

## ANALYTICAL REPORT

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

Laboratory Job ID: 240-134905-1  
Client Project/Site: Ford LTP On-Site

For:  
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Attn: Kristoffer Hinskey

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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: 240-134905-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
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: 240-134905-1

**Job ID: 240-134905-1**

**Laboratory: Eurofins TestAmerica, Canton**

**Narrative**

## CASE NARRATIVE

**Client: ARCADIS U.S., Inc.**

**Project: Ford LTP On-Site**

**Report Number: 240-134905-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

### **RECEIPT**

The samples were received on 8/13/2020 10:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.2° C, 1.6° C and 5.3° C.

### **VOLATILE ORGANIC COMPOUNDS (GCMS)**

Samples TRIP BLANK (240-134905-1), MW-218S\_081120 (240-134905-2), MW-219S\_081120 (240-134905-3) and MW-220S\_081120 (240-134905-4) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 08/21/2020 and 08/24/2020.

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

### **VOLATILE ORGANIC COMPOUNDS (GCMS SIM)**

Samples MW-218S\_081120 (240-134905-2), MW-219S\_081120 (240-134905-3) and MW-220S\_081120 (240-134905-4) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 08/19/2020.

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

# Case Narrative

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

Job ID: 240-134905-1

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**Job ID: 240-134905-1 (Continued)**

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**Laboratory: Eurofins TestAmerica, Canton (Continued)**

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- 12
- 13
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# Method Summary

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

Job ID: 240-134905-1

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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- 13
- 14

# Sample Summary

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

Job ID: 240-134905-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-134905-1	TRIP BLANK	Water	08/11/20 00:00	08/13/20 10:30	
240-134905-2	MW-218S_081120	Water	08/11/20 10:15	08/13/20 10:30	
240-134905-3	MW-219S_081120	Water	08/11/20 11:48	08/13/20 10:30	
240-134905-4	MW-220S_081120	Water	08/11/20 14:13	08/13/20 10:30	

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

# Detection Summary

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

Job ID: 240-134905-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-134905-1**

No Detections.

**Client Sample ID: MW-218S\_081120**

**Lab Sample ID: 240-134905-2**

No Detections.

**Client Sample ID: MW-219S\_081120**

**Lab Sample ID: 240-134905-3**

No Detections.

**Client Sample ID: MW-220S\_081120**

**Lab Sample ID: 240-134905-4**

No Detections.

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

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: 240-134905-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-134905-1**

**Date Collected: 08/11/20 00:00**

**Matrix: Water**

**Date Received: 08/13/20 10:30**

**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	0.46	ug/L			08/21/20 18:40	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/21/20 18:40	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/21/20 18:40	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/21/20 18:40	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/21/20 18:40	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/21/20 18:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		75 - 130		08/21/20 18:40	1
4-Bromofluorobenzene (Surr)	64		47 - 134		08/21/20 18:40	1
Toluene-d8 (Surr)	94		69 - 122		08/21/20 18:40	1
Dibromofluoromethane (Surr)	116		78 - 129		08/21/20 18:40	1

# Client Sample Results

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

Job ID: 240-134905-1

**Client Sample ID: MW-218S\_081120**

**Lab Sample ID: 240-134905-2**

**Date Collected: 08/11/20 10:15**

**Matrix: Water**

**Date Received: 08/13/20 10:30**

**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			08/19/20 10:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 133					08/19/20 10:44	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	0.46	ug/L			08/24/20 17:20	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 17:20	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 17:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 17:20	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 17:20	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 17:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 130					08/24/20 17:20	1
4-Bromofluorobenzene (Surr)	101		47 - 134					08/24/20 17:20	1
Toluene-d8 (Surr)	96		69 - 122					08/24/20 17:20	1
Dibromofluoromethane (Surr)	82		78 - 129					08/24/20 17:20	1

# Client Sample Results

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

Job ID: 240-134905-1

**Client Sample ID: MW-219S\_081120**

**Lab Sample ID: 240-134905-3**

Date Collected: 08/11/20 11:48

Matrix: Water

Date Received: 08/13/20 10:30

**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			08/19/20 11:08	1
<b>Surrogate</b>									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 133					08/19/20 11:08	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	0.46	ug/L			08/24/20 17:45	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 17:45	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 17:45	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 17:45	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 17:45	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 17:45	1
<b>Surrogate</b>									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130					08/24/20 17:45	1
4-Bromofluorobenzene (Surr)	100		47 - 134					08/24/20 17:45	1
Toluene-d8 (Surr)	94		69 - 122					08/24/20 17:45	1
Dibromofluoromethane (Surr)	84		78 - 129					08/24/20 17:45	1

# Client Sample Results

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

Job ID: 240-134905-1

**Client Sample ID: MW-220S\_081120**

**Lab Sample ID: 240-134905-4**

**Date Collected: 08/11/20 14:13**

**Matrix: Water**

**Date Received: 08/13/20 10:30**

**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			08/19/20 11:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 133		08/19/20 11:32	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	0.46	ug/L			08/24/20 18:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 18:10	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 18:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 18:10	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 18:10	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 130		08/24/20 18:10	1
4-Bromofluorobenzene (Surr)	95		47 - 134		08/24/20 18:10	1
Toluene-d8 (Surr)	94		69 - 122		08/24/20 18:10	1
Dibromofluoromethane (Surr)	83		78 - 129		08/24/20 18:10	1

# Surrogate Summary

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

Job ID: 240-134905-1

## Method: 8260B - Volatile Organic Compounds (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 (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-134905-1	TRIP BLANK	80	64	94	116
240-134905-2	MW-218S_081120	92	101	96	82
240-134905-3	MW-219S_081120	94	100	94	84
240-134905-4	MW-220S_081120	92	95	94	83
240-134910-J-5 MS	Matrix Spike	89	102	95	82
240-134910-K-5 MSD	Matrix Spike Duplicate	90	101	93	82
LCS 240-448213/4	Lab Control Sample	82	98	105	104
LCS 240-448429/4	Lab Control Sample	87	98	90	79
MB 240-448213/7	Method Blank	89	71	86	108
MB 240-448429/7	Method Blank	91	102	95	82

#### 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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(70-133)
240-134905-2	MW-218S_081120	85
240-134905-3	MW-219S_081120	89
240-134905-4	MW-220S_081120	86
240-134914-A-2 MS	Matrix Spike	87
240-134914-A-2 MSD	Matrix Spike Duplicate	89
LCS 240-447721/4	Lab Control Sample	83
MB 240-447721/5	Method Blank	86

#### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-134905-1

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

**Lab Sample ID: MB 240-448213/7**  
**Matrix: Water**  
**Analysis Batch: 448213**

**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	0.46	ug/L			08/21/20 14:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/21/20 14:58	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/21/20 14:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/21/20 14:58	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/21/20 14:58	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/21/20 14:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		75 - 130		08/21/20 14:58	1
4-Bromofluorobenzene (Surr)	71		47 - 134		08/21/20 14:58	1
Toluene-d8 (Surr)	86		69 - 122		08/21/20 14:58	1
Dibromofluoromethane (Surr)	108		78 - 129		08/21/20 14:58	1

**Lab Sample ID: LCS 240-448213/4**  
**Matrix: Water**  
**Analysis Batch: 448213**

**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	10.1		ug/L		101	73 - 129
cis-1,2-Dichloroethene	10.0	9.80		ug/L		98	75 - 124
Tetrachloroethene	10.0	11.6		ug/L		116	70 - 125
trans-1,2-Dichloroethene	10.0	10.9		ug/L		109	74 - 130
Trichloroethene	10.0	10.2		ug/L		102	71 - 121
Vinyl chloride	10.0	7.66		ug/L		77	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		75 - 130
4-Bromofluorobenzene (Surr)	98		47 - 134
Toluene-d8 (Surr)	105		69 - 122
Dibromofluoromethane (Surr)	104		78 - 129

**Lab Sample ID: MB 240-448429/7**  
**Matrix: Water**  
**Analysis Batch: 448429**

**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	0.46	ug/L			08/24/20 14:50	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 14:50	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 14:50	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 14:50	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 14:50	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 14:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		75 - 130		08/24/20 14:50	1
4-Bromofluorobenzene (Surr)	102		47 - 134		08/24/20 14:50	1
Toluene-d8 (Surr)	95		69 - 122		08/24/20 14:50	1

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-134905-1

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

**Lab Sample ID: MB 240-448429/7**  
**Matrix: Water**  
**Analysis Batch: 448429**

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

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	82		78 - 129		08/24/20 14:50	1

**Lab Sample ID: LCS 240-448429/4**  
**Matrix: Water**  
**Analysis Batch: 448429**

**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	10.0	9.36		ug/L		94	73 - 129
cis-1,2-Dichloroethene	10.0	8.94		ug/L		89	75 - 124
Tetrachloroethene	10.0	9.82		ug/L		98	70 - 125
trans-1,2-Dichloroethene	10.0	8.98		ug/L		90	74 - 130
Trichloroethene	10.0	9.40		ug/L		94	71 - 121
Vinyl chloride	10.0	10.0		ug/L		100	61 - 134

  

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	87		75 - 130
4-Bromofluorobenzene (Surr)	98		47 - 134
Toluene-d8 (Surr)	90		69 - 122
Dibromofluoromethane (Surr)	79		78 - 129

**Lab Sample ID: 240-134910-J-5 MS**  
**Matrix: Water**  
**Analysis Batch: 448429**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
1,1-Dichloroethene	1.0	U	10.0	9.59		ug/L		96	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	9.64		ug/L		96	68 - 121
Tetrachloroethene	1.0	U	10.0	9.57		ug/L		96	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	9.23		ug/L		92	69 - 126
Trichloroethene	1.0	U	10.0	9.04		ug/L		90	56 - 124
Vinyl chloride	1.0	U	10.0	10.2		ug/L		102	49 - 136

  

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	89		75 - 130
4-Bromofluorobenzene (Surr)	102		47 - 134
Toluene-d8 (Surr)	95		69 - 122
Dibromofluoromethane (Surr)	82		78 - 129

**Lab Sample ID: 240-134910-K-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 448429**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
				Result	Qualifier						
1,1-Dichloroethene	1.0	U	10.0	9.88		ug/L		99	64 - 132	3	35
cis-1,2-Dichloroethene	1.0	U	10.0	9.24		ug/L		92	68 - 121	4	35
Tetrachloroethene	1.0	U	10.0	9.41		ug/L		94	52 - 129	2	35
trans-1,2-Dichloroethene	1.0	U	10.0	9.24		ug/L		92	69 - 126	0	35
Trichloroethene	1.0	U	10.0	9.31		ug/L		93	56 - 124	3	35

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-134905-1

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

**Lab Sample ID: 240-134910-K-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 448429**

**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
Vinyl chloride	1.0	U	10.0	10.4		ug/L		104	49 - 136	2	35
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>MSD Limits</b>								
1,2-Dichloroethane-d4 (Surr)	90		75 - 130								
4-Bromofluorobenzene (Surr)	101		47 - 134								
Toluene-d8 (Surr)	93		69 - 122								
Dibromofluoromethane (Surr)	82		78 - 129								

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

**Lab Sample ID: MB 240-447721/5**  
**Matrix: Water**  
**Analysis Batch: 447721**

**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			08/19/20 04:08	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>MB Limits</b>						
1,2-Dichloroethane-d4 (Surr)	86		70 - 133						
							<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
								08/19/20 04:08	1

**Lab Sample ID: LCS 240-447721/4**  
**Matrix: Water**  
**Analysis Batch: 447721**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.62		ug/L		96	80 - 135
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>LCS Limits</b>				
1,2-Dichloroethane-d4 (Surr)	83		70 - 133				

**Lab Sample ID: 240-134914-A-2 MS**  
**Matrix: Water**  
**Analysis Batch: 447721**

**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	1.5	J	10.0	10.8		ug/L		92	46 - 170
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>MS Limits</b>						
1,2-Dichloroethane-d4 (Surr)	87		70 - 133						

**Lab Sample ID: 240-134914-A-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 447721**

**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	1.5	J	10.0	10.2		ug/L		86	46 - 170	6	26

Eurofins TestAmerica, Canton



# QC Sample Results

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

Job ID: 240-134905-1

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

Lab Sample ID: 240-134914-A-2 MSD

Matrix: Water

Analysis Batch: 447721

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)	89		70 - 133

- 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: 240-134905-1

## GC/MS VOA

### Analysis Batch: 447721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134905-2	MW-218S_081120	Total/NA	Water	8260B SIM	
240-134905-3	MW-219S_081120	Total/NA	Water	8260B SIM	
240-134905-4	MW-220S_081120	Total/NA	Water	8260B SIM	
MB 240-447721/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-447721/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-134914-A-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-134914-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

### Analysis Batch: 448213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134905-1	TRIP BLANK	Total/NA	Water	8260B	
MB 240-448213/7	Method Blank	Total/NA	Water	8260B	
LCS 240-448213/4	Lab Control Sample	Total/NA	Water	8260B	

### Analysis Batch: 448429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134905-2	MW-218S_081120	Total/NA	Water	8260B	
240-134905-3	MW-219S_081120	Total/NA	Water	8260B	
240-134905-4	MW-220S_081120	Total/NA	Water	8260B	
MB 240-448429/7	Method Blank	Total/NA	Water	8260B	
LCS 240-448429/4	Lab Control Sample	Total/NA	Water	8260B	
240-134910-J-5 MS	Matrix Spike	Total/NA	Water	8260B	
240-134910-K-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

# Lab Chronicle

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

Job ID: 240-134905-1

## Client Sample ID: TRIP BLANK

Lab Sample ID: 240-134905-1

Date Collected: 08/11/20 00:00

Matrix: Water

Date Received: 08/13/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448213	08/21/20 18:40	LRW	TAL CAN

## Client Sample ID: MW-218S\_081120

Lab Sample ID: 240-134905-2

Date Collected: 08/11/20 10:15

Matrix: Water

Date Received: 08/13/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448429	08/24/20 17:20	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	447721	08/19/20 10:44	SAM	TAL CAN

## Client Sample ID: MW-219S\_081120

Lab Sample ID: 240-134905-3

Date Collected: 08/11/20 11:48

Matrix: Water

Date Received: 08/13/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448429	08/24/20 17:45	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	447721	08/19/20 11:08	SAM	TAL CAN

## Client Sample ID: MW-220S\_081120

Lab Sample ID: 240-134905-4

Date Collected: 08/11/20 14:13

Matrix: Water

Date Received: 08/13/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448429	08/24/20 18:10	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	447721	08/19/20 11:32	SAM	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: 240-134905-1

## 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	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-20 *
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

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



**TestAmerica Michigan**  
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Brighton, MI 48116-6561  
phone 810.229.2763 fax

**MICHIGAN  
190**

**Chain of Custody Record**

**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

0.7/1.2  
0.7/1.6  
4.9/5.3

Regulatory Program:  DW  NPDES  RCRA  Other:

<b>Client Contact</b>	<b>Client Project Manager: Kris Hinskey</b>	<b>Site Contact: Julia McClafferty</b>	<b>Date:</b> 8/11/20	<b>COC No.:</b> _____										
ARCADIS of Michigan	<b>Tel/Fax:</b> 248-994-2240	<b>Lab Contact: Mike DelMonico</b>	<b>Carrier:</b> _____	<b>Sampler Name:</b> Rachel Bealke/Hallgren										
28550 Cabot Drive Suite 500	<b>Analysis Turnaround Time</b>	<b>For Lab Use Only:</b>												
Novi, Michigan 48377	<input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS	<b>Walk-in Client:</b> _____												
(248)-994-2240 Phone	TAT if different from Below: <u>3 days</u>	<b>Lab Sampling:</b> _____												
(248)-994-2241 FAX	<input type="checkbox"/> 2 weeks	<b>Job / SDG No.:</b> _____												
Project Name: Ford LTP On-Site	<input type="checkbox"/> 1 week	Sample Specific Notes:												
Site: Ford LTP	<input type="checkbox"/> 2 days	1 TRIP BLANK												
P O # 36942006-0404-02 30050151-401-07, RLB 08/11/20	<input type="checkbox"/> 1 day	3 Vials for BELOB												
		3 vials for BELO B SIM												
		I												
<b>Sample Identification</b>	<b>Sample Date</b>	<b>Sample Time</b>	<b>Sample Type (C=Comp, G=Grab)</b>	<b>Matrix</b>	<b># of Cont.</b>	<b>Filtered Sample (Y/N)</b>	<b>Perform MS / MSD (Y/N)</b>	<b>Vinyl Chloride 8260B</b>	<b>TCE 8260B</b>	<b>Cis-1,2-DCE 8260B</b>	<b>Trans-1,2-DCE 8260B</b>	<b>1,1-DCE 8260B</b>	<b>PCE 8260B</b>	<b>1,4-Dioxane 8260B SIM</b>
TRIP BLANK	8/11/20		G	W	1	N	N	X	X	X	X	X	X	
MW-2195-081120	8/11/20	1145	G	W	6	N	N	X	X	X	X	X	X	
MW-2195-081120	8/11/20	1148	G	W	6	N	N	X	X	X	X	X	X	
MW-2205-081120	8/11/20	1413	G	W	6	N	N	X	X	X	X	X	X	
<b>Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other</b>														
<b>Possible Hazard Identification:</b>														
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.														
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Unknown <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months														
<b>Special Instructions/QC Requirements &amp; Comments:</b>														
Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728 Level IV Reporting requested														
<b>Custody Seals Intact:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No			<b>Custody Seal No.:</b> _____		<b>Cooler Temp. (°C):</b> Obs'd: _____		<b>Corrd':</b> _____		<b>Therm ID No.:</b> _____					
Relinquished by: Allyson Hartz			Company: Arcadis		Date/Time: 8/11/20 15:15		Received by: New Cold Storage		Company: Arcadis		Date/Time: 8/11/20 15:15			
Relinquished by: [Signature]			Company: Arcadis		Date/Time: 15:00		Received by: [Signature]		Company: Cufco Enr		Date/Time: 8/12/20 15:00			
Relinquished by:			Company:		Date/Time:		Received in Laboratory by: [Signature]		Company: [Signature]		Date/Time: 8-15-20 9:30			



Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login #: 134905

Canton Facility

Client Arcadis

Site Name

Cooler unpacked by

Cooler Received on 8-13-20

Opened on 8-13-20

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

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

TestAmerica Cooler # 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
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity
-Were the seals on the outside of the cooler(s) signed & dated?
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?
-Were tamper/custody seals intact and uncompromised?
3. Shippers' packing slip attached to the cooler(s)?
4. Did custody papers accompany the sample(s)?
5. Were the custody papers relinquished & signed in the appropriate place?
6. Was/were the person(s) who collected the samples clearly identified on the COC?
7. Did all bottles arrive in good condition (Unbroken)?
8. Could all bottle labels be reconciled with the COC?
9. Were correct bottle(s) used for the test(s) indicated?
10. Sufficient quantity received to perform indicated analyses?
11. Are these work share samples?
12. Were all preserved sample(s) at the correct pH upon receipt?
13. Were VOAs on the COC?
14. Were air bubbles >6 mm in any VOA vials?
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #
16. Was a LL Hg or Me Hg trip blank present?

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

Contacted PM Date by via Verbal Voice Mail Other

Concerning

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

18. 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)

19. 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:

