

## ANALYTICAL REPORT

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Laboratory Job ID: 240-126146-1  
Client Project/Site: Ford LTP Off Site

For:  
ARCADIS U.S., Inc.  
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Attn: Kristoffer Hinskey



Authorized for release by:  
2/26/2020 12:20:45 PM

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



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# Definitions/Glossary

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

Job ID: 240-126146-1

## 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.
X	Surrogate is outside control limits

## 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 Off Site

Job ID: 240-126146-1

**Job ID: 240-126146-1**

**Laboratory: Eurofins TestAmerica, Canton**

**Narrative**

## CASE NARRATIVE

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

**Project: Ford LTP Off Site**

**Report Number: 240-126146-1**

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 2/12/2020 8:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.8° C.

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

Samples TRIP BLANK (240-126146-1), MW-73D\_021020 (240-126146-2) and MW-73SR\_021020 (240-126146-3) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/17/2020 and 02/18/2020.

No MS/MSD in batch 423008 due to a re-analysis needed: TRIP BLANK (240-126146-1) and MW-73SR\_021020 (240-126146-3).

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 MW-73D\_021020 (240-126146-2) and MW-73SR\_021020 (240-126146-3) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 02/18/2020.

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

# Method Summary

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

Job ID: 240-126146-1

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 Off Site

Job ID: 240-126146-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126146-1	TRIP BLANK	Water	02/10/20 00:00	02/12/20 08:10	
240-126146-2	MW-73D_021020	Water	02/10/20 12:27	02/12/20 08:10	
240-126146-3	MW-73SR_021020	Water	02/10/20 14:27	02/12/20 08:10	

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- 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 Off Site

Job ID: 240-126146-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-126146-1**

No Detections.

**Client Sample ID: MW-73D\_021020**

**Lab Sample ID: 240-126146-2**

No Detections.

**Client Sample ID: MW-73SR\_021020**

**Lab Sample ID: 240-126146-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.3		1.0	0.16	ug/L	1		8260B	Total/NA
Trichloroethene	0.15	J	1.0	0.10	ug/L	1		8260B	Total/NA
Vinyl chloride	0.87	J	1.0	0.20	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

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

Job ID: 240-126146-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-126146-1**

**Date Collected: 02/10/20 00:00**

**Matrix: Water**

**Date Received: 02/12/20 08:10**

**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			02/17/20 18:04	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/17/20 18:04	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/17/20 18:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/17/20 18:04	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/17/20 18:04	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/17/20 18:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		75 - 130		02/17/20 18:04	1
4-Bromofluorobenzene (Surr)	66		47 - 134		02/17/20 18:04	1
Toluene-d8 (Surr)	82		69 - 122		02/17/20 18:04	1
Dibromofluoromethane (Surr)	79		78 - 129		02/17/20 18:04	1



# Client Sample Results

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

Job ID: 240-126146-1

**Client Sample ID: MW-73D\_021020**

**Lab Sample ID: 240-126146-2**

Date Collected: 02/10/20 12:27

Matrix: Water

Date Received: 02/12/20 08:10

**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			02/18/20 12:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 133		02/18/20 12:15	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			02/18/20 13:02	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/20 13:02	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/20 13:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/20 13:02	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/20 13:02	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/18/20 13:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		75 - 130		02/18/20 13:02	1
4-Bromofluorobenzene (Surr)	72		47 - 134		02/18/20 13:02	1
Toluene-d8 (Surr)	88		69 - 122		02/18/20 13:02	1
Dibromofluoromethane (Surr)	88		78 - 129		02/18/20 13:02	1

# Client Sample Results

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

Job ID: 240-126146-1

**Client Sample ID: MW-73SR\_021020**

**Lab Sample ID: 240-126146-3**

Date Collected: 02/10/20 14:27

Matrix: Water

Date Received: 02/12/20 08:10

**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	-		02/18/20 12:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 133		02/18/20 12:41	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	-		02/17/20 18:47	1
<b>cis-1,2-Dichloroethene</b>	<b>1.3</b>		1.0	0.16	ug/L			02/17/20 18:47	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		02/17/20 18:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		02/17/20 18:47	1
<b>Trichloroethene</b>	<b>0.15</b>	<b>J</b>	1.0	0.10	ug/L			02/17/20 18:47	1
<b>Vinyl chloride</b>	<b>0.87</b>	<b>J</b>	1.0	0.20	ug/L			02/17/20 18:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		75 - 130		02/17/20 18:47	1
4-Bromofluorobenzene (Surr)	66		47 - 134		02/17/20 18:47	1
Toluene-d8 (Surr)	83		69 - 122		02/17/20 18:47	1
Dibromofluoromethane (Surr)	80		78 - 129		02/17/20 18:47	1

# Surrogate Summary

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

Job ID: 240-126146-1

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-126146-1	TRIP BLANK	83	66	82	79
240-126146-2	MW-73D_021020	90	72	88	88
240-126146-3	MW-73SR_021020	81	66	83	80
240-126241-A-2 MSD	Matrix Spike Duplicate	80	83	90	87
240-126241-C-2 MS	Matrix Spike	66 X	67	74	69 X
LCS 240-423008/4	Lab Control Sample	77	83	91	84
LCS 240-423204/4	Lab Control Sample	80	84	93	86
MB 240-423008/7	Method Blank	80	69	81	79
MB 240-423204/7	Method Blank	87	72	89	86

#### 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)
240-126146-2	MW-73D_021020	103
240-126146-3	MW-73SR_021020	102
240-126150-A-5 MS	Matrix Spike	102
240-126150-A-5 MSD	Matrix Spike Duplicate	106
LCS 240-423128/4	Lab Control Sample	102
MB 240-423128/5	Method Blank	102

#### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-126146-1

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

**Lab Sample ID: MB 240-423008/7**  
**Matrix: Water**  
**Analysis Batch: 423008**

**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			02/17/20 12:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/17/20 12:15	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/17/20 12:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/17/20 12:15	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/17/20 12:15	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/17/20 12:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		75 - 130		02/17/20 12:15	1
4-Bromofluorobenzene (Surr)	69		47 - 134		02/17/20 12:15	1
Toluene-d8 (Surr)	81		69 - 122		02/17/20 12:15	1
Dibromofluoromethane (Surr)	79		78 - 129		02/17/20 12:15	1

**Lab Sample ID: LCS 240-423008/4**  
**Matrix: Water**  
**Analysis Batch: 423008**

**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	9.29		ug/L		93	73 - 129
cis-1,2-Dichloroethene	10.0	9.18		ug/L		92	75 - 124
Tetrachloroethene	10.0	10.4		ug/L		104	70 - 125
trans-1,2-Dichloroethene	10.0	8.79		ug/L		88	74 - 130
Trichloroethene	10.0	9.22		ug/L		92	71 - 121
Vinyl chloride	10.0	6.39		ug/L		64	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	77		75 - 130
4-Bromofluorobenzene (Surr)	83		47 - 134
Toluene-d8 (Surr)	91		69 - 122
Dibromofluoromethane (Surr)	84		78 - 129

**Lab Sample ID: MB 240-423204/7**  
**Matrix: Water**  
**Analysis Batch: 423204**

**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			02/18/20 11:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/20 11:48	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/20 11:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/20 11:48	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/20 11:48	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/18/20 11:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		75 - 130		02/18/20 11:48	1
4-Bromofluorobenzene (Surr)	72		47 - 134		02/18/20 11:48	1
Toluene-d8 (Surr)	89		69 - 122		02/18/20 11:48	1

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# QC Sample Results

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

Job ID: 240-126146-1

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

**Lab Sample ID: MB 240-423204/7**  
**Matrix: Water**  
**Analysis Batch: 423204**

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

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	86		78 - 129		02/18/20 11:48	1

**Lab Sample ID: LCS 240-423204/4**  
**Matrix: Water**  
**Analysis Batch: 423204**

**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	10.2		ug/L		102	73 - 129	
cis-1,2-Dichloroethene	10.0	9.75		ug/L		98	75 - 124	
Tetrachloroethene	10.0	11.4		ug/L		114	70 - 125	
trans-1,2-Dichloroethene	10.0	9.64		ug/L		96	74 - 130	
Trichloroethene	10.0	9.99		ug/L		100	71 - 121	
Vinyl chloride	10.0	6.38		ug/L		64	61 - 134	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	80		75 - 130
4-Bromofluorobenzene (Surr)	84		47 - 134
Toluene-d8 (Surr)	93		69 - 122
Dibromofluoromethane (Surr)	86		78 - 129

**Lab Sample ID: 240-126241-A-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 423204**

**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	8.41		ug/L		84	64 - 132	1	35	
cis-1,2-Dichloroethene	1.0	U	10.0	8.34		ug/L		83	68 - 121	3	35	
Tetrachloroethene	1.0	U	10.0	9.22		ug/L		92	52 - 129	1	35	
trans-1,2-Dichloroethene	1.0	U	10.0	8.40		ug/L		84	69 - 126	5	35	
Trichloroethene	1.0	U	10.0	8.27		ug/L		83	56 - 124	4	35	
Vinyl chloride	1.0	U	10.0	6.52		ug/L		65	49 - 136	11	35	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	80		75 - 130
4-Bromofluorobenzene (Surr)	83		47 - 134
Toluene-d8 (Surr)	90		69 - 122
Dibromofluoromethane (Surr)	87		78 - 129

**Lab Sample ID: 240-126241-C-2 MS**  
**Matrix: Water**  
**Analysis Batch: 423204**

**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	8.36		ug/L		84	64 - 132	
cis-1,2-Dichloroethene	1.0	U	10.0	8.10		ug/L		81	68 - 121	
Tetrachloroethene	1.0	U	10.0	9.31		ug/L		93	52 - 129	
trans-1,2-Dichloroethene	1.0	U	10.0	7.98		ug/L		80	69 - 126	
Trichloroethene	1.0	U	10.0	7.94		ug/L		79	56 - 124	

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# QC Sample Results

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

Job ID: 240-126146-1

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

**Lab Sample ID: 240-126241-C-2 MS**  
**Matrix: Water**  
**Analysis Batch: 423204**

**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
Vinyl chloride	1.0	U	10.0	5.87		ug/L		59	49 - 136
<b>MS MS</b>									
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
1,2-Dichloroethane-d4 (Surr)	66	X	75 - 130						
4-Bromofluorobenzene (Surr)	67		47 - 134						
Toluene-d8 (Surr)	74		69 - 122						
Dibromofluoromethane (Surr)	69	X	78 - 129						

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

**Lab Sample ID: MB 240-423128/5**  
**Matrix: Water**  
**Analysis Batch: 423128**

**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			02/18/20 06:05	1
<b>MB MB</b>									
<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		70 - 133		02/18/20 06:05	1			

**Lab Sample ID: LCS 240-423128/4**  
**Matrix: Water**  
**Analysis Batch: 423128**

**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	9.22		ug/L		92	80 - 135
<b>LCS LCS</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
1,2-Dichloroethane-d4 (Surr)	102		70 - 133				

**Lab Sample ID: 240-126150-A-5 MS**  
**Matrix: Water**  
**Analysis Batch: 423128**

**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	8.81		ug/L		88	46 - 170
<b>MS MS</b>									
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
1,2-Dichloroethane-d4 (Surr)	102		70 - 133						

**Lab Sample ID: 240-126150-A-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 423128**

**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	8.76		ug/L		88	46 - 170	1	26

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-126146-1

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

Lab Sample ID: 240-126150-A-5 MSD

Matrix: Water

Analysis Batch: 423128

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	106		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 Off Site

Job ID: 240-126146-1

## GC/MS VOA

### Analysis Batch: 423008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126146-1	TRIP BLANK	Total/NA	Water	8260B	
240-126146-3	MW-73SR_021020	Total/NA	Water	8260B	
MB 240-423008/7	Method Blank	Total/NA	Water	8260B	
LCS 240-423008/4	Lab Control Sample	Total/NA	Water	8260B	

### Analysis Batch: 423128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126146-2	MW-73D_021020	Total/NA	Water	8260B SIM	
240-126146-3	MW-73SR_021020	Total/NA	Water	8260B SIM	
MB 240-423128/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-423128/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-126150-A-5 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-126150-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

### Analysis Batch: 423204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126146-2	MW-73D_021020	Total/NA	Water	8260B	
MB 240-423204/7	Method Blank	Total/NA	Water	8260B	
LCS 240-423204/4	Lab Control Sample	Total/NA	Water	8260B	
240-126241-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-126241-C-2 MS	Matrix Spike	Total/NA	Water	8260B	



# Lab Chronicle

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

Job ID: 240-126146-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-126146-1**

**Date Collected: 02/10/20 00:00**

**Matrix: Water**

**Date Received: 02/12/20 08:10**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423008	02/17/20 18:04	LEE	TAL CAN

**Client Sample ID: MW-73D\_021020**

**Lab Sample ID: 240-126146-2**

**Date Collected: 02/10/20 12:27**

**Matrix: Water**

**Date Received: 02/12/20 08:10**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423204	02/18/20 13:02	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	423128	02/18/20 12:15	TJL2	TAL CAN

**Client Sample ID: MW-73SR\_021020**

**Lab Sample ID: 240-126146-3**

**Date Collected: 02/10/20 14:27**

**Matrix: Water**

**Date Received: 02/12/20 08:10**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423008	02/17/20 18:47	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	423128	02/18/20 12:41	TJL2	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 Off Site

Job ID: 240-126146-1

## 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.



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

Regulatory program:  DW  NPDES  RCRA  Other

Client Project Manager: Kris Hinskey  
Site Contact: Julia McClafferty  
Telephone: 248-994-2240 Telephone: 734-644-5131

Company Name: Arcadis  
Address: 28550 Cabot Drive, Suite 500  
City/State/Zip: Novi, MI, 48377  
Phone: 248-994-2240  
Project Name: Ford LTP Off-Site  
Project Number: 30042006.0402.02  
PO # 30042006.0402.02

Sampler Name: H. Woodrum  
Method of Shipment/Carrier:  
Shipping/Tracking No:

Analysis Turnaround Time  
TAT if different from below  
10 day  3 weeks   
 2 weeks   
 1 week   
 2 days   
 1 day

Containers & Preservatives  
H2SO4  HNO3  HCl  NaOH  ZnAc  Other:

Matrix  
Aqueous  Solid  Other:

Sample Date Sample Time

Sample Identification	Sample Date	Sample Time	Filtered Sample (Y/N)	Composite C/Grab-G	1,1-DCE 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B	Vinyl Chloride 8260B	1,4-Dioxane 8260B SIM	Analyses	For lab use only	COCs
TRIP BLANK														
MW-73D-02020	2/10/20	12:27	NG		X	X	X	X	X	X	X		1VOA	
MW-73SR-02020	2/10/20	14:27	NG		X	X	X	X	X	X	X		3 VOA for 8260 3 VOA for 8260B SIM	

Barcode: 240-126146 Chain of Custody

Possible Hazard Identification  
 Non-Hazard  Irritant  Poison B  Unknown

Special Instructions/QC Requirements & Comments:  
Submit all results through Cadena at tomalia@cadenaco.com, Cadena #E203631  
Level IV Reporting requested.

Relinquished by: Matthew Woodrum  
Relinquished by: Julia McClafferty  
Relinquished by: Jeff Boyer

Company: Arcadis  
Company: Arcadis  
Company: ETA

Date/Time: 2/10/20 18:30  
Date/Time: 2/11/20 11:00  
Date/Time: 2/11/20 12:00

Received by: Arcadis Corp Storage  
Received by: JTB  
Received in Laboratory by: JTB

Company: Arcadis  
Company: GTR  
Company: Tet

Date/Time: 2/10/20 18:30  
Date/Time: 2/11/20 11:00  
Date/Time: 2-12-20 8:10

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


TestAmerica Laboratories, Inc.  
COC No:



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


Login # : 124146

Client Arceadis Site Name \_\_\_\_\_  
 Cooler Received on 2-12-20 Opened on 2-12-20  
 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 # TA 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. 21 °C Corrected Cooler Temp. 28 °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 1 Yes No  
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA  
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No  
 -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 # \_\_\_\_\_ 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:  
AG

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

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