

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton  
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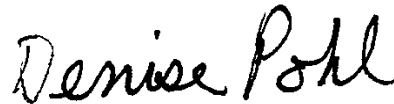
TestAmerica Job ID: 240-91647-1

Client Project/Site: Ford LTP Livonia MI - E203728

For:

ARCADIS U.S., Inc.  
28550 Cabot Drive  
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Attn: Kristoffer Hinskey



Authorized for release by:  
2/28/2018 1:21:43 PM

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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.*

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



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Method Summary . . . . .	6
Sample Summary . . . . .	7
Detection Summary . . . . .	8
Client Sample Results . . . . .	10
Surrogate Summary . . . . .	42
QC Sample Results . . . . .	44
QC Association Summary . . . . .	51
Lab Chronicle . . . . .	52
Certification Summary . . . . .	55
Chain of Custody . . . . .	56

# Definitions/Glossary

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

TestAmerica Job ID: 240-91647-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
X	Surrogate is outside control limits
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD 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.
F1	MS and/or MSD Recovery is outside acceptance limits.

## 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

TestAmerica Job ID: 240-91647-1

**Job ID: 240-91647-1**

**Laboratory: TestAmerica Canton**

**Narrative**

## CASE NARRATIVE

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

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

**Report Number: 240-91647-1**

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.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. 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 TestAmerica and its client.

### **RECEIPT**

The samples were received on 2/17/2018 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.7° C.

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

Samples MW-42\_021318 (240-91647-1), MW-43\_021318 (240-91647-2), MW-34\_021318 (240-91647-3), MW-52\_021318 (240-91647-4), MW-69\_021418 (240-91647-5), MW-31\_021418 (240-91647-6), MW-35\_021418 (240-91647-7), MW-18\_021418 (240-91647-8), MW-56\_021418 (240-91647-9), DUP-03\_021418 (240-91647-10), MW-24\_021418 (240-91647-11), TRIP BLANK (240-91647-12), MW-36\_021518 (240-91647-13), MW-38\_021518 (240-91647-14), MW-39\_021518 (240-91647-15) and DUP-04\_021518 (240-91647-16) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/22/2018.

1,1,2,2-Tetrachloroethane, 1,1-Dichloroethane, 1,3,5-Trimethylbenzene, Chloroform and Toluene failed the recovery criteria high for LCS 240-315781/4. Refer to the QC report for details.

Bromoform failed the recovery criteria low for the MS of sample MW-38\_021518MS (240-91647-14) in batch 240-315781.

1,1,2,2-Tetrachloroethane failed the recovery criteria high. Bromoform failed the recovery criteria low for the MSD of sample MW-38\_021518MSD (240-91647-14) in batch 240-315781. Refer to the QC report for details.

# Case Narrative

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

TestAmerica Job ID: 240-91647-1

## Job ID: 240-91647-1 (Continued)

### Laboratory: TestAmerica Canton (Continued)

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 315781 recovered above the upper control limit for Toluene. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported. The following samples are impacted: MW-42\_021318 (240-91647-1), MW-43\_021318 (240-91647-2), MW-34\_021318 (240-91647-3), MW-52\_021318 (240-91647-4), MW-69\_021418 (240-91647-5), MW-31\_021418 (240-91647-6), MW-35\_021418 (240-91647-7), MW-18\_021418 (240-91647-8), MW-56\_021418 (240-91647-9), DUP-03\_021418 (240-91647-10), MW-24\_021418 (240-91647-11), TRIP BLANK (240-91647-12), MW-36\_021518 (240-91647-13), MW-38\_021518 (240-91647-14), MW-39\_021518 (240-91647-15) and DUP-04\_021518 (240-91647-16).

Method(s) 8260B: The laboratory control sample (LCS) for 315781 recovered outside control limits for multiple analytes. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. MW-42\_021318 (240-91647-1), MW-43\_021318 (240-91647-2), MW-34\_021318 (240-91647-3), MW-52\_021318 (240-91647-4), MW-69\_021418 (240-91647-5), MW-31\_021418 (240-91647-6), MW-35\_021418 (240-91647-7), MW-18\_021418 (240-91647-8), MW-56\_021418 (240-91647-9), DUP-03\_021418 (240-91647-10), MW-24\_021418 (240-91647-11), TRIP BLANK (240-91647-12), MW-36\_021518 (240-91647-13), MW-38\_021518 (240-91647-14), MW-39\_021518 (240-91647-15), DUP-04\_021518 (240-91647-16) and (LCS 240-315781/4)

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-42\_021318 (240-91647-1), MW-43\_021318 (240-91647-2), MW-34\_021318 (240-91647-3), MW-52\_021318 (240-91647-4), MW-69\_021418 (240-91647-5), MW-31\_021418 (240-91647-6), MW-35\_021418 (240-91647-7), MW-18\_021418 (240-91647-8), MW-56\_021418 (240-91647-9), DUP-03\_021418 (240-91647-10), MW-24\_021418 (240-91647-11), MW-36\_021518 (240-91647-13), MW-38\_021518 (240-91647-14), MW-39\_021518 (240-91647-15) and DUP-04\_021518 (240-91647-16) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 02/22/2018 and 02/23/2018.

1,2-Dichloroethane-d4 (Surr) failed the surrogate recovery criteria high for MW-43\_021318 (240-91647-2), MW-18\_021418 (240-91647-8), 240-91587-D-9 MSD and MW-24\_021418 (240-91647-11). Refer to the QC report for details.

Method(s) 8260B SIM: Surrogate recovery for the following sample was outside control limits: (240-91587-D-9 MSD).

Method(s) 8260B SIM: Surrogate recovery for the following sample was outside the upper control limit: MW-18\_021418 (240-91647-8). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B SIM: Surrogate recovery for the following sample was outside control limits: MW-43\_021318 (240-91647-2). Re-extraction and/or re-analysis was performed with concurring results. The second analysis has been reported.

Method(s) 8260B SIM: Surrogate recovery for the following sample was outside the upper control limit: MW-24\_021418 (240-91647-11). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No additional 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

TestAmerica Job ID: 240-91647-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CAN = 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

TestAmerica Job ID: 240-91647-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-91647-1	MW-42_021318	Water	02/13/18 15:45	02/17/18 09:30
240-91647-2	MW-43_021318	Water	02/13/18 17:07	02/17/18 09:30
240-91647-3	MW-34_021318	Water	02/13/18 15:20	02/17/18 09:30
240-91647-4	MW-52_021318	Water	02/13/18 16:55	02/17/18 09:30
240-91647-5	MW-69_021418	Water	02/14/18 09:04	02/17/18 09:30
240-91647-6	MW-31_021418	Water	02/14/18 09:50	02/17/18 09:30
240-91647-7	MW-35_021418	Water	02/14/18 11:17	02/17/18 09:30
240-91647-8	MW-18_021418	Water	02/14/18 13:58	02/17/18 09:30
240-91647-9	MW-56_021418	Water	02/14/18 15:41	02/17/18 09:30
240-91647-10	DUP-03_021418	Water	02/14/18 00:00	02/17/18 09:30
240-91647-11	MW-24_021418	Water	02/14/18 17:11	02/17/18 09:30
240-91647-12	TRIP BLANK	Water	02/13/18 00:00	02/17/18 09:30
240-91647-13	MW-36_021518	Water	02/15/18 09:07	02/17/18 09:30
240-91647-14	MW-38_021518	Water	02/15/18 10:34	02/17/18 09:30
240-91647-15	MW-39_021518	Water	02/15/18 12:08	02/17/18 09:30
240-91647-16	DUP-04_021518	Water	02/15/18 00:00	02/17/18 09:30

# Detection Summary

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

TestAmerica Job ID: 240-91647-1

## Client Sample ID: MW-42\_021318

## Lab Sample ID: 240-91647-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.8	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	0.81	J	1.0	0.45	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-43\_021318

## Lab Sample ID: 240-91647-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.2		2.0	0.24	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	8.0		1.0	0.45	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-34\_021318

## Lab Sample ID: 240-91647-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	7.4		2.0	0.24	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	0.97	J	1.0	0.45	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-52\_021318

## Lab Sample ID: 240-91647-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.2	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	4.0		1.0	0.45	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-69\_021418

## Lab Sample ID: 240-91647-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	23		2.0	0.24	ug/L	1		8260B SIM	Total/NA

## Client Sample ID: MW-31\_021418

## Lab Sample ID: 240-91647-6

No Detections.

## Client Sample ID: MW-35\_021418

## Lab Sample ID: 240-91647-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.3		2.0	0.24	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	4.5		1.0	0.45	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-18\_021418

## Lab Sample ID: 240-91647-8

No Detections.

## Client Sample ID: MW-56\_021418

## Lab Sample ID: 240-91647-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.6	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA

## Client Sample ID: DUP-03\_021418

## Lab Sample ID: 240-91647-10

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Canton



# Detection Summary

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-24\_021418**

**Lab Sample ID: 240-91647-11**

No Detections.

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-91647-12**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	2.5	J	10	1.8	ug/L	1			8260B	Total/NA

**Client Sample ID: MW-36\_021518**

**Lab Sample ID: 240-91647-13**

No Detections.

**Client Sample ID: MW-38\_021518**

**Lab Sample ID: 240-91647-14**

No Detections.

**Client Sample ID: MW-39\_021518**

**Lab Sample ID: 240-91647-15**

No Detections.

**Client Sample ID: DUP-04\_021518**

**Lab Sample ID: 240-91647-16**

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-42\_021318**

**Lab Sample ID: 240-91647-1**

**Date Collected: 02/13/18 15:45**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.8	J	2.0	0.24	ug/L			02/23/18 12:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	122		63 - 125					02/23/18 12:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 13:36	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 13:36	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 13:36	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 13:36	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 13:36	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 13:36	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 13:36	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 13:36	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 13:36	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 13:36	1
Chloroform	1.0	U*	1.0	0.31	ug/L			02/22/18 13:36	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 13:36	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 13:36	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 13:36	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 13:36	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 13:36	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 13:36	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 13:36	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 13:36	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 13:36	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 13:36	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 13:36	1
1,1-Dichloroethane	1.0	U*	1.0	0.25	ug/L			02/22/18 13:36	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 13:36	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 13:36	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 13:36	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 13:36	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 13:36	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 13:36	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 13:36	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 13:36	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 13:36	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 13:36	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 13:36	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 13:36	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 13:36	1
1,1,2,2-Tetrachloroethane	1.0	U*	1.0	0.32	ug/L			02/22/18 13:36	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 13:36	1
Toluene	1.0	U*	1.0	0.23	ug/L			02/22/18 13:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 13:36	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 13:36	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 13:36	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 13:36	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-42\_021318**

**Lab Sample ID: 240-91647-1**

**Date Collected: 02/13/18 15:45**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 13:36	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 13:36	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 13:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 13:36	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 13:36	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 13:36	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 13:36	1
<b>Vinyl chloride</b>	<b>0.81</b>	<b>J</b>	1.0	0.45	ug/L			02/22/18 13:36	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 13:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		69 - 120		02/22/18 13:36	1
Dibromofluoromethane (Surr)	104		69 - 124		02/22/18 13:36	1
1,2-Dichloroethane-d4 (Surr)	106		61 - 138		02/22/18 13:36	1
Toluene-d8 (Surr)	108		73 - 120		02/22/18 13:36	1

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-43\_021318**

**Lab Sample ID: 240-91647-2**

**Date Collected: 02/13/18 17:07**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.2		2.0	0.24	ug/L			02/23/18 13:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	126	X	63 - 125					02/23/18 13:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 13:58	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 13:58	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 13:58	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 13:58	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 13:58	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 13:58	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 13:58	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 13:58	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 13:58	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 13:58	1
Chloroform	1.0	U*	1.0	0.31	ug/L			02/22/18 13:58	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 13:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 13:58	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 13:58	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 13:58	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 13:58	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 13:58	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 13:58	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 13:58	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 13:58	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 13:58	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 13:58	1
1,1-Dichloroethane	1.0	U*	1.0	0.25	ug/L			02/22/18 13:58	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 13:58	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 13:58	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 13:58	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 13:58	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 13:58	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 13:58	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 13:58	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 13:58	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 13:58	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 13:58	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 13:58	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 13:58	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 13:58	1
1,1,2,2-Tetrachloroethane	1.0	U*	1.0	0.32	ug/L			02/22/18 13:58	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 13:58	1
Toluene	1.0	U*	1.0	0.23	ug/L			02/22/18 13:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 13:58	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 13:58	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 13:58	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 13:58	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-43\_021318**

**Lab Sample ID: 240-91647-2**

**Date Collected: 02/13/18 17:07**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 13:58	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 13:58	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 13:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 13:58	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 13:58	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 13:58	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 13:58	1
<b>Vinyl chloride</b>	<b>8.0</b>		1.0	0.45	ug/L			02/22/18 13:58	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 13:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		69 - 120		02/22/18 13:58	1
Dibromofluoromethane (Surr)	108		69 - 124		02/22/18 13:58	1
1,2-Dichloroethane-d4 (Surr)	110		61 - 138		02/22/18 13:58	1
Toluene-d8 (Surr)	112		73 - 120		02/22/18 13:58	1

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-34\_021318**

**Lab Sample ID: 240-91647-3**

**Date Collected: 02/13/18 15:20**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	7.4		2.0	0.24	ug/L			02/23/18 13:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		63 - 125					02/23/18 13:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 14:21	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 14:21	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 14:21	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 14:21	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 14:21	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 14:21	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 14:21	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 14:21	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 14:21	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 14:21	1
Chloroform	1.0	U*	1.0	0.31	ug/L			02/22/18 14:21	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 14:21	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 14:21	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 14:21	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 14:21	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 14:21	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 14:21	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 14:21	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 14:21	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 14:21	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 14:21	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 14:21	1
1,1-Dichloroethane	1.0	U*	1.0	0.25	ug/L			02/22/18 14:21	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 14:21	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 14:21	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 14:21	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 14:21	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 14:21	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 14:21	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 14:21	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 14:21	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 14:21	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 14:21	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 14:21	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 14:21	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 14:21	1
1,1,2,2-Tetrachloroethane	1.0	U*	1.0	0.32	ug/L			02/22/18 14:21	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 14:21	1
Toluene	1.0	U*	1.0	0.23	ug/L			02/22/18 14:21	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 14:21	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 14:21	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 14:21	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 14:21	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-34\_021318**

**Lab Sample ID: 240-91647-3**

**Date Collected: 02/13/18 15:20**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 14:21	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 14:21	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 14:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 14:21	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 14:21	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 14:21	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 14:21	1
<b>Vinyl chloride</b>	<b>0.97</b>	<b>J</b>	1.0	0.45	ug/L			02/22/18 14:21	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 14:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		69 - 120		02/22/18 14:21	1
Dibromofluoromethane (Surr)	102		69 - 124		02/22/18 14:21	1
1,2-Dichloroethane-d4 (Surr)	113		61 - 138		02/22/18 14:21	1
Toluene-d8 (Surr)	106		73 - 120		02/22/18 14:21	1

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-52\_021318**

**Lab Sample ID: 240-91647-4**

**Date Collected: 02/13/18 16:55**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.2	J	2.0	0.24	ug/L			02/22/18 16:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		63 - 125					02/22/18 16:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 14:44	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 14:44	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 14:44	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 14:44	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 14:44	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 14:44	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 14:44	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 14:44	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 14:44	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 14:44	1
Chloroform	1.0	U*	1.0	0.31	ug/L			02/22/18 14:44	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 14:44	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 14:44	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 14:44	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 14:44	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 14:44	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 14:44	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 14:44	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 14:44	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 14:44	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 14:44	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 14:44	1
1,1-Dichloroethane	1.0	U*	1.0	0.25	ug/L			02/22/18 14:44	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 14:44	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 14:44	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 14:44	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 14:44	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 14:44	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 14:44	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 14:44	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 14:44	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 14:44	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 14:44	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 14:44	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 14:44	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 14:44	1
1,1,2,2-Tetrachloroethane	1.0	U*	1.0	0.32	ug/L			02/22/18 14:44	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 14:44	1
Toluene	1.0	U*	1.0	0.23	ug/L			02/22/18 14:44	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 14:44	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 14:44	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 14:44	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 14:44	1

TestAmerica Canton



# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-52\_021318**

**Lab Sample ID: 240-91647-4**

**Date Collected: 02/13/18 16:55**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 14:44	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 14:44	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 14:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 14:44	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 14:44	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 14:44	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 14:44	1
<b>Vinyl chloride</b>	<b>4.0</b>		1.0	0.45	ug/L			02/22/18 14:44	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		69 - 120		02/22/18 14:44	1
Dibromofluoromethane (Surr)	101		69 - 124		02/22/18 14:44	1
1,2-Dichloroethane-d4 (Surr)	111		61 - 138		02/22/18 14:44	1
Toluene-d8 (Surr)	109		73 - 120		02/22/18 14:44	1

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-69\_021418**

**Lab Sample ID: 240-91647-5**

**Date Collected: 02/14/18 09:04**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	23		2.0	0.24	ug/L			02/23/18 18:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	122		63 - 125					02/23/18 18:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 15:07	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 15:07	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 15:07	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 15:07	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 15:07	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 15:07	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 15:07	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 15:07	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 15:07	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 15:07	1
Chloroform	1.0	U*	1.0	0.31	ug/L			02/22/18 15:07	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 15:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 15:07	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 15:07	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 15:07	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 15:07	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 15:07	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 15:07	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 15:07	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 15:07	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 15:07	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 15:07	1
1,1-Dichloroethane	1.0	U*	1.0	0.25	ug/L			02/22/18 15:07	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 15:07	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 15:07	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 15:07	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 15:07	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 15:07	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 15:07	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 15:07	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 15:07	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 15:07	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 15:07	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 15:07	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 15:07	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 15:07	1
1,1,2,2-Tetrachloroethane	1.0	U*	1.0	0.32	ug/L			02/22/18 15:07	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 15:07	1
Toluene	1.0	U*	1.0	0.23	ug/L			02/22/18 15:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 15:07	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 15:07	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 15:07	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 15:07	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-69\_021418**  
**Date Collected: 02/14/18 09:04**  
**Date Received: 02/17/18 09:30**

**Lab Sample ID: 240-91647-5**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 15:07	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 15:07	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 15:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 15:07	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 15:07	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 15:07	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 15:07	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/22/18 15:07	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 15:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		69 - 120		02/22/18 15:07	1
Dibromofluoromethane (Surr)	99		69 - 124		02/22/18 15:07	1
1,2-Dichloroethane-d4 (Surr)	107		61 - 138		02/22/18 15:07	1
Toluene-d8 (Surr)	100		73 - 120		02/22/18 15:07	1

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-31\_021418**

**Lab Sample ID: 240-91647-6**

**Date Collected: 02/14/18 09:50**

**Matrix: Water**

**Date Received: 02/17/18 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	0.24	ug/L			02/22/18 22:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	122		63 - 125					02/22/18 22:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 15:29	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 15:29	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 15:29	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 15:29	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 15:29	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 15:29	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 15:29	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 15:29	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 15:29	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 15:29	1
Chloroform	1.0	U*	1.0	0.31	ug/L			02/22/18 15:29	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 15:29	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 15:29	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 15:29	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 15:29	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 15:29	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 15:29	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 15:29	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 15:29	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 15:29	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 15:29	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 15:29	1
1,1-Dichloroethane	1.0	U*	1.0	0.25	ug/L			02/22/18 15:29	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 15:29	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 15:29	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 15:29	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 15:29	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 15:29	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 15:29	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 15:29	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 15:29	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 15:29	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 15:29	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 15:29	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 15:29	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 15:29	1
1,1,2,2-Tetrachloroethane	1.0	U*	1.0	0.32	ug/L			02/22/18 15:29	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 15:29	1
Toluene	1.0	U*	1.0	0.23	ug/L			02/22/18 15:29	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 15:29	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 15:29	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 15:29	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 15:29	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-31\_021418**

**Lab Sample ID: 240-91647-6**

**Date Collected: 02/14/18 09:50**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 15:29	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 15:29	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 15:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 15:29	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 15:29	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 15:29	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 15:29	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/22/18 15:29	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 15:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		69 - 120		02/22/18 15:29	1
Dibromofluoromethane (Surr)	106		69 - 124		02/22/18 15:29	1
1,2-Dichloroethane-d4 (Surr)	113		61 - 138		02/22/18 15:29	1
Toluene-d8 (Surr)	109		73 - 120		02/22/18 15:29	1

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-35\_021418**

**Lab Sample ID: 240-91647-7**

**Date Collected: 02/14/18 11:17**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.3		2.0	0.24	ug/L			02/22/18 23:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		63 - 125					02/22/18 23:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 15:52	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 15:52	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 15:52	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 15:52	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 15:52	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 15:52	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 15:52	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 15:52	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 15:52	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 15:52	1
Chloroform	1.0	U*	1.0	0.31	ug/L			02/22/18 15:52	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 15:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 15:52	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 15:52	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 15:52	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 15:52	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 15:52	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 15:52	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 15:52	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 15:52	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 15:52	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 15:52	1
1,1-Dichloroethane	1.0	U*	1.0	0.25	ug/L			02/22/18 15:52	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 15:52	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 15:52	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 15:52	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 15:52	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 15:52	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 15:52	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 15:52	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 15:52	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 15:52	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 15:52	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 15:52	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 15:52	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 15:52	1
1,1,2,2-Tetrachloroethane	1.0	U*	1.0	0.32	ug/L			02/22/18 15:52	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 15:52	1
Toluene	1.0	U*	1.0	0.23	ug/L			02/22/18 15:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 15:52	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 15:52	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 15:52	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 15:52	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-35\_021418**

**Lab Sample ID: 240-91647-7**

**Date Collected: 02/14/18 11:17**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 15:52	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 15:52	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 15:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 15:52	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 15:52	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 15:52	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 15:52	1
<b>Vinyl chloride</b>	<b>4.5</b>		1.0	0.45	ug/L			02/22/18 15:52	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 15:52	1
<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)	79		69 - 120					02/22/18 15:52	1
Dibromofluoromethane (Surr)	100		69 - 124					02/22/18 15:52	1
1,2-Dichloroethane-d4 (Surr)	111		61 - 138					02/22/18 15:52	1
Toluene-d8 (Surr)	107		73 - 120					02/22/18 15:52	1

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-18\_021418**

**Lab Sample ID: 240-91647-8**

**Date Collected: 02/14/18 13:58**

**Matrix: Water**

**Date Received: 02/17/18 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	0.24	ug/L			02/22/18 23:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	130	X	63 - 125					02/22/18 23:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 16:15	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 16:15	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 16:15	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 16:15	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 16:15	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 16:15	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 16:15	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 16:15	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 16:15	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 16:15	1
Chloroform	1.0	U*	1.0	0.31	ug/L			02/22/18 16:15	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 16:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 16:15	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 16:15	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 16:15	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 16:15	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 16:15	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 16:15	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 16:15	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 16:15	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 16:15	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 16:15	1
1,1-Dichloroethane	1.0	U*	1.0	0.25	ug/L			02/22/18 16:15	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 16:15	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 16:15	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 16:15	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 16:15	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 16:15	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 16:15	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 16:15	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 16:15	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 16:15	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 16:15	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 16:15	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 16:15	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 16:15	1
1,1,2,2-Tetrachloroethane	1.0	U*	1.0	0.32	ug/L			02/22/18 16:15	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 16:15	1
Toluene	1.0	U*	1.0	0.23	ug/L			02/22/18 16:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 16:15	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 16:15	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 16:15	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 16:15	1

TestAmerica Canton



# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-18\_021418**

**Lab Sample ID: 240-91647-8**

**Date Collected: 02/14/18 13:58**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 16:15	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 16:15	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 16:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 16:15	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 16:15	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 16:15	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 16:15	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/22/18 16:15	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 16:15	1
<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)	78		69 - 120					02/22/18 16:15	1
Dibromofluoromethane (Surr)	101		69 - 124					02/22/18 16:15	1
1,2-Dichloroethane-d4 (Surr)	112		61 - 138					02/22/18 16:15	1
Toluene-d8 (Surr)	107		73 - 120					02/22/18 16:15	1

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-56\_021418**

**Lab Sample ID: 240-91647-9**

**Date Collected: 02/14/18 15:41**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.6	J	2.0	0.24	ug/L			02/23/18 19:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 125					02/23/18 19:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 16:36	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 16:36	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 16:36	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 16:36	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 16:36	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 16:36	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 16:36	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 16:36	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 16:36	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 16:36	1
Chloroform	1.0	U*	1.0	0.31	ug/L			02/22/18 16:36	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 16:36	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 16:36	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 16:36	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 16:36	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 16:36	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 16:36	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 16:36	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 16:36	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 16:36	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 16:36	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 16:36	1
1,1-Dichloroethane	1.0	U*	1.0	0.25	ug/L			02/22/18 16:36	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 16:36	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 16:36	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 16:36	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 16:36	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 16:36	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 16:36	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 16:36	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 16:36	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 16:36	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 16:36	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 16:36	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 16:36	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 16:36	1
1,1,2,2-Tetrachloroethane	1.0	U*	1.0	0.32	ug/L			02/22/18 16:36	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 16:36	1
Toluene	1.0	U*	1.0	0.23	ug/L			02/22/18 16:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 16:36	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 16:36	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 16:36	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 16:36	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-56\_021418**

**Lab Sample ID: 240-91647-9**

**Date Collected: 02/14/18 15:41**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 16:36	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 16:36	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 16:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 16:36	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 16:36	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 16:36	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 16:36	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/22/18 16:36	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 16:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	76		69 - 120		02/22/18 16:36	1
Dibromofluoromethane (Surr)	106		69 - 124		02/22/18 16:36	1
1,2-Dichloroethane-d4 (Surr)	107		61 - 138		02/22/18 16:36	1
Toluene-d8 (Surr)	103		73 - 120		02/22/18 16:36	1

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: DUP-03\_021418**

**Lab Sample ID: 240-91647-10**

**Date Collected: 02/14/18 00:00**

**Matrix: Water**

**Date Received: 02/17/18 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	0.24	ug/L			02/23/18 19:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 125					02/23/18 19:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 16:59	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 16:59	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 16:59	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 16:59	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 16:59	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 16:59	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 16:59	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 16:59	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 16:59	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 16:59	1
Chloroform	1.0	U*	1.0	0.31	ug/L			02/22/18 16:59	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 16:59	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 16:59	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 16:59	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 16:59	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 16:59	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 16:59	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 16:59	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 16:59	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 16:59	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 16:59	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 16:59	1
1,1-Dichloroethane	1.0	U*	1.0	0.25	ug/L			02/22/18 16:59	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 16:59	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 16:59	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 16:59	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 16:59	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 16:59	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 16:59	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 16:59	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 16:59	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 16:59	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 16:59	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 16:59	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 16:59	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 16:59	1
1,1,2,2-Tetrachloroethane	1.0	U*	1.0	0.32	ug/L			02/22/18 16:59	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 16:59	1
Toluene	1.0	U*	1.0	0.23	ug/L			02/22/18 16:59	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 16:59	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 16:59	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 16:59	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 16:59	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: DUP-03\_021418**

**Lab Sample ID: 240-91647-10**

**Date Collected: 02/14/18 00:00**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 16:59	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 16:59	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 16:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 16:59	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 16:59	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 16:59	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 16:59	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/22/18 16:59	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 16:59	1
<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)	78		69 - 120					02/22/18 16:59	1
Dibromofluoromethane (Surr)	103		69 - 124					02/22/18 16:59	1
1,2-Dichloroethane-d4 (Surr)	107		61 - 138					02/22/18 16:59	1
Toluene-d8 (Surr)	107		73 - 120					02/22/18 16:59	1

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-24\_021418**

**Lab Sample ID: 240-91647-11**

**Date Collected: 02/14/18 17:11**

**Matrix: Water**

**Date Received: 02/17/18 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	0.24	ug/L			02/23/18 20:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	126	X	63 - 125					02/23/18 20:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 17:21	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 17:21	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 17:21	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 17:21	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 17:21	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 17:21	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 17:21	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 17:21	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 17:21	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 17:21	1
Chloroform	1.0	U*	1.0	0.31	ug/L			02/22/18 17:21	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 17:21	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 17:21	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 17:21	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 17:21	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 17:21	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 17:21	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 17:21	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 17:21	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 17:21	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 17:21	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 17:21	1
1,1-Dichloroethane	1.0	U*	1.0	0.25	ug/L			02/22/18 17:21	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 17:21	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 17:21	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 17:21	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 17:21	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 17:21	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 17:21	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 17:21	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 17:21	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 17:21	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 17:21	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 17:21	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 17:21	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 17:21	1
1,1,2,2-Tetrachloroethane	1.0	U*	1.0	0.32	ug/L			02/22/18 17:21	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 17:21	1
Toluene	1.0	U*	1.0	0.23	ug/L			02/22/18 17:21	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 17:21	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 17:21	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 17:21	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 17:21	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-24\_021418**

**Lab Sample ID: 240-91647-11**

**Date Collected: 02/14/18 17:11**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 17:21	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 17:21	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 17:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 17:21	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 17:21	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 17:21	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 17:21	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/22/18 17:21	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 17:21	1
<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)	85		69 - 120					02/22/18 17:21	1
Dibromofluoromethane (Surr)	109		69 - 124					02/22/18 17:21	1
1,2-Dichloroethane-d4 (Surr)	120		61 - 138					02/22/18 17:21	1
Toluene-d8 (Surr)	112		73 - 120					02/22/18 17:21	1

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-91647-12**

**Date Collected: 02/13/18 00:00**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	2.5	J	10	1.8	ug/L			02/22/18 17:44	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 17:44	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 17:44	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 17:44	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 17:44	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 17:44	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 17:44	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 17:44	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 17:44	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 17:44	1
Chloroform	1.0	U *	1.0	0.31	ug/L			02/22/18 17:44	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 17:44	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 17:44	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 17:44	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 17:44	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 17:44	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 17:44	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 17:44	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 17:44	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 17:44	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 17:44	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 17:44	1
1,1-Dichloroethane	1.0	U *	1.0	0.25	ug/L			02/22/18 17:44	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 17:44	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 17:44	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 17:44	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 17:44	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 17:44	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 17:44	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 17:44	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 17:44	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 17:44	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 17:44	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 17:44	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 17:44	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 17:44	1
1,1,2,2-Tetrachloroethane	1.0	U *	1.0	0.32	ug/L			02/22/18 17:44	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 17:44	1
Toluene	1.0	U *	1.0	0.23	ug/L			02/22/18 17:44	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 17:44	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 17:44	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 17:44	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 17:44	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 17:44	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 17:44	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 17:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 17:44	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 17:44	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 17:44	1

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# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-91647-12**

**Date Collected: 02/13/18 00:00**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 17:44	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/22/18 17:44	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 17:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		69 - 120		02/22/18 17:44	1
Dibromofluoromethane (Surr)	101		69 - 124		02/22/18 17:44	1
1,2-Dichloroethane-d4 (Surr)	107		61 - 138		02/22/18 17:44	1
Toluene-d8 (Surr)	102		73 - 120		02/22/18 17:44	1



# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-36\_021518**

**Lab Sample ID: 240-91647-13**

**Date Collected: 02/15/18 09:07**

**Matrix: Water**

**Date Received: 02/17/18 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	0.24	ug/L			02/23/18 20:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		63 - 125					02/23/18 20:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 18:07	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 18:07	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 18:07	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 18:07	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 18:07	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 18:07	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 18:07	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 18:07	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 18:07	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 18:07	1
Chloroform	1.0	U*	1.0	0.31	ug/L			02/22/18 18:07	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 18:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 18:07	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 18:07	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 18:07	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 18:07	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 18:07	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 18:07	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 18:07	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 18:07	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 18:07	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 18:07	1
1,1-Dichloroethane	1.0	U*	1.0	0.25	ug/L			02/22/18 18:07	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 18:07	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 18:07	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 18:07	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 18:07	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 18:07	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 18:07	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 18:07	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 18:07	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 18:07	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 18:07	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 18:07	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 18:07	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 18:07	1
1,1,1,2-Tetrachloroethane	1.0	U*	1.0	0.32	ug/L			02/22/18 18:07	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 18:07	1
Toluene	1.0	U*	1.0	0.23	ug/L			02/22/18 18:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 18:07	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 18:07	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 18:07	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 18:07	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-36\_021518**

**Lab Sample ID: 240-91647-13**

**Date Collected: 02/15/18 09:07**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 18:07	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 18:07	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 18:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 18:07	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 18:07	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 18:07	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 18:07	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/22/18 18:07	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 18:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	70		69 - 120		02/22/18 18:07	1
Dibromofluoromethane (Surr)	98		69 - 124		02/22/18 18:07	1
1,2-Dichloroethane-d4 (Surr)	105		61 - 138		02/22/18 18:07	1
Toluene-d8 (Surr)	96		73 - 120		02/22/18 18:07	1

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-38\_021518**

**Lab Sample ID: 240-91647-14**

**Date Collected: 02/15/18 10:34**

**Matrix: Water**

**Date Received: 02/17/18 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	0.24	ug/L			02/23/18 17:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	123		63 - 125					02/23/18 17:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 18:29	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 18:29	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 18:29	1
Bromoform	1.0	U F1	1.0	0.43	ug/L			02/22/18 18:29	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 18:29	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 18:29	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 18:29	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 18:29	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 18:29	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 18:29	1
Chloroform	1.0	U *	1.0	0.31	ug/L			02/22/18 18:29	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 18:29	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 18:29	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 18:29	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 18:29	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 18:29	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 18:29	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 18:29	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 18:29	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 18:29	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 18:29	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 18:29	1
1,1-Dichloroethane	1.0	U *	1.0	0.25	ug/L			02/22/18 18:29	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 18:29	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 18:29	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 18:29	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 18:29	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 18:29	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 18:29	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 18:29	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 18:29	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 18:29	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 18:29	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 18:29	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 18:29	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 18:29	1
1,1,1,2-Tetrachloroethane	1.0	U F1 *	1.0	0.32	ug/L			02/22/18 18:29	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 18:29	1
Toluene	1.0	U *	1.0	0.23	ug/L			02/22/18 18:29	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 18:29	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 18:29	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 18:29	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 18:29	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-38\_021518**

**Lab Sample ID: 240-91647-14**

**Date Collected: 02/15/18 10:34**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 18:29	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 18:29	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 18:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 18:29	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 18:29	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 18:29	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 18:29	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/22/18 18:29	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 18:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		69 - 120		02/22/18 18:29	1
Dibromofluoromethane (Surr)	116		69 - 124		02/22/18 18:29	1
1,2-Dichloroethane-d4 (Surr)	123		61 - 138		02/22/18 18:29	1
Toluene-d8 (Surr)	112		73 - 120		02/22/18 18:29	1

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-39\_021518**

**Lab Sample ID: 240-91647-15**

**Date Collected: 02/15/18 12:08**

**Matrix: Water**

**Date Received: 02/17/18 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	0.24	ug/L			02/23/18 21:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	119		63 - 125					02/23/18 21:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 19:36	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 19:36	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 19:36	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 19:36	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 19:36	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 19:36	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 19:36	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 19:36	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 19:36	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 19:36	1
Chloroform	1.0	U*	1.0	0.31	ug/L			02/22/18 19:36	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 19:36	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 19:36	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 19:36	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 19:36	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 19:36	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 19:36	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 19:36	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 19:36	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 19:36	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 19:36	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 19:36	1
1,1-Dichloroethane	1.0	U*	1.0	0.25	ug/L			02/22/18 19:36	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 19:36	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 19:36	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 19:36	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 19:36	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 19:36	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 19:36	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 19:36	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 19:36	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 19:36	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 19:36	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 19:36	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 19:36	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 19:36	1
1,1,1,2-Tetrachloroethane	1.0	U*	1.0	0.32	ug/L			02/22/18 19:36	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 19:36	1
Toluene	1.0	U*	1.0	0.23	ug/L			02/22/18 19:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 19:36	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 19:36	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 19:36	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 19:36	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-39\_021518**

**Lab Sample ID: 240-91647-15**

**Date Collected: 02/15/18 12:08**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 19:36	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 19:36	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 19:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 19:36	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 19:36	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 19:36	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 19:36	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/22/18 19:36	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 19:36	1
<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)	73		69 - 120					02/22/18 19:36	1
Dibromofluoromethane (Surr)	96		69 - 124					02/22/18 19:36	1
1,2-Dichloroethane-d4 (Surr)	103		61 - 138					02/22/18 19:36	1
Toluene-d8 (Surr)	101		73 - 120					02/22/18 19:36	1

# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: DUP-04\_021518**

**Lab Sample ID: 240-91647-16**

**Date Collected: 02/15/18 00:00**

**Matrix: Water**

**Date Received: 02/17/18 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	0.24	ug/L			02/23/18 21:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	122		63 - 125					02/23/18 21:32	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 19:58	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 19:58	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 19:58	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 19:58	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 19:58	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 19:58	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 19:58	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 19:58	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 19:58	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 19:58	1
Chloroform	1.0	U*	1.0	0.31	ug/L			02/22/18 19:58	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 19:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 19:58	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 19:58	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 19:58	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 19:58	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 19:58	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 19:58	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 19:58	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 19:58	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 19:58	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 19:58	1
1,1-Dichloroethane	1.0	U*	1.0	0.25	ug/L			02/22/18 19:58	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 19:58	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 19:58	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 19:58	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 19:58	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 19:58	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 19:58	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 19:58	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 19:58	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 19:58	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 19:58	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 19:58	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 19:58	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 19:58	1
1,1,2,2-Tetrachloroethane	1.0	U*	1.0	0.32	ug/L			02/22/18 19:58	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 19:58	1
Toluene	1.0	U*	1.0	0.23	ug/L			02/22/18 19:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 19:58	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 19:58	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 19:58	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 19:58	1

TestAmerica Canton



# Client Sample Results

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: DUP-04\_021518**

**Lab Sample ID: 240-91647-16**

**Date Collected: 02/15/18 00:00**

**Matrix: Water**

**Date Received: 02/17/18 09:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 19:58	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 19:58	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 19:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 19:58	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 19:58	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 19:58	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.24	ug/L			02/22/18 19:58	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/22/18 19:58	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 19:58	1
<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)	79		69 - 120					02/22/18 19:58	1
Dibromofluoromethane (Surr)	99		69 - 124					02/22/18 19:58	1
1,2-Dichloroethane-d4 (Surr)	112		61 - 138					02/22/18 19:58	1
Toluene-d8 (Surr)	102		73 - 120					02/22/18 19:58	1

# Surrogate Summary

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

TestAmerica Job ID: 240-91647-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		BFB (69-120)	DBFM (69-124)	DCA (61-138)	TOL (73-120)
240-91647-1	MW-42_021318	78	104	106	108
240-91647-2	MW-43_021318	81	108	110	112
240-91647-3	MW-34_021318	75	102	113	106
240-91647-4	MW-52_021318	79	101	111	109
240-91647-5	MW-69_021418	74	99	107	100
240-91647-6	MW-31_021418	77	106	113	109
240-91647-7	MW-35_021418	79	100	111	107
240-91647-8	MW-18_021418	78	101	112	107
240-91647-9	MW-56_021418	76	106	107	103
240-91647-10	DUP-03_021418	78	103	107	107
240-91647-11	MW-24_021418	85	109	120	112
240-91647-12	TRIP BLANK	75	101	107	102
240-91647-13	MW-36_021518	70	98	105	96
240-91647-14	MW-38_021518	83	116	123	112
240-91647-14 MS	MW-38_021518	86	101	102	111
240-91647-14 MSD	MW-38_021518	87	96	98	107
240-91647-15	MW-39_021518	73	96	103	101
240-91647-16	DUP-04_021518	79	99	112	102
LCS 240-315781/4	Lab Control Sample	84	103	106	109
MB 240-315781/6	Method Blank	83	102	112	109

### 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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-91587-D-9 MS	Matrix Spike	124
240-91587-D-9 MSD	Matrix Spike Duplicate	132 X
240-91647-1	MW-42_021318	122
240-91647-2	MW-43_021318	126 X
240-91647-3	MW-34_021318	124
240-91647-4	MW-52_021318	124
240-91647-5	MW-69_021418	122
240-91647-6	MW-31_021418	122
240-91647-7	MW-35_021418	124
240-91647-8	MW-18_021418	130 X
240-91647-9	MW-56_021418	116
240-91647-10	DUP-03_021418	116
240-91647-11	MW-24_021418	126 X
240-91647-13	MW-36_021518	114
240-91647-14	MW-38_021518	123
240-91647-14 MS	MW-38_021518	115

TestAmerica Canton

# Surrogate Summary

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

TestAmerica Job ID: 240-91647-1

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-91647-14 MSD	MW-38_021518	124
240-91647-15	MW-39_021518	119
240-91647-16	DUP-04_021518	122
LCS 240-315815/4	Lab Control Sample	124
LCS 240-315955/4	Lab Control Sample	103
MB 240-315815/5	Method Blank	122
MB 240-315955/5	Method Blank	122

#### Surrogate Legend

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

# QC Sample Results

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

TestAmerica Job ID: 240-91647-1

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

**Lab Sample ID: MB 240-315781/6**

**Matrix: Water**

**Analysis Batch: 315781**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/22/18 12:05	1
Benzene	1.0	U	1.0	0.28	ug/L			02/22/18 12:05	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/22/18 12:05	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/22/18 12:05	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/22/18 12:05	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/22/18 12:05	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/22/18 12:05	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/22/18 12:05	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 12:05	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/22/18 12:05	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/22/18 12:05	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/22/18 12:05	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 12:05	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/22/18 12:05	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/22/18 12:05	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/22/18 12:05	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/22/18 12:05	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/22/18 12:05	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/22/18 12:05	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/22/18 12:05	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/22/18 12:05	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 12:05	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/22/18 12:05	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/22/18 12:05	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/22/18 12:05	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/22/18 12:05	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/22/18 12:05	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/22/18 12:05	1
2-Hexanone	10	U	10	1.2	ug/L			02/22/18 12:05	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/22/18 12:05	1
Methyl acetate	10	U	10	1.4	ug/L			02/22/18 12:05	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/22/18 12:05	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/22/18 12:05	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/22/18 12:05	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/22/18 12:05	1
Styrene	1.0	U	1.0	0.23	ug/L			02/22/18 12:05	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/22/18 12:05	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/22/18 12:05	1
Toluene	1.0	U	1.0	0.23	ug/L			02/22/18 12:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/22/18 12:05	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/22/18 12:05	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/22/18 12:05	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/22/18 12:05	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/22/18 12:05	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/22/18 12:05	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/22/18 12:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/22/18 12:05	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/22/18 12:05	1

TestAmerica Canton

# QC Sample Results

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

TestAmerica Job ID: 240-91647-1

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

**Lab Sample ID: MB 240-315781/6**  
**Matrix: Water**  
**Analysis Batch: 315781**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 12:05	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/22/18 12:05	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/22/18 12:05	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/22/18 12:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		69 - 120		02/22/18 12:05	1
Dibromofluoromethane (Surr)	102		69 - 124		02/22/18 12:05	1
1,2-Dichloroethane-d4 (Surr)	112		61 - 138		02/22/18 12:05	1
Toluene-d8 (Surr)	109		73 - 120		02/22/18 12:05	1

**Lab Sample ID: LCS 240-315781/4**  
**Matrix: Water**  
**Analysis Batch: 315781**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	15.0		ug/L		75	35 - 131
Benzene	10.0	11.7		ug/L		117	79 - 120
Bromodichloromethane	10.0	11.9		ug/L		119	79 - 125
Bromoform	10.0	7.61		ug/L		76	55 - 145
Bromomethane	10.0	10.1		ug/L		101	17 - 158
2-Butanone (MEK)	20.0	19.4		ug/L		97	43 - 149
Carbon disulfide	10.0	11.2		ug/L		112	49 - 141
Carbon tetrachloride	10.0	11.9		ug/L		119	55 - 171
Chlorobenzene	10.0	10.8		ug/L		108	80 - 120
Chloroethane	10.0	12.3		ug/L		123	10 - 149
Chloroform	10.0	12.2	*	ug/L		122	80 - 120
Chloromethane	10.0	11.6		ug/L		116	59 - 124
cis-1,2-Dichloroethene	10.0	11.5		ug/L		115	77 - 120
cis-1,3-Dichloropropene	10.0	10.9		ug/L		109	75 - 120
Cyclohexane	10.0	12.3		ug/L		123	66 - 135
Dibromochloromethane	10.0	10.3		ug/L		103	64 - 129
1,2-Dibromo-3-Chloropropane	10.0	9.61		ug/L		96	50 - 130
1,2-Dibromoethane	10.0	10.2		ug/L		102	80 - 120
1,2-Dichlorobenzene	10.0	11.0		ug/L		110	80 - 120
1,3-Dichlorobenzene	10.0	10.9		ug/L		109	80 - 120
1,4-Dichlorobenzene	10.0	10.9		ug/L		109	80 - 120
Dichlorodifluoromethane	10.0	11.3		ug/L		113	42 - 141
1,1-Dichloroethane	10.0	12.1	*	ug/L		121	74 - 120
1,2-Dichloroethane	10.0	12.5		ug/L		125	68 - 133
1,1-Dichloroethene	10.0	9.98		ug/L		100	65 - 127
1,2-Dichloropropane	10.0	12.6		ug/L		126	78 - 127
Diethyl ether	10.0	10.9		ug/L		109	72 - 125
Ethylbenzene	10.0	11.0		ug/L		110	80 - 120
2-Hexanone	20.0	18.2		ug/L		91	28 - 169
Isopropylbenzene	10.0	9.62		ug/L		96	80 - 128
Methyl acetate	20.0	23.2		ug/L		116	63 - 137
Methylcyclohexane	10.0	10.3		ug/L		103	63 - 141

TestAmerica Canton

# QC Sample Results

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

TestAmerica Job ID: 240-91647-1

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

**Lab Sample ID: LCS 240-315781/4**  
**Matrix: Water**  
**Analysis Batch: 315781**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	10.0	12.2		ug/L		122	64 - 140
4-Methyl-2-pentanone (MIBK)	20.0	19.4		ug/L		97	53 - 144
Methyl tert-butyl ether	10.0	10.5		ug/L		105	73 - 120
Styrene	10.0	9.76		ug/L		98	80 - 121
1,1,2,2-Tetrachloroethane	10.0	13.2	*	ug/L		132	58 - 122
Tetrachloroethene	10.0	9.35		ug/L		93	80 - 122
Toluene	10.0	12.3	*	ug/L		123	78 - 120
trans-1,2-Dichloroethene	10.0	11.2		ug/L		112	74 - 124
trans-1,3-Dichloropropene	10.0	11.0		ug/L		110	67 - 120
1,2,4-Trichlorobenzene	10.0	9.40		ug/L		94	34 - 141
1,1,1-Trichloroethane	10.0	12.2		ug/L		122	64 - 147
1,1,2-Trichloroethane	10.0	11.9		ug/L		119	76 - 121
Trichloroethene	10.0	10.4		ug/L		104	76 - 124
Trichlorofluoromethane	10.0	12.1		ug/L		121	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.26		ug/L		93	65 - 144
1,2,4-Trimethylbenzene	10.0	11.5		ug/L		115	80 - 120
1,3,5-Trimethylbenzene	10.0	12.1	*	ug/L		121	79 - 120
Vinyl chloride	10.0	11.2		ug/L		112	65 - 124
Xylenes, Total	20.0	20.6		ug/L		103	80 - 120
1,4-Dioxane	200	165		ug/L		82	35 - 134

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
4-Bromofluorobenzene (Surr)	84		69 - 120
Dibromofluoromethane (Surr)	103		69 - 124
1,2-Dichloroethane-d4 (Surr)	106		61 - 138
Toluene-d8 (Surr)	109		73 - 120

**Lab Sample ID: 240-91647-14 MS**  
**Matrix: Water**  
**Analysis Batch: 315781**

**Client Sample ID: MW-38\_021518**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	10	U	20.0	11.6		ug/L		58	19 - 133
Benzene	1.0	U	10.0	10.8		ug/L		108	69 - 127
Bromodichloromethane	1.0	U	10.0	11.0		ug/L		110	75 - 128
Bromoform	1.0	U F1	10.0	5.85	F1	ug/L		58	61 - 135
Bromomethane	1.0	U	10.0	8.37		ug/L		84	10 - 148
2-Butanone (MEK)	10	U	20.0	17.4		ug/L		87	34 - 153
Carbon disulfide	5.0	U	10.0	9.46		ug/L		95	46 - 143
Carbon tetrachloride	1.0	U	10.0	10.2		ug/L		102	53 - 175
Chlorobenzene	1.0	U	10.0	10.1		ug/L		101	76 - 120
Chloroethane	1.0	U	10.0	10.5		ug/L		105	10 - 141
Chloroform	1.0	U *	10.0	11.5		ug/L		115	74 - 125
Chloromethane	1.0	U	10.0	8.80		ug/L		88	34 - 127
cis-1,2-Dichloroethene	1.0	U	10.0	10.7		ug/L		107	69 - 127
cis-1,3-Dichloropropene	1.0	U	10.0	9.54		ug/L		95	68 - 120
Cyclohexane	1.0	U	10.0	9.55		ug/L		96	56 - 135

TestAmerica Canton

# QC Sample Results

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

TestAmerica Job ID: 240-91647-1

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

Lab Sample ID: 240-91647-14 MS

Matrix: Water

Analysis Batch: 315781

Client Sample ID: MW-38\_021518

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromochloromethane	1.0	U	10.0	8.32		ug/L		83	62 - 131
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	7.26		ug/L		73	48 - 130
1,2-Dibromoethane	1.0	U	10.0	10.0		ug/L		100	73 - 121
1,2-Dichlorobenzene	1.0	U	10.0	9.64		ug/L		96	70 - 120
1,3-Dichlorobenzene	1.0	U	10.0	9.39		ug/L		94	71 - 120
1,4-Dichlorobenzene	1.0	U	10.0	9.87		ug/L		99	72 - 120
Dichlorodifluoromethane	1.0	U	10.0	7.68		ug/L		77	45 - 130
1,1-Dichloroethane	1.0	U *	10.0	12.1		ug/L		121	69 - 122
1,2-Dichloroethane	1.0	U	10.0	11.8		ug/L		118	64 - 138
1,1-Dichloroethene	1.0	U	10.0	8.58		ug/L		86	62 - 127
1,2-Dichloropropane	1.0	U	10.0	11.5		ug/L		115	72 - 131
Diethyl ether	2.0	U	10.0	10.2		ug/L		102	65 - 124
Ethylbenzene	1.0	U	10.0	9.76		ug/L		98	72 - 121
2-Hexanone	10	U	20.0	17.5		ug/L		88	21 - 184
Isopropylbenzene	1.0	U	10.0	8.38		ug/L		84	70 - 132
Methyl acetate	10	U	20.0	20.2		ug/L		101	52 - 139
Methylcyclohexane	1.0	U	10.0	7.22		ug/L		72	46 - 139
Methylene Chloride	5.0	U	10.0	9.82		ug/L		98	52 - 137
4-Methyl-2-pentanone (MIBK)	10	U	20.0	18.3		ug/L		92	53 - 147
Methyl tert-butyl ether	1.0	U	10.0	9.36		ug/L		94	67 - 125
Styrene	1.0	U	10.0	8.88		ug/L		89	74 - 125
1,1,2,2-Tetrachloroethane	1.0	U F1 *	10.0	12.6	F1	ug/L		126	51 - 123
Tetrachloroethene	1.0	U	10.0	8.90		ug/L		89	69 - 126
Toluene	1.0	U *	10.0	11.6		ug/L		116	69 - 125
trans-1,2-Dichloroethene	1.0	U	10.0	10.1		ug/L		101	66 - 131
trans-1,3-Dichloropropene	1.0	U	10.0	9.78		ug/L		98	59 - 120
1,2,4-Trichlorobenzene	1.0	U	10.0	7.75		ug/L		78	26 - 138
1,1,1-Trichloroethane	1.0	U	10.0	11.7		ug/L		117	57 - 156
1,1,2-Trichloroethane	1.0	U	10.0	11.2		ug/L		112	68 - 127
Trichloroethene	1.0	U	10.0	9.52		ug/L		95	68 - 129
Trichlorofluoromethane	1.0	U	10.0	9.06		ug/L		91	28 - 172
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	6.35		ug/L		64	58 - 137
1,2,4-Trimethylbenzene	1.0	U	10.0	9.99		ug/L		100	64 - 120
1,3,5-Trimethylbenzene	1.0	U *	10.0	10.3		ug/L		103	67 - 120
Vinyl chloride	1.0	U	10.0	10.7		ug/L		107	55 - 123
Xylenes, Total	2.0	U	20.0	18.8		ug/L		94	71 - 122
1,4-Dioxane	50	U	200	123		ug/L		61	13 - 155

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	86		69 - 120
Dibromofluoromethane (Surr)	101		69 - 124
1,2-Dichloroethane-d4 (Surr)	102		61 - 138
Toluene-d8 (Surr)	111		73 - 120

TestAmerica Canton

# QC Sample Results

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

TestAmerica Job ID: 240-91647-1

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

Lab Sample ID: 240-91647-14 MSD

Matrix: Water

Analysis Batch: 315781

Client Sample ID: MW-38\_021518

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	10	U	20.0	11.0		ug/L		55	19 - 133	6	35
Benzene	1.0	U	10.0	10.7		ug/L		107	69 - 127	1	10
Bromodichloromethane	1.0	U	10.0	10.4		ug/L		104	75 - 128	6	13
Bromoform	1.0	U F1	10.0	5.88	F1	ug/L		59	61 - 135	1	13
Bromomethane	1.0	U	10.0	8.97		ug/L		90	10 - 148	7	35
2-Butanone (MEK)	10	U	20.0	17.9		ug/L		89	34 - 153	3	23
Carbon disulfide	5.0	U	10.0	9.80		ug/L		98	46 - 143	3	18
Carbon tetrachloride	1.0	U	10.0	9.43		ug/L		94	53 - 175	8	17
Chlorobenzene	1.0	U	10.0	10.3		ug/L		103	76 - 120	3	12
Chloroethane	1.0	U	10.0	11.2		ug/L		112	10 - 141	7	35
Chloroform	1.0	U *	10.0	10.8		ug/L		108	74 - 125	7	11
Chloromethane	1.0	U	10.0	8.25		ug/L		82	34 - 127	6	25
cis-1,2-Dichloroethene	1.0	U	10.0	10.3		ug/L		103	69 - 127	4	11
cis-1,3-Dichloropropene	1.0	U	10.0	8.65		ug/L		87	68 - 120	10	13
Cyclohexane	1.0	U	10.0	9.72		ug/L		97	56 - 135	2	35
Dibromochloromethane	1.0	U	10.0	8.64		ug/L		86	62 - 131	4	15
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	6.06		ug/L		61	48 - 130	18	31
1,2-Dibromoethane	1.0	U	10.0	10.1		ug/L		101	73 - 121	1	12
1,2-Dichlorobenzene	1.0	U	10.0	8.65		ug/L		87	70 - 120	11	19
1,3-Dichlorobenzene	1.0	U	10.0	8.65		ug/L		87	71 - 120	8	18
1,4-Dichlorobenzene	1.0	U	10.0	8.38		ug/L		84	72 - 120	16	17
Dichlorodifluoromethane	1.0	U	10.0	9.20		ug/L		92	45 - 130	18	34
1,1-Dichloroethane	1.0	U *	10.0	11.2		ug/L		112	69 - 122	8	11
1,2-Dichloroethane	1.0	U	10.0	11.4		ug/L		114	64 - 138	4	11
1,1-Dichloroethene	1.0	U	10.0	8.71		ug/L		87	62 - 127	2	14
1,2-Dichloropropane	1.0	U	10.0	11.5		ug/L		115	72 - 131	0	12
Diethyl ether	2.0	U	10.0	9.61		ug/L		96	65 - 124	6	11
Ethylbenzene	1.0	U	10.0	9.34		ug/L		93	72 - 121	4	15
2-Hexanone	10	U	20.0	18.9		ug/L		95	21 - 184	8	12
Isopropylbenzene	1.0	U	10.0	8.19		ug/L		82	70 - 132	2	16
Methyl acetate	10	U	20.0	20.0		ug/L		100	52 - 139	1	14
Methylcyclohexane	1.0	U	10.0	7.68		ug/L		77	46 - 139	6	35
Methylene Chloride	5.0	U	10.0	9.80		ug/L		98	52 - 137	0	12
4-Methyl-2-pentanone (MIBK)	10	U	20.0	18.3		ug/L		92	53 - 147	0	16
Methyl tert-butyl ether	1.0	U	10.0	9.23		ug/L		92	67 - 125	1	12
Styrene	1.0	U	10.0	8.73		ug/L		87	74 - 125	2	14
1,1,2,2-Tetrachloroethane	1.0	U F1 *	10.0	11.4		ug/L		114	51 - 123	10	17
Tetrachloroethene	1.0	U	10.0	8.63		ug/L		86	69 - 126	3	18
Toluene	1.0	U *	10.0	11.5		ug/L		115	69 - 125	1	14
trans-1,2-Dichloroethene	1.0	U	10.0	9.66		ug/L		97	66 - 131	4	11
trans-1,3-Dichloropropene	1.0	U	10.0	9.59		ug/L		96	59 - 120	2	14
1,2,4-Trichlorobenzene	1.0	U	10.0	7.42		ug/L		74	26 - 138	4	35
1,1,1-Trichloroethane	1.0	U	10.0	10.8		ug/L		108	57 - 156	7	13
1,1,2-Trichloroethane	1.0	U	10.0	12.0		ug/L		120	68 - 127	7	11
Trichloroethene	1.0	U	10.0	8.66		ug/L		87	68 - 129	9	12
Trichlorofluoromethane	1.0	U	10.0	9.86		ug/L		99	28 - 172	8	26
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	7.09		ug/L		71	58 - 137	11	35

TestAmerica Canton



# QC Sample Results

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

TestAmerica Job ID: 240-91647-1

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

**Lab Sample ID: 240-91647-14 MSD**  
**Matrix: Water**  
**Analysis Batch: 315781**

**Client Sample ID: MW-38\_021518**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trimethylbenzene	1.0	U	10.0	8.70		ug/L		87	64 - 120	14	22
1,3,5-Trimethylbenzene	1.0	U *	10.0	9.19		ug/L		92	67 - 120	11	25
Vinyl chloride	1.0	U	10.0	10.2		ug/L		102	55 - 123	5	12
Xylenes, Total	2.0	U	20.0	18.0		ug/L		90	71 - 122	4	14
1,4-Dioxane	50	U	200	156		ug/L		78	13 - 155	24	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	87		69 - 120
Dibromofluoromethane (Surr)	96		69 - 124
1,2-Dichloroethane-d4 (Surr)	98		61 - 138
Toluene-d8 (Surr)	107		73 - 120

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

**Lab Sample ID: MB 240-315815/5**  
**Matrix: Water**  
**Analysis Batch: 315815**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/22/18 13:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	122		63 - 125		02/22/18 13:37	1

**Lab Sample ID: LCS 240-315815/4**  
**Matrix: Water**  
**Analysis Batch: 315815**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	8.49		ug/L		85	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	124		63 - 125

**Lab Sample ID: 240-91587-D-9 MS**  
**Matrix: Water**  
**Analysis Batch: 315815**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	490		50.0	537	4	ug/L		86	52 - 129

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	124		63 - 125

TestAmerica Canton

# QC Sample Results

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

TestAmerica Job ID: 240-91647-1

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

**Lab Sample ID: 240-91587-D-9 MSD**  
**Matrix: Water**  
**Analysis Batch: 315815**

**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	490		50.0	537	4	ug/L		87	52 - 129	0	13
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
1,2-Dichloroethane-d4 (Surr)	132	X	63 - 125								

**Lab Sample ID: MB 240-315955/5**  
**Matrix: Water**  
**Analysis Batch: 315955**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/23/18 12:02	1	
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>				
1,2-Dichloroethane-d4 (Surr)	122		63 - 125		02/23/18 12:02	1				

**Lab Sample ID: LCS 240-315955/4**  
**Matrix: Water**  
**Analysis Batch: 315955**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	8.56		ug/L		86	59 - 131
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
1,2-Dichloroethane-d4 (Surr)	103		63 - 125				

**Lab Sample ID: 240-91647-14 MS**  
**Matrix: Water**  
**Analysis Batch: 315955**

**Client Sample ID: MW-38\_021518**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	8.57		ug/L		86	52 - 129
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
1,2-Dichloroethane-d4 (Surr)	115		63 - 125						

**Lab Sample ID: 240-91647-14 MSD**  
**Matrix: Water**  
**Analysis Batch: 315955**

**Client Sample ID: MW-38\_021518**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	8.78		ug/L		88	52 - 129	2	13
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
1,2-Dichloroethane-d4 (Surr)	124		63 - 125								

TestAmerica Canton

# QC Association Summary

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

TestAmerica Job ID: 240-91647-1

## GC/MS VOA

### Analysis Batch: 315781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91647-1	MW-42_021318	Total/NA	Water	8260B	
240-91647-2	MW-43_021318	Total/NA	Water	8260B	
240-91647-3	MW-34_021318	Total/NA	Water	8260B	
240-91647-4	MW-52_021318	Total/NA	Water	8260B	
240-91647-5	MW-69_021418	Total/NA	Water	8260B	
240-91647-6	MW-31_021418	Total/NA	Water	8260B	
240-91647-7	MW-35_021418	Total/NA	Water	8260B	
240-91647-8	MW-18_021418	Total/NA	Water	8260B	
240-91647-9	MW-56_021418	Total/NA	Water	8260B	
240-91647-10	DUP-03_021418	Total/NA	Water	8260B	
240-91647-11	MW-24_021418	Total/NA	Water	8260B	
240-91647-12	TRIP BLANK	Total/NA	Water	8260B	
240-91647-13	MW-36_021518	Total/NA	Water	8260B	
240-91647-14	MW-38_021518	Total/NA	Water	8260B	
240-91647-15	MW-39_021518	Total/NA	Water	8260B	
240-91647-16	DUP-04_021518	Total/NA	Water	8260B	
MB 240-315781/6	Method Blank	Total/NA	Water	8260B	
LCS 240-315781/4	Lab Control Sample	Total/NA	Water	8260B	
240-91647-14 MS	MW-38_021518	Total/NA	Water	8260B	
240-91647-14 MSD	MW-38_021518	Total/NA	Water	8260B	

### Analysis Batch: 315815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91647-4	MW-52_021318	Total/NA	Water	8260B SIM	
240-91647-6	MW-31_021418	Total/NA	Water	8260B SIM	
240-91647-7	MW-35_021418	Total/NA	Water	8260B SIM	
240-91647-8	MW-18_021418	Total/NA	Water	8260B SIM	
MB 240-315815/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-315815/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-91587-D-9 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-91587-D-9 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

### Analysis Batch: 315955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91647-1	MW-42_021318	Total/NA	Water	8260B SIM	
240-91647-2	MW-43_021318	Total/NA	Water	8260B SIM	
240-91647-3	MW-34_021318	Total/NA	Water	8260B SIM	
240-91647-5	MW-69_021418	Total/NA	Water	8260B SIM	
240-91647-9	MW-56_021418	Total/NA	Water	8260B SIM	
240-91647-10	DUP-03_021418	Total/NA	Water	8260B SIM	
240-91647-11	MW-24_021418	Total/NA	Water	8260B SIM	
240-91647-13	MW-36_021518	Total/NA	Water	8260B SIM	
240-91647-14	MW-38_021518	Total/NA	Water	8260B SIM	
240-91647-15	MW-39_021518	Total/NA	Water	8260B SIM	
240-91647-16	DUP-04_021518	Total/NA	Water	8260B SIM	
MB 240-315955/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-315955/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-91647-14 MS	MW-38_021518	Total/NA	Water	8260B SIM	
240-91647-14 MSD	MW-38_021518	Total/NA	Water	8260B SIM	

TestAmerica Canton

# Lab Chronicle

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-42\_021318**  
**Date Collected: 02/13/18 15:45**  
**Date Received: 02/17/18 09:30**

**Lab Sample ID: 240-91647-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 13:36	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	315955	02/23/18 12:53	SAM	TAL CAN

**Client Sample ID: MW-43\_021318**  
**Date Collected: 02/13/18 17:07**  
**Date Received: 02/17/18 09:30**

**Lab Sample ID: 240-91647-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 13:58	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	315955	02/23/18 13:19	SAM	TAL CAN

**Client Sample ID: MW-34\_021318**  
**Date Collected: 02/13/18 15:20**  
**Date Received: 02/17/18 09:30**

**Lab Sample ID: 240-91647-3**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 14:21	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	315955	02/23/18 13:44	SAM	TAL CAN

**Client Sample ID: MW-52\_021318**  
**Date Collected: 02/13/18 16:55**  
**Date Received: 02/17/18 09:30**

**Lab Sample ID: 240-91647-4**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 14:44	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	315815	02/22/18 16:14	SAM	TAL CAN

**Client Sample ID: MW-69\_021418**  
**Date Collected: 02/14/18 09:04**  
**Date Received: 02/17/18 09:30**

**Lab Sample ID: 240-91647-5**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 15:07	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	315955	02/23/18 18:57	SAM	TAL CAN

**Client Sample ID: MW-31\_021418**  
**Date Collected: 02/14/18 09:50**  
**Date Received: 02/17/18 09:30**

**Lab Sample ID: 240-91647-6**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 15:29	LEE	TAL CAN

TestAmerica Canton

# Lab Chronicle

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

TestAmerica Job ID: 240-91647-1

**Client Sample ID: MW-31\_021418**

**Lab Sample ID: 240-91647-6**

Date Collected: 02/14/18 09:50

Matrix: Water

Date Received: 02/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	315815	02/22/18 22:43	SAM	TAL CAN

**Client Sample ID: MW-35\_021418**

**Lab Sample ID: 240-91647-7**

Date Collected: 02/14/18 11:17

Matrix: Water

Date Received: 02/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 15:52	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	315815	02/22/18 23:08	SAM	TAL CAN

**Client Sample ID: MW-18\_021418**

**Lab Sample ID: 240-91647-8**

Date Collected: 02/14/18 13:58

Matrix: Water

Date Received: 02/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 16:15	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	315815	02/22/18 23:34	SAM	TAL CAN

**Client Sample ID: MW-56\_021418**

**Lab Sample ID: 240-91647-9**

Date Collected: 02/14/18 15:41

Matrix: Water

Date Received: 02/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 16:36	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	315955	02/23/18 19:23	SAM	TAL CAN

**Client Sample ID: DUP-03\_021418**

**Lab Sample ID: 240-91647-10**

Date Collected: 02/14/18 00:00

Matrix: Water

Date Received: 02/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 16:59	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	315955	02/23/18 19:49	SAM	TAL CAN

**Client Sample ID: MW-24\_021418**

**Lab Sample ID: 240-91647-11**

Date Collected: 02/14/18 17:11

Matrix: Water

Date Received: 02/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 17:21	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	315955	02/23/18 20:15	SAM	TAL CAN

TestAmerica Canton

# Lab Chronicle

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

TestAmerica Job ID: 240-91647-1

## Client Sample ID: TRIP BLANK

Lab Sample ID: 240-91647-12

Date Collected: 02/13/18 00:00

Matrix: Water

Date Received: 02/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 17:44	LEE	TAL CAN

## Client Sample ID: MW-36\_021518

Lab Sample ID: 240-91647-13

Date Collected: 02/15/18 09:07

Matrix: Water

Date Received: 02/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 18:07	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	315955	02/23/18 20:41	SAM	TAL CAN

## Client Sample ID: MW-38\_021518

Lab Sample ID: 240-91647-14

Date Collected: 02/15/18 10:34

Matrix: Water

Date Received: 02/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 18:29	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	315955	02/23/18 17:38	SAM	TAL CAN

## Client Sample ID: MW-39\_021518

Lab Sample ID: 240-91647-15

Date Collected: 02/15/18 12:08

Matrix: Water

Date Received: 02/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 19:36	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	315955	02/23/18 21:07	SAM	TAL CAN

## Client Sample ID: DUP-04\_021518

Lab Sample ID: 240-91647-16

Date Collected: 02/15/18 00:00

Matrix: Water

Date Received: 02/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315781	02/22/18 19:58	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	315955	02/23/18 21:32	SAM	TAL CAN

**Laboratory References:**

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

# Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 240-91647-1

Project/Site: Ford LTP Livonia MI - E203728

## Laboratory: TestAmerica Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-18 *
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-18
Illinois	NELAP	5	200004	07-31-18
Kansas	NELAP	7	E-10336	01-31-18 *
Kentucky (UST)	State Program	4	58	02-23-18 *
Kentucky (WW)	State Program	4	98016	12-31-18
Minnesota	NELAP	5	039-999-348	12-31-18
Minnesota (Petrofund)	State Program	1	3506	07-31-18
Nevada	State Program	9	OH-000482008A	07-31-18
New Jersey	NELAP	2	OH001	06-30-18
New York	NELAP	2	10975	03-31-18 *
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-18 *
Pennsylvania	NELAP	3	68-00340	08-31-18
Texas	NELAP	6	T104704517-17-9	08-31-18
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-18
Washington	State Program	10	C971	01-12-19
West Virginia DEP	State Program	3	210	12-31-18

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

1.0/CO.7

# MICHIGAN 190

## Chain of Custody Record

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: Brighton --- 10448 Citation Drive, Suite 200 / Brighton, MI 48116 / 810-225-2763

Regulatory program:  DW  NPDES  RCRA  Other

Client Contact: Company Name: Arcadis  
Address: 26550 Cabot Drive, Suite 500  
City/State/Zip: Novi, MI, 48377  
Phone: 248-994-2240

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

Project Name: Ford LTP  
Project Number: M1001386.0001.20000  
PO # M1001386.0001.20000

Site Contact: Angela DeGrandis  
Telephone: 734-320-0065

Lab Contact: Denise Pohl  
Telephone: 330-966-9789

Method of Shipment/Carrier:   
Shipping/Tracking No:   
Analysis Turnaround Time: 10 day  
TAT if different from below:  3 weeks  2 weeks  1 week  2 days  1 day

Containers & Preservatives:  NaOH  HCl  HNO3  H2SO4  Others:   
Matrix:  Air  Aqueous  Sediment  Solid  Others:   
Filtered Sample (Y/N)   
Composite (C/Grab/G)   
VOCs 8260B   
1,4-Dioxane 8260B SIM

Sample Identification: MW-42-021318, MW-43-021318, MW-34-021318, MW-52-021318, MW-69-021418, MW-31-021418, MW-35-021418, MW-18-021418, MW-56-021418, DUP-03-021418

Sample Date: 2/13/18, 2/14/18

Sample Time: 1545, 1707, 1520, 1655, 904, 950, 1117, 1358, 1541, -

Analyses:   
Walk-in client   
Lab sampling   
Job/SDG No:   
Sample Specific Notes / Special Instructions:   
240-91647 Chain of Custody

Possible Hazard Identification:  Non-Hazard  Irritant  Poison B  Unknown  Flammable  Corrosive

Special Instructions/OC Requirements & Comments:   
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month):  Return to Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

### LEVEL IV REPORTING

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
<i>Kellan M...</i>	ARCADIS	2/15/18 1515	DUWI REFRIGERATOR	ARCADIS	2/15/18 1515
<i>ASPN...</i>	ARCADIS	2/16/18 1000	<i>Jenni Harle</i>	TAC	2/16/18 1001
<i>Juli Harle</i>	TAC	2/16/18 1050	<i>Jenni Harle</i>	TAC	2/17/18 930

Submit all results through Cadena at jim.tomalia@cadena.com, Cadena #E203728  
Lab#:   
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- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
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- 13
- 14



**MICHIGAN**  
**190**  
**Chain of Custody Record**

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

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

Regulatory program:  DW  NPDES  RCRA  Other

Company Name: Arcadis	Client Project Manager: Kris Hinskey	Site Contact: Angela DeGrandis	Lab Contact: Denise Pohl
Address: 28550 Cabot Drive, Suite 500	Telephone: 248-994-2240	Telephone: 734-320-0065	Telephone: 330-966-9789
City/State/Zip: Novi, MI, 48377	Email: kristoffer.hinskey@arcadis.com	Analyses Turnaround Time	Analyses
Phone: 248-994-2240	TAT if different from below	<input type="checkbox"/> 3 weeks	For lab use only
Project Name: Ford LTP	10 day	<input checked="" type="checkbox"/> 2 weeks	Walk-in client
Project Number: M1001386.0001.20000	Method of Shipment/Carrier:	<input type="checkbox"/> 1 week	Lab sampling
PO # M1001386.0001.20000	Shipping/Tracking No:	<input type="checkbox"/> 2 days	Job/SDG No:
		<input type="checkbox"/> 1 day	Sample Specific Notes / Special Instructions:

Sample Identification	Sample Date	Sample Time	Matrix				Containers & Preservatives							Filtered Sample (Y/N)	Composite=C / Grab=G	VOCs 8260B	1,4-Dioxane 8260B SIM	MATRIX SPIKE	MATRIX SPIKE DUP
			Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc	LiPres						
MW-24_021418	02/14/18	1711	X																
TRIP BLANK	-	-	X																
MW-36_021518	02/15/18	907	X																
MW-38_021518		1034	X																
MW-39_021518		1208	X																
DUP-04_021518		-	X																

Possible Hazard Identification  
 Non-Hazard  Flammable  Irritant  Poison B  Unknown

Special Instructions/QC Requirements & Comments:  
**LEVEL IV REPORTING**

Submit all results through Cadena at jim.tomalia@cadena.com, Cadena #E203728 Lab#: \_\_\_\_\_

Requisitioned by: <i>KAYAN BRIGGS</i>	Company: ARCADIS	Date/Time: 2/15/18 1515	Received by: <i>NOVI REFRIGERATOR</i>	Company: ARCADIS	Date/Time: 2/15/18 1515
Requisitioned by: <i>Anthony Rinal / Anthony Rinal</i>	Company: ARCADIS	Date/Time: 2/16/18 1000	Received by: <i>Jenki Heel</i>	Company: TAC	Date/Time: 2/16/18 1000
Requisitioned by: <i>Jenki Heel</i>	Company: TAC	Date/Time: 2/16/18 1050	Received in Laboratory by: <i>Jenki Heel</i>	Company: TAC	Date/Time: 2/17/18 930

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TestAmerica Canton Sample Receipt Form/Narrative

Login #: 91647

Canton Facility

Client Arcadis Site Name

Cooler unpacked by:

Cooler Received on 2/17/18 Opened on 2/17/18

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time

Storage Location

TestAmerica Cooler # 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
IR GUN# IR-8 (CF -0.3 °C) Observed Cooler Temp. 1.0 °C Corrected Cooler Temp. 0.7 °C
IR GUN #36 (CF +0.3°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
IR GUN # 627 (CF -1.3°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA

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

If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC730269
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # B729401VB 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

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

17. 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)

18. SAMPLE PRESERVATION

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