

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Megan Meckley
Arcadis US Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Generated 3/20/2025 6:25:24 AM

JOB DESCRIPTION

Ford LTP

JOB NUMBER

240-220135-1

Eurofins Cleveland

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



Generated
3/20/2025 6:25:24 AM

Authorized for release by
Michael DelMonico, Project Manager I
Michael.DelMonico@et.eurofinsus.com
(330)966-9783

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Method Summary	6
Sample Summary	7
Detection Summary	8
Client Sample Results	9
Surrogate Summary	11
QC Sample Results	12
QC Association Summary	16
Lab Chronicle	17
Certification Summary	18
Chain of Custody	19



Definitions/Glossary

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

Job ID: 240-220135-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
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: 240-220135-1

Job ID: 240-220135-1

Eurofins Cleveland

Job Narrative 240-220135-1

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

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

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

Receipt

The samples were received on 3/8/2025 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 4.3°C.

GC/MS VOA

Method 8260D: The laboratory control sample (LCS) analyzed in batch 240-648330 was below the recovery control criteria for the following analyte(s): cis-1,2-Dichloroethene. This variance only affects results measured above the reporting limit. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. This demonstrates the analyte reporting limit is valid, and it is acceptable to report ND results (non-detects). The samples associated with the LCS were non-detects for the affected analytes; therefore, the results were reported. The following sample is impacted: TRIP BLANK_205 (240-220135-1).

TRIP BLANK_205 (240-220135-1)

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-648402 was outside the method criteria for the following analyte(s): Vinyl chloride. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

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

Eurofins Cleveland

Method Summary

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

Job ID: 240-220135-1

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: 240-220135-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-220135-1	TRIP BLANK_205	Water	03/05/25 00:00	03/08/25 08:00
240-220135-2	MW-37_030525	Water	03/05/25 10:25	03/08/25 08:00

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: 240-220135-1

Client Sample ID: TRIP BLANK_205

Lab Sample ID: 240-220135-1

No Detections.

Client Sample ID: MW-37_030525

Lab Sample ID: 240-220135-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Client Sample Results

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

Job ID: 240-220135-1

Client Sample ID: TRIP BLANK_205

Lab Sample ID: 240-220135-1

Date Collected: 03/05/25 00:00

Matrix: Water

Date Received: 03/08/25 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			03/15/25 06:48	1
cis-1,2-Dichloroethene	1.0	U *-	1.0	0.46	ug/L			03/15/25 06:48	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/15/25 06:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/15/25 06:48	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/15/25 06:48	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/15/25 06:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		62 - 137		03/15/25 06:48	1
4-Bromofluorobenzene (Surr)	103		56 - 136		03/15/25 06:48	1
Toluene-d8 (Surr)	110		78 - 122		03/15/25 06:48	1
Dibromofluoromethane (Surr)	95		73 - 120		03/15/25 06:48	1

Client Sample Results

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

Job ID: 240-220135-1

Client Sample ID: MW-37_030525

Lab Sample ID: 240-220135-2

Date Collected: 03/05/25 10:25

Matrix: Water

Date Received: 03/08/25 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			03/12/25 20:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		68 - 127					03/12/25 20:11	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			03/17/25 20:51	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/17/25 20:51	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/17/25 20:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/17/25 20:51	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/17/25 20:51	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/17/25 20:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		62 - 137					03/17/25 20:51	1
4-Bromofluorobenzene (Surr)	91		56 - 136					03/17/25 20:51	1
Toluene-d8 (Surr)	100		78 - 122					03/17/25 20:51	1
Dibromofluoromethane (Surr)	100		73 - 120					03/17/25 20:51	1

Surrogate Summary

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

Job ID: 240-220135-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCA (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-219864-C-3 MS	Matrix Spike	93	96	98	92
240-219864-C-3 MSD	Matrix Spike Duplicate	93	98	98	91
240-219879-B-5 MS	Matrix Spike	103	102	110	98
240-219879-B-5 MSD	Matrix Spike Duplicate	100	99	106	94
240-220135-1	TRIP BLANK_205	102	103	110	95
240-220135-2	MW-37_030525	104	91	100	100
LCS 240-648330/2	Lab Control Sample	99	102	110	96
LCS 240-648402/5	Lab Control Sample	92	98	100	92
MB 240-648330/4	Method Blank	101	99	106	94
MB 240-648402/9	Method Blank	96	89	96	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)			
Lab Sample ID	Client Sample ID	DCA (68-127)			
240-220134-E-2 MS	Matrix Spike	86			
240-220134-E-2 MSD	Matrix Spike Duplicate	83			
240-220135-2	MW-37_030525	93			
LCS 240-647989/7	Lab Control Sample	89			
MB 240-647989/9	Method Blank	84			
Surrogate Legend					
DCA = 1,2-Dichloroethane-d4 (Surr)					

QC Sample Results

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

Job ID: 240-220135-1

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

Lab Sample ID: MB 240-648330/4

Matrix: Water

Analysis Batch: 648330

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			03/15/25 05:05	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/15/25 05:05	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/15/25 05:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/15/25 05:05	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/15/25 05:05	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/15/25 05:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		62 - 137		03/15/25 05:05	1
4-Bromofluorobenzene (Surr)	99		56 - 136		03/15/25 05:05	1
Toluene-d8 (Surr)	106		78 - 122		03/15/25 05:05	1
Dibromofluoromethane (Surr)	94		73 - 120		03/15/25 05:05	1

Lab Sample ID: LCS 240-648330/2

Matrix: Water

Analysis Batch: 648330

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	14.6		ug/L		73	63 - 134
cis-1,2-Dichloroethene	20.0	14.5	*-	ug/L		72	77 - 123
Tetrachloroethene	20.0	16.1		ug/L		81	76 - 123
trans-1,2-Dichloroethene	20.0	15.1		ug/L		75	75 - 124
Trichloroethene	20.0	14.6		ug/L		73	70 - 122
Vinyl chloride	20.0	18.1		ug/L		90	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		62 - 137
4-Bromofluorobenzene (Surr)	102		56 - 136
Toluene-d8 (Surr)	110		78 - 122
Dibromofluoromethane (Surr)	96		73 - 120

Lab Sample ID: 240-219879-B-5 MS

Matrix: Water

Analysis Batch: 648330

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		62 - 137
4-Bromofluorobenzene (Surr)	102		56 - 136
Toluene-d8 (Surr)	110		78 - 122
Dibromofluoromethane (Surr)	98		73 - 120

Lab Sample ID: 240-219879-B-5 MSD

Matrix: Water

Analysis Batch: 648330

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		62 - 137

Eurofins Cleveland

QC Sample Results

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

Job ID: 240-220135-1

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

Lab Sample ID: 240-219879-B-5 MSD

Matrix: Water

Analysis Batch: 648330

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		56 - 136
Toluene-d8 (Surr)	106		78 - 122
Dibromofluoromethane (Surr)	94		73 - 120

Lab Sample ID: MB 240-648402/9

Matrix: Water

Analysis Batch: 648402

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			03/17/25 11:51	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/17/25 11:51	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/17/25 11:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/17/25 11:51	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/17/25 11:51	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/17/25 11:51	1

	MB	MB							
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	96		62 - 137		03/17/25 11:51	1			
4-Bromofluorobenzene (Surr)	89		56 - 136		03/17/25 11:51	1			
Toluene-d8 (Surr)	96		78 - 122		03/17/25 11:51	1			
Dibromofluoromethane (Surr)	91		73 - 120		03/17/25 11:51	1			

Lab Sample ID: LCS 240-648402/5

Matrix: Water

Analysis Batch: 648402

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
	Added	Result	Qualifier			Limits	
1,1-Dichloroethene	20.0	18.3		ug/L		91	63 - 134
cis-1,2-Dichloroethene	20.0	17.9		ug/L		89	77 - 123
Tetrachloroethene	20.0	18.4		ug/L		92	76 - 123
trans-1,2-Dichloroethene	20.0	17.5		ug/L		88	75 - 124
Trichloroethene	20.0	17.8		ug/L		89	70 - 122
Vinyl chloride	20.0	16.4		ug/L		82	60 - 144

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	92		73 - 120

Lab Sample ID: 240-219864-C-3 MS

Matrix: Water

Analysis Batch: 648402

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier			Limits	
1,1-Dichloroethene	2.4	J	80.0	71.4		ug/L		86	56 - 135
cis-1,2-Dichloroethene	4.0	U	80.0	69.5		ug/L		87	66 - 128
Tetrachloroethene	11		80.0	82.8		ug/L		90	62 - 131

Eurofins Cleveland

QC Sample Results

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

Job ID: 240-220135-1

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

Lab Sample ID: 240-219864-C-3 MS

Matrix: Water

Analysis Batch: 648402

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
trans-1,2-Dichloroethene	4.0	U	80.0	69.4		ug/L		87	56 - 136
Trichloroethene	53		80.0	121		ug/L		85	61 - 124
Vinyl chloride	4.0	U	80.0	63.2		ug/L		79	43 - 157
Surrogate	%Recovery	MS Qualifier	MS Limits						
1,2-Dichloroethane-d4 (Surr)	93		62 - 137						
4-Bromofluorobenzene (Surr)	96		56 - 136						
Toluene-d8 (Surr)	98		78 - 122						
Dibromofluoromethane (Surr)	92		73 - 120						

Lab Sample ID: 240-219864-C-3 MSD

Matrix: Water

Analysis Batch: 648402

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	2.4	J	80.0	71.7		ug/L		87	56 - 135	0	26
cis-1,2-Dichloroethene	4.0	U	80.0	69.4		ug/L		87	66 - 128	0	14
Tetrachloroethene	11		80.0	81.8		ug/L		89	62 - 131	1	20
trans-1,2-Dichloroethene	4.0	U	80.0	68.3		ug/L		85	56 - 136	2	15
Trichloroethene	53		80.0	120		ug/L		83	61 - 124	1	15
Vinyl chloride	4.0	U	80.0	62.9		ug/L		79	43 - 157	1	24
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
1,2-Dichloroethane-d4 (Surr)	93		62 - 137								
4-Bromofluorobenzene (Surr)	98		56 - 136								
Toluene-d8 (Surr)	98		78 - 122								
Dibromofluoromethane (Surr)	91		73 - 120								

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

Lab Sample ID: MB 240-647989/9

Matrix: Water

Analysis Batch: 647989

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			03/12/25 17:27	1
Surrogate	%Recovery	MB Qualifier	MB Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		68 - 127					03/12/25 17:27	1

Lab Sample ID: LCS 240-647989/7

Matrix: Water

Analysis Batch: 647989

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	9.36		ug/L		94	75 - 121

Eurofins Cleveland

QC Sample Results

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

Job ID: 240-220135-1

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

Lab Sample ID: LCS 240-647989/7

Matrix: Water

Analysis Batch: 647989

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		68 - 127

Lab Sample ID: 240-220134-E-2 MS

Matrix: Water

Analysis Batch: 647989

Client Sample ID: Matrix Spike

Prep Type: Total/NA

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,4-Dioxane	2.0	U	10.0	9.50		ug/L		95	20 - 180	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
1,2-Dichloroethane-d4 (Surr)	86		68 - 127							

Lab Sample ID: 240-220134-E-2 MSD

Matrix: Water

Analysis Batch: 647989

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
1,4-Dioxane	2.0	U	10.0	9.71		ug/L		97	20 - 180	2	20	
	MSD	MSD										
Surrogate	%Recovery	Qualifier	Limits									
1,2-Dichloroethane-d4 (Surr)	83		68 - 127									

QC Association Summary

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

Job ID: 240-220135-1

GC/MS VOA

Analysis Batch: 647989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-220135-2	MW-37_030525	Total/NA	Water	8260D SIM	
MB 240-647989/9	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-647989/7	Lab Control Sample	Total/NA	Water	8260D SIM	
240-220134-E-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-220134-E-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

Analysis Batch: 648330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-220135-1	TRIP BLANK_205	Total/NA	Water	8260D	
MB 240-648330/4	Method Blank	Total/NA	Water	8260D	
LCS 240-648330/2	Lab Control Sample	Total/NA	Water	8260D	
240-219879-B-5 MS	Matrix Spike	Total/NA	Water	8260D	
240-219879-B-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 648402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-220135-2	MW-37_030525	Total/NA	Water	8260D	
MB 240-648402/9	Method Blank	Total/NA	Water	8260D	
LCS 240-648402/5	Lab Control Sample	Total/NA	Water	8260D	
240-219864-C-3 MS	Matrix Spike	Total/NA	Water	8260D	
240-219864-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

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

Job ID: 240-220135-1

Client Sample ID: TRIP BLANK_205
Date Collected: 03/05/25 00:00
Date Received: 03/08/25 08:00

Lab Sample ID: 240-220135-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	648330	AJS	EET CLE	03/15/25 06:48

Client Sample ID: MW-37_030525
Date Collected: 03/05/25 10:25
Date Received: 03/08/25 08:00

Lab Sample ID: 240-220135-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	648402	AJS	EET CLE	03/17/25 20:51
Total/NA	Analysis	8260D SIM		1	647989	R5XG	EET CLE	03/12/25 20:11

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: 240-220135-1

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	08-31-25
Iowa	State	421	06-01-25
Kansas	NELAP	E-10336	01-31-26
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	07-03-25
New York	NELAP	10975	04-01-25
Ohio	State	8303	11-04-25
Ohio VAP	State	ORELAP 4062	02-28-26
Oregon	NELAP	4062	02-27-26
Pennsylvania	NELAP	68-00340	03-18-25
Texas	NELAP	T104704517-22-19	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	09-14-25
West Virginia DEP	State	210	12-31-25
Wisconsin	State	399167560	08-31-25

TestAmerica Laboratory location: Farmington Hills — 38855 Hills Tech Drive, Suite 600, Farmington Hills 48331

[illegible]

Eurofins - Cleveland Sample Receipt Form/Narrative		Login #	
Client <u>Arcoadis</u>		Site Name	
Cooler Received on <u>3/8/25</u>	Opened on <u>3/8/25</u>	Cooler unpacked by <u>Warton</u>	
FedEx: 1 st Grd Exp UPS PAS W <u>point</u>	Client Drop Off	Eurofins Courier	Other
Receipt After-hours Drop-off Date/Time		Storage Location	
Eurofins Cooler # <u>EC</u>	Foam Box	Client Cooler	Box
Packing material used. Bubble Wrap	Foam	Plastic Bag	None
COOLANT: <u>Water</u>	Blue Ice	Dry Ice	Water
1 Cooler temperature upon receipt	☐ See Multiple Cooler Form		
IR GUN # <u>21</u>	(CF <u>41</u>) °C	Observed Cooler Temp <u>32</u> °C	Corrected Cooler Temp <u>43</u> °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity <u>1</u> Tests that are not checked for pH by Receiving: VOAs Oil and Grease TOC			
-Were the seals on the outside of the cooler(s) signed & dated? <u>Yes</u> ☒ No ☐ NA ☐			
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? <u>Yes</u> ☒ No ☐ NA ☐			
-Were tamper/custody seals intact and uncompromised? <u>Yes</u> ☒ No ☐ NA ☐			
3 Shippers' packing slip attached to the cooler(s)? <u>Yes</u> ☒ No ☐			
4. Did custody papers accompany the sample(s)? <u>Yes</u> ☒ No ☐			
5 Were the custody papers relinquished & signed in the appropriate place? <u>Yes</u> ☒ No ☐			
6. Was/were the person(s) who collected the samples clearly identified on the COC? <u>Yes</u> ☒ No ☐			
7 Did all bottles arrive in good condition (Unbroken)? <u>Yes</u> ☒ No ☐			
8 Could all bottle labels (ID/Date/Time) be reconciled with the COC? <u>Yes</u> ☒ No ☐			
9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? <u>Yes</u> ☒ No ☐			
10 Were correct bottle(s) used for the test(s) indicated? <u>Yes</u> ☒ No ☐			
11 Sufficient quantity received to perform indicated analyses? <u>Yes</u> ☒ No ☐			
12. Are these work share samples and all listed on the COC? <u>Yes</u> ☒ No ☐			
13 If yes, Questions 13-17 have been checked at the originating laboratory			
13 Were all preserved sample(s) at the correct pH upon receipt? <u>Yes</u> ☒ No ☐ NA ☐ pH Strip Lot# HC448976			
14. Were VOAs on the COC? <u>Yes</u> ☒ No ☐			
15 Were air bubbles >6 mm in any VOA vials? <u>Yes</u> ☒ No ☐ NA ☐ Larger than this.			
16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # <u>63211</u>			
17 Was a LL Hg or Me Hg trip blank present? <u>Yes</u> ☒ No ☐			
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. _____			

Temperature readings						
Client Sample ID	Lab ID	Container Type	Container	Preservation	Preservation	Lot Number
			pH	Temp	Added	
TRIP BLANK_205	240-220135-A-1	Voa Vial 40ml - Hydrochloric Acid				
MMW-37_030525	240-220135-A-2	Voa Vial 40ml - Hydrochloric Acid				
MMW-37_030525	240-220135-B-2	Voa Vial 40ml - Hydrochloric Acid				
MMW-37_030525	240-220135-C-2	Voa Vial 40ml - Hydrochloric Acid				
MMW-37_030525	240-220135-D-2	Voa Vial 40ml - Hydrochloric Acid				
MMW-37_030525	240-220135-E-2	Voa Vial 40ml - Hydrochloric Acid				
MMW-37_030525	240-220135-F-2	Voa Vial 40ml - Hydrochloric Acid				

DATA VERIFICATION REPORT



March 20, 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 (vapor 301.04) 30206169.0401.04

Event Specific Scope of Work References: Sample COC

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory submittal: 220135-1

Sample date: 2025-03-05

Report received by CADENA: 2025-03-20

Initial Data Verification completed by CADENA: 2025-03-20

Number of Samples:2

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.

The following minor QC exceptions or missing information were noted:

LCS - GCMS VOC QC batch LCS recoveries was outlying biased low for the following analyte: CIS-1,2-DICHLOROETHENE. The following client sample results should be considered to be estimated and qualified with UJ flags if non-detect: -001.

GCMS VOC QC batch CCV response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

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.

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.

Qualified Results Summary

CADENA Project ID: E203728
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory Submittal: 220135-1

Sample Name: TRIP BLANK_205
Lab Sample ID: 2402201351
Sample Date: 3/5/2025

Analyte	Cas No.	Result	Report	Valid		
			Limit	Units	Qualifier	
GC/MS VOC						
OSW-8260D						
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	UJ	

Analytical Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 220135-1

Sample Name: TRIP BLANK_205

MW-37_030525

Lab Sample ID: 2402201351

2402201352

Sample Date: 3/5/2025

3/5/2025

Analyte	Cas No.	Report		Valid	Report		Valid
		Result	Limit		Result	Limit	

GC/MS VOC

OSW-8260D

1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	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	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---

OSW-8260DSIM

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