

ANALYTICAL REPORT

PREPARED FOR

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Generated 8/26/2025 12:38:24 AM

JOB DESCRIPTION

Ford LTP

JOB NUMBER

240-231212-1

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Job Notes

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Authorization



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Definitions/Glossary

Client: Arcadis US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

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.
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

Case Narrative

Client: Arcadis US Inc.
Project: Ford LTP

Job ID: 240-231212-1

Job ID: 240-231212-1

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Job Narrative 240-231212-1

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

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

Receipt

The samples were received on 8/20/2025 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.7°C and 1.6°C.

GC/MS VOA

Method 8260D: Batch 240-668993 is reported without a matrix spike/matrix spike duplicate (MS/MSD). The batch MS/MSD was originally performed on another client's sample, and this test was put on hold at client request. This MS/MSD result does not have immediate bearing on any samples except for the actual sample spiked. The associated laboratory control sample (LCS) met acceptance criteria and provides long-term precision and accuracy for this batch. The samples affected are MW-23_081525 (240-231212-2).

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

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Method Summary

Client: Arcadis US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

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 US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
240-231212-1	TRIP BLANK_122	Water	08/15/25 00:00	08/20/25 08:00	Michigan
240-231212-2	MW-23_081525	Water	08/15/25 09:50	08/20/25 08:00	Michigan
240-231212-3	MW-221S_081525	Water	08/15/25 11:15	08/20/25 08:00	Michigan

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

Detection Summary

Client: Arcadis US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

Client Sample ID: TRIP BLANK_122

Lab Sample ID: 240-231212-1

No Detections.

Client Sample ID: MW-23_081525

Lab Sample ID: 240-231212-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	6.9		1.0	0.49	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	5700		100	46	ug/L	100		8260D	Total/NA
trans-1,2-Dichloroethene	240		40	20	ug/L	40		8260D	Total/NA
Trichloroethene	450		40	18	ug/L	40		8260D	Total/NA
Vinyl chloride	370		40	18	ug/L	40		8260D	Total/NA

Client Sample ID: MW-221S_081525

Lab Sample ID: 240-231212-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	6.9		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	0.54	J	1.0	0.51	ug/L	1		8260D	Total/NA
Trichloroethene	0.82	J	1.0	0.44	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample Results

Client: Arcadis US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

Client Sample ID: TRIP BLANK_122

Lab Sample ID: 240-231212-1

Date Collected: 08/15/25 00:00

Matrix: Water

Date Received: 08/20/25 08:00

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			08/21/25 20:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/21/25 20:37	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/21/25 20:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/21/25 20:37	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/21/25 20:37	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/21/25 20:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		62 - 137		08/21/25 20:37	1
4-Bromofluorobenzene (Surr)	100		56 - 136		08/21/25 20:37	1
Toluene-d8 (Surr)	103		78 - 122		08/21/25 20:37	1
Dibromofluoromethane (Surr)	100		73 - 120		08/21/25 20:37	1

Client Sample Results

Client: Arcadis US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

Client Sample ID: MW-23_081525

Lab Sample ID: 240-231212-2

Date Collected: 08/15/25 09:50

Matrix: Water

Date Received: 08/20/25 08:00

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			08/21/25 20:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		68 - 127					08/21/25 20:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	6.9		1.0	0.49	ug/L			08/22/25 10:42	1
cis-1,2-Dichloroethene	5700		100	46	ug/L			08/23/25 16:15	100
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/22/25 10:42	1
trans-1,2-Dichloroethene	240		40	20	ug/L			08/22/25 13:01	40
Trichloroethene	450		40	18	ug/L			08/22/25 13:01	40
Vinyl chloride	370		40	18	ug/L			08/22/25 13:01	40
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137					08/22/25 10:42	1
1,2-Dichloroethane-d4 (Surr)	103		62 - 137					08/22/25 13:01	40
1,2-Dichloroethane-d4 (Surr)	105		62 - 137					08/23/25 16:15	100
4-Bromofluorobenzene (Surr)	97		56 - 136					08/22/25 10:42	1
4-Bromofluorobenzene (Surr)	95		56 - 136					08/22/25 13:01	40
4-Bromofluorobenzene (Surr)	96		56 - 136					08/23/25 16:15	100
Toluene-d8 (Surr)	105		78 - 122					08/22/25 10:42	1
Toluene-d8 (Surr)	102		78 - 122					08/22/25 13:01	40
Toluene-d8 (Surr)	100		78 - 122					08/23/25 16:15	100
Dibromofluoromethane (Surr)	101		73 - 120					08/22/25 10:42	1
Dibromofluoromethane (Surr)	97		73 - 120					08/22/25 13:01	40
Dibromofluoromethane (Surr)	101		73 - 120					08/23/25 16:15	100

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Client Sample Results

Client: Arcadis US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

Client Sample ID: MW-221S_081525

Lab Sample ID: 240-231212-3

Date Collected: 08/15/25 11:15

Matrix: Water

Date Received: 08/20/25 08:00

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			08/21/25 20:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		68 - 127					08/21/25 20:47	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			08/22/25 13:24	1
cis-1,2-Dichloroethene	6.9		1.0	0.46	ug/L			08/22/25 13:24	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/22/25 13:24	1
trans-1,2-Dichloroethene	0.54	J	1.0	0.51	ug/L			08/22/25 13:24	1
Trichloroethene	0.82	J	1.0	0.44	ug/L			08/22/25 13:24	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/22/25 13:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137					08/22/25 13:24	1
4-Bromofluorobenzene (Surr)	97		56 - 136					08/22/25 13:24	1
Toluene-d8 (Surr)	102		78 - 122					08/22/25 13:24	1
Dibromofluoromethane (Surr)	97		73 - 120					08/22/25 13:24	1

Surrogate Summary

Client: Arcadis US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-231026-C-34 MS	Matrix Spike	105	108	105	100
240-231026-C-34 MSD	Matrix Spike Duplicate	99	100	101	96
240-231032-A-2 MS	Matrix Spike	98	98	98	94
240-231032-A-2 MSD	Matrix Spike Duplicate	97	99	97	95
240-231212-1	TRIP BLANK_122	107	100	103	100
240-231212-2	MW-23_081525	106	97	105	101
240-231212-2	MW-23_081525	103	95	102	97
240-231212-2	MW-23_081525	105	96	100	101
240-231212-3	MW-221S_081525	106	97	102	97
LCS 240-668757/5	Lab Control Sample	94	98	98	92
LCS 240-668804/2	Lab Control Sample	105	109	107	100
LCS 240-668993/5	Lab Control Sample	100	104	104	100
MB 240-668757/10	Method Blank	101	97	101	92
MB 240-668804/5	Method Blank	105	96	100	97
MB 240-668993/9	Method Blank	106	101	102	101
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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (68-127)			
240-231212-2	MW-23_081525	105			
240-231212-3	MW-221S_081525	104			
240-231212-3 MS	MW-221S_081525	105			
240-231212-3 MSD	MW-221S_081525	102			
LCS 240-668744/2	Lab Control Sample	101			
MB 240-668744/4	Method Blank	103			
Surrogate Legend					
DCA = 1,2-Dichloroethane-d4 (Surr)					

QC Sample Results

Client: Arcadis US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

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

Lab Sample ID: MB 240-668757/10

Matrix: Water

Analysis Batch: 668757

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			08/21/25 16:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/21/25 16:47	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/21/25 16:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/21/25 16:47	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/21/25 16:47	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/21/25 16:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		62 - 137		08/21/25 16:47	1
4-Bromofluorobenzene (Surr)	97		56 - 136		08/21/25 16:47	1
Toluene-d8 (Surr)	101		78 - 122		08/21/25 16:47	1
Dibromofluoromethane (Surr)	92		73 - 120		08/21/25 16:47	1

Lab Sample ID: LCS 240-668757/5

Matrix: Water

Analysis Batch: 668757

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	19.2		ug/L		96	63 - 134
cis-1,2-Dichloroethene	20.0	18.5		ug/L		92	77 - 123
Tetrachloroethene	20.0	18.6		ug/L		93	76 - 123
trans-1,2-Dichloroethene	20.0	18.5		ug/L		92	75 - 124
Trichloroethene	20.0	18.0		ug/L		90	70 - 122
Vinyl chloride	20.0	15.0		ug/L		75	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	98		78 - 122
Dibromofluoromethane (Surr)	92		73 - 120

Lab Sample ID: 240-231032-A-2 MS

Matrix: Water

Analysis Batch: 668757

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	17.8		ug/L		89	56 - 135
cis-1,2-Dichloroethene	1.0	U	20.0	18.2		ug/L		91	66 - 128
Tetrachloroethene	1.0	U	20.0	15.9		ug/L		79	62 - 131
trans-1,2-Dichloroethene	1.0	U	20.0	17.4		ug/L		87	56 - 136
Trichloroethene	1.0	U	20.0	16.3		ug/L		81	61 - 124
Vinyl chloride	1.0	U	20.0	14.1		ug/L		71	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	98		78 - 122

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QC Sample Results

Client: Arcadis US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

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

Lab Sample ID: 240-231032-A-2 MS

Matrix: Water

Analysis Batch: 668757

Client Sample ID: Matrix Spike

Prep Type: Total/NA

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
Dibromofluoromethane (Surr)	94		73 - 120

Lab Sample ID: 240-231032-A-2 MSD

Matrix: Water

Analysis Batch: 668757

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	18.6		ug/L		93	56 - 135	4	26
cis-1,2-Dichloroethene	1.0	U	20.0	18.7		ug/L		94	66 - 128	3	14
Tetrachloroethene	1.0	U	20.0	16.9		ug/L		85	62 - 131	6	20
trans-1,2-Dichloroethene	1.0	U	20.0	18.1		ug/L		91	56 - 136	4	15
Trichloroethene	1.0	U	20.0	17.0		ug/L		85	61 - 124	4	15
Vinyl chloride	1.0	U	20.0	13.9		ug/L		70	43 - 157	2	24

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		62 - 137
4-Bromofluorobenzene (Surr)	99		56 - 136
Toluene-d8 (Surr)	97		78 - 122
Dibromofluoromethane (Surr)	95		73 - 120

Lab Sample ID: MB 240-668804/5

Matrix: Water

Analysis Batch: 668804

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			08/22/25 04:03	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/22/25 04:03	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/22/25 04:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/22/25 04:03	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/22/25 04:03	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/22/25 04:03	1

	MB	MB				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		62 - 137		08/22/25 04:03	1
4-Bromofluorobenzene (Surr)	96		56 - 136		08/22/25 04:03	1
Toluene-d8 (Surr)	100		78 - 122		08/22/25 04:03	1
Dibromofluoromethane (Surr)	97		73 - 120		08/22/25 04:03	1

Lab Sample ID: LCS 240-668804/2

Matrix: Water

Analysis Batch: 668804

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	18.6		ug/L		93	63 - 134
cis-1,2-Dichloroethene	20.0	18.1		ug/L		91	77 - 123
Tetrachloroethene	20.0	16.2		ug/L		81	76 - 123
trans-1,2-Dichloroethene	20.0	17.7		ug/L		88	75 - 124
Trichloroethene	20.0	17.3		ug/L		86	70 - 122

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QC Sample Results

Client: Arcadis US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

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

Lab Sample ID: LCS 240-668804/2

Matrix: Water

Analysis Batch: 668804

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl chloride	20.0	15.4		ug/L		77	60 - 144

	LCS %Recovery	LCS Qualifier	Limits
Surrogate			
1,2-Dichloroethane-d4 (Surr)	105		62 - 137
4-Bromofluorobenzene (Surr)	109		56 - 136
Toluene-d8 (Surr)	107		78 - 122
Dibromofluoromethane (Surr)	100		73 - 120

Lab Sample ID: 240-231026-C-34 MS

Matrix: Water

Analysis Batch: 668804

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	17.8		ug/L		89	56 - 135
cis-1,2-Dichloroethene	1.0	U	20.0	17.9		ug/L		90	66 - 128
Tetrachloroethene	1.0	U	20.0	15.0		ug/L		75	62 - 131
trans-1,2-Dichloroethene	1.0	U	20.0	17.2		ug/L		86	56 - 136
Trichloroethene	1.0	U	20.0	15.8		ug/L		79	61 - 124
Vinyl chloride	1.0	U	20.0	13.0		ug/L		65	43 - 157

	MS %Recovery	MS Qualifier	Limits
Surrogate			
1,2-Dichloroethane-d4 (Surr)	105		62 - 137
4-Bromofluorobenzene (Surr)	108		56 - 136
Toluene-d8 (Surr)	105		78 - 122
Dibromofluoromethane (Surr)	100		73 - 120

Lab Sample ID: 240-231026-C-34 MSD

Matrix: Water

Analysis Batch: 668804

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	19.1		ug/L		96	56 - 135	7	26
cis-1,2-Dichloroethene	1.0	U	20.0	19.0		ug/L		95	66 - 128	6	14
Tetrachloroethene	1.0	U	20.0	16.1		ug/L		80	62 - 131	7	20
trans-1,2-Dichloroethene	1.0	U	20.0	17.8		ug/L		89	56 - 136	4	15
Trichloroethene	1.0	U	20.0	16.5		ug/L		82	61 - 124	4	15
Vinyl chloride	1.0	U	20.0	13.3		ug/L		66	43 - 157	2	24

	MSD %Recovery	MSD Qualifier	Limits
Surrogate			
1,2-Dichloroethane-d4 (Surr)	99		62 - 137
4-Bromofluorobenzene (Surr)	100		56 - 136
Toluene-d8 (Surr)	101		78 - 122
Dibromofluoromethane (Surr)	96		73 - 120

Eurofins Cleveland

QC Sample Results

Client: Arcadis US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

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

Lab Sample ID: MB 240-668993/9

Matrix: Water

Analysis Batch: 668993

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			08/23/25 11:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/23/25 11:32	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/23/25 11:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/23/25 11:32	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/23/25 11:32	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/23/25 11:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137		08/23/25 11:32	1
4-Bromofluorobenzene (Surr)	101		56 - 136		08/23/25 11:32	1
Toluene-d8 (Surr)	102		78 - 122		08/23/25 11:32	1
Dibromofluoromethane (Surr)	101		73 - 120		08/23/25 11:32	1

Lab Sample ID: LCS 240-668993/5

Matrix: Water

Analysis Batch: 668993

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	25.0	26.1		ug/L		105	63 - 134
cis-1,2-Dichloroethene	25.0	24.7		ug/L		99	77 - 123
Tetrachloroethene	25.0	23.6		ug/L		94	76 - 123
trans-1,2-Dichloroethene	25.0	24.7		ug/L		99	75 - 124
Trichloroethene	25.0	23.7		ug/L		95	70 - 122
Vinyl chloride	25.0	22.4		ug/L		89	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		62 - 137
4-Bromofluorobenzene (Surr)	104		56 - 136
Toluene-d8 (Surr)	104		78 - 122
Dibromofluoromethane (Surr)	100		73 - 120

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

Lab Sample ID: MB 240-668744/4

Matrix: Water

Analysis Batch: 668744

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			08/21/25 18:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		68 - 127		08/21/25 18:26	1

Eurofins Cleveland

QC Sample Results

Client: Arcadis US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

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

Lab Sample ID: LCS 240-668744/2

Matrix: Water

Analysis Batch: 668744

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	8.94		ug/L		89	75 - 121		
Surrogate		LCS %Recovery	LCS Qualifier	Limits							
1,2-Dichloroethane-d4 (Surr)		101		68 - 127							

Lab Sample ID: 240-231212-3 MS

Matrix: Water

Analysis Batch: 668744

Client Sample ID: MW-221S_081525

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
1,4-Dioxane	2.0	U	10.0	8.59		ug/L		86	20 - 180		
Surrogate		MS %Recovery	MS Qualifier	Limits							
1,2-Dichloroethane-d4 (Surr)		105		68 - 127							

Lab Sample ID: 240-231212-3 MSD

Matrix: Water

Analysis Batch: 668744

Client Sample ID: MW-221S_081525

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	8.98		ug/L		90	20 - 180	4	20
Surrogate		MSD %Recovery	MSD Qualifier	Limits							
1,2-Dichloroethane-d4 (Surr)		102		68 - 127							

QC Association Summary

Client: Arcadis US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

GC/MS VOA

Analysis Batch: 668744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-231212-2	MW-23_081525	Total/NA	Water	8260D SIM	
240-231212-3	MW-221S_081525	Total/NA	Water	8260D SIM	
MB 240-668744/4	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-668744/2	Lab Control Sample	Total/NA	Water	8260D SIM	
240-231212-3 MS	MW-221S_081525	Total/NA	Water	8260D SIM	
240-231212-3 MSD	MW-221S_081525	Total/NA	Water	8260D SIM	

Analysis Batch: 668757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-231212-1	TRIP BLANK_122	Total/NA	Water	8260D	
MB 240-668757/10	Method Blank	Total/NA	Water	8260D	
LCS 240-668757/5	Lab Control Sample	Total/NA	Water	8260D	
240-231032-A-2 MS	Matrix Spike	Total/NA	Water	8260D	
240-231032-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 668804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-231212-2	MW-23_081525	Total/NA	Water	8260D	
240-231212-2	MW-23_081525	Total/NA	Water	8260D	
240-231212-3	MW-221S_081525	Total/NA	Water	8260D	
MB 240-668804/5	Method Blank	Total/NA	Water	8260D	
LCS 240-668804/2	Lab Control Sample	Total/NA	Water	8260D	
240-231026-C-34 MS	Matrix Spike	Total/NA	Water	8260D	
240-231026-C-34 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 668993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-231212-2	MW-23_081525	Total/NA	Water	8260D	
MB 240-668993/9	Method Blank	Total/NA	Water	8260D	
LCS 240-668993/5	Lab Control Sample	Total/NA	Water	8260D	

Lab Chronicle

Client: Arcadis US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

Client Sample ID: TRIP BLANK_122
Date Collected: 08/15/25 00:00
Date Received: 08/20/25 08:00

Lab Sample ID: 240-231212-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	668757	AJS	EET CLE	08/21/25 20:37

Client Sample ID: MW-23_081525
Date Collected: 08/15/25 09:50
Date Received: 08/20/25 08:00

Lab Sample ID: 240-231212-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	668804	AJS	EET CLE	08/22/25 10:42
Total/NA	Analysis	8260D		40	668804	AJS	EET CLE	08/22/25 13:01
Total/NA	Analysis	8260D		100	668993	SAM	EET CLE	08/23/25 16:15
Total/NA	Analysis	8260D SIM		1	668744	R5XG	EET CLE	08/21/25 20:24

Client Sample ID: MW-221S_081525
Date Collected: 08/15/25 11:15
Date Received: 08/20/25 08:00

Lab Sample ID: 240-231212-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	668804	AJS	EET CLE	08/22/25 13:24
Total/NA	Analysis	8260D SIM		1	668744	R5XG	EET CLE	08/21/25 20:47

Laboratory References:

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

Accreditation/Certification Summary

Client: Arcadis US Inc.
Project/Site: Ford LTP

Job ID: 240-231212-1

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
Connecticut	State	PH-0806	12-31-26
Georgia	State	4062	02-27-26
Illinois	NELAP	200004	08-31-26
Iowa	State	421	06-01-27
Kansas	NELAP	E-10336	01-31-26
Kentucky (UST)	State	112225	02-28-26
Kentucky (WW)	State	KY98016	12-31-25
Minnesota	NELAP	039-999-348	12-31-25
New Hampshire	NELAP	225024	09-30-25
New Jersey	NELAP	OH001	06-30-26
New York	NELAP	10975	04-01-26
North Dakota	State	R-244	02-27-26
Ohio	State	8303	11-04-25
Ohio VAP	State	ORELAP 4062	02-28-26
Oregon	NELAP	4062	02-27-26
Pennsylvania	NELAP	68-00340	08-31-26
Texas	NELAP	T104704517	08-31-25
US Fish & Wildlife	US Federal Programs	A26406	02-28-26
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-15-25
West Virginia DEP	State	210	12-31-25
Wisconsin	State	399167560	08-31-26

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Eurofins - Cleveland Sample Receipt Form/Narrative
 Barborton Facility

Client Academy Site Name _____ Cooler unpacked by: JS

Cooler Received on 8/20/25 UPS Waypoint Client Drop Off Waypoint Eurofins Courier _____ Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # EC Foam Box _____ Client Cooler _____ Box _____ Other _____

Packing material used Bubble Wrap Wet Ice Blue Ice Dry Ice Water None None Other _____

1. Cooler temperature upon receipt _____ °C Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

IR GUN # _____ (CF _____ °C) _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No NA

-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA

-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No NA

4. Did custody papers accompany the sample(s)? Yes No NA

5. Were the custody papers relinquished & signed in the appropriate place? Yes No NA

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No NA

7. Did all bottles arrive in good condition (Unbroken)? Yes No NA

8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No NA

9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of Grab/comp (Y/N)? Yes No NA

10. Were correct bottle(s) used for the test(s) indicated? Yes No NA

11. Sufficient quantity received to perform indicated analyses? Yes No NA

12. Are these work share samples and all listed on the COC? Yes No NA

If yes, Questions 13-17 have been checked at the originating laboratory.

13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC463162

14. Were VOAs on the COC? Yes No NA

15. Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this.

16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # NA Yes No NA

17. Was a LL Hg or Me Hg trip blank present? Yes No NA

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

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Labeled by: _____ Labels Verified 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: _____

8/20/2025

Login Container Summary Report

240-231212

8/26/2025

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservation Temp</u>	<u>Preservation Added</u>	<u>Preservation Lot Number</u>
TRIP BLANK_122	240-231212-A-1	Voa Vial 40ml - Hydrochloric Acid				
MW-23_081525	240-231212-A-2	Voa Vial 40ml - Hydrochloric Acid				
MW-23_081525	240-231212-B-2	Voa Vial 40ml - Hydrochloric Acid				
MW-23_081525	240-231212-C-2	Voa Vial 40ml - Hydrochloric Acid				
MW-23_081525	240-231212-D-2	Voa Vial 40ml - Hydrochloric Acid				
MW-23_081525	240-231212-E-2	Voa Vial 40ml - Hydrochloric Acid				
MW-23_081525	240-231212-F-2	Voa Vial 40ml - Hydrochloric Acid				
MW-221S_081525	240-231212-A-3	Voa Vial 40ml - Hydrochloric Acid				
MW-221S_081525	240-231212-B-3	Voa Vial 40ml - Hydrochloric Acid				
MW-221S_081525	240-231212-C-3	Voa Vial 40ml - Hydrochloric Acid				
MW-221S_081525	240-231212-D-3	Voa Vial 40ml - Hydrochloric Acid				
MW-221S_081525	240-231212-E-3	Voa Vial 40ml - Hydrochloric Acid				
MW-221S_081525	240-231212-F-3	Voa Vial 40ml - Hydrochloric Acid				

DATA VERIFICATION REPORT



August 26, 2025

Megan Meckley
Arcadis
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: 30251157.401.04 LTP

Event Specific Scope of Work References: Sample COC

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory submittal: 231212-1

Sample date: 2025-08-15

Report received by CADENA: 2025-08-26

Initial Data Verification completed by CADENA: 2025-08-26

Number of Samples:3

Sample Matrices:Water

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, MS/MSD Recovery, MS/MSD RPD, 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 Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

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 contaminants) 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 contaminants) 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: 231212-1

Sample Name:					TRIP BLANK_122					MW-23_081525					MW-221S_081525																																																	
Lab Sample ID:					2402312121					2402312122					2402312123																																																	
Sample Date:					8/15/2025					8/15/2025					8/15/2025																																																	
					Report					Valid					Report					Valid					Report					Valid																																		
Cas No.					Result					Limit					Units					Qualifier					Result					Limit					Units					Qualifier					Result					Limit					Units					Qualifier				

GC/MS VOC

OSW-8260D

1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	6.9	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	5700	100	ug/l	---	6.9	1.0	ug/l	---
Tetrachloroethene	127-18-4	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	---	240	40	ug/l	---	0.54	1.0	ug/l	J
Trichloroethene	79-01-6	ND	1.0	ug/l	---	450	40	ug/l	---	0.82	1.0	ug/l	J
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	370	40	ug/l	---	ND	1.0	ug/l	---

OSW-8260DSIM

1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	ND	2.0	ug/l	---
-------------	----------	--	--	--	--	----	-----	------	-----	----	-----	------	-----