

## ANALYTICAL REPORT

Eurofins TestAmerica, Canton  
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Laboratory Job ID: 240-119553-1  
Client Project/Site: Ford LTP Livonia MI - E203728

For:  
ARCADIS U.S., Inc.  
28550 Cabot Drive  
Suite 500  
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 Livonia MI - E203728

Job ID: 240-119553-1

## 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 Livonia MI - E203728

Job ID: 240-119553-1

**Job ID: 240-119553-1**

**Laboratory: Eurofins TestAmerica, Canton**

**Narrative**

## CASE NARRATIVE

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

**Project: Ford LTP Livonia MI - E203728**

**Report Number: 240-119553-1**

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 9/27/2019 8:40 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 MW-4\_092519 (240-119553-1), MW-2\_092519 (240-119553-2), MW-3\_092519 (240-119553-3) and TRIP BLANK (240-119553-4) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 10/08/2019 and 10/09/2019.

Samples MW-4\_092519 (240-119553-1)[1666.67X] and MW-2\_092519 (240-119553-2)[200X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Method(s) 8260B: There was an MS/MSD analyzed in batch 240-404847 but could not be reported because the associated sample needed reanalyzed in a different batch.

MW-4\_092519 (240-119553-1)

No additional 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 Livonia MI - E203728

Job ID: 240-119553-1

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## Job ID: 240-119553-1 (Continued)

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Laboratory: Eurofins TestAmerica, Canton (Continued)

### VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-4\_092519 (240-119553-1), MW-2\_092519 (240-119553-2) and MW-3\_092519 (240-119553-3) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 10/03/2019.

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 Livonia MI - E203728

Job ID: 240-119553-1

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 Livonia MI - E203728

Job ID: 240-119553-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-119553-1	MW-4_092519	Water	09/25/19 10:04	09/27/19 08:40	
240-119553-2	MW-2_092519	Water	09/25/19 13:54	09/27/19 08:40	
240-119553-3	MW-3_092519	Water	09/25/19 15:10	09/27/19 08:40	
240-119553-4	TRIP BLANK	Water	09/25/19 00:00	09/27/19 08:40	

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- 10
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- 12
- 13
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# Detection Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119553-1

## Client Sample ID: MW-4\_092519

## Lab Sample ID: 240-119553-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.8	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	18000		1700	270	ug/L	1666.67		8260B	Total/NA
trans-1,2-Dichloroethene	770	J	1700	320	ug/L	1666.67		8260B	Total/NA
Trichloroethene	35000		1700	170	ug/L	1666.67		8260B	Total/NA
Vinyl chloride	670	J	1700	330	ug/L	1666.67		8260B	Total/NA

## Client Sample ID: MW-2\_092519

## Lab Sample ID: 240-119553-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.9		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	3800		200	32	ug/L	200		8260B	Total/NA
trans-1,2-Dichloroethene	840		200	38	ug/L	200		8260B	Total/NA
Trichloroethene	27	J	200	20	ug/L	200		8260B	Total/NA
Vinyl chloride	200		200	40	ug/L	200		8260B	Total/NA

## Client Sample ID: MW-3\_092519

## Lab Sample ID: 240-119553-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.5	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.25	J	1.0	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: TRIP BLANK

## Lab Sample ID: 240-119553-4

No Detections.

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 Livonia MI - E203728

Job ID: 240-119553-1

**Client Sample ID: MW-4\_092519**

**Lab Sample ID: 240-119553-1**

Date Collected: 09/25/19 10:04

Matrix: Water

Date Received: 09/27/19 08:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.8	J	2.0	0.86	ug/L			10/03/19 16:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	67		63 - 125					10/03/19 16:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1700	U	1700	320	ug/L			10/09/19 18:30	1666.67
cis-1,2-Dichloroethene	18000		1700	270	ug/L			10/09/19 18:30	1666.67
Tetrachloroethene	1700	U	1700	250	ug/L			10/09/19 18:30	1666.67
trans-1,2-Dichloroethene	770	J	1700	320	ug/L			10/09/19 18:30	1666.67
Trichloroethene	35000		1700	170	ug/L			10/09/19 18:30	1666.67
Vinyl chloride	670	J	1700	330	ug/L			10/09/19 18:30	1666.67
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	70		59 - 120					10/09/19 18:30	1666.67
Dibromofluoromethane (Surr)	110		75 - 128					10/09/19 18:30	1666.67
1,2-Dichloroethane-d4 (Surr)	93		70 - 121					10/09/19 18:30	1666.67
Toluene-d8 (Surr)	92		70 - 123					10/09/19 18:30	1666.67

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119553-1

**Client Sample ID: MW-2\_092519**

**Lab Sample ID: 240-119553-2**

Date Collected: 09/25/19 13:54

Matrix: Water

Date Received: 09/27/19 08:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.9		2.0	0.86	ug/L			10/03/19 16:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	72		63 - 125					10/03/19 16:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	200	U	200	38	ug/L			10/08/19 23:52	200
cis-1,2-Dichloroethene	3800		200	32	ug/L			10/08/19 23:52	200
Tetrachloroethene	200	U	200	30	ug/L			10/08/19 23:52	200
trans-1,2-Dichloroethene	840		200	38	ug/L			10/08/19 23:52	200
Trichloroethene	27	J	200	20	ug/L			10/08/19 23:52	200
Vinyl chloride	200		200	40	ug/L			10/08/19 23:52	200
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		59 - 120					10/08/19 23:52	200
Dibromofluoromethane (Surr)	113		75 - 128					10/08/19 23:52	200
1,2-Dichloroethane-d4 (Surr)	96		70 - 121					10/08/19 23:52	200
Toluene-d8 (Surr)	88		70 - 123					10/08/19 23:52	200

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119553-1

**Client Sample ID: MW-3\_092519**

**Lab Sample ID: 240-119553-3**

Date Collected: 09/25/19 15:10

Matrix: Water

Date Received: 09/27/19 08:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.5	J	2.0	0.86	ug/L			10/03/19 17:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	71		63 - 125					10/03/19 17:13	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			10/08/19 19:06	1
cis-1,2-Dichloroethene	0.25	J	1.0	0.16	ug/L			10/08/19 19:06	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/08/19 19:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/08/19 19:06	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/08/19 19:06	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/08/19 19:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		59 - 120					10/08/19 19:06	1
Dibromofluoromethane (Surr)	116		75 - 128					10/08/19 19:06	1
1,2-Dichloroethane-d4 (Surr)	96		70 - 121					10/08/19 19:06	1
Toluene-d8 (Surr)	95		70 - 123					10/08/19 19:06	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119553-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-119553-4**

**Date Collected: 09/25/19 00:00**

**Matrix: Water**

**Date Received: 09/27/19 08:40**

**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			10/08/19 19:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/08/19 19:30	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/08/19 19:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/08/19 19:30	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/08/19 19:30	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/08/19 19:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		59 - 120		10/08/19 19:30	1
Dibromofluoromethane (Surr)	117		75 - 128		10/08/19 19:30	1
1,2-Dichloroethane-d4 (Surr)	99		70 - 121		10/08/19 19:30	1
Toluene-d8 (Surr)	92		70 - 123		10/08/19 19:30	1

# Surrogate Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119553-1

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	DBFM	DCA	TOL
		(59-120)	(75-128)	(70-121)	(70-123)
240-119553-1	MW-4_092519	70	110	93	92
240-119553-2	MW-2_092519	74	113	96	88
240-119553-3	MW-3_092519	77	116	96	95
240-119553-4	TRIP BLANK	75	117	99	92
240-119697-D-6 MS	Matrix Spike	103	101	83	101
240-119697-F-6 MSD	Matrix Spike Duplicate	97	97	80	96
LCS 240-404671/4	Lab Control Sample	95	98	86	101
LCS 240-404847/4	Lab Control Sample	95	99	82	99
MB 240-404671/7	Method Blank	76	110	90	93
MB 240-404847/7	Method Blank	77	113	93	93

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

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

TOL = Toluene-d8 (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
		(63-125)
240-119553-1	MW-4_092519	67
240-119553-2	MW-2_092519	72
240-119553-3	MW-3_092519	71
240-119556-B-5 MS	Matrix Spike	72
240-119556-B-5 MSD	Matrix Spike Duplicate	75
LCS 240-403886/4	Lab Control Sample	74
MB 240-403886/5	Method Blank	75

#### Surrogate Legend

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

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119553-1

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

**Lab Sample ID: MB 240-404671/7**  
**Matrix: Water**  
**Analysis Batch: 404671**

**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			10/08/19 16:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/08/19 16:19	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/08/19 16:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/08/19 16:19	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/08/19 16:19	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/08/19 16:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	76		59 - 120		10/08/19 16:19	1
Dibromofluoromethane (Surr)	110		75 - 128		10/08/19 16:19	1
1,2-Dichloroethane-d4 (Surr)	90		70 - 121		10/08/19 16:19	1
Toluene-d8 (Surr)	93		70 - 123		10/08/19 16:19	1

**Lab Sample ID: LCS 240-404671/4**  
**Matrix: Water**  
**Analysis Batch: 404671**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	10.0	9.90		ug/L		99	69 - 134
1,1,1,2,2-Tetrachloroethane	10.0	9.20		ug/L		92	65 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	11.7		ug/L		117	50 - 156
1,1,2-Trichloroethane	10.0	9.87		ug/L		99	78 - 133
1,1-Dichloroethane	10.0	9.21		ug/L		92	75 - 133
1,1-Dichloroethene	10.0	9.72		ug/L		97	65 - 139
1,2,4-Trichlorobenzene	10.0	9.38		ug/L		94	42 - 133
1,2,4-Trimethylbenzene	10.0	8.79		ug/L		88	74 - 120
1,2-Dibromo-3-Chloropropane	10.0	10.2		ug/L		102	46 - 132
1,2-Dibromoethane	10.0	10.1		ug/L		101	77 - 123
1,2-Dichlorobenzene	10.0	9.66		ug/L		97	78 - 120
1,2-Dichloroethane	10.0	8.74		ug/L		87	71 - 135
1,2-Dichloropropane	10.0	9.76		ug/L		98	78 - 133
1,3,5-Trimethylbenzene	10.0	8.80		ug/L		88	75 - 121
1,3-Dichlorobenzene	10.0	9.73		ug/L		97	78 - 120
1,4-Dichlorobenzene	10.0	9.47		ug/L		95	78 - 120
2-Butanone (MEK)	20.0	19.0		ug/L		95	39 - 163
2-Hexanone	20.0	17.1		ug/L		86	43 - 148
4-Methyl-2-pentanone (MIBK)	20.0	20.0		ug/L		100	49 - 143
Acetone	20.0	17.7		ug/L		88	21 - 162
Benzene	10.0	9.92		ug/L		99	80 - 123
Bromodichloromethane	10.0	9.99		ug/L		100	77 - 125
Bromoform	10.0	11.3		ug/L		113	49 - 141
Bromomethane	10.0	6.05		ug/L		61	41 - 175
Carbon disulfide	10.0	10.0		ug/L		100	60 - 138
Carbon tetrachloride	10.0	10.9		ug/L		109	63 - 140
Chlorobenzene	10.0	10.2		ug/L		102	80 - 121
Chloroethane	10.0	5.18		ug/L		52	33 - 173
Chloroform	10.0	9.13		ug/L		91	79 - 127

Eurofins TestAmerica, Canton

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119553-1

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

**Lab Sample ID: LCS 240-404671/4**  
**Matrix: Water**  
**Analysis Batch: 404671**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	10.0	6.10		ug/L		61	54 - 143
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	76 - 128
cis-1,3-Dichloropropene	10.0	10.4		ug/L		104	64 - 132
Cyclohexane	10.0	9.76		ug/L		98	58 - 145
Dibromochloromethane	10.0	10.2		ug/L		102	70 - 132
Dichlorodifluoromethane	10.0	6.43		ug/L		64	29 - 148
Diethyl ether	10.0	9.50		ug/L		95	70 - 146
Ethylbenzene	10.0	10.4		ug/L		104	80 - 120
Isopropylbenzene	10.0	10.4		ug/L		104	74 - 120
Methyl acetate	20.0	17.4		ug/L		87	52 - 145
Methyl tert-butyl ether	10.0	9.28		ug/L		93	51 - 133
Methylcyclohexane	10.0	9.94		ug/L		99	60 - 125
Methylene Chloride	10.0	10.9		ug/L		109	70 - 134
Styrene	10.0	10.6		ug/L		106	79 - 120
Tetrachloroethene	10.0	10.4		ug/L		104	74 - 130
Toluene	10.0	9.95		ug/L		100	78 - 129
trans-1,2-Dichloroethene	10.0	10.9		ug/L		109	78 - 133
trans-1,3-Dichloropropene	10.0	8.64		ug/L		86	55 - 128
Trichloroethene	10.0	11.2		ug/L		112	76 - 125
Trichlorofluoromethane	10.0	8.31		ug/L		83	51 - 164
Vinyl chloride	10.0	6.13		ug/L		61	58 - 143
Xylenes, Total	20.0	21.4		ug/L		107	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		59 - 120
Dibromofluoromethane (Surr)	98		75 - 128
1,2-Dichloroethane-d4 (Surr)	86		70 - 121
Toluene-d8 (Surr)	101		70 - 123

**Lab Sample ID: 240-119697-D-6 MS**  
**Matrix: Water**  
**Analysis Batch: 404671**

**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
1,1,1-Trichloroethane	1.0	U	10.0	9.81		ug/L		98	51 - 138
1,1,1,2-Tetrachloroethane	1.0	U	10.0	9.22		ug/L		92	60 - 137
1,1,2-Trichloroethane	1.0	U	10.0	10.4		ug/L		104	76 - 132
1,1-Dichloroethane	1.0	U	10.0	9.07		ug/L		91	63 - 136
1,1-Dichloroethene	0.65	J	10.0	10.7		ug/L		100	53 - 140
1,2,4-Trichlorobenzene	1.0	U	10.0	8.55		ug/L		86	30 - 126
1,2,4-Trimethylbenzene	1.0	U	10.0	8.24		ug/L		82	62 - 120
1,2-Dibromoethane	1.0	U	10.0	10.5		ug/L		105	71 - 123
1,2-Dichlorobenzene	1.0	U	10.0	9.39		ug/L		94	64 - 120
1,2-Dichloroethane	1.0	U	10.0	8.76		ug/L		88	65 - 135
1,2-Dichloropropane	1.0	U	10.0	9.21		ug/L		92	70 - 132
1,3,5-Trimethylbenzene	1.0	U	10.0	8.06		ug/L		81	64 - 120
1,3-Dichlorobenzene	1.0	U	10.0	9.28		ug/L		93	62 - 120
1,4-Dichlorobenzene	1.0	U	10.0	9.14		ug/L		91	63 - 120

Eurofins TestAmerica, Canton

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119553-1

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

**Lab Sample ID: 240-119697-D-6 MS**

**Matrix: Water**

**Analysis Batch: 404671**

**Client Sample ID: Matrix Spike**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Benzene	1.0	U	10.0	9.45		ug/L		94	71 - 122	
Bromodichloromethane	1.0	U	10.0	9.50		ug/L		95	64 - 125	
Bromoform	1.0	U	10.0	12.3		ug/L		123	44 - 129	
Bromomethane	1.0	U	10.0	6.07		ug/L		61	19 - 187	
Carbon tetrachloride	1.0	U	10.0	10.8		ug/L		108	41 - 143	
Chlorobenzene	1.0	U	10.0	10.2		ug/L		102	70 - 123	
Chloroethane	1.0	U	10.0	6.12		ug/L		61	11 - 189	
Chloroform	1.0	U	10.0	9.08		ug/L		91	68 - 130	
Chloromethane	1.0	U	10.0	6.65		ug/L		66	31 - 154	
cis-1,2-Dichloroethene	1.3		10.0	11.0		ug/L		97	64 - 130	
cis-1,3-Dichloropropene	1.0	U	10.0	9.03		ug/L		90	48 - 127	
Dibromochloromethane	1.0	U	10.0	10.7		ug/L		107	60 - 129	
Dichlorodifluoromethane	1.0	U	10.0	5.24		ug/L		52	28 - 136	
Ethylbenzene	1.0	U	10.0	10.8		ug/L		108	66 - 120	
Isopropylbenzene	1.0	U	10.0	10.2		ug/L		102	59 - 120	
Methylene Chloride	5.0	U	10.0	10.3		ug/L		103	61 - 130	
Styrene	1.0	U	10.0	10.9		ug/L		109	68 - 120	
Tetrachloroethene	0.20	J	10.0	11.0		ug/L		108	51 - 136	
Toluene	1.0	U	10.0	10.4		ug/L		104	62 - 132	
trans-1,2-Dichloroethene	1.0	U	10.0	10.8		ug/L		108	68 - 133	
trans-1,3-Dichloropropene	1.0	U	10.0	8.93		ug/L		89	40 - 125	
Trichloroethene	9.9		10.0	19.5		ug/L		96	55 - 131	
Trichlorofluoromethane	7.3		10.0	14.0		ug/L		67	37 - 174	
Vinyl chloride	0.25	J	10.0	6.36		ug/L		61	43 - 154	
Xylenes, Total	2.0	U	20.0	21.3		ug/L		107	67 - 120	

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	103		59 - 120
Dibromofluoromethane (Surr)	101		75 - 128
1,2-Dichloroethane-d4 (Surr)	83		70 - 121
Toluene-d8 (Surr)	101		70 - 123

**Lab Sample ID: 240-119697-F-6 MSD**

**Matrix: Water**

**Analysis Batch: 404671**

**Client Sample ID: Matrix Spike Duplicate**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier							
1,1,1-Trichloroethane	1.0	U	10.0	10.3		ug/L		103	51 - 138	5	27	
1,1,2,2-Tetrachloroethane	1.0	U	10.0	8.72		ug/L		87	60 - 137	6	31	
1,1,2-Trichloroethane	1.0	U	10.0	10.2		ug/L		102	76 - 132	2	25	
1,1-Dichloroethane	1.0	U	10.0	9.18		ug/L		92	63 - 136	1	23	
1,1-Dichloroethene	0.65	J	10.0	10.5		ug/L		98	53 - 140	2	35	
1,2,4-Trichlorobenzene	1.0	U	10.0	8.55		ug/L		85	30 - 126	0	35	
1,2,4-Trimethylbenzene	1.0	U	10.0	8.15		ug/L		82	62 - 120	1	27	
1,2-Dibromoethane	1.0	U	10.0	10.2		ug/L		102	71 - 123	4	27	
1,2-Dichlorobenzene	1.0	U	10.0	8.91		ug/L		89	64 - 120	5	30	
1,2-Dichloroethane	1.0	U	10.0	8.83		ug/L		88	65 - 135	1	24	
1,2-Dichloropropane	1.0	U	10.0	9.20		ug/L		92	70 - 132	0	26	

Eurofins TestAmerica, Canton



# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119553-1

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

**Lab Sample ID: 240-119697-F-6 MSD**

**Client Sample ID: Matrix Spike Duplicate**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 404671**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier		Result	Qualifier				Limits		
1,3,5-Trimethylbenzene	1.0	U	10.0	8.21		ug/L		82	64 - 120	2	23
1,3-Dichlorobenzene	1.0	U	10.0	9.19		ug/L		92	62 - 120	1	31
1,4-Dichlorobenzene	1.0	U	10.0	9.04		ug/L		90	63 - 120	1	28
Benzene	1.0	U	10.0	9.57		ug/L		96	71 - 122	1	22
Bromodichloromethane	1.0	U	10.0	9.78		ug/L		98	64 - 125	3	27
Bromoform	1.0	U	10.0	11.5		ug/L		115	44 - 129	7	28
Bromomethane	1.0	U	10.0	5.91		ug/L		59	19 - 187	3	35
Carbon tetrachloride	1.0	U	10.0	10.7		ug/L		107	41 - 143	1	30
Chlorobenzene	1.0	U	10.0	9.89		ug/L		99	70 - 123	3	23
Chloroethane	1.0	U	10.0	5.69		ug/L		57	11 - 189	7	35
Chloroform	1.0	U	10.0	9.12		ug/L		91	68 - 130	0	23
Chloromethane	1.0	U	10.0	6.56		ug/L		66	31 - 154	1	35
cis-1,2-Dichloroethene	1.3		10.0	11.0		ug/L		98	64 - 130	0	21
cis-1,3-Dichloropropene	1.0	U	10.0	9.18		ug/L		92	48 - 127	2	30
Dibromochloromethane	1.0	U	10.0	10.4		ug/L		104	60 - 129	3	26
Dichlorodifluoromethane	1.0	U	10.0	5.88		ug/L		59	28 - 136	11	35
Ethylbenzene	1.0	U	10.0	10.5		ug/L		105	66 - 120	3	24
Isopropylbenzene	1.0	U	10.0	9.84		ug/L		98	59 - 120	4	31
Methylene Chloride	5.0	U	10.0	9.88		ug/L		99	61 - 130	4	29
Styrene	1.0	U	10.0	10.3		ug/L		103	68 - 120	6	26
Tetrachloroethene	0.20	J	10.0	10.6		ug/L		104	51 - 136	4	23
Toluene	1.0	U	10.0	9.99		ug/L		100	62 - 132	4	23
trans-1,2-Dichloroethene	1.0	U	10.0	10.6		ug/L		106	68 - 133	2	24
trans-1,3-Dichloropropene	1.0	U	10.0	8.73		ug/L		87	40 - 125	2	27
Trichloroethene	9.9		10.0	19.5		ug/L		96	55 - 131	0	23
Trichlorofluoromethane	7.3		10.0	14.3		ug/L		70	37 - 174	2	35
Vinyl chloride	0.25	J	10.0	6.18		ug/L		59	43 - 154	3	29
Xylenes, Total	2.0	U	20.0	20.9		ug/L		105	67 - 120	2	25

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	97		59 - 120
Dibromofluoromethane (Surr)	97		75 - 128
1,2-Dichloroethane-d4 (Surr)	80		70 - 121
Toluene-d8 (Surr)	96		70 - 123

**Lab Sample ID: MB 240-404847/7**

**Client Sample ID: Method Blank**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 404847**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/09/19 13:44	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/09/19 13:44	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/09/19 13:44	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/09/19 13:44	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/09/19 13:44	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/09/19 13:44	1

Eurofins TestAmerica, Canton

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119553-1

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

**Lab Sample ID: MB 240-404847/7**  
**Matrix: Water**  
**Analysis Batch: 404847**

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

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	77		59 - 120		10/09/19 13:44	1
Dibromofluoromethane (Surr)	113		75 - 128		10/09/19 13:44	1
1,2-Dichloroethane-d4 (Surr)	93		70 - 121		10/09/19 13:44	1
Toluene-d8 (Surr)	93		70 - 123		10/09/19 13:44	1

**Lab Sample ID: LCS 240-404847/4**  
**Matrix: Water**  
**Analysis Batch: 404847**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
1,1,1-Trichloroethane	10.0	10.1		ug/L		101	69 - 134
1,1,2,2-Tetrachloroethane	10.0	9.00		ug/L		90	65 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	12.0		ug/L		120	50 - 156
1,1,2-Trichloroethane	10.0	10.2		ug/L		102	78 - 133
1,1-Dichloroethane	10.0	9.57		ug/L		96	75 - 133
1,1-Dichloroethene	10.0	10.4		ug/L		104	65 - 139
1,2,4-Trichlorobenzene	10.0	8.91		ug/L		89	42 - 133
1,2,4-Trimethylbenzene	10.0	8.53		ug/L		85	74 - 120
1,2-Dibromo-3-Chloropropane	10.0	9.40		ug/L		94	46 - 132
1,2-Dibromoethane	10.0	10.1		ug/L		101	77 - 123
1,2-Dichlorobenzene	10.0	9.56		ug/L		96	78 - 120
1,2-Dichloroethane	10.0	8.92		ug/L		89	71 - 135
1,2-Dichloropropane	10.0	9.77		ug/L		98	78 - 133
1,3,5-Trimethylbenzene	10.0	8.68		ug/L		87	75 - 121
1,3-Dichlorobenzene	10.0	9.58		ug/L		96	78 - 120
1,4-Dichlorobenzene	10.0	9.28		ug/L		93	78 - 120
2-Butanone (MEK)	20.0	19.7		ug/L		99	39 - 163
2-Hexanone	20.0	18.1		ug/L		91	43 - 148
4-Methyl-2-pentanone (MIBK)	20.0	20.1		ug/L		101	49 - 143
Acetone	20.0	17.0		ug/L		85	21 - 162
Benzene	10.0	9.99		ug/L		100	80 - 123
Bromodichloromethane	10.0	9.95		ug/L		100	77 - 125
Bromoform	10.0	10.9		ug/L		109	49 - 141
Bromomethane	10.0	6.13		ug/L		61	41 - 175
Carbon disulfide	10.0	10.5		ug/L		105	60 - 138
Carbon tetrachloride	10.0	11.3		ug/L		113	63 - 140
Chlorobenzene	10.0	10.3		ug/L		103	80 - 121
Chloroethane	10.0	5.60		ug/L		56	33 - 173
Chloroform	10.0	9.65		ug/L		97	79 - 127
Chloromethane	10.0	6.43		ug/L		64	54 - 143
cis-1,2-Dichloroethene	10.0	10.8		ug/L		108	76 - 128
cis-1,3-Dichloropropene	10.0	10.3		ug/L		103	64 - 132
Cyclohexane	10.0	9.82		ug/L		98	58 - 145
Dibromochloromethane	10.0	10.9		ug/L		109	70 - 132
Dichlorodifluoromethane	10.0	6.18		ug/L		62	29 - 148
Diethyl ether	10.0	9.55		ug/L		95	70 - 146
Ethylbenzene	10.0	11.0		ug/L		110	80 - 120
Isopropylbenzene	10.0	10.3		ug/L		103	74 - 120

Eurofins TestAmerica, Canton

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119553-1

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

Lab Sample ID: LCS 240-404847/4  
Matrix: Water  
Analysis Batch: 404847

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl acetate	20.0	17.7		ug/L		88	52 - 145
Methyl tert-butyl ether	10.0	9.61		ug/L		96	51 - 133
Methylcyclohexane	10.0	10.3		ug/L		103	60 - 125
Methylene Chloride	10.0	10.7		ug/L		107	70 - 134
Styrene	10.0	10.8		ug/L		108	79 - 120
Tetrachloroethene	10.0	10.4		ug/L		104	74 - 130
Toluene	10.0	10.2		ug/L		102	78 - 129
trans-1,2-Dichloroethene	10.0	11.0		ug/L		110	78 - 133
trans-1,3-Dichloropropene	10.0	8.99		ug/L		90	55 - 128
Trichloroethene	10.0	10.9		ug/L		109	76 - 125
Trichlorofluoromethane	10.0	8.32		ug/L		83	51 - 164
Vinyl chloride	10.0	6.32		ug/L		63	58 - 143
Xylenes, Total	20.0	21.4		ug/L		107	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		59 - 120
Dibromofluoromethane (Surr)	99		75 - 128
1,2-Dichloroethane-d4 (Surr)	82		70 - 121
Toluene-d8 (Surr)	99		70 - 123

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

Lab Sample ID: MB 240-403886/5  
Matrix: Water  
Analysis Batch: 403886

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			10/03/19 11:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	75		63 - 125		10/03/19 11:20	1

Lab Sample ID: LCS 240-403886/4  
Matrix: Water  
Analysis Batch: 403886

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	11.6		ug/L		116	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	74		63 - 125

Lab Sample ID: 240-119556-B-5 MS  
Matrix: Water  
Analysis Batch: 403886

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	11.3		ug/L		113	52 - 129

Eurofins TestAmerica, Canton

# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119553-1

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

**Lab Sample ID: 240-119556-B-5 MS**  
**Matrix: Water**  
**Analysis Batch: 403886**

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

	MS	MS	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	72		63 - 125

**Lab Sample ID: 240-119556-B-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 403886**

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

<i>Analyte</i>	Sample	Sample	Spike	MSD	MSD	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	%Rec.	<i>RPD</i>	<i>RPD</i>	<i>Limit</i>
	Result	Qualifier	Added	Result	Qualifier				Limits			
1,4-Dioxane	2.0	U	10.0	11.9		ug/L		119	52 - 129	5		13
<i>Surrogate</i>	MSD	MSD										
1,2-Dichloroethane-d4 (Surr)	75											63 - 125



# QC Association Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119553-1

## GC/MS VOA

### Analysis Batch: 403886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119553-1	MW-4_092519	Total/NA	Water	8260B SIM	
240-119553-2	MW-2_092519	Total/NA	Water	8260B SIM	
240-119553-3	MW-3_092519	Total/NA	Water	8260B SIM	
MB 240-403886/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-403886/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-119556-B-5 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-119556-B-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

### Analysis Batch: 404671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119553-2	MW-2_092519	Total/NA	Water	8260B	
240-119553-3	MW-3_092519	Total/NA	Water	8260B	
240-119553-4	TRIP BLANK	Total/NA	Water	8260B	
MB 240-404671/7	Method Blank	Total/NA	Water	8260B	
LCS 240-404671/4	Lab Control Sample	Total/NA	Water	8260B	
240-119697-D-6 MS	Matrix Spike	Total/NA	Water	8260B	
240-119697-F-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

### Analysis Batch: 404847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119553-1	MW-4_092519	Total/NA	Water	8260B	
MB 240-404847/7	Method Blank	Total/NA	Water	8260B	
LCS 240-404847/4	Lab Control Sample	Total/NA	Water	8260B	

# Lab Chronicle

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119553-1

**Client Sample ID: MW-4\_092519**

**Lab Sample ID: 240-119553-1**

**Date Collected: 09/25/19 10:04**

**Matrix: Water**

**Date Received: 09/27/19 08:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1666.67	404847	10/09/19 18:30	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	403886	10/03/19 16:23	SAM	TAL CAN

**Client Sample ID: MW-2\_092519**

**Lab Sample ID: 240-119553-2**

**Date Collected: 09/25/19 13:54**

**Matrix: Water**

**Date Received: 09/27/19 08:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	404671	10/08/19 23:52	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	403886	10/03/19 16:48	SAM	TAL CAN

**Client Sample ID: MW-3\_092519**

**Lab Sample ID: 240-119553-3**

**Date Collected: 09/25/19 15:10**

**Matrix: Water**

**Date Received: 09/27/19 08:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	404671	10/08/19 19:06	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	403886	10/03/19 17:13	SAM	TAL CAN

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-119553-4**

**Date Collected: 09/25/19 00:00**

**Matrix: Water**

**Date Received: 09/27/19 08:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	404671	10/08/19 19:30	LRW	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 Livonia MI - E203728

Job ID: 240-119553-1

## 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	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-19
Minnesota	NELAP	OH00048	12-31-19
Minnesota (Petrofund)	State Program	3506	07-31-21
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	01-12-20
West Virginia DEP	State	210	12-31-19

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

Regulatory program:  DW  NPDES  RCRA  Other

Client Contact: Arcadis  
Address: 28550 Cabot Drive, Suite 500  
City/State/Zip: Novi, MI, 48377  
Phone: 248-994-2240

Client Project Manager: Kris Hinskey  
Telephone: 248-994-2240  
Email: kristoffer.hinskey@arcadis.com

Site Contact: Rachel Bielak  
Telephone: 244-946-6331

TestAmerica Laboratories, Inc.  
COC No: \_\_\_\_\_ of \_\_\_\_\_ COCs

For lab use only  
Walk-in client  
Lab sampling  
Job/SDG No: \_\_\_\_\_

Sample Identification

Sample Date	Sample Time	Matrix				Containers & Preservatives							Filtered Sample (Y/N)	Composite C/Crab-C	VOCs 8260B	1,4-Dioxane 8260B SIM	Analyses	Sample Specific Notes / Special Instructions	
		Air	Aqueous	Sediment	Soil	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Impres							Other:
MW-4-092519	1004	X																	
MW-2-092519	1354	X																	
MW-3-092519	1510	X																	
Trip Blank																			

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

Method of Shipment/Carrier:  
Shipping/Tracking No:

Possible Hazard Identification  
 Non-Hazard  Flammable  Irritant  Poison B  Unknown

Special Instructions/QC Requirements & Comments:  
Submit all results through Cadena at jim.tomalia@cadena.com. Cadena #E203728  
Level IV Reporting.

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



Relinquished by: *[Signature]* Date/Time: 9/25/19/1600 Company: Arcadis Received by: *[Signature]* Date/Time: 9/25/19/1600 Company: Arcadis

Relinquished by: *[Signature]* Date/Time: 9/25/19/1900 Company: Arcadis Received by: *[Signature]* Date/Time: 9/25/19/1900 Company: Arcadis

Relinquished by: *[Signature]* Date/Time: 9/26/19 13:30 Company: Arcadis Received by: *[Signature]* Date/Time: 9/26/19 13:30 Company: ETAL-MI

ETAL-MI 9/26/19 1445  
ETAL-MI 9-27-19 5840





Client Accadis Site Name \_\_\_\_\_ Cooler unpacked by: \_\_\_\_\_  
 Cooler Received on 9-27-19 Opened on 9-27-19

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

**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. 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 NA  
 -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# HC991818  
 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: GS

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

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