

## ANALYTICAL REPORT

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Laboratory Job ID: 240-119753-1

Client Project/Site: Ford LTP Livonia MI - E203728

**For:**

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



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Authorized for release by:  
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*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.*

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# Definitions/Glossary

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

Job ID: 240-119753-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
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.
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 Livonia MI - E203728

Job ID: 240-119753-1

**Job ID: 240-119753-1**

**Laboratory: Eurofins TestAmerica, Canton**

**Narrative**

## CASE NARRATIVE

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

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

**Report Number: 240-119753-1**

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 10/1/2019 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.4° C, 3.1° C, 3.4° C and 5.3° C.

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

Samples MW-35\_092819 (240-119753-1), MW-43\_092819 (240-119753-2), MW-52\_092819 (240-119753-3), MW-120\_092819 (240-119753-4) and TRIP BLANK (240-119753-5) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 10/10/2019 and 10/11/2019.

1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane and 1,2-Dibromoethane failed the recovery criteria low for LCS 240-405078/4. Cyclohexane failed the recovery criteria high. 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2-Dibromoethane, Bromodichloromethane and trans-1,3-Dichloropropene failed the recovery criteria low for LCS 240-405286/4. Cyclohexane failed the recovery criteria high. Refer to the QC report for details.

1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane and 1,2-Dibromoethane failed the recovery criteria low for the MS of sample MW-43-MS\_092819MS (240-119753-2) in batch 240-405078. Cyclohexane failed the recovery criteria high.

1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane and 1,2-Dibromoethane failed the recovery criteria low for the MSD of sample MW-43-MSD\_092819MSD (240-119753-2) in batch 240-405078. 1,1-Dichloroethane, 1,2-Dichloropropane, Cyclohexane and Diethyl ether failed the recovery criteria high.

# Case Narrative

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

Job ID: 240-119753-1

## Job ID: 240-119753-1 (Continued)

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

1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane and 1,2-Dibromoethane failed the recovery criteria low for the MS and MSD of sample MW-52-MS\_092819 (240-119753-3) in batch 240-405286. Cyclohexane failed the recovery criteria high. Refer to the QC report for details.

The laboratory control sample (LCS) for analytical batch 240-405078 recovered outside control limits for the following analyte: Cyclohexane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data has been reported: MW-43\_092819 (240-119753-2) and (LCS 240-405078/4).

The laboratory control sample (LCS) for analytical batch 240-405078 recovered outside control limits for the following analyte: Ethylene Dibromide. Ethylene Dibromide has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed: MW-43\_092819 (240-119753-2) and (LCS 240-405078/4).

The laboratory control sample (LCS) analyzed in batch 240-405078 was below the recovery control criteria for the following analytes: 1,1,2,2-Tetrachloroethane and 1,1,2-Trichloroethane. This variance only affects results measured above the reporting limit. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. This demonstrates the analyte reporting limit is valid, and it is acceptable to report ND results (non-detects). The samples associated with the LCS were non-detects for the affected analytes; therefore, the results were reported. The following samples are impacted: MW-43\_092819 (240-119753-2) and (LCS 240-405078/4).

The continuing calibration verification (CCV) for analytical batch 240-405286 exceeded control criteria for 1,2-Dichloropropane. The samples associated with this CCV were non-detects for the affected analytes. In accordance with the laboratory SOP, a low level CCV at the reporting limit (labeled as an MRL) was analyzed and the affected compounds were detected; therefore the data has been reported. No further corrective action was required: MW-35\_092819 (240-119753-1), MW-52\_092819 (240-119753-3), MW-120\_092819 (240-119753-4), TRIP BLANK (240-119753-5) and (CCVIS 240-405286/2).

The laboratory control sample (LCS) for analytical batch 240-405286 recovered outside control limits for the following analyte: Cyclohexane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data has been reported: MW-35\_092819 (240-119753-1), MW-52\_092819 (240-119753-3), MW-120\_092819 (240-119753-4), TRIP BLANK (240-119753-5) and (LCS 240-405286/4).

The laboratory control sample (LCS) analyzed in batch 240-405286 was below the recovery control criteria for multiple analytes. This variance only affects results measured above the reporting limit. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. This demonstrates the analyte reporting limit is valid, and it is acceptable to report ND results (non-detects). The samples associated with the LCS were non-detects for the affected analytes; therefore, the results were reported. The following samples are impacted: MW-35\_092819 (240-119753-1), MW-52\_092819 (240-119753-3), MW-120\_092819 (240-119753-4), TRIP BLANK (240-119753-5) and (LCS 240-405286/4).

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

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

Samples MW-35\_092819 (240-119753-1), MW-43\_092819 (240-119753-2), MW-52\_092819 (240-119753-3) and MW-120\_092819 (240-119753-4) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 10/07/2019.

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 Livonia MI - E203728

Job ID: 240-119753-1

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: 240-119753-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-119753-1	MW-35_092819	Water	09/28/19 09:34	10/01/19 09:30	
240-119753-2	MW-43_092819	Water	09/28/19 11:08	10/01/19 09:30	
240-119753-3	MW-52_092819	Water	09/28/19 12:40	10/01/19 09:30	
240-119753-4	MW-120_092819	Water	09/28/19 15:10	10/01/19 09:30	
240-119753-5	TRIP BLANK	Water	09/28/19 00:00	10/01/19 09:30	

- 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 Livonia MI - E203728

Job ID: 240-119753-1

## Client Sample ID: MW-35\_092819

## Lab Sample ID: 240-119753-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	5.0		2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	2.6		1.0	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-43\_092819

## Lab Sample ID: 240-119753-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.4		2.0	0.86	ug/L	1		8260B SIM	Total/NA

## Client Sample ID: MW-52\_092819

## Lab Sample ID: 240-119753-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.1	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	5.9		1.0	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-120\_092819

## Lab Sample ID: 240-119753-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	5.9		1.0	0.10	ug/L	1		8260B	Total/NA

## Client Sample ID: TRIP BLANK

## Lab Sample ID: 240-119753-5

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: 240-119753-1

**Client Sample ID: MW-35\_092819**

**Lab Sample ID: 240-119753-1**

Date Collected: 09/28/19 09:34

Matrix: Water

Date Received: 10/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	5.0		2.0	0.86	ug/L			10/07/19 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		10/07/19 18:10	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			10/11/19 17:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/11/19 17:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/11/19 17:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/11/19 17:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/11/19 17:34	1
Vinyl chloride	2.6		1.0	0.20	ug/L			10/11/19 17:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	72		59 - 120		10/11/19 17:34	1
Dibromofluoromethane (Surr)	99		75 - 128		10/11/19 17:34	1
1,2-Dichloroethane-d4 (Surr)	95		70 - 121		10/11/19 17:34	1
Toluene-d8 (Surr)	93		70 - 123		10/11/19 17:34	1

# Client Sample Results

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

Job ID: 240-119753-1

**Client Sample ID: MW-43\_092819**

**Lab Sample ID: 240-119753-2**

Date Collected: 09/28/19 11:08

Matrix: Water

Date Received: 10/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.4		2.0	0.86	ug/L			10/07/19 18:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		10/07/19 18:34	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			10/10/19 21:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/10/19 21:54	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/10/19 21:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/10/19 21:54	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/10/19 21:54	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/10/19 21:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		59 - 120		10/10/19 21:54	1
Dibromofluoromethane (Surr)	96		75 - 128		10/10/19 21:54	1
1,2-Dichloroethane-d4 (Surr)	94		70 - 121		10/10/19 21:54	1
Toluene-d8 (Surr)	95		70 - 123		10/10/19 21:54	1

# Client Sample Results

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

Job ID: 240-119753-1

**Client Sample ID: MW-52\_092819**

**Lab Sample ID: 240-119753-3**

Date Collected: 09/28/19 12:40

Matrix: Water

Date Received: 10/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.1	J	2.0	0.86	ug/L			10/07/19 19:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125		10/07/19 19:49	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			10/11/19 18:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/11/19 18:24	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/11/19 18:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/11/19 18:24	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/11/19 18:24	1
Vinyl chloride	5.9		1.0	0.20	ug/L			10/11/19 18:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	73		59 - 120		10/11/19 18:24	1
Dibromofluoromethane (Surr)	93		75 - 128		10/11/19 18:24	1
1,2-Dichloroethane-d4 (Surr)	91		70 - 121		10/11/19 18:24	1
Toluene-d8 (Surr)	95		70 - 123		10/11/19 18:24	1

# Client Sample Results

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

Job ID: 240-119753-1

**Client Sample ID: MW-120\_092819**

**Lab Sample ID: 240-119753-4**

Date Collected: 09/28/19 15:10

Matrix: Water

Date Received: 10/01/19 09:30

**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	-		10/07/19 21:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 125		10/07/19 21:05	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	-		10/11/19 19:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		10/11/19 19:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		10/11/19 19:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		10/11/19 19:41	1
<b>Trichloroethene</b>	<b>5.9</b>		1.0	0.10	ug/L	-		10/11/19 19:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		10/11/19 19:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		59 - 120		10/11/19 19:41	1
Dibromofluoromethane (Surr)	106		75 - 128		10/11/19 19:41	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 121		10/11/19 19:41	1
Toluene-d8 (Surr)	95		70 - 123		10/11/19 19:41	1

# Client Sample Results

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

Job ID: 240-119753-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-119753-5**

**Date Collected: 09/28/19 00:00**

**Matrix: Water**

**Date Received: 10/01/19 09:30**

**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			10/11/19 20:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/11/19 20:06	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/11/19 20:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/11/19 20:06	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/11/19 20:06	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/11/19 20:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		59 - 120		10/11/19 20:06	1
Dibromofluoromethane (Surr)	96		75 - 128		10/11/19 20:06	1
1,2-Dichloroethane-d4 (Surr)	89		70 - 121		10/11/19 20:06	1
Toluene-d8 (Surr)	96		70 - 123		10/11/19 20:06	1

# Surrogate Summary

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

Job ID: 240-119753-1

## 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)			
		BFB (59-120)	DBFM (75-128)	DCA (70-121)	TOL (70-123)
240-119753-1	MW-35_092819	72	99	95	93
240-119753-2	MW-43_092819	77	96	94	95
240-119753-2 MS	MW-43-MS_092819	75	109	97	98
240-119753-2 MSD	MW-43-MSD_092819	78	106	99	96
240-119753-3	MW-52_092819	73	93	91	95
240-119753-3 MS	MW-52-MS_092819	75	106	97	100
240-119753-3 MSD	MW-52-MSD_092819	73	101	101	95
240-119753-4	MW-120_092819	83	106	101	95
240-119753-5	TRIP BLANK	71	96	89	96
LCS 240-405078/4	Lab Control Sample	79	102	94	98
LCS 240-405286/4	Lab Control Sample	77	102	102	98
MB 240-405078/7	Method Blank	74	101	99	94
MB 240-405286/7	Method Blank	71	106	99	92

#### 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)
240-119753-1	MW-35_092819	102
240-119753-2	MW-43_092819	102
240-119753-2 MS	MW-43-MS_092819	103
240-119753-2 MSD	MW-43-MSD_092819	104
240-119753-3	MW-52_092819	104
240-119753-3 MS	MW-52-MS_092819	104
240-119753-3 MSD	MW-52-MSD_092819	105
240-119753-4	MW-120_092819	105
LCS 240-404405/4	Lab Control Sample	100
MB 240-404405/5	Method Blank	101

#### 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: 240-119753-1

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

**Lab Sample ID: MB 240-405078/7**  
**Matrix: Water**  
**Analysis Batch: 405078**

**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			10/10/19 14:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/10/19 14:14	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/10/19 14:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/10/19 14:14	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/10/19 14:14	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/10/19 14:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		59 - 120		10/10/19 14:14	1
Dibromofluoromethane (Surr)	101		75 - 128		10/10/19 14:14	1
1,2-Dichloroethane-d4 (Surr)	99		70 - 121		10/10/19 14:14	1
Toluene-d8 (Surr)	94		70 - 123		10/10/19 14:14	1

**Lab Sample ID: LCS 240-405078/4**  
**Matrix: Water**  
**Analysis Batch: 405078**

**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	10.4		ug/L		104	69 - 134
1,1,1,2-Tetrachloroethane	10.0	5.52	*	ug/L		55	65 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	12.2		ug/L		122	50 - 156
1,1,2-Trichloroethane	10.0	7.69	*	ug/L		77	78 - 133
1,1-Dichloroethane	10.0	13.3		ug/L		133	75 - 133
1,1-Dichloroethene	10.0	10.4		ug/L		104	65 - 139
1,2,4-Trichlorobenzene	10.0	9.68		ug/L		97	42 - 133
1,2,4-Trimethylbenzene	10.0	8.93		ug/L		89	74 - 120
1,2-Dibromo-3-Chloropropane	10.0	6.65		ug/L		66	46 - 132
1,2-Dibromoethane	10.0	7.12	*	ug/L		71	77 - 123
1,2-Dichlorobenzene	10.0	9.74		ug/L		97	78 - 120
1,2-Dichloroethane	10.0	11.8		ug/L		118	71 - 135
1,2-Dichloropropane	10.0	12.9		ug/L		129	78 - 133
1,3,5-Trimethylbenzene	10.0	9.05		ug/L		90	75 - 121
1,3-Dichlorobenzene	10.0	9.98		ug/L		100	78 - 120
1,4-Dichlorobenzene	10.0	10.7		ug/L		107	78 - 120
2-Butanone (MEK)	20.0	16.7		ug/L		84	39 - 163
2-Hexanone	20.0	15.9		ug/L		79	43 - 148
4-Methyl-2-pentanone (MIBK)	20.0	17.2		ug/L		86	49 - 143
Acetone	20.0	20.7		ug/L		104	21 - 162
Benzene	10.0	9.97		ug/L		100	80 - 123
Bromodichloromethane	10.0	8.70		ug/L		87	77 - 125
Bromoform	10.0	6.19		ug/L		62	49 - 141
Bromomethane	10.0	8.34		ug/L		83	41 - 175
Carbon disulfide	10.0	9.50		ug/L		95	60 - 138
Carbon tetrachloride	10.0	11.1		ug/L		111	63 - 140
Chlorobenzene	10.0	9.92		ug/L		99	80 - 121
Chloroethane	10.0	9.37		ug/L		94	33 - 173
Chloroform	10.0	9.43		ug/L		94	79 - 127

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-119753-1

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

**Lab Sample ID: LCS 240-405078/4**  
**Matrix: Water**  
**Analysis Batch: 405078**

**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	11.0		ug/L		110	54 - 143
cis-1,2-Dichloroethene	10.0	10.7		ug/L		107	76 - 128
cis-1,3-Dichloropropene	10.0	8.23		ug/L		82	64 - 132
Cyclohexane	10.0	15.3	*	ug/L		153	58 - 145
Dibromochloromethane	10.0	8.15		ug/L		81	70 - 132
Dichlorodifluoromethane	10.0	5.41		ug/L		54	29 - 148
Diethyl ether	10.0	14.0		ug/L		140	70 - 146
Ethylbenzene	10.0	10.2		ug/L		102	80 - 120
Isopropylbenzene	10.0	9.99		ug/L		100	74 - 120
Methyl acetate	20.0	18.7		ug/L		93	52 - 145
Methyl tert-butyl ether	10.0	7.24		ug/L		72	51 - 133
Methylcyclohexane	10.0	9.91		ug/L		99	60 - 125
Methylene Chloride	10.0	9.13		ug/L		91	70 - 134
Styrene	10.0	9.13		ug/L		91	79 - 120
Tetrachloroethene	10.0	12.1		ug/L		121	74 - 130
Toluene	10.0	10.5		ug/L		105	78 - 129
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	78 - 133
trans-1,3-Dichloropropene	10.0	6.57		ug/L		66	55 - 128
Trichloroethene	10.0	11.6		ug/L		116	76 - 125
Trichlorofluoromethane	10.0	8.85		ug/L		88	51 - 164
Vinyl chloride	10.0	10.9		ug/L		109	58 - 143
Xylenes, Total	20.0	20.4		ug/L		102	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	79		59 - 120
Dibromofluoromethane (Surr)	102		75 - 128
1,2-Dichloroethane-d4 (Surr)	94		70 - 121
Toluene-d8 (Surr)	98		70 - 123

**Lab Sample ID: 240-119753-2 MS**  
**Matrix: Water**  
**Analysis Batch: 405078**

**Client Sample ID: MW-43-MS\_092819**  
**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	9.63		ug/L		96	51 - 138
1,1,1,2-Tetrachloroethane	1.0	U * F1	10.0	5.26	F1	ug/L		53	60 - 137
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	12.0		ug/L		120	31 - 156
1,1,2-Trichloroethane	1.0	U * F1	10.0	6.79	F1	ug/L		68	76 - 132
1,1-Dichloroethane	1.0	U F1	10.0	12.6		ug/L		126	63 - 136
1,1-Dichloroethene	1.0	U	10.0	11.1		ug/L		111	53 - 140
1,2,4-Trichlorobenzene	1.0	U	10.0	7.31		ug/L		73	30 - 126
1,2,4-Trimethylbenzene	1.0	U	10.0	7.73		ug/L		77	62 - 120
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	5.79		ug/L		58	38 - 124
1,2-Dibromoethane	1.0	U * F1	10.0	6.38	F1	ug/L		64	71 - 123
1,2-Dichlorobenzene	1.0	U	10.0	8.34		ug/L		83	64 - 120
1,2-Dichloroethane	1.0	U	10.0	11.3		ug/L		113	65 - 135
1,2-Dichloropropane	1.0	U F1	10.0	12.3		ug/L		123	70 - 132
1,3,5-Trimethylbenzene	1.0	U	10.0	7.43		ug/L		74	64 - 120

Eurofins TestAmerica, Canton



# QC Sample Results

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

Job ID: 240-119753-1

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

**Lab Sample ID: 240-119753-2 MS**

**Matrix: Water**

**Analysis Batch: 405078**

**Client Sample ID: MW-43-MS\_092819**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,3-Dichlorobenzene	1.0	U	10.0	8.49		ug/L		85	62 - 120
1,4-Dichlorobenzene	1.0	U	10.0	8.73		ug/L		87	63 - 120
2-Butanone (MEK)	10	U	20.0	13.6		ug/L		68	37 - 156
2-Hexanone	10	U	20.0	13.9		ug/L		69	42 - 150
4-Methyl-2-pentanone (MIBK)	10	U	20.0	17.3		ug/L		86	44 - 143
Acetone	10	U	20.0	21.7		ug/L		109	10 - 168
Benzene	1.0	U	10.0	9.58		ug/L		96	71 - 122
Bromodichloromethane	1.0	U	10.0	7.42		ug/L		74	64 - 125
Bromoform	1.0	U	10.0	5.96		ug/L		60	44 - 129
Bromomethane	1.0	U	10.0	7.70		ug/L		77	19 - 187
Carbon disulfide	5.0	U	10.0	8.78		ug/L		88	43 - 144
Carbon tetrachloride	1.0	U	10.0	10.2		ug/L		102	41 - 143
Chlorobenzene	1.0	U	10.0	8.67		ug/L		87	70 - 123
Chloroethane	1.0	U	10.0	8.77		ug/L		88	11 - 189
Chloroform	1.0	U	10.0	8.68		ug/L		87	68 - 130
Chloromethane	1.0	U	10.0	9.83		ug/L		98	31 - 154
cis-1,2-Dichloroethene	1.0	U	10.0	9.75		ug/L		98	64 - 130
cis-1,3-Dichloropropene	1.0	U	10.0	7.47		ug/L		75	48 - 127
Cyclohexane	1.0	U * F1	10.0	14.9	F1	ug/L		149	42 - 135
Dibromochloromethane	1.0	U	10.0	7.04		ug/L		70	60 - 129
Dichlorodifluoromethane	1.0	U	10.0	6.68		ug/L		67	28 - 136
Diethyl ether	1.0	U F1	10.0	13.0		ug/L		130	65 - 134
Ethylbenzene	1.0	U	10.0	9.12		ug/L		91	66 - 120
Isopropylbenzene	1.0	U	10.0	9.01		ug/L		90	59 - 120
Methyl acetate	10	U	20.0	18.3		ug/L		92	41 - 142
Methyl tert-butyl ether	1.0	U	10.0	6.83		ug/L		68	41 - 136
Methylcyclohexane	1.0	U	10.0	10.2		ug/L		102	37 - 123
Methylene Chloride	5.0	U	10.0	7.72		ug/L		77	61 - 130
Styrene	1.0	U	10.0	7.89		ug/L		79	68 - 120
Tetrachloroethene	1.0	U	10.0	10.8		ug/L		108	51 - 136
Toluene	1.0	U	10.0	8.48		ug/L		85	62 - 132
trans-1,2-Dichloroethene	1.0	U	10.0	9.57		ug/L		96	68 - 133
trans-1,3-Dichloropropene	1.0	U	10.0	5.64		ug/L		56	40 - 125
Trichloroethene	1.0	U	10.0	10.8		ug/L		108	55 - 131
Trichlorofluoromethane	1.0	U	10.0	10.1		ug/L		101	37 - 174
Vinyl chloride	1.0	U	10.0	13.1		ug/L		131	43 - 154
Xylenes, Total	2.0	U	20.0	17.7		ug/L		89	67 - 120

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	75		59 - 120
Dibromofluoromethane (Surr)	109		75 - 128
1,2-Dichloroethane-d4 (Surr)	97		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: 240-119753-1

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

**Lab Sample ID: 240-119753-2 MSD**

**Matrix: Water**

**Analysis Batch: 405078**

**Client Sample ID: MW-43-MSD\_092819**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
1,1,1-Trichloroethane	1.0	U	10.0	9.82		ug/L		98	51 - 138	2	27
1,1,1,2-Tetrachloroethane	1.0	U * F1	10.0	4.96	F1	ug/L		50	60 - 137	6	31
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	12.2		ug/L		122	31 - 156	2	35
1,1,2-Trichloroethane	1.0	U * F1	10.0	6.92	F1	ug/L		69	76 - 132	2	25
1,1-Dichloroethane	1.0	U F1	10.0	13.7	F1	ug/L		137	63 - 136	9	23
1,1-Dichloroethene	1.0	U	10.0	10.1		ug/L		101	53 - 140	9	35
1,2,4-Trichlorobenzene	1.0	U	10.0	7.76		ug/L		78	30 - 126	6	35
1,2,4-Trimethylbenzene	1.0	U	10.0	8.11		ug/L		81	62 - 120	5	27
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	5.07		ug/L		51	38 - 124	13	35
1,2-Dibromoethane	1.0	U * F1	10.0	6.75	F1	ug/L		68	71 - 123	6	27
1,2-Dichlorobenzene	1.0	U	10.0	8.15		ug/L		81	64 - 120	2	30
1,2-Dichloroethane	1.0	U	10.0	11.4		ug/L		114	65 - 135	2	24
1,2-Dichloropropane	1.0	U F1	10.0	13.5	F1	ug/L		135	70 - 132	9	26
1,3,5-Trimethylbenzene	1.0	U	10.0	7.46		ug/L		75	64 - 120	0	23
1,3-Dichlorobenzene	1.0	U	10.0	8.22		ug/L		82	62 - 120	3	31
1,4-Dichlorobenzene	1.0	U	10.0	8.79		ug/L		88	63 - 120	1	28
2-Butanone (MEK)	10	U	20.0	16.1		ug/L		81	37 - 156	17	35
2-Hexanone	10	U	20.0	14.2		ug/L		71	42 - 150	3	35
4-Methyl-2-pentanone (MIBK)	10	U	20.0	17.2		ug/L		86	44 - 143	0	35
Acetone	10	U	20.0	18.7		ug/L		93	10 - 168	15	35
Benzene	1.0	U	10.0	9.49		ug/L		95	71 - 122	1	22
Bromodichloromethane	1.0	U	10.0	7.92		ug/L		79	64 - 125	7	27
Bromoform	1.0	U	10.0	6.44		ug/L		64	44 - 129	8	28
Bromomethane	1.0	U	10.0	7.79		ug/L		78	19 - 187	1	35
Carbon disulfide	5.0	U	10.0	8.89		ug/L		89	43 - 144	1	33
Carbon tetrachloride	1.0	U	10.0	11.1		ug/L		111	41 - 143	8	30
Chlorobenzene	1.0	U	10.0	9.26		ug/L		93	70 - 123	7	23
Chloroethane	1.0	U	10.0	9.93		ug/L		99	11 - 189	12	35
Chloroform	1.0	U	10.0	9.08		ug/L		91	68 - 130	5	23
Chloromethane	1.0	U	10.0	10.1		ug/L		101	31 - 154	2	35
cis-1,2-Dichloroethene	1.0	U	10.0	10.9		ug/L		109	64 - 130	11	21
cis-1,3-Dichloropropene	1.0	U	10.0	7.61		ug/L		76	48 - 127	2	30
Cyclohexane	1.0	U * F1	10.0	15.5	F1	ug/L		155	42 - 135	4	35
Dibromochloromethane	1.0	U	10.0	7.38		ug/L		74	60 - 129	5	26
Dichlorodifluoromethane	1.0	U	10.0	6.15		ug/L		61	28 - 136	8	35
Diethyl ether	1.0	U F1	10.0	13.8	F1	ug/L		138	65 - 134	7	33
Ethylbenzene	1.0	U	10.0	9.22		ug/L		92	66 - 120	1	24
Isopropylbenzene	1.0	U	10.0	8.94		ug/L		89	59 - 120	1	31
Methyl acetate	10	U	20.0	17.5		ug/L		87	41 - 142	5	35
Methyl tert-butyl ether	1.0	U	10.0	7.09		ug/L		71	41 - 136	4	29
Methylcyclohexane	1.0	U	10.0	9.96		ug/L		100	37 - 123	3	35
Methylene Chloride	5.0	U	10.0	8.47		ug/L		85	61 - 130	9	29
Styrene	1.0	U	10.0	8.55		ug/L		86	68 - 120	8	26
Tetrachloroethene	1.0	U	10.0	11.9		ug/L		119	51 - 136	9	23
Toluene	1.0	U	10.0	9.05		ug/L		91	62 - 132	7	23
trans-1,2-Dichloroethene	1.0	U	10.0	9.98		ug/L		100	68 - 133	4	24
trans-1,3-Dichloropropene	1.0	U	10.0	6.07		ug/L		61	40 - 125	7	27
Trichloroethene	1.0	U	10.0	10.5		ug/L		105	55 - 131	2	23

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-119753-1

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

Lab Sample ID: 240-119753-2 MSD

Client Sample ID: MW-43-MSD\_092819

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 405078

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichlorofluoromethane	1.0	U	10.0	10.4		ug/L		104	37 - 174	3	35
Vinyl chloride	1.0	U	10.0	12.7		ug/L		127	43 - 154	3	29
Xylenes, Total	2.0	U	20.0	17.8		ug/L		89	67 - 120	1	25
<b>MSD MSD</b>											
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
4-Bromofluorobenzene (Surr)	78		59 - 120								
Dibromofluoromethane (Surr)	106		75 - 128								
1,2-Dichloroethane-d4 (Surr)	99		70 - 121								
Toluene-d8 (Surr)	96		70 - 123								

Lab Sample ID: MB 240-405286/7

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 405286

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			10/11/19 14:28	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/11/19 14:28	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/11/19 14:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/11/19 14:28	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/11/19 14:28	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/11/19 14:28	1
<b>MB MB</b>									
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	71		59 - 120					10/11/19 14:28	1
Dibromofluoromethane (Surr)	106		75 - 128					10/11/19 14:28	1
1,2-Dichloroethane-d4 (Surr)	99		70 - 121					10/11/19 14:28	1
Toluene-d8 (Surr)	92		70 - 123					10/11/19 14:28	1

Lab Sample ID: LCS 240-405286/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 405286

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	10.0	9.32		ug/L		93	69 - 134
1,1,1,2-Tetrachloroethane	10.0	5.11	*	ug/L		51	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	6.48	*	ug/L		65	78 - 133
1,1-Dichloroethane	10.0	12.0		ug/L		120	75 - 133
1,1-Dichloroethene	10.0	9.22		ug/L		92	65 - 139
1,2,4-Trichlorobenzene	10.0	8.43		ug/L		84	42 - 133
1,2,4-Trimethylbenzene	10.0	8.28		ug/L		83	74 - 120
1,2-Dibromo-3-Chloropropane	10.0	4.96		ug/L		50	46 - 132
1,2-Dibromoethane	10.0	6.74	*	ug/L		67	77 - 123
1,2-Dichlorobenzene	10.0	8.74		ug/L		87	78 - 120
1,2-Dichloroethane	10.0	10.5		ug/L		105	71 - 135
1,2-Dichloropropane	10.0	12.1		ug/L		121	78 - 133
1,3,5-Trimethylbenzene	10.0	8.21		ug/L		82	75 - 121

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-119753-1

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

**Lab Sample ID: LCS 240-405286/4**  
**Matrix: Water**  
**Analysis Batch: 405286**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	10.0	9.19		ug/L		92	78 - 120
1,4-Dichlorobenzene	10.0	8.77		ug/L		88	78 - 120
2-Butanone (MEK)	20.0	15.1		ug/L		75	39 - 163
2-Hexanone	20.0	13.0		ug/L		65	43 - 148
4-Methyl-2-pentanone (MIBK)	20.0	15.0		ug/L		75	49 - 143
Acetone	20.0	18.7		ug/L		94	21 - 162
Benzene	10.0	9.35		ug/L		93	80 - 123
Bromodichloromethane	10.0	7.31	*	ug/L		73	77 - 125
Bromoform	10.0	5.95		ug/L		60	49 - 141
Bromomethane	10.0	8.60		ug/L		86	41 - 175
Carbon disulfide	10.0	8.23		ug/L		82	60 - 138
Carbon tetrachloride	10.0	10.3		ug/L		103	63 - 140
Chlorobenzene	10.0	8.85		ug/L		88	80 - 121
Chloroethane	10.0	9.82		ug/L		98	33 - 173
Chloroform	10.0	8.66		ug/L		87	79 - 127
Chloromethane	10.0	11.1		ug/L		111	54 - 143
cis-1,2-Dichloroethene	10.0	9.67		ug/L		97	76 - 128
cis-1,3-Dichloropropene	10.0	7.04		ug/L		70	64 - 132
Cyclohexane	10.0	14.8	*	ug/L		148	58 - 145
Dibromochloromethane	10.0	7.08		ug/L		71	70 - 132
Dichlorodifluoromethane	10.0	6.18		ug/L		62	29 - 148
Diethyl ether	10.0	12.7		ug/L		127	70 - 146
Ethylbenzene	10.0	9.14		ug/L		91	80 - 120
Isopropylbenzene	10.0	8.78		ug/L		88	74 - 120
Methyl acetate	20.0	17.1		ug/L		85	52 - 145
Methyl tert-butyl ether	10.0	6.53		ug/L		65	51 - 133
Methylcyclohexane	10.0	9.82		ug/L		98	60 - 125
Methylene Chloride	10.0	7.34		ug/L		73	70 - 134
Styrene	10.0	8.05		ug/L		80	79 - 120
Tetrachloroethene	10.0	12.5		ug/L		125	74 - 130
Toluene	10.0	8.77		ug/L		88	78 - 129
trans-1,2-Dichloroethene	10.0	9.00		ug/L		90	78 - 133
trans-1,3-Dichloropropene	10.0	5.44	*	ug/L		54	55 - 128
Trichloroethene	10.0	10.5		ug/L		105	76 - 125
Trichlorofluoromethane	10.0	10.3		ug/L		103	51 - 164
Vinyl chloride	10.0	11.4		ug/L		114	58 - 143
Xylenes, Total	20.0	17.9		ug/L		90	80 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	77		59 - 120
Dibromofluoromethane (Surr)	102		75 - 128
1,2-Dichloroethane-d4 (Surr)	102		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: 240-119753-1

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

**Lab Sample ID: 240-119753-3 MS**

**Matrix: Water**

**Analysis Batch: 405286**

**Client Sample ID: MW-52-MS\_092819**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1,1-Trichloroethane	1.0	U	10.0	9.56		ug/L		96	51 - 138
1,1,1,2-Tetrachloroethane	1.0	U F1 *	10.0	4.98	F1	ug/L		50	60 - 137
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	13.1		ug/L		131	31 - 156
1,1,2-Trichloroethane	1.0	U F1 *	10.0	6.22	F1	ug/L		62	76 - 132
1,1-Dichloroethane	1.0	U	10.0	12.2		ug/L		122	63 - 136
1,1-Dichloroethene	1.0	U	10.0	10.1		ug/L		101	53 - 140
1,2,4-Trichlorobenzene	1.0	U	10.0	7.56		ug/L		76	30 - 126
1,2,4-Trimethylbenzene	1.0	U	10.0	8.15		ug/L		82	62 - 120
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	4.95		ug/L		50	38 - 124
1,2-Dibromoethane	1.0	U F1 *	10.0	6.24	F1	ug/L		62	71 - 123
1,2-Dichlorobenzene	1.0	U	10.0	8.26		ug/L		83	64 - 120
1,2-Dichloroethane	1.0	U	10.0	10.1		ug/L		101	65 - 135
1,2-Dichloropropane	1.0	U	10.0	11.9		ug/L		119	70 - 132
1,3,5-Trimethylbenzene	1.0	U	10.0	8.09		ug/L		81	64 - 120
1,3-Dichlorobenzene	1.0	U	10.0	9.12		ug/L		91	62 - 120
1,4-Dichlorobenzene	1.0	U	10.0	8.85		ug/L		89	63 - 120
2-Butanone (MEK)	10	U	20.0	14.8		ug/L		74	37 - 156
2-Hexanone	10	U	20.0	13.0		ug/L		65	42 - 150
4-Methyl-2-pentanone (MIBK)	10	U	20.0	16.3		ug/L		81	44 - 143
Acetone	10	U	20.0	16.0		ug/L		80	10 - 168
Benzene	1.0	U	10.0	9.80		ug/L		98	71 - 122
Bromodichloromethane	1.0	U *	10.0	6.95		ug/L		70	64 - 125
Bromoform	1.0	U	10.0	5.55		ug/L		56	44 - 129
Bromomethane	1.0	U	10.0	6.18		ug/L		62	19 - 187
Carbon disulfide	5.0	U	10.0	10.9		ug/L		109	43 - 144
Carbon tetrachloride	1.0	U	10.0	10.8		ug/L		108	41 - 143
Chlorobenzene	1.0	U	10.0	8.51		ug/L		85	70 - 123
Chloroethane	1.0	U	10.0	8.37		ug/L		84	11 - 189
Chloroform	1.0	U	10.0	8.45		ug/L		85	68 - 130
Chloromethane	1.0	U	10.0	5.31		ug/L		53	31 - 154
cis-1,2-Dichloroethene	1.0	U	10.0	9.22		ug/L		92	64 - 130
cis-1,3-Dichloropropene	1.0	U	10.0	6.68		ug/L		67	48 - 127
Cyclohexane	1.0	U F1 *	10.0	16.9	F1	ug/L		169	42 - 135
Dibromochloromethane	1.0	U	10.0	6.20		ug/L		62	60 - 129
Dichlorodifluoromethane	1.0	U	10.0	6.66		ug/L		67	28 - 136
Diethyl ether	1.0	U	10.0	12.2		ug/L		122	65 - 134
Ethylbenzene	1.0	U	10.0	8.80		ug/L		88	66 - 120
Isopropylbenzene	1.0	U	10.0	8.85		ug/L		88	59 - 120
Methyl acetate	10	U	20.0	17.8		ug/L		89	41 - 142
Methyl tert-butyl ether	1.0	U	10.0	6.62		ug/L		66	41 - 136
Methylcyclohexane	1.0	U	10.0	10.8		ug/L		108	37 - 123
Methylene Chloride	5.0	U	10.0	7.30		ug/L		73	61 - 130
Styrene	1.0	U	10.0	8.46		ug/L		85	68 - 120
Tetrachloroethene	1.0	U	10.0	12.0		ug/L		120	51 - 136
Toluene	1.0	U	10.0	8.36		ug/L		84	62 - 132
trans-1,2-Dichloroethene	1.0	U	10.0	9.11		ug/L		91	68 - 133
trans-1,3-Dichloropropene	1.0	U *	10.0	5.44		ug/L		54	40 - 125
Trichloroethene	1.0	U	10.0	10.8		ug/L		108	55 - 131

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-119753-1

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

Lab Sample ID: 240-119753-3 MS

Client Sample ID: MW-52-MS\_092819

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 405286

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	
	Result	Qualifier		Result	Qualifier					Limits
Trichlorofluoromethane	1.0	U	10.0	10.5		ug/L		105	37 - 174	
Vinyl chloride	5.9		10.0	18.2		ug/L		123	43 - 154	
Xylenes, Total	2.0	U	20.0	17.4		ug/L		87	67 - 120	
<b>MS MS</b>										
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene (Surr)	75		59 - 120							
Dibromofluoromethane (Surr)	106		75 - 128							
1,2-Dichloroethane-d4 (Surr)	97		70 - 121							
Toluene-d8 (Surr)	100		70 - 123							

Lab Sample ID: 240-119753-3 MSD

Client Sample ID: MW-52-MSD\_092819

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 405286

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier		Result	Qualifier						
1,1,1-Trichloroethane	1.0	U	10.0	9.35		ug/L		94	51 - 138	2	27
1,1,2,2-Tetrachloroethane	1.0	U F1 *	10.0	5.12	F1	ug/L		51	60 - 137	3	31
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	12.4		ug/L		124	31 - 156	5	35
1,1,2-Trichloroethane	1.0	U F1 *	10.0	6.45	F1	ug/L		64	76 - 132	4	25
1,1-Dichloroethane	1.0	U	10.0	11.9		ug/L		119	63 - 136	3	23
1,1-Dichloroethene	1.0	U	10.0	9.71		ug/L		97	53 - 140	4	35
1,2,4-Trichlorobenzene	1.0	U	10.0	7.91		ug/L		79	30 - 126	5	35
1,2,4-Trimethylbenzene	1.0	U	10.0	8.04		ug/L		80	62 - 120	1	27
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	4.24		ug/L		42	38 - 124	15	35
1,2-Dibromoethane	1.0	U F1 *	10.0	5.78	F1	ug/L		58	71 - 123	8	27
1,2-Dichlorobenzene	1.0	U	10.0	8.44		ug/L		84	64 - 120	2	30
1,2-Dichloroethane	1.0	U	10.0	10.9		ug/L		109	65 - 135	7	24
1,2-Dichloropropane	1.0	U	10.0	11.9		ug/L		119	70 - 132	0	26
1,3,5-Trimethylbenzene	1.0	U	10.0	7.65		ug/L		76	64 - 120	6	23
1,3-Dichlorobenzene	1.0	U	10.0	8.86		ug/L		89	62 - 120	3	31
1,4-Dichlorobenzene	1.0	U	10.0	8.99		ug/L		90	63 - 120	2	28
2-Butanone (MEK)	10	U	20.0	17.0		ug/L		85	37 - 156	14	35
2-Hexanone	10	U	20.0	12.8		ug/L		64	42 - 150	1	35
4-Methyl-2-pentanone (MIBK)	10	U	20.0	16.5		ug/L		82	44 - 143	1	35
Acetone	10	U	20.0	17.7		ug/L		89	10 - 168	10	35
Benzene	1.0	U	10.0	9.26		ug/L		93	71 - 122	6	22
Bromodichloromethane	1.0	U *	10.0	7.10		ug/L		71	64 - 125	2	27
Bromoform	1.0	U	10.0	6.01		ug/L		60	44 - 129	8	28
Bromomethane	1.0	U	10.0	5.93		ug/L		59	19 - 187	4	35
Carbon disulfide	5.0	U	10.0	11.0		ug/L		110	43 - 144	0	33
Carbon tetrachloride	1.0	U	10.0	10.5		ug/L		105	41 - 143	3	30
Chlorobenzene	1.0	U	10.0	8.49		ug/L		85	70 - 123	0	23
Chloroethane	1.0	U	10.0	8.65		ug/L		87	11 - 189	3	35
Chloroform	1.0	U	10.0	8.43		ug/L		84	68 - 130	0	23
Chloromethane	1.0	U	10.0	4.93		ug/L		49	31 - 154	8	35
cis-1,2-Dichloroethene	1.0	U	10.0	9.51		ug/L		95	64 - 130	3	21
cis-1,3-Dichloropropene	1.0	U	10.0	6.87		ug/L		69	48 - 127	3	30
Cyclohexane	1.0	U F1 *	10.0	16.3	F1	ug/L		163	42 - 135	4	35

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-119753-1

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

Lab Sample ID: 240-119753-3 MSD

Client Sample ID: MW-52-MSD\_092819

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 405286

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibromochloromethane	1.0	U	10.0	6.51		ug/L		65	60 - 129	5	26
Dichlorodifluoromethane	1.0	U	10.0	6.72		ug/L		67	28 - 136	1	35
Diethyl ether	1.0	U	10.0	12.8		ug/L		128	65 - 134	5	33
Ethylbenzene	1.0	U	10.0	8.76		ug/L		88	66 - 120	1	24
Isopropylbenzene	1.0	U	10.0	8.81		ug/L		88	59 - 120	0	31
Methyl acetate	10	U	20.0	18.1		ug/L		91	41 - 142	2	35
Methyl tert-butyl ether	1.0	U	10.0	6.81		ug/L		68	41 - 136	3	29
Methylcyclohexane	1.0	U	10.0	10.4		ug/L		104	37 - 123	4	35
Methylene Chloride	5.0	U	10.0	8.67		ug/L		87	61 - 130	17	29
Styrene	1.0	U	10.0	7.85		ug/L		79	68 - 120	7	26
Tetrachloroethene	1.0	U	10.0	11.6		ug/L		116	51 - 136	3	23
Toluene	1.0	U	10.0	8.19		ug/L		82	62 - 132	2	23
trans-1,2-Dichloroethene	1.0	U	10.0	8.86		ug/L		89	68 - 133	3	24
trans-1,3-Dichloropropene	1.0	U *	10.0	5.44		ug/L		54	40 - 125	0	27
Trichloroethene	1.0	U	10.0	10.6		ug/L		106	55 - 131	2	23
Trichlorofluoromethane	1.0	U	10.0	10.5		ug/L		105	37 - 174	0	35
Vinyl chloride	5.9		10.0	18.0		ug/L		120	43 - 154	1	29
Xylenes, Total	2.0	U	20.0	16.5		ug/L		83	67 - 120	5	25

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	73		59 - 120
Dibromofluoromethane (Surr)	101		75 - 128
1,2-Dichloroethane-d4 (Surr)	101		70 - 121
Toluene-d8 (Surr)	95		70 - 123

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

Lab Sample ID: MB 240-404405/5

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 404405

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			10/07/19 12:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		10/07/19 12:46	1

Lab Sample ID: LCS 240-404405/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 404405

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.8		ug/L		118	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		63 - 125

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-119753-1

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

**Lab Sample ID: 240-119753-2 MS**  
**Matrix: Water**  
**Analysis Batch: 404405**

**Client Sample ID: MW-43-MS\_092819**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
1,4-Dioxane	4.4		10.0	15.3		ug/L		108	52 - 129	
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>MS Limits</b>							
1,2-Dichloroethane-d4 (Surr)	103		63 - 125							

**Lab Sample ID: 240-119753-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 404405**

**Client Sample ID: MW-43-MSD\_092819**  
**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	4.4		10.0	14.7		ug/L		103	52 - 129	4	13
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>MSD Limits</b>								
1,2-Dichloroethane-d4 (Surr)	104		63 - 125								

**Lab Sample ID: 240-119753-3 MS**  
**Matrix: Water**  
**Analysis Batch: 404405**

**Client Sample ID: MW-52-MS\_092819**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.1	J	10.0	11.0		ug/L		99	52 - 129
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>MS Limits</b>						
1,2-Dichloroethane-d4 (Surr)	104		63 - 125						

**Lab Sample ID: 240-119753-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 404405**

**Client Sample ID: MW-52-MSD\_092819**  
**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	1.1	J	10.0	10.6		ug/L		95	52 - 129	4	13
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>MSD Limits</b>								
1,2-Dichloroethane-d4 (Surr)	105		63 - 125								



# QC Association Summary

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

Job ID: 240-119753-1

## GC/MS VOA

### Analysis Batch: 404405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119753-1	MW-35_092819	Total/NA	Water	8260B SIM	
240-119753-2	MW-43_092819	Total/NA	Water	8260B SIM	
240-119753-3	MW-52_092819	Total/NA	Water	8260B SIM	
240-119753-4	MW-120_092819	Total/NA	Water	8260B SIM	
MB 240-404405/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-404405/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-119753-2 MS	MW-43-MS_092819	Total/NA	Water	8260B SIM	
240-119753-2 MSD	MW-43-MSD_092819	Total/NA	Water	8260B SIM	
240-119753-3 MS	MW-52-MS_092819	Total/NA	Water	8260B SIM	
240-119753-3 MSD	MW-52-MSD_092819	Total/NA	Water	8260B SIM	

### Analysis Batch: 405078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119753-2	MW-43_092819	Total/NA	Water	8260B	
MB 240-405078/7	Method Blank	Total/NA	Water	8260B	
LCS 240-405078/4	Lab Control Sample	Total/NA	Water	8260B	
240-119753-2 MS	MW-43-MS_092819	Total/NA	Water	8260B	
240-119753-2 MSD	MW-43-MSD_092819	Total/NA	Water	8260B	

### Analysis Batch: 405286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119753-1	MW-35_092819	Total/NA	Water	8260B	
240-119753-3	MW-52_092819	Total/NA	Water	8260B	
240-119753-4	MW-120_092819	Total/NA	Water	8260B	
240-119753-5	TRIP BLANK	Total/NA	Water	8260B	
MB 240-405286/7	Method Blank	Total/NA	Water	8260B	
LCS 240-405286/4	Lab Control Sample	Total/NA	Water	8260B	
240-119753-3 MS	MW-52-MS_092819	Total/NA	Water	8260B	
240-119753-3 MSD	MW-52-MSD_092819	Total/NA	Water	8260B	

# Lab Chronicle

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

Job ID: 240-119753-1

**Client Sample ID: MW-35\_092819**

**Lab Sample ID: 240-119753-1**

**Date Collected: 09/28/19 09:34**

**Matrix: Water**

**Date Received: 10/01/19 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	405286	10/11/19 17:34	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	404405	10/07/19 18:10	SAM	TAL CAN

**Client Sample ID: MW-43\_092819**

**Lab Sample ID: 240-119753-2**

**Date Collected: 09/28/19 11:08**

**Matrix: Water**

**Date Received: 10/01/19 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	405078	10/10/19 21:54	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	404405	10/07/19 18:34	SAM	TAL CAN

**Client Sample ID: MW-52\_092819**

**Lab Sample ID: 240-119753-3**

**Date Collected: 09/28/19 12:40**

**Matrix: Water**

**Date Received: 10/01/19 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	405286	10/11/19 18:24	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	404405	10/07/19 19:49	SAM	TAL CAN

**Client Sample ID: MW-120\_092819**

**Lab Sample ID: 240-119753-4**

**Date Collected: 09/28/19 15:10**

**Matrix: Water**

**Date Received: 10/01/19 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	405286	10/11/19 19:41	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	404405	10/07/19 21:05	SAM	TAL CAN

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-119753-5**

**Date Collected: 09/28/19 00:00**

**Matrix: Water**

**Date Received: 10/01/19 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	405286	10/11/19 20:06	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: 240-119753-1

## 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** Login # : 119753  
**Canton Facility**

Client Arcady's Site Name \_\_\_\_\_ Cooler unpacked by: [Signature]  
Cooler Received on 10-01-19 Opened on 10-01-19  
FedEx: 1<sup>st</sup>  Grd  Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other \_\_\_\_\_


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

TestAmerica Cooler # 1A Foam Box  Client Cooler  Box  Other \_\_\_\_\_  
Packing material used: Bubble Wrap Foam Plastic Bag None \_\_\_\_\_ Other \_\_\_\_\_  
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt  See Multiple Cooler Form  
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  
IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 4 Yes No  
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA  
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No  
-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No  
4. Did custody papers accompany the sample(s)? Yes No  
5. Were the custody papers relinquished & signed in the appropriate place? Yes No  
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No  
7. Did all bottles arrive in good condition (Unbroken)? Yes No  
8. Could all bottle labels be reconciled with the COC? Yes No  
9. Were correct bottle(s) used for the test(s) indicated? Yes No  
10. Sufficient quantity received to perform indicated analyses? Yes No  
11. Are these work share samples? Yes No  
If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# 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 # NA Yes No  
16. Was a LL Hg or Me Hg trip blank present? Yes No

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

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

**17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES** Samples processed by: MS

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

**18. SAMPLE CONDITION**

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

**19. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in the laboratory.  
Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_  
VOA Sample Preservation - Date/Time VOAs Frozen: \_\_\_\_\_

