

## ANALYTICAL REPORT

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Laboratory Job ID: 240-119216-1

Client Project/Site: Ford LTP Livonia MI - E203728  
Revision: 1

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: 240-119216-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
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: 240-119216-1

**Job ID: 240-119216-1**

**Laboratory: Eurofins TestAmerica, Canton**

**Narrative**

## CASE NARRATIVE

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

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

**Report Number: 240-119216-1**

### Revision

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.

Report revised on 10/22/2019 to report the site specific VOC list.

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 9/20/2019 9:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.9° C.

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

Samples MW-65\_091819 (240-119216-1) and TRIP BLANK (240-119216-2) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 09/30/2019 and 10/01/2019.

Methyl acetate failed the recovery criteria high for LCS 240-403151/4. Refer to the QC report for details.

The laboratory control sample (LCS) for 403151 recovered outside control limits for the following analyte: Methyl Acetate. This analyte was biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported: TRIP BLANK (240-119216-2) and (LCS 240-403151/4).

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: 240-119216-1

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## Job ID: 240-119216-1 (Continued)

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Laboratory: Eurofins TestAmerica, Canton (Continued)

### VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Sample MW-65\_091819 (240-119216-1) was analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The sample was analyzed on 09/26/2019.

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: 240-119216-1

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: 240-119216-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-119216-1	MW-65_091819	Water	09/18/19 17:10	09/20/19 09:25	
240-119216-2	TRIP BLANK	Water	09/18/19 00:00	09/20/19 09:25	

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# Detection Summary

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

Job ID: 240-119216-1

**Client Sample ID: MW-65\_091819**

**Lab Sample ID: 240-119216-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.2		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	4.1		1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	25		1.0	0.20	ug/L	1		8260B	Total/NA

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-119216-2**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton





# Client Sample Results

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

Job ID: 240-119216-1

**Client Sample ID: MW-65\_091819**

**Lab Sample ID: 240-119216-1**

Date Collected: 09/18/19 17:10

Matrix: Water

Date Received: 09/20/19 09:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.2		2.0	0.86	ug/L			09/26/19 22:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	69		63 - 125					09/26/19 22:26	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			10/01/19 11:35	1
cis-1,2-Dichloroethene	4.1		1.0	0.16	ug/L			10/01/19 11:35	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/01/19 11:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/01/19 11:35	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/01/19 11:35	1
Vinyl chloride	25		1.0	0.20	ug/L			10/01/19 11:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		59 - 120					10/01/19 11:35	1
Dibromofluoromethane (Surr)	87		75 - 128					10/01/19 11:35	1
1,2-Dichloroethane-d4 (Surr)	116		70 - 121					10/01/19 11:35	1
Toluene-d8 (Surr)	101		70 - 123					10/01/19 11:35	1

# Client Sample Results

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

Job ID: 240-119216-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-119216-2**

**Date Collected: 09/18/19 00:00**

**Matrix: Water**

**Date Received: 09/20/19 09:25**

**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			09/30/19 15:33	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			09/30/19 15:33	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			09/30/19 15:33	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			09/30/19 15:33	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			09/30/19 15:33	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			09/30/19 15:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		59 - 120		09/30/19 15:33	1
Dibromofluoromethane (Surr)	87		75 - 128		09/30/19 15:33	1
1,2-Dichloroethane-d4 (Surr)	119		70 - 121		09/30/19 15:33	1
Toluene-d8 (Surr)	98		70 - 123		09/30/19 15:33	1

# Surrogate Summary

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

Job ID: 240-119216-1

## 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 (59-120)	DBFM (75-128)	DCA (70-121)	TOL (70-123)
240-119216-1	MW-65_091819	103	87	116	101
240-119216-2	TRIP BLANK	98	87	119	98
240-119300-F-6 MSD	Matrix Spike Duplicate	104	89	119	102
240-119300-G-6 MS	Matrix Spike	97	88	109	97
320-54525-D-6 MS	Matrix Spike	104	93	121	106
320-54525-F-6 MSD	Matrix Spike Duplicate	100	92	113	101
LCS 240-403151/4	Lab Control Sample	102	91	118	102
LCS 240-403365/4	Lab Control Sample	99	92	116	98
MB 240-403151/6	Method Blank	101	88	118	104
MB 240-403365/6	Method Blank	94	86	115	94

#### 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)
240-119202-D-1 MS	Matrix Spike	73
240-119202-D-1 MSD	Matrix Spike Duplicate	72
240-119216-1	MW-65_091819	69
LCS 240-402640/4	Lab Control Sample	72
MB 240-402640/5	Method Blank	72

#### 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: 240-119216-1

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

**Lab Sample ID: MB 240-403151/6**  
**Matrix: Water**  
**Analysis Batch: 403151**

**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			09/30/19 10:21	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			09/30/19 10:21	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			09/30/19 10:21	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			09/30/19 10:21	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			09/30/19 10:21	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			09/30/19 10:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		59 - 120		09/30/19 10:21	1
Dibromofluoromethane (Surr)	88		75 - 128		09/30/19 10:21	1
1,2-Dichloroethane-d4 (Surr)	118		70 - 121		09/30/19 10:21	1
Toluene-d8 (Surr)	104		70 - 123		09/30/19 10:21	1

**Lab Sample ID: LCS 240-403151/4**  
**Matrix: Water**  
**Analysis Batch: 403151**

**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	10.0		ug/L		100	69 - 134
1,1,2,2-Tetrachloroethane	10.0	12.7		ug/L		127	65 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	7.81		ug/L		78	50 - 156
1,1,2-Trichloroethane	10.0	10.6		ug/L		106	78 - 133
1,1-Dichloroethane	10.0	10.8		ug/L		108	75 - 133
1,1-Dichloroethene	10.0	9.46		ug/L		95	65 - 139
1,2,4-Trichlorobenzene	10.0	8.23		ug/L		82	42 - 133
1,2,4-Trimethylbenzene	10.0	11.3		ug/L		113	74 - 120
1,2-Dibromo-3-Chloropropane	10.0	8.06		ug/L		81	46 - 132
1,2-Dibromoethane	10.0	9.96		ug/L		100	77 - 123
1,2-Dichlorobenzene	10.0	9.88		ug/L		99	78 - 120
1,2-Dichloroethane	10.0	11.4		ug/L		114	71 - 135
1,2-Dichloropropane	10.0	10.2		ug/L		102	78 - 133
1,3,5-Trimethylbenzene	10.0	11.0		ug/L		110	75 - 121
1,3-Dichlorobenzene	10.0	10.2		ug/L		102	78 - 120
1,4-Dichlorobenzene	10.0	10.0		ug/L		100	78 - 120
2-Butanone (MEK)	20.0	24.8		ug/L		124	39 - 163
2-Hexanone	20.0	23.0		ug/L		115	43 - 148
4-Methyl-2-pentanone (MIBK)	20.0	21.8		ug/L		109	49 - 143
Acetone	20.0	27.7		ug/L		138	21 - 162
Benzene	10.0	9.99		ug/L		100	80 - 123
Bromodichloromethane	10.0	10.0		ug/L		100	77 - 125
Bromoform	10.0	7.58		ug/L		76	49 - 141
Bromomethane	10.0	7.66		ug/L		77	41 - 175
Carbon disulfide	10.0	8.58		ug/L		86	60 - 138
Carbon tetrachloride	10.0	10.0		ug/L		100	63 - 140
Chlorobenzene	10.0	9.79		ug/L		98	80 - 121
Chloroethane	10.0	8.93		ug/L		89	33 - 173
Chloroform	10.0	10.2		ug/L		102	79 - 127

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-119216-1

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

**Lab Sample ID: LCS 240-403151/4**  
**Matrix: Water**  
**Analysis Batch: 403151**

**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	8.18		ug/L		82	54 - 143
cis-1,2-Dichloroethene	10.0	9.76		ug/L		98	76 - 128
cis-1,3-Dichloropropene	10.0	9.37		ug/L		94	64 - 132
Cyclohexane	10.0	11.1		ug/L		111	58 - 145
Dibromochloromethane	10.0	9.17		ug/L		92	70 - 132
Dichlorodifluoromethane	10.0	7.41		ug/L		74	29 - 148
Diethyl ether	10.0	10.7		ug/L		107	70 - 146
Ethylbenzene	10.0	10.4		ug/L		104	80 - 120
Isopropylbenzene	10.0	10.1		ug/L		101	74 - 120
Methyl acetate	20.0	29.4 *		ug/L		147	52 - 145
Methyl tert-butyl ether	10.0	10.2		ug/L		102	51 - 133
Methylcyclohexane	10.0	10.5		ug/L		105	60 - 125
Methylene Chloride	10.0	10.1		ug/L		101	70 - 134
Styrene	10.0	9.54		ug/L		95	79 - 120
Tetrachloroethene	10.0	8.73		ug/L		87	74 - 130
Toluene	10.0	10.5		ug/L		105	78 - 129
trans-1,2-Dichloroethene	10.0	9.60		ug/L		96	78 - 133
trans-1,3-Dichloropropene	10.0	9.99		ug/L		100	55 - 128
Trichloroethene	10.0	8.59		ug/L		86	76 - 125
Trichlorofluoromethane	10.0	8.65		ug/L		86	51 - 164
Vinyl chloride	10.0	7.85		ug/L		79	58 - 143
Xylenes, Total	20.0	19.6		ug/L		98	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		59 - 120
Dibromofluoromethane (Surr)	91		75 - 128
1,2-Dichloroethane-d4 (Surr)	118		70 - 121
Toluene-d8 (Surr)	102		70 - 123

**Lab Sample ID: 320-54525-D-6 MS**  
**Matrix: Water**  
**Analysis Batch: 403151**

**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	9.76		ug/L		98	51 - 138
1,1,1,2-Tetrachloroethane	1.0	U	10.0	11.9		ug/L		119	60 - 137
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	6.71		ug/L		67	31 - 156
1,1,2-Trichloroethane	1.0	U	10.0	9.96		ug/L		100	76 - 132
1,1-Dichloroethane	1.0	U	10.0	10.4		ug/L		104	63 - 136
1,1-Dichloroethene	1.0	U	10.0	8.49		ug/L		85	53 - 140
1,2-Dichloroethane	1.0	U	10.0	11.7		ug/L		117	65 - 135
1,2-Dichloropropane	1.0	U	10.0	10.7		ug/L		107	70 - 132
Benzene	1.0	U	10.0	9.84		ug/L		98	71 - 122
Bromodichloromethane	1.0	U	10.0	10.1		ug/L		101	64 - 125
Bromoform	1.0	U	10.0	7.68		ug/L		77	44 - 129
Bromomethane	1.0	U	10.0	8.21		ug/L		82	19 - 187
Carbon tetrachloride	1.0	U	10.0	8.99		ug/L		90	41 - 143
Chlorobenzene	1.0	U	10.0	9.67		ug/L		97	70 - 123

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-119216-1

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

**Lab Sample ID: 320-54525-D-6 MS**

**Matrix: Water**

**Analysis Batch: 403151**

**Client Sample ID: Matrix Spike**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	
	Result	Qualifier		Added	Result					
Chloroethane	1.0	U	10.0	9.12		ug/L		91	11 - 189	
Chloroform	1.0	U	10.0	10.1		ug/L		101	68 - 130	
Chloromethane	1.0	U	10.0	8.83		ug/L		88	31 - 154	
cis-1,2-Dichloroethene	1.0	U	10.0	9.43		ug/L		94	64 - 130	
cis-1,3-Dichloropropene	1.0	U	10.0	9.15		ug/L		92	48 - 127	
Dibromochloromethane	1.0	U	10.0	8.87		ug/L		89	60 - 129	
Ethylbenzene	1.0	U	10.0	9.70		ug/L		97	66 - 120	
Tetrachloroethene	1.0	U	10.0	8.59		ug/L		86	51 - 136	
Toluene	1.0	U	10.0	10.4		ug/L		104	62 - 132	
trans-1,2-Dichloroethene	1.0	U	10.0	8.99		ug/L		90	68 - 133	
trans-1,3-Dichloropropene	1.0	U	10.0	9.75		ug/L		98	40 - 125	
Trichloroethene	1.0	U	10.0	8.59		ug/L		86	55 - 131	
Vinyl chloride	1.0	U	10.0	8.48		ug/L		85	43 - 154	

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	104		59 - 120
Dibromofluoromethane (Surr)	93		75 - 128
1,2-Dichloroethane-d4 (Surr)	121		70 - 121
Toluene-d8 (Surr)	106		70 - 123

**Lab Sample ID: 320-54525-F-6 MSD**

**Matrix: Water**

**Analysis Batch: 403151**

**Client Sample ID: Matrix Spike Duplicate**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Added	Result						
1,1,1-Trichloroethane	1.0	U	10.0	9.23		ug/L		92	51 - 138	6	27
1,1,2,2-Tetrachloroethane	1.0	U	10.0	11.7		ug/L		117	60 - 137	2	31
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	7.28		ug/L		73	31 - 156	8	35
1,1,2-Trichloroethane	1.0	U	10.0	9.85		ug/L		99	76 - 132	1	25
1,1-Dichloroethane	1.0	U	10.0	9.82		ug/L		98	63 - 136	6	23
1,1-Dichloroethene	1.0	U	10.0	9.15		ug/L		92	53 - 140	8	35
1,2-Dichloroethane	1.0	U	10.0	11.0		ug/L		110	65 - 135	6	24
1,2-Dichloropropane	1.0	U	10.0	10.0		ug/L		100	70 - 132	7	26
Benzene	1.0	U	10.0	9.27		ug/L		93	71 - 122	6	22
Bromodichloromethane	1.0	U	10.0	9.40		ug/L		94	64 - 125	7	27
Bromoform	1.0	U	10.0	7.11		ug/L		71	44 - 129	8	28
Bromomethane	1.0	U	10.0	6.49		ug/L		65	19 - 187	23	35
Carbon tetrachloride	1.0	U	10.0	9.28		ug/L		93	41 - 143	3	30
Chlorobenzene	1.0	U	10.0	9.24		ug/L		92	70 - 123	4	23
Chloroethane	1.0	U	10.0	7.84		ug/L		78	11 - 189	15	35
Chloroform	1.0	U	10.0	9.47		ug/L		95	68 - 130	6	23
Chloromethane	1.0	U	10.0	7.09		ug/L		71	31 - 154	22	35
cis-1,2-Dichloroethene	1.0	U	10.0	8.95		ug/L		89	64 - 130	5	21
cis-1,3-Dichloropropene	1.0	U	10.0	8.53		ug/L		85	48 - 127	7	30
Dibromochloromethane	1.0	U	10.0	8.46		ug/L		85	60 - 129	5	26
Ethylbenzene	1.0	U	10.0	8.99		ug/L		90	66 - 120	8	24
Tetrachloroethene	1.0	U	10.0	8.46		ug/L		85	51 - 136	2	23
Toluene	1.0	U	10.0	9.85		ug/L		99	62 - 132	5	23

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-119216-1

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

**Lab Sample ID: 320-54525-F-6 MSD**

**Client Sample ID: Matrix Spike Duplicate**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 403151**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	1.0	U	10.0	8.89		ug/L		89	68 - 133	1	24
trans-1,3-Dichloropropene	1.0	U	10.0	9.32		ug/L		93	40 - 125	5	27
Trichloroethene	1.0	U	10.0	7.87		ug/L		79	55 - 131	9	23
Vinyl chloride	1.0	U	10.0	7.17		ug/L		72	43 - 154	17	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		59 - 120
Dibromofluoromethane (Surr)	92		75 - 128
1,2-Dichloroethane-d4 (Surr)	113		70 - 121
Toluene-d8 (Surr)	101		70 - 123

**Lab Sample ID: MB 240-403365/6**

**Client Sample ID: Method Blank**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 403365**

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			10/01/19 10:51	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/01/19 10:51	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/01/19 10:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/01/19 10:51	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/01/19 10:51	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/01/19 10:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		59 - 120		10/01/19 10:51	1
Dibromofluoromethane (Surr)	86		75 - 128		10/01/19 10:51	1
1,2-Dichloroethane-d4 (Surr)	115		70 - 121		10/01/19 10:51	1
Toluene-d8 (Surr)	94		70 - 123		10/01/19 10:51	1

**Lab Sample ID: LCS 240-403365/4**

**Client Sample ID: Lab Control Sample**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 403365**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	10.0	10.2		ug/L		102	69 - 134
1,1,2,2-Tetrachloroethane	10.0	12.4		ug/L		124	65 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	8.44		ug/L		84	50 - 156
1,1,2-Trichloroethane	10.0	10.3		ug/L		103	78 - 133
1,1-Dichloroethane	10.0	10.4		ug/L		104	75 - 133
1,1-Dichloroethene	10.0	8.72		ug/L		87	65 - 139
1,2,4-Trichlorobenzene	10.0	8.68		ug/L		87	42 - 133
1,2,4-Trimethylbenzene	10.0	11.8		ug/L		118	74 - 120
1,2-Dibromo-3-Chloropropane	10.0	8.38		ug/L		84	46 - 132
1,2-Dibromoethane	10.0	9.92		ug/L		99	77 - 123
1,2-Dichlorobenzene	10.0	10.3		ug/L		103	78 - 120
1,2-Dichloroethane	10.0	11.7		ug/L		117	71 - 135
1,2-Dichloropropane	10.0	10.8		ug/L		108	78 - 133

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-119216-1

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

**Lab Sample ID: LCS 240-403365/4**  
**Matrix: Water**  
**Analysis Batch: 403365**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trimethylbenzene	10.0	11.7		ug/L		117	75 - 121
1,3-Dichlorobenzene	10.0	10.3		ug/L		103	78 - 120
1,4-Dichlorobenzene	10.0	10.4		ug/L		104	78 - 120
2-Butanone (MEK)	20.0	22.4		ug/L		112	39 - 163
2-Hexanone	20.0	23.7		ug/L		119	43 - 148
4-Methyl-2-pentanone (MIBK)	20.0	22.1		ug/L		111	49 - 143
Acetone	20.0	24.8		ug/L		124	21 - 162
Benzene	10.0	10.1		ug/L		101	80 - 123
Bromodichloromethane	10.0	10.2		ug/L		102	77 - 125
Bromoform	10.0	7.93		ug/L		79	49 - 141
Bromomethane	10.0	7.57		ug/L		76	41 - 175
Carbon disulfide	10.0	8.93		ug/L		89	60 - 138
Carbon tetrachloride	10.0	10.2		ug/L		102	63 - 140
Chlorobenzene	10.0	9.78		ug/L		98	80 - 121
Chloroethane	10.0	8.92		ug/L		89	33 - 173
Chloroform	10.0	10.3		ug/L		103	79 - 127
Chloromethane	10.0	7.72		ug/L		77	54 - 143
cis-1,2-Dichloroethene	10.0	10.1		ug/L		101	76 - 128
cis-1,3-Dichloropropene	10.0	9.56		ug/L		96	64 - 132
Cyclohexane	10.0	11.6		ug/L		116	58 - 145
Dibromochloromethane	10.0	9.51		ug/L		95	70 - 132
Dichlorodifluoromethane	10.0	7.24		ug/L		72	29 - 148
Diethyl ether	10.0	10.5		ug/L		105	70 - 146
Ethylbenzene	10.0	10.2		ug/L		102	80 - 120
Isopropylbenzene	10.0	10.3		ug/L		103	74 - 120
Methyl acetate	20.0	26.1		ug/L		131	52 - 145
Methyl tert-butyl ether	10.0	10.5		ug/L		105	51 - 133
Methylcyclohexane	10.0	10.8		ug/L		108	60 - 125
Methylene Chloride	10.0	10.2		ug/L		102	70 - 134
Styrene	10.0	9.37		ug/L		94	79 - 120
Tetrachloroethene	10.0	9.53		ug/L		95	74 - 130
Toluene	10.0	10.7		ug/L		107	78 - 129
trans-1,2-Dichloroethene	10.0	9.86		ug/L		99	78 - 133
trans-1,3-Dichloropropene	10.0	10.1		ug/L		101	55 - 128
Trichloroethene	10.0	8.52		ug/L		85	76 - 125
Trichlorofluoromethane	10.0	8.73		ug/L		87	51 - 164
Vinyl chloride	10.0	8.08		ug/L		81	58 - 143
Xylenes, Total	20.0	20.3		ug/L		102	80 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	99		59 - 120
Dibromofluoromethane (Surr)	92		75 - 128
1,2-Dichloroethane-d4 (Surr)	116		70 - 121
Toluene-d8 (Surr)	98		70 - 123



# QC Sample Results

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

Job ID: 240-119216-1

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

**Lab Sample ID: 240-119300-F-6 MSD**

**Matrix: Water**

**Analysis Batch: 403365**

**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
1,1,1-Trichloroethane	1.0	U	10.0	9.08		ug/L		91	51 - 138	2	27
1,1,2,2-Tetrachloroethane	1.0	U	10.0	10.7		ug/L		107	60 - 137	7	31
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	7.47		ug/L		75	31 - 156	26	35
1,1,2-Trichloroethane	1.0	U	10.0	9.87		ug/L		99	76 - 132	0	25
1,1-Dichloroethane	1.0	U	10.0	9.20		ug/L		92	63 - 136	5	23
1,1-Dichloroethene	1.0	U	10.0	7.57		ug/L		76	53 - 140	9	35
1,2,4-Trichlorobenzene	1.0	U	10.0	8.11		ug/L		81	30 - 126	2	35
1,2,4-Trimethylbenzene	1.0	U	10.0	10.2		ug/L		102	62 - 120	3	27
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	8.05		ug/L		81	38 - 124	1	35
1,2-Dibromoethane	1.0	U	10.0	9.80		ug/L		98	71 - 123	3	27
1,2-Dichlorobenzene	1.0	U	10.0	8.84		ug/L		88	64 - 120	4	30
1,2-Dichloroethane	1.0	U	10.0	10.7		ug/L		107	65 - 135	1	24
1,2-Dichloropropane	1.0	U	10.0	10.2		ug/L		102	70 - 132	1	26
1,3,5-Trimethylbenzene	1.0	U	10.0	9.98		ug/L		100	64 - 120	4	23
1,3-Dichlorobenzene	1.0	U	10.0	9.23		ug/L		92	62 - 120	2	31
1,4-Dichlorobenzene	1.0	U	10.0	9.32		ug/L		93	63 - 120	2	28
2-Butanone (MEK)	10	U	20.0	19.4		ug/L		97	37 - 156	12	35
2-Hexanone	10	U	20.0	22.5		ug/L		112	42 - 150	2	35
4-Methyl-2-pentanone (MIBK)	10	U	20.0	20.9		ug/L		105	44 - 143	2	35
Acetone	10	U	20.0	21.4		ug/L		107	10 - 168	6	35
Benzene	1.0	U	10.0	9.13		ug/L		91	71 - 122	3	22
Bromodichloromethane	1.0	U	10.0	9.46		ug/L		95	64 - 125	1	27
Bromoform	1.0	U	10.0	6.94		ug/L		69	44 - 129	2	28
Bromomethane	1.0	U	10.0	7.73		ug/L		77	19 - 187	16	35
Carbon disulfide	5.0	U	10.0	7.56		ug/L		76	43 - 144	2	33
Carbon tetrachloride	1.0	U	10.0	8.85		ug/L		89	41 - 143	12	30
Chlorobenzene	1.0	U	10.0	9.86		ug/L		99	70 - 123	6	23
Chloroethane	1.0	U	10.0	9.31		ug/L		93	11 - 189	18	35
Chloroform	1.0	U	10.0	9.08		ug/L		91	68 - 130	8	23
Chloromethane	1.0	U	10.0	8.05		ug/L		81	31 - 154	3	35
cis-1,2-Dichloroethene	1.0	U	10.0	8.53		ug/L		85	64 - 130	4	21
cis-1,3-Dichloropropene	1.0	U	10.0	9.01		ug/L		90	48 - 127	0	30
Dibromochloromethane	1.0	U	10.0	8.32		ug/L		83	60 - 129	0	26
Dichlorodifluoromethane	1.0	U	10.0	7.20		ug/L		72	28 - 136	23	35
Diethyl ether	1.0	U	10.0	9.70		ug/L		97	65 - 134	6	33
Ethylbenzene	1.0	U	10.0	9.53		ug/L		95	66 - 120	1	24
Isopropylbenzene	1.0	U	10.0	9.71		ug/L		97	59 - 120	8	31
Methyl tert-butyl ether	1.0	U	10.0	9.24		ug/L		92	41 - 136	1	29
Methylene Chloride	5.0	U	10.0	8.47		ug/L		85	61 - 130	12	29
Styrene	1.0	U	10.0	9.19		ug/L		92	68 - 120	2	26
Tetrachloroethene	1.0	U	10.0	9.05		ug/L		91	51 - 136	12	23
Toluene	1.0	U	10.0	10.3		ug/L		103	62 - 132	1	23
trans-1,2-Dichloroethene	1.0	U	10.0	8.37		ug/L		84	68 - 133	2	24
trans-1,3-Dichloropropene	1.0	U	10.0	9.03		ug/L		90	40 - 125	4	27
Trichloroethene	1.0	U	10.0	7.88		ug/L		79	55 - 131	3	23
Trichlorofluoromethane	1.0	U	10.0	8.65		ug/L		86	37 - 174	21	35
Vinyl chloride	1.0	U	10.0	8.07		ug/L		81	43 - 154	15	29
Xylenes, Total	2.0	U	20.0	19.3		ug/L		97	67 - 120	6	25

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-119216-1

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		59 - 120
Dibromofluoromethane (Surr)	89		75 - 128
1,2-Dichloroethane-d4 (Surr)	119		70 - 121
Toluene-d8 (Surr)	102		70 - 123

**Lab Sample ID: 240-119300-G-6 MS**  
**Matrix: Water**  
**Analysis Batch: 403365**

**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	8.86		ug/L		89	51 - 138
1,1,1,2-Tetrachloroethane	1.0	U	10.0	11.5		ug/L		115	60 - 137
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	5.73		ug/L		57	31 - 156
1,1,2-Trichloroethane	1.0	U	10.0	9.89		ug/L		99	76 - 132
1,1-Dichloroethane	1.0	U	10.0	9.70		ug/L		97	63 - 136
1,1-Dichloroethene	1.0	U	10.0	6.92		ug/L		69	53 - 140
1,2,4-Trichlorobenzene	1.0	U	10.0	7.94		ug/L		79	30 - 126
1,2,4-Trimethylbenzene	1.0	U	10.0	10.5		ug/L		105	62 - 120
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	8.00		ug/L		80	38 - 124
1,2-Dibromoethane	1.0	U	10.0	9.54		ug/L		95	71 - 123
1,2-Dichlorobenzene	1.0	U	10.0	9.21		ug/L		92	64 - 120
1,2-Dichloroethane	1.0	U	10.0	10.6		ug/L		106	65 - 135
1,2-Dichloropropane	1.0	U	10.0	10.1		ug/L		101	70 - 132
1,3,5-Trimethylbenzene	1.0	U	10.0	10.4		ug/L		104	64 - 120
1,3-Dichlorobenzene	1.0	U	10.0	9.08		ug/L		91	62 - 120
1,4-Dichlorobenzene	1.0	U	10.0	9.48		ug/L		95	63 - 120
2-Butanone (MEK)	10	U	20.0	17.3		ug/L		86	37 - 156
2-Hexanone	10	U	20.0	22.9		ug/L		114	42 - 150
4-Methyl-2-pentanone (MIBK)	10	U	20.0	21.4		ug/L		107	44 - 143
Acetone	10	U	20.0	20.1		ug/L		101	10 - 168
Benzene	1.0	U	10.0	9.44		ug/L		94	71 - 122
Bromodichloromethane	1.0	U	10.0	9.58		ug/L		96	64 - 125
Bromoform	1.0	U	10.0	6.83		ug/L		68	44 - 129
Bromomethane	1.0	U	10.0	6.56		ug/L		66	19 - 187
Carbon disulfide	5.0	U	10.0	7.44		ug/L		74	43 - 144
Carbon tetrachloride	1.0	U	10.0	7.85		ug/L		79	41 - 143
Chlorobenzene	1.0	U	10.0	9.24		ug/L		92	70 - 123
Chloroethane	1.0	U	10.0	7.79		ug/L		78	11 - 189
Chloroform	1.0	U	10.0	9.80		ug/L		98	68 - 130
Chloromethane	1.0	U	10.0	7.83		ug/L		78	31 - 154
cis-1,2-Dichloroethene	1.0	U	10.0	8.90		ug/L		89	64 - 130
cis-1,3-Dichloropropene	1.0	U	10.0	9.05		ug/L		90	48 - 127
Dibromochloromethane	1.0	U	10.0	8.32		ug/L		83	60 - 129
Dichlorodifluoromethane	1.0	U	10.0	5.69		ug/L		57	28 - 136
Diethyl ether	1.0	U	10.0	10.3		ug/L		103	65 - 134
Ethylbenzene	1.0	U	10.0	9.67		ug/L		97	66 - 120
Isopropylbenzene	1.0	U	10.0	8.97		ug/L		90	59 - 120
Methyl tert-butyl ether	1.0	U	10.0	9.36		ug/L		94	41 - 136
Methylene Chloride	5.0	U	10.0	9.53		ug/L		95	61 - 130
Styrene	1.0	U	10.0	9.35		ug/L		93	68 - 120
Tetrachloroethene	1.0	U	10.0	8.01		ug/L		80	51 - 136

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-119216-1

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

**Lab Sample ID: 240-119300-G-6 MS**  
**Matrix: Water**  
**Analysis Batch: 403365**

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

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				
Toluene	1.0	U	10.0	10.1		ug/L		101	62 - 132
trans-1,2-Dichloroethene	1.0	U	10.0	8.53		ug/L		85	68 - 133
trans-1,3-Dichloropropene	1.0	U	10.0	9.36		ug/L		94	40 - 125
Trichloroethene	1.0	U	10.0	7.62		ug/L		76	55 - 131
Trichlorofluoromethane	1.0	U	10.0	7.00		ug/L		70	37 - 174
Vinyl chloride	1.0	U	10.0	6.92		ug/L		69	43 - 154
Xylenes, Total	2.0	U	20.0	18.3		ug/L		91	67 - 120
<b>MS MS</b>									
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene (Surr)	97		59 - 120						
Dibromofluoromethane (Surr)	88		75 - 128						
1,2-Dichloroethane-d4 (Surr)	109		70 - 121						
Toluene-d8 (Surr)	97		70 - 123						

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

**Lab Sample ID: MB 240-402640/5**  
**Matrix: Water**  
**Analysis Batch: 402640**

**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			09/26/19 12:48	1
<b>MB MB</b>									
Surrogate	%Recovery	Qualifier	Limits			Prepared		Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	72		63 - 125					09/26/19 12:48	1

**Lab Sample ID: LCS 240-402640/4**  
**Matrix: Water**  
**Analysis Batch: 402640**

**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	11.5		ug/L		115	59 - 131
<b>LCS LCS</b>							
Surrogate	%Recovery	Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	72		63 - 125				

**Lab Sample ID: 240-119202-D-1 MS**  
**Matrix: Water**  
**Analysis Batch: 402640**

**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	12.3		ug/L		123	52 - 129
<b>MS MS</b>									
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	73		63 - 125						

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-119216-1

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

**Lab Sample ID: 240-119202-D-1 MSD**

**Matrix: Water**

**Analysis Batch: 402640**

**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	12.7		ug/L		127	52 - 129	3	13
<b>Surrogate</b>											
1,2-Dichloroethane-d4 (Surr)	72										63 - 125

- 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 Livonia MI - E203728

Job ID: 240-119216-1

## GC/MS VOA

### Analysis Batch: 402640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119216-1	MW-65_091819	Total/NA	Water	8260B SIM	
MB 240-402640/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-402640/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-119202-D-1 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-119202-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

### Analysis Batch: 403151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119216-2	TRIP BLANK	Total/NA	Water	8260B	
MB 240-403151/6	Method Blank	Total/NA	Water	8260B	
LCS 240-403151/4	Lab Control Sample	Total/NA	Water	8260B	
320-54525-D-6 MS	Matrix Spike	Total/NA	Water	8260B	
320-54525-F-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

### Analysis Batch: 403365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119216-1	MW-65_091819	Total/NA	Water	8260B	
MB 240-403365/6	Method Blank	Total/NA	Water	8260B	
LCS 240-403365/4	Lab Control Sample	Total/NA	Water	8260B	
240-119300-F-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-119300-G-6 MS	Matrix Spike	Total/NA	Water	8260B	

# Lab Chronicle

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

Job ID: 240-119216-1

**Client Sample ID: MW-65\_091819**

**Lab Sample ID: 240-119216-1**

**Date Collected: 09/18/19 17:10**

**Matrix: Water**

**Date Received: 09/20/19 09:25**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	403365	10/01/19 11:35	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	402640	09/26/19 22:26	SAM	TAL CAN

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-119216-2**

**Date Collected: 09/18/19 00:00**

**Matrix: Water**

**Date Received: 09/20/19 09:25**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	403151	09/30/19 15:33	LEE	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: 240-119216-1

## 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









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

Login # : 114716

Client Accu-Lo Site Name \_\_\_\_\_  
 Cooler Received on 9/20/19 Opened on 9/20/19  
 FedEx: 1<sup>st</sup> Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Cooler unpacked by:  
DcD

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

TestAmerica Cooler # TAC 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. 1.2 °C Corrected Cooler Temp. 1.9 °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 each 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
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. N/A Yes  No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # N/A Yes  No
16. Was a LL Hg or Me Hg trip blank present? Yes  No

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

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

Concerning \_\_\_\_\_

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

Samples processed by:  
MS

**18. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.  
 Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

**19. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in the laboratory.  
 Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_

VOA Sample Preservation - Date/Time VOAs Frozen: \_\_\_\_\_