

# ANALYTICAL REPORT

## PREPARED FOR

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Generated 5/24/2024 7:42:15 AM

## JOB DESCRIPTION

Ford LTP

## JOB NUMBER

240-204406-1

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## Job Notes

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## Authorization



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# Definitions/Glossary

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

Job ID: 240-204406-1

## 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: 240-204406-1

**Job ID: 240-204406-1**

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## Job Narrative 240-204406-1

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

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

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

### Receipt

The samples were received on 5/14/2024 10:00 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 3.1°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: 240-204406-1

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: 240-204406-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-204406-1	TRIP BLANK_5	Water	05/10/24 00:00	05/14/24 10:00
240-204406-2	MW-51_051024	Water	05/10/24 14:15	05/14/24 10:00
240-204406-3	MW-219S_051024	Water	05/10/24 09:05	05/14/24 10:00
240-204406-4	PW-16-02_051024	Water	05/10/24 15:45	05/14/24 10:00

1

2

3

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12

13

14

15

# Detection Summary

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

Job ID: 240-204406-1

## Client Sample ID: TRIP BLANK\_5

Lab Sample ID: 240-204406-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.48	J	1.0	0.44	ug/L	1		8260D	Total/NA

## Client Sample ID: MW-51\_051024

Lab Sample ID: 240-204406-2

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

## Client Sample ID: MW-219S\_051024

Lab Sample ID: 240-204406-3

No Detections.

## Client Sample ID: PW-16-02\_051024

Lab Sample ID: 240-204406-4

No Detections.

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: 240-204406-1

**Client Sample ID: TRIP BLANK\_5**

**Lab Sample ID: 240-204406-1**

Date Collected: 05/10/24 00:00

Matrix: Water

Date Received: 05/14/24 10:00

**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			05/22/24 16:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/22/24 16:10	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/22/24 16:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/22/24 16:10	1
<b>Trichloroethene</b>	<b>0.48</b>	<b>J</b>	1.0	0.44	ug/L			05/22/24 16:10	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/22/24 16:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		62 - 137		05/22/24 16:10	1
4-Bromofluorobenzene (Surr)	94		56 - 136		05/22/24 16:10	1
Toluene-d8 (Surr)	94		78 - 122		05/22/24 16:10	1
Dibromofluoromethane (Surr)	102		73 - 120		05/22/24 16:10	1

# Client Sample Results

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

Job ID: 240-204406-1

**Client Sample ID: MW-51\_051024**

**Lab Sample ID: 240-204406-2**

Date Collected: 05/10/24 14:15

Matrix: Water

Date Received: 05/14/24 10:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.5		2.0	0.86	ug/L			05/20/24 16:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		68 - 127					05/20/24 16:33	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			05/22/24 16:35	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/22/24 16:35	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/22/24 16:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/22/24 16:35	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/22/24 16:35	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/22/24 16:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		62 - 137					05/22/24 16:35	1
4-Bromofluorobenzene (Surr)	93		56 - 136					05/22/24 16:35	1
Toluene-d8 (Surr)	93		78 - 122					05/22/24 16:35	1
Dibromofluoromethane (Surr)	101		73 - 120					05/22/24 16:35	1

# Client Sample Results

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

Job ID: 240-204406-1

**Client Sample ID: MW-219S\_051024**

**Lab Sample ID: 240-204406-3**

Date Collected: 05/10/24 09:05

Matrix: Water

Date Received: 05/14/24 10:00

**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			05/20/24 16:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		68 - 127					05/20/24 16:10	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			05/22/24 17:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/22/24 17:00	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/22/24 17:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/22/24 17:00	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/22/24 17:00	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/22/24 17:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		62 - 137					05/22/24 17:00	1
4-Bromofluorobenzene (Surr)	92		56 - 136					05/22/24 17:00	1
Toluene-d8 (Surr)	96		78 - 122					05/22/24 17:00	1
Dibromofluoromethane (Surr)	103		73 - 120					05/22/24 17:00	1

# Client Sample Results

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

Job ID: 240-204406-1

**Client Sample ID: PW-16-02\_051024**

**Lab Sample ID: 240-204406-4**

Date Collected: 05/10/24 15:45

Matrix: Water

Date Received: 05/14/24 10:00

**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			05/20/24 15:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		68 - 127					05/20/24 15:46	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			05/22/24 17:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/22/24 17:25	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/22/24 17:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/22/24 17:25	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/22/24 17:25	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/22/24 17:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		62 - 137					05/22/24 17:25	1
4-Bromofluorobenzene (Surr)	90		56 - 136					05/22/24 17:25	1
Toluene-d8 (Surr)	94		78 - 122					05/22/24 17:25	1
Dibromofluoromethane (Surr)	102		73 - 120					05/22/24 17:25	1

# Surrogate Summary

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

Job ID: 240-204406-1

## 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)
240-204406-1	TRIP BLANK_5	108	94	94	102
240-204406-2	MW-51_051024	105	93	93	101
240-204406-3	MW-219S_051024	111	92	96	103
240-204406-4	PW-16-02_051024	108	90	94	102
240-204410-D-2 MSD	Matrix Spike Duplicate	101	98	98	98
240-204410-E-2 MS	Matrix Spike	103	100	97	100
LCS 240-613973/4	Lab Control Sample	99	101	100	97
MB 240-613973/7	Method Blank	107	95	95	103

**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)
240-204404-D-4 MS	Matrix Spike	100
240-204404-D-4 MSD	Matrix Spike Duplicate	95
240-204406-2	MW-51_051024	101
240-204406-3	MW-219S_051024	103
240-204406-4	PW-16-02_051024	106
LCS 240-613686/4	Lab Control Sample	101
MB 240-613686/6	Method Blank	99

**Surrogate Legend**

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

# QC Sample Results

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

Job ID: 240-204406-1

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

Lab Sample ID: MB 240-613973/7

Matrix: Water

Analysis Batch: 613973

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			05/22/24 15:20	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/22/24 15:20	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/22/24 15:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/22/24 15:20	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/22/24 15:20	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/22/24 15:20	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	107		62 - 137		05/22/24 15:20	1
4-Bromofluorobenzene (Surr)	95		56 - 136		05/22/24 15:20	1
Toluene-d8 (Surr)	95		78 - 122		05/22/24 15:20	1
Dibromofluoromethane (Surr)	103		73 - 120		05/22/24 15:20	1

Lab Sample ID: LCS 240-613973/4

Matrix: Water

Analysis Batch: 613973

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	25.0	24.4		ug/L		98	63 - 134
cis-1,2-Dichloroethene	25.0	23.4		ug/L		94	77 - 123
Tetrachloroethene	25.0	26.1		ug/L		104	76 - 123
trans-1,2-Dichloroethene	25.0	22.3		ug/L		89	75 - 124
Trichloroethene	25.0	24.1		ug/L		96	70 - 122
Vinyl chloride	12.5	10.2		ug/L		82	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		62 - 137
4-Bromofluorobenzene (Surr)	101		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120

Lab Sample ID: 240-204410-D-2 MSD

Matrix: Water

Analysis Batch: 613973

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	25.0	24.7		ug/L		99	56 - 135	6	26
cis-1,2-Dichloroethene	1.0	U	25.0	24.3		ug/L		97	66 - 128	3	14
Tetrachloroethene	1.0	U	25.0	23.3		ug/L		93	62 - 131	5	20
trans-1,2-Dichloroethene	1.0	U	25.0	23.1		ug/L		92	56 - 136	5	15
Trichloroethene	1.0	U	25.0	23.6		ug/L		95	61 - 124	5	15
Vinyl chloride	1.0	U	12.5	10.1		ug/L		81	43 - 157	2	24

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	98		78 - 122

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# QC Sample Results

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

Job ID: 240-204406-1

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

**Lab Sample ID: 240-204410-D-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 613973**

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

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

**Lab Sample ID: 240-204410-E-2 MS**  
**Matrix: Water**  
**Analysis Batch: 613973**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	1.0	U	25.0	23.3		ug/L		93	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	23.6		ug/L		94	66 - 128
Tetrachloroethene	1.0	U	25.0	22.2		ug/L		89	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	21.9		ug/L		88	56 - 136
Trichloroethene	1.0	U	25.0	22.4		ug/L		90	61 - 124
Vinyl chloride	1.0	U	12.5	10.3		ug/L		82	43 - 157

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

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

**Lab Sample ID: MB 240-613686/6**  
**Matrix: Water**  
**Analysis Batch: 613686**

**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			05/20/24 14:13	1

	MB	MB							
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	99		68 - 127		05/20/24 14:13	1			

**Lab Sample ID: LCS 240-613686/4**  
**Matrix: Water**  
**Analysis Batch: 613686**

**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	9.53		ug/L		95	75 - 121

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		68 - 127

**Lab Sample ID: 240-204404-D-4 MS**  
**Matrix: Water**  
**Analysis Batch: 613686**

**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	8.89		ug/L		89	20 - 180

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# QC Sample Results

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

Job ID: 240-204406-1

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

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	100		68 - 127

**Lab Sample ID: 240-204404-D-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 613686**

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

<i>Analyte</i>	<i>Sample</i>	<i>Sample</i>	<i>Spike</i>	<i>MSD</i>	<i>MSD</i>				<i>%Rec</i>		<i>RPD</i>	
	<i>Result</i>	<i>Qualifier</i>	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>	<i>RPD</i>	<i>Limit</i>	
1,4-Dioxane	2.0	U	10.0	9.93		ug/L		99	20 - 180	11	20	

	<i>MSD</i>	<i>MSD</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	95		68 - 127



# QC Association Summary

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

Job ID: 240-204406-1

## GC/MS VOA

### Analysis Batch: 613686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-204406-2	MW-51_051024	Total/NA	Water	8260D SIM	
240-204406-3	MW-219S_051024	Total/NA	Water	8260D SIM	
240-204406-4	PW-16-02_051024	Total/NA	Water	8260D SIM	
MB 240-613686/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-613686/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-204404-D-4 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-204404-D-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

### Analysis Batch: 613973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-204406-1	TRIP BLANK_5	Total/NA	Water	8260D	
240-204406-2	MW-51_051024	Total/NA	Water	8260D	
240-204406-3	MW-219S_051024	Total/NA	Water	8260D	
240-204406-4	PW-16-02_051024	Total/NA	Water	8260D	
MB 240-613973/7	Method Blank	Total/NA	Water	8260D	
LCS 240-613973/4	Lab Control Sample	Total/NA	Water	8260D	
240-204410-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	
240-204410-E-2 MS	Matrix Spike	Total/NA	Water	8260D	

# Lab Chronicle

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

Job ID: 240-204406-1

**Client Sample ID: TRIP BLANK\_5**

**Lab Sample ID: 240-204406-1**

Date Collected: 05/10/24 00:00

Matrix: Water

Date Received: 05/14/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	613973	LEE	EET CLE	05/22/24 16:10

**Client Sample ID: MW-51\_051024**

**Lab Sample ID: 240-204406-2**

Date Collected: 05/10/24 14:15

Matrix: Water

Date Received: 05/14/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	613973	LEE	EET CLE	05/22/24 16:35
Total/NA	Analysis	8260D SIM		1	613686	MDH	EET CLE	05/20/24 16:33

**Client Sample ID: MW-219S\_051024**

**Lab Sample ID: 240-204406-3**

Date Collected: 05/10/24 09:05

Matrix: Water

Date Received: 05/14/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	613973	LEE	EET CLE	05/22/24 17:00
Total/NA	Analysis	8260D SIM		1	613686	MDH	EET CLE	05/20/24 16:10

**Client Sample ID: PW-16-02\_051024**

**Lab Sample ID: 240-204406-4**

Date Collected: 05/10/24 15:45

Matrix: Water

Date Received: 05/14/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	613973	LEE	EET CLE	05/22/24 17:25
Total/NA	Analysis	8260D SIM		1	613686	MDH	EET CLE	05/20/24 15:46

**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: 240-204406-1

## 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	07-31-24
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	06-30-24
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24



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

Client PREADK Site Name \_\_\_\_\_  
 Cooler Received on 5.14.23 Opened on 5.14.23 Cooler unpacked by MAHSSH LDM

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 # 22 Foam Box Client Cooler Box Other \_\_\_\_\_  
 Packing material used Bubble Wrap Foam Plastic Bag None Other \_\_\_\_\_  
 COOLANT Wet Ice Blue Ice Dry Ice Water None \_\_\_\_\_  
 1 Cooler temperature upon receipt  See Multiple Cooler Form  
 IR GUN # 18 (CF A) °C) Observed Cooler Temp 3.1 °C Corrected Cooler Temp. 3.1 °C

2 Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 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 ~~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)?  
 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  
 13 If yes, Questions 13-17 have been checked at the originating laboratory  
 14 Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC439975  
 15 Were air bubbles >6 mm in any VOA vials? Yes No NA  
 16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_  
 17 Was a LL Hg or Me Hg trip blank present? Yes No

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

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_  
 Concerning \_\_\_\_\_

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

19 SAMPLE CONDITION  
 Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container  
 Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter (Notify PM)

20 SAMPLE PRESERVATION  
 Sample(s) \_\_\_\_\_ were further preserved in the laboratory  
 Time preserved \_\_\_\_\_ Preservative(s) added/Lot number(s) \_\_\_\_\_  
 VOA Sample Preservation - Date/Time VOAs Frozen \_\_\_\_\_

## Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 240-204406-1

**Login Number: 204406**

**List Source: Eurofins Cleveland**

**List Number: 1**

**Creator: Loar, Malissa**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.		
The cooler's custody seal, if present, is intact.		
Sample custody seals, if present, are intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the containers received and the COC.		
Samples are received within Holding Time (excluding tests with immediate HTs)		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		

# DATA VERIFICATION REPORT



May 28, 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: 30206169.401.03  
Event Specific Scope of Work References: Sample COC  
Laboratory: Eurofins Environment Testing LLC - Cleveland  
Laboratory submittal: 204406-1  
Sample date: 2024-05-10  
Report received by CADENA: 2024-05-28  
Initial Data Verification completed by CADENA: 2024-05-28  
Number of Samples:4  
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 TRIP blank had a detection below the RL for the following analyte: TRICHLOROETHENE.  
Qualification of client sample results was not required based on this TRIP blank detections.

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.

## Analytical Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 204406-1

Analyte	Cas No.	Sample Name: TRIP BLANK_5				MW-51_051024				MW-219S_051024				PW-16-02_051024			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
		2402044061				2402044062				2402044063				2402044064			
		5/10/2024				5/10/2024				5/10/2024				5/10/2024			

### GC/MS VOC

#### OSW-8260D

1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	0.48	1.0	ug/l	J	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	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---

#### OSW-8260DSIM

1,4-Dioxane	123-91-1					2.5	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---
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