

## ANALYTICAL REPORT

Eurofins TestAmerica, Canton  
4101 Shuffel Street NW  
North Canton, OH 44720  
Tel: (330)497-9396

Laboratory Job ID: 240-126552-1  
Client Project/Site: Ford LTP On Site

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

Attn: Kristoffer Hinskey



---

Authorized for release by:  
3/3/2020 10:32:10 AM

Michael DelMonico, Project Manager I  
(330)497-9396  
[michael.delmonico@testamericainc.com](mailto:michael.delmonico@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

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



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Method Summary . . . . .	5
Sample Summary . . . . .	6
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	12
QC Sample Results . . . . .	13
QC Association Summary . . . . .	17
Lab Chronicle . . . . .	18
Certification Summary . . . . .	19
Chain of Custody . . . . .	20

# Definitions/Glossary

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

Job ID: 240-126552-1

## 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
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: 240-126552-1

**Job ID: 240-126552-1**

**Laboratory: Eurofins TestAmerica, Canton**

## Narrative

### CASE NARRATIVE

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

**Project: Ford LTP On Site**

**Report Number: 240-126552-1**

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 2/20/2020 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.0° C.

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

Samples TRIP BLANK (240-126552-1), MW-114\_021820 (240-126552-2), MW-113\_021820 (240-126552-3) and MW-26\_021820 (240-126552-4) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/25/2020.

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-114\_021820 (240-126552-2), MW-113\_021820 (240-126552-3) and MW-26\_021820 (240-126552-4) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 02/27/2020 and 02/28/2020.

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 On Site

Job ID: 240-126552-1

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: 240-126552-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126552-1	TRIP BLANK	Water	02/18/20 00:00	02/20/20 08:30	
240-126552-2	MW-114_021820	Water	02/18/20 10:27	02/20/20 08:30	
240-126552-3	MW-113_021820	Water	02/18/20 11:57	02/20/20 08:30	
240-126552-4	MW-26_021820	Water	02/18/20 14:17	02/20/20 08:30	

- 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: 240-126552-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-126552-1**

No Detections.

**Client Sample ID: MW-114\_021820**

**Lab Sample ID: 240-126552-2**

No Detections.

**Client Sample ID: MW-113\_021820**

**Lab Sample ID: 240-126552-3**

No Detections.

**Client Sample ID: MW-26\_021820**

**Lab Sample ID: 240-126552-4**

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: 240-126552-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-126552-1**

**Date Collected: 02/18/20 00:00**

**Matrix: Water**

**Date Received: 02/20/20 08:30**

**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	0.19	ug/L			02/25/20 16:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/25/20 16:19	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/25/20 16:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/25/20 16:19	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/25/20 16:19	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/25/20 16:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		75 - 130		02/25/20 16:19	1
4-Bromofluorobenzene (Surr)	73		47 - 134		02/25/20 16:19	1
Toluene-d8 (Surr)	98		69 - 122		02/25/20 16:19	1
Dibromofluoromethane (Surr)	108		78 - 129		02/25/20 16:19	1



# Client Sample Results

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

Job ID: 240-126552-1

**Client Sample ID: MW-114\_021820**

**Lab Sample ID: 240-126552-2**

Date Collected: 02/18/20 10:27

Matrix: Water

Date Received: 02/20/20 08:30

**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			02/28/20 13:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 133		02/28/20 13:15	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			02/25/20 16:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/25/20 16:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/25/20 16:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/25/20 16:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/25/20 16:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/25/20 16:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		75 - 130		02/25/20 16:41	1
4-Bromofluorobenzene (Surr)	64		47 - 134		02/25/20 16:41	1
Toluene-d8 (Surr)	84		69 - 122		02/25/20 16:41	1
Dibromofluoromethane (Surr)	91		78 - 129		02/25/20 16:41	1

# Client Sample Results

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

Job ID: 240-126552-1

**Client Sample ID: MW-113\_021820**

**Lab Sample ID: 240-126552-3**

Date Collected: 02/18/20 11:57

Matrix: Water

Date Received: 02/20/20 08:30

**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	-		02/27/20 18:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		70 - 133		02/27/20 18:43	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	-		02/25/20 17:46	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		02/25/20 17:46	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		02/25/20 17:46	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		02/25/20 17:46	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		02/25/20 17:46	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		02/25/20 17:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		75 - 130		02/25/20 17:46	1
4-Bromofluorobenzene (Surr)	63		47 - 134		02/25/20 17:46	1
Toluene-d8 (Surr)	83		69 - 122		02/25/20 17:46	1
Dibromofluoromethane (Surr)	90		78 - 129		02/25/20 17:46	1

# Client Sample Results

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

Job ID: 240-126552-1

**Client Sample ID: MW-26\_021820**

**Lab Sample ID: 240-126552-4**

Date Collected: 02/18/20 14:17

Matrix: Water

Date Received: 02/20/20 08:30

**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			02/27/20 19:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 133		02/27/20 19:09	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			02/25/20 18:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/25/20 18:08	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/25/20 18:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/25/20 18:08	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/25/20 18:08	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/25/20 18:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		75 - 130		02/25/20 18:08	1
4-Bromofluorobenzene (Surr)	62		47 - 134		02/25/20 18:08	1
Toluene-d8 (Surr)	80		69 - 122		02/25/20 18:08	1
Dibromofluoromethane (Surr)	89		78 - 129		02/25/20 18:08	1

# Surrogate Summary

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

Job ID: 240-126552-1

## 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)
240-126552-1	TRIP BLANK	104	73	98	108
240-126552-2	MW-114_021820	89	64	84	91
240-126552-2 MS	MW-114-MS_021820	78	75	85	86
240-126552-2 MSD	MW-114-MSD_021820	78	77	86	86
240-126552-3	MW-113_021820	85	63	83	90
240-126552-4	MW-26_021820	86	62	80	89
LCS 240-424128/4	Lab Control Sample	80	82	92	89
MB 240-424128/7	Method Blank	88	69	88	93

#### 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)
240-126552-2	MW-114_021820	94
240-126552-2 MS	MW-114-MS_021820	92
240-126552-2 MSD	MW-114-MSD_021820	93
240-126552-3	MW-113_021820	90
240-126552-4	MW-26_021820	92
240-126617-I-2 MS	Matrix Spike	92
240-126617-I-2 MSD	Matrix Spike Duplicate	91
LCS 240-424537/4	Lab Control Sample	88
LCS 240-424746/4	Lab Control Sample	90
MB 240-424537/5	Method Blank	88
MB 240-424746/5	Method Blank	91

#### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-126552-1

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

**Lab Sample ID: MB 240-424128/7**  
**Matrix: Water**  
**Analysis Batch: 424128**

**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			02/25/20 11:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/25/20 11:58	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/25/20 11:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/25/20 11:58	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/25/20 11:58	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/25/20 11:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 130		02/25/20 11:58	1
4-Bromofluorobenzene (Surr)	69		47 - 134		02/25/20 11:58	1
Toluene-d8 (Surr)	88		69 - 122		02/25/20 11:58	1
Dibromofluoromethane (Surr)	93		78 - 129		02/25/20 11:58	1

**Lab Sample ID: LCS 240-424128/4**  
**Matrix: Water**  
**Analysis Batch: 424128**

**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	10.2		ug/L		102	75 - 124
Tetrachloroethene	10.0	12.2		ug/L		122	70 - 125
trans-1,2-Dichloroethene	10.0	10.4		ug/L		104	74 - 130
Trichloroethene	10.0	10.1		ug/L		101	71 - 121
Vinyl chloride	10.0	7.03		ug/L		70	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	80		75 - 130
4-Bromofluorobenzene (Surr)	82		47 - 134
Toluene-d8 (Surr)	92		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

**Lab Sample ID: 240-126552-2 MS**  
**Matrix: Water**  
**Analysis Batch: 424128**

**Client Sample ID: MW-114-MS\_021820**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	7.97		ug/L		80	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	8.57		ug/L		86	68 - 121
Tetrachloroethene	1.0	U	10.0	9.59		ug/L		96	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	8.76		ug/L		88	69 - 126
Trichloroethene	1.0	U	10.0	8.36		ug/L		84	56 - 124
Vinyl chloride	1.0	U	10.0	6.71		ug/L		67	49 - 136

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

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-126552-1

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

**Lab Sample ID: 240-126552-2 MS**  
**Matrix: Water**  
**Analysis Batch: 424128**

**Client Sample ID: MW-114-MS\_021820**  
**Prep Type: Total/NA**

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	86		78 - 129

**Lab Sample ID: 240-126552-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 424128**

**Client Sample ID: MW-114-MSD\_021820**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
1,1-Dichloroethene	1.0	U	10.0	8.05		ug/L		80	64 - 132	1	35	
cis-1,2-Dichloroethene	1.0	U	10.0	8.57		ug/L		86	68 - 121	0	35	
Tetrachloroethene	1.0	U	10.0	9.74		ug/L		97	52 - 129	1	35	
trans-1,2-Dichloroethene	1.0	U	10.0	8.78		ug/L		88	69 - 126	0	35	
Trichloroethene	1.0	U	10.0	8.35		ug/L		84	56 - 124	0	35	
Vinyl chloride	1.0	U	10.0	7.86		ug/L		79	49 - 136	16	35	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	78		75 - 130
4-Bromofluorobenzene (Surr)	77		47 - 134
Toluene-d8 (Surr)	86		69 - 122
Dibromofluoromethane (Surr)	86		78 - 129

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

**Lab Sample ID: MB 240-424537/5**  
**Matrix: Water**  
**Analysis Batch: 424537**

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	2.0	U	2.0	0.86	ug/L		02/27/20 12:13	1	

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	88		70 - 133		02/27/20 12:13	1

**Lab Sample ID: LCS 240-424537/4**  
**Matrix: Water**  
**Analysis Batch: 424537**

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

Analyte	Spike	LCS LCS		Unit	D	%Rec	%Rec.
		Result	Qualifier				
1,4-Dioxane	10.0	11.4		ug/L		114	80 - 135

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	88		70 - 133

**Lab Sample ID: 240-126617-I-2 MS**  
**Matrix: Water**  
**Analysis Batch: 424537**

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

Analyte	Sample	Sample	Spike	MS MS		Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				
1,4-Dioxane	2.0	U	10.0	10.2		ug/L		102	46 - 170

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-126552-1

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

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		70 - 133

**Lab Sample ID: 240-126617-I-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 424537**

**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	10.2		ug/L		102	46 - 170	1	26

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		70 - 133

**Lab Sample ID: MB 240-424746/5**  
**Matrix: Water**  
**Analysis Batch: 424746**

**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			02/28/20 12:24	1

	MB	MB		Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits			
1,2-Dichloroethane-d4 (Surr)	91		70 - 133		02/28/20 12:24	1

**Lab Sample ID: LCS 240-424746/4**  
**Matrix: Water**  
**Analysis Batch: 424746**

**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

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		70 - 133

**Lab Sample ID: 240-126552-2 MS**  
**Matrix: Water**  
**Analysis Batch: 424746**

**Client Sample ID: MW-114-MS\_021820**  
**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	9.86		ug/L		99	46 - 170

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		70 - 133

**Lab Sample ID: 240-126552-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 424746**

**Client Sample ID: MW-114-MSD\_021820**  
**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	9.91		ug/L		99	46 - 170	0	26

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-126552-1

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

Lab Sample ID: 240-126552-2 MSD

Matrix: Water

Analysis Batch: 424746

Client Sample ID: MW-114-MSD\_021820

Prep Type: Total/NA

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
1,2-Dichloroethane-d4 (Surr)	93		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: 240-126552-1

## GC/MS VOA

### Analysis Batch: 424128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126552-1	TRIP BLANK	Total/NA	Water	8260B	
240-126552-2	MW-114_021820	Total/NA	Water	8260B	
240-126552-3	MW-113_021820	Total/NA	Water	8260B	
240-126552-4	MW-26_021820	Total/NA	Water	8260B	
MB 240-424128/7	Method Blank	Total/NA	Water	8260B	
LCS 240-424128/4	Lab Control Sample	Total/NA	Water	8260B	
240-126552-2 MS	MW-114-MS_021820	Total/NA	Water	8260B	
240-126552-2 MSD	MW-114-MSD_021820	Total/NA	Water	8260B	

### Analysis Batch: 424537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126552-3	MW-113_021820	Total/NA	Water	8260B SIM	
240-126552-4	MW-26_021820	Total/NA	Water	8260B SIM	
MB 240-424537/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-424537/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-126617-I-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-126617-I-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

### Analysis Batch: 424746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126552-2	MW-114_021820	Total/NA	Water	8260B SIM	
MB 240-424746/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-424746/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-126552-2 MS	MW-114-MS_021820	Total/NA	Water	8260B SIM	
240-126552-2 MSD	MW-114-MSD_021820	Total/NA	Water	8260B SIM	

# Lab Chronicle

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

Job ID: 240-126552-1

## Client Sample ID: TRIP BLANK

Date Collected: 02/18/20 00:00

Date Received: 02/20/20 08:30

## Lab Sample ID: 240-126552-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424128	02/25/20 16:19	LEE	TAL CAN

## Client Sample ID: MW-114\_021820

Date Collected: 02/18/20 10:27

Date Received: 02/20/20 08:30

## Lab Sample ID: 240-126552-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424128	02/25/20 16:41	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	424746	02/28/20 13:15	SAM	TAL CAN

## Client Sample ID: MW-113\_021820

Date Collected: 02/18/20 11:57

Date Received: 02/20/20 08:30

## Lab Sample ID: 240-126552-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424128	02/25/20 17:46	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	424537	02/27/20 18:43	SAM	TAL CAN

## Client Sample ID: MW-26\_021820

Date Collected: 02/18/20 14:17

Date Received: 02/20/20 08:30

## Lab Sample ID: 240-126552-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424128	02/25/20 18:08	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	424537	02/27/20 19:09	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: 240-126552-1

## 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
N/A	N/A	None on record.	

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

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

Regulatory program:  DW  NPDES  RCRA  Other

Client Contact: Arcadis  
 Company Name: Arcadis  
 Address: 28550 Cabot Drive, Suite 500  
 City/State/Zip: Novi, MI, 48377  
 Phone: 248-994-2240  
 Project Name: Ford LTP On-Site  
 Project Number: 30042006-0401.02  
 WO # 30042006-0401.02

Client Project Manager: Kris Hinkley  
 Site Contact: Julia McClafferty  
 Telephone: 248-994-2240  
 Telephone: 734-644-5131  
 Lab Contact: Mike DelMonico  
 Telephone: 330-497-9396

Analysis Turnaround Time:  
 TAT at different firm below:  
 10 day  
 3 weeks  
 2 weeks  
 1 week  
 2 days  
 1 day

Sample Identification	Sample Date	Sample Time	Matrix						Containers & Preservatives					Filtered Sample (Y/N)	Composite (C/Grab-G)	Analyses						Sample Specific Notes / Special Instructions:				
			Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc	NaOH			Others:	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		
TRIP BLANK																										1 VOA
MW-114-021820	2/18/20	1027	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	3 VOA 8260 3 VOA 8260 SIM
MW-114-MS-021820	2/18/20	1027	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	Run MS
MW-114-MSD-021820	2/18/20	1027	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	MSD
MW-113-021820	2/18/20	1157	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
MW-26-021820	2/18/20	1427	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	



240-126552 Chain of Custody  
 Lab  Archive For \_\_\_\_\_ Months

Possible Hazard Identification  
 Non-Hazard  Irritable  Inflammable  Corrosive  Acute Toxic  Chronic Toxic  Other

Special Instructions/QC Requirements & Comments:  
 Submit all results through Cadena at jtomalia@cadenaco.com, Cadena #E203728  
 Level IV Reporting requested.

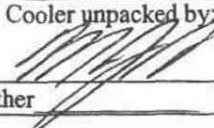
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:	Company:
<i>Julia McClafferty</i>	Arcadis	2/18/20 1455	<i>Julia McClafferty</i>	2/18/20 1455	Arcadis
<i>Julia McClafferty</i>	Arcadis	2/18/20 1615	<i>Novi Cold Storage</i>	2/18/20 1615	Arcadis
<i>Julia McClafferty</i>	Arcadis	2/19/20 1140	<i>Holly Huson</i>	2/19/20 1140	ETA-MI
<i>Julia McClafferty</i>	ETA-MI	2/19/20 1210	<i>Holly Huson</i>	2/19/20 1140	ETA-MI

©2006 TestAmerica Environmental Laboratories, Inc.  
 Environmental & Group Testing Services

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


Login #: 126552

Client Arceid's Site Name \_\_\_\_\_  
 Cooler Received on 2-20-20 Opened on 2-20-20  
 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 # 77 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. 2.3 °C Corrected Cooler Temp. 3.0 °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?  
 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:  
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: \_\_\_\_\_