0.15		0.50	0.15	ug/L			04/07/23 19:23	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			04/07/23 19:23	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			04/07/23 19:23	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			04/07/23 19:23	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			04/07/23 19:23	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			04/07/23 19:23	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			04/07/23 19:23	1
Trichloroethene	<0.16		0.50	0.16	ug/L			04/07/23 19:23	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			04/07/23 19:23	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			04/07/23 19:23	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			04/07/23 19:23	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			04/07/23 19:23	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			04/07/23 19:23	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			04/07/23 19:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		72 - 124					04/07/23 19:23	1
Dibromofluoromethane (Surr)	96		75 - 120					04/07/23 19:23	1
1,2-Dichloroethane-d4 (Surr)	98		75 - 126					04/07/23 19:23	1
Toluene-d8 (Surr)	102		75 - 120					04/07/23 19:23	1

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.0		1.0	0.23	ug/L		04/04/23 09:31	04/04/23 18:39	1
Barium	47.4		2.5	0.73	ug/L		04/04/23 09:31	04/04/23 18:39	1
Boron	13.4	J	50.0	12.7	ug/L		04/04/23 09:31	04/04/23 18:39	1
Cadmium	<0.17		0.50	0.17	ug/L		04/04/23 09:31	04/04/23 18:39	1
Chromium	1.4	J	5.0	1.1	ug/L		04/04/23 09:31	04/04/23 18:39	1
Copper	1.3	J	2.0	0.50	ug/L		04/04/23 09:31	04/04/23 18:39	1
Lead	0.39	J	0.50	0.19	ug/L		04/04/23 09:31	04/04/23 18:39	1
Manganese	303		2.5	0.79	ug/L		04/04/23 09:31	04/04/23 18:39	1
Selenium	<0.98		2.5	0.98	ug/L		04/04/23 09:31	04/04/23 18:39	1
Silver	<0.12		0.50	0.12	ug/L		04/04/23 09:31	04/04/23 18:39	1
Zinc	<6.9		20.0	6.9	ug/L		04/04/23 09:31	04/04/23 18:39	1

Method: SW846 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.079		0.20	0.079	ug/L		04/03/23 14:55	04/04/23 08:25	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	234		0.91	0.46	mg/L		04/04/23 09:31	04/05/23 16:24	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	4.3		1.0	0.12	mg/L			03/29/23 17:38	1
Fluoride (EPA 300.0)	0.28	J	1.0	0.19	mg/L			03/29/23 17:38	1
Sulfate (EPA 300.0)	3.0		1.0	0.21	mg/L			03/29/23 17:38	1
Nitrate Nitrite as N (EPA N07-0003)	0.28		0.10	0.041	mg/L			04/03/23 10:06	1
Alkalinity (SM 2320B)	224		5.0	3.7	mg/L			03/30/23 15:13	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Client Sample ID: MW-16

Lab Sample ID: 500-231307-3

Date Collected: 03/27/23 12:00

Matrix: Water

Date Received: 03/28/23 10:10

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<1.7		10	1.7	ug/L			04/07/23 19:46	1
Benzene	<0.15		0.50	0.15	ug/L			04/07/23 19:46	1
Bromobenzene	<0.36		1.0	0.36	ug/L			04/07/23 19:46	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			04/07/23 19:46	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			04/07/23 19:46	1
Bromoform	<0.48		1.0	0.48	ug/L			04/07/23 19:46	1
Bromomethane	<0.80		3.0	0.80	ug/L			04/07/23 19:46	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			04/07/23 19:46	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			04/07/23 19:46	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			04/07/23 19:46	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			04/07/23 19:46	1
Chloroethane	<0.51		1.0	0.51	ug/L			04/07/23 19:46	1
Chloroform	<0.37		2.0	0.37	ug/L			04/07/23 19:46	1
Chloromethane	<0.32		1.0	0.32	ug/L			04/07/23 19:46	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			04/07/23 19:46	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			04/07/23 19:46	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			04/07/23 19:46	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			04/07/23 19:46	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			04/07/23 19:46	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			04/07/23 19:46	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			04/07/23 19:46	1
Dibromomethane	<0.27		1.0	0.27	ug/L			04/07/23 19:46	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			04/07/23 19:46	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			04/07/23 19:46	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			04/07/23 19:46	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			04/07/23 19:46	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			04/07/23 19:46	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			04/07/23 19:46	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			04/07/23 19:46	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			04/07/23 19:46	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			04/07/23 19:46	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			04/07/23 19:46	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			04/07/23 19:46	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			04/07/23 19:46	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			04/07/23 19:46	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			04/07/23 19:46	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			04/07/23 19:46	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			04/07/23 19:46	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			04/07/23 19:46	1
Naphthalene	<0.34		1.0	0.34	ug/L			04/07/23 19:46	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			04/07/23 19:46	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			04/07/23 19:46	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			04/07/23 19:46	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			04/07/23 19:46	1
Styrene	<0.39		1.0	0.39	ug/L			04/07/23 19:46	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			04/07/23 19:46	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			04/07/23 19:46	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			04/07/23 19:46	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			04/07/23 19:46	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Client Sample ID: MW-16

Lab Sample ID: 500-231307-3

Date Collected: 03/27/23 12:00

Matrix: Water

Date Received: 03/28/23 10:10

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	<1.9		10	1.9	ug/L			04/07/23 19:46	1
Toluene	<0.15		0.50	0.15	ug/L			04/07/23 19:46	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			04/07/23 19:46	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			04/07/23 19:46	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			04/07/23 19:46	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			04/07/23 19:46	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			04/07/23 19:46	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			04/07/23 19:46	1
Trichloroethene	<0.16		0.50	0.16	ug/L			04/07/23 19:46	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			04/07/23 19:46	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			04/07/23 19:46	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			04/07/23 19:46	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			04/07/23 19:46	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			04/07/23 19:46	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			04/07/23 19:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		72 - 124		04/07/23 19:46	1
Dibromofluoromethane (Surr)	92		75 - 120		04/07/23 19:46	1
1,2-Dichloroethane-d4 (Surr)	99		75 - 126		04/07/23 19:46	1
Toluene-d8 (Surr)	102		75 - 120		04/07/23 19:46	1

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.61	J	1.0	0.23	ug/L		04/04/23 09:31	04/04/23 18:43	1
Barium	61.0		2.5	0.73	ug/L		04/04/23 09:31	04/04/23 18:43	1
Boron	19.2	J	50.0	12.7	ug/L		04/04/23 09:31	04/04/23 18:43	1
Cadmium	<0.17		0.50	0.17	ug/L		04/04/23 09:31	04/04/23 18:43	1
Chromium	<1.1		5.0	1.1	ug/L		04/04/23 09:31	04/04/23 18:43	1
Copper	2.6		2.0	0.50	ug/L		04/04/23 09:31	04/04/23 18:43	1
Lead	<0.19		0.50	0.19	ug/L		04/04/23 09:31	04/04/23 18:43	1
Manganese	5.3		2.5	0.79	ug/L		04/04/23 09:31	04/04/23 18:43	1
Selenium	<0.98		2.5	0.98	ug/L		04/04/23 09:31	04/04/23 18:43	1
Silver	<0.12		0.50	0.12	ug/L		04/04/23 09:31	04/04/23 18:43	1
Zinc	<6.9		20.0	6.9	ug/L		04/04/23 09:31	04/04/23 18:43	1

Method: SW846 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.079		0.20	0.079	ug/L		04/03/23 14:55	04/04/23 08:27	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	355		0.91	0.46	mg/L		04/04/23 09:31	04/05/23 16:24	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	5.9		1.0	0.12	mg/L			03/29/23 17:53	1
Fluoride (EPA 300.0)	0.27	J	1.0	0.19	mg/L			03/29/23 17:53	1
Sulfate (EPA 300.0)	14.0		1.0	0.21	mg/L			03/29/23 17:53	1
Nitrate Nitrite as N (EPA N07-0003)	0.67		0.10	0.041	mg/L			04/03/23 10:08	1
Alkalinity (SM 2320B)	376		5.0	3.7	mg/L			03/30/23 15:13	1

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Definitions/Glossary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Reported value was between the limit of detection and the limit of quantitation.

Metals

Qualifier	Qualifier Description
J	Reported value was between the limit of detection and the limit of quantitation.

General Chemistry

Qualifier	Qualifier Description
J	Reported value was between the limit of detection and the limit of quantitation.

Glossary

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

QC Association Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

GC/MS VOA

Analysis Batch: 706593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-231307-1	MW-17WT	Total/NA	Water	8260B	
500-231307-2	MW-14WT	Total/NA	Water	8260B	
500-231307-3	MW-16	Total/NA	Water	8260B	
MB 500-706593/8	Method Blank	Total/NA	Water	8260B	
LCS 500-706593/6	Lab Control Sample	Total/NA	Water	8260B	

Metals

Prep Batch: 705605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-231307-1	MW-17WT	Dissolved	Water	7470A	
500-231307-2	MW-14WT	Dissolved	Water	7470A	
500-231307-3	MW-16	Dissolved	Water	7470A	
MB 500-705605/13-A	Method Blank	Total/NA	Water	7470A	
LCS 500-705605/12-A	Lab Control Sample	Total/NA	Water	7470A	
500-231307-1 MS	MW-17WT	Dissolved	Water	7470A	
500-231307-1 MSD	MW-17WT	Dissolved	Water	7470A	
500-231307-1 DU	MW-17WT	Dissolved	Water	7470A	

Prep Batch: 705758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-231307-1	MW-17WT	Dissolved	Water	3005A	
500-231307-2	MW-14WT	Dissolved	Water	3005A	
500-231307-3	MW-16	Dissolved	Water	3005A	
MB 500-705758/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-705758/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 705825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-231307-1	MW-17WT	Dissolved	Water	7470A	705605
500-231307-2	MW-14WT	Dissolved	Water	7470A	705605
500-231307-3	MW-16	Dissolved	Water	7470A	705605
MB 500-705605/13-A	Method Blank	Total/NA	Water	7470A	705605
LCS 500-705605/12-A	Lab Control Sample	Total/NA	Water	7470A	705605
500-231307-1 MS	MW-17WT	Dissolved	Water	7470A	705605
500-231307-1 MSD	MW-17WT	Dissolved	Water	7470A	705605
500-231307-1 DU	MW-17WT	Dissolved	Water	7470A	705605

Analysis Batch: 706031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-231307-1	MW-17WT	Dissolved	Water	6020B	705758
500-231307-2	MW-14WT	Dissolved	Water	6020B	705758
500-231307-3	MW-16	Dissolved	Water	6020B	705758
MB 500-705758/1-A	Method Blank	Total Recoverable	Water	6020B	705758
LCS 500-705758/2-A	Lab Control Sample	Total Recoverable	Water	6020B	705758

Analysis Batch: 706109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-231307-1	MW-17WT	Dissolved	Water	6020B	705758
MB 500-705758/1-A	Method Blank	Total Recoverable	Water	6020B	705758
LCS 500-705758/2-A	Lab Control Sample	Total Recoverable	Water	6020B	705758

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QC Association Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Metals

Analysis Batch: 706114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-231307-1	MW-17WT	Dissolved	Water	SM 2340B	705758
500-231307-2	MW-14WT	Dissolved	Water	SM 2340B	705758
500-231307-3	MW-16	Dissolved	Water	SM 2340B	705758

General Chemistry

Analysis Batch: 704802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-231307-1	MW-17WT	Dissolved	Water	300.0	
500-231307-2	MW-14WT	Dissolved	Water	300.0	
500-231307-3	MW-16	Dissolved	Water	300.0	
MB 500-704802/11	Method Blank	Total/NA	Water	300.0	
LCS 500-704802/12	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 705443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-231307-1	MW-17WT	Dissolved	Water	SM 2320B	
500-231307-2	MW-14WT	Dissolved	Water	SM 2320B	
500-231307-3	MW-16	Dissolved	Water	SM 2320B	
MB 500-705443/29	Method Blank	Total/NA	Water	SM 2320B	
MB 500-705443/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-705443/30	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 500-705443/4	Lab Control Sample	Total/NA	Water	SM 2320B	
500-231307-1 DU	MW-17WT	Dissolved	Water	SM 2320B	

Analysis Batch: 705529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-231307-1	MW-17WT	Dissolved	Water	N07-0003	
500-231307-2	MW-14WT	Dissolved	Water	N07-0003	
500-231307-3	MW-16	Dissolved	Water	N07-0003	
MB 500-705529/77	Method Blank	Total/NA	Water	N07-0003	
LCS 500-705529/79	Lab Control Sample	Total/NA	Water	N07-0003	

Surrogate Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	BFB	DBFM	DCA	TOL
		(72-124)	(75-120)	(75-126)	(75-120)
500-231307-1	MW-17WT	107	95	98	102
500-231307-2	MW-14WT	109	96	98	102
500-231307-3	MW-16	109	92	99	102
LCS 500-706593/6	Lab Control Sample	104	98	99	103
MB 500-706593/8	Method Blank	109	95	97	100

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-706593/8

Matrix: Water

Analysis Batch: 706593

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<1.7		10	1.7	ug/L			04/07/23 14:54	1
Benzene	<0.15		0.50	0.15	ug/L			04/07/23 14:54	1
Bromobenzene	<0.36		1.0	0.36	ug/L			04/07/23 14:54	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			04/07/23 14:54	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			04/07/23 14:54	1
Bromoform	0.584	J	1.0	0.48	ug/L			04/07/23 14:54	1
Bromomethane	<0.80		3.0	0.80	ug/L			04/07/23 14:54	1
2-Butanone (MEK)	2.38	J	5.0	2.1	ug/L			04/07/23 14:54	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			04/07/23 14:54	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			04/07/23 14:54	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			04/07/23 14:54	1
Chloroethane	<0.51		1.0	0.51	ug/L			04/07/23 14:54	1
Chloroform	<0.37		2.0	0.37	ug/L			04/07/23 14:54	1
Chloromethane	<0.32		1.0	0.32	ug/L			04/07/23 14:54	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			04/07/23 14:54	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			04/07/23 14:54	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			04/07/23 14:54	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			04/07/23 14:54	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			04/07/23 14:54	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			04/07/23 14:54	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			04/07/23 14:54	1
Dibromomethane	<0.27		1.0	0.27	ug/L			04/07/23 14:54	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			04/07/23 14:54	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			04/07/23 14:54	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			04/07/23 14:54	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			04/07/23 14:54	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			04/07/23 14:54	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			04/07/23 14:54	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			04/07/23 14:54	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			04/07/23 14:54	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			04/07/23 14:54	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			04/07/23 14:54	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			04/07/23 14:54	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			04/07/23 14:54	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			04/07/23 14:54	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			04/07/23 14:54	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			04/07/23 14:54	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			04/07/23 14:54	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			04/07/23 14:54	1
Naphthalene	<0.34		1.0	0.34	ug/L			04/07/23 14:54	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			04/07/23 14:54	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			04/07/23 14:54	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			04/07/23 14:54	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			04/07/23 14:54	1
Styrene	<0.39		1.0	0.39	ug/L			04/07/23 14:54	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			04/07/23 14:54	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			04/07/23 14:54	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			04/07/23 14:54	1

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

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

Lab Sample ID: MB 500-706593/8

Matrix: Water

Analysis Batch: 706593

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.37		1.0	0.37	ug/L			04/07/23 14:54	1
Tetrahydrofuran	<1.9		10	1.9	ug/L			04/07/23 14:54	1
Toluene	<0.15		0.50	0.15	ug/L			04/07/23 14:54	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			04/07/23 14:54	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			04/07/23 14:54	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			04/07/23 14:54	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			04/07/23 14:54	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			04/07/23 14:54	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			04/07/23 14:54	1
Trichloroethene	<0.16		0.50	0.16	ug/L			04/07/23 14:54	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			04/07/23 14:54	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			04/07/23 14:54	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			04/07/23 14:54	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			04/07/23 14:54	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			04/07/23 14:54	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			04/07/23 14:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		72 - 124		04/07/23 14:54	1
Dibromofluoromethane (Surr)	95		75 - 120		04/07/23 14:54	1
1,2-Dichloroethane-d4 (Surr)	97		75 - 126		04/07/23 14:54	1
Toluene-d8 (Surr)	100		75 - 120		04/07/23 14:54	1

Lab Sample ID: LCS 500-706593/6

Matrix: Water

Analysis Batch: 706593

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	50.0	46.5		ug/L		93	40 - 143
Benzene	50.0	50.8		ug/L		102	70 - 120
Bromobenzene	50.0	55.1		ug/L		110	70 - 122
Bromochloromethane	50.0	48.8		ug/L		98	65 - 122
Bromodichloromethane	50.0	50.2		ug/L		100	69 - 120
Bromoform	50.0	49.6		ug/L		99	56 - 132
Bromomethane	50.0	52.1		ug/L		104	40 - 152
2-Butanone (MEK)	50.0	43.9		ug/L		88	46 - 144
Carbon disulfide	50.0	44.8		ug/L		90	66 - 120
Carbon tetrachloride	50.0	48.9		ug/L		98	59 - 133
Chlorobenzene	50.0	51.0		ug/L		102	70 - 120
Chloroethane	50.0	45.1		ug/L		90	48 - 136
Chloroform	50.0	47.7		ug/L		95	70 - 120
Chloromethane	50.0	34.2		ug/L		68	56 - 152
2-Chlorotoluene	50.0	50.2		ug/L		100	70 - 125
4-Chlorotoluene	50.0	51.9		ug/L		104	68 - 124
cis-1,2-Dichloroethene	50.0	49.8		ug/L		100	70 - 125
cis-1,3-Dichloropropene	50.0	51.1		ug/L		102	64 - 127
Dibromochloromethane	50.0	50.4		ug/L		101	68 - 125
1,2-Dibromo-3-Chloropropane	50.0	44.4		ug/L		89	56 - 123

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

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

Lab Sample ID: LCS 500-706593/6

Matrix: Water

Analysis Batch: 706593

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromoethane	50.0	57.2		ug/L		114	70 - 125
Dibromomethane	50.0	53.1		ug/L		106	70 - 120
1,2-Dichlorobenzene	50.0	49.4		ug/L		99	70 - 125
1,3-Dichlorobenzene	50.0	51.5		ug/L		103	70 - 125
1,4-Dichlorobenzene	50.0	51.4		ug/L		103	70 - 120
Dichlorodifluoromethane	50.0	45.0		ug/L		90	40 - 159
1,1-Dichloroethane	50.0	44.1		ug/L		88	70 - 125
1,2-Dichloroethane	50.0	49.6		ug/L		99	68 - 127
1,1-Dichloroethene	50.0	47.8		ug/L		96	67 - 122
1,2-Dichloropropane	50.0	46.9		ug/L		94	67 - 130
1,3-Dichloropropane	50.0	54.1		ug/L		108	62 - 136
2,2-Dichloropropane	50.0	45.5		ug/L		91	58 - 139
1,1-Dichloropropene	50.0	51.5		ug/L		103	70 - 121
Ethylbenzene	50.0	51.5		ug/L		103	70 - 123
Hexachlorobutadiene	50.0	50.4		ug/L		101	51 - 150
Isopropylbenzene	50.0	50.3		ug/L		101	70 - 126
Methylene Chloride	50.0	47.0		ug/L		94	69 - 125
Methyl tert-butyl ether	50.0	46.8		ug/L		94	55 - 123
Naphthalene	50.0	40.8		ug/L		82	53 - 144
n-Butylbenzene	50.0	48.4		ug/L		97	68 - 125
N-Propylbenzene	50.0	51.3		ug/L		103	69 - 127
p-Isopropyltoluene	50.0	47.9		ug/L		96	70 - 125
sec-Butylbenzene	50.0	48.7		ug/L		97	70 - 123
Styrene	50.0	52.5		ug/L		105	70 - 120
tert-Butylbenzene	50.0	49.0		ug/L		98	70 - 121
1,1,1,2-Tetrachloroethane	50.0	47.3		ug/L		95	70 - 125
1,1,2,2-Tetrachloroethane	50.0	53.0		ug/L		106	62 - 140
Tetrachloroethene	50.0	56.8		ug/L		114	70 - 128
Tetrahydrofuran	100	82.2		ug/L		82	59 - 139
Toluene	50.0	51.2		ug/L		102	70 - 125
trans-1,2-Dichloroethene	50.0	48.9		ug/L		98	70 - 125
trans-1,3-Dichloropropene	50.0	53.0		ug/L		106	62 - 128
1,2,3-Trichlorobenzene	50.0	43.5		ug/L		87	51 - 145
1,2,4-Trichlorobenzene	50.0	46.3		ug/L		93	57 - 137
1,1,1-Trichloroethane	50.0	49.7		ug/L		99	70 - 125
1,1,2-Trichloroethane	50.0	54.0		ug/L		108	71 - 130
Trichloroethene	50.0	51.4		ug/L		103	70 - 125
Trichlorofluoromethane	50.0	44.6		ug/L		89	55 - 128
1,2,3-Trichloropropane	50.0	57.6		ug/L		115	50 - 133
1,2,4-Trimethylbenzene	50.0	49.6		ug/L		99	70 - 123
1,3,5-Trimethylbenzene	50.0	49.3		ug/L		99	70 - 123
Vinyl chloride	50.0	46.7		ug/L		93	64 - 126
Xylenes, Total	100	102		ug/L		102	70 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		72 - 124
Dibromofluoromethane (Surr)	98		75 - 120
1,2-Dichloroethane-d4 (Surr)	99		75 - 126

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

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

Lab Sample ID: LCS 500-706593/6

Matrix: Water

Analysis Batch: 706593

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	103		75 - 120

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 500-705758/1-A

Matrix: Water

Analysis Batch: 706031

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 705758

Analyte	MB MB		LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<1.3		3.0	1.3	ug/L		04/04/23 09:31	04/04/23 17:23	1
Arsenic	<0.23		1.0	0.23	ug/L		04/04/23 09:31	04/04/23 17:23	1
Barium	<0.73		2.5	0.73	ug/L		04/04/23 09:31	04/04/23 17:23	1
Beryllium	<0.53		1.0	0.53	ug/L		04/04/23 09:31	04/04/23 17:23	1
Boron	<12.7		50.0	12.7	ug/L		04/04/23 09:31	04/04/23 17:23	1
Cadmium	<0.17		0.50	0.17	ug/L		04/04/23 09:31	04/04/23 17:23	1
Chromium	<1.1		5.0	1.1	ug/L		04/04/23 09:31	04/04/23 17:23	1
Cobalt	<0.40		1.0	0.40	ug/L		04/04/23 09:31	04/04/23 17:23	1
Copper	<0.50		2.0	0.50	ug/L		04/04/23 09:31	04/04/23 17:23	1
Lead	<0.19		0.50	0.19	ug/L		04/04/23 09:31	04/04/23 17:23	1
Manganese	<0.79		2.5	0.79	ug/L		04/04/23 09:31	04/04/23 17:23	1
Nickel	<0.63		2.0	0.63	ug/L		04/04/23 09:31	04/04/23 17:23	1
Selenium	<0.98		2.5	0.98	ug/L		04/04/23 09:31	04/04/23 17:23	1
Silver	<0.12		0.50	0.12	ug/L		04/04/23 09:31	04/04/23 17:23	1
Thallium	<0.57		2.0	0.57	ug/L		04/04/23 09:31	04/04/23 17:23	1
Zinc	<6.9		20.0	6.9	ug/L		04/04/23 09:31	04/04/23 17:23	1

Lab Sample ID: MB 500-705758/1-A

Matrix: Water

Analysis Batch: 706109

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 705758

Analyte	MB MB		LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<1.3		3.0	1.3	ug/L		04/04/23 09:31	04/05/23 15:11	1
Arsenic	<0.23		1.0	0.23	ug/L		04/04/23 09:31	04/05/23 15:11	1
Barium	<0.73		2.5	0.73	ug/L		04/04/23 09:31	04/05/23 15:11	1
Cadmium	<0.17		0.50	0.17	ug/L		04/04/23 09:31	04/05/23 15:11	1
Chromium	<1.1		5.0	1.1	ug/L		04/04/23 09:31	04/05/23 15:11	1
Cobalt	<0.40		1.0	0.40	ug/L		04/04/23 09:31	04/05/23 15:11	1
Copper	<0.50		2.0	0.50	ug/L		04/04/23 09:31	04/05/23 15:11	1
Lead	<0.19		0.50	0.19	ug/L		04/04/23 09:31	04/05/23 15:11	1
Manganese	<0.79		2.5	0.79	ug/L		04/04/23 09:31	04/05/23 15:11	1
Nickel	<0.63		2.0	0.63	ug/L		04/04/23 09:31	04/05/23 15:11	1
Selenium	<0.98		2.5	0.98	ug/L		04/04/23 09:31	04/05/23 15:11	1
Silver	<0.12		0.50	0.12	ug/L		04/04/23 09:31	04/05/23 15:11	1
Thallium	<0.57		2.0	0.57	ug/L		04/04/23 09:31	04/05/23 15:11	1
Vanadium	<2.2		5.0	2.2	ug/L		04/04/23 09:31	04/05/23 15:11	1
Zinc	<6.9		20.0	6.9	ug/L		04/04/23 09:31	04/05/23 15:11	1

QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

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

Lab Sample ID: LCS 500-705758/2-A
Matrix: Water
Analysis Batch: 706031

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 705758

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	500	512.7		ug/L		103	80 - 120
Arsenic	100	95.11		ug/L		95	80 - 120
Barium	500	525.5		ug/L		105	80 - 120
Beryllium	50.0	48.46		ug/L		97	80 - 120
Boron	1000	983.7		ug/L		98	80 - 120
Cadmium	50.0	50.01		ug/L		100	80 - 120
Chromium	200	206.5		ug/L		103	80 - 120
Cobalt	500	522.6		ug/L		105	80 - 120
Copper	250	261.5		ug/L		105	80 - 120
Lead	100	106.4		ug/L		106	80 - 120
Manganese	500	518.4		ug/L		104	80 - 120
Nickel	500	537.1		ug/L		107	80 - 120
Selenium	100	96.68		ug/L		97	80 - 120
Silver	50.0	49.09		ug/L		98	80 - 120
Thallium	100	107.1		ug/L		107	80 - 120
Zinc	500	514.9		ug/L		103	80 - 120

Lab Sample ID: LCS 500-705758/2-A
Matrix: Water
Analysis Batch: 706109

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 705758

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vanadium	500	515.7		ug/L		103	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-705605/13-A
Matrix: Water
Analysis Batch: 705825

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 705605

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.079		0.20	0.079	ug/L		04/03/23 14:55	04/04/23 07:32	1

Lab Sample ID: LCS 500-705605/12-A
Matrix: Water
Analysis Batch: 705825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 705605

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.98	1.91		ug/L		96	80 - 120

Lab Sample ID: 500-231307-1 MS
Matrix: Water
Analysis Batch: 705825

Client Sample ID: MW-17WT
Prep Type: Dissolved
Prep Batch: 705605

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.079		1.00	1.06		ug/L		106	75 - 125

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

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

Lab Sample ID: 500-231307-1 MSD

Matrix: Water

Analysis Batch: 705825

Client Sample ID: MW-17WT

Prep Type: Dissolved

Prep Batch: 705605

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.079		1.00	1.06		ug/L		106	75 - 125	0	20

Lab Sample ID: 500-231307-1 DU

Matrix: Water

Analysis Batch: 705825

Client Sample ID: MW-17WT

Prep Type: Dissolved

Prep Batch: 705605

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.079		<0.079		ug/L		NC	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 500-704802/11

Matrix: Water

Analysis Batch: 704802

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.12		1.0	0.12	mg/L			03/29/23 13:04	1
Fluoride	<0.19		1.0	0.19	mg/L			03/29/23 13:04	1
Sulfate	<0.21		1.0	0.21	mg/L			03/29/23 13:04	1

Lab Sample ID: LCS 500-704802/12

Matrix: Water

Analysis Batch: 704802

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	19.85		mg/L		99	90 - 110
Fluoride	20.0	20.51		mg/L		103	90 - 110
Sulfate	20.0	19.14		mg/L		96	90 - 110

Method: N07-0003 - Enzymatic Nitrate-Nitrite Nitrogen

Lab Sample ID: MB 500-705529/77

Matrix: Water

Analysis Batch: 705529

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.041		0.10	0.041	mg/L			04/03/23 09:58	1

Lab Sample ID: LCS 500-705529/79

Matrix: Water

Analysis Batch: 705529

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1.00	1.03		mg/L		103	90 - 110

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 500-705443/29
Matrix: Water
Analysis Batch: 705443

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	<3.7		5.0	3.7	mg/L			03/30/23 15:13	1

Lab Sample ID: MB 500-705443/3
Matrix: Water
Analysis Batch: 705443

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	<3.7		5.0	3.7	mg/L			03/30/23 15:13	1

Lab Sample ID: LCS 500-705443/30
Matrix: Water
Analysis Batch: 705443

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	107.2		mg/L		107	90 - 110

Lab Sample ID: LCS 500-705443/4
Matrix: Water
Analysis Batch: 705443

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	108.8		mg/L		109	90 - 110

Lab Sample ID: 500-231307-1 DU
Matrix: Water
Analysis Batch: 705443

Client Sample ID: MW-17WT
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	265		266.7		mg/L		0.6	20

Lab Chronicle

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

Client Sample ID: MW-17WT

Date Collected: 03/27/23 08:00

Date Received: 03/28/23 10:10

Lab Sample ID: 500-231307-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	706593	W1T	EET CHI	04/07/23 19:00
Dissolved	Prep	3005A			705758	BDE	EET CHI	04/04/23 09:31 - 04/04/23 10:01 ¹
Dissolved	Analysis	6020B		1	706031	FXG	EET CHI	04/04/23 18:34
Dissolved	Prep	3005A			705758	BDE	EET CHI	04/04/23 09:31 - 04/04/23 10:01 ¹
Dissolved	Analysis	6020B		1	706109	FXG	EET CHI	04/05/23 15:35
Dissolved	Prep	7470A			705605	MJG	EET CHI	04/03/23 14:55 - 04/03/23 16:55 ¹
Dissolved	Analysis	7470A		1	705825	MJG	EET CHI	04/04/23 07:45
Dissolved	Prep	3005A			705758	BDE	EET CHI	04/04/23 09:31 - 04/04/23 10:01 ¹
Dissolved	Analysis	SM 2340B		1	706114	FXG	EET CHI	04/05/23 16:24
Dissolved	Analysis	300.0		1	704802	EH	EET CHI	03/29/23 17:08
Dissolved	Analysis	N07-0003		1	705529	LP	EET CHI	04/03/23 10:06
Dissolved	Analysis	SM 2320B		1	705443	EH	EET CHI	03/30/23 15:13

Client Sample ID: MW-14WT

Date Collected: 03/27/23 10:00

Date Received: 03/28/23 10:10

Lab Sample ID: 500-231307-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	706593	W1T	EET CHI	04/07/23 19:23
Dissolved	Prep	3005A			705758	BDE	EET CHI	04/04/23 09:31 - 04/04/23 10:01 ¹
Dissolved	Analysis	6020B		1	706031	FXG	EET CHI	04/04/23 18:39
Dissolved	Prep	7470A			705605	MJG	EET CHI	04/03/23 14:55 - 04/03/23 16:55 ¹
Dissolved	Analysis	7470A		1	705825	MJG	EET CHI	04/04/23 08:25
Dissolved	Prep	3005A			705758	BDE	EET CHI	04/04/23 09:31 - 04/04/23 10:01 ¹
Dissolved	Analysis	SM 2340B		1	706114	FXG	EET CHI	04/05/23 16:24
Dissolved	Analysis	300.0		1	704802	EH	EET CHI	03/29/23 17:38
Dissolved	Analysis	N07-0003		1	705529	LP	EET CHI	04/03/23 10:06
Dissolved	Analysis	SM 2320B		1	705443	EH	EET CHI	03/30/23 15:13

Client Sample ID: MW-16

Date Collected: 03/27/23 12:00

Date Received: 03/28/23 10:10

Lab Sample ID: 500-231307-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	706593	W1T	EET CHI	04/07/23 19:46
Dissolved	Prep	3005A			705758	BDE	EET CHI	04/04/23 09:31 - 04/04/23 10:01 ¹
Dissolved	Analysis	6020B		1	706031	FXG	EET CHI	04/04/23 18:43
Dissolved	Prep	7470A			705605	MJG	EET CHI	04/03/23 14:55 - 04/03/23 16:55 ¹
Dissolved	Analysis	7470A		1	705825	MJG	EET CHI	04/04/23 08:27
Dissolved	Prep	3005A			705758	BDE	EET CHI	04/04/23 09:31 - 04/04/23 10:01 ¹
Dissolved	Analysis	SM 2340B		1	706114	FXG	EET CHI	04/05/23 16:24
Dissolved	Analysis	300.0		1	704802	EH	EET CHI	03/29/23 17:53
Dissolved	Analysis	N07-0003		1	705529	LP	EET CHI	04/03/23 10:08
Dissolved	Analysis	SM 2320B		1	705443	EH	EET CHI	03/30/23 15:13

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Lab Chronicle

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

Job ID: 500-231307-1

¹ Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

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Accreditation/Certification Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill Expansion

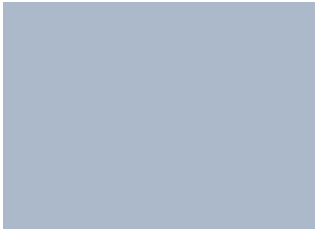
Job ID: 500-231307-1

Laboratory: Eurofins Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-23

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

	MW-14WT	MW-16	MW-17WT
<u>Baseline/Detection</u>			
Alkalinity	x	x	x
Chloride	x	x	x
Hardness	x	x	x
Field Cond (FIELD)	x	x	x
pH (FIELD)	x	x	x
Temp (FIELD)	x	x	x
<u>Public Welfare</u>			
Copper	x	x	x
Manganese	x	x	x
Sulfate	x	x	x
Zinc	x	x	x
<u>Public Health</u>			
Arsenic	x	x	x
Barium	x	x	x
Cadmium	x	x	x
Chromium	x	x	x
Flouride	x	x	x
Lead	x	x	x
Mercury	x	x	x
N+N	x	x	x
Selenium	x	x	x
Silver	x	x	x
Boron	x	x	x
<u>Subtitle D Well Background</u>			
Antimony			x
Beryllium			x
Cobalt			x
Nickel			x
Thalium			x
Vanadium			x
VOCs (8260)	x	x	x

2417 Bond Street
University Park IL 60484
Phone 708-534-5200 Fax 708-534-5211

Page 30 of 32

4/11/2023



500-231307 Waybl

ORIGIN ID:RRLA (262) 202-5955

STRESSAU LAB
N8265 MEDLEY RD

SPOONER, WI 54801
UNITED STATES US

SHIP DATE: 15AUG22
ACTWGT: 25.00 LB MAN
CAD: 02696688/CAFE3511

TO **SAMPLE RECEIPT**
EUROFINS
2417 BOND ST.

57067/F-908/REF-40

UNIVERSITY PARK IL 60484

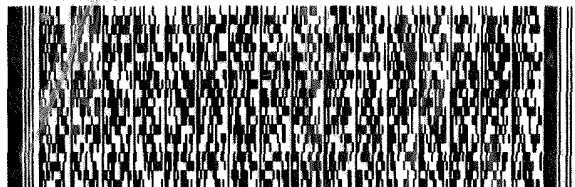
(262) 202-5955

REF:

INV:
PO:

DEPT:

RMA: 011 1000 011



FedEx
Express



J211020121101 uv

TRK# **5887 6288 4070**
0221

RETURNS MON-SAT
PRIORITY OVERNIGHT

Login Sample Receipt Checklist

Client: Vernon County Solid Waste & Recycling

Job Number: 500-231307-1

Login Number: 231307

List Number: 1

Creator: James, Jeff A

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Stacie Sanborn
Vernon County Solid Waste & Recycling
S3705 County Road LF
Viroqua, Wisconsin 54665

Generated 5/21/2023 11:05:09 PM

JOB DESCRIPTION

Vernon County Landfill

JOB NUMBER

500-233069-1

Eurofins Chicago

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 Chicago Project Manager.

Authorization



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5/21/2023 11:05:09 PM

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Case Narrative

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Job ID: 500-233069-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-233069-1

Receipt

The samples were received on 4/29/2023 11:40 AM. 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 was 2.3° C.

GC/MS VOA

Method 8260B: Acetone was detected in the following samples: MW-17WT (500-233069-3) and Trip Blank (500-233069-4) Acetone is a known lab contaminant; therefore all low level detects for this compound could be suspected as lab contamination.

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

Metals

Method 6020B: The continuing calibration verification (CCV) at line 24, was outside the control limits for Beryllium and Boron bracketing the method blank (MB) and laboratory control sample (LCS). The MB and LCS were within the method control limits. The associated samples were bracketed by CCV that were within control limits for the affected analytes; therefore, the data have been reported.

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

Field Service / Mobile Lab

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

General Chemistry

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

Detection Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-233069-1

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.44	J	1.0	0.23	ug/L	1		6020B	Dissolved
Manganese	120		2.5	0.79	ug/L	1		6020B	Dissolved
Hardness as calcium carbonate	246		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Chloride	6.0		1.0	0.12	mg/L	1		300.0	Dissolved
Fluoride	0.23	J	1.0	0.19	mg/L	1		300.0	Dissolved
Sulfate	4.5		1.0	0.21	mg/L	1		300.0	Dissolved
Alkalinity	235		5.0	3.7	mg/L	1		SM 2320B	Dissolved

Client Sample ID: MW-16

Lab Sample ID: 500-233069-2

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Hardness as calcium carbonate	383		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Chloride	4.2		1.0	0.12	mg/L	1		300.0	Dissolved
Fluoride	0.20	J	1.0	0.19	mg/L	1		300.0	Dissolved
Sulfate	10.3		1.0	0.21	mg/L	1		300.0	Dissolved
Alkalinity	349		5.0	3.7	mg/L	1		SM 2320B	Dissolved

Client Sample ID: MW-17WT

Lab Sample ID: 500-233069-3

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Acetone	8.0	J	10	1.7	ug/L	1		8260B	Total/NA
Arsenic	0.49	J	1.0	0.23	ug/L	1		6020B	Dissolved
Barium	33.0	B	2.5	0.73	ug/L	1		6020B	Dissolved
Copper	1.6	J B	2.0	0.50	ug/L	1		6020B	Dissolved
Manganese	28.4		2.5	0.79	ug/L	1		6020B	Dissolved
Nickel	1.4	J	2.0	0.63	ug/L	1		6020B	Dissolved
Hardness as calcium carbonate	267		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Chloride	4.5		1.0	0.12	mg/L	1		300.0	Dissolved
Fluoride	0.22	J	1.0	0.19	mg/L	1		300.0	Dissolved
Sulfate	5.8		1.0	0.21	mg/L	1		300.0	Dissolved
Nitrate Nitrite as N	0.20		0.10	0.041	mg/L	1		N07-0003	Dissolved
Alkalinity	269		5.0	3.7	mg/L	1		SM 2320B	Dissolved

Client Sample ID: Trip Blank

Lab Sample ID: 500-233069-4

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Acetone	6.9	J	10	1.7	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

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Method Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	EET CHI
6020B	Metals (ICP/MS)	SW846	EET CHI
7470A	Mercury (CVAA)	SW846	EET CHI
SM 2340B	Total Hardness (as CaCO ₃) by calculation	SM	EET CHI
300.0	Anions, Ion Chromatography	EPA	EET CHI
N07-0003	Enzymatic Nitrate-Nitrite Nitrogen	EPA	EET CHI
SM 2320B	Alkalinity	SM	EET CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CHI
5030B	Purge and Trap	SW846	EET CHI
7470A	Preparation, Mercury	SW846	EET CHI

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-233069-1	MW-14WT	Water	04/28/23 08:00	04/29/23 11:40
500-233069-2	MW-16	Water	04/28/23 09:00	04/29/23 11:40
500-233069-3	MW-17WT	Water	04/28/23 10:00	04/29/23 11:40
500-233069-4	Trip Blank	Water	04/28/23 00:00	04/29/23 11:40

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-233069-1

Date Collected: 04/28/23 08:00

Matrix: Water

Date Received: 04/29/23 11:40

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.44	J	1.0	0.23	ug/L		05/11/23 09:42	05/12/23 16:15	1
Beryllium	<0.53		1.0	0.53	ug/L		05/11/23 09:42	05/11/23 21:44	1
Chromium	<1.1		5.0	1.1	ug/L		05/11/23 09:42	05/11/23 21:44	1
Lead	<0.19		0.50	0.19	ug/L		05/11/23 09:42	05/11/23 21:44	1
Manganese	120		2.5	0.79	ug/L		05/11/23 09:42	05/12/23 16:15	1
Vanadium	<2.2		5.0	2.2	ug/L		05/11/23 09:42	05/12/23 16:15	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	246		0.91	0.46	mg/L		05/11/23 09:42	05/15/23 10:24	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	6.0		1.0	0.12	mg/L			05/18/23 22:37	1
Fluoride (EPA 300.0)	0.23	J	1.0	0.19	mg/L			05/18/23 22:37	1
Sulfate (EPA 300.0)	4.5		1.0	0.21	mg/L			05/19/23 12:09	1
Alkalinity (SM 2320B)	235		5.0	3.7	mg/L			05/10/23 16:38	1

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Client Sample ID: MW-16

Lab Sample ID: 500-233069-2

Date Collected: 04/28/23 09:00

Matrix: Water

Date Received: 04/29/23 11:40

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	383		0.91	0.46	mg/L		05/11/23 09:42	05/15/23 10:24	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	4.2		1.0	0.12	mg/L			05/18/23 22:53	1
Fluoride (EPA 300.0)	0.20	J	1.0	0.19	mg/L			05/18/23 22:53	1
Sulfate (EPA 300.0)	10.3		1.0	0.21	mg/L			05/19/23 12:24	1
Alkalinity (SM 2320B)	349		5.0	3.7	mg/L			05/10/23 16:38	1

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-233069-3

Date Collected: 04/28/23 10:00

Matrix: Water

Date Received: 04/29/23 11:40

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	8.0	J	10	1.7	ug/L			05/10/23 02:39	1
Benzene	<0.15		0.50	0.15	ug/L			05/10/23 02:39	1
Bromobenzene	<0.36		1.0	0.36	ug/L			05/10/23 02:39	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			05/10/23 02:39	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			05/10/23 02:39	1
Bromoform	<0.48		1.0	0.48	ug/L			05/10/23 02:39	1
Bromomethane	<0.80		3.0	0.80	ug/L			05/10/23 02:39	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			05/10/23 02:39	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			05/10/23 02:39	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			05/10/23 02:39	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			05/10/23 02:39	1
Chloroethane	<0.51		1.0	0.51	ug/L			05/10/23 02:39	1
Chloroform	<0.37		2.0	0.37	ug/L			05/10/23 02:39	1
Chloromethane	<0.32		1.0	0.32	ug/L			05/10/23 02:39	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			05/10/23 02:39	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			05/10/23 02:39	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			05/10/23 02:39	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			05/10/23 02:39	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			05/10/23 02:39	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			05/10/23 02:39	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			05/10/23 02:39	1
Dibromomethane	<0.27		1.0	0.27	ug/L			05/10/23 02:39	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			05/10/23 02:39	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			05/10/23 02:39	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			05/10/23 02:39	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			05/10/23 02:39	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			05/10/23 02:39	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			05/10/23 02:39	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			05/10/23 02:39	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			05/10/23 02:39	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			05/10/23 02:39	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			05/10/23 02:39	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			05/10/23 02:39	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			05/10/23 02:39	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			05/10/23 02:39	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			05/10/23 02:39	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			05/10/23 02:39	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			05/10/23 02:39	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			05/10/23 02:39	1
Naphthalene	<0.34		1.0	0.34	ug/L			05/10/23 02:39	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			05/10/23 02:39	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			05/10/23 02:39	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			05/10/23 02:39	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			05/10/23 02:39	1
Styrene	<0.39		1.0	0.39	ug/L			05/10/23 02:39	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			05/10/23 02:39	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			05/10/23 02:39	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			05/10/23 02:39	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			05/10/23 02:39	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-233069-3

Date Collected: 04/28/23 10:00

Matrix: Water

Date Received: 04/29/23 11:40

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	<1.9		10	1.9	ug/L			05/10/23 02:39	1
Toluene	<0.15		0.50	0.15	ug/L			05/10/23 02:39	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			05/10/23 02:39	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			05/10/23 02:39	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			05/10/23 02:39	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			05/10/23 02:39	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			05/10/23 02:39	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			05/10/23 02:39	1
Trichloroethene	<0.16		0.50	0.16	ug/L			05/10/23 02:39	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			05/10/23 02:39	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			05/10/23 02:39	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			05/10/23 02:39	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			05/10/23 02:39	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			05/10/23 02:39	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			05/10/23 02:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		72 - 124		05/10/23 02:39	1
Dibromofluoromethane (Surr)	95		75 - 120		05/10/23 02:39	1
1,2-Dichloroethane-d4 (Surr)	107		75 - 126		05/10/23 02:39	1
Toluene-d8 (Surr)	92		75 - 120		05/10/23 02:39	1

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.3		3.0	1.3	ug/L		05/11/23 09:42	05/12/23 16:22	1
Arsenic	0.49	J	1.0	0.23	ug/L		05/11/23 09:42	05/12/23 16:22	1
Barium	33.0	B	2.5	0.73	ug/L		05/11/23 09:42	05/11/23 21:51	1
Beryllium	<0.53		1.0	0.53	ug/L		05/11/23 09:42	05/11/23 21:51	1
Boron	<12.7		50.0	12.7	ug/L		05/11/23 09:42	05/11/23 21:51	1
Cadmium	<0.17		0.50	0.17	ug/L		05/11/23 09:42	05/11/23 21:51	1
Chromium	<1.1		5.0	1.1	ug/L		05/11/23 09:42	05/11/23 21:51	1
Cobalt	<0.40		1.0	0.40	ug/L		05/11/23 09:42	05/11/23 21:51	1
Copper	1.6	J B	2.0	0.50	ug/L		05/11/23 09:42	05/11/23 21:51	1
Lead	<0.19		0.50	0.19	ug/L		05/11/23 09:42	05/11/23 21:51	1
Manganese	28.4		2.5	0.79	ug/L		05/11/23 09:42	05/12/23 16:22	1
Nickel	1.4	J	2.0	0.63	ug/L		05/11/23 09:42	05/11/23 21:51	1
Selenium	<0.98		2.5	0.98	ug/L		05/11/23 09:42	05/11/23 21:51	1
Silver	<0.12		0.50	0.12	ug/L		05/11/23 09:42	05/11/23 21:51	1
Thallium	<0.57		2.0	0.57	ug/L		05/11/23 09:42	05/11/23 21:51	1
Vanadium	<2.2		5.0	2.2	ug/L		05/11/23 09:42	05/12/23 16:22	1
Zinc	<6.9		20.0	6.9	ug/L		05/11/23 09:42	05/11/23 21:51	1

Method: SW846 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.079		0.20	0.079	ug/L		05/12/23 10:50	05/15/23 09:20	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	267		0.91	0.46	mg/L		05/11/23 09:42	05/15/23 10:24	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-233069-3

Date Collected: 04/28/23 10:00

Matrix: Water

Date Received: 04/29/23 11:40

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	4.5		1.0	0.12	mg/L			05/18/23 23:09	1
Fluoride (EPA 300.0)	0.22	J	1.0	0.19	mg/L			05/18/23 23:09	1
Sulfate (EPA 300.0)	5.8		1.0	0.21	mg/L			05/19/23 12:39	1
Nitrate Nitrite as N (EPA N07-0003)	0.20		0.10	0.041	mg/L			05/17/23 10:47	1
Alkalinity (SM 2320B)	269		5.0	3.7	mg/L			05/10/23 16:38	1

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Client Sample ID: Trip Blank

Lab Sample ID: 500-233069-4

Date Collected: 04/28/23 00:00

Matrix: Water

Date Received: 04/29/23 11:40

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	6.9	J	10	1.7	ug/L			05/10/23 01:25	1
Benzene	<0.15		0.50	0.15	ug/L			05/10/23 01:25	1
Bromobenzene	<0.36		1.0	0.36	ug/L			05/10/23 01:25	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			05/10/23 01:25	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			05/10/23 01:25	1
Bromoform	<0.48		1.0	0.48	ug/L			05/10/23 01:25	1
Bromomethane	<0.80		3.0	0.80	ug/L			05/10/23 01:25	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			05/10/23 01:25	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			05/10/23 01:25	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			05/10/23 01:25	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			05/10/23 01:25	1
Chloroethane	<0.51		1.0	0.51	ug/L			05/10/23 01:25	1
Chloroform	<0.37		2.0	0.37	ug/L			05/10/23 01:25	1
Chloromethane	<0.32		1.0	0.32	ug/L			05/10/23 01:25	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			05/10/23 01:25	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			05/10/23 01:25	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			05/10/23 01:25	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			05/10/23 01:25	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			05/10/23 01:25	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			05/10/23 01:25	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			05/10/23 01:25	1
Dibromomethane	<0.27		1.0	0.27	ug/L			05/10/23 01:25	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			05/10/23 01:25	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			05/10/23 01:25	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			05/10/23 01:25	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			05/10/23 01:25	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			05/10/23 01:25	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			05/10/23 01:25	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			05/10/23 01:25	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			05/10/23 01:25	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			05/10/23 01:25	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			05/10/23 01:25	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			05/10/23 01:25	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			05/10/23 01:25	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			05/10/23 01:25	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			05/10/23 01:25	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			05/10/23 01:25	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			05/10/23 01:25	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			05/10/23 01:25	1
Naphthalene	<0.34		1.0	0.34	ug/L			05/10/23 01:25	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			05/10/23 01:25	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			05/10/23 01:25	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			05/10/23 01:25	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			05/10/23 01:25	1
Styrene	<0.39		1.0	0.39	ug/L			05/10/23 01:25	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			05/10/23 01:25	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			05/10/23 01:25	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			05/10/23 01:25	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			05/10/23 01:25	1

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Client Sample ID: Trip Blank

Lab Sample ID: 500-233069-4

Date Collected: 04/28/23 00:00

Matrix: Water

Date Received: 04/29/23 11:40

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	<1.9		10	1.9	ug/L			05/10/23 01:25	1
Toluene	<0.15		0.50	0.15	ug/L			05/10/23 01:25	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			05/10/23 01:25	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			05/10/23 01:25	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			05/10/23 01:25	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			05/10/23 01:25	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			05/10/23 01:25	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			05/10/23 01:25	1
Trichloroethene	<0.16		0.50	0.16	ug/L			05/10/23 01:25	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			05/10/23 01:25	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			05/10/23 01:25	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			05/10/23 01:25	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			05/10/23 01:25	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			05/10/23 01:25	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			05/10/23 01:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		72 - 124		05/10/23 01:25	1
Dibromofluoromethane (Surr)	92		75 - 120		05/10/23 01:25	1
1,2-Dichloroethane-d4 (Surr)	105		75 - 126		05/10/23 01:25	1
Toluene-d8 (Surr)	94		75 - 120		05/10/23 01:25	1

Definitions/Glossary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Reported value was between the limit of detection and the limit of quantitation.

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Reported value was between the limit of detection and the limit of quantitation.

General Chemistry

Qualifier	Qualifier Description
J	Reported value was between the limit of detection and the limit of quantitation.

Glossary

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

QC Association Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

GC/MS VOA

Analysis Batch: 712311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233069-3	MW-17WT	Total/NA	Water	8260B	
500-233069-4	Trip Blank	Total/NA	Water	8260B	
MB 500-712311/7	Method Blank	Total/NA	Water	8260B	
LCS 500-712311/5	Lab Control Sample	Total/NA	Water	8260B	

Metals

Prep Batch: 712697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233069-1	MW-14WT	Dissolved	Water	3005A	
500-233069-2	MW-16	Dissolved	Water	3005A	
500-233069-3	MW-17WT	Dissolved	Water	3005A	
MB 500-712697/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-712697/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 712962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233069-1	MW-14WT	Dissolved	Water	6020B	712697
500-233069-3	MW-17WT	Dissolved	Water	6020B	712697
MB 500-712697/1-A	Method Blank	Total Recoverable	Water	6020B	712697
LCS 500-712697/2-A	Lab Control Sample	Total Recoverable	Water	6020B	712697

Prep Batch: 712983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233069-3	MW-17WT	Dissolved	Water	7470A	
MB 500-712983/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-712983/13-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 713284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233069-1	MW-14WT	Dissolved	Water	6020B	712697
500-233069-3	MW-17WT	Dissolved	Water	6020B	712697
MB 500-712697/1-A	Method Blank	Total Recoverable	Water	6020B	712697
LCS 500-712697/2-A	Lab Control Sample	Total Recoverable	Water	6020B	712697

Analysis Batch: 713285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233069-1	MW-14WT	Dissolved	Water	SM 2340B	712697
500-233069-2	MW-16	Dissolved	Water	SM 2340B	712697
500-233069-3	MW-17WT	Dissolved	Water	SM 2340B	712697

Analysis Batch: 713303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233069-3	MW-17WT	Dissolved	Water	7470A	712983
MB 500-712983/12-A	Method Blank	Total/NA	Water	7470A	712983
LCS 500-712983/13-A	Lab Control Sample	Total/NA	Water	7470A	712983

General Chemistry

Analysis Batch: 712631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233069-1	MW-14WT	Dissolved	Water	SM 2320B	

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QC Association Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

General Chemistry (Continued)

Analysis Batch: 712631 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233069-2	MW-16	Dissolved	Water	SM 2320B	
500-233069-3	MW-17WT	Dissolved	Water	SM 2320B	
MB 500-712631/28	Method Blank	Total/NA	Water	SM 2320B	
MB 500-712631/53	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-712631/29	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 500-712631/54	Lab Control Sample	Total/NA	Water	SM 2320B	
500-233069-1 DU	MW-14WT	Dissolved	Water	SM 2320B	

Analysis Batch: 713788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233069-3	MW-17WT	Dissolved	Water	N07-0003	
MB 500-713788/40	Method Blank	Total/NA	Water	N07-0003	
LCS 500-713788/41	Lab Control Sample	Total/NA	Water	N07-0003	
500-233069-3 MS	MW-17WT	Dissolved	Water	N07-0003	
500-233069-3 MSD	MW-17WT	Dissolved	Water	N07-0003	

Analysis Batch: 714037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233069-1	MW-14WT	Dissolved	Water	300.0	
500-233069-2	MW-16	Dissolved	Water	300.0	
500-233069-3	MW-17WT	Dissolved	Water	300.0	
MB 500-714037/33	Method Blank	Total/NA	Water	300.0	
LCS 500-714037/36	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 714280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-233069-1	MW-14WT	Dissolved	Water	300.0	
500-233069-2	MW-16	Dissolved	Water	300.0	
500-233069-3	MW-17WT	Dissolved	Water	300.0	
MB 500-714280/3	Method Blank	Total/NA	Water	300.0	
LCS 500-714280/4	Lab Control Sample	Total/NA	Water	300.0	

Surrogate Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (72-124)	DBFM (75-120)	DCA (75-126)	TOL (75-120)
500-233069-3	MW-17WT	106	95	107	92
500-233069-4	Trip Blank	106	92	105	94
LCS 500-712311/5	Lab Control Sample	107	98	104	94
MB 500-712311/7	Method Blank	112	94	108	94

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-712311/7

Matrix: Water

Analysis Batch: 712311

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<1.7		10	1.7	ug/L			05/10/23 00:36	1
Benzene	<0.15		0.50	0.15	ug/L			05/10/23 00:36	1
Bromobenzene	<0.36		1.0	0.36	ug/L			05/10/23 00:36	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			05/10/23 00:36	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			05/10/23 00:36	1
Bromoform	<0.48		1.0	0.48	ug/L			05/10/23 00:36	1
Bromomethane	<0.80		3.0	0.80	ug/L			05/10/23 00:36	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			05/10/23 00:36	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			05/10/23 00:36	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			05/10/23 00:36	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			05/10/23 00:36	1
Chloroethane	<0.51		1.0	0.51	ug/L			05/10/23 00:36	1
Chloroform	<0.37		2.0	0.37	ug/L			05/10/23 00:36	1
Chloromethane	<0.32		1.0	0.32	ug/L			05/10/23 00:36	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			05/10/23 00:36	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			05/10/23 00:36	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			05/10/23 00:36	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			05/10/23 00:36	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			05/10/23 00:36	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			05/10/23 00:36	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			05/10/23 00:36	1
Dibromomethane	<0.27		1.0	0.27	ug/L			05/10/23 00:36	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			05/10/23 00:36	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			05/10/23 00:36	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			05/10/23 00:36	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			05/10/23 00:36	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			05/10/23 00:36	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			05/10/23 00:36	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			05/10/23 00:36	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			05/10/23 00:36	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			05/10/23 00:36	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			05/10/23 00:36	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			05/10/23 00:36	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			05/10/23 00:36	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			05/10/23 00:36	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			05/10/23 00:36	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			05/10/23 00:36	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			05/10/23 00:36	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			05/10/23 00:36	1
Naphthalene	<0.34		1.0	0.34	ug/L			05/10/23 00:36	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			05/10/23 00:36	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			05/10/23 00:36	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			05/10/23 00:36	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			05/10/23 00:36	1
Styrene	<0.39		1.0	0.39	ug/L			05/10/23 00:36	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			05/10/23 00:36	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			05/10/23 00:36	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			05/10/23 00:36	1

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

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

Lab Sample ID: MB 500-712311/7

Matrix: Water

Analysis Batch: 712311

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.37		1.0	0.37	ug/L			05/10/23 00:36	1
Tetrahydrofuran	<1.9		10	1.9	ug/L			05/10/23 00:36	1
Toluene	<0.15		0.50	0.15	ug/L			05/10/23 00:36	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			05/10/23 00:36	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			05/10/23 00:36	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			05/10/23 00:36	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			05/10/23 00:36	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			05/10/23 00:36	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			05/10/23 00:36	1
Trichloroethene	<0.16		0.50	0.16	ug/L			05/10/23 00:36	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			05/10/23 00:36	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			05/10/23 00:36	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			05/10/23 00:36	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			05/10/23 00:36	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			05/10/23 00:36	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			05/10/23 00:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		72 - 124		05/10/23 00:36	1
Dibromofluoromethane (Surr)	94		75 - 120		05/10/23 00:36	1
1,2-Dichloroethane-d4 (Surr)	108		75 - 126		05/10/23 00:36	1
Toluene-d8 (Surr)	94		75 - 120		05/10/23 00:36	1

Lab Sample ID: LCS 500-712311/5

Matrix: Water

Analysis Batch: 712311

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	50.0	47.7		ug/L		95	40 - 143
Benzene	50.0	44.9		ug/L		90	70 - 120
Bromobenzene	50.0	47.9		ug/L		96	70 - 122
Bromochloromethane	50.0	44.2		ug/L		88	65 - 122
Bromodichloromethane	50.0	44.8		ug/L		90	69 - 120
Bromoform	50.0	37.1		ug/L		74	56 - 132
Bromomethane	50.0	51.2		ug/L		102	40 - 152
2-Butanone (MEK)	50.0	48.6		ug/L		97	46 - 144
Carbon disulfide	50.0	40.3		ug/L		81	66 - 120
Carbon tetrachloride	50.0	47.7		ug/L		95	59 - 133
Chlorobenzene	50.0	47.9		ug/L		96	70 - 120
Chloroethane	50.0	53.1		ug/L		106	48 - 136
Chloroform	50.0	49.0		ug/L		98	70 - 120
Chloromethane	50.0	46.6		ug/L		93	56 - 152
2-Chlorotoluene	50.0	48.3		ug/L		97	70 - 125
4-Chlorotoluene	50.0	49.8		ug/L		100	68 - 124
cis-1,2-Dichloroethene	50.0	44.5		ug/L		89	70 - 125
cis-1,3-Dichloropropene	50.0	44.3		ug/L		89	64 - 127
Dibromochloromethane	50.0	40.8		ug/L		82	68 - 125
1,2-Dibromo-3-Chloropropane	50.0	37.8		ug/L		76	56 - 123

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

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

Lab Sample ID: LCS 500-712311/5

Matrix: Water

Analysis Batch: 712311

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromoethane	50.0	46.5		ug/L		93	70 - 125
Dibromomethane	50.0	44.3		ug/L		89	70 - 120
1,2-Dichlorobenzene	50.0	45.8		ug/L		92	70 - 125
1,3-Dichlorobenzene	50.0	46.3		ug/L		93	70 - 125
1,4-Dichlorobenzene	50.0	45.5		ug/L		91	70 - 120
Dichlorodifluoromethane	50.0	50.9		ug/L		102	40 - 159
1,1-Dichloroethane	50.0	46.3		ug/L		93	70 - 125
1,2-Dichloroethane	50.0	50.1		ug/L		100	68 - 127
1,1-Dichloroethene	50.0	44.4		ug/L		89	67 - 122
1,2-Dichloropropane	50.0	47.1		ug/L		94	67 - 130
1,3-Dichloropropane	50.0	48.5		ug/L		97	62 - 136
2,2-Dichloropropane	50.0	48.0		ug/L		96	58 - 139
1,1-Dichloropropene	50.0	47.2		ug/L		94	70 - 121
Ethylbenzene	50.0	46.3		ug/L		93	70 - 123
Hexachlorobutadiene	50.0	46.2		ug/L		92	51 - 150
Isopropylbenzene	50.0	49.2		ug/L		98	70 - 126
Methylene Chloride	50.0	43.9		ug/L		88	69 - 125
Methyl tert-butyl ether	50.0	52.5		ug/L		105	55 - 123
Naphthalene	50.0	48.3		ug/L		97	53 - 144
n-Butylbenzene	50.0	46.5		ug/L		93	68 - 125
N-Propylbenzene	50.0	48.2		ug/L		96	69 - 127
p-Isopropyltoluene	50.0	48.6		ug/L		97	70 - 125
sec-Butylbenzene	50.0	48.8		ug/L		98	70 - 123
Styrene	50.0	47.4		ug/L		95	70 - 120
tert-Butylbenzene	50.0	47.9		ug/L		96	70 - 121
1,1,1,2-Tetrachloroethane	50.0	42.4		ug/L		85	70 - 125
1,1,2,2-Tetrachloroethane	50.0	50.2		ug/L		100	62 - 140
Tetrachloroethene	50.0	46.7		ug/L		93	70 - 128
Tetrahydrofuran	100	93.2		ug/L		93	59 - 139
Toluene	50.0	46.7		ug/L		93	70 - 125
trans-1,2-Dichloroethene	50.0	44.8		ug/L		90	70 - 125
trans-1,3-Dichloropropene	50.0	44.5		ug/L		89	62 - 128
1,2,3-Trichlorobenzene	50.0	45.1		ug/L		90	51 - 145
1,2,4-Trichlorobenzene	50.0	47.3		ug/L		95	57 - 137
1,1,1-Trichloroethane	50.0	48.7		ug/L		97	70 - 125
1,1,2-Trichloroethane	50.0	49.1		ug/L		98	71 - 130
Trichloroethene	50.0	46.3		ug/L		93	70 - 125
Trichlorofluoromethane	50.0	54.9		ug/L		110	55 - 128
1,2,3-Trichloropropane	50.0	49.3		ug/L		99	50 - 133
1,2,4-Trimethylbenzene	50.0	49.4		ug/L		99	70 - 123
1,3,5-Trimethylbenzene	50.0	49.8		ug/L		100	70 - 123
Vinyl chloride	50.0	55.9		ug/L		112	64 - 126
Xylenes, Total	100	92.9		ug/L		93	70 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		72 - 124
Dibromofluoromethane (Surr)	98		75 - 120
1,2-Dichloroethane-d4 (Surr)	104		75 - 126

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

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

Lab Sample ID: LCS 500-712311/5

Matrix: Water

Analysis Batch: 712311

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)	94		75 - 120

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 500-712697/1-A

Matrix: Water

Analysis Batch: 712962

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 712697

Analyte	MB	MB								
	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil	Fac
Barium	2.99		2.5	0.73	ug/L		05/11/23 09:42	05/11/23 20:15	1	
Beryllium	<0.53		1.0	0.53	ug/L		05/11/23 09:42	05/11/23 20:15	1	
Boron	<12.7		50.0	12.7	ug/L		05/11/23 09:42	05/11/23 20:15	1	
Cadmium	<0.17		0.50	0.17	ug/L		05/11/23 09:42	05/11/23 20:15	1	
Chromium	<1.1		5.0	1.1	ug/L		05/11/23 09:42	05/11/23 20:15	1	
Cobalt	<0.40		1.0	0.40	ug/L		05/11/23 09:42	05/11/23 20:15	1	
Copper	0.844	J	2.0	0.50	ug/L		05/11/23 09:42	05/11/23 20:15	1	
Lead	<0.19		0.50	0.19	ug/L		05/11/23 09:42	05/11/23 20:15	1	
Nickel	<0.63		2.0	0.63	ug/L		05/11/23 09:42	05/11/23 20:15	1	
Selenium	<0.98		2.5	0.98	ug/L		05/11/23 09:42	05/11/23 20:15	1	
Silver	<0.12		0.50	0.12	ug/L		05/11/23 09:42	05/11/23 20:15	1	
Thallium	<0.57		2.0	0.57	ug/L		05/11/23 09:42	05/11/23 20:15	1	
Zinc	<6.9		20.0	6.9	ug/L		05/11/23 09:42	05/11/23 20:15	1	

Lab Sample ID: MB 500-712697/1-A

Matrix: Water

Analysis Batch: 713284

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 712697

Analyte	MB	MB								
	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil	Fac
Antimony	<1.3		3.0	1.3	ug/L		05/11/23 09:42	05/12/23 14:22	1	
Arsenic	<0.23		1.0	0.23	ug/L		05/11/23 09:42	05/12/23 14:22	1	
Manganese	<0.79		2.5	0.79	ug/L		05/11/23 09:42	05/12/23 14:22	1	
Vanadium	<2.2		5.0	2.2	ug/L		05/11/23 09:42	05/12/23 14:22	1	

Lab Sample ID: LCS 500-712697/2-A

Matrix: Water

Analysis Batch: 712962

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 712697

Analyte	Spike	LCS	LCS							
	Added	Result	Qualifier	Unit	D	%Rec	%Rec	Limits		
Barium	500	489.0		ug/L		98	80 - 120			
Beryllium	50.0	49.49	^	ug/L		99	80 - 120			
Boron	1000	1008	^	ug/L		101	80 - 120			
Cadmium	50.0	49.03		ug/L		98	80 - 120			
Chromium	200	197.7		ug/L		99	80 - 120			
Cobalt	500	489.0		ug/L		98	80 - 120			
Copper	250	247.9		ug/L		99	80 - 120			
Lead	100	98.55		ug/L		99	80 - 120			
Nickel	500	511.2		ug/L		102	80 - 120			
Selenium	100	95.07		ug/L		95	80 - 120			
Silver	50.0	49.72		ug/L		99	80 - 120			

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

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

Lab Sample ID: LCS 500-712697/2-A

Matrix: Water

Analysis Batch: 712962

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 712697

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	100	100.4		ug/L		100	80 - 120
Zinc	500	504.5		ug/L		101	80 - 120

Lab Sample ID: LCS 500-712697/2-A

Matrix: Water

Analysis Batch: 713284

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 712697

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	500	526.3		ug/L		105	80 - 120
Arsenic	100	104.3		ug/L		104	80 - 120
Manganese	500	532.9		ug/L		107	80 - 120
Vanadium	500	511.8		ug/L		102	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-712983/12-A

Matrix: Water

Analysis Batch: 713303

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 712983

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.079		0.20	0.079	ug/L		05/12/23 10:50	05/15/23 08:54	1

Lab Sample ID: LCS 500-712983/13-A

Matrix: Water

Analysis Batch: 713303

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 712983

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.98	1.83		ug/L		92	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 500-714037/33

Matrix: Water

Analysis Batch: 714037

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.12		1.0	0.12	mg/L			05/18/23 19:54	1
Fluoride	<0.19		1.0	0.19	mg/L			05/18/23 19:54	1

Lab Sample ID: LCS 500-714037/36

Matrix: Water

Analysis Batch: 714037

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.86		mg/L		104	90 - 110
Fluoride	20.0	21.16		mg/L		106	90 - 110

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 500-714280/3

Matrix: Water

Analysis Batch: 714280

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.12		1.0	0.12	mg/L			05/19/23 10:22	1
Fluoride	<0.19		1.0	0.19	mg/L			05/19/23 10:22	1
Sulfate	<0.21		1.0	0.21	mg/L			05/19/23 10:22	1

Lab Sample ID: LCS 500-714280/4

Matrix: Water

Analysis Batch: 714280

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	19.29		mg/L		96	90 - 110
Fluoride	20.0	19.73		mg/L		99	90 - 110
Sulfate	20.0	19.79		mg/L		99	90 - 110

Method: N07-0003 - Enzymatic Nitrate-Nitrite Nitrogen

Lab Sample ID: MB 500-713788/40

Matrix: Water

Analysis Batch: 713788

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.041		0.10	0.041	mg/L			05/17/23 11:15	1

Lab Sample ID: LCS 500-713788/41

Matrix: Water

Analysis Batch: 713788

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1.00	1.00		mg/L		100	90 - 110

Lab Sample ID: 500-233069-3 MS

Matrix: Water

Analysis Batch: 713788

Client Sample ID: MW-17WT

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	0.20		1.00	1.21		mg/L		102	90 - 110

Lab Sample ID: 500-233069-3 MSD

Matrix: Water

Analysis Batch: 713788

Client Sample ID: MW-17WT

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD Limit
Nitrate Nitrite as N	0.20		1.00	1.21		mg/L		101	90 - 110	0 20

QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 500-712631/28

Matrix: Water

Analysis Batch: 712631

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	<3.7		5.0	3.7	mg/L			05/10/23 16:38	1

Lab Sample ID: MB 500-712631/53

Matrix: Water

Analysis Batch: 712631

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	<3.7		5.0	3.7	mg/L			05/10/23 16:38	1

Lab Sample ID: LCS 500-712631/29

Matrix: Water

Analysis Batch: 712631

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	106.6		mg/L		107	90 - 110

Lab Sample ID: LCS 500-712631/54

Matrix: Water

Analysis Batch: 712631

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	105.9		mg/L		106	90 - 110

Lab Sample ID: 500-233069-1 DU

Matrix: Water

Analysis Batch: 712631

Client Sample ID: MW-14WT

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	235		235.3		mg/L		0.2	20

Lab Chronicle

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Client Sample ID: MW-14WT

Date Collected: 04/28/23 08:00

Date Received: 04/29/23 11:40

Lab Sample ID: 500-233069-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			712697	BDE	EET CHI	05/11/23 09:42 - 05/11/23 10:12 ¹
Dissolved	Analysis	6020B		1	712962	FXG	EET CHI	05/11/23 21:44
Dissolved	Prep	3005A			712697	BDE	EET CHI	05/11/23 09:42 - 05/11/23 10:12 ¹
Dissolved	Analysis	6020B		1	713284	FXG	EET CHI	05/12/23 16:15
Dissolved	Prep	3005A			712697	BDE	EET CHI	05/11/23 09:42 - 05/11/23 10:12 ¹
Dissolved	Analysis	SM 2340B		1	713285	FXG	EET CHI	05/15/23 10:24
Dissolved	Analysis	300.0		1	714037	EH	EET CHI	05/18/23 22:37
Dissolved	Analysis	300.0		1	714280	MM	EET CHI	05/19/23 12:09
Dissolved	Analysis	SM 2320B		1	712631	EH	EET CHI	05/10/23 16:38

Client Sample ID: MW-16

Date Collected: 04/28/23 09:00

Date Received: 04/29/23 11:40

Lab Sample ID: 500-233069-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			712697	BDE	EET CHI	05/11/23 09:42 - 05/11/23 10:12 ¹
Dissolved	Analysis	SM 2340B		1	713285	FXG	EET CHI	05/15/23 10:24
Dissolved	Analysis	300.0		1	714037	EH	EET CHI	05/18/23 22:53
Dissolved	Analysis	300.0		1	714280	MM	EET CHI	05/19/23 12:24
Dissolved	Analysis	SM 2320B		1	712631	EH	EET CHI	05/10/23 16:38

Client Sample ID: MW-17WT

Date Collected: 04/28/23 10:00

Date Received: 04/29/23 11:40

Lab Sample ID: 500-233069-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	712311	AJP	EET CHI	05/10/23 02:39
Dissolved	Prep	3005A			712697	BDE	EET CHI	05/11/23 09:42 - 05/11/23 10:12 ¹
Dissolved	Analysis	6020B		1	712962	FXG	EET CHI	05/11/23 21:51
Dissolved	Prep	3005A			712697	BDE	EET CHI	05/11/23 09:42 - 05/11/23 10:12 ¹
Dissolved	Analysis	6020B		1	713284	FXG	EET CHI	05/12/23 16:22
Dissolved	Prep	7470A			712983	MJG	EET CHI	05/12/23 10:50 - 05/12/23 12:50 ¹
Dissolved	Analysis	7470A		1	713303	MJG	EET CHI	05/15/23 09:20
Dissolved	Prep	3005A			712697	BDE	EET CHI	05/11/23 09:42 - 05/11/23 10:12 ¹
Dissolved	Analysis	SM 2340B		1	713285	FXG	EET CHI	05/15/23 10:24
Dissolved	Analysis	300.0		1	714037	EH	EET CHI	05/18/23 23:09
Dissolved	Analysis	300.0		1	714280	MM	EET CHI	05/19/23 12:39
Dissolved	Analysis	N07-0003		1	713788	MM	EET CHI	05/17/23 10:47
Dissolved	Analysis	SM 2320B		1	712631	EH	EET CHI	05/10/23 16:38

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Lab Chronicle

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Client Sample ID: Trip Blank
Date Collected: 04/28/23 00:00
Date Received: 04/29/23 11:40

Lab Sample ID: 500-233069-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	712311	AJP	EET CHI	05/10/23 01:25

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

Laboratory References:
EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

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Accreditation/Certification Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-233069-1

Laboratory: Eurofins Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-23

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- 15

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[illegible]

Login Sample Receipt Checklist

Client: Vernon County Solid Waste & Recycling

Job Number: 500-233069-1

Login Number: 233069

List Number: 1

Creator: Hernandez, Stephanie

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

PREPARED FOR

Attn: Stacie Sanborn
Vernon County Solid Waste & Recycling
S3705 County Road LF
Viroqua, Wisconsin 54665

Generated 6/9/2023 9:12:37 AM

JOB DESCRIPTION

Vernon County Landfill

JOB NUMBER

500-234599-1

Eurofins Chicago

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 Chicago Project Manager.

Authorization



Generated
6/9/2023 9:12:37 AM

Authorized for release by
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(920)261-1660

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Case Narrative

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-234599-1

Job ID: 500-234599-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-234599-1

Receipt

The samples were received on 6/1/2023 10:00 AM. 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 was 3.3° C.

Metals

Method 6020B: The continuing calibration verification (CCV) associated with batch 500-717287 recovered above the upper control limit for Boron and Thallium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

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

Field Service / Mobile Lab

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

General Chemistry

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

Detection Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-234599-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-234599-1

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Hardness as calcium carbonate	266		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Chloride	3.4		1.0	0.12	mg/L	1		300.0	Dissolved
Sulfate	5.3		1.0	0.21	mg/L	1		300.0	Dissolved
Alkalinity	260		5.0	3.7	mg/L	1		SM 2320B	Dissolved

Client Sample ID: MW-16

Lab Sample ID: 500-234599-2

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Hardness as calcium carbonate	366		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Chloride	3.3		1.0	0.12	mg/L	1		300.0	Dissolved
Sulfate	10.2		1.0	0.21	mg/L	1		300.0	Dissolved
Alkalinity	362		5.0	3.7	mg/L	1		SM 2320B	Dissolved

Client Sample ID: MW-14WT

Lab Sample ID: 500-234599-3

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.92	J B	1.0	0.23	ug/L	1		6020B	Dissolved
Manganese	267		2.5	0.79	ug/L	1		6020B	Dissolved
Hardness as calcium carbonate	250		0.91	0.46	mg/L	1		SM 2340B	Dissolved
Chloride	4.8		1.0	0.12	mg/L	1		300.0	Dissolved
Sulfate	5.0		1.0	0.21	mg/L	1		300.0	Dissolved
Alkalinity	237		5.0	3.7	mg/L	1		SM 2320B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Method Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-234599-1

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET CHI
SM 2340B	Total Hardness (as CaCO ₃) by calculation	SM	EET CHI
300.0	Anions, Ion Chromatography	EPA	EET CHI
SM 2320B	Alkalinity	SM	EET CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CHI

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-234599-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-234599-1	MW-17WT	Water	05/30/23 11:00	06/01/23 10:00
500-234599-2	MW-16	Water	05/30/23 12:00	06/01/23 10:00
500-234599-3	MW-14WT	Water	05/30/23 13:00	06/01/23 10:00

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Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-234599-1

Client Sample ID: MW-17WT

Lab Sample ID: 500-234599-1

Date Collected: 05/30/23 11:00

Matrix: Water

Date Received: 06/01/23 10:00

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<12.7	^	50.0	12.7	ug/L		06/02/23 09:02	06/07/23 04:00	1
Thallium	<0.57	^	2.0	0.57	ug/L		06/02/23 09:02	06/07/23 04:00	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	266		0.91	0.46	mg/L		06/02/23 09:02	06/08/23 12:38	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	3.4		1.0	0.12	mg/L			06/01/23 21:24	1
Fluoride (EPA 300.0)	<0.19		1.0	0.19	mg/L			06/01/23 21:24	1
Sulfate (EPA 300.0)	5.3		1.0	0.21	mg/L			06/01/23 21:24	1
Alkalinity (SM 2320B)	260		5.0	3.7	mg/L			06/05/23 12:39	1

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-234599-1

Client Sample ID: MW-16

Date Collected: 05/30/23 12:00

Date Received: 06/01/23 10:00

Lab Sample ID: 500-234599-2

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<12.7	^	50.0	12.7	ug/L		06/02/23 09:02	06/07/23 04:05	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	366		0.91	0.46	mg/L		06/02/23 09:02	06/08/23 12:38	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	3.3		1.0	0.12	mg/L			06/01/23 22:40	1
Fluoride (EPA 300.0)	<0.19		1.0	0.19	mg/L			06/01/23 22:40	1
Sulfate (EPA 300.0)	10.2		1.0	0.21	mg/L			06/01/23 22:40	1
Alkalinity (SM 2320B)	362		5.0	3.7	mg/L			06/05/23 12:39	1

Client Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-234599-1

Client Sample ID: MW-14WT

Lab Sample ID: 500-234599-3

Date Collected: 05/30/23 13:00

Matrix: Water

Date Received: 06/01/23 10:00

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

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.92	J B	1.0	0.23	ug/L		06/02/23 09:02	06/07/23 04:09	1
Boron	<12.7	^	50.0	12.7	ug/L		06/02/23 09:02	06/07/23 04:09	1
Manganese	267		2.5	0.79	ug/L		06/02/23 09:02	06/07/23 04:09	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	250		0.91	0.46	mg/L		06/02/23 09:02	06/08/23 12:38	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	4.8		1.0	0.12	mg/L			06/01/23 23:25	1
Fluoride (EPA 300.0)	<0.19		1.0	0.19	mg/L			06/01/23 23:25	1
Sulfate (EPA 300.0)	5.0		1.0	0.21	mg/L			06/01/23 23:25	1
Alkalinity (SM 2320B)	237		5.0	3.7	mg/L			06/05/23 12:39	1

Definitions/Glossary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-234599-1

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Reported value was between the limit of detection and the limit of quantitation.

Glossary

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

QC Association Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-234599-1

Metals

Prep Batch: 716497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-234599-1	MW-17WT	Dissolved	Water	3005A	
500-234599-2	MW-16	Dissolved	Water	3005A	
500-234599-3	MW-14WT	Dissolved	Water	3005A	
MB 500-716497/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-716497/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 717287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-234599-1	MW-17WT	Dissolved	Water	6020B	716497
500-234599-2	MW-16	Dissolved	Water	6020B	716497
500-234599-3	MW-14WT	Dissolved	Water	6020B	716497
MB 500-716497/1-A	Method Blank	Total Recoverable	Water	6020B	716497
LCS 500-716497/2-A	Lab Control Sample	Total Recoverable	Water	6020B	716497

Analysis Batch: 717574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-234599-1	MW-17WT	Dissolved	Water	SM 2340B	716497
500-234599-2	MW-16	Dissolved	Water	SM 2340B	716497
500-234599-3	MW-14WT	Dissolved	Water	SM 2340B	716497

General Chemistry

Analysis Batch: 716289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-234599-1	MW-17WT	Dissolved	Water	300.0	
500-234599-2	MW-16	Dissolved	Water	300.0	
500-234599-3	MW-14WT	Dissolved	Water	300.0	
MB 500-716289/34	Method Blank	Total/NA	Water	300.0	
LCS 500-716289/35	Lab Control Sample	Total/NA	Water	300.0	
500-234599-1 MS	MW-17WT	Dissolved	Water	300.0	
500-234599-1 MSD	MW-17WT	Dissolved	Water	300.0	
500-234599-2 MS	MW-16	Dissolved	Water	300.0	
500-234599-2 MSD	MW-16	Dissolved	Water	300.0	

Analysis Batch: 716980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-234599-1	MW-17WT	Dissolved	Water	SM 2320B	
500-234599-2	MW-16	Dissolved	Water	SM 2320B	
500-234599-3	MW-14WT	Dissolved	Water	SM 2320B	
MB 500-716980/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-716980/4	Lab Control Sample	Total/NA	Water	SM 2320B	

QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-234599-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 500-716497/1-A
Matrix: Water
Analysis Batch: 717287

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 716497

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.247	J	1.0	0.23	ug/L		06/02/23 09:02	06/07/23 02:45	1
Boron	<12.7	^	50.0	12.7	ug/L		06/02/23 09:02	06/07/23 02:45	1
Manganese	<0.79		2.5	0.79	ug/L		06/02/23 09:02	06/07/23 02:45	1
Thallium	<0.57	^	2.0	0.57	ug/L		06/02/23 09:02	06/07/23 02:45	1

Lab Sample ID: LCS 500-716497/2-A
Matrix: Water
Analysis Batch: 717287

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 716497

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	100	90.11		ug/L		90	80 - 120
Boron	1000	1111	^	ug/L		111	80 - 120
Manganese	500	519.4		ug/L		104	80 - 120
Thallium	100	110.8	^	ug/L		111	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 500-716289/34
Matrix: Water
Analysis Batch: 716289

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.12		1.0	0.12	mg/L			06/01/23 18:07	1
Fluoride	<0.19		1.0	0.19	mg/L			06/01/23 18:07	1
Sulfate	<0.21		1.0	0.21	mg/L			06/01/23 18:07	1

Lab Sample ID: LCS 500-716289/35
Matrix: Water
Analysis Batch: 716289

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	18.57		mg/L		93	90 - 110
Fluoride	20.0	19.86		mg/L		99	90 - 110
Sulfate	20.0	20.27		mg/L		101	90 - 110

Lab Sample ID: 500-234599-1 MS
Matrix: Water
Analysis Batch: 716289

Client Sample ID: MW-17WT
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	3.4		10.0	12.37		mg/L		90	80 - 120
Fluoride	<0.19		10.0	9.12		mg/L		91	80 - 120
Sulfate	5.3		10.0	14.99		mg/L		97	80 - 120

Lab Sample ID: 500-234599-1 MSD
Matrix: Water
Analysis Batch: 716289

Client Sample ID: MW-17WT
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3.4		10.0	12.31		mg/L		90	80 - 120	0	20

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QC Sample Results

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-234599-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 500-234599-1 MSD

Matrix: Water

Analysis Batch: 716289

Client Sample ID: MW-17WT

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	<0.19		10.0	9.12		mg/L		91	80 - 120	0	20
Sulfate	5.3		10.0	15.05		mg/L		98	80 - 120	0	20

Lab Sample ID: 500-234599-2 MS

Matrix: Water

Analysis Batch: 716289

Client Sample ID: MW-16

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3.3		10.0	12.16		mg/L		89	80 - 120		
Fluoride	<0.19		10.0	8.87		mg/L		89	80 - 120		
Sulfate	10.2		10.0	20.06		mg/L		99	80 - 120		

Lab Sample ID: 500-234599-2 MSD

Matrix: Water

Analysis Batch: 716289

Client Sample ID: MW-16

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3.3		10.0	12.12		mg/L		89	80 - 120	0	20
Fluoride	<0.19		10.0	8.89		mg/L		89	80 - 120	0	20
Sulfate	10.2		10.0	19.98		mg/L		98	80 - 120	0	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 500-716980/3

Matrix: Water

Analysis Batch: 716980

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	<3.7		5.0	3.7	mg/L			06/05/23 12:39	1

Lab Sample ID: LCS 500-716980/4

Matrix: Water

Analysis Batch: 716980

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity	100	94.66		mg/L		95	90 - 110		

Lab Chronicle

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-234599-1

Client Sample ID: MW-17WT

Date Collected: 05/30/23 11:00

Date Received: 06/01/23 10:00

Lab Sample ID: 500-234599-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			716497	BDE	EET CHI	06/02/23 09:02 - 06/02/23 09:32 ¹
Dissolved	Analysis	6020B		1	717287	FXG	EET CHI	06/07/23 04:00
Dissolved	Prep	3005A			716497	BDE	EET CHI	06/02/23 09:02 - 06/02/23 09:32 ¹
Dissolved	Analysis	SM 2340B		1	717574	FXG	EET CHI	06/08/23 12:38
Dissolved	Analysis	300.0		1	716289	W1T	EET CHI	06/01/23 21:24
Dissolved	Analysis	SM 2320B		1	716980	EH	EET CHI	06/05/23 12:39

Client Sample ID: MW-16

Date Collected: 05/30/23 12:00

Date Received: 06/01/23 10:00

Lab Sample ID: 500-234599-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			716497	BDE	EET CHI	06/02/23 09:02 - 06/02/23 09:32 ¹
Dissolved	Analysis	6020B		1	717287	FXG	EET CHI	06/07/23 04:05
Dissolved	Prep	3005A			716497	BDE	EET CHI	06/02/23 09:02 - 06/02/23 09:32 ¹
Dissolved	Analysis	SM 2340B		1	717574	FXG	EET CHI	06/08/23 12:38
Dissolved	Analysis	300.0		1	716289	W1T	EET CHI	06/01/23 22:40
Dissolved	Analysis	SM 2320B		1	716980	EH	EET CHI	06/05/23 12:39

Client Sample ID: MW-14WT

Date Collected: 05/30/23 13:00

Date Received: 06/01/23 10:00

Lab Sample ID: 500-234599-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			716497	BDE	EET CHI	06/02/23 09:02 - 06/02/23 09:32 ¹
Dissolved	Analysis	6020B		1	717287	FXG	EET CHI	06/07/23 04:09
Dissolved	Prep	3005A			716497	BDE	EET CHI	06/02/23 09:02 - 06/02/23 09:32 ¹
Dissolved	Analysis	SM 2340B		1	717574	FXG	EET CHI	06/08/23 12:38
Dissolved	Analysis	300.0		1	716289	W1T	EET CHI	06/01/23 23:25
Dissolved	Analysis	SM 2320B		1	716980	EH	EET CHI	06/05/23 12:39

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

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Vernon County Solid Waste & Recycling
Project/Site: Vernon County Landfill

Job ID: 500-234599-1

Laboratory: Eurofins Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-23

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

2417 Bond Street
University Park IL 60484
Phone 708-534-5200 Fax

SEND COPY OF
REPORT TO SETTING

Chain of Custody Record

[illegible]

Login Sample Receipt Checklist

Client: Vernon County Solid Waste & Recycling

Job Number: 500-234599-1

Login Number: 234599

List Source: Eurofins Chicago

List Number: 1

Creator: Hernandez, Stephanie

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	