

## ANALYTICAL REPORT

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

Laboratory Job ID: 240-125909-1  
Client Project/Site: Ford LTP On Site

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

Attn: Kristoffer Hinskey



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Authorized for release by:  
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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: 240-125909-1

## 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.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

# Case Narrative

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

Job ID: 240-125909-1

**Job ID: 240-125909-1**

**Laboratory: Eurofins TestAmerica, Canton**

**Narrative**

## CASE NARRATIVE

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

**Project: Ford LTP On Site**

**Report Number: 240-125909-1**

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 2/6/2020 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

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

Samples TRIP BLANK (240-125909-1), TW-16-04\_020420 (240-125909-3), PW-16-02\_020420 (240-125909-4), MW-51\_020420 (240-125909-5) and MW-65\_020420 (240-125909-6) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/11/2020 and 02/12/2020.

Sample TW-16-04\_020420 (240-125909-3)[2.5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No MS/MSD in batch 422314 due to an incorrect dilution: TRIP BLANK (240-125909-1), TW-16-04\_020420 (240-125909-3), MW-51\_020420 (240-125909-5) and MW-65\_020420 (240-125909-6).

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

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

Samples TW-16-04\_020420 (240-125909-3), PW-16-02\_020420 (240-125909-4), MW-51\_020420 (240-125909-5) and MW-65\_020420 (240-125909-6) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 02/11/2020.

# Case Narrative

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

Job ID: 240-125909-1

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## Job ID: 240-125909-1 (Continued)

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

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

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# Method Summary

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

Job ID: 240-125909-1

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



# Sample Summary

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

Job ID: 240-125909-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-125909-1	TRIP BLANK	Water	02/04/20 00:00	02/07/20 10:50	
240-125909-3	TW-16-04_020420	Water	02/04/20 11:31	02/07/20 10:50	
240-125909-4	PW-16-02_020420	Water	02/04/20 12:51	02/07/20 10:50	
240-125909-5	MW-51_020420	Water	02/04/20 14:46	02/07/20 10:50	
240-125909-6	MW-65_020420	Water	02/04/20 16:36	02/07/20 10:50	

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- 10
- 11
- 12
- 13
- 14

# Detection Summary

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

Job ID: 240-125909-1

## Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125909-1

No Detections.

## Client Sample ID: TW-16-04\_020420

Lab Sample ID: 240-125909-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	12		2.5	0.40	ug/L	2.5		8260B	Total/NA
Vinyl chloride	22		2.5	0.50	ug/L	2.5		8260B	Total/NA

## Client Sample ID: PW-16-02\_020420

Lab Sample ID: 240-125909-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.44	J	1.0	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-51\_020420

Lab Sample ID: 240-125909-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.9	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.19	J	1.0	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-65\_020420

Lab Sample ID: 240-125909-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.2		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	4.0		1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	20		1.0	0.20	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: 240-125909-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-125909-1**

**Date Collected: 02/04/20 00:00**

**Matrix: Water**

**Date Received: 02/07/20 10:50**

**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	0.19	ug/L			02/11/20 16:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/11/20 16:37	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/11/20 16:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/11/20 16:37	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/11/20 16:37	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/11/20 16:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		75 - 130		02/11/20 16:37	1
4-Bromofluorobenzene (Surr)	100		47 - 134		02/11/20 16:37	1
Toluene-d8 (Surr)	91		69 - 122		02/11/20 16:37	1
Dibromofluoromethane (Surr)	100		78 - 129		02/11/20 16:37	1

# Client Sample Results

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

Job ID: 240-125909-1

**Client Sample ID: TW-16-04\_020420**

**Lab Sample ID: 240-125909-3**

Date Collected: 02/04/20 11:31

Matrix: Water

Date Received: 02/07/20 10:50

**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	-		02/11/20 18:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 133					02/11/20 18:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	2.5	U	2.5	0.48	ug/L	-		02/11/20 17:21	2.5
<b>cis-1,2-Dichloroethene</b>	<b>12</b>		2.5	0.40	ug/L			02/11/20 17:21	2.5
Tetrachloroethene	2.5	U	2.5	0.38	ug/L			02/11/20 17:21	2.5
trans-1,2-Dichloroethene	2.5	U	2.5	0.48	ug/L			02/11/20 17:21	2.5
Trichloroethene	2.5	U	2.5	0.25	ug/L			02/11/20 17:21	2.5
<b>Vinyl chloride</b>	<b>22</b>		2.5	0.50	ug/L			02/11/20 17:21	2.5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		75 - 130					02/11/20 17:21	2.5
4-Bromofluorobenzene (Surr)	97		47 - 134					02/11/20 17:21	2.5
Toluene-d8 (Surr)	91		69 - 122					02/11/20 17:21	2.5
Dibromofluoromethane (Surr)	100		78 - 129					02/11/20 17:21	2.5

# Client Sample Results

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

Job ID: 240-125909-1

**Client Sample ID: PW-16-02\_020420**

**Lab Sample ID: 240-125909-4**

Date Collected: 02/04/20 12:51

Matrix: Water

Date Received: 02/07/20 10:50

**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	-		02/11/20 19:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 133		02/11/20 19:20	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	0.19	ug/L	-		02/12/20 14:59	1
<b>cis-1,2-Dichloroethene</b>	<b>0.44</b>	<b>J</b>	1.0	0.16	ug/L	-		02/12/20 14:59	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		02/12/20 14:59	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		02/12/20 14:59	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		02/12/20 14:59	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		02/12/20 14:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 130		02/12/20 14:59	1
4-Bromofluorobenzene (Surr)	68		47 - 134		02/12/20 14:59	1
Toluene-d8 (Surr)	80		69 - 122		02/12/20 14:59	1
Dibromofluoromethane (Surr)	83		78 - 129		02/12/20 14:59	1

# Client Sample Results

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

Job ID: 240-125909-1

**Client Sample ID: MW-51\_020420**

**Lab Sample ID: 240-125909-5**

Date Collected: 02/04/20 14:46

Matrix: Water

Date Received: 02/07/20 10:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.9	J	2.0	0.86	ug/L	-		02/11/20 19:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 133		02/11/20 19:46	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	0.19	ug/L	-		02/11/20 18:06	1
cis-1,2-Dichloroethene	0.19	J	1.0	0.16	ug/L	-		02/11/20 18:06	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		02/11/20 18:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		02/11/20 18:06	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		02/11/20 18:06	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		02/11/20 18:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		75 - 130		02/11/20 18:06	1
4-Bromofluorobenzene (Surr)	100		47 - 134		02/11/20 18:06	1
Toluene-d8 (Surr)	92		69 - 122		02/11/20 18:06	1
Dibromofluoromethane (Surr)	104		78 - 129		02/11/20 18:06	1

# Client Sample Results

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

Job ID: 240-125909-1

**Client Sample ID: MW-65\_020420**

**Lab Sample ID: 240-125909-6**

Date Collected: 02/04/20 16:36

Matrix: Water

Date Received: 02/07/20 10:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,4-Dioxane</b>	<b>4.2</b>		2.0	0.86	ug/L			02/11/20 20:11	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)	99		70 - 133					02/11/20 20:11	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	0.19	ug/L			02/11/20 18:29	1
<b>cis-1,2-Dichloroethene</b>	<b>4.0</b>		1.0	0.16	ug/L			02/11/20 18:29	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/11/20 18:29	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/11/20 18:29	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/11/20 18:29	1
<b>Vinyl chloride</b>	<b>20</b>		1.0	0.20	ug/L			02/11/20 18:29	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)	104		75 - 130					02/11/20 18:29	1
4-Bromofluorobenzene (Surr)	96		47 - 134					02/11/20 18:29	1
Toluene-d8 (Surr)	89		69 - 122					02/11/20 18:29	1
Dibromofluoromethane (Surr)	96		78 - 129					02/11/20 18:29	1

# Surrogate Summary

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

Job ID: 240-125909-1

## 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)
240-125909-1	TRIP BLANK	106	100	91	100
240-125909-3	TW-16-04_020420	105	97	91	100
240-125909-4	PW-16-02_020420	88	68	80	83
240-125909-5	MW-51_020420	109	100	92	104
240-125909-6	MW-65_020420	104	96	89	96
240-125946-A-3 MSD	Matrix Spike Duplicate	82	75	80	89
240-125946-C-3 MS	Matrix Spike	85	75	82	89
LCS 240-422314/4	Lab Control Sample	105	99	91	99
LCS 240-422496/4	Lab Control Sample	83	76	82	89
MB 240-422314/6	Method Blank	106	97	91	102
MB 240-422496/7	Method Blank	89	69	81	84

#### 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)
240-125898-A-5 MS	Matrix Spike	98
240-125898-A-5 MSD	Matrix Spike Duplicate	99
240-125909-3	TW-16-04_020420	98
240-125909-4	PW-16-02_020420	100
240-125909-5	MW-51_020420	101
240-125909-6	MW-65_020420	99
LCS 240-422331/4	Lab Control Sample	95
MB 240-422331/5	Method Blank	96

#### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-125909-1

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

**Lab Sample ID: MB 240-422314/6**  
**Matrix: Water**  
**Analysis Batch: 422314**

**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	0.19	ug/L			02/11/20 12:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/11/20 12:32	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/11/20 12:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/11/20 12:32	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/11/20 12:32	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/11/20 12:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		75 - 130		02/11/20 12:32	1
4-Bromofluorobenzene (Surr)	97		47 - 134		02/11/20 12:32	1
Toluene-d8 (Surr)	91		69 - 122		02/11/20 12:32	1
Dibromofluoromethane (Surr)	102		78 - 129		02/11/20 12:32	1

**Lab Sample ID: LCS 240-422314/4**  
**Matrix: Water**  
**Analysis Batch: 422314**

**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	10.0		ug/L		100	73 - 129
cis-1,2-Dichloroethene	10.0	9.90		ug/L		99	75 - 124
Tetrachloroethene	10.0	10.1		ug/L		101	70 - 125
trans-1,2-Dichloroethene	10.0	9.62		ug/L		96	74 - 130
Trichloroethene	10.0	8.91		ug/L		89	71 - 121
Vinyl chloride	10.0	7.01		ug/L		70	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		75 - 130
4-Bromofluorobenzene (Surr)	99		47 - 134
Toluene-d8 (Surr)	91		69 - 122
Dibromofluoromethane (Surr)	99		78 - 129

**Lab Sample ID: MB 240-422496/7**  
**Matrix: Water**  
**Analysis Batch: 422496**

**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	0.19	ug/L			02/12/20 11:42	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/12/20 11:42	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/12/20 11:42	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/12/20 11:42	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/12/20 11:42	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/12/20 11:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		75 - 130		02/12/20 11:42	1
4-Bromofluorobenzene (Surr)	69		47 - 134		02/12/20 11:42	1
Toluene-d8 (Surr)	81		69 - 122		02/12/20 11:42	1

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-125909-1

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

**Lab Sample ID: MB 240-422496/7**  
**Matrix: Water**  
**Analysis Batch: 422496**

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

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	84		78 - 129		02/12/20 11:42	1

**Lab Sample ID: LCS 240-422496/4**  
**Matrix: Water**  
**Analysis Batch: 422496**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	10.0	11.2		ug/L		112	75 - 124
Tetrachloroethene	10.0	11.1		ug/L		111	70 - 125
trans-1,2-Dichloroethene	10.0	10.9		ug/L		109	74 - 130
Trichloroethene	10.0	11.4		ug/L		114	71 - 121
Vinyl chloride	10.0	8.73		ug/L		87	61 - 134

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	83		75 - 130
4-Bromofluorobenzene (Surr)	76		47 - 134
Toluene-d8 (Surr)	82		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

**Lab Sample ID: 240-125946-A-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 422496**

**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
cis-1,2-Dichloroethene	0.21	J	10.0	9.32		ug/L		91	68 - 121	2	35
Tetrachloroethene	1.0	U	10.0	8.42		ug/L		84	52 - 129	1	35
Trichloroethene	1.0	U	10.0	8.76		ug/L		88	56 - 124	2	35
Vinyl chloride	1.0	U	10.0	7.93		ug/L		79	49 - 136	5	35

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	82		75 - 130
4-Bromofluorobenzene (Surr)	75		47 - 134
Toluene-d8 (Surr)	80		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

**Lab Sample ID: 240-125946-C-3 MS**  
**Matrix: Water**  
**Analysis Batch: 422496**

**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
cis-1,2-Dichloroethene	0.21	J	10.0	9.53		ug/L		93	68 - 121
Tetrachloroethene	1.0	U	10.0	8.33		ug/L		83	52 - 129
Trichloroethene	1.0	U	10.0	8.92		ug/L		89	56 - 124
Vinyl chloride	1.0	U	10.0	7.55		ug/L		75	49 - 136

Eurofins TestAmerica, Canton



# QC Sample Results

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

Job ID: 240-125909-1

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

**Lab Sample ID: 240-125946-C-3 MS**  
**Matrix: Water**  
**Analysis Batch: 422496**

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

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		75 - 130
4-Bromofluorobenzene (Surr)	75		47 - 134
Toluene-d8 (Surr)	82		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

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

**Lab Sample ID: MB 240-422331/5**  
**Matrix: Water**  
**Analysis Batch: 422331**

**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			02/11/20 12:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 133		02/11/20 12:04	1

**Lab Sample ID: LCS 240-422331/4**  
**Matrix: Water**  
**Analysis Batch: 422331**

**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	10.2		ug/L		102	80 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 133

**Lab Sample ID: 240-125898-A-5 MS**  
**Matrix: Water**  
**Analysis Batch: 422331**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	9.37		ug/L		94	46 - 170

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 133

**Lab Sample ID: 240-125898-A-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 422331**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	9.61		ug/L		96	46 - 170	3	26

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 133

Eurofins TestAmerica, Canton

# QC Association Summary

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

Job ID: 240-125909-1

## GC/MS VOA

### Analysis Batch: 422314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125909-1	TRIP BLANK	Total/NA	Water	8260B	
240-125909-3	TW-16-04_020420	Total/NA	Water	8260B	
240-125909-5	MW-51_020420	Total/NA	Water	8260B	
240-125909-6	MW-65_020420	Total/NA	Water	8260B	
MB 240-422314/6	Method Blank	Total/NA	Water	8260B	
LCS 240-422314/4	Lab Control Sample	Total/NA	Water	8260B	

### Analysis Batch: 422331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125909-3	TW-16-04_020420	Total/NA	Water	8260B SIM	
240-125909-4	PW-16-02_020420	Total/NA	Water	8260B SIM	
240-125909-5	MW-51_020420	Total/NA	Water	8260B SIM	
240-125909-6	MW-65_020420	Total/NA	Water	8260B SIM	
MB 240-422331/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-422331/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-125898-A-5 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-125898-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

### Analysis Batch: 422496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125909-4	PW-16-02_020420	Total/NA	Water	8260B	
MB 240-422496/7	Method Blank	Total/NA	Water	8260B	
LCS 240-422496/4	Lab Control Sample	Total/NA	Water	8260B	
240-125946-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-125946-C-3 MS	Matrix Spike	Total/NA	Water	8260B	

# Lab Chronicle

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

Job ID: 240-125909-1

## Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125909-1

Date Collected: 02/04/20 00:00

Matrix: Water

Date Received: 02/07/20 10:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	422314	02/11/20 16:37	LEE	TAL CAN

## Client Sample ID: TW-16-04\_020420

Lab Sample ID: 240-125909-3

Date Collected: 02/04/20 11:31

Matrix: Water

Date Received: 02/07/20 10:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2.5	422314	02/11/20 17:21	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	422331	02/11/20 18:54	SAM	TAL CAN

## Client Sample ID: PW-16-02\_020420

Lab Sample ID: 240-125909-4

Date Collected: 02/04/20 12:51

Matrix: Water

Date Received: 02/07/20 10:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	422496	02/12/20 14:59	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	422331	02/11/20 19:20	SAM	TAL CAN

## Client Sample ID: MW-51\_020420

Lab Sample ID: 240-125909-5

Date Collected: 02/04/20 14:46

Matrix: Water

Date Received: 02/07/20 10:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	422314	02/11/20 18:06	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	422331	02/11/20 19:46	SAM	TAL CAN

## Client Sample ID: MW-65\_020420

Lab Sample ID: 240-125909-6

Date Collected: 02/04/20 16:36

Matrix: Water

Date Received: 02/07/20 10:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	422314	02/11/20 18:29	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	422331	02/11/20 20:11	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: 240-125909-1

## 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	02-23-20 *
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20 *
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20 *
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
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.





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

Login # : 175909

Client Arcadis Site Name \_\_\_\_\_  
Cooler Received on 2-6-20 Opened on 2-6-20  
FedEx: 1<sup>st</sup> Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other \_\_\_\_\_


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

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

TestAmerica Cooler # 777 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-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 2 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  
-Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No  
4. Did custody papers accompany the sample(s)? Yes No  
5. Were the custody papers relinquished & signed in the appropriate place? Yes No  
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No  
7. Did all bottles arrive in good condition (Unbroken)? Yes No  
8. Could all bottle labels be reconciled with the COC? Yes No  
9. Were correct bottle(s) used for the test(s) indicated? Yes No  
10. Sufficient quantity received to perform indicated analyses? Yes No  
11. Are these work share samples? Yes No  
If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364  
13. Were VOAs on the COC? Yes No  
14. Were air bubbles >6 mm in any VOA vials?  Larger than this. Yes No NA  
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # NA Yes No  
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:

VOAs  
Oil and Grease  
TOC

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

Concerning \_\_\_\_\_

**17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES**

Samples processed by: \_\_\_\_\_

MS

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

