



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Kristoffer Hinskey  
ARCADIS US Inc  
28550 Cabot Drive  
Suite 500  
Novi, Michigan 48377

Generated 8/14/2023 4:25:12 AM

## JOB DESCRIPTION

Ford LTP - On Site

## JOB NUMBER

240-189665-1

# Eurofins Cleveland

## 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



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Method Summary . . . . .	6
Sample Summary . . . . .	7
Detection Summary . . . . .	8
Client Sample Results . . . . .	9
Surrogate Summary . . . . .	13
QC Sample Results . . . . .	14
QC Association Summary . . . . .	17
Lab Chronicle . . . . .	18
Certification Summary . . . . .	19
Chain of Custody . . . . .	20

# Definitions/Glossary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-189665-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.
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 US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-189665-1

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**Job ID: 240-189665-1**

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**Laboratory: Eurofins Cleveland**

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**Narrative**

**Job Narrative**  
**240-189665-1**

**Receipt**

The samples were received on 8/5/2023 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 0.3°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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- 2
- 3
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- 7
- 8
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- 10
- 11
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- 14

# Method Summary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-189665-1

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 - On Site

Job ID: 240-189665-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-189665-1	TRIP BLANK_42	Water	08/03/23 00:00	08/05/23 08:00
240-189665-2	MW-03_080323	Water	08/03/23 14:00	08/05/23 08:00
240-189665-3	MW-02_080323	Water	08/03/23 11:55	08/05/23 08:00
240-189665-4	MW-05_080323	Water	08/03/23 12:53	08/05/23 08:00

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- 11
- 12
- 13
- 14

# Detection Summary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-189665-1

**Client Sample ID: TRIP BLANK\_42**

**Lab Sample ID: 240-189665-1**

No Detections.

**Client Sample ID: MW-03\_080323**

**Lab Sample ID: 240-189665-2**

No Detections.

**Client Sample ID: MW-02\_080323**

**Lab Sample ID: 240-189665-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.4		2.0	0.86	ug/L	1		8260D SIM	Total/NA
cis-1,2-Dichloroethene	5300		100	46	ug/L	100		8260D	Total/NA
trans-1,2-Dichloroethene	810		100	51	ug/L	100		8260D	Total/NA
Vinyl chloride	290		100	45	ug/L	100		8260D	Total/NA

**Client Sample ID: MW-05\_080323**

**Lab Sample ID: 240-189665-4**

No Detections.

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-189665-1

**Client Sample ID: TRIP BLANK\_42**

**Lab Sample ID: 240-189665-1**

Date Collected: 08/03/23 00:00

Matrix: Water

Date Received: 08/05/23 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			08/10/23 20:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/10/23 20:13	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/10/23 20:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/10/23 20:13	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/10/23 20:13	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/10/23 20:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		62 - 137		08/10/23 20:13	1
4-Bromofluorobenzene (Surr)	95		56 - 136		08/10/23 20:13	1
Toluene-d8 (Surr)	96		78 - 122		08/10/23 20:13	1
Dibromofluoromethane (Surr)	100		73 - 120		08/10/23 20:13	1

# Client Sample Results

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-189665-1

**Client Sample ID: MW-03\_080323**

**Lab Sample ID: 240-189665-2**

Date Collected: 08/03/23 14:00

Matrix: Water

Date Received: 08/05/23 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			08/08/23 22:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		66 - 120					08/08/23 22:04	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			08/10/23 20:36	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/10/23 20:36	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/10/23 20:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/10/23 20:36	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/10/23 20:36	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/10/23 20:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		62 - 137					08/10/23 20:36	1
4-Bromofluorobenzene (Surr)	97		56 - 136					08/10/23 20:36	1
Toluene-d8 (Surr)	100		78 - 122					08/10/23 20:36	1
Dibromofluoromethane (Surr)	105		73 - 120					08/10/23 20:36	1

# Client Sample Results

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-189665-1

**Client Sample ID: MW-02\_080323**

**Lab Sample ID: 240-189665-3**

Date Collected: 08/03/23 11:55

Matrix: Water

Date Received: 08/05/23 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	4.4		2.0	0.86	ug/L			08/08/23 22:27	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)	109		66 - 120					08/08/23 22:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	100	U	100	49	ug/L			08/10/23 21:00	100
cis-1,2-Dichloroethene	5300		100	46	ug/L			08/10/23 21:00	100
Tetrachloroethene	100	U	100	44	ug/L			08/10/23 21:00	100
trans-1,2-Dichloroethene	810		100	51	ug/L			08/10/23 21:00	100
Trichloroethene	100	U	100	44	ug/L			08/10/23 21:00	100
Vinyl chloride	290		100	45	ug/L			08/10/23 21:00	100
<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					08/10/23 21:00	100
4-Bromofluorobenzene (Surr)	105		56 - 136					08/10/23 21:00	100
Toluene-d8 (Surr)	101		78 - 122					08/10/23 21:00	100
Dibromofluoromethane (Surr)	104		73 - 120					08/10/23 21:00	100

# Client Sample Results

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-189665-1

**Client Sample ID: MW-05\_080323**

**Lab Sample ID: 240-189665-4**

Date Collected: 08/03/23 12:53

Matrix: Water

Date Received: 08/05/23 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			08/08/23 22:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		66 - 120					08/08/23 22:51	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			08/10/23 22:09	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/10/23 22:09	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/10/23 22:09	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/10/23 22:09	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/10/23 22:09	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/10/23 22:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		62 - 137					08/10/23 22:09	1
4-Bromofluorobenzene (Surr)	101		56 - 136					08/10/23 22:09	1
Toluene-d8 (Surr)	99		78 - 122					08/10/23 22:09	1
Dibromofluoromethane (Surr)	107		73 - 120					08/10/23 22:09	1

# Surrogate Summary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-189665-1

## 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)
240-189665-1	TRIP BLANK_42	100	95	96	100
240-189665-2	MW-03_080323	109	97	100	105
240-189665-3	MW-02_080323	105	105	101	104
240-189665-3 MS	MW-02_080323	103	93	97	101
240-189665-3 MSD	MW-02_080323	103	103	102	101
240-189665-4	MW-05_080323	111	101	99	107
LCS 240-583519/5	Lab Control Sample	97	96	95	95
MB 240-583519/8	Method Blank	107	97	97	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 (66-120)
240-189540-G-3 MS	Matrix Spike	95
240-189540-G-3 MSD	Matrix Spike Duplicate	88
240-189665-2	MW-03_080323	80
240-189665-3	MW-02_080323	109
240-189665-4	MW-05_080323	89
LCS 240-583238/5	Lab Control Sample	89
MB 240-583238/7	Method Blank	87

**Surrogate Legend**  
DCA = 1,2-Dichloroethane-d4 (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 (10-150)
MRL 240-583238/6	Lab Control Sample	87

**Surrogate Legend**  
DCA = 1,2-Dichloroethane-d4 (Surr)

# QC Sample Results

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-189665-1

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

Lab Sample ID: MB 240-583519/8

Matrix: Water

Analysis Batch: 583519

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			08/10/23 14:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/10/23 14:23	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/10/23 14:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/10/23 14:23	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/10/23 14:23	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/10/23 14:23	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	107		62 - 137		08/10/23 14:23	1
4-Bromofluorobenzene (Surr)	97		56 - 136		08/10/23 14:23	1
Toluene-d8 (Surr)	97		78 - 122		08/10/23 14:23	1
Dibromofluoromethane (Surr)	103		73 - 120		08/10/23 14:23	1

Lab Sample ID: LCS 240-583519/5

Matrix: Water

Analysis Batch: 583519

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	25.6		ug/L		103	63 - 134
cis-1,2-Dichloroethene	25.0	24.0		ug/L		96	77 - 123
Tetrachloroethene	25.0	25.0		ug/L		100	76 - 123
trans-1,2-Dichloroethene	25.0	24.6		ug/L		98	75 - 124
Trichloroethene	25.0	25.7		ug/L		103	70 - 122
Vinyl chloride	12.5	11.0		ug/L		88	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	97		62 - 137
4-Bromofluorobenzene (Surr)	96		56 - 136
Toluene-d8 (Surr)	95		78 - 122
Dibromofluoromethane (Surr)	95		73 - 120

Lab Sample ID: 240-189665-3 MS

Matrix: Water

Analysis Batch: 583519

Client Sample ID: MW-02\_080323

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
1,1-Dichloroethene	100	U	2500	2450		ug/L		98	56 - 135
cis-1,2-Dichloroethene	5300		2500	7100	E	ug/L		71	66 - 128
Tetrachloroethene	100	U	2500	2340		ug/L		94	62 - 131
trans-1,2-Dichloroethene	810		2500	3140		ug/L		93	56 - 136
Trichloroethene	100	U	2500	2390		ug/L		96	61 - 124
Vinyl chloride	290		1250	1240		ug/L		76	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	103		62 - 137
4-Bromofluorobenzene (Surr)	93		56 - 136
Toluene-d8 (Surr)	97		78 - 122

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# QC Sample Results

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-189665-1

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

**Lab Sample ID: 240-189665-3 MS**  
**Matrix: Water**  
**Analysis Batch: 583519**

**Client Sample ID: MW-02\_080323**  
**Prep Type: Total/NA**

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
Dibromofluoromethane (Surr)	101		73 - 120

**Lab Sample ID: 240-189665-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 583519**

**Client Sample ID: MW-02\_080323**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits		
1,1-Dichloroethene	100	U	2500	2570		ug/L		103	56 - 135	5	26
cis-1,2-Dichloroethene	5300		2500	7520	E	ug/L		88	66 - 128	6	14
Tetrachloroethene	100	U	2500	2380		ug/L		95	62 - 131	1	20
trans-1,2-Dichloroethene	810		2500	3310		ug/L		100	56 - 136	5	15
Trichloroethene	100	U	2500	2520		ug/L		101	61 - 124	5	15
Vinyl chloride	290		1250	1440		ug/L		93	43 - 157	15	24

  

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		62 - 137
4-Bromofluorobenzene (Surr)	103		56 - 136
Toluene-d8 (Surr)	102		78 - 122
Dibromofluoromethane (Surr)	101		73 - 120

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

**Lab Sample ID: MB 240-583238/7**  
**Matrix: Water**  
**Analysis Batch: 583238**

**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			08/08/23 13:43	1

  

	MB	MB		Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits			
1,2-Dichloroethane-d4 (Surr)	87		66 - 120		08/08/23 13:43	1

**Lab Sample ID: LCS 240-583238/5**  
**Matrix: Water**  
**Analysis Batch: 583238**

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

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
1,4-Dioxane	10.0	9.49		ug/L		95	80 - 122

  

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		66 - 120

**Lab Sample ID: MRL 240-583238/6**  
**Matrix: Water**  
**Analysis Batch: 583238**

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

Analyte	Spike	MRL	MRL	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
1,4-Dioxane	0.00200	0.00273		ng/uL		136	10 - 150

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# QC Sample Results

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-189665-1

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

	MRL	MRL	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	87		10 - 150

**Lab Sample ID: 240-189540-G-3 MS**  
**Matrix: Water**  
**Analysis Batch: 583238**

**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	9.51		ug/L		95	51 - 153

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		66 - 120

**Lab Sample ID: 240-189540-G-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 583238**

**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	9.52		ug/L		95	51 - 153	0	16

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		66 - 120



# QC Association Summary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-189665-1

## GC/MS VOA

### Analysis Batch: 583238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-189665-2	MW-03_080323	Total/NA	Water	8260D SIM	
240-189665-3	MW-02_080323	Total/NA	Water	8260D SIM	
240-189665-4	MW-05_080323	Total/NA	Water	8260D SIM	
MB 240-583238/7	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-583238/5	Lab Control Sample	Total/NA	Water	8260D SIM	
MRL 240-583238/6	Lab Control Sample	Total/NA	Water	8260D SIM	
240-189540-G-3 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-189540-G-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

### Analysis Batch: 583519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-189665-1	TRIP BLANK_42	Total/NA	Water	8260D	
240-189665-2	MW-03_080323	Total/NA	Water	8260D	
240-189665-3	MW-02_080323	Total/NA	Water	8260D	
240-189665-4	MW-05_080323	Total/NA	Water	8260D	
MB 240-583519/8	Method Blank	Total/NA	Water	8260D	
LCS 240-583519/5	Lab Control Sample	Total/NA	Water	8260D	
240-189665-3 MS	MW-02_080323	Total/NA	Water	8260D	
240-189665-3 MSD	MW-02_080323	Total/NA	Water	8260D	

# Lab Chronicle

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-189665-1

**Client Sample ID: TRIP BLANK\_42**

**Lab Sample ID: 240-189665-1**

Date Collected: 08/03/23 00:00

Matrix: Water

Date Received: 08/05/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	583519	LEE	EET CLE	08/10/23 20:13

**Client Sample ID: MW-03\_080323**

**Lab Sample ID: 240-189665-2**

Date Collected: 08/03/23 14:00

Matrix: Water

Date Received: 08/05/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	583519	LEE	EET CLE	08/10/23 20:36
Total/NA	Analysis	8260D SIM		1	583238	MRL	EET CLE	08/08/23 22:04

**Client Sample ID: MW-02\_080323**

**Lab Sample ID: 240-189665-3**

Date Collected: 08/03/23 11:55

Matrix: Water

Date Received: 08/05/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		100	583519	LEE	EET CLE	08/10/23 21:00
Total/NA	Analysis	8260D SIM		1	583238	MRL	EET CLE	08/08/23 22:27

**Client Sample ID: MW-05\_080323**

**Lab Sample ID: 240-189665-4**

Date Collected: 08/03/23 12:53

Matrix: Water

Date Received: 08/05/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	583519	LEE	EET CLE	08/10/23 22:09
Total/NA	Analysis	8260D SIM		1	583238	MRL	EET CLE	08/08/23 22:51

**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 - On Site

Job ID: 240-189665-1

## 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	02-27-24
Georgia	State	4062	02-27-24
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-31-23
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-23
Minnesota (Petrofund)	State	3506	08-01-23 *
New Jersey	NELAP	OH001	07-01-24
New York	NELAP	10975	04-02-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-27-24
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-17	08-31-23
Virginia	NELAP	460175	09-14-23
West Virginia DEP	State	210	12-31-23

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.



0-4 | 0-3

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

<b>Client Contact</b> Company Name: Arcadis Address: 28550 Cabot Drive, Suite 500 City/State/Zip: Novi, MI, 48377 Phone: 248-994-2240 Project Name: Ford LTP On-Site Project Number: 30167538-401.03 PO # 30167538-401.03		<b>Regulatory program:</b> <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
<b>Client Project Manager:</b> Kris Hinsky Telephone: 248-994-2240 Email: kris@hinsky.com		<b>Site Contact:</b> Christina Weaver Telephone: 248-994-2240	
<b>Sampler Name:</b> Samantha Sepaschler Method of Shipment/Carrier: Shipping/Tracking No:		<b>Analyses Turnaround Time</b> TAT (if different from below): 10 day	
<b>Sample Identification</b> TRIP BLANK 42 MW-03-080323 MW-02-080323 MW-05-080323		<b>Analyses</b> 1,4-Dioxane 8260D SIM Vinyl Chloride 8260D TCE 8260D PCE 8260D Trans-1,2-DCE 8260D cis-1,2-DCE 8260D 1,1-DCE 8260D	
<b>Sample Date</b> 8/3/23 8/3/23 8/3/23		<b>Sample Time</b> 1400 11:55 12:53	
<b>Matrix</b> Air: 1 Aqueous: 6 Sediment: 6 Solid: 6 Other:		<b>Containers &amp; Preservatives</b> H2SO4 HNO3 HCl NaOH Zinc NaOH Limpres Other:	
<b>Filtered Sample (Y/N)</b> NG NG NG NG		<b>Composite / Grab</b> G G G G	
<b>Sample Specific Notes / Special Instructions:</b> 1 Trip Blank 3 VOAs for 8260D 3 VOAs for 8260D SIM " " " "		For lab use only Walk-in client Lab sampling Job/SDG No: Sample Specific Notes / Special Instructions:	
Possible Hazard Identification: <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Irritant <input type="checkbox"/> Unknown <input type="checkbox"/> Poison B <input type="checkbox"/>			
Special Instructions/QC Requirements & Comments: Submit all results through Cadena at jitomalia@cadenaco.com, Cadena #E203728 Level IV Reporting requested.			
<b>Relinquished by:</b> [Signature] Date/Time: 8/3/23 1606		<b>Received by:</b> [Signature] Date/Time: 8/3/23 1606	
<b>Relinquished by:</b> [Signature] Date/Time: 8/4/23 1210		<b>Received by:</b> [Signature] Date/Time: 8/4/23 1210	
<b>Relinquished by:</b> [Signature] Date/Time: 8/4/23 1210		<b>Received by:</b> [Signature] Date/Time: 8/5/23 820	



Client Arcadis Site Name \_\_\_\_\_

Cooler unpacked by:

Cooler Received on 8-5-23 Opened on 8-5-23

Math

FedEx: 1<sup>st</sup> Grd Exp UPS FAS Clipper 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: Wet 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. 0.4 °C Corrected Cooler Temp. 0.3 °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

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

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  NA ms 8-5-23

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# 10BDH432T

14. Were VOAs on the COC?  Yes  No  NA HC312502

15. Were air bubbles >6 mm in any VOA vials?  Yes  No  NA ms 8-5-23

16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 0041301T  Yes  No  NA

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

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

Concerning \_\_\_\_\_

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  additional next page

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: \_\_\_\_\_

# DATA VERIFICATION REPORT



August 17, 2023

Kris Hinskey  
Arcadis of Michigan  
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: 30167538.401.03- onsite groundwater

Event Specific Scope of Work References: Sample COC

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory submittal: 189665-1

Sample date: 2023-08-03

Report received by CADENA: 2023-08-16

Initial Data Verification completed by CADENA: 2023-08-17

Number of Samples:4

Sample Matrices: Water and trip blank

Test Categories: GCMS VOC

**Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.**

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

## CADENA 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: 189665-1

Analyte	Cas No.	Sample Name: TRIP BLANK_42				MW-03_080323				MW-02_080323				MW-05_080323			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
		Lab Sample ID: 2401896651				2401896652				2401896653				2401896654			
		Sample Date: 8/3/2023				8/3/2023				8/3/2023				8/3/2023			

### GC/MS VOC

#### OSW-8260D

1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	100	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	5300	100	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	100	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	810	100	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	100	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	290	100	ug/l	---	ND	1.0	ug/l	---

#### OSW-8260DSIM

1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	4.4	2.0	ug/l	---	ND	2.0	ug/l	---
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