

## ANALYTICAL REPORT

Eurofins TestAmerica, Canton  
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North Canton, OH 44720  
Tel: (330)497-9396

Laboratory Job ID: 240-160154-1  
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:  
12/3/2021 3:56:42 PM

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

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Method Summary . . . . .	5
Sample Summary . . . . .	6
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	13
QC Sample Results . . . . .	14
QC Association Summary . . . . .	18
Lab Chronicle . . . . .	19
Certification Summary . . . . .	20
Chain of Custody . . . . .	21



# Definitions/Glossary

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

Job ID: 240-160154-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
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: 240-160154-1

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## Job ID: 240-160154-1

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Laboratory: Eurofins TestAmerica, Canton

### Narrative

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Job Narrative  
240-160154-1

### Comments

No additional comments.

### Receipt

The samples were received on 11/16/2021 10:15 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 0.9° C.

### GC/MS VOA

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

### VOA Prep

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

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

# Method Summary

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

Job ID: 240-160154-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

**Protocol References:**

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

**Laboratory References:**

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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- 10
- 11
- 12
- 13
- 14

# Sample Summary

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

Job ID: 240-160154-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-160154-1	TRIP BLANK_124	Water	11/12/21 00:00	11/16/21 10:15
240-160154-2	PW-16-02_111221	Water	11/12/21 11:41	11/16/21 10:15
240-160154-3	MW-51_111221	Water	11/12/21 13:26	11/16/21 10:15
240-160154-4	MW-65_111221	Water	11/12/21 15:01	11/16/21 10:15
240-160154-5	DUP-02	Water	11/12/21 00:00	11/16/21 10:15

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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: 240-160154-1

**Client Sample ID: TRIP BLANK\_124**

**Lab Sample ID: 240-160154-1**

No Detections.

**Client Sample ID: PW-16-02\_111221**

**Lab Sample ID: 240-160154-2**

No Detections.

**Client Sample ID: MW-51\_111221**

**Lab Sample ID: 240-160154-3**

No Detections.

**Client Sample ID: MW-65\_111221**

**Lab Sample ID: 240-160154-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	6.7		1.0	0.46	ug/L	1		8260B	Total/NA
Vinyl chloride	14		1.0	0.45	ug/L	1		8260B	Total/NA

**Client Sample ID: DUP-02**

**Lab Sample ID: 240-160154-5**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	8.1		1.0	0.46	ug/L	1		8260B	Total/NA
Vinyl chloride	11		1.0	0.45	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

# Client Sample Results

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

Job ID: 240-160154-1

**Client Sample ID: TRIP BLANK\_124**

**Lab Sample ID: 240-160154-1**

**Date Collected: 11/12/21 00:00**

**Matrix: Water**

**Date Received: 11/16/21 10:15**

**Method: 8260B - Volatile Organic Compounds (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			11/20/21 07:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/20/21 07:41	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 07:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/20/21 07:41	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 07:41	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/20/21 07:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		62 - 137		11/20/21 07:41	1
4-Bromofluorobenzene (Surr)	69		56 - 136		11/20/21 07:41	1
Toluene-d8 (Surr)	103		78 - 122		11/20/21 07:41	1
Dibromofluoromethane (Surr)	93		73 - 120		11/20/21 07:41	1



# Client Sample Results

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

Job ID: 240-160154-1

**Client Sample ID: PW-16-02\_111221**

**Lab Sample ID: 240-160154-2**

Date Collected: 11/12/21 11:41

Matrix: Water

Date Received: 11/16/21 10:15

**Method: 8260B 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			11/19/21 05:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		66 - 120		11/19/21 05:38	1

**Method: 8260B - Volatile Organic Compounds (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			11/20/21 08:03	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/20/21 08:03	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 08:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/20/21 08:03	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 08:03	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/20/21 08:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		62 - 137		11/20/21 08:03	1
4-Bromofluorobenzene (Surr)	68		56 - 136		11/20/21 08:03	1
Toluene-d8 (Surr)	107		78 - 122		11/20/21 08:03	1
Dibromofluoromethane (Surr)	96		73 - 120		11/20/21 08:03	1

# Client Sample Results

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

Job ID: 240-160154-1

**Client Sample ID: MW-51\_111221**

**Lab Sample ID: 240-160154-3**

**Date Collected: 11/12/21 13:26**

**Matrix: Water**

**Date Received: 11/16/21 10:15**

**Method: 8260B 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			11/19/21 06:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	79		66 - 120					11/19/21 06:03	1

**Method: 8260B - Volatile Organic Compounds (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			11/20/21 08:26	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/20/21 08:26	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 08:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/20/21 08:26	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 08:26	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/20/21 08:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		62 - 137					11/20/21 08:26	1
4-Bromofluorobenzene (Surr)	67		56 - 136					11/20/21 08:26	1
Toluene-d8 (Surr)	105		78 - 122					11/20/21 08:26	1
Dibromofluoromethane (Surr)	98		73 - 120					11/20/21 08:26	1

# Client Sample Results

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

Job ID: 240-160154-1

**Client Sample ID: MW-65\_111221**

**Lab Sample ID: 240-160154-4**

Date Collected: 11/12/21 15:01

Matrix: Water

Date Received: 11/16/21 10:15

**Method: 8260B 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			11/18/21 20:34	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)	87		66 - 120					11/18/21 20:34	1

**Method: 8260B - Volatile Organic Compounds (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			11/20/21 08:48	1
<b>cis-1,2-Dichloroethene</b>	<b>6.7</b>		1.0	0.46	ug/L			11/20/21 08:48	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 08:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/20/21 08:48	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 08:48	1
<b>Vinyl chloride</b>	<b>14</b>		1.0	0.45	ug/L			11/20/21 08:48	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	105		62 - 137					11/20/21 08:48	1
4-Bromofluorobenzene (Surr)	70		56 - 136					11/20/21 08:48	1
Toluene-d8 (Surr)	102		78 - 122					11/20/21 08:48	1
Dibromofluoromethane (Surr)	94		73 - 120					11/20/21 08:48	1

# Client Sample Results

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

Job ID: 240-160154-1

**Client Sample ID: DUP-02**  
**Date Collected: 11/12/21 00:00**  
**Date Received: 11/16/21 10:15**

**Lab Sample ID: 240-160154-5**  
**Matrix: Water**

**Method: 8260B 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			11/18/21 20:58	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)	88		66 - 120					11/18/21 20:58	1

**Method: 8260B - Volatile Organic Compounds (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			11/20/21 09:10	1
<b>cis-1,2-Dichloroethene</b>	<b>8.1</b>		1.0	0.46	ug/L			11/20/21 09:10	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 09:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/20/21 09:10	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 09:10	1
<b>Vinyl chloride</b>	<b>11</b>		1.0	0.45	ug/L			11/20/21 09:10	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)	102		62 - 137					11/20/21 09:10	1
4-Bromofluorobenzene (Surr)	68		56 - 136					11/20/21 09:10	1
Toluene-d8 (Surr)	101		78 - 122					11/20/21 09:10	1
Dibromofluoromethane (Surr)	96		73 - 120					11/20/21 09:10	1

# Surrogate Summary

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

Job ID: 240-160154-1

## Method: 8260B - Volatile Organic Compounds (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)
240-160150-B-2 MS	Matrix Spike	99	85	110	90
240-160150-D-2 MSD	Matrix Spike Duplicate	104	88	122	96
240-160154-1	TRIP BLANK_124	100	69	103	93
240-160154-2	PW-16-02_111221	104	68	107	96
240-160154-3	MW-51_111221	102	67	105	98
240-160154-4	MW-65_111221	105	70	102	94
240-160154-5	DUP-02	102	68	101	96
LCS 240-513905/4	Lab Control Sample	104	89	118	97
MB 240-513905/6	Method Blank	99	73	109	92

**Surrogate Legend**

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

## Method: 8260B 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)
240-159739-G-3 MS	Matrix Spike	74
240-159739-M-3 MSD	Matrix Spike Duplicate	75
240-160154-2	PW-16-02_111221	76
240-160154-3	MW-51_111221	79
240-160154-4	MW-65_111221	87
240-160154-5	DUP-02	88
240-160158-G-2 MS	Matrix Spike	90
240-160158-M-2 MSD	Matrix Spike Duplicate	92
LCS 240-513700/4	Lab Control Sample	75
LCS 240-513701/4	Lab Control Sample	88
MB 240-513700/5	Method Blank	77
MB 240-513701/5	Method Blank	85

**Surrogate Legend**

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

# QC Sample Results

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

Job ID: 240-160154-1

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

**Lab Sample ID: MB 240-513905/6**  
**Matrix: Water**  
**Analysis Batch: 513905**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			11/20/21 03:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/20/21 03:58	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 03:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/20/21 03:58	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 03:58	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/20/21 03:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		62 - 137		11/20/21 03:58	1
4-Bromofluorobenzene (Surr)	73		56 - 136		11/20/21 03:58	1
Toluene-d8 (Surr)	109		78 - 122		11/20/21 03:58	1
Dibromofluoromethane (Surr)	92		73 - 120		11/20/21 03:58	1

**Lab Sample ID: LCS 240-513905/4**  
**Matrix: Water**  
**Analysis Batch: 513905**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.9		ug/L		109	63 - 134
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	77 - 123
Tetrachloroethene	10.0	10.3		ug/L		103	76 - 123
trans-1,2-Dichloroethene	10.0	10.6		ug/L		106	75 - 124
Trichloroethene	10.0	8.96		ug/L		90	70 - 122
Vinyl chloride	10.0	11.0		ug/L		110	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		62 - 137
4-Bromofluorobenzene (Surr)	89		56 - 136
Toluene-d8 (Surr)	118		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120

**Lab Sample ID: 240-160150-B-2 MS**  
**Matrix: Water**  
**Analysis Batch: 513905**

**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	10.0	7.96		ug/L		80	56 - 135
cis-1,2-Dichloroethene	1.0	U F2	10.0	8.59		ug/L		86	66 - 128
Tetrachloroethene	1.0	U	10.0	7.18		ug/L		72	62 - 131
trans-1,2-Dichloroethene	1.0	U	10.0	8.27		ug/L		83	56 - 136
Trichloroethene	1.0	U	10.0	6.70		ug/L		67	61 - 124
Vinyl chloride	1.0	U	10.0	8.91		ug/L		89	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		62 - 137
4-Bromofluorobenzene (Surr)	85		56 - 136
Toluene-d8 (Surr)	110		78 - 122

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# QC Sample Results

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

Job ID: 240-160154-1

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

**Lab Sample ID: 240-160150-B-2 MS**  
**Matrix: Water**  
**Analysis Batch: 513905**

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	90		73 - 120

**Lab Sample ID: 240-160150-D-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 513905**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	9.12		ug/L		91	56 - 135	14	26
cis-1,2-Dichloroethene	1.0	U F2	10.0	10.1	F2	ug/L		101	66 - 128	16	14
Tetrachloroethene	1.0	U	10.0	8.59		ug/L		86	62 - 131	18	20
trans-1,2-Dichloroethene	1.0	U	10.0	9.32		ug/L		93	56 - 136	12	15
Trichloroethene	1.0	U	10.0	7.73		ug/L		77	61 - 124	14	15
Vinyl chloride	1.0	U	10.0	9.29		ug/L		93	43 - 157	4	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		62 - 137
4-Bromofluorobenzene (Surr)	88		56 - 136
Toluene-d8 (Surr)	122		78 - 122
Dibromofluoromethane (Surr)	96		73 - 120

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

**Lab Sample ID: MB 240-513700/5**  
**Matrix: Water**  
**Analysis Batch: 513700**

**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			11/18/21 19:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	77		66 - 120		11/18/21 19:41	1

**Lab Sample ID: LCS 240-513700/4**  
**Matrix: Water**  
**Analysis Batch: 513700**

**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	10.4		ug/L		104	80 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	75		66 - 120

**Lab Sample ID: 240-159739-G-3 MS**  
**Matrix: Water**  
**Analysis Batch: 513700**

**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 F1	10.0	10.4		ug/L		104	51 - 153

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-160154-1

## Method: 8260B 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)	74		66 - 120

**Lab Sample ID: 240-159739-M-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 513700**

**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 F1	10.0	10.6		ug/L		106	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)	75		66 - 120

**Lab Sample ID: MB 240-513701/5**  
**Matrix: Water**  
**Analysis Batch: 513701**

**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			11/18/21 19:39	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)	85		66 - 120		11/18/21 19:39	1

**Lab Sample ID: LCS 240-513701/4**  
**Matrix: Water**  
**Analysis Batch: 513701**

**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	10.2		ug/L		102	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)	88		66 - 120

**Lab Sample ID: 240-160158-G-2 MS**  
**Matrix: Water**  
**Analysis Batch: 513701**

**Client Sample ID: Matrix Spike**  
**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 F1	10.0	10.6		ug/L		106	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: 240-160158-M-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 513701**

**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 F1	10.0	10.5		ug/L		105	51 - 153	1	16



# QC Sample Results

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

Job ID: 240-160154-1

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

Lab Sample ID: 240-160158-M-2 MSD  
Matrix: Water  
Analysis Batch: 513701

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

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	92		66 - 120

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# QC Association Summary

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

Job ID: 240-160154-1

## GC/MS VOA

### Analysis Batch: 513700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-160154-2	PW-16-02_111221	Total/NA	Water	8260B SIM	
240-160154-3	MW-51_111221	Total/NA	Water	8260B SIM	
MB 240-513700/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-513700/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-159739-G-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-159739-M-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

### Analysis Batch: 513701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-160154-4	MW-65_111221	Total/NA	Water	8260B SIM	
240-160154-5	DUP-02	Total/NA	Water	8260B SIM	
MB 240-513701/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-513701/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-160158-G-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-160158-M-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

### Analysis Batch: 513905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-160154-1	TRIP BLANK_124	Total/NA	Water	8260B	
240-160154-2	PW-16-02_111221	Total/NA	Water	8260B	
240-160154-3	MW-51_111221	Total/NA	Water	8260B	
240-160154-4	MW-65_111221	Total/NA	Water	8260B	
240-160154-5	DUP-02	Total/NA	Water	8260B	
MB 240-513905/6	Method Blank	Total/NA	Water	8260B	
LCS 240-513905/4	Lab Control Sample	Total/NA	Water	8260B	
240-160150-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-160150-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

# Lab Chronicle

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

Job ID: 240-160154-1

## Client Sample ID: TRIP BLANK\_124

Lab Sample ID: 240-160154-1

Date Collected: 11/12/21 00:00

Matrix: Water

Date Received: 11/16/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	513905	11/20/21 07:41	LEE	TAL CAN

## Client Sample ID: PW-16-02\_111221

Lab Sample ID: 240-160154-2

Date Collected: 11/12/21 11:41

Matrix: Water

Date Received: 11/16/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	513905	11/20/21 08:03	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	513700	11/19/21 05:38	CS	TAL CAN

## Client Sample ID: MW-51\_111221

Lab Sample ID: 240-160154-3

Date Collected: 11/12/21 13:26

Matrix: Water

Date Received: 11/16/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	513905	11/20/21 08:26	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	513700	11/19/21 06:03	CS	TAL CAN

## Client Sample ID: MW-65\_111221

Lab Sample ID: 240-160154-4

Date Collected: 11/12/21 15:01

Matrix: Water

Date Received: 11/16/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	513905	11/20/21 08:48	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	513701	11/18/21 20:34	CS	TAL CAN

## Client Sample ID: DUP-02

Lab Sample ID: 240-160154-5

Date Collected: 11/12/21 00:00

Matrix: Water

Date Received: 11/16/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	513905	11/20/21 09:10	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	513701	11/18/21 20:58	CS	TAL CAN

### Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

# Accreditation/Certification Summary

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

Job ID: 240-160154-1

## Laboratory: Eurofins TestAmerica, 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	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-18-10	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

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

Client Contact: **Arcadis**      Regulatory program: **DW**      NPDES      RCRA      Other

Company Name: **Arcadis**      Client Project Manager: **Kris Hinskey**      Lab Contact: **Mike DelMonico**

Address: **28550 Cabot Drive, Suite 500**      Telephone: **248-994-2240**      Telephone: **330-497-9396**

City/State/Zip: **Novi, MI, 48377**      Email: **kristoffer.hinskey@arcadis.com**

Phone: **248-994-2240**      Analysis Turnaround Time: **10 day**

Project Name: **Ford LTP On-Site**      Method of Shipment/Carrier: **Greg Schofer**

Project Number: **30080642.401.03**      Shipping/Tracking No: **---**

PO #: **30080642.401.03**

Sample Identification	Sample Date	Sample Time	Matrix			Containers & Preservatives						Filtered Sample (Y/N)	Composite=C / Grab=G	Analyses						Sample Specific Notes / Special Instructions	
			Air	Aqueous	Sediment	Solid	Other	H2SO4	HNO3	HCl	NaOH			ZnAc	NaOH	Other	1-DCE 8260B	dis-1 2 DCE 8260B	Trans-1 2-DCE 8260B		PCE 8260B
TRIP BLANK_ 124	---	---	X												X	X	X	X	X	X	1 Trip Blank
PW-16-02-11221	11/12/21	11.41	X												X	X	X	X	X	X	3 VOAs for 8260B 3 VOAs for 8260B SIM
MW-51-11221	11/12/21	13.26	X												X	X	X	X	X	X	
MW-65-11221	11/12/21	15.01	X												X	X	X	X	X	X	
DUP-02	11/16/21	---	X												X	X	X	X	X	X	



240-160154 Chain of Custody

Possible Hazard Identification:  Non-Hazard       Irritant       Poison B       Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month):  
 Return to Client:       Disposal By Lab:       Archive For: \_\_\_\_\_ Months

Submit all results through Cadena at [tomalia@cadenaco.com](mailto:tomalia@cadenaco.com) Cadena #E203728  
 Level IV Reporting requested

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
<i>Greg Schofer</i>	Arcadis	11/13/21	<i>Novi gold storage</i>	Arcadis	11/13/21 1535
<i>Kristoffer Hinskey</i>	Arcadis	11/15/21	<i>[Signature]</i>	ETA	11/15/21
<i>[Signature]</i>	ETA	11/15/21	<i>Novi gold storage</i>	ETA	11-16-21 1015

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**Eurofins TestAmerica Canton Sample Receipt Form/Narrative**  
**Canton Facility**

Login # : 160154

Client Arcadis

Site Name \_\_\_\_\_

Cooler unpacked by: \_\_\_\_\_

Cooler Received on 11-16-21

Opened on 11-16-21

FedEx 1<sup>st</sup> Grd  Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

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

TestAmerica 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-14 (CF +0.1 °C) Observed Cooler Temp. 08 °C Corrected Cooler Temp. 09 °C  
 IR GUN #IR-15 (CF +0.2 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C

2 Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1  
 -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

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# HC157842

14 Were VOAs on the COC? Yes  No  NA

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

16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 60358 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 \_\_\_\_\_

NO SIM on TB per corrected COC. one 11/16/21

**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 \_\_\_\_\_

 eurofins

11:30  
1774  
11:16  
B

Post # 39489-434 NITW EXP 07/22 \*\*\*

ORIGIN ID:DEOA (810) 229-2763  
SHIPPING DEPARTMENT  
EUROFINS TESTAMERICA  
10448 CITATION DRIVE  
SUITE 200  
BRIGHTON, MI 48116  
UNITED STATES US

SHIP DATE: 15NOV21  
ACTWGT: 49.15 LB  
CAD: 0183192/CAFE3507

BILL RECIPIENT

TO **ATTN: SAMPLE RECEIVING**  
**EUROFINS TEST AMERICA NORTH CANTON**  
**4101 SHUFFEL DRIVE NW**

**NORTH CANTON OH 44720**

(330) 497-9398  
TNU:  
PO:

REF:

DEPT:



TRK# 4506 9518 1774  
0201

**TUE - 16 NOV 11:30A**  
**PRIORITY OVERNIGHT**

**64 PHDA**

**44720**  
**OH-US CLE**



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