

## ANALYTICAL REPORT

Eurofins Canton  
180 S. Van Buren Avenue  
Barberton, OH 44203  
Tel: (330)497-9396

Laboratory Job ID: 240-171824-1  
Client Project/Site: Ford LTP - On Site

For:  
ARCADIS U.S., Inc.  
28550 Cabot Drive  
Suite 500  
Novi, Michigan 48377

Attn: Kristoffer Hinskey



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Authorized for release by:  
8/31/2022 1:49:39 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.



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# Definitions/Glossary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

## 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/Site: Ford LTP - On Site

Job ID: 240-171824-1

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**Job ID: 240-171824-1**

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**Laboratory: Eurofins Canton**

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**Narrative**

**Job Narrative  
240-171824-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 8/19/2022 9:50 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 was 4.8° C.

**GC/MS VOA**

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

**VOA Prep**

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

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- 14

# Method Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

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

**Protocol References:**

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

**Laboratory References:**

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

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- 14

# Sample Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-171824-1	TRIP BLANK_112	Water	08/17/22 00:00	08/19/22 09:50
240-171824-2	MW-39_081722	Water	08/17/22 09:10	08/19/22 09:50
240-171824-3	MW-32_081722	Water	08/17/22 10:30	08/19/22 09:50
240-171824-4	MW-218S_081722	Water	08/17/22 11:25	08/19/22 09:50
240-171824-5	MW-18_081722	Water	08/17/22 13:40	08/19/22 09:50
240-171824-6	MW-68_081722	Water	08/17/22 15:18	08/19/22 09:50

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- 7
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- 9
- 10
- 11
- 12
- 13
- 14

# Detection Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

**Client Sample ID: TRIP BLANK\_112**

**Lab Sample ID: 240-171824-1**

No Detections.

**Client Sample ID: MW-39\_081722**

**Lab Sample ID: 240-171824-2**

No Detections.

**Client Sample ID: MW-32\_081722**

**Lab Sample ID: 240-171824-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.47	J	1.0	0.46	ug/L	1		8260D	Total/NA

**Client Sample ID: MW-218S\_081722**

**Lab Sample ID: 240-171824-4**

No Detections.

**Client Sample ID: MW-18\_081722**

**Lab Sample ID: 240-171824-5**

No Detections.

**Client Sample ID: MW-68\_081722**

**Lab Sample ID: 240-171824-6**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.1		1.0	0.46	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Canton

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

**Client Sample ID: TRIP BLANK\_112**

**Lab Sample ID: 240-171824-1**

**Date Collected: 08/17/22 00:00**

**Matrix: Water**

**Date Received: 08/19/22 09:50**

**Method: 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			08/23/22 12:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/23/22 12:58	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/23/22 12:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/23/22 12:58	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/23/22 12:58	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/23/22 12:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		62 - 137		08/23/22 12:58	1
4-Bromofluorobenzene (Surr)	94		56 - 136		08/23/22 12:58	1
Toluene-d8 (Surr)	93		78 - 122		08/23/22 12:58	1
Dibromofluoromethane (Surr)	87		73 - 120		08/23/22 12:58	1



# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

**Client Sample ID: MW-39\_081722**

**Lab Sample ID: 240-171824-2**

**Date Collected: 08/17/22 09:10**

**Matrix: Water**

**Date Received: 08/19/22 09:50**

**Method: 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			08/25/22 20:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		66 - 120					08/25/22 20:59	1

**Method: 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			08/23/22 13:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/23/22 13:23	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/23/22 13:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/23/22 13:23	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/23/22 13:23	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/23/22 13:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		62 - 137					08/23/22 13:23	1
4-Bromofluorobenzene (Surr)	94		56 - 136					08/23/22 13:23	1
Toluene-d8 (Surr)	91		78 - 122					08/23/22 13:23	1
Dibromofluoromethane (Surr)	88		73 - 120					08/23/22 13:23	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

**Client Sample ID: MW-32\_081722**

**Lab Sample ID: 240-171824-3**

Date Collected: 08/17/22 10:30

Matrix: Water

Date Received: 08/19/22 09:50

**Method: 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			08/25/22 03:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		66 - 120		08/25/22 03:47	1

**Method: 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			08/23/22 14:38	1
<b>cis-1,2-Dichloroethene</b>	<b>0.47</b>	<b>J</b>	1.0	0.46	ug/L			08/23/22 14:38	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/23/22 14:38	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/23/22 14:38	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/23/22 14:38	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/23/22 14:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		62 - 137		08/23/22 14:38	1
4-Bromofluorobenzene (Surr)	93		56 - 136		08/23/22 14:38	1
Toluene-d8 (Surr)	92		78 - 122		08/23/22 14:38	1
Dibromofluoromethane (Surr)	87		73 - 120		08/23/22 14:38	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

**Client Sample ID: MW-218S\_081722**

**Lab Sample ID: 240-171824-4**

Date Collected: 08/17/22 11:25

Matrix: Water

Date Received: 08/19/22 09:50

**Method: 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			08/25/22 22:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		66 - 120		08/25/22 22:15	1

**Method: 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			08/23/22 15:03	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/23/22 15:03	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/23/22 15:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/23/22 15:03	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/23/22 15:03	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/23/22 15:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		62 - 137		08/23/22 15:03	1
4-Bromofluorobenzene (Surr)	96		56 - 136		08/23/22 15:03	1
Toluene-d8 (Surr)	93		78 - 122		08/23/22 15:03	1
Dibromofluoromethane (Surr)	88		73 - 120		08/23/22 15:03	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

**Client Sample ID: MW-18\_081722**

**Lab Sample ID: 240-171824-5**

Date Collected: 08/17/22 13:40

Matrix: Water

Date Received: 08/19/22 09:50

**Method: 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			08/25/22 22:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		66 - 120					08/25/22 22:40	1

**Method: 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			08/23/22 15:28	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/23/22 15:28	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/23/22 15:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/23/22 15:28	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/23/22 15:28	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/23/22 15:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		62 - 137					08/23/22 15:28	1
4-Bromofluorobenzene (Surr)	96		56 - 136					08/23/22 15:28	1
Toluene-d8 (Surr)	94		78 - 122					08/23/22 15:28	1
Dibromofluoromethane (Surr)	87		73 - 120					08/23/22 15:28	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

**Client Sample ID: MW-68\_081722**

**Lab Sample ID: 240-171824-6**

**Date Collected: 08/17/22 15:18**

**Matrix: Water**

**Date Received: 08/19/22 09:50**

**Method: 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			08/25/22 23:05	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)	92		66 - 120					08/25/22 23:05	1

**Method: 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			08/23/22 15:53	1
<b>cis-1,2-Dichloroethene</b>	<b>1.1</b>		1.0	0.46	ug/L			08/23/22 15:53	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/23/22 15:53	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/23/22 15:53	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/23/22 15:53	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/23/22 15:53	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)	90		62 - 137					08/23/22 15:53	1
4-Bromofluorobenzene (Surr)	95		56 - 136					08/23/22 15:53	1
Toluene-d8 (Surr)	93		78 - 122					08/23/22 15:53	1
Dibromofluoromethane (Surr)	88		73 - 120					08/23/22 15:53	1

# Surrogate Summary

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-171824-1	TRIP BLANK_112	89	94	93	87
240-171824-2	MW-39_081722	89	94	91	88
240-171824-2 MS	MW-39-MS_081722	87	90	96	88
240-171824-2 MSD	MW-39-MSD_081722	86	90	93	86
240-171824-3	MW-32_081722	88	93	92	87
240-171824-4	MW-218S_081722	88	96	93	88
240-171824-5	MW-18_081722	88	96	94	87
240-171824-6	MW-68_081722	90	95	93	88
LCS 240-539814/5	Lab Control Sample	87	93	95	86
MB 240-539814/8	Method Blank	89	93	95	87

#### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)  
 BFB = 4-Bromofluorobenzene (Surr)  
 TOL = Toluene-d8 (Surr)  
 DBFM = Dibromofluoromethane (Surr)

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(66-120)
240-171821-I-4 MS	Matrix Spike	86
240-171821-M-4 MSD	Matrix Spike Duplicate	88
240-171824-2	MW-39_081722	90
240-171824-2 MS	MW-39-MS_081722	90
240-171824-2 MSD	MW-39-MSD_081722	90
240-171824-3	MW-32_081722	88
240-171824-4	MW-218S_081722	89
240-171824-5	MW-18_081722	89
240-171824-6	MW-68_081722	92
LCS 240-540081/3	Lab Control Sample	91
LCS 240-540264/3	Lab Control Sample	90
MB 240-540081/4	Method Blank	93
MB 240-540264/4	Method Blank	92

#### Surrogate Legend

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

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

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

**Lab Sample ID: MB 240-539814/8**  
**Matrix: Water**  
**Analysis Batch: 539814**

**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			08/23/22 12:03	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/23/22 12:03	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/23/22 12:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/23/22 12:03	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/23/22 12:03	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/23/22 12:03	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	89		62 - 137		08/23/22 12:03	1
4-Bromofluorobenzene (Surr)	93		56 - 136		08/23/22 12:03	1
Toluene-d8 (Surr)	95		78 - 122		08/23/22 12:03	1
Dibromofluoromethane (Surr)	87		73 - 120		08/23/22 12:03	1

**Lab Sample ID: LCS 240-539814/5**  
**Matrix: Water**  
**Analysis Batch: 539814**

**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	17.3		ug/L		87	63 - 134
cis-1,2-Dichloroethene	20.0	18.4		ug/L		92	77 - 123
Tetrachloroethene	20.0	19.4		ug/L		97	76 - 123
trans-1,2-Dichloroethene	20.0	20.0		ug/L		100	75 - 124
Trichloroethene	20.0	18.8		ug/L		94	70 - 122
Vinyl chloride	20.0	17.9		ug/L		90	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	87		62 - 137
4-Bromofluorobenzene (Surr)	93		56 - 136
Toluene-d8 (Surr)	95		78 - 122
Dibromofluoromethane (Surr)	86		73 - 120

**Lab Sample ID: 240-171824-2 MS**  
**Matrix: Water**  
**Analysis Batch: 539814**

**Client Sample ID: MW-39-MS\_081722**  
**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	16.7		ug/L		84	56 - 135
cis-1,2-Dichloroethene	1.0	U	20.0	17.1		ug/L		86	66 - 128
Tetrachloroethene	1.0	U	20.0	18.7		ug/L		94	62 - 131
trans-1,2-Dichloroethene	1.0	U	20.0	19.0		ug/L		95	56 - 136
Trichloroethene	1.0	U	20.0	17.3		ug/L		86	61 - 124
Vinyl chloride	1.0	U	20.0	17.3		ug/L		86	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	87		62 - 137
4-Bromofluorobenzene (Surr)	90		56 - 136
Toluene-d8 (Surr)	96		78 - 122

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

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

**Lab Sample ID: 240-171824-2 MS**  
**Matrix: Water**  
**Analysis Batch: 539814**

**Client Sample ID: MW-39-MS\_081722**  
**Prep Type: Total/NA**

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	88		73 - 120

**Lab Sample ID: 240-171824-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 539814**

**Client Sample ID: MW-39-MSD\_081722**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	20.0	18.6		ug/L		93	56 - 135	11	26
cis-1,2-Dichloroethene	1.0	U	20.0	18.0		ug/L		90	66 - 128	5	14
Tetrachloroethene	1.0	U	20.0	20.3		ug/L		102	62 - 131	8	20
trans-1,2-Dichloroethene	1.0	U	20.0	20.2		ug/L		101	56 - 136	6	15
Trichloroethene	1.0	U	20.0	18.5		ug/L		92	61 - 124	7	15
Vinyl chloride	1.0	U	20.0	18.5		ug/L		93	43 - 157	7	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		62 - 137
4-Bromofluorobenzene (Surr)	90		56 - 136
Toluene-d8 (Surr)	93		78 - 122
Dibromofluoromethane (Surr)	86		73 - 120

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

**Lab Sample ID: MB 240-540081/4**  
**Matrix: Water**  
**Analysis Batch: 540081**

**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			08/24/22 18:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		66 - 120		08/24/22 18:05	1

**Lab Sample ID: LCS 240-540081/3**  
**Matrix: Water**  
**Analysis Batch: 540081**

**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	10.3		ug/L		103	80 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		66 - 120

**Lab Sample ID: 240-171821-I-4 MS**  
**Matrix: Water**  
**Analysis Batch: 540081**

**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	10.9		ug/L		109	51 - 153

Eurofins Canton



# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

## 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)	86		66 - 120

**Lab Sample ID: 240-171821-M-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 540081**

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

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,4-Dioxane	2.0	U	10.0	11.1		ug/L		111	51 - 153	2	16

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

**Lab Sample ID: MB 240-540264/4**  
**Matrix: Water**  
**Analysis Batch: 540264**

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

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			08/25/22 19:43	1

	<i>MB</i>	<i>MB</i>		<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			
1,2-Dichloroethane-d4 (Surr)	92		66 - 120		08/25/22 19:43	1

**Lab Sample ID: LCS 240-540264/3**  
**Matrix: Water**  
**Analysis Batch: 540264**

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

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,4-Dioxane	10.0	10.3		ug/L		103	80 - 122

	<i>LCS</i>	<i>LCS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	90		66 - 120

**Lab Sample ID: 240-171824-2 MS**  
**Matrix: Water**  
**Analysis Batch: 540264**

**Client Sample ID: MW-39-MS\_081722**  
**Prep Type: Total/NA**

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,4-Dioxane	2.0	U	10.0	11.4		ug/L		114	51 - 153

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	90		66 - 120

**Lab Sample ID: 240-171824-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 540264**

**Client Sample ID: MW-39-MSD\_081722**  
**Prep Type: Total/NA**

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,4-Dioxane	2.0	U	10.0	11.2		ug/L		112	51 - 153	1	16

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

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

Lab Sample ID: 240-171824-2 MSD  
Matrix: Water  
Analysis Batch: 540264

Client Sample ID: MW-39-MSD\_081722  
Prep Type: Total/NA

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
1,2-Dichloroethane-d4 (Surr)	90		66 - 120

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

# QC Association Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

## GC/MS VOA

### Analysis Batch: 539814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-171824-1	TRIP BLANK_112	Total/NA	Water	8260D	
240-171824-2	MW-39_081722	Total/NA	Water	8260D	
240-171824-3	MW-32_081722	Total/NA	Water	8260D	
240-171824-4	MW-218S_081722	Total/NA	Water	8260D	
240-171824-5	MW-18_081722	Total/NA	Water	8260D	
240-171824-6	MW-68_081722	Total/NA	Water	8260D	
MB 240-539814/8	Method Blank	Total/NA	Water	8260D	
LCS 240-539814/5	Lab Control Sample	Total/NA	Water	8260D	
240-171824-2 MS	MW-39-MS_081722	Total/NA	Water	8260D	
240-171824-2 MSD	MW-39-MSD_081722	Total/NA	Water	8260D	

### Analysis Batch: 540081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-171824-3	MW-32_081722	Total/NA	Water	8260D SIM	
MB 240-540081/4	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-540081/3	Lab Control Sample	Total/NA	Water	8260D SIM	
240-171821-I-4 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-171821-M-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

### Analysis Batch: 540264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-171824-2	MW-39_081722	Total/NA	Water	8260D SIM	
240-171824-4	MW-218S_081722	Total/NA	Water	8260D SIM	
240-171824-5	MW-18_081722	Total/NA	Water	8260D SIM	
240-171824-6	MW-68_081722	Total/NA	Water	8260D SIM	
MB 240-540264/4	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-540264/3	Lab Control Sample	Total/NA	Water	8260D SIM	
240-171824-2 MS	MW-39-MS_081722	Total/NA	Water	8260D SIM	
240-171824-2 MSD	MW-39-MSD_081722	Total/NA	Water	8260D SIM	

# Lab Chronicle

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

**Client Sample ID: TRIP BLANK\_112**

**Lab Sample ID: 240-171824-1**

**Date Collected: 08/17/22 00:00**

**Matrix: Water**

**Date Received: 08/19/22 09:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	539814	LEE	EET CAN	08/23/22 12:58

**Client Sample ID: MW-39\_081722**

**Lab Sample ID: 240-171824-2**

**Date Collected: 08/17/22 09:10**

**Matrix: Water**

**Date Received: 08/19/22 09:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	539814	LEE	EET CAN	08/23/22 13:23
Total/NA	Analysis	8260D SIM		1	540264	CS	EET CAN	08/25/22 20:59

**Client Sample ID: MW-32\_081722**

**Lab Sample ID: 240-171824-3**

**Date Collected: 08/17/22 10:30**

**Matrix: Water**

**Date Received: 08/19/22 09:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	539814	LEE	EET CAN	08/23/22 14:38
Total/NA	Analysis	8260D SIM		1	540081	CS	EET CAN	08/25/22 03:47

**Client Sample ID: MW-218S\_081722**

**Lab Sample ID: 240-171824-4**

**Date Collected: 08/17/22 11:25**

**Matrix: Water**

**Date Received: 08/19/22 09:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	539814	LEE	EET CAN	08/23/22 15:03
Total/NA	Analysis	8260D SIM		1	540264	CS	EET CAN	08/25/22 22:15

**Client Sample ID: MW-18\_081722**

**Lab Sample ID: 240-171824-5**

**Date Collected: 08/17/22 13:40**

**Matrix: Water**

**Date Received: 08/19/22 09:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	539814	LEE	EET CAN	08/23/22 15:28
Total/NA	Analysis	8260D SIM		1	540264	CS	EET CAN	08/25/22 22:40

**Client Sample ID: MW-68\_081722**

**Lab Sample ID: 240-171824-6**

**Date Collected: 08/17/22 15:18**

**Matrix: Water**

**Date Received: 08/19/22 09:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	539814	LEE	EET CAN	08/23/22 15:53
Total/NA	Analysis	8260D SIM		1	540264	CS	EET CAN	08/25/22 23:05

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-171824-1

## Laboratory: Eurofins Canton

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	02-27-23
Connecticut	State	PH-0590	12-31-23
Florida	NELAP	E87225	06-30-23
Georgia	State	4062	02-27-23
Illinois	NELAP	200004	07-31-23
Iowa	State	421	06-01-23
Kentucky (UST)	State	112225	02-27-23
Kentucky (WW)	State	KY98016	12-31-22
Minnesota	NELAP	039-999-348	12-31-22
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-23
New York	NELAP	10975	04-01-23
Ohio	State	8303	02-23-23
Ohio VAP	State	CL0024	02-27-23
Oregon	NELAP	4062	02-27-23
Pennsylvania	NELAP	68-00340	08-31-23
Texas	NELAP	T104704517-22-17	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-23
West Virginia DEP	State	210	12-31-22

# Chain of Custody Record

THE LEADER IN ENVIRONMENTAL TESTING

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

Regulatory program:  DW  NPDES  RCRA  Other

Client Project Manager: Kris Hinskey

Site Contact: Christina Weaver

Lab Contact: Mike DeMonico

Telephone: 269-832-7478

Telephone: 330-966-9783

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: 30080642.401.03

PO # 30080642.401.03

Sampler Name: *Sommer Guy*

Method of Shipment/Carrier:

Analysis Turnaround Time

TAT if different from below

10 day  3 weeks   
1 week   
2 days   
1 day

Shipping/Tracking No:

Containers & Preservatives

Matrix

Sample Date

Sample Time

Other:  HCl  NaOH  ZnAc  Unpres  Other:

Other:  Sediment  Aqueous  Solid

Other:  H2SO4  HNO3  HCl  NaOH  ZnAc  Unpres  Other:

Sample Identification

Filtered Sample (Y/N)

Composite C / Grab G

1-DCE 8260D

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

Sample Specific Notes / Special Instructions:

Walk-in client

Lab sampling

Job/SDG No:

1 of 1 COCs

For lab use only

TestAmerica Laboratories, Inc.

COC No:

1 Trip Blank

3 VOAs for 8260D

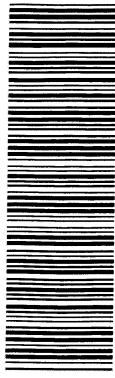
3 VOAs for 8260D SIM

Run MS/MSD

Run MS/MSD

8/31/2022

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



240-171824 Chain of Custody

Relinquished by: <i>Sommer Guy</i>	Company: Arcadis	Date/Time: 8/17/22 1630	Received by: Novi Cold Storage	Company: Arcadis	Date/Time: 8/17/22 1630
Relinquished by: <i>Stutman</i>	Company: Arcadis	Date/Time: 8/18/22 950	Received by: <i>Gina Rivera</i>	Company: ETA	Date/Time: 8-18-22 9:50
Relinquished by: <i>Gina Rivera</i>	Company: ETA	Date/Time: 8-18-22 1700	Received by: <i>Gina Rivera</i>	Company: ETA	Date/Time: 8/19/22-9:50



**Eurofins - Canton Sample Receipt Form/Narrative**  
**Barberton Facility**

Login # : 171824

Client Accadis Site Name \_\_\_\_\_

Cooler unpacked by:

Cooler Received on 8-19-22 Opened on 8-19-22

Charick

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

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

Eurofins Cooler # 1A 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# IR-13 (CF +0.7 °C) Observed Cooler Temp. 7.1 °C Corrected Cooler Temp. 4.8 °C  
 IR GUN #IR-15 (CF 0.0°C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity \_\_\_\_\_ 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? JH Yes No NA  
8-30-22

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)?  
 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# HC286797  
 14. Were VOAs on the COC? Yes No  
 15. Were air bubbles >6 mm in any VOA vials?  Yes  No NA **← Larger than this.**  
 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:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**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: \_\_\_\_\_