

# ANALYTICAL REPORT

## PREPARED FOR

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## JOB DESCRIPTION

Ford LTP

## JOB NUMBER

240-219638-1

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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: 240-219638-1

### Qualifiers

#### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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: 240-219638-1

**Job ID: 240-219638-1**

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### **Job Narrative 240-219638-1**

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 2/28/2025 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 1.1°C and 1.6°C.

#### **GC/MS VOA**

Method 8260D: Batch analytical batch 240-647837 is reported without a matrix spike/matrix spike duplicate (MS/MSD). The batch MS/MSD was performed on another client's sample that has not been analyzed yet. 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.

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: 240-219638-1

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: 240-219638-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-219638-1	TRIP BLANK_111	Water	02/26/25 00:00	02/28/25 08:00
240-219638-2	MW-35_022625	Water	02/26/25 10:45	02/28/25 08:00
240-219638-3	DUP-03	Water	02/26/25 00:00	02/28/25 08:00

## Detection Summary

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

Job ID: 240-219638-1

### Client Sample ID: TRIP BLANK\_111

Lab Sample ID: 240-219638-1

No Detections.

### Client Sample ID: MW-35\_022625

Lab Sample ID: 240-219638-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	3.9		2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	0.99	J	1.0	0.45	ug/L	1		8260D	Total/NA

### Client Sample ID: DUP-03

Lab Sample ID: 240-219638-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.3		2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	0.80	J	1.0	0.45	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: 240-219638-1

Client Sample ID: TRIP BLANK\_111

Lab Sample ID: 240-219638-1

Date Collected: 02/26/25 00:00

Matrix: Water

Date Received: 02/28/25 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			03/06/25 19:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/06/25 19:10	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/06/25 19:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/06/25 19:10	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/06/25 19:10	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/06/25 19:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		62 - 137		03/06/25 19:10	1
4-Bromofluorobenzene (Surr)	99		56 - 136		03/06/25 19:10	1
Toluene-d8 (Surr)	102		78 - 122		03/06/25 19:10	1
Dibromofluoromethane (Surr)	101		73 - 120		03/06/25 19:10	1

# Client Sample Results

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

Job ID: 240-219638-1

Client Sample ID: MW-35\_022625

Lab Sample ID: 240-219638-2

Date Collected: 02/26/25 10:45

Matrix: Water

Date Received: 02/28/25 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	3.9		2.0	0.86	ug/L			03/12/25 18:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		68 - 127					03/12/25 18:14	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			03/06/25 20:04	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/06/25 20:04	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/06/25 20:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/06/25 20:04	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/06/25 20:04	1
Vinyl chloride	0.99	J	1.0	0.45	ug/L			03/06/25 20:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		62 - 137					03/06/25 20:04	1
4-Bromofluorobenzene (Surr)	99		56 - 136					03/06/25 20:04	1
Toluene-d8 (Surr)	102		78 - 122					03/06/25 20:04	1
Dibromofluoromethane (Surr)	102		73 - 120					03/06/25 20:04	1

# Client Sample Results

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

Job ID: 240-219638-1

Client Sample ID: DUP-03

Lab Sample ID: 240-219638-3

Date Collected: 02/26/25 00:00

Matrix: Water

Date Received: 02/28/25 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	4.3		2.0	0.86	ug/L			03/11/25 01:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		68 - 127					03/11/25 01:56	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			03/12/25 12:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/12/25 12:15	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/12/25 12:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/12/25 12:15	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/12/25 12:15	1
Vinyl chloride	0.80	J	1.0	0.45	ug/L			03/12/25 12:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		62 - 137					03/12/25 12:15	1
4-Bromofluorobenzene (Surr)	87		56 - 136					03/12/25 12:15	1
Toluene-d8 (Surr)	97		78 - 122					03/12/25 12:15	1
Dibromofluoromethane (Surr)	101		73 - 120					03/12/25 12:15	1

# Surrogate Summary

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

Job ID: 240-219638-1

## 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)
240-219469-A-6 MS	Matrix Spike	91	96	98	98
240-219469-A-6 MSD	Matrix Spike Duplicate	101	106	112	108
240-219638-1	TRIP BLANK_111	98	99	102	101
240-219638-2	MW-35_022625	99	99	102	102
240-219638-3	DUP-03	114	87	97	101
LCS 240-647081/5	Lab Control Sample	101	97	101	100
LCS 240-647837/6	Lab Control Sample	104	103	110	100
MB 240-647081/9	Method Blank	98	99	100	100
MB 240-647837/11	Method Blank	116	90	102	102
<b>Surrogate Legend</b>					
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)			
240-219638-2	MW-35_022625	105			
240-219638-3	DUP-03	107			
240-219643-E-3 MS	Matrix Spike	107			
240-219643-E-3 MSD	Matrix Spike Duplicate	106			
240-220134-E-2 MS	Matrix Spike	86			
240-220134-E-2 MSD	Matrix Spike Duplicate	83			
LCS 240-647554/3	Lab Control Sample	101			
LCS 240-647989/7	Lab Control Sample	89			
MB 240-647554/5	Method Blank	99			
MB 240-647989/9	Method Blank	84			
<b>Surrogate Legend</b>					
DCA = 1,2-Dichloroethane-d4 (Surr)					

# QC Sample Results

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

Job ID: 240-219638-1

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

Lab Sample ID: MB 240-647081/9

Matrix: Water

Analysis Batch: 647081

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			03/06/25 13:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/06/25 13:14	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/06/25 13:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/06/25 13:14	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/06/25 13:14	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/06/25 13:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		62 - 137		03/06/25 13:14	1
4-Bromofluorobenzene (Surr)	99		56 - 136		03/06/25 13:14	1
Toluene-d8 (Surr)	100		78 - 122		03/06/25 13:14	1
Dibromofluoromethane (Surr)	100		73 - 120		03/06/25 13:14	1

Lab Sample ID: LCS 240-647081/5

Matrix: Water

Analysis Batch: 647081

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	20.5		ug/L		103	63 - 134
cis-1,2-Dichloroethene	20.0	19.4		ug/L		97	77 - 123
Tetrachloroethene	20.0	17.6		ug/L		88	76 - 123
trans-1,2-Dichloroethene	20.0	20.9		ug/L		104	75 - 124
Trichloroethene	20.0	19.2		ug/L		96	70 - 122
Vinyl chloride	20.0	22.3		ug/L		112	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		62 - 137
4-Bromofluorobenzene (Surr)	97		56 - 136
Toluene-d8 (Surr)	101		78 - 122
Dibromofluoromethane (Surr)	100		73 - 120

Lab Sample ID: 240-219469-A-6 MS

Matrix: Water

Analysis Batch: 647081

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	100	U F1	16000	1930	F1	ug/L		12	56 - 135
cis-1,2-Dichloroethene	250	F1	16000	2090	F1	ug/L		12	66 - 128
Tetrachloroethene	1100	F1	16000	2640	F1	ug/L		10	62 - 131
trans-1,2-Dichloroethene	100	U F1	16000	1970	F1	ug/L		12	56 - 136
Trichloroethene	3000	F1	16000	4680	F1	ug/L		10	61 - 124
Vinyl chloride	100	U F1	16000	2170	F1	ug/L		14	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		62 - 137
4-Bromofluorobenzene (Surr)	96		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: 240-219638-1

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

Lab Sample ID: 240-219469-A-6 MS

Matrix: Water

Analysis Batch: 647081

Client Sample ID: Matrix Spike

Prep Type: Total/NA

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
Dibromofluoromethane (Surr)	98		73 - 120

Lab Sample ID: 240-219469-A-6 MSD

Matrix: Water

Analysis Batch: 647081

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	100	U F1	16000	2120	F1	ug/L		13	56 - 135	9	26
cis-1,2-Dichloroethene	250	F1	16000	2270	F1	ug/L		13	66 - 128	8	14
Tetrachloroethene	1100	F1	16000	2980	F1	ug/L		12	62 - 131	12	20
trans-1,2-Dichloroethene	100	U F1	16000	2140	F1	ug/L		13	56 - 136	8	15
Trichloroethene	3000	F1	16000	5010	F1	ug/L		12	61 - 124	7	15
Vinyl chloride	100	U F1	16000	2340	F1	ug/L		15	43 - 157	8	24

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		62 - 137
4-Bromofluorobenzene (Surr)	106		56 - 136
Toluene-d8 (Surr)	112		78 - 122
Dibromofluoromethane (Surr)	108		73 - 120

Lab Sample ID: MB 240-647837/11

Matrix: Water

Analysis Batch: 647837

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			03/12/25 11:51	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/12/25 11:51	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/12/25 11:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/12/25 11:51	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/12/25 11:51	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/12/25 11:51	1

	MB	MB				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		62 - 137		03/12/25 11:51	1
4-Bromofluorobenzene (Surr)	90		56 - 136		03/12/25 11:51	1
Toluene-d8 (Surr)	102		78 - 122		03/12/25 11:51	1
Dibromofluoromethane (Surr)	102		73 - 120		03/12/25 11:51	1

Lab Sample ID: LCS 240-647837/6

Matrix: Water

Analysis Batch: 647837

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	24.2		ug/L		97	63 - 134
cis-1,2-Dichloroethene	25.0	25.0		ug/L		100	77 - 123
Tetrachloroethene	25.0	26.2		ug/L		105	76 - 123
trans-1,2-Dichloroethene	25.0	25.2		ug/L		101	75 - 124
Trichloroethene	25.0	24.3		ug/L		97	70 - 122

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# QC Sample Results

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

Job ID: 240-219638-1

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

Lab Sample ID: LCS 240-647837/6

Matrix: Water

Analysis Batch: 647837

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl chloride	25.0	25.2		ug/L		101	60 - 144
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	104		62 - 137				
4-Bromofluorobenzene (Surr)	103		56 - 136				
Toluene-d8 (Surr)	110		78 - 122				
Dibromofluoromethane (Surr)	100		73 - 120				

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

Lab Sample ID: MB 240-647554/5

Matrix: Water

Analysis Batch: 647554

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			03/10/25 23:59	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	99		68 - 127		03/10/25 23:59	1			

Lab Sample ID: LCS 240-647554/3

Matrix: Water

Analysis Batch: 647554

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	9.83		ug/L		98	75 - 121
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	101		68 - 127				

Lab Sample ID: 240-219643-E-3 MS

Matrix: Water

Analysis Batch: 647554

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
1,4-Dioxane	2.0	U	10.0	11.3		ug/L		113	20 - 180
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	107		68 - 127						

Lab Sample ID: 240-219643-E-3 MSD

Matrix: Water

Analysis Batch: 647554

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
1,4-Dioxane	2.0	U	10.0	11.3		ug/L		113	20 - 180	0	20

Eurofins Cleveland

# QC Sample Results

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

Job ID: 240-219638-1

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

Lab Sample ID: 240-219643-E-3 MSD

Matrix: Water

Analysis Batch: 647554

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	106		68 - 127

Lab Sample ID: MB 240-647989/9

Matrix: Water

Analysis Batch: 647989

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	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	Qualifier	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	LCS	LCS	Unit	D	%Rec	%Rec
1,4-Dioxane	Added	Result	Qualifier	ug/L		94	Limits
	10.0	9.36					75 - 121
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

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
1,4-Dioxane	Result	Qualifier	Added	Result	Qualifier	ug/L		95	Limits
	2.0	U	10.0	9.50					20 - 180
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

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

Eurofins Cleveland



# QC Association Summary

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

Job ID: 240-219638-1

## GC/MS VOA

### Analysis Batch: 647081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-219638-1	TRIP BLANK_111	Total/NA	Water	8260D	
240-219638-2	MW-35_022625	Total/NA	Water	8260D	
MB 240-647081/9	Method Blank	Total/NA	Water	8260D	
LCS 240-647081/5	Lab Control Sample	Total/NA	Water	8260D	
240-219469-A-6 MS	Matrix Spike	Total/NA	Water	8260D	
240-219469-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

### Analysis Batch: 647554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-219638-3	DUP-03	Total/NA	Water	8260D SIM	
MB 240-647554/5	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-647554/3	Lab Control Sample	Total/NA	Water	8260D SIM	
240-219643-E-3 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-219643-E-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

### Analysis Batch: 647837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-219638-3	DUP-03	Total/NA	Water	8260D	
MB 240-647837/11	Method Blank	Total/NA	Water	8260D	
LCS 240-647837/6	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 647989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-219638-2	MW-35_022625	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	

# Lab Chronicle

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

Job ID: 240-219638-1

**Client Sample ID: TRIP BLANK\_111**

**Lab Sample ID: 240-219638-1**

Date Collected: 02/26/25 00:00

Matrix: Water

Date Received: 02/28/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	647081	HMB	EET CLE	03/06/25 19:10

**Client Sample ID: MW-35\_022625**

**Lab Sample ID: 240-219638-2**

Date Collected: 02/26/25 10:45

Matrix: Water

Date Received: 02/28/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	647081	HMB	EET CLE	03/06/25 20:04
Total/NA	Analysis	8260D SIM		1	647989	R5XG	EET CLE	03/12/25 18:14

**Client Sample ID: DUP-03**

**Lab Sample ID: 240-219638-3**

Date Collected: 02/26/25 00:00

Matrix: Water

Date Received: 02/28/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	647837	MS	EET CLE	03/12/25 12:15
Total/NA	Analysis	8260D SIM		1	647554	R5XG	EET CLE	03/11/25 01:56

## 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: 240-219638-1

### 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	08-31-25
Texas	NELAP	T104704517-22-19	08-31-25
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

4/52

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

Client Contact		Regulatory program:										TestAmerica Laboratories, Inc.																					
Company Name: Arcadis		Client Project Manager: Megan Meckley					Site Contact: Samantha Szaichler					Lab Contact: Mike DelMonico					COC No:																
Address: 28550 Cabot Drive, Suite 500		Telephone: 248-994-2240					Telephone: 248-994-2240					Telephone: 330-497-9396					1 of 1 COCs																
City/State/Zip: Novi, MI, 48377		Email: kristoffer.hinskey@arcadis.com					Analysis Turnaround Time					Analyses					For lab use only																
Phone: 248-994-2240		Sampler Name: <i>Jeremy Myers</i>					TAT if different from below										Walk-in client																
Project Name: Ford LTP		Method of Shipment/Carrier:					<input type="checkbox"/> 3 weeks <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day										Lab sampling																
Project Number: 30206169.0401.03		Shipping/Tracking No:															Job/SDG No:																
PO # US3460021848																																	
Sample Identification		Sample Date	Sample Time	Matrix					Containers & Preservatives					Filtered Sample (Y/N)					Composite=C / Grab=G					Analyses					Sample Specific Notes / Special Instructions:				
				Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc	NaOH	Unpres	Other:																	
TRIP BLANK #111		---	---	1							1							NG	X	X	X	X	X	X							1 Trip Blank		
MW-35_022625		02/26/25	10:45	G							G							NG	X	X	X	X	X	X	X						3 VOAs for 8260D 3 VOAs for 8260D SIM		
DUP-03		02/26/25	-	G							G							NG	X	X	X	X	X	X	X								
<del>DUP-03</del>		<del>02/26/25</del>	<del>-</del>	<del>G</del>							<del>G</del>							<del>NG</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>						<del>X</del>		

240-219638 COC

Possible Hazard Identification  
☒ Non-Hazard    ☐ Flammable    ☐ Irritant    ☐ Poison B    ☐ Unknown

Special Instructions/QC Requirements & Comments: Onsite

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

Relinquished by: <i>J. Myers</i>	Company: <i>Arcadis</i>	Date/Time: <i>02/26/25 15:00</i>	Received by: <i>Nova Cold Storage</i>	Company: <i>Arcadis</i>	Date/Time: <i>02/26/25 15:00</i>
Relinquished by: <i>Tatiana</i>	Company: <i>ARCADIS</i>	Date/Time: <i>2/27/25 14:20</i>	Received by: <i>Matt [Signature]</i>	Company: <i>EETA</i>	Date/Time: <i>2/27/25 14:21</i>
Relinquished by: <i>Matt [Signature]</i>	Company: <i>EETA</i>	Date/Time: <i>2/27/25 14:22</i>	Received in Laboratory by: <i>JESSE MOROSKO</i>	Company: <i>Euro</i>	Date/Time: <i>2/27/25 14:22</i>

Eurofins Cleveland Sample Receipt Form/Narrative  
 Barberton Facility

Client ARCADIS Site Name \_\_\_\_\_ Login # \_\_\_\_\_ Cooler unpacked by: JMOROSKO

Cooler Received on 2/28/25 Opened on 2/28/25

FedEx: 1<sup>st</sup> Grd Exp UPS FAS W/Print Client Drop Off Eurofins Courier Other \_\_\_\_\_

Receipt After-hours Drop-off Date/Time \_\_\_\_\_ Storage Location \_\_\_\_\_

Eurofins Cooler # 2C Foam Box Client Cooler Box Other \_\_\_\_\_

Packing material used. Bubble Wrap Foam Plastic Bag None Other \_\_\_\_\_

COOLANT Water Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt See Multiple Cooler Form

IR GUN # 13 (CF 10.0 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C

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

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

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

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

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

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

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

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

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

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

9 For each sample, does the COC specify preservative (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes No

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

11 Sufficient quantity received to perform indicated analyses? Yes No

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

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# HC448976

14 Were VOAs on the COC? Yes No

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

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

17 Was a LL Hg or Me Hg trip blank present? Yes 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_111	240-219638-A-1	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-35_022625	240-219638-A-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-35_022625	240-219638-B-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-35_022625	240-219638-C-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-35_022625	240-219638-D-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-35_022625	240-219638-E-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-35_022625	240-219638-F-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
DUP-03	240-219638-A-3	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
DUP-03	240-219638-B-3	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
DUP-03	240-219638-C-3	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
DUP-03	240-219638-D-3	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
DUP-03	240-219638-E-3	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
DUP-03	240-219638-F-3	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____



# DATA VERIFICATION REPORT



March 13, 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: 219638-1

Sample date: 2025-02-26

Report received by CADENA: 2025-03-13

Initial Data Verification completed by CADENA: 2025-03-13

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.**

The following minor QC exceptions or missing information were noted:

GCMS VOC QC batch MS/MSD recovery outliers were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

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 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: 219638-1

Sample Name:					TRIP BLANK_111				MW-35_022625				DUP-03			
Lab Sample ID:					2402196381				2402196382				2402196383			
Sample Date:					2/26/2025				2/26/2025				2/26/2025			
					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	---	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	---
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	---	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	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	0.99	1.0	ug/l	J	0.80	1.0	ug/l	J

### OSW-8260DSIM

1,4-Dioxane	123-91-1					3.9	2.0	ug/l	---	4.3	2.0	ug/l	---
-------------	----------	--	--	--	--	-----	-----	------	-----	-----	-----	------	-----