

# ANALYTICAL REPORT

## PREPARED FOR

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

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## JOB DESCRIPTION

Ford LTP

## JOB NUMBER

240-208616-1

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## Job Notes

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## Authorization



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Authorized for release by  
Michael DeMonico, Project Manager I  
[Michael.DeMonico@et.eurofinsus.com](mailto:Michael.DeMonico@et.eurofinsus.com)  
(330)497-9396



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# Definitions/Glossary

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

Job ID: 240-208616-1

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

# Case Narrative

Client: Arcadis U.S., Inc.  
Project: Ford LTP

Job ID: 240-208616-1

**Job ID: 240-208616-1**

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## Job Narrative 240-208616-1

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 8/1/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.3°C.

### GC/MS VOA

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 U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-208616-1

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

**Protocol References:**

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

**Laboratory References:**

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



# Sample Summary

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

Job ID: 240-208616-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-208616-1	TRIP BLANK_144	Water	07/30/24 00:00	08/01/24 08:00
240-208616-2	MW-65_073024	Water	07/30/24 14:30	08/01/24 08:00
240-208616-3	MW-66_073024	Water	07/30/24 15:20	08/01/24 08:00

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

# Detection Summary

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

Job ID: 240-208616-1

## Client Sample ID: TRIP BLANK\_144

Lab Sample ID: 240-208616-1

No Detections.

## Client Sample ID: MW-65\_073024

Lab Sample ID: 240-208616-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.3		1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	10		1.0	0.45	ug/L	1		8260D	Total/NA

## Client Sample ID: MW-66\_073024

Lab Sample ID: 240-208616-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.2	J	2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	1.1		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 U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-208616-1

**Client Sample ID: TRIP BLANK\_144**

**Lab Sample ID: 240-208616-1**

Date Collected: 07/30/24 00:00

Matrix: Water

Date Received: 08/01/24 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			08/03/24 13:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/03/24 13:25	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/03/24 13:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/03/24 13:25	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/03/24 13:25	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/03/24 13:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137		08/03/24 13:25	1
4-Bromofluorobenzene (Surr)	98		56 - 136		08/03/24 13:25	1
Toluene-d8 (Surr)	100		78 - 122		08/03/24 13:25	1
Dibromofluoromethane (Surr)	103		73 - 120		08/03/24 13:25	1

# Client Sample Results

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

Job ID: 240-208616-1

**Client Sample ID: MW-65\_073024**

**Lab Sample ID: 240-208616-2**

Date Collected: 07/30/24 14:30

Matrix: Water

Date Received: 08/01/24 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			08/05/24 13:29	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	99		68 - 127					08/05/24 13:29	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			08/03/24 16:50	1
<b>cis-1,2-Dichloroethene</b>	<b>4.3</b>		1.0	0.46	ug/L			08/03/24 16:50	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/03/24 16:50	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/03/24 16:50	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/03/24 16:50	1
<b>Vinyl chloride</b>	<b>10</b>		1.0	0.45	ug/L			08/03/24 16:50	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	105		62 - 137					08/03/24 16:50	1
4-Bromofluorobenzene (Surr)	95		56 - 136					08/03/24 16:50	1
Toluene-d8 (Surr)	98		78 - 122					08/03/24 16:50	1
Dibromofluoromethane (Surr)	103		73 - 120					08/03/24 16:50	1

# Client Sample Results

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

Job ID: 240-208616-1

**Client Sample ID: MW-66\_073024**

**Lab Sample ID: 240-208616-3**

Date Collected: 07/30/24 15:20

Matrix: Water

Date Received: 08/01/24 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	1.2	J	2.0	0.86	ug/L			08/05/24 13:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		68 - 127					08/05/24 13:52	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			08/03/24 17:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/03/24 17:16	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/03/24 17:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/03/24 17:16	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/03/24 17:16	1
Vinyl chloride	1.1		1.0	0.45	ug/L			08/03/24 17:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		62 - 137					08/03/24 17:16	1
4-Bromofluorobenzene (Surr)	95		56 - 136					08/03/24 17:16	1
Toluene-d8 (Surr)	98		78 - 122					08/03/24 17:16	1
Dibromofluoromethane (Surr)	105		73 - 120					08/03/24 17:16	1

# Surrogate Summary

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

Job ID: 240-208616-1

## 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)
240-208616-1	TRIP BLANK_144	106	98	100	103
240-208616-2	MW-65_073024	105	95	98	103
240-208616-3	MW-66_073024	109	95	98	105
240-208618-B-2 MS	Matrix Spike	100	99	98	97
240-208618-B-2 MSD	Matrix Spike Duplicate	106	104	102	102
LCS 240-622195/5	Lab Control Sample	100	100	99	97
LCS 240-622195/6	Lab Control Sample	101	98	96	99
MB 240-622195/9	Method Blank	102	97	98	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)
240-208616-2	MW-65_073024	99
240-208616-3	MW-66_073024	109
240-208618-E-2 MS	Matrix Spike	110
240-208618-F-2 MSD	Matrix Spike Duplicate	109
LCS 240-622256/4	Lab Control Sample	105
MB 240-622256/6	Method Blank	97

**Surrogate Legend**

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

# QC Sample Results

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

Job ID: 240-208616-1

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

Lab Sample ID: MB 240-622195/9

Matrix: Water

Analysis Batch: 622195

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			08/03/24 11:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/03/24 11:17	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/03/24 11:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/03/24 11:17	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/03/24 11:17	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/03/24 11:17	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	102		62 - 137		08/03/24 11:17	1
4-Bromofluorobenzene (Surr)	97		56 - 136		08/03/24 11:17	1
Toluene-d8 (Surr)	98		78 - 122		08/03/24 11:17	1
Dibromofluoromethane (Surr)	101		73 - 120		08/03/24 11:17	1

Lab Sample ID: LCS 240-622195/5

Matrix: Water

Analysis Batch: 622195

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,1-Dichloroethene	20.0	19.8		ug/L		99	63 - 134
cis-1,2-Dichloroethene	20.0	17.7		ug/L		89	77 - 123
Tetrachloroethene	20.0	19.6		ug/L		98	76 - 123
trans-1,2-Dichloroethene	20.0	18.1		ug/L		90	75 - 124
Trichloroethene	20.0	18.6		ug/L		93	70 - 122
Vinyl chloride	20.0	17.8		ug/L		89	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	100		62 - 137
4-Bromofluorobenzene (Surr)	100		56 - 136
Toluene-d8 (Surr)	99		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120

Lab Sample ID: LCS 240-622195/6

Matrix: Water

Analysis Batch: 622195

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	96		78 - 122
Dibromofluoromethane (Surr)	99		73 - 120

Lab Sample ID: 240-208618-B-2 MS

Matrix: Water

Analysis Batch: 622195

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
1,1-Dichloroethene	1.0	U	20.0	19.2		ug/L		96	56 - 135
cis-1,2-Dichloroethene	1.0	U	20.0	17.9		ug/L		90	66 - 128

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# QC Sample Results

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

Job ID: 240-208616-1

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

**Lab Sample ID: 240-208618-B-2 MS**  
**Matrix: Water**  
**Analysis Batch: 622195**

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

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Tetrachloroethene	1.0	U	20.0	16.9		ug/L		84	62 - 131
trans-1,2-Dichloroethene	1.0	U	20.0	17.7		ug/L		89	56 - 136
Trichloroethene	1.0	U	20.0	16.4		ug/L		82	61 - 124
Vinyl chloride	1.0	U	20.0	17.6		ug/L		88	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	100		62 - 137
4-Bromofluorobenzene (Surr)	99		56 - 136
Toluene-d8 (Surr)	98		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120

**Lab Sample ID: 240-208618-B-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 622195**

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

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
1,1-Dichloroethene	1.0	U	20.0	20.4		ug/L		102	56 - 135	6	26
cis-1,2-Dichloroethene	1.0	U	20.0	18.0		ug/L		90	66 - 128	0	14
Tetrachloroethene	1.0	U	20.0	18.4		ug/L		92	62 - 131	9	20
trans-1,2-Dichloroethene	1.0	U	20.0	18.4		ug/L		92	56 - 136	4	15
Trichloroethene	1.0	U	20.0	17.4		ug/L		87	61 - 124	6	15
Vinyl chloride	1.0	U	20.0	19.3		ug/L		96	43 - 157	9	24

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	106		62 - 137
4-Bromofluorobenzene (Surr)	104		56 - 136
Toluene-d8 (Surr)	102		78 - 122
Dibromofluoromethane (Surr)	102		73 - 120

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

**Lab Sample ID: MB 240-622256/6**  
**Matrix: Water**  
**Analysis Batch: 622256**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			08/05/24 10:45	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	97		68 - 127		08/05/24 10:45	1

**Lab Sample ID: LCS 240-622256/4**  
**Matrix: Water**  
**Analysis Batch: 622256**

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,4-Dioxane	10.0	9.91		ug/L		99	75 - 121

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# QC Sample Results

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

Job ID: 240-208616-1

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

Lab Sample ID: LCS 240-622256/4

Matrix: Water

Analysis Batch: 622256

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		68 - 127

Lab Sample ID: 240-208618-E-2 MS

Matrix: Water

Analysis Batch: 622256

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
1,4-Dioxane	2.0	U	10.0	9.53		ug/L		95		20 - 180
Surrogate	MS	MS								
1,2-Dichloroethane-d4 (Surr)	%Recovery	Qualifier	Limits							
	110		68 - 127							

Lab Sample ID: 240-208618-F-2 MSD

Matrix: Water

Analysis Batch: 622256

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						Limit	
1,4-Dioxane	2.0	U	10.0	9.68		ug/L		97		20 - 180	2	20
Surrogate	MSD	MSD										
1,2-Dichloroethane-d4 (Surr)	%Recovery	Qualifier	Limits									
	109		68 - 127									

# QC Association Summary

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

Job ID: 240-208616-1

## GC/MS VOA

### Analysis Batch: 622195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-208616-1	TRIP BLANK_144	Total/NA	Water	8260D	
240-208616-2	MW-65_073024	Total/NA	Water	8260D	
240-208616-3	MW-66_073024	Total/NA	Water	8260D	
MB 240-622195/9	Method Blank	Total/NA	Water	8260D	
LCS 240-622195/5	Lab Control Sample	Total/NA	Water	8260D	
LCS 240-622195/6	Lab Control Sample	Total/NA	Water	8260D	
240-208618-B-2 MS	Matrix Spike	Total/NA	Water	8260D	
240-208618-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

### Analysis Batch: 622256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-208616-2	MW-65_073024	Total/NA	Water	8260D SIM	
240-208616-3	MW-66_073024	Total/NA	Water	8260D SIM	
MB 240-622256/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-622256/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-208618-E-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-208618-F-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	



# Lab Chronicle

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

Job ID: 240-208616-1

## Client Sample ID: TRIP BLANK\_144

Lab Sample ID: 240-208616-1

Date Collected: 07/30/24 00:00

Matrix: Water

Date Received: 08/01/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622195	AJS	EET CLE	08/03/24 13:25

## Client Sample ID: MW-65\_073024

Lab Sample ID: 240-208616-2

Date Collected: 07/30/24 14:30

Matrix: Water

Date Received: 08/01/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622195	AJS	EET CLE	08/03/24 16:50
Total/NA	Analysis	8260D SIM		1	622256	MDH	EET CLE	08/05/24 13:29

## Client Sample ID: MW-66\_073024

Lab Sample ID: 240-208616-3

Date Collected: 07/30/24 15:20

Matrix: Water

Date Received: 08/01/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622195	AJS	EET CLE	08/03/24 17:16
Total/NA	Analysis	8260D SIM		1	622256	MDH	EET CLE	08/05/24 13:52

### Laboratory References:

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

# Accreditation/Certification Summary

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

Job ID: 240-208616-1

## 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
California	State	2927	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	08-31-25
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-28-25
Pennsylvania	NELAP	68-00340	08-31-25
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24



# Chain of Custody Record

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

<b>Client Contact</b>		<b>Regulatory program:</b> <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other										<b>TestAmerica Laboratories, Inc.</b>									
Company Name: Arcadis		Client Project Manager: Kris Hinskey				Site Contact: Christina Weaver				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				<b>Analysis Turnaround Time</b>				<b>Analyses</b>				For lab use only							
Phone: 248-994-2240		Sampler Name: <i>Garrett Link</i>				TAT if different from below				Filtered Sample (Y/N) Composite=C / Grab=G 1,1-DCE 8260D cis-1,2-DCE 8260D Trans-1,2-DCE 8260D PCE 8260D TCE 8260D Vinyl Chloride 8260D 1,4-Dioxane 8260D SIM				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 # US3410018772		Sample Identification		Sample Date	Sample Time	Matrix					Containers & Preservatives					Sample Specific Notes / Special Instructions:					
		Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:								
TRIP BLANK_ 144		---	---	1					1					NG	X	X	X	X	X	X	1 Trip Blank
<i>MW-65-073024</i>		<i>7/30/24</i>	<i>1430</i>	<i>6</i>					<i>6</i>					<i>NG</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	VOAs for 8260D VOAs for 8260D SIM
<i>MW-66-073024</i>		<i>7/30/24</i>	<i>1520</i>	<i>6</i>					<i>6</i>					<i>NG</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>↓</i>
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)																			
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown		<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																			
Special Instructions/QC Requirements & Comments:																					
Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728 Level IV Reporting requested.																					
Relinquished by: <i>[Signature]</i>		Company: <i>ARCADIS</i>		Date/Time: <i>7/30/24 1630</i>		Received by: <i>Novi Cold Storage</i>		Company: <i>ARCADIS</i>		Date/Time: <i>7/30/24 1630</i>											
Relinquished by: <i>[Signature]</i>		Company: <i>ARCADIS</i>		Date/Time: <i>7/31/24 1155</i>		Received by: <i>[Signature]</i>		Company: <i>EETA</i>		Date/Time: <i>7/31/24 11:55am</i>											
Relinquished by: <i>[Signature]</i>		Company: <i>EETA</i>		Date/Time: <i>7/31/24 12:05pm</i>		Received in Laboratory: <i>[Signature]</i>		Company: <i>EETA</i>		Date/Time: <i>8-1-24 800</i>											



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Eurofins - Cleveland Sample Receipt Form/Narrative  
 Barberon Facility  
 Login # \_\_\_\_\_

Client ARCADIS Site Name \_\_\_\_\_  
 Cooler Received on 08-1-24 Opened on 8-1-24  
 FedEx: 1<sup>st</sup> Grd Exp UPS FAS (Waypoint) Client Drop Off 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 Foam Plastic Bag None Other \_\_\_\_\_  
 COOLANT: Me Ice Blue Ice Dry Ice Water None  
 1 Cooler temperature upon receipt  See Multiple Cooler Form  
 IR GUN # 22 (CF -0.1 °C) Observed Cooler Temp. 1.9 °C Corrected Cooler Temp 1.2 °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  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   
 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 preservatives (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

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

13 Were all preserved sample(s) at the correct pH upon receipt? Yes  No  NA pH Strip Lot# HC442471  
 14 Were VOAs on the COC? Yes  No   
 15 Were air bubbles > 6 mm in any VOA vials?  Larger than this Yes  No  NA  
 16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_ 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 \_\_\_\_\_  
Sample MW-66 had 1 broken vial received  
M Carter

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

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u>	<u>Preservation</u>	<u>pH</u>	<u>Temp</u>	<u>Added</u>	<u>Lot Number</u>	<u>Preservation</u>
TRIP BLANK_144	240-208616-A-1	Voa Vial 40ml - Hydrochloric Acid							
MW-65_072924	240-208616-A-2	Voa Vial 40ml - Hydrochloric Acid							
MW-65_072924	240-208616-B-2	Voa Vial 40ml - Hydrochloric Acid							
MW-65_072924	240-208616-C-2	Voa Vial 40ml - Hydrochloric Acid							
MW-65_072924	240-208616-D-2	Voa Vial 40ml - Hydrochloric Acid							
MW-65_072924	240-208616-E-2	Voa Vial 40ml - Hydrochloric Acid							
MW-65_072924	240-208616-F-2	Voa Vial 40ml - Hydrochloric Acid							
MW-66_072924	240-208616-A-3	Voa Vial 40ml - Hydrochloric Acid							
MW-66_072924	240-208616-B-3	Voa Vial 40ml - Hydrochloric Acid							
MW-66_072924	240-208616-C-3	Voa Vial 40ml - Hydrochloric Acid							
MW-66_072924	240-208616-D-3	Voa Vial 40ml - Hydrochloric Acid							
MW-66_072924	240-208616-E-3	Voa Vial 40ml - Hydrochloric Acid							

# DATA VERIFICATION REPORT



August 07, 2024

Megan Meckley  
Arcadis  
28550 Cabot Drive  
Suite 500  
Novi, MI US 48377

CADENA project ID: E203728  
Project: Ford Livonia Transmission Plant - Soil Gas, Ground Water and Soil  
Project number: 30206169.0401.04  
Event Specific Scope of Work References: Sample COC  
Laboratory: Eurofins Environment Testing LLC - Cleveland  
Laboratory submittal: 208616-1  
Sample date: 2024-07-30  
Report received by CADENA: 2024-08-07  
Initial Data Verification completed by CADENA: 2024-08-07  
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, 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: 208616-1

<b>Sample Name:</b> TRIP BLANK_144	MW-65_073024	MW-66_073024
<b>Lab Sample ID:</b> 2402086161	2402086162	2402086163
<b>Sample Date:</b> 7/30/2024	7/30/2024	7/30/2024

Analyte	Cas No.	TRIP BLANK_144				MW-65_073024				MW-66_073024			
		Report	Valid	Report	Valid	Report	Valid	Report	Valid				
		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	---	4.3	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	---	10	1.0	ug/l	---	1.1	1.0	ug/l	---

### OSW-8260DSIM

1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	1.2	2.0	ug/l	J
-------------	----------	--	--	--	--	----	-----	------	-----	-----	-----	------	---