

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton
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Tel: (330)497-9396

TestAmerica Job ID: 240-99738-1

Client Project/Site: Ford LTP Livonia MI - E203728

For:

ARCADIS U.S., Inc.
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Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
8/24/2018 10:29:02 AM

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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	9
Surrogate Summary	17
QC Sample Results	18
QC Association Summary	34
Lab Chronicle	35
Certification Summary	36
Chain of Custody	37

Definitions/Glossary

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

TestAmerica Job ID: 240-99738-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD 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: 240-99738-1

Job ID: 240-99738-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-99738-1

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 8/10/2018 8:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.4° C and 1.8° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TW-16-04-080818 (240-99738-1), TW-16-03-080818 (240-99738-2), MW-26-080918 (240-99738-3) and MW-15-59D-080918 (240-99738-4) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 08/21/2018 and 08/22/2018.

1,4-Dioxane failed the recovery criteria high for LCS 240-341822/5. Refer to the QC report for details.

1,1-Dichloroethene and Trichloroethene failed the recovery criteria low for the MS of sample 240-99672-11 in batch 240-341822.

Several analytes exceeded the RPD limit for the MSD of sample 240-99672-11 in batch 240-341822. Refer to the QC report for details.

Samples TW-16-04-080818 (240-99738-1)[2X] and TW-16-03-080818 (240-99738-2)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The laboratory control sample (LCS) for analytical batch 240-341822 recovered outside control limits for the following analyte: 1,4-Dioxane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported:

Case Narrative

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

TestAmerica Job ID: 240-99738-1

Job ID: 240-99738-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

TW-16-04-080818 (240-99738-1) and (LCS 240-341822/5).

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 TW-16-04-080818 (240-99738-1), TW-16-03-080818 (240-99738-2), MW-26-080918 (240-99738-3) and MW-15-59D-080918 (240-99738-4) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 08/16/2018.

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

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

Method Summary

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

TestAmerica Job ID: 240-99738-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

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

Laboratory References:

TAL CAN = 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: 240-99738-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-99738-1	TW-16-04-080818	Water	08/08/18 12:32	08/10/18 08:45
240-99738-2	TW-16-03-080818	Water	08/08/18 14:20	08/10/18 08:45
240-99738-3	MW-26-080918	Water	08/09/18 11:15	08/10/18 08:45
240-99738-4	MW-15-59D-080918	Water	08/09/18 10:10	08/10/18 08:45

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

Detection Summary

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

TestAmerica Job ID: 240-99738-1

Client Sample ID: TW-16-04-080818

Lab Sample ID: 240-99738-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.2	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
Acetone	5.5	J	10	5.4	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	21		1.0	0.16	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.50	J	1.0	0.17	ug/L	1		8260B	Total/NA
Vinyl chloride	63		2.0	0.40	ug/L	2		8260B	Total/NA

Client Sample ID: TW-16-03-080818

Lab Sample ID: 240-99738-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.0	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	36		2.0	0.32	ug/L	2		8260B	Total/NA
1,1-Dichloroethane	0.44	J	2.0	0.34	ug/L	2		8260B	Total/NA
Vinyl chloride	76		2.0	0.40	ug/L	2		8260B	Total/NA

Client Sample ID: MW-26-080918

Lab Sample ID: 240-99738-3

No Detections.

Client Sample ID: MW-15-59D-080918

Lab Sample ID: 240-99738-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyclohexane	0.43	J	1.0	0.24	ug/L	1		8260B	Total/NA
Toluene	0.17	J	1.0	0.14	ug/L	1		8260B	Total/NA

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: 240-99738-1

Client Sample ID: TW-16-04-080818

Lab Sample ID: 240-99738-1

Date Collected: 08/08/18 12:32

Matrix: Water

Date Received: 08/10/18 08:45

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	0.86	ug/L			08/16/18 20:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125					08/16/18 20:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.5	J	10	5.4	ug/L			08/21/18 18:05	1
Benzene	1.0	U	1.0	0.13	ug/L			08/21/18 18:05	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			08/21/18 18:05	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/21/18 18:05	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/21/18 18:05	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			08/21/18 18:05	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			08/21/18 18:05	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/21/18 18:05	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			08/21/18 18:05	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/21/18 18:05	1
Chloroform	1.0	U	1.0	0.13	ug/L			08/21/18 18:05	1
Chloromethane	1.0	U	1.0	0.20	ug/L			08/21/18 18:05	1
cis-1,2-Dichloroethene	21		1.0	0.16	ug/L			08/21/18 18:05	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/21/18 18:05	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			08/21/18 18:05	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			08/21/18 18:05	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			08/21/18 18:05	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			08/21/18 18:05	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 18:05	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 18:05	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			08/21/18 18:05	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/21/18 18:05	1
1,1-Dichloroethane	0.50	J	1.0	0.17	ug/L			08/21/18 18:05	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/21/18 18:05	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 18:05	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			08/21/18 18:05	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			08/21/18 18:05	1
2-Hexanone	10	U	10	0.54	ug/L			08/21/18 18:05	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			08/21/18 18:05	1
Methyl acetate	10	U	10	1.7	ug/L			08/21/18 18:05	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			08/21/18 18:05	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			08/21/18 18:05	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			08/21/18 18:05	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			08/21/18 18:05	1
Styrene	1.0	U	1.0	0.10	ug/L			08/21/18 18:05	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			08/21/18 18:05	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			08/21/18 18:05	1
Toluene	1.0	U	1.0	0.14	ug/L			08/21/18 18:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 18:05	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/21/18 18:05	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			08/21/18 18:05	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/21/18 18:05	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			08/21/18 18:05	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-99738-1

Client Sample ID: TW-16-04-080818

Lab Sample ID: 240-99738-1

Date Collected: 08/08/18 12:32

Matrix: Water

Date Received: 08/10/18 08:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			08/21/18 18:05	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/21/18 18:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/21/18 18:05	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			08/21/18 18:05	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			08/21/18 18:05	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			08/21/18 18:05	1
Vinyl chloride	63		2.0	0.40	ug/L			08/22/18 16:27	2
Xylenes, Total	2.0	U	2.0	0.15	ug/L			08/21/18 18:05	1
1,4-Dioxane	50	U *	50	13	ug/L			08/21/18 18:05	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			08/21/18 18:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		69 - 120		08/21/18 18:05	1
4-Bromofluorobenzene (Surr)	86		69 - 120		08/22/18 16:27	2
Dibromofluoromethane (Surr)	110		69 - 124		08/21/18 18:05	1
Dibromofluoromethane (Surr)	82		69 - 124		08/22/18 16:27	2
1,2-Dichloroethane-d4 (Surr)	121		61 - 138		08/21/18 18:05	1
1,2-Dichloroethane-d4 (Surr)	76		61 - 138		08/22/18 16:27	2
Toluene-d8 (Surr)	111		73 - 120		08/21/18 18:05	1
Toluene-d8 (Surr)	83		73 - 120		08/22/18 16:27	2

Client Sample Results

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

TestAmerica Job ID: 240-99738-1

Client Sample ID: TW-16-03-080818

Lab Sample ID: 240-99738-2

Date Collected: 08/08/18 14:20

Matrix: Water

Date Received: 08/10/18 08:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.0	J	2.0	0.86	ug/L			08/16/18 20:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125					08/16/18 20:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	20	U	20	11	ug/L			08/22/18 16:50	2
Benzene	2.0	U	2.0	0.26	ug/L			08/22/18 16:50	2
Bromodichloromethane	2.0	U	2.0	0.34	ug/L			08/22/18 16:50	2
Bromoform	2.0	U	2.0	1.5	ug/L			08/22/18 16:50	2
Bromomethane	2.0	U	2.0	0.84	ug/L			08/22/18 16:50	2
2-Butanone (MEK)	20	U	20	2.3	ug/L			08/22/18 16:50	2
Carbon disulfide	10	U	10	0.56	ug/L			08/22/18 16:50	2
Carbon tetrachloride	2.0	U	2.0	0.52	ug/L			08/22/18 16:50	2
Chlorobenzene	2.0	U	2.0	0.28	ug/L			08/22/18 16:50	2
Chloroethane	2.0	U	2.0	1.7	ug/L			08/22/18 16:50	2
Chloroform	2.0	U	2.0	0.26	ug/L			08/22/18 16:50	2
Chloromethane	2.0	U	2.0	0.40	ug/L			08/22/18 16:50	2
cis-1,2-Dichloroethene	36		2.0	0.32	ug/L			08/22/18 16:50	2
cis-1,3-Dichloropropene	2.0	U	2.0	1.2	ug/L			08/22/18 16:50	2
Cyclohexane	2.0	U	2.0	0.48	ug/L			08/22/18 16:50	2
Dibromochloromethane	2.0	U	2.0	0.78	ug/L			08/22/18 16:50	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	1.8	ug/L			08/22/18 16:50	2
1,2-Dibromoethane	2.0	U	2.0	0.24	ug/L			08/22/18 16:50	2
1,2-Dichlorobenzene	2.0	U	2.0	0.30	ug/L			08/22/18 16:50	2
1,3-Dichlorobenzene	2.0	U	2.0	0.30	ug/L			08/22/18 16:50	2
1,4-Dichlorobenzene	2.0	U	2.0	0.32	ug/L			08/22/18 16:50	2
Dichlorodifluoromethane	2.0	U	2.0	0.70	ug/L			08/22/18 16:50	2
1,1-Dichloroethane	0.44	J	2.0	0.34	ug/L			08/22/18 16:50	2
1,2-Dichloroethane	2.0	U	2.0	0.42	ug/L			08/22/18 16:50	2
1,1-Dichloroethene	2.0	U	2.0	0.38	ug/L			08/22/18 16:50	2
1,2-Dichloropropane	2.0	U	2.0	0.30	ug/L			08/22/18 16:50	2
Ethylbenzene	2.0	U	2.0	0.22	ug/L			08/22/18 16:50	2
2-Hexanone	20	U	20	1.1	ug/L			08/22/18 16:50	2
Isopropylbenzene	2.0	U	2.0	0.18	ug/L			08/22/18 16:50	2
Methyl acetate	20	U	20	3.4	ug/L			08/22/18 16:50	2
Methylcyclohexane	2.0	U	2.0	0.66	ug/L			08/22/18 16:50	2
Methylene Chloride	10	U	10	5.2	ug/L			08/22/18 16:50	2
4-Methyl-2-pentanone (MIBK)	20	U	20	0.84	ug/L			08/22/18 16:50	2
Methyl tert-butyl ether	2.0	U	2.0	0.14	ug/L			08/22/18 16:50	2
Styrene	2.0	U	2.0	0.20	ug/L			08/22/18 16:50	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.26	ug/L			08/22/18 16:50	2
Tetrachloroethene	2.0	U	2.0	0.30	ug/L			08/22/18 16:50	2
Toluene	2.0	U	2.0	0.28	ug/L			08/22/18 16:50	2
trans-1,2-Dichloroethene	2.0	U	2.0	0.38	ug/L			08/22/18 16:50	2
trans-1,3-Dichloropropene	2.0	U	2.0	1.3	ug/L			08/22/18 16:50	2
1,2,4-Trichlorobenzene	2.0	U	2.0	0.52	ug/L			08/22/18 16:50	2
1,1,1-Trichloroethane	2.0	U	2.0	0.48	ug/L			08/22/18 16:50	2
1,1,2-Trichloroethane	2.0	U	2.0	0.18	ug/L			08/22/18 16:50	2

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-99738-1

Client Sample ID: TW-16-03-080818

Lab Sample ID: 240-99738-2

Date Collected: 08/08/18 14:20

Matrix: Water

Date Received: 08/10/18 08:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	2.0	U	2.0	0.20	ug/L			08/22/18 16:50	2
Trichlorofluoromethane	2.0	U	2.0	0.90	ug/L			08/22/18 16:50	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.82	ug/L			08/22/18 16:50	2
1,2,3-Trimethylbenzene	10	U	10	0.28	ug/L			08/22/18 16:50	2
1,2,4-Trimethylbenzene	2.0	U	2.0	0.14	ug/L			08/22/18 16:50	2
1,3,5-Trimethylbenzene	2.0	U	2.0	0.24	ug/L			08/22/18 16:50	2
Vinyl chloride	76		2.0	0.40	ug/L			08/22/18 16:50	2
Xylenes, Total	4.0	U	4.0	0.30	ug/L			08/22/18 16:50	2
1,4-Dioxane	100	U	100	25	ug/L			08/22/18 16:50	2
Diethyl ether	4.0	U	4.0	0.38	ug/L			08/22/18 16:50	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		69 - 120		08/22/18 16:50	2
Dibromofluoromethane (Surr)	84		69 - 124		08/22/18 16:50	2
1,2-Dichloroethane-d4 (Surr)	78		61 - 138		08/22/18 16:50	2
Toluene-d8 (Surr)	83		73 - 120		08/22/18 16:50	2

Client Sample Results

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

TestAmerica Job ID: 240-99738-1

Client Sample ID: MW-26-080918

Lab Sample ID: 240-99738-3

Date Collected: 08/09/18 11:15

Matrix: Water

Date Received: 08/10/18 08:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			08/16/18 21:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125					08/16/18 21:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			08/21/18 22:31	1
Benzene	1.0	U	1.0	0.13	ug/L			08/21/18 22:31	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			08/21/18 22:31	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/21/18 22:31	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/21/18 22:31	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			08/21/18 22:31	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			08/21/18 22:31	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/21/18 22:31	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			08/21/18 22:31	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/21/18 22:31	1
Chloroform	1.0	U	1.0	0.13	ug/L			08/21/18 22:31	1
Chloromethane	1.0	U	1.0	0.20	ug/L			08/21/18 22:31	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			08/21/18 22:31	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/21/18 22:31	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			08/21/18 22:31	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			08/21/18 22:31	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			08/21/18 22:31	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			08/21/18 22:31	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 22:31	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 22:31	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			08/21/18 22:31	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/21/18 22:31	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			08/21/18 22:31	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/21/18 22:31	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 22:31	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			08/21/18 22:31	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			08/21/18 22:31	1
2-Hexanone	10	U	10	0.54	ug/L			08/21/18 22:31	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			08/21/18 22:31	1
Methyl acetate	10	U	10	1.7	ug/L			08/21/18 22:31	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			08/21/18 22:31	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			08/21/18 22:31	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			08/21/18 22:31	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			08/21/18 22:31	1
Styrene	1.0	U	1.0	0.10	ug/L			08/21/18 22:31	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			08/21/18 22:31	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			08/21/18 22:31	1
Toluene	1.0	U	1.0	0.14	ug/L			08/21/18 22:31	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 22:31	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/21/18 22:31	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			08/21/18 22:31	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/21/18 22:31	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			08/21/18 22:31	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-99738-1

Client Sample ID: MW-26-080918

Lab Sample ID: 240-99738-3

Date Collected: 08/09/18 11:15

Matrix: Water

Date Received: 08/10/18 08:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			08/21/18 22:31	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/21/18 22:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/21/18 22:31	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			08/21/18 22:31	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			08/21/18 22:31	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			08/21/18 22:31	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			08/21/18 22:31	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			08/21/18 22:31	1
1,4-Dioxane	50	U	50	13	ug/L			08/21/18 22:31	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			08/21/18 22:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		69 - 120		08/21/18 22:31	1
Dibromofluoromethane (Surr)	103		69 - 124		08/21/18 22:31	1
1,2-Dichloroethane-d4 (Surr)	104		61 - 138		08/21/18 22:31	1
Toluene-d8 (Surr)	97		73 - 120		08/21/18 22:31	1

Client Sample Results

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

TestAmerica Job ID: 240-99738-1

Client Sample ID: MW-15-59D-080918

Lab Sample ID: 240-99738-4

Date Collected: 08/09/18 10:10

Matrix: Water

Date Received: 08/10/18 08:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			08/16/18 21:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125					08/16/18 21:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			08/21/18 22:53	1
Benzene	1.0	U	1.0	0.13	ug/L			08/21/18 22:53	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			08/21/18 22:53	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/21/18 22:53	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/21/18 22:53	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			08/21/18 22:53	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			08/21/18 22:53	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/21/18 22:53	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			08/21/18 22:53	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/21/18 22:53	1
Chloroform	1.0	U	1.0	0.13	ug/L			08/21/18 22:53	1
Chloromethane	1.0	U	1.0	0.20	ug/L			08/21/18 22:53	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			08/21/18 22:53	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/21/18 22:53	1
Cyclohexane	0.43	J	1.0	0.24	ug/L			08/21/18 22:53	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			08/21/18 22:53	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			08/21/18 22:53	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			08/21/18 22:53	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 22:53	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 22:53	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			08/21/18 22:53	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/21/18 22:53	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			08/21/18 22:53	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/21/18 22:53	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 22:53	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			08/21/18 22:53	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			08/21/18 22:53	1
2-Hexanone	10	U	10	0.54	ug/L			08/21/18 22:53	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			08/21/18 22:53	1
Methyl acetate	10	U	10	1.7	ug/L			08/21/18 22:53	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			08/21/18 22:53	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			08/21/18 22:53	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			08/21/18 22:53	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			08/21/18 22:53	1
Styrene	1.0	U	1.0	0.10	ug/L			08/21/18 22:53	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			08/21/18 22:53	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			08/21/18 22:53	1
Toluene	0.17	J	1.0	0.14	ug/L			08/21/18 22:53	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 22:53	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/21/18 22:53	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			08/21/18 22:53	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/21/18 22:53	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			08/21/18 22:53	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-99738-1

Client Sample ID: MW-15-59D-080918

Lab Sample ID: 240-99738-4

Date Collected: 08/09/18 10:10

Matrix: Water

Date Received: 08/10/18 08:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			08/21/18 22:53	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/21/18 22:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/21/18 22:53	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			08/21/18 22:53	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			08/21/18 22:53	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			08/21/18 22:53	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			08/21/18 22:53	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			08/21/18 22:53	1
1,4-Dioxane	50	U	50	13	ug/L			08/21/18 22:53	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			08/21/18 22:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		69 - 120					08/21/18 22:53	1
Dibromofluoromethane (Surr)	111		69 - 124					08/21/18 22:53	1
1,2-Dichloroethane-d4 (Surr)	105		61 - 138					08/21/18 22:53	1
Toluene-d8 (Surr)	99		73 - 120					08/21/18 22:53	1

Surrogate Summary

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

TestAmerica Job ID: 240-99738-1

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)
240-99672-B-11 MS	Matrix Spike	110	109	118	108
240-99672-B-11 MSD	Matrix Spike Duplicate	112	112	122	112
240-99738-1	TW-16-04-080818	109	110	121	111
240-99738-1	TW-16-04-080818	86	82	76	83
240-99738-2	TW-16-03-080818	85	84	78	83
240-99738-3	MW-26-080918	95	103	104	97
240-99738-4	MW-15-59D-080918	92	111	105	99
240-99856-B-1 MS	Matrix Spike	90	85	79	83
240-99856-B-1 MSD	Matrix Spike Duplicate	88	85	82	83
240-99857-E-3 MS	Matrix Spike	100	105	101	104
240-99857-E-3 MSD	Matrix Spike Duplicate	103	102	100	107
LCS 240-341822/5	Lab Control Sample	112	108	119	111
LCS 240-341894/4	Lab Control Sample	99	104	98	104
LCS 240-342020/5	Lab Control Sample	97	92	86	91
MB 240-341822/8	Method Blank	111	108	123	109
MB 240-341894/6	Method Blank	92	106	102	99
MB 240-342020/8	Method Blank	87	82	78	82

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)
240-99738-1	TW-16-04-080818	102
240-99738-2	TW-16-03-080818	104
240-99738-3	MW-26-080918	102
240-99738-4	MW-15-59D-080918	104
500-149833-C-4 MS	Matrix Spike	103
500-149833-C-4 MSD	Matrix Spike Duplicate	102
LCS 240-341200/4	Lab Control Sample	98
MB 240-341200/5	Method Blank	102

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: 240-99738-1

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

Lab Sample ID: MB 240-341822/8

Matrix: Water

Analysis Batch: 341822

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	5.4	ug/L			08/21/18 12:41	1
Benzene	1.0	U	1.0	0.13	ug/L			08/21/18 12:41	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			08/21/18 12:41	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/21/18 12:41	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/21/18 12:41	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			08/21/18 12:41	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			08/21/18 12:41	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/21/18 12:41	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			08/21/18 12:41	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/21/18 12:41	1
Chloroform	1.0	U	1.0	0.13	ug/L			08/21/18 12:41	1
Chloromethane	1.0	U	1.0	0.20	ug/L			08/21/18 12:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			08/21/18 12:41	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/21/18 12:41	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			08/21/18 12:41	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			08/21/18 12:41	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			08/21/18 12:41	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			08/21/18 12:41	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 12:41	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 12:41	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			08/21/18 12:41	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/21/18 12:41	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			08/21/18 12:41	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/21/18 12:41	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 12:41	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			08/21/18 12:41	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			08/21/18 12:41	1
2-Hexanone	10	U	10	0.54	ug/L			08/21/18 12:41	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			08/21/18 12:41	1
Methyl acetate	10	U	10	1.7	ug/L			08/21/18 12:41	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			08/21/18 12:41	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			08/21/18 12:41	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			08/21/18 12:41	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			08/21/18 12:41	1
Styrene	1.0	U	1.0	0.10	ug/L			08/21/18 12:41	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			08/21/18 12:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			08/21/18 12:41	1
Toluene	1.0	U	1.0	0.14	ug/L			08/21/18 12:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 12:41	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/21/18 12:41	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			08/21/18 12:41	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/21/18 12:41	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			08/21/18 12:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			08/21/18 12:41	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/21/18 12:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/21/18 12:41	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			08/21/18 12:41	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			08/21/18 12:41	1

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QC Sample Results

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

TestAmerica Job ID: 240-99738-1

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

Lab Sample ID: MB 240-341822/8
Matrix: Water
Analysis Batch: 341822

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			08/21/18 12:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			08/21/18 12:41	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			08/21/18 12:41	1
1,4-Dioxane	50	U	50	13	ug/L			08/21/18 12:41	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			08/21/18 12:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		69 - 120		08/21/18 12:41	1
Dibromofluoromethane (Surr)	108		69 - 124		08/21/18 12:41	1
1,2-Dichloroethane-d4 (Surr)	123		61 - 138		08/21/18 12:41	1
Toluene-d8 (Surr)	109		73 - 120		08/21/18 12:41	1

Lab Sample ID: LCS 240-341822/5
Matrix: Water
Analysis Batch: 341822

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	40.0	49.4		ug/L		124	35 - 131
Benzene	20.0	20.1		ug/L		100	79 - 120
Bromodichloromethane	20.0	18.6		ug/L		93	79 - 125
Bromoform	20.0	17.3		ug/L		87	55 - 145
Bromomethane	20.0	16.4		ug/L		82	17 - 158
2-Butanone (MEK)	40.0	43.4		ug/L		109	43 - 149
Carbon disulfide	20.0	18.9		ug/L		95	49 - 141
Carbon tetrachloride	20.0	17.5		ug/L		88	55 - 171
Chlorobenzene	20.0	18.9		ug/L		95	80 - 120
Chloroethane	20.0	18.8		ug/L		94	10 - 149
Chloroform	20.0	19.8		ug/L		99	80 - 120
Chloromethane	20.0	19.5		ug/L		98	59 - 124
cis-1,2-Dichloroethene	20.0	19.2		ug/L		96	77 - 120
cis-1,3-Dichloropropene	20.0	19.5		ug/L		97	75 - 120
Cyclohexane	20.0	20.1		ug/L		100	66 - 135
Dibromochloromethane	20.0	18.5		ug/L		93	64 - 129
1,2-Dibromo-3-Chloropropane	20.0	20.1		ug/L		101	50 - 130
1,2-Dibromoethane	20.0	19.5		ug/L		98	80 - 120
1,2-Dichlorobenzene	20.0	19.5		ug/L		97	80 - 120
1,3-Dichlorobenzene	20.0	19.4		ug/L		97	80 - 120
1,4-Dichlorobenzene	20.0	19.0		ug/L		95	80 - 120
Dichlorodifluoromethane	20.0	15.5		ug/L		77	42 - 141
1,1-Dichloroethane	20.0	21.3		ug/L		106	74 - 120
1,2-Dichloroethane	20.0	20.2		ug/L		101	68 - 133
1,1-Dichloroethene	20.0	21.4		ug/L		107	65 - 127
1,2-Dichloropropane	20.0	20.7		ug/L		104	78 - 127
Ethylbenzene	20.0	19.9		ug/L		100	80 - 120
2-Hexanone	40.0	48.5		ug/L		121	28 - 169
Isopropylbenzene	20.0	20.8		ug/L		104	80 - 128
Methyl acetate	40.0	42.5		ug/L		106	63 - 137
Methylcyclohexane	20.0	19.9		ug/L		100	63 - 141

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QC Sample Results

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

TestAmerica Job ID: 240-99738-1

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

Lab Sample ID: LCS 240-341822/5

Matrix: Water

Analysis Batch: 341822

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	20.0	19.7		ug/L		98	64 - 140
4-Methyl-2-pentanone (MIBK)	40.0	45.1		ug/L		113	53 - 144
Methyl tert-butyl ether	20.0	20.7		ug/L		104	73 - 120
Styrene	20.0	20.1		ug/L		101	80 - 121
1,1,2,2-Tetrachloroethane	20.0	22.8		ug/L		114	58 - 122
Tetrachloroethene	20.0	18.0		ug/L		90	80 - 122
Toluene	20.0	20.4		ug/L		102	78 - 120
trans-1,2-Dichloroethene	20.0	21.1		ug/L		105	74 - 124
trans-1,3-Dichloropropene	20.0	19.3		ug/L		96	67 - 120
1,2,4-Trichlorobenzene	20.0	18.5		ug/L		92	34 - 141
1,1,1-Trichloroethane	20.0	19.7		ug/L		99	64 - 147
1,1,2-Trichloroethane	20.0	21.2		ug/L		106	76 - 121
Trichloroethene	20.0	17.3		ug/L		86	76 - 124
Trichlorofluoromethane	20.0	16.3		ug/L		82	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	17.4		ug/L		87	65 - 144
1,2,4-Trimethylbenzene	20.0	20.7		ug/L		103	80 - 120
1,3,5-Trimethylbenzene	20.0	21.2		ug/L		106	79 - 120
Vinyl chloride	20.0	20.4		ug/L		102	65 - 124
Xylenes, Total	40.0	39.4		ug/L		99	80 - 120
1,4-Dioxane	400	776 *		ug/L		194	35 - 134
Diethyl ether	20.0	20.9		ug/L		105	72 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		69 - 120
Dibromofluoromethane (Surr)	108		69 - 124
1,2-Dichloroethane-d4 (Surr)	119		61 - 138
Toluene-d8 (Surr)	111		73 - 120

Lab Sample ID: 240-99672-B-11 MS

Matrix: Water

Analysis Batch: 341822

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
Acetone	100	U F2	400	237		ug/L		59	19 - 133
Benzene	10	U	200	204		ug/L		102	69 - 127
Bromodichloromethane	10	U	200	185		ug/L		92	75 - 128
Bromoform	10	U F2	200	144		ug/L		72	61 - 135
Bromomethane	10	U	200	113		ug/L		56	10 - 148
2-Butanone (MEK)	100	U	400	347		ug/L		87	34 - 153
Carbon disulfide	50	U	200	186		ug/L		93	46 - 143
Carbon tetrachloride	10	U	200	178		ug/L		89	53 - 175
Chlorobenzene	10	U	200	178		ug/L		89	76 - 120
Chloroethane	10	U	200	125		ug/L		63	10 - 141
Chloroform	10	U	200	207		ug/L		104	74 - 125
Chloromethane	10	U	200	188		ug/L		94	34 - 127
cis-1,2-Dichloroethene	180		200	377		ug/L		97	69 - 127
cis-1,3-Dichloropropene	10	U	200	184		ug/L		92	68 - 120

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QC Sample Results

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

TestAmerica Job ID: 240-99738-1

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

Lab Sample ID: 240-99672-B-11 MS

Matrix: Water

Analysis Batch: 341822

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Dibromochloromethane	10	U	200	170		ug/L		85	62 - 131
1,1-Dichloroethane	5.4	J	200	225		ug/L		110	69 - 122
1,2-Dichloroethane	10	U	200	200		ug/L		100	64 - 138
1,1-Dichloroethene	120	F2 F1	200	227	F1	ug/L		55	62 - 127
1,2-Dichloropropane	10	U	200	206		ug/L		103	72 - 131
Ethylbenzene	10	U	200	184		ug/L		92	72 - 121
2-Hexanone	100	U F2	400	355		ug/L		89	21 - 184
Methylene Chloride	50	U	200	206		ug/L		103	52 - 137
4-Methyl-2-pentanone (MIBK)	100	U F2	400	358		ug/L		89	53 - 147
Styrene	10	U	200	187		ug/L		94	74 - 125
1,1,2,2-Tetrachloroethane	10	U	200	201		ug/L		100	51 - 123
Tetrachloroethene	140		200	290		ug/L		73	69 - 126
Toluene	10	U	200	193		ug/L		97	69 - 125
trans-1,2-Dichloroethene	10	U	200	219		ug/L		109	66 - 131
trans-1,3-Dichloropropene	10	U	200	175		ug/L		87	59 - 120
1,1,1-Trichloroethane	10	U	200	197		ug/L		99	57 - 156
1,1,2-Trichloroethane	10	U	200	199		ug/L		99	68 - 127
Trichloroethene	430	F1	200	568	F1	ug/L		67	68 - 129
Trichlorofluoromethane	10	U	200	115		ug/L		57	28 - 172
Vinyl chloride	5.8	J	200	172		ug/L		83	55 - 123
Xylenes, Total	20	U	400	364		ug/L		91	71 - 122

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	110		69 - 120
Dibromofluoromethane (Surr)	109		69 - 124
1,2-Dichloroethane-d4 (Surr)	118		61 - 138
Toluene-d8 (Surr)	108		73 - 120

Lab Sample ID: 240-99672-B-11 MSD

Matrix: Water

Analysis Batch: 341822

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
Acetone	100	U F2	400	501	F2	ug/L		125	19 - 133	72	35
Benzene	10	U	200	217		ug/L		108	69 - 127	6	10
Bromodichloromethane	10	U	200	200		ug/L		100	75 - 128	8	13
Bromoform	10	U F2	200	171	F2	ug/L		85	61 - 135	17	13
Bromomethane	10	U	200	144		ug/L		72	10 - 148	24	35
2-Butanone (MEK)	100	U	400	438		ug/L		110	34 - 153	23	23
Carbon disulfide	50	U	200	203		ug/L		102	46 - 143	9	18
Carbon tetrachloride	10	U	200	187		ug/L		93	53 - 175	5	17
Chlorobenzene	10	U	200	196		ug/L		98	76 - 120	10	12
Chloroethane	10	U	200	138		ug/L		69	10 - 141	9	35
Chloroform	10	U	200	220		ug/L		110	74 - 125	6	11
Chloromethane	10	U	200	195		ug/L		97	34 - 127	4	25
cis-1,2-Dichloroethene	180		200	403		ug/L		110	69 - 127	7	11
cis-1,3-Dichloropropene	10	U	200	191		ug/L		96	68 - 120	4	13
Dibromochloromethane	10	U	200	191		ug/L		96	62 - 131	12	15

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QC Sample Results

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

TestAmerica Job ID: 240-99738-1

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

Lab Sample ID: 240-99672-B-11 MSD
Matrix: Water
Analysis Batch: 341822

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

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
1,1-Dichloroethane	5.4	J	200	244		ug/L		119	69 - 122	8	11
1,2-Dichloroethane	10	U	200	215		ug/L		107	64 - 138	7	11
1,1-Dichloroethene	120	F2 F1	200	321	F2	ug/L		102	62 - 127	34	14
1,2-Dichloropropane	10	U	200	215		ug/L		108	72 - 131	4	12
Ethylbenzene	10	U	200	198		ug/L		99	72 - 121	7	15
2-Hexanone	100	U F2	400	455	F2	ug/L		114	21 - 184	25	12
Methylene Chloride	50	U	200	218		ug/L		109	52 - 137	6	12
4-Methyl-2-pentanone (MIBK)	100	U F2	400	439	F2	ug/L		110	53 - 147	20	16
Styrene	10	U	200	206		ug/L		103	74 - 125	9	14
1,1,2,2-Tetrachloroethane	10	U	200	234		ug/L		117	51 - 123	15	17
Tetrachloroethene	140		200	321		ug/L		88	69 - 126	10	18
Toluene	10	U	200	213		ug/L		106	69 - 125	10	14
trans-1,2-Dichloroethene	10	U	200	229		ug/L		115	66 - 131	5	11
trans-1,3-Dichloropropene	10	U	200	191		ug/L		95	59 - 120	9	14
1,1,1-Trichloroethane	10	U	200	207		ug/L		104	57 - 156	5	13
1,1,2-Trichloroethane	10	U	200	219		ug/L		109	68 - 127	9	11
Trichloroethene	430	F1	200	602		ug/L		84	68 - 129	6	12
Trichlorofluoromethane	10	U	200	118		ug/L		59	28 - 172	3	26
Vinyl chloride	5.8	J	200	171		ug/L		83	55 - 123	1	12
Xylenes, Total	20	U	400	409		ug/L		102	71 - 122	12	14

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	112		69 - 120
Dibromofluoromethane (Surr)	112		69 - 124
1,2-Dichloroethane-d4 (Surr)	122		61 - 138
Toluene-d8 (Surr)	112		73 - 120

Lab Sample ID: MB 240-341894/6
Matrix: Water
Analysis Batch: 341894

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	10	U	10	5.4	ug/L			08/21/18 21:25	1
Benzene	1.0	U	1.0	0.13	ug/L			08/21/18 21:25	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			08/21/18 21:25	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/21/18 21:25	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/21/18 21:25	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			08/21/18 21:25	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			08/21/18 21:25	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/21/18 21:25	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			08/21/18 21:25	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/21/18 21:25	1
Chloroform	1.0	U	1.0	0.13	ug/L			08/21/18 21:25	1
Chloromethane	1.0	U	1.0	0.20	ug/L			08/21/18 21:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			08/21/18 21:25	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/21/18 21:25	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			08/21/18 21:25	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			08/21/18 21:25	1

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QC Sample Results

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

TestAmerica Job ID: 240-99738-1

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

Lab Sample ID: MB 240-341894/6
Matrix: Water
Analysis Batch: 341894

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			08/21/18 21:25	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			08/21/18 21:25	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 21:25	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 21:25	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			08/21/18 21:25	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/21/18 21:25	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			08/21/18 21:25	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/21/18 21:25	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 21:25	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			08/21/18 21:25	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			08/21/18 21:25	1
2-Hexanone	10	U	10	0.54	ug/L			08/21/18 21:25	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			08/21/18 21:25	1
Methyl acetate	10	U	10	1.7	ug/L			08/21/18 21:25	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			08/21/18 21:25	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			08/21/18 21:25	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			08/21/18 21:25	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			08/21/18 21:25	1
Styrene	1.0	U	1.0	0.10	ug/L			08/21/18 21:25	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			08/21/18 21:25	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			08/21/18 21:25	1
Toluene	1.0	U	1.0	0.14	ug/L			08/21/18 21:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 21:25	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/21/18 21:25	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			08/21/18 21:25	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/21/18 21:25	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			08/21/18 21:25	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			08/21/18 21:25	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/21/18 21:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/21/18 21:25	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			08/21/18 21:25	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			08/21/18 21:25	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			08/21/18 21:25	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			08/21/18 21:25	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			08/21/18 21:25	1
1,4-Dioxane	50	U	50	13	ug/L			08/21/18 21:25	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			08/21/18 21:25	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	92		69 - 120		08/21/18 21:25	1
Dibromofluoromethane (Surr)	106		69 - 124		08/21/18 21:25	1
1,2-Dichloroethane-d4 (Surr)	102		61 - 138		08/21/18 21:25	1
Toluene-d8 (Surr)	99		73 - 120		08/21/18 21:25	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-99738-1

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

Lab Sample ID: LCS 240-341894/4

Matrix: Water

Analysis Batch: 341894

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	15.7		ug/L		78	35 - 131
Benzene	10.0	9.51		ug/L		95	79 - 120
Bromodichloromethane	10.0	9.45		ug/L		94	79 - 125
Bromoform	10.0	9.47		ug/L		95	55 - 145
Bromomethane	10.0	8.17		ug/L		82	17 - 158
2-Butanone (MEK)	20.0	15.7		ug/L		79	43 - 149
Carbon disulfide	10.0	8.79		ug/L		88	49 - 141
Carbon tetrachloride	10.0	9.00		ug/L		90	55 - 171
Chlorobenzene	10.0	9.31		ug/L		93	80 - 120
Chloroethane	10.0	8.33		ug/L		83	10 - 149
Chloroform	10.0	9.44		ug/L		94	80 - 120
Chloromethane	10.0	8.12		ug/L		81	59 - 124
cis-1,2-Dichloroethene	10.0	9.19		ug/L		92	77 - 120
cis-1,3-Dichloropropene	10.0	9.01		ug/L		90	75 - 120
Cyclohexane	10.0	8.59		ug/L		86	66 - 135
Dibromochloromethane	10.0	10.1		ug/L		101	64 - 129
1,2-Dibromo-3-Chloropropane	10.0	8.82		ug/L		88	50 - 130
1,2-Dibromoethane	10.0	9.30		ug/L		93	80 - 120
1,2-Dichlorobenzene	10.0	9.16		ug/L		92	80 - 120
1,3-Dichlorobenzene	10.0	8.96		ug/L		90	80 - 120
1,4-Dichlorobenzene	10.0	9.18		ug/L		92	80 - 120
Dichlorodifluoromethane	10.0	7.99		ug/L		80	42 - 141
1,1-Dichloroethane	10.0	9.84		ug/L		98	74 - 120
1,2-Dichloroethane	10.0	9.35		ug/L		94	68 - 133
1,1-Dichloroethene	10.0	8.89		ug/L		89	65 - 127
1,2-Dichloropropane	10.0	9.69		ug/L		97	78 - 127
Ethylbenzene	10.0	8.81		ug/L		88	80 - 120
2-Hexanone	20.0	16.4		ug/L		82	28 - 169
Isopropylbenzene	10.0	8.55		ug/L		86	80 - 128
Methyl acetate	20.0	18.1		ug/L		91	63 - 137
Methylcyclohexane	10.0	8.04		ug/L		80	63 - 141
Methylene Chloride	10.0	9.99		ug/L		100	64 - 140
4-Methyl-2-pentanone (MIBK)	20.0	15.7		ug/L		79	53 - 144
Methyl tert-butyl ether	10.0	9.36		ug/L		94	73 - 120
Styrene	10.0	8.89		ug/L		89	80 - 121
1,1,2,2-Tetrachloroethane	10.0	10.4		ug/L		104	58 - 122
Tetrachloroethene	10.0	9.30		ug/L		93	80 - 122
Toluene	10.0	9.66		ug/L		97	78 - 120
trans-1,2-Dichloroethene	10.0	9.50		ug/L		95	74 - 124
trans-1,3-Dichloropropene	10.0	8.83		ug/L		88	67 - 120
1,2,4-Trichlorobenzene	10.0	7.41		ug/L		74	34 - 141
1,1,1-Trichloroethane	10.0	9.22		ug/L		92	64 - 147
1,1,2-Trichloroethane	10.0	10.2		ug/L		102	76 - 121
Trichloroethene	10.0	9.11		ug/L		91	76 - 124
Trichlorofluoromethane	10.0	7.95		ug/L		80	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	8.42		ug/L		84	65 - 144
1,2,4-Trimethylbenzene	10.0	8.67		ug/L		87	80 - 120

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-99738-1

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

Lab Sample ID: LCS 240-341894/4
Matrix: Water
Analysis Batch: 341894

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trimethylbenzene	10.0	8.92		ug/L		89	79 - 120
Vinyl chloride	10.0	8.70		ug/L		87	65 - 124
Xylenes, Total	20.0	17.5		ug/L		88	80 - 120
1,4-Dioxane	200	178		ug/L		89	35 - 134
Diethyl ether	10.0	9.76		ug/L		98	72 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		69 - 120
Dibromofluoromethane (Surr)	104		69 - 124
1,2-Dichloroethane-d4 (Surr)	98		61 - 138
Toluene-d8 (Surr)	104		73 - 120

Lab Sample ID: 240-99857-E-3 MS
Matrix: Water
Analysis Batch: 341894

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
Acetone	1400	U	2860	2270		ug/L		79	19 - 133
Benzene	140	U	1430	1300		ug/L		91	69 - 127
Bromodichloromethane	140	U	1430	1360		ug/L		95	75 - 128
Bromoform	140	U	1430	1340		ug/L		94	61 - 135
Bromomethane	140	U	1430	1240		ug/L		87	10 - 148
2-Butanone (MEK)	1400	U	2860	2300		ug/L		81	34 - 153
Carbon disulfide	710	U	1430	1180		ug/L		82	46 - 143
Carbon tetrachloride	140	U	1430	1110		ug/L		78	53 - 175
Chlorobenzene	140	U	1430	1250		ug/L		88	76 - 120
Chloroethane	140	U	1430	1200		ug/L		84	10 - 141
Chloroform	140	U	1430	1320		ug/L		93	74 - 125
Chloromethane	140	U	1430	1230		ug/L		86	34 - 127
cis-1,2-Dichloroethene	140	U	1430	1280		ug/L		90	69 - 127
cis-1,3-Dichloropropene	140	U	1430	1310		ug/L		92	68 - 120
Cyclohexane	140	U	1430	906		ug/L		63	56 - 135
Dibromochloromethane	140	U	1430	1420		ug/L		99	62 - 131
1,2-Dibromo-3-Chloropropane	140	U	1430	1050		ug/L		74	48 - 130
1,2-Dibromoethane	140	U	1430	1360		ug/L		95	73 - 121
1,2-Dichlorobenzene	140	U	1430	1210		ug/L		85	70 - 120
1,3-Dichlorobenzene	140	U	1430	1210		ug/L		84	71 - 120
1,4-Dichlorobenzene	140	U	1430	1250		ug/L		87	72 - 120
Dichlorodifluoromethane	140	U	1430	1140		ug/L		80	45 - 130
1,1-Dichloroethane	140	U	1430	1370		ug/L		96	69 - 122
1,2-Dichloroethane	140	U	1430	1330		ug/L		93	64 - 138
1,1-Dichloroethene	140	U	1430	1160		ug/L		81	62 - 127
1,2-Dichloropropane	140	U	1430	1370		ug/L		96	72 - 131
Ethylbenzene	140	U	1430	1100		ug/L		77	72 - 121
2-Hexanone	1400	U	2860	2300		ug/L		81	21 - 184
Isopropylbenzene	140	U	1430	1020		ug/L		72	70 - 132
Methyl acetate	1400	U	2860	2600		ug/L		91	52 - 139
Methylcyclohexane	140	U	1430	788		ug/L		55	46 - 139

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QC Sample Results

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

TestAmerica Job ID: 240-99738-1

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

Lab Sample ID: 240-99857-E-3 MS

Matrix: Water

Analysis Batch: 341894

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Methylene Chloride	710	U	1430	1380		ug/L		96	52 - 137	
4-Methyl-2-pentanone (MIBK)	1400	U	2860	2320		ug/L		81	53 - 147	
Methyl tert-butyl ether	140	U	1430	1310		ug/L		91	67 - 125	
Styrene	140	U	1430	1190		ug/L		83	74 - 125	
1,1,2,2-Tetrachloroethane	140	U	1430	1400		ug/L		98	51 - 123	
Tetrachloroethene	140	U	1430	1150		ug/L		81	69 - 126	
Toluene	140	U	1430	1280		ug/L		89	69 - 125	
trans-1,2-Dichloroethene	140	U	1430	1280		ug/L		90	66 - 131	
trans-1,3-Dichloropropene	140	U	1430	1210		ug/L		85	59 - 120	
1,2,4-Trichlorobenzene	140	U	1430	1030		ug/L		72	26 - 138	
1,1,1-Trichloroethane	140	U	1430	1190		ug/L		83	57 - 156	
1,1,2-Trichloroethane	140	U	1430	1400		ug/L		98	68 - 127	
Trichloroethene	140	U	1430	1210		ug/L		85	68 - 129	
Trichlorofluoromethane	140	U	1430	1050		ug/L		73	28 - 172	
1,1,2-Trichloro-1,2,2-trifluoroethane	140	U	1430	986		ug/L		69	58 - 137	
1,2,4-Trimethylbenzene	140	U	1430	1100		ug/L		77	64 - 120	
1,3,5-Trimethylbenzene	140	U	1430	1100		ug/L		77	67 - 120	
Vinyl chloride	2300		1430	3340		ug/L		76	55 - 123	
Xylenes, Total	290	U	2860	2270		ug/L		79	71 - 122	
1,4-Dioxane	7100	U	28600	20000		ug/L		70	13 - 155	
Diethyl ether	290	U	1430	1320		ug/L		92	65 - 124	

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	100		69 - 120
Dibromofluoromethane (Surr)	105		69 - 124
1,2-Dichloroethane-d4 (Surr)	101		61 - 138
Toluene-d8 (Surr)	104		73 - 120

Lab Sample ID: 240-99857-E-3 MSD

Matrix: Water

Analysis Batch: 341894

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier							
Acetone	1400	U	2860	2150		ug/L		75	19 - 133	5	35	
Benzene	140	U	1430	1370		ug/L		96	69 - 127	5	10	
Bromodichloromethane	140	U	1430	1380		ug/L		97	75 - 128	1	13	
Bromoform	140	U	1430	1380		ug/L		97	61 - 135	3	13	
Bromomethane	140	U	1430	1120		ug/L		78	10 - 148	10	35	
2-Butanone (MEK)	1400	U	2860	2340		ug/L		82	34 - 153	2	23	
Carbon disulfide	710	U	1430	1310		ug/L		91	46 - 143	10	18	
Carbon tetrachloride	140	U	1430	1250		ug/L		87	53 - 175	11	17	
Chlorobenzene	140	U	1430	1360		ug/L		95	76 - 120	8	12	
Chloroethane	140	U	1430	1200		ug/L		84	10 - 141	0	35	
Chloroform	140	U	1430	1380		ug/L		97	74 - 125	4	11	
Chloromethane	140	U	1430	1300		ug/L		91	34 - 127	6	25	
cis-1,2-Dichloroethene	140	U	1430	1300		ug/L		91	69 - 127	2	11	
cis-1,3-Dichloropropene	140	U	1430	1230		ug/L		86	68 - 120	7	13	

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QC Sample Results

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

TestAmerica Job ID: 240-99738-1

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

Lab Sample ID: 240-99857-E-3 MSD

Matrix: Water

Analysis Batch: 341894

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
Cyclohexane	140	U	1430	1200		ug/L		84	56 - 135	28	35
Dibromochloromethane	140	U	1430	1460		ug/L		102	62 - 131	3	15
1,2-Dibromo-3-Chloropropane	140	U	1430	1190		ug/L		84	48 - 130	12	31
1,2-Dibromoethane	140	U	1430	1300		ug/L		91	73 - 121	5	12
1,2-Dichlorobenzene	140	U	1430	1270		ug/L		89	70 - 120	4	19
1,3-Dichlorobenzene	140	U	1430	1260		ug/L		88	71 - 120	5	18
1,4-Dichlorobenzene	140	U	1430	1250		ug/L		87	72 - 120	0	17
Dichlorodifluoromethane	140	U	1430	1170		ug/L		82	45 - 130	3	34
1,1-Dichloroethane	140	U	1430	1400		ug/L		98	69 - 122	2	11
1,2-Dichloroethane	140	U	1430	1300		ug/L		91	64 - 138	2	11
1,1-Dichloroethene	140	U	1430	1310		ug/L		92	62 - 127	12	14
1,2-Dichloropropane	140	U	1430	1420		ug/L		99	72 - 131	3	12
Ethylbenzene	140	U	1430	1240		ug/L		87	72 - 121	12	15
2-Hexanone	1400	U	2860	2390		ug/L		84	21 - 184	4	12
Isopropylbenzene	140	U	1430	1130		ug/L		79	70 - 132	10	16
Methyl acetate	1400	U	2860	2640		ug/L		92	52 - 139	1	14
Methylcyclohexane	140	U	1430	1090		ug/L		76	46 - 139	32	35
Methylene Chloride	710	U	1430	1460		ug/L		102	52 - 137	6	12
4-Methyl-2-pentanone (MIBK)	1400	U	2860	2360		ug/L		82	53 - 147	1	16
Methyl tert-butyl ether	140	U	1430	1290		ug/L		90	67 - 125	2	12
Styrene	140	U	1430	1260		ug/L		88	74 - 125	5	14
1,1,2,2-Tetrachloroethane	140	U	1430	1390		ug/L		97	51 - 123	1	17
Tetrachloroethene	140	U	1430	1260		ug/L		88	69 - 126	8	18
Toluene	140	U	1430	1320		ug/L		92	69 - 125	3	14
trans-1,2-Dichloroethene	140	U	1430	1340		ug/L		94	66 - 131	5	11
trans-1,3-Dichloropropene	140	U	1430	1210		ug/L		85	59 - 120	0	14
1,2,4-Trichlorobenzene	140	U	1430	1030		ug/L		72	26 - 138	0	35
1,1,1-Trichloroethane	140	U	1430	1340		ug/L		94	57 - 156	12	13
1,1,2-Trichloroethane	140	U	1430	1430		ug/L		100	68 - 127	2	11
Trichloroethene	140	U	1430	1280		ug/L		90	68 - 129	6	12
Trichlorofluoromethane	140	U	1430	1090		ug/L		77	28 - 172	4	26
1,1,2-Trichloro-1,2,2-trifluoroethane	140	U	1430	1160		ug/L		81	58 - 137	16	35
1,2,4-Trimethylbenzene	140	U	1430	1150		ug/L		81	64 - 120	5	22
1,3,5-Trimethylbenzene	140	U	1430	1200		ug/L		84	67 - 120	9	25
Vinyl chloride	2300		1430	3260		ug/L		70	55 - 123	2	12
Xylenes, Total	290	U	2860	2480		ug/L		87	71 - 122	9	14
1,4-Dioxane	7100	U	28600	25800		ug/L		90	13 - 155	25	35
Diethyl ether	290	U	1430	1370		ug/L		96	65 - 124	4	11

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	103		69 - 120
Dibromofluoromethane (Surr)	102		69 - 124
1,2-Dichloroethane-d4 (Surr)	100		61 - 138
Toluene-d8 (Surr)	107		73 - 120

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-99738-1

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

Lab Sample ID: MB 240-342020/8

Matrix: Water

Analysis Batch: 342020

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	5.4	ug/L			08/22/18 13:49	1
Benzene	1.0	U	1.0	0.13	ug/L			08/22/18 13:49	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			08/22/18 13:49	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/22/18 13:49	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/22/18 13:49	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			08/22/18 13:49	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			08/22/18 13:49	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/22/18 13:49	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			08/22/18 13:49	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/22/18 13:49	1
Chloroform	1.0	U	1.0	0.13	ug/L			08/22/18 13:49	1
Chloromethane	1.0	U	1.0	0.20	ug/L			08/22/18 13:49	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			08/22/18 13:49	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/22/18 13:49	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			08/22/18 13:49	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			08/22/18 13:49	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			08/22/18 13:49	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			08/22/18 13:49	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/22/18 13:49	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/22/18 13:49	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			08/22/18 13:49	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/22/18 13:49	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			08/22/18 13:49	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/22/18 13:49	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/22/18 13:49	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			08/22/18 13:49	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			08/22/18 13:49	1
2-Hexanone	10	U	10	0.54	ug/L			08/22/18 13:49	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			08/22/18 13:49	1
Methyl acetate	10	U	10	1.7	ug/L			08/22/18 13:49	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			08/22/18 13:49	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			08/22/18 13:49	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			08/22/18 13:49	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			08/22/18 13:49	1
Styrene	1.0	U	1.0	0.10	ug/L			08/22/18 13:49	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			08/22/18 13:49	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			08/22/18 13:49	1
Toluene	1.0	U	1.0	0.14	ug/L			08/22/18 13:49	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/22/18 13:49	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/22/18 13:49	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			08/22/18 13:49	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/22/18 13:49	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			08/22/18 13:49	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			08/22/18 13:49	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/22/18 13:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/22/18 13:49	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			08/22/18 13:49	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			08/22/18 13:49	1

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QC Sample Results

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

TestAmerica Job ID: 240-99738-1

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

Lab Sample ID: MB 240-342020/8

Matrix: Water

Analysis Batch: 342020

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			08/22/18 13:49	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			08/22/18 13:49	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			08/22/18 13:49	1
1,4-Dioxane	50	U	50	13	ug/L			08/22/18 13:49	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			08/22/18 13:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		69 - 120		08/22/18 13:49	1
Dibromofluoromethane (Surr)	82		69 - 124		08/22/18 13:49	1
1,2-Dichloroethane-d4 (Surr)	78		61 - 138		08/22/18 13:49	1
Toluene-d8 (Surr)	82		73 - 120		08/22/18 13:49	1

Lab Sample ID: LCS 240-342020/5

Matrix: Water

Analysis Batch: 342020

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	40.0	39.3		ug/L		98	35 - 131
Benzene	20.0	21.6		ug/L		108	79 - 120
Bromodichloromethane	20.0	21.8		ug/L		109	79 - 125
Bromoform	20.0	21.2		ug/L		106	55 - 145
Bromomethane	20.0	21.1		ug/L		105	17 - 158
2-Butanone (MEK)	40.0	42.5		ug/L		106	43 - 149
Carbon disulfide	20.0	18.7		ug/L		94	49 - 141
Carbon tetrachloride	20.0	22.8		ug/L		114	55 - 171
Chlorobenzene	20.0	21.5		ug/L		107	80 - 120
Chloroethane	20.0	20.4		ug/L		102	10 - 149
Chloroform	20.0	22.5		ug/L		112	80 - 120
Chloromethane	20.0	21.3		ug/L		106	59 - 124
cis-1,2-Dichloroethene	20.0	21.6		ug/L		108	77 - 120
cis-1,3-Dichloropropene	20.0	22.1		ug/L		111	75 - 120
Cyclohexane	20.0	20.1		ug/L		101	66 - 135
Dibromochloromethane	20.0	22.0		ug/L		110	64 - 129
1,2-Dibromo-3-Chloropropane	20.0	19.4		ug/L		97	50 - 130
1,2-Dibromoethane	20.0	21.3		ug/L		106	80 - 120
1,2-Dichlorobenzene	20.0	19.9		ug/L		100	80 - 120
1,3-Dichlorobenzene	20.0	19.5		ug/L		98	80 - 120
1,4-Dichlorobenzene	20.0	19.5		ug/L		98	80 - 120
Dichlorodifluoromethane	20.0	20.9		ug/L		105	42 - 141
1,1-Dichloroethane	20.0	21.3		ug/L		107	74 - 120
1,2-Dichloroethane	20.0	21.4		ug/L		107	68 - 133
1,1-Dichloroethene	20.0	22.6		ug/L		113	65 - 127
1,2-Dichloropropane	20.0	22.7		ug/L		114	78 - 127
Ethylbenzene	20.0	20.0		ug/L		100	80 - 120
2-Hexanone	40.0	39.5		ug/L		99	28 - 169
Isopropylbenzene	20.0	20.4		ug/L		102	80 - 128
Methyl acetate	40.0	42.8		ug/L		107	63 - 137
Methylcyclohexane	20.0	18.8		ug/L		94	63 - 141

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QC Sample Results

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

TestAmerica Job ID: 240-99738-1

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

Lab Sample ID: LCS 240-342020/5
Matrix: Water
Analysis Batch: 342020

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	20.0	21.2		ug/L		106	64 - 140
4-Methyl-2-pentanone (MIBK)	40.0	43.1		ug/L		108	53 - 144
Methyl tert-butyl ether	20.0	21.3		ug/L		106	73 - 120
Styrene	20.0	20.7		ug/L		103	80 - 121
1,1,2,2-Tetrachloroethane	20.0	19.6		ug/L		98	58 - 122
Tetrachloroethene	20.0	21.2		ug/L		106	80 - 122
Toluene	20.0	21.0		ug/L		105	78 - 120
trans-1,2-Dichloroethene	20.0	22.3		ug/L		112	74 - 124
trans-1,3-Dichloropropene	20.0	19.5		ug/L		97	67 - 120
1,2,4-Trichlorobenzene	20.0	19.8		ug/L		99	34 - 141
1,1,1-Trichloroethane	20.0	22.1		ug/L		110	64 - 147
1,1,2-Trichloroethane	20.0	21.6		ug/L		108	76 - 121
Trichloroethene	20.0	22.6		ug/L		113	76 - 124
Trichlorofluoromethane	20.0	22.5		ug/L		112	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	22.7		ug/L		114	65 - 144
1,2,4-Trimethylbenzene	20.0	18.9		ug/L		95	80 - 120
1,3,5-Trimethylbenzene	20.0	19.0		ug/L		95	79 - 120
Vinyl chloride	20.0	21.1		ug/L		105	65 - 124
Xylenes, Total	40.0	40.7		ug/L		102	80 - 120
1,4-Dioxane	400	430		ug/L		108	35 - 134
Diethyl ether	20.0	22.3		ug/L		111	72 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		69 - 120
Dibromofluoromethane (Surr)	92		69 - 124
1,2-Dichloroethane-d4 (Surr)	86		61 - 138
Toluene-d8 (Surr)	91		73 - 120

Lab Sample ID: 240-99856-B-1 MS
Matrix: Water
Analysis Batch: 342020

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
Acetone	63	U	250	219		ug/L		87	19 - 133
Benzene	4.1	J	125	126		ug/L		98	69 - 127
Bromodichloromethane	6.3	U	125	121		ug/L		97	75 - 128
Bromoform	6.3	U	125	111		ug/L		89	61 - 135
Bromomethane	6.3	U	125	119		ug/L		95	10 - 148
2-Butanone (MEK)	63	U	250	236		ug/L		94	34 - 153
Carbon disulfide	31	U	125	109		ug/L		87	46 - 143
Carbon tetrachloride	6.3	U	125	127		ug/L		102	53 - 175
Chlorobenzene	6.3	U	125	115		ug/L		92	76 - 120
Chloroethane	6.3	U	125	113		ug/L		90	10 - 141
Chloroform	6.3	U	125	125		ug/L		100	74 - 125
Chloromethane	6.3	U	125	99.5		ug/L		80	34 - 127
cis-1,2-Dichloroethene	6.3	U	125	124		ug/L		99	69 - 127
cis-1,3-Dichloropropene	6.3	U	125	123		ug/L		98	68 - 120

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QC Sample Results

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

TestAmerica Job ID: 240-99738-1

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

Lab Sample ID: 240-99856-B-1 MS
Matrix: Water
Analysis Batch: 342020

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
Cyclohexane	5.0	J	125	124		ug/L		95	56 - 135
Dibromochloromethane	6.3	U	125	119		ug/L		95	62 - 131
1,2-Dibromo-3-Chloropropane	6.3	U	125	97.8		ug/L		78	48 - 130
1,2-Dibromoethane	6.3	U	125	117		ug/L		94	73 - 121
1,2-Dichlorobenzene	6.3	U	125	114		ug/L		91	70 - 120
1,3-Dichlorobenzene	6.3	U	125	110		ug/L		88	71 - 120
1,4-Dichlorobenzene	6.3	U	125	111		ug/L		89	72 - 120
Dichlorodifluoromethane	6.3	U	125	110		ug/L		88	45 - 130
1,1-Dichloroethane	6.3	U	125	119		ug/L		95	69 - 122
1,2-Dichloroethane	6.3	U	125	121		ug/L		97	64 - 138
1,1-Dichloroethene	6.3	U	125	127		ug/L		101	62 - 127
1,2-Dichloropropane	6.3	U	125	125		ug/L		100	72 - 131
Ethylbenzene	250		125	368		ug/L		92	72 - 121
2-Hexanone	63	U	250	218		ug/L		87	21 - 184
Isopropylbenzene	23		125	137		ug/L		91	70 - 132
Methyl acetate	63	U	250	233		ug/L		93	52 - 139
Methylcyclohexane	6.3	U	125	110		ug/L		88	46 - 139
Methylene Chloride	31	U	125	121		ug/L		97	52 - 137
4-Methyl-2-pentanone (MIBK)	63	U	250	237		ug/L		95	53 - 147
Methyl tert-butyl ether	0.77	J	125	121		ug/L		96	67 - 125
Styrene	6.3	U	125	115		ug/L		92	74 - 125
1,1,2,2-Tetrachloroethane	6.3	U	125	111		ug/L		89	51 - 123
Tetrachloroethene	6.3	U	125	120		ug/L		96	69 - 126
Toluene	6.3	U	125	117		ug/L		94	69 - 125
trans-1,2-Dichloroethene	6.3	U	125	130		ug/L		104	66 - 131
trans-1,3-Dichloropropene	6.3	U	125	104		ug/L		83	59 - 120
1,2,4-Trichlorobenzene	6.3	U	125	107		ug/L		85	26 - 138
1,1,1-Trichloroethane	6.3	U	125	127		ug/L		101	57 - 156
1,1,2-Trichloroethane	6.3	U	125	119		ug/L		95	68 - 127
Trichloroethene	6.3	U	125	131		ug/L		104	68 - 129
Trichlorofluoromethane	6.3	U	125	123		ug/L		98	28 - 172
1,1,2-Trichloro-1,2,2-trifluoroethane	6.3	U	125	131		ug/L		105	58 - 137
Vinyl chloride	6.3	U	125	116		ug/L		93	55 - 123
Xylenes, Total	170		250	399		ug/L		91	71 - 122

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		69 - 120
Dibromofluoromethane (Surr)	85		69 - 124
1,2-Dichloroethane-d4 (Surr)	79		61 - 138
Toluene-d8 (Surr)	83		73 - 120

Lab Sample ID: 240-99856-B-1 MSD
Matrix: Water
Analysis Batch: 342020

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
Acetone	63	U	250	220		ug/L		88	19 - 133	1	35

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QC Sample Results

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

TestAmerica Job ID: 240-99738-1

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

Lab Sample ID: 240-99856-B-1 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 342020

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
Benzene	4.1	J	125	124		ug/L		96	69 - 127	2	10
Bromodichloromethane	6.3	U	125	118		ug/L		95	75 - 128	2	13
Bromoform	6.3	U	125	112		ug/L		90	61 - 135	1	13
Bromomethane	6.3	U	125	118		ug/L		94	10 - 148	1	35
2-Butanone (MEK)	63	U	250	229		ug/L		92	34 - 153	3	23
Carbon disulfide	31	U	125	105		ug/L		84	46 - 143	4	18
Carbon tetrachloride	6.3	U	125	125		ug/L		100	53 - 175	2	17
Chlorobenzene	6.3	U	125	116		ug/L		93	76 - 120	1	12
Chloroethane	6.3	U	125	119		ug/L		95	10 - 141	5	35
Chloroform	6.3	U	125	121		ug/L		97	74 - 125	4	11
Chloromethane	6.3	U	125	110		ug/L		88	34 - 127	10	25
cis-1,2-Dichloroethene	6.3	U	125	122		ug/L		97	69 - 127	2	11
cis-1,3-Dichloropropene	6.3	U	125	121		ug/L		97	68 - 120	1	13
Cyclohexane	5.0	J	125	121		ug/L		93	56 - 135	3	35
Dibromochloromethane	6.3	U	125	116		ug/L		93	62 - 131	2	15
1,2-Dibromo-3-Chloropropane	6.3	U	125	106		ug/L		84	48 - 130	8	31
1,2-Dibromoethane	6.3	U	125	118		ug/L		94	73 - 121	0	12
1,2-Dichlorobenzene	6.3	U	125	112		ug/L		89	70 - 120	2	19
1,3-Dichlorobenzene	6.3	U	125	111		ug/L		89	71 - 120	1	18
1,4-Dichlorobenzene	6.3	U	125	112		ug/L		89	72 - 120	0	17
Dichlorodifluoromethane	6.3	U	125	120		ug/L		96	45 - 130	9	34
1,1-Dichloroethane	6.3	U	125	117		ug/L		94	69 - 122	2	11
1,2-Dichloroethane	6.3	U	125	120		ug/L		96	64 - 138	1	11
1,1-Dichloroethene	6.3	U	125	127		ug/L		102	62 - 127	0	14
1,2-Dichloropropane	6.3	U	125	121		ug/L		97	72 - 131	3	12
Ethylbenzene	250		125	368		ug/L		92	72 - 121	0	15
2-Hexanone	63	U	250	216		ug/L		86	21 - 184	1	12
Isopropylbenzene	23		125	138		ug/L		91	70 - 132	0	16
Methyl acetate	63	U	250	242		ug/L		97	52 - 139	4	14
Methylcyclohexane	6.3	U	125	109		ug/L		87	46 - 139	1	35
Methylene Chloride	31	U	125	116		ug/L		93	52 - 137	5	12
4-Methyl-2-pentanone (MIBK)	63	U	250	240		ug/L		96	53 - 147	1	16
Methyl tert-butyl ether	0.77	J	125	119		ug/L		95	67 - 125	2	12
Styrene	6.3	U	125	116		ug/L		93	74 - 125	1	14
1,1,2,2-Tetrachloroethane	6.3	U	125	111		ug/L		89	51 - 123	0	17
Tetrachloroethene	6.3	U	125	116		ug/L		93	69 - 126	4	18
Toluene	6.3	U	125	116		ug/L		93	69 - 125	1	14
trans-1,2-Dichloroethene	6.3	U	125	127		ug/L		101	66 - 131	3	11
trans-1,3-Dichloropropene	6.3	U	125	106		ug/L		85	59 - 120	2	14
1,2,4-Trichlorobenzene	6.3	U	125	112		ug/L		90	26 - 138	5	35
1,1,1-Trichloroethane	6.3	U	125	123		ug/L		98	57 - 156	3	13
1,1,2-Trichloroethane	6.3	U	125	121		ug/L		97	68 - 127	2	11
Trichloroethene	6.3	U	125	126		ug/L		101	68 - 129	4	12
Trichlorofluoromethane	6.3	U	125	128		ug/L		103	28 - 172	4	26
1,1,2-Trichloro-1,2,2-trifluoroethane	6.3	U	125	133		ug/L		107	58 - 137	2	35
Vinyl chloride	6.3	U	125	120		ug/L		96	55 - 123	3	12
Xylenes, Total	170		250	394		ug/L		89	71 - 122	1	14

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QC Sample Results

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

TestAmerica Job ID: 240-99738-1

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

Lab Sample ID: 240-99856-B-1 MSD
Matrix: Water
Analysis Batch: 342020

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	88		69 - 120
Dibromofluoromethane (Surr)	85		69 - 124
1,2-Dichloroethane-d4 (Surr)	82		61 - 138
Toluene-d8 (Surr)	83		73 - 120

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

Lab Sample ID: MB 240-341200/5
Matrix: Water
Analysis Batch: 341200

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			08/16/18 12:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		08/16/18 12:28	1

Lab Sample ID: LCS 240-341200/4
Matrix: Water
Analysis Batch: 341200

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.5		ug/L		105	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		63 - 125

Lab Sample ID: 500-149833-C-4 MS
Matrix: Water
Analysis Batch: 341200

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	9.93		ug/L		99	52 - 129

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		63 - 125

Lab Sample ID: 500-149833-C-4 MSD
Matrix: Water
Analysis Batch: 341200

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	9.87		ug/L		99	52 - 129	1	13

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		63 - 125

TestAmerica Canton

QC Association Summary

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

TestAmerica Job ID: 240-99738-1

GC/MS VOA

Analysis Batch: 341200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99738-1	TW-16-04-080818	Total/NA	Water	8260B SIM	
240-99738-2	TW-16-03-080818	Total/NA	Water	8260B SIM	
240-99738-3	MW-26-080918	Total/NA	Water	8260B SIM	
240-99738-4	MW-15-59D-080918	Total/NA	Water	8260B SIM	
MB 240-341200/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-341200/4	Lab Control Sample	Total/NA	Water	8260B SIM	
500-149833-C-4 MS	Matrix Spike	Total/NA	Water	8260B SIM	
500-149833-C-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 341822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99738-1	TW-16-04-080818	Total/NA	Water	8260B	
MB 240-341822/8	Method Blank	Total/NA	Water	8260B	
LCS 240-341822/5	Lab Control Sample	Total/NA	Water	8260B	
240-99672-B-11 MS	Matrix Spike	Total/NA	Water	8260B	
240-99672-B-11 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 341894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99738-3	MW-26-080918	Total/NA	Water	8260B	
240-99738-4	MW-15-59D-080918	Total/NA	Water	8260B	
MB 240-341894/6	Method Blank	Total/NA	Water	8260B	
LCS 240-341894/4	Lab Control Sample	Total/NA	Water	8260B	
240-99857-E-3 MS	Matrix Spike	Total/NA	Water	8260B	
240-99857-E-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 342020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99738-1	TW-16-04-080818	Total/NA	Water	8260B	
240-99738-2	TW-16-03-080818	Total/NA	Water	8260B	
MB 240-342020/8	Method Blank	Total/NA	Water	8260B	
LCS 240-342020/5	Lab Control Sample	Total/NA	Water	8260B	
240-99856-B-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-99856-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

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

TestAmerica Job ID: 240-99738-1

Client Sample ID: TW-16-04-080818

Lab Sample ID: 240-99738-1

Date Collected: 08/08/18 12:32

Matrix: Water

Date Received: 08/10/18 08:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	341822	08/21/18 18:05	HMB	TAL CAN
Total/NA	Analysis	8260B		2	342020	08/22/18 16:27	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	341200	08/16/18 20:25	SAM	TAL CAN

Client Sample ID: TW-16-03-080818

Lab Sample ID: 240-99738-2

Date Collected: 08/08/18 14:20

Matrix: Water

Date Received: 08/10/18 08:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	342020	08/22/18 16:50	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	341200	08/16/18 20:50	SAM	TAL CAN

Client Sample ID: MW-26-080918

Lab Sample ID: 240-99738-3

Date Collected: 08/09/18 11:15

Matrix: Water

Date Received: 08/10/18 08:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	341894	08/21/18 22:31	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	341200	08/16/18 21:15	SAM	TAL CAN

Client Sample ID: MW-15-59D-080918

Lab Sample ID: 240-99738-4

Date Collected: 08/09/18 10:10

Matrix: Water

Date Received: 08/10/18 08:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	341894	08/21/18 22:53	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	341200	08/16/18 21:40	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.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

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	02-23-19
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-18 *
Kansas	NELAP	7	E-10336	01-31-19
Kentucky (UST)	State Program	4	58	02-23-19
Kentucky (WW)	State Program	4	98016	12-31-18
Minnesota	NELAP	5	039-999-348	12-31-18
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-19
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-19
Pennsylvania	NELAP	3	68-00340	08-31-19 *
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.

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

Client Contact Company Name: Arcadis Address: 28550 Cabot Drive, Suite 500 City/State/Zip: Novi, MI, 48377 Phone: 248-994-2240		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
Client Project Manager: Kris Hinskey Telephone: 248-994-2240 Email: kristoffer.hinskey@arcadis.com		Site Contact: Angela DeGrandis Telephone: 330-497-9396	
Project Name: Ford LTP Project Number: M1001454.0004.00001 PO # M1001454.0004.00001		TestAmerica Laboratories, Inc. COC No: 1 of 1 For lab use only	
Method of Shipment/Carrier: Shipping/Tracking No:		Analysis Turnaround Time TAT if different from below <input checked="" type="checkbox"/> 3 weeks <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day	
Matrix: Air <input type="checkbox"/> Sediment <input type="checkbox"/> Solid <input type="checkbox"/> Other:		Containers & Preservatives: H2SO4 <input type="checkbox"/> HNO3 <input type="checkbox"/> HCl <input type="checkbox"/> NaOH <input type="checkbox"/> ZnAc <input type="checkbox"/> NaOH <input type="checkbox"/> Other:	
Sample Identification		Filtered Sample (Y/N) Composite=C/Grab=C VOCs 8260B 1,4-Dioxane 8260B SIM	
Sample Date TW-16-04-080818 TW-16-03-080818 MW-26-080918 MW-15-59D_080918	Sample Time 8-8-18 12:32 8-8-18 14:20 8/9/18 11:15 8/9/18 10:10	Matrix Air <input checked="" type="checkbox"/> Sediment <input type="checkbox"/> Solid <input type="checkbox"/> Other:	Containers & Preservatives H2SO4 <input type="checkbox"/> HNO3 <input type="checkbox"/> HCl <input type="checkbox"/> NaOH <input type="checkbox"/> ZnAc <input type="checkbox"/> NaOH <input type="checkbox"/> Other:
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Ignitable <input type="checkbox"/> Corrosive <input type="checkbox"/> Toxic <input type="checkbox"/> Volatile <input type="checkbox"/> Other:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Spectral Instructions/QC Requirements & Comments: Submit all results through Cadena at jim.tomalia@cadenas.com. Cadena #E203728 Level IV Reporting.			
Relinquished by: Rachel Stern Relinquished by: Emma TerBeek Relinquished by: DIVYA KAMATH		Received by: Emma TerBeek Received by: DIVYA KAMATH Received in company by:	
Date/Time: 8/8/18 16:00 Date/Time: 8/9/18 12:45 Date/Time: 8/9/18 13:24		Date/Time: 8/8/18 16:00 Date/Time: 8/9/18 12:45 Date/Time: 8/9/18 13:24	
Company: Arcadis Company: Arcadis Company: ARCADIS		Company: Arcadis Company: ARCADIS Company: TAE	
Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by: [Signature]		Received by: [Signature] Received by: [Signature] Received in company by: [Signature]	
Date/Time: 8/9/18 14:29		Date/Time: 8/10/18 8:15	



Canton Facility Amadis Site Name Stollis Cooler unpacked by: Gil Brown

Cooler Received on 8/10/18 Opened on 8/10/18

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 See Multiple Cooler Form

IR GUN# IR-8 (CF +0 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

IR GUN #36 (CF -0.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____ Yes No

-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA

-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No NA

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 NA

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# HC849161

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 # _____ Yes No NA

16. Was a LL Hg or Me Hg trip blank present? Yes No NA

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

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

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

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

