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ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

Ford LTP - On Site

JOB NUMBER

240-200851-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

Job Notes

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

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

Authorization

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Table of Contents

Definitions/Glossary

Client: Arcadis U.S., Inc.
Job ID: 240-200851-1
Project/Site: Ford LTP - On Site

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.
U	Indicates the analyte was analyzed for but not detected.

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

Job Narrative
240-200851-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

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

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

Receipt
The samples were received on 3/9/2024 8:00 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 time was 1.4°C.

GC/MS VOA
Method 8260D: No MS/MSD for batch 606330 due to parent samples needs reanalyzed at a different dilution.

Job ID: 240-200851-1 (Continued) Eurofins Cleveland

TRIP BLANK_27 (240-200851-1), MW-43_030724 (240-200851-3) and MW-42_030724 (240-200851-4)

Method 8260D_SIM: AN MS/MSD was prepped and analyzed with batch 240-606031. The MS/MSD required reanalysis due to matrix effect, and are therefore not reported in this batch.

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

Method Summary

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP - On Site

Job ID: 240-200851-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
8260D SIM	Volatile Organic Compounds (GC/MS)	SW846	EET CLE
5030C	Purge and Trap	SW846	EET CLE

Protocol References:

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

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP - On Site

Job ID: 240-200851-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-200851-1	TRIP BLANK_27	Water	03/07/24 00:00	03/09/24 08:00
240-200851-2	MW-52_030724	Water	03/07/24 11:10	03/09/24 08:00
240-200851-3	MW-43_030724	Water	03/07/24 12:00	03/09/24 08:00
240-200851-4	MW-42_030724	Water	03/07/24 13:10	03/09/24 08:00

Detection Summary

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP - On Site

Job ID: 240-200851-1

Client Sample ID: TRIP BLANK_27 — Lab Sample ID: 240-200851-1

No Detections.

Client Sample ID: MW-52_030724 — Lab Sample ID: 240-200851-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.7		2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	0.90	J	1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: MW-43_030724 — Lab Sample ID: 240-200851-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.5		2.0	0.86	ug/L	1		8260D SIM	Total/NA

Client Sample ID: MW-42_030724 — Lab Sample ID: 240-200851-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.85	J	1.0	0.45	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP - On Site

Job ID: 240-200851-1

Client Sample ID: TRIP BLANK_27
Date Collected: 03/07/24 00:00
Date Received: 03/09/24 08:00

Lab Sample ID: 240-200851-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			03/16/24 01:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/16/24 01:19	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/16/24 01:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/16/24 01:19	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/16/24 01:19	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/16/24 01:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*62 - 137*		*03/16/24 01:19*	*1*
4-Bromofluorobenzene (Surr)	*77*		*56 - 136*		*03/16/24 01:19*	*1*
Toluene-d8 (Surr)	*97*		*78 - 122*		*03/16/24 01:19*	*1*
Dibromofluoromethane (Surr)	*118*		*73 - 120*		*03/16/24 01:19*	*1*

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP - On Site

Job ID: 240-200851-1

Client Sample ID: MW-52_030724
Date Collected: 03/07/24 11:10
Date Received: 03/09/24 08:00

Lab Sample ID: 240-200851-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.7		2.0	0.86	ug/L			03/14/24 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*122*		*68 - 127*		*03/14/24 19:04*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			03/19/24 03:27	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/19/24 03:27	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/19/24 03:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/19/24 03:27	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/19/24 03:27	1
Vinyl chloride	0.90	J	1.0	0.45	ug/L			03/19/24 03:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*62 - 137*		*03/19/24 03:27*	*1*
4-Bromofluorobenzene (Surr)	*95*		*56 - 136*		*03/19/24 03:27*	*1*
Toluene-d8 (Surr)	*106*		*78 - 122*		*03/19/24 03:27*	*1*
Dibromofluoromethane (Surr)	*100*		*73 - 120*		*03/19/24 03:27*	*1*

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP - On Site

Job ID: 240-200851-1

Client Sample ID: MW-43_030724

Date Collected: 03/07/24 12:00
Date Received: 03/09/24 08:00

Lab Sample ID: 240-200851-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.5		2.0	0.86	ug/L			03/14/24 19:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*68 - 127*		*03/14/24 19:27*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			03/16/24 07:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/16/24 07:10	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/16/24 07:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/16/24 07:10	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/16/24 07:10	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/16/24 07:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*62 - 137*		*03/16/24 07:10*	*1*
4-Bromofluorobenzene (Surr)	*73*		*56 - 136*		*03/16/24 07:10*	*1*
Toluene-d8 (Surr)	*95*		*78 - 122*		*03/16/24 07:10*	*1*
Dibromofluoromethane (Surr)	*113*		*73 - 120*		*03/16/24 07:10*	*1*

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP - On Site

Job ID: 240-200851-1

Client Sample ID: MW-42_030724

Date Collected: 03/07/24 13:10
Date Received: 03/09/24 08:00

Lab Sample ID: 240-200851-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/14/24 19:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*68 - 127*		*03/14/24 19:51*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			03/16/24 07:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/16/24 07:34	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/16/24 07:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/16/24 07:34	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/16/24 07:34	1
Vinyl chloride	**0.85**	**J**	1.0	0.45	ug/L			03/16/24 07:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*62 - 137*		*03/16/24 07:34*	*1*
4-Bromofluorobenzene (Surr)	*79*		*56 - 136*		*03/16/24 07:34*	*1*
Toluene-d8 (Surr)	*100*		*78 - 122*		*03/16/24 07:34*	*1*
Dibromofluoromethane (Surr)	*118*		*73 - 120*		*03/16/24 07:34*	*1*

Surrogate Summary

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP - On Site

Job ID: 240-200851-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(62-137)	(56-136)	(78-122)	(73-120)
240-200849-D-2 MS	Matrix Spike	100	97	103	102
240-200849-F-2 MSD	Matrix Spike Duplicate	98	98	108	97
240-200851-1	TRIP BLANK_27	112	77	97	118
240-200851-2	MW-52_030724	98	95	106	100
240-200851-3	MW-43_030724	107	73	95	113
240-200851-4	MW-42_030724	112	79	100	118
LCS 240-606330/5	Lab Control Sample	94	92	99	102
LCS 240-606524/5	Lab Control Sample	98	100	106	99
MB 240-606330/9	Method Blank	109	80	97	113
MB 240-606524/9	Method Blank	100	97	106	91

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)
		DCA
Lab Sample ID	Client Sample ID	(68-127)
240-200851-2	MW-52_030724	122
240-200851-3	MW-43_030724	105
240-200851-4	MW-42_030724	114
LCS 240-606031/5	Lab Control Sample	104
MB 240-606031/7	Method Blank	109

Surrogate Legend

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

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

Lab Sample ID: MB 240-606330/9
Matrix: Water
Analysis Batch: 606330

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			03/15/24 23:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/15/24 23:22	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/15/24 23:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/15/24 23:22	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/15/24 23:22	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/15/24 23:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*62 - 137*		*03/15/24 23:22*	*1*
4-Bromofluorobenzene (Surr)	*80*		*56 - 136*		*03/15/24 23:22*	*1*
Toluene-d8 (Surr)	*97*		*78 - 122*		*03/15/24 23:22*	*1*
Dibromofluoromethane (Surr)	*113*		*73 - 120*		*03/15/24 23:22*	*1*

Lab Sample ID: LCS 240-606330/5
Matrix: Water
Analysis Batch: 606330

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	20.0	21.3		ug/L		107	63 - 134
cis-1,2-Dichloroethene	20.0	20.4		ug/L		102	77 - 123
Tetrachloroethene	20.0	20.5		ug/L		102	76 - 123
trans-1,2-Dichloroethene	20.0	19.6		ug/L		98	75 - 124
Trichloroethene	20.0	19.0		ug/L		95	70 - 122
Vinyl chloride	20.0	23.6		ug/L		118	60 - 144

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*62 - 137*
4-Bromofluorobenzene (Surr)	*92*		*56 - 136*
Toluene-d8 (Surr)	*99*		*78 - 122*
Dibromofluoromethane (Surr)	*102*		*73 - 120*

Lab Sample ID: MB 240-606524/9
Matrix: Water
Analysis Batch: 606524

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			03/19/24 00:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/19/24 00:54	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/19/24 00:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/19/24 00:54	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/19/24 00:54	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/19/24 00:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*62 - 137*		*03/19/24 00:54*	*1*
4-Bromofluorobenzene (Surr)	*97*		*56 - 136*		*03/19/24 00:54*	*1*
Toluene-d8 (Surr)	*106*		*78 - 122*		*03/19/24 00:54*	*1*

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

Lab Sample ID: MB 240-606524/9
Matrix: Water
Analysis Batch: 606524

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*91*		*73 - 120*		*03/19/24 00:54*	*1*

Lab Sample ID: LCS 240-606524/5
Matrix: Water
Analysis Batch: 606524

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1-Dichloroethene			20.0	17.2		ug/L		86	63 - 134		
cis-1,2-Dichloroethene			20.0	16.9		ug/L		84	77 - 123		
Tetrachloroethene			20.0	18.8		ug/L		94	76 - 123		
trans-1,2-Dichloroethene			20.0	17.3		ug/L		87	75 - 124		
Trichloroethene			20.0	18.0		ug/L		90	70 - 122		
Vinyl chloride			20.0	16.6		ug/L		83	60 - 144		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*98*		*62 - 137*
4-Bromofluorobenzene (Surr)	*100*		*56 - 136*
Toluene-d8 (Surr)	*106*		*78 - 122*
Dibromofluoromethane (Surr)	*99*		*73 - 120*

Lab Sample ID: 240-200849-D-2 MS
Matrix: Water
Analysis Batch: 606524

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1-Dichloroethene	1.0	U	20.0	18.9		ug/L		95	56 - 135		
cis-1,2-Dichloroethene	1.0	U	20.0	18.0		ug/L		90	66 - 128		
Tetrachloroethene	1.0	U	20.0	19.5		ug/L		98	62 - 131		
trans-1,2-Dichloroethene	1.0	U	20.0	18.1		ug/L		91	56 - 136		
Trichloroethene	1.0	U	20.0	18.7		ug/L		93	61 - 124		
Vinyl chloride	1.0	U	20.0	18.1		ug/L		90	43 - 157		

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*100*		*62 - 137*
4-Bromofluorobenzene (Surr)	*97*		*56 - 136*
Toluene-d8 (Surr)	*103*		*78 - 122*
Dibromofluoromethane (Surr)	*102*		*73 - 120*

Lab Sample ID: 240-200849-F-2 MSD
Matrix: Water
Analysis Batch: 606524

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	20.0	18.1		ug/L		91	56 - 135	4	26
cis-1,2-Dichloroethene	1.0	U	20.0	17.3		ug/L		87	66 - 128	4	14
Tetrachloroethene	1.0	U	20.0	19.4		ug/L		97	62 - 131	1	20
trans-1,2-Dichloroethene	1.0	U	20.0	17.4		ug/L		87	56 - 136	4	15
Trichloroethene	1.0	U	20.0	17.3		ug/L		87	61 - 124	7	15

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

Lab Sample ID: 240-200849-F-2 MSD
Matrix: Water
Analysis Batch: 606524

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Vinyl chloride	1.0	U	20.0	18.1		ug/L		91	43 - 157	0	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*62 - 137*
4-Bromofluorobenzene (Surr)	*98*		*56 - 136*
Toluene-d8 (Surr)	*108*		*78 - 122*
Dibromofluoromethane (Surr)	*97*		*73 - 120*

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

Lab Sample ID: MB 240-606031/7
Matrix: Water
Analysis Batch: 606031

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/14/24 11:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*68 - 127*		*03/14/24 11:06*	*1*

Lab Sample ID: LCS 240-606031/5
Matrix: Water
Analysis Batch: 606031

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,4-Dioxane			10.0	8.14		ug/L		81	75 - 121		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*68 - 127*

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP - On Site

Job ID: 240-200851-1

GC/MS VOA

Analysis Batch: 606031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200851-2	MW-52_030724	Total/NA	Water	8260D SIM	
240-200851-3	MW-43_030724	Total/NA	Water	8260D SIM	
240-200851-4	MW-42_030724	Total/NA	Water	8260D SIM	
MB 240-606031/7	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-606031/5	Lab Control Sample	Total/NA	Water	8260D SIM	

Analysis Batch: 606330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200851-1	TRIP BLANK_27	Total/NA	Water	8260D	
240-200851-3	MW-43_030724	Total/NA	Water	8260D	
240-200851-4	MW-42_030724	Total/NA	Water	8260D	
MB 240-606330/9	Method Blank	Total/NA	Water	8260D	
LCS 240-606330/5	Lab Control Sample	Total/NA	Water	8260D	

Analysis Batch: 606524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200851-2	MW-52_030724	Total/NA	Water	8260D	
MB 240-606524/9	Method Blank	Total/NA	Water	8260D	
LCS 240-606524/5	Lab Control Sample	Total/NA	Water	8260D	
240-200849-D-2 MS	Matrix Spike	Total/NA	Water	8260D	
240-200849-F-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Arcadis U.S., Inc.
Job ID: 240-200851-1
Project/Site: Ford LTP - On Site

Client Sample ID: TRIP BLANK_27
Lab Sample ID: 240-200851-1
Date Collected: 03/07/24 00:00
Matrix: Water
Date Received: 03/09/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	606330	AJS	EET CLE	03/16/24 01:19

Client Sample ID: MW-52_030724
Lab Sample ID: 240-200851-2
Date Collected: 03/07/24 11:10
Matrix: Water
Date Received: 03/09/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	606524	AJS	EET CLE	03/19/24 03:27
Total/NA	Analysis	8260D SIM		1	606031	MDH	EET CLE	03/14/24 19:04

Client Sample ID: MW-43_030724
Lab Sample ID: 240-200851-3
Date Collected: 03/07/24 12:00
Matrix: Water
Date Received: 03/09/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	606330	AJS	EET CLE	03/16/24 07:10
Total/NA	Analysis	8260D SIM		1	606031	MDH	EET CLE	03/14/24 19:27

Client Sample ID: MW-42_030724
Lab Sample ID: 240-200851-4
Date Collected: 03/07/24 13:10
Matrix: Water
Date Received: 03/09/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	606330	AJS	EET CLE	03/16/24 07:34
Total/NA	Analysis	8260D SIM		1	606031	MDH	EET CLE	03/14/24 19:51

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: Arcadis U.S., Inc.
Job ID: 240-200851-1
Project/Site: Ford LTP - On Site

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-24 *
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-01-24
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

MICHIGAN 190

5/6

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: Brighton -- 10448 Citation Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

Client Contact	Client Project Manager: Kris Hinskey	Site Contact: Christina Weaver	Lab Contact: Mike DelMonico	COC No:
Company Name: Arcadis	Telephone: 248-994-2240	Telephone: 248-994-2240	Telephone: 330-497-9396	1 of 1 COCs
Address: 28550 Cabot Drive, Suite 500	Email: kristoffer.hinskey@arcadis.com	Analysis Turnaround Time		For lab use only
City/State/Zip: Novi, MI, 48377	Sampler Name: Alaina Pitera	TAT if different from below: 10 day; ☐ 3 weeks ☑ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Walk-in client: Lab sampling: Job/SDG No:
Phone: 248-994-2240	Method of Shipment/Carrier:			
Project Name: Ford LTP On-Site	Shipping/Tracking No:			
Project Number: 30167538.401.03				
PO # 30167538.401.03				

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	Filtered Sample (Y/N)	Composite=C / Grab=G	1,1-DCE 8260D	cis-1,2-DCE 8260D	trans-1,2-DCE 8260D	PCE 8260D	TCE 8260D	Vinyl Chloride 8260D	1,4-Dioxane 8260D SIM	Sample Specific Notes / Special Instructions:
~~TRIP BLANK~~ TripBlank_27	----	----		X (5)						1					N	G	X	X	X	X	X	X		1 Trip Blank
MW-52_030724	3/7/24	1110		6						6					N	G	X	X	X	X	X	X	X	3 VOAs for 8260D
MW-43_030724	3/7/24	1200		6						6					N	G	X	X	X	X	X	X	X	3 VOAs for 8260D SIM
MW-42_030724	3/7/24	1310		6						6					N	G	X	X	X	X	X	X	X	(5)

240-200851 Chain of Custody

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ an Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return to Client ☑ Disposal By Lab ☐ Archive For ___ Months

Special Instructions/QC Requirements & Comments:

Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728
Level IV Reporting requested.

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Alaina Pitera	Arcadis	3/7/24 1400	Novi cold storage	Arcadis	3/7/24 1400
	Arcadis	3/8/24 1435		FEDEX	3/8/24 1035
	FEDEX	3/8/24 1500	Received in Laboratory by:	EETNC	3-9-24 800

Eurofins – Cleveland Sample Receipt Form/Narrative
Barberton Facility

Login #:

Client Arcadis Site Name ______ Cooler unpacked by: [signature]

Cooler Received on 3-9-24 Opened on 3-9-24

FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other ______

Receipt After-hours Drop-off Date/Time ______ Storage Location ______

Eurofins Cooler # ES Foam Box Client Cooler Box Other ______

Packing material used: Bubble Wrap Foam Plastic Bag None Other ______

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN # 22 (CF 0.0 °C) Observed Cooler Temp 1.4 °C Corrected Cooler Temp 1.4 °C

2 Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes No	(Yes)
-Were the seals on the outside of the cooler(s) signed & dated?	Yes No NA	(Yes)
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes No	(No)
-Were tamper/custody seals intact and uncompromised?	Yes No NA	(Yes)
3 Shippers' packing slip attached to the cooler(s)?	Yes No	(No)
4. Did custody papers accompany the sample(s)?	Yes No	(Yes)
5 Were the custody papers relinquished & signed in the appropriate place?	Yes No	(Yes)
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes No	(Yes)
7 Did all bottles arrive in good condition (Unbroken)?	Yes No	(Yes)
8 Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes No	(Yes)
9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		(Y) (Y) (Y)
10 Were correct bottle(s) used for the test(s) indicated?	Yes No	(Yes)
11 Sufficient quantity received to perform indicated analyses?	Yes No	(Yes)
12. Are these work share samples and all listed on the COC? If yes, Questions 13-17 have been checked at the originating laboratory	Yes No	(No)
13 Were all preserved sample(s) at the correct pH upon receipt?	Yes No NA	(No)
14. Were VOAs on the COC?	Yes No	(Yes)
15 Were air bubbles >6 mm in any VOA vials? ● ← Larger than this	Yes No NA	(No)
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Covered	Yes No	(Yes)
17 Was a LL Hg or Me Hg trip blank present?	Yes No	(No)

pH Strip Lot# ~~HC316719~~ HC329089

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM ______ Date ______ by ______ via Verbal Voice Mail Other

Concerning ______

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page Samples processed by:

19 SAMPLE CONDITION

Sample(s) ______ were received after the recommended holding time had expired

Sample(s) ______ were received in a broken container

Sample(s) ______ were received with bubble >6 mm in diameter (Notify PM)

20 SAMPLE PRESERVATION

Sample(s) ______ were further preserved in the laboratory

Time preserved. ______ Preservative(s) added/Lot number(s) ______

VOA Sample Preservation - Date/Time VOAs Frozen ______

WI-NC-099

DATA VERIFICATION REPORT

March 21, 2024

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil
Project number: 30167538.401.03
Event Specific Scope of Work References: Sample COC
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory submittal: 200851-1
Sample date: 2024-03-07
Report received by CADENA: 2024-03-21
Initial Data Verification completed by CADENA: 2024-03-21
Number of Samples:4
Sample Matrices: Water and trip blank
Test Categories: GCMS VOC
Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at http://clms.cadenaco.com/index.cfm.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminates) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminates) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

Analytical Results Summary

CADENA Project ID: E203728
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory Submittal: 200851-1

		Sample Name:	TRIP BLANK_27				MW-52_030724				MW-43_030724				MW-42_030724			
		Lab Sample ID:	2402008511				2402008512				2402008513				2402008514			
		Sample Date:	3/7/2024				3/7/2024				3/7/2024				3/7/2024			
Analyte	Cas No.	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier
GC/MS VOC																	
OSW-8260D																	
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	0.90	1.0	ug/l	J	ND	1.0	ug/l	---	0.85	1.0	ug/l	J
OSW-8260DSIM																	
1,4-Dioxane	123-91-1					2.7	2.0	ug/l	---	2.5	2.0	ug/l	---	ND	2.0	ug/l	---