

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton
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Tel: (330)497-9396

TestAmerica Job ID: 240-95780-1

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

For:

ARCADIS U.S., Inc.
28550 Cabot Drive
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Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
6/15/2018 9:18:40 AM

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

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

TestAmerica Job ID: 240-95780-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
*	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: 240-95780-1

Job ID: 240-95780-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-95780-1

Revision

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

This report was revised on 6/15/2018 to report a longer list of VOCs.

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 5/18/2018 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.9° C and 3.9° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-67_051418 (240-95780-1), MW-29_051418 (240-95780-2), MW-19_051418 (240-95780-3), MW-26_051518 (240-95780-4), MW-15-61D_051518 (240-95780-5) and MW-15-59D_051518 (240-95780-6) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 05/26/2018 and 05/27/2018.

The laboratory control sample (LCS) for analytical batch 240-328754 recovered outside acceptance limits for Methyl tert-butyl ether.

Method(s) 8260B: The method blank for analytical batch 240-328778 contained Methylene Chloride above the reporting limit (RL). This compound is considered a common laboratory contaminant. The associated samples, MW-15-61D_051518 (240-95780-5), MW-15-59D_051518 (240-95780-6), (MB 240-328778/5), (240-95755-C-2), (240-95755-C-2 MS) and (240-95755-C-2 MSD), were not

Case Narrative

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

TestAmerica Job ID: 240-95780-1

Job ID: 240-95780-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

re-extracted and/or re-analyzed because the concentration of the common lab contaminant in the method blank was less than 5 times the RL.

Method(s) 8260B: There was an MS/MSD analyzed in batch 328754 but could not be reported because the associated sample needed reanalyzed in a different batch: MW-26_051518 (240-95780-4).

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-67_051418 (240-95780-1), MW-29_051418 (240-95780-2), MW-19_051418 (240-95780-3), MW-26_051518 (240-95780-4), MW-15-61D_051518 (240-95780-5) and MW-15-59D_051518 (240-95780-6) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 05/24/2018 and 05/25/2018.

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



Method Summary

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

TestAmerica Job ID: 240-95780-1

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: 240-95780-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-95780-1	MW-67_051418	Water	05/14/18 14:00	05/18/18 08:30
240-95780-2	MW-29_051418	Water	05/14/18 16:05	05/18/18 08:30
240-95780-3	MW-19_051418	Water	05/14/18 16:45	05/18/18 08:30
240-95780-4	MW-26_051518	Water	05/15/18 09:15	05/18/18 08:30
240-95780-5	MW-15-61D_051518	Water	05/15/18 14:00	05/18/18 08:30
240-95780-6	MW-15-59D_051518	Water	05/15/18 16:45	05/18/18 08:30

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Detection Summary

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

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-67_051418

Lab Sample ID: 240-95780-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.5	J B	10	1.8	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	5.7		1.0	0.30	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.25	J	1.0	0.25	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.75	J	1.0	0.29	ug/L	1		8260B	Total/NA
1,1,1-Trichloroethane	0.94	J	1.0	0.23	ug/L	1		8260B	Total/NA
Trichloroethene	57		1.0	0.33	ug/L	1		8260B	Total/NA
Vinyl chloride	1.3		1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW-29_051418

Lab Sample ID: 240-95780-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.47	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA
Acetone	4.4	J B	10	1.8	ug/L	1		8260B	Total/NA

Client Sample ID: MW-19_051418

Lab Sample ID: 240-95780-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	140		2.0	0.24	ug/L	1		8260B SIM	Total/NA
Acetone	3.2	J B	10	1.8	ug/L	1		8260B	Total/NA
Chloroethane	1.7		1.0	0.41	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	0.71	J	1.0	0.30	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	3.6		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	0.36	J	1.0	0.30	ug/L	1		8260B	Total/NA
Trichloroethene	0.91	J	1.0	0.33	ug/L	1		8260B	Total/NA
Vinyl chloride	1.3		1.0	0.45	ug/L	1		8260B	Total/NA
1,4-Dioxane	130		50	12	ug/L	1		8260B	Total/NA

Client Sample ID: MW-26_051518

Lab Sample ID: 240-95780-4

No Detections.

Client Sample ID: MW-15-61D_051518

Lab Sample ID: 240-95780-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	12	B	10	1.8	ug/L	1		8260B	Total/NA
Methylcyclohexane	0.47	J B	1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW-15-59D_051518

Lab Sample ID: 240-95780-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.3	J B	10	1.8	ug/L	1		8260B	Total/NA
Cyclohexane	0.69	J	1.0	0.44	ug/L	1		8260B	Total/NA
Methylcyclohexane	0.62	J B	1.0	0.45	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: 240-95780-1

Client Sample ID: MW-67_051418

Lab Sample ID: 240-95780-1

Date Collected: 05/14/18 14:00

Matrix: Water

Date Received: 05/18/18 08:30

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			05/24/18 15:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	73		63 - 125					05/24/18 15:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	3.5	J B	10	1.8	ug/L			05/26/18 17:50	1
Benzene	1.0	U	1.0	0.28	ug/L			05/26/18 17:50	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/26/18 17:50	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/26/18 17:50	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/26/18 17:50	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/26/18 17:50	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/26/18 17:50	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/26/18 17:50	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 17:50	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/26/18 17:50	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/26/18 17:50	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/26/18 17:50	1
cis-1,2-Dichloroethene	5.7		1.0	0.30	ug/L			05/26/18 17:50	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/26/18 17:50	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/26/18 17:50	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/26/18 17:50	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/26/18 17:50	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/26/18 17:50	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/26/18 17:50	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 17:50	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			05/26/18 17:50	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 17:50	1
1,1-Dichloroethane	0.25	J	1.0	0.25	ug/L			05/26/18 17:50	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/26/18 17:50	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/26/18 17:50	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/26/18 17:50	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/26/18 17:50	1
2-Hexanone	10	U	10	1.2	ug/L			05/26/18 17:50	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/26/18 17:50	1
Methyl acetate	10	U	10	1.4	ug/L			05/26/18 17:50	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			05/26/18 17:50	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/26/18 17:50	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/26/18 17:50	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/26/18 17:50	1
Styrene	1.0	U	1.0	0.23	ug/L			05/26/18 17:50	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/26/18 17:50	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 17:50	1
Toluene	1.0	U	1.0	0.23	ug/L			05/26/18 17:50	1
trans-1,2-Dichloroethene	0.75	J	1.0	0.29	ug/L			05/26/18 17:50	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/26/18 17:50	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			05/26/18 17:50	1
1,1,1-Trichloroethane	0.94	J	1.0	0.23	ug/L			05/26/18 17:50	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/26/18 17:50	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-67_051418
Date Collected: 05/14/18 14:00
Date Received: 05/18/18 08:30

Lab Sample ID: 240-95780-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	57		1.0	0.33	ug/L			05/26/18 17:50	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 17:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/26/18 17:50	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 17:50	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 17:50	1
Vinyl chloride	1.3		1.0	0.45	ug/L			05/26/18 17:50	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/26/18 17:50	1
1,4-Dioxane	50	U	50	12	ug/L			05/26/18 17:50	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/26/18 17:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		69 - 120		05/26/18 17:50	1
Dibromofluoromethane (Surr)	102		69 - 124		05/26/18 17:50	1
1,2-Dichloroethane-d4 (Surr)	102		61 - 138		05/26/18 17:50	1
Toluene-d8 (Surr)	107		73 - 120		05/26/18 17:50	1

Client Sample Results

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

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-29_051418

Lab Sample ID: 240-95780-2

Date Collected: 05/14/18 16:05

Matrix: Water

Date Received: 05/18/18 08:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.47	J	2.0	0.24	ug/L			05/24/18 15:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		63 - 125					05/24/18 15:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	4.4	J B	10	1.8	ug/L			05/26/18 18:15	1
Benzene	1.0	U	1.0	0.28	ug/L			05/26/18 18:15	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/26/18 18:15	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/26/18 18:15	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/26/18 18:15	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/26/18 18:15	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/26/18 18:15	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/26/18 18:15	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 18:15	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/26/18 18:15	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/26/18 18:15	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/26/18 18:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 18:15	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/26/18 18:15	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/26/18 18:15	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/26/18 18:15	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/26/18 18:15	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/26/18 18:15	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/26/18 18:15	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 18:15	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			05/26/18 18:15	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 18:15	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			05/26/18 18:15	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/26/18 18:15	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/26/18 18:15	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/26/18 18:15	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/26/18 18:15	1
2-Hexanone	10	U	10	1.2	ug/L			05/26/18 18:15	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/26/18 18:15	1
Methyl acetate	10	U	10	1.4	ug/L			05/26/18 18:15	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			05/26/18 18:15	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/26/18 18:15	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/26/18 18:15	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/26/18 18:15	1
Styrene	1.0	U	1.0	0.23	ug/L			05/26/18 18:15	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/26/18 18:15	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 18:15	1
Toluene	1.0	U	1.0	0.23	ug/L			05/26/18 18:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/26/18 18:15	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/26/18 18:15	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			05/26/18 18:15	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/26/18 18:15	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/26/18 18:15	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-29_051418

Lab Sample ID: 240-95780-2

Date Collected: 05/14/18 16:05

Matrix: Water

Date Received: 05/18/18 08:30

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	0.33	ug/L			05/26/18 18:15	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 18:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/26/18 18:15	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 18:15	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 18:15	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/18 18:15	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/26/18 18:15	1
1,4-Dioxane	50	U	50	12	ug/L			05/26/18 18:15	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/26/18 18:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		69 - 120					05/26/18 18:15	1
Dibromofluoromethane (Surr)	99		69 - 124					05/26/18 18:15	1
1,2-Dichloroethane-d4 (Surr)	100		61 - 138					05/26/18 18:15	1
Toluene-d8 (Surr)	104		73 - 120					05/26/18 18:15	1

Client Sample Results

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

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-19_051418

Lab Sample ID: 240-95780-3

Date Collected: 05/14/18 16:45

Matrix: Water

Date Received: 05/18/18 08:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	140		2.0	0.24	ug/L			05/24/18 16:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	79		63 - 125					05/24/18 16:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	3.2	J B	10	1.8	ug/L			05/26/18 18:40	1
Benzene	1.0	U	1.0	0.28	ug/L			05/26/18 18:40	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/26/18 18:40	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/26/18 18:40	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/26/18 18:40	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/26/18 18:40	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/26/18 18:40	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/26/18 18:40	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 18:40	1
Chloroethane	1.7		1.0	0.41	ug/L			05/26/18 18:40	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/26/18 18:40	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/26/18 18:40	1
cis-1,2-Dichloroethene	0.71	J	1.0	0.30	ug/L			05/26/18 18:40	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/26/18 18:40	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/26/18 18:40	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/26/18 18:40	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/26/18 18:40	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/26/18 18:40	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/26/18 18:40	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 18:40	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			05/26/18 18:40	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 18:40	1
1,1-Dichloroethane	3.6		1.0	0.25	ug/L			05/26/18 18:40	1
1,2-Dichloroethane	0.36	J	1.0	0.30	ug/L			05/26/18 18:40	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/26/18 18:40	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/26/18 18:40	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/26/18 18:40	1
2-Hexanone	10	U	10	1.2	ug/L			05/26/18 18:40	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/26/18 18:40	1
Methyl acetate	10	U	10	1.4	ug/L			05/26/18 18:40	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			05/26/18 18:40	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/26/18 18:40	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/26/18 18:40	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/26/18 18:40	1
Styrene	1.0	U	1.0	0.23	ug/L			05/26/18 18:40	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/26/18 18:40	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 18:40	1
Toluene	1.0	U	1.0	0.23	ug/L			05/26/18 18:40	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/26/18 18:40	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/26/18 18:40	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			05/26/18 18:40	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/26/18 18:40	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/26/18 18:40	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-19_051418

Lab Sample ID: 240-95780-3

Date Collected: 05/14/18 16:45

Matrix: Water

Date Received: 05/18/18 08:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	0.91	J	1.0	0.33	ug/L			05/26/18 18:40	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 18:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/26/18 18:40	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 18:40	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 18:40	1
Vinyl chloride	1.3		1.0	0.45	ug/L			05/26/18 18:40	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/26/18 18:40	1
1,4-Dioxane	130		50	12	ug/L			05/26/18 18:40	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/26/18 18:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		69 - 120					05/26/18 18:40	1
Dibromofluoromethane (Surr)	99		69 - 124					05/26/18 18:40	1
1,2-Dichloroethane-d4 (Surr)	98		61 - 138					05/26/18 18:40	1
Toluene-d8 (Surr)	105		73 - 120					05/26/18 18:40	1

Client Sample Results

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

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-26_051518

Lab Sample ID: 240-95780-4

Date Collected: 05/15/18 09:15

Matrix: Water

Date Received: 05/18/18 08:30

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			05/25/18 15:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125					05/25/18 15:11	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			05/27/18 02:06	1
Benzene	1.0	U	1.0	0.28	ug/L			05/27/18 02:06	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/27/18 02:06	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/27/18 02:06	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/27/18 02:06	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/27/18 02:06	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/27/18 02:06	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/27/18 02:06	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 02:06	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/27/18 02:06	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/27/18 02:06	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/27/18 02:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 02:06	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/27/18 02:06	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/27/18 02:06	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/27/18 02:06	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/27/18 02:06	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/27/18 02:06	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/27/18 02:06	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 02:06	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			05/27/18 02:06	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 02:06	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			05/27/18 02:06	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/27/18 02:06	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/27/18 02:06	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/27/18 02:06	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/27/18 02:06	1
2-Hexanone	10	U	10	1.2	ug/L			05/27/18 02:06	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/27/18 02:06	1
Methyl acetate	10	U	10	1.4	ug/L			05/27/18 02:06	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			05/27/18 02:06	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/27/18 02:06	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/27/18 02:06	1
Methyl tert-butyl ether	1.0	U *	1.0	0.27	ug/L			05/27/18 02:06	1
Styrene	1.0	U	1.0	0.23	ug/L			05/27/18 02:06	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/27/18 02:06	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 02:06	1
Toluene	1.0	U	1.0	0.23	ug/L			05/27/18 02:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/27/18 02:06	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/27/18 02:06	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			05/27/18 02:06	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/27/18 02:06	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/27/18 02:06	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-26_051518

Lab Sample ID: 240-95780-4

Date Collected: 05/15/18 09:15

Matrix: Water

Date Received: 05/18/18 08:30

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	0.33	ug/L			05/27/18 02:06	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 02:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/27/18 02:06	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			05/27/18 02:06	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/27/18 02:06	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/27/18 02:06	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/27/18 02:06	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/27/18 02:06	1
1,4-Dioxane	50	U	50	12	ug/L			05/27/18 02:06	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/27/18 02:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		69 - 120		05/27/18 02:06	1
Dibromofluoromethane (Surr)	103		69 - 124		05/27/18 02:06	1
1,2-Dichloroethane-d4 (Surr)	102		61 - 138		05/27/18 02:06	1
Toluene-d8 (Surr)	96		73 - 120		05/27/18 02:06	1

Client Sample Results

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

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-15-61D_051518

Lab Sample ID: 240-95780-5

Date Collected: 05/15/18 14:00

Matrix: Water

Date Received: 05/18/18 08:30

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			05/24/18 17:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		63 - 125					05/24/18 17:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	12	B	10	1.8	ug/L			05/27/18 15:32	1
Benzene	1.0	U	1.0	0.28	ug/L			05/27/18 15:32	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/27/18 15:32	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/27/18 15:32	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/27/18 15:32	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/27/18 15:32	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/27/18 15:32	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/27/18 15:32	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 15:32	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/27/18 15:32	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/27/18 15:32	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/27/18 15:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 15:32	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/27/18 15:32	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/27/18 15:32	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/27/18 15:32	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/27/18 15:32	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/27/18 15:32	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/27/18 15:32	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 15:32	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			05/27/18 15:32	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 15:32	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			05/27/18 15:32	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/27/18 15:32	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/27/18 15:32	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/27/18 15:32	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/27/18 15:32	1
2-Hexanone	10	U	10	1.2	ug/L			05/27/18 15:32	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/27/18 15:32	1
Methyl acetate	10	U	10	1.4	ug/L			05/27/18 15:32	1
Methylcyclohexane	0.47	J B	1.0	0.45	ug/L			05/27/18 15:32	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/27/18 15:32	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/27/18 15:32	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/27/18 15:32	1
Styrene	1.0	U	1.0	0.23	ug/L			05/27/18 15:32	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/27/18 15:32	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 15:32	1
Toluene	1.0	U	1.0	0.23	ug/L			05/27/18 15:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/27/18 15:32	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/27/18 15:32	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			05/27/18 15:32	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/27/18 15:32	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/27/18 15:32	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-15-61D_051518

Lab Sample ID: 240-95780-5

Date Collected: 05/15/18 14:00

Matrix: Water

Date Received: 05/18/18 08:30

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	0.33	ug/L			05/27/18 15:32	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 15:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/27/18 15:32	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			05/27/18 15:32	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/27/18 15:32	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/27/18 15:32	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/27/18 15:32	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/27/18 15:32	1
1,4-Dioxane	50	U	50	12	ug/L			05/27/18 15:32	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/27/18 15:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		69 - 120		05/27/18 15:32	1
Dibromofluoromethane (Surr)	99		69 - 124		05/27/18 15:32	1
1,2-Dichloroethane-d4 (Surr)	97		61 - 138		05/27/18 15:32	1
Toluene-d8 (Surr)	103		73 - 120		05/27/18 15:32	1

Client Sample Results

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

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-15-59D_051518

Lab Sample ID: 240-95780-6

Date Collected: 05/15/18 16:45

Matrix: Water

Date Received: 05/18/18 08:30

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			05/24/18 17:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		63 - 125					05/24/18 17:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	3.3	J B	10	1.8	ug/L			05/27/18 15:57	1
Benzene	1.0	U	1.0	0.28	ug/L			05/27/18 15:57	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/27/18 15:57	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/27/18 15:57	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/27/18 15:57	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/27/18 15:57	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/27/18 15:57	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/27/18 15:57	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 15:57	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/27/18 15:57	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/27/18 15:57	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/27/18 15:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 15:57	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/27/18 15:57	1
Cyclohexane	0.69	J	1.0	0.44	ug/L			05/27/18 15:57	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/27/18 15:57	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/27/18 15:57	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/27/18 15:57	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/27/18 15:57	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 15:57	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			05/27/18 15:57	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 15:57	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			05/27/18 15:57	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/27/18 15:57	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/27/18 15:57	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/27/18 15:57	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/27/18 15:57	1
2-Hexanone	10	U	10	1.2	ug/L			05/27/18 15:57	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/27/18 15:57	1
Methyl acetate	10	U	10	1.4	ug/L			05/27/18 15:57	1
Methylcyclohexane	0.62	J B	1.0	0.45	ug/L			05/27/18 15:57	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/27/18 15:57	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/27/18 15:57	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/27/18 15:57	1
Styrene	1.0	U	1.0	0.23	ug/L			05/27/18 15:57	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/27/18 15:57	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 15:57	1
Toluene	1.0	U	1.0	0.23	ug/L			05/27/18 15:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/27/18 15:57	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/27/18 15:57	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			05/27/18 15:57	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/27/18 15:57	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/27/18 15:57	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-15-59D_051518

Lab Sample ID: 240-95780-6

Date Collected: 05/15/18 16:45

Matrix: Water

Date Received: 05/18/18 08:30

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	0.33	ug/L			05/27/18 15:57	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 15:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/27/18 15:57	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			05/27/18 15:57	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/27/18 15:57	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/27/18 15:57	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/27/18 15:57	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/27/18 15:57	1
1,4-Dioxane	50	U	50	12	ug/L			05/27/18 15:57	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/27/18 15:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		69 - 120		05/27/18 15:57	1
Dibromofluoromethane (Surr)	99		69 - 124		05/27/18 15:57	1
1,2-Dichloroethane-d4 (Surr)	96		61 - 138		05/27/18 15:57	1
Toluene-d8 (Surr)	102		73 - 120		05/27/18 15:57	1

Surrogate Summary

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

TestAmerica Job ID: 240-95780-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		BFB (69-120)	DBFM (69-124)	DCA (61-138)	TOL (73-120)
240-95755-C-2 MS	Matrix Spike	99	99	93	105
240-95755-C-2 MSD	Matrix Spike Duplicate	100	101	92	106
240-95779-G-1 MS	Matrix Spike	100	101	95	107
240-95779-G-1 MSD	Matrix Spike Duplicate	101	101	98	105
240-95780-1	MW-67_051418	102	102	102	107
240-95780-2	MW-29_051418	102	99	100	104
240-95780-3	MW-19_051418	101	99	98	105
240-95780-4	MW-26_051518	83	103	102	96
240-95780-5	MW-15-61D_051518	99	99	97	103
240-95780-6	MW-15-59D_051518	99	99	96	102
LCS 240-328712/4	Lab Control Sample	102	103	98	108
LCS 240-328754/5	Lab Control Sample	91	98	99	101
LCS 240-328778/4	Lab Control Sample	102	100	95	105
MB 240-328712/5	Method Blank	101	101	100	105
MB 240-328754/7	Method Blank	86	96	97	93
MB 240-328778/5	Method Blank	101	99	95	104

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
 DBFM = Dibromofluoromethane (Surr)
 DCA = 1,2-Dichloroethane-d4 (Surr)
 TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-95779-A-1 MS	Matrix Spike	79
240-95779-A-1 MSD	Matrix Spike Duplicate	76
240-95780-1	MW-67_051418	73
240-95780-2	MW-29_051418	78
240-95780-3	MW-19_051418	79
240-95780-4	MW-26_051518	102
240-95780-5	MW-15-61D_051518	78
240-95780-6	MW-15-59D_051518	80
240-95846-D-1 MS	Matrix Spike	103
240-95846-D-1 MSD	Matrix Spike Duplicate	91
LCS 240-328355/4	Lab Control Sample	81
LCS 240-328591/4	Lab Control Sample	105
MB 240-328355/5	Method Blank	77
MB 240-328591/5	Method Blank	109

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: 240-95780-1

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

Lab Sample ID: MB 240-328712/5

Matrix: Water

Analysis Batch: 328712

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	4.75	J	10	1.8	ug/L			05/26/18 11:06	1
Benzene	1.0	U	1.0	0.28	ug/L			05/26/18 11:06	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/26/18 11:06	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/26/18 11:06	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/26/18 11:06	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/26/18 11:06	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/26/18 11:06	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/26/18 11:06	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 11:06	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/26/18 11:06	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/26/18 11:06	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/26/18 11:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 11:06	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/26/18 11:06	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/26/18 11:06	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/26/18 11:06	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/26/18 11:06	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/26/18 11:06	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/26/18 11:06	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 11:06	1
1,4-Dichlorobenzene	0.230	J	1.0	0.23	ug/L			05/26/18 11:06	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 11:06	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			05/26/18 11:06	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/26/18 11:06	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/26/18 11:06	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/26/18 11:06	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/26/18 11:06	1
2-Hexanone	10	U	10	1.2	ug/L			05/26/18 11:06	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/26/18 11:06	1
Methyl acetate	10	U	10	1.4	ug/L			05/26/18 11:06	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			05/26/18 11:06	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/26/18 11:06	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/26/18 11:06	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/26/18 11:06	1
Styrene	1.0	U	1.0	0.23	ug/L			05/26/18 11:06	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/26/18 11:06	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 11:06	1
Toluene	1.0	U	1.0	0.23	ug/L			05/26/18 11:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/26/18 11:06	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/26/18 11:06	1
1,2,4-Trichlorobenzene	0.744	J	1.0	0.27	ug/L			05/26/18 11:06	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/26/18 11:06	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/26/18 11:06	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			05/26/18 11:06	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 11:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/26/18 11:06	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 11:06	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 11:06	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-95780-1

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

Lab Sample ID: MB 240-328712/5
Matrix: Water
Analysis Batch: 328712

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/18 11:06	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/26/18 11:06	1
1,4-Dioxane	50	U	50	12	ug/L			05/26/18 11:06	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/26/18 11:06	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	101		69 - 120		05/26/18 11:06	1
Dibromofluoromethane (Surr)	101		69 - 124		05/26/18 11:06	1
1,2-Dichloroethane-d4 (Surr)	100		61 - 138		05/26/18 11:06	1
Toluene-d8 (Surr)	105		73 - 120		05/26/18 11:06	1

Lab Sample ID: LCS 240-328712/4
Matrix: Water
Analysis Batch: 328712

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
Acetone	100	112		ug/L		112	35 - 131
Benzene	50.0	48.0		ug/L		96	79 - 120
Bromodichloromethane	50.0	48.7		ug/L		97	79 - 125
Bromoform	50.0	47.9		ug/L		96	55 - 145
Bromomethane	20.0	17.4		ug/L		87	17 - 158
2-Butanone (MEK)	100	108		ug/L		108	43 - 149
Carbon disulfide	50.0	49.5		ug/L		99	49 - 141
Carbon tetrachloride	50.0	45.4		ug/L		91	55 - 171
Chlorobenzene	50.0	47.8		ug/L		96	80 - 120
Chloroethane	20.0	18.1		ug/L		91	10 - 149
Chloroform	50.0	47.6		ug/L		95	80 - 120
Chloromethane	20.0	17.5		ug/L		88	59 - 124
cis-1,2-Dichloroethene	50.0	48.0		ug/L		96	77 - 120
cis-1,3-Dichloropropene	50.0	51.6		ug/L		103	75 - 120
Cyclohexane	50.0	47.8		ug/L		96	66 - 135
Dibromochloromethane	50.0	53.1		ug/L		106	64 - 129
1,2-Dibromo-3-Chloropropane	50.0	43.0		ug/L		86	50 - 130
1,2-Dibromoethane	50.0	51.0		ug/L		102	80 - 120
1,2-Dichlorobenzene	50.0	47.1		ug/L		94	80 - 120
1,3-Dichlorobenzene	50.0	47.6		ug/L		95	80 - 120
1,4-Dichlorobenzene	50.0	46.8		ug/L		94	80 - 120
Dichlorodifluoromethane	20.0	16.0		ug/L		80	42 - 141
1,1-Dichloroethane	50.0	47.8		ug/L		96	74 - 120
1,2-Dichloroethane	50.0	48.9		ug/L		98	68 - 133
1,1-Dichloroethene	50.0	49.1		ug/L		98	65 - 127
1,2-Dichloropropane	50.0	48.9		ug/L		98	78 - 127
Ethylbenzene	50.0	48.5		ug/L		97	80 - 120
2-Hexanone	100	114		ug/L		114	28 - 169
Isopropylbenzene	50.0	50.3		ug/L		101	80 - 128
Methyl acetate	100	108		ug/L		108	63 - 137
Methylcyclohexane	50.0	46.0		ug/L		92	63 - 141
Methylene Chloride	50.0	46.9		ug/L		94	64 - 140

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-95780-1

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

Lab Sample ID: LCS 240-328712/4
Matrix: Water
Analysis Batch: 328712

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Methyl-2-pentanone (MIBK)	100	109		ug/L		109	53 - 144
Methyl tert-butyl ether	50.0	45.9		ug/L		92	73 - 120
Styrene	50.0	49.3		ug/L		99	80 - 121
1,1,2,2-Tetrachloroethane	50.0	52.4		ug/L		105	58 - 122
Tetrachloroethene	50.0	48.0		ug/L		96	80 - 122
Toluene	50.0	48.0		ug/L		96	78 - 120
trans-1,2-Dichloroethene	50.0	49.6		ug/L		99	74 - 124
trans-1,3-Dichloropropene	50.0	41.3		ug/L		83	67 - 120
1,2,4-Trichlorobenzene	50.0	45.1		ug/L		90	34 - 141
1,1,1-Trichloroethane	50.0	50.4		ug/L		101	64 - 147
1,1,2-Trichloroethane	50.0	51.4		ug/L		103	76 - 121
Trichloroethene	50.0	48.0		ug/L		96	76 - 124
Trichlorofluoromethane	20.0	18.4		ug/L		92	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	46.9		ug/L		94	65 - 144
1,2,4-Trimethylbenzene	50.0	47.8		ug/L		96	80 - 120
1,3,5-Trimethylbenzene	50.0	48.9		ug/L		98	79 - 120
Vinyl chloride	20.0	17.0		ug/L		85	65 - 124
Xylenes, Total	100	96.6		ug/L		97	80 - 120
1,4-Dioxane	1000	1160		ug/L		116	35 - 134
Diethyl ether	50.0	50.8		ug/L		102	72 - 125

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
4-Bromofluorobenzene (Surr)	102		69 - 120
Dibromofluoromethane (Surr)	103		69 - 124
1,2-Dichloroethane-d4 (Surr)	98		61 - 138
Toluene-d8 (Surr)	108		73 - 120

Lab Sample ID: 240-95779-G-1 MS
Matrix: Water
Analysis Batch: 328712

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	4.4	J B	100	97.2		ug/L		93	19 - 133
Benzene	1.0	U	50.0	44.1		ug/L		88	69 - 127
Bromodichloromethane	1.0	U	50.0	46.2		ug/L		92	75 - 128
Bromoform	1.0	U F2	50.0	39.3		ug/L		79	61 - 135
Bromomethane	1.0	U	20.0	16.0		ug/L		80	10 - 148
2-Butanone (MEK)	10	U	100	97.4		ug/L		97	34 - 153
Carbon disulfide	1.0	U	50.0	43.8		ug/L		88	46 - 143
Carbon tetrachloride	1.0	U	50.0	33.0		ug/L		66	53 - 175
Chlorobenzene	1.0	U	50.0	44.2		ug/L		88	76 - 120
Chloroethane	1.0	U	20.0	16.9		ug/L		84	10 - 141
Chloroform	1.0	U	50.0	45.0		ug/L		90	74 - 125
Chloromethane	1.0	U	20.0	16.7		ug/L		83	34 - 127
cis-1,2-Dichloroethene	1.0	U	50.0	44.9		ug/L		90	69 - 127
cis-1,3-Dichloropropene	1.0	U	50.0	46.1		ug/L		92	68 - 120
Cyclohexane	1.0	U	50.0	41.1		ug/L		82	56 - 135

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QC Sample Results

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

TestAmerica Job ID: 240-95780-1

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

Lab Sample ID: 240-95779-G-1 MS

Matrix: Water

Analysis Batch: 328712

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
Dibromochloromethane	1.0	U	50.0	47.4		ug/L		95	62 - 131
1,2-Dibromo-3-Chloropropane	2.0	U	50.0	34.7		ug/L		69	48 - 130
1,2-Dibromoethane	1.0	U	50.0	48.8		ug/L		98	73 - 121
1,2-Dichlorobenzene	1.0	U	50.0	42.7		ug/L		85	70 - 120
1,3-Dichlorobenzene	1.0	U	50.0	41.5		ug/L		83	71 - 120
1,4-Dichlorobenzene	1.0	U	50.0	40.6		ug/L		81	72 - 120
Dichlorodifluoromethane	1.0	U	20.0	13.5		ug/L		67	45 - 130
1,1-Dichloroethane	1.0	U	50.0	43.9		ug/L		88	69 - 122
1,2-Dichloroethane	1.0	U	50.0	48.6		ug/L		97	64 - 138
1,1-Dichloroethene	1.0	U	50.0	42.2		ug/L		84	62 - 127
1,2-Dichloropropane	1.0	U	50.0	47.6		ug/L		95	72 - 131
Ethylbenzene	1.0	U	50.0	42.8		ug/L		86	72 - 121
2-Hexanone	10	U F2	100	102		ug/L		102	21 - 184
Isopropylbenzene	1.0	U	50.0	43.2		ug/L		86	70 - 132
Methyl acetate	10	U	100	94.5		ug/L		95	52 - 139
Methylcyclohexane	1.0	U	50.0	39.2		ug/L		78	46 - 139
Methylene Chloride	1.0	U	50.0	45.9		ug/L		92	52 - 137
4-Methyl-2-pentanone (MIBK)	10	U	100	99.2		ug/L		99	53 - 147
Methyl tert-butyl ether	1.0	U	50.0	45.1		ug/L		90	67 - 125
Styrene	1.0	U	50.0	45.3		ug/L		91	74 - 125
1,1,2,2-Tetrachloroethane	1.0	U	50.0	47.6		ug/L		95	51 - 123
Tetrachloroethene	1.0	U	50.0	39.7		ug/L		79	69 - 126
Toluene	1.0	U	50.0	43.1		ug/L		86	69 - 125
trans-1,2-Dichloroethene	1.0	U	50.0	43.9		ug/L		88	66 - 131
trans-1,3-Dichloropropene	1.0	U	50.0	35.3		ug/L		71	59 - 120
1,2,4-Trichlorobenzene	1.0	U	50.0	38.0		ug/L		76	26 - 138
1,1,1-Trichloroethane	1.0	U	50.0	40.5		ug/L		81	57 - 156
1,1,2-Trichloroethane	1.0	U	50.0	49.9		ug/L		100	68 - 127
Trichloroethene	1.0	U	50.0	41.6		ug/L		83	68 - 129
Trichlorofluoromethane	1.0	U	20.0	15.2		ug/L		76	28 - 172
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	50.0	40.4		ug/L		81	58 - 137
1,2,4-Trimethylbenzene	1.0	U	50.0	41.3		ug/L		83	64 - 120
1,3,5-Trimethylbenzene	1.0	U	50.0	41.5		ug/L		83	67 - 120
Vinyl chloride	1.0	U	20.0	15.6		ug/L		78	55 - 123
Xylenes, Total	2.0	U	100	86.5		ug/L		87	71 - 122
1,4-Dioxane	50	U	1000	1060		ug/L		106	13 - 155
Diethyl ether	2.0	U	50.0	49.1		ug/L		98	65 - 124

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		69 - 120
Dibromofluoromethane (Surr)	101		69 - 124
1,2-Dichloroethane-d4 (Surr)	95		61 - 138
Toluene-d8 (Surr)	107		73 - 120

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QC Sample Results

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

TestAmerica Job ID: 240-95780-1

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

Lab Sample ID: 240-95779-G-1 MSD

Matrix: Water

Analysis Batch: 328712

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		
Acetone	4.4	J B	100	113		ug/L		109	19 - 133	15	35
Benzene	1.0	U	50.0	43.8		ug/L		88	69 - 127	1	10
Bromodichloromethane	1.0	U	50.0	47.9		ug/L		96	75 - 128	4	13
Bromoform	1.0	U F2	50.0	45.4	F2	ug/L		91	61 - 135	15	13
Bromomethane	1.0	U	20.0	15.4		ug/L		77	10 - 148	4	35
2-Butanone (MEK)	10	U	100	111		ug/L		111	34 - 153	13	23
Carbon disulfide	1.0	U	50.0	43.0		ug/L		86	46 - 143	2	18
Carbon tetrachloride	1.0	U	50.0	34.8		ug/L		70	53 - 175	5	17
Chlorobenzene	1.0	U	50.0	45.7		ug/L		91	76 - 120	3	12
Chloroethane	1.0	U	20.0	16.6		ug/L		83	10 - 141	2	35
Chloroform	1.0	U	50.0	45.7		ug/L		91	74 - 125	2	11
Chloromethane	1.0	U	20.0	15.9		ug/L		79	34 - 127	5	25
cis-1,2-Dichloroethene	1.0	U	50.0	44.9		ug/L		90	69 - 127	0	11
cis-1,3-Dichloropropene	1.0	U	50.0	48.7		ug/L		97	68 - 120	6	13
Cyclohexane	1.0	U	50.0	40.6		ug/L		81	56 - 135	1	35
Dibromochloromethane	1.0	U	50.0	52.4		ug/L		105	62 - 131	10	15
1,2-Dibromo-3-Chloropropane	2.0	U	50.0	42.1		ug/L		84	48 - 130	19	31
1,2-Dibromoethane	1.0	U	50.0	52.7		ug/L		105	73 - 121	8	12
1,2-Dichlorobenzene	1.0	U	50.0	46.1		ug/L		92	70 - 120	8	19
1,3-Dichlorobenzene	1.0	U	50.0	44.7		ug/L		89	71 - 120	7	18
1,4-Dichlorobenzene	1.0	U	50.0	44.4		ug/L		89	72 - 120	9	17
Dichlorodifluoromethane	1.0	U	20.0	13.5		ug/L		67	45 - 130	0	34
1,1-Dichloroethane	1.0	U	50.0	44.3		ug/L		89	69 - 122	1	11
1,2-Dichloroethane	1.0	U	50.0	50.4		ug/L		101	64 - 138	4	11
1,1-Dichloroethene	1.0	U	50.0	41.5		ug/L		83	62 - 127	2	14
1,2-Dichloropropane	1.0	U	50.0	48.1		ug/L		96	72 - 131	1	12
Ethylbenzene	1.0	U	50.0	44.1		ug/L		88	72 - 121	3	15
2-Hexanone	10	U F2	100	122	F2	ug/L		122	21 - 184	18	12
Isopropylbenzene	1.0	U	50.0	45.6		ug/L		91	70 - 132	5	16
Methyl acetate	10	U	100	108		ug/L		108	52 - 139	14	14
Methylcyclohexane	1.0	U	50.0	39.5		ug/L		79	46 - 139	1	35
Methylene Chloride	1.0	U	50.0	46.1		ug/L		92	52 - 137	1	12
4-Methyl-2-pentanone (MIBK)	10	U	100	117		ug/L		117	53 - 147	16	16
Methyl tert-butyl ether	1.0	U	50.0	48.7		ug/L		97	67 - 125	8	12
Styrene	1.0	U	50.0	47.0		ug/L		94	74 - 125	4	14
1,1,2,2-Tetrachloroethane	1.0	U	50.0	54.1		ug/L		108	51 - 123	13	17
Tetrachloroethene	1.0	U	50.0	41.5		ug/L		83	69 - 126	5	18
Toluene	1.0	U	50.0	43.9		ug/L		88	69 - 125	2	14
trans-1,2-Dichloroethene	1.0	U	50.0	44.2		ug/L		88	66 - 131	1	11
trans-1,3-Dichloropropene	1.0	U	50.0	38.5		ug/L		77	59 - 120	9	14
1,2,4-Trichlorobenzene	1.0	U	50.0	42.7		ug/L		85	26 - 138	12	35
1,1,1-Trichloroethane	1.0	U	50.0	41.2		ug/L		82	57 - 156	2	13
1,1,2-Trichloroethane	1.0	U	50.0	53.3		ug/L		107	68 - 127	7	11
Trichloroethene	1.0	U	50.0	41.6		ug/L		83	68 - 129	0	12
Trichlorofluoromethane	1.0	U	20.0	14.6		ug/L		73	28 - 172	4	26
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	50.0	39.0		ug/L		78	58 - 137	4	35
1,2,4-Trimethylbenzene	1.0	U	50.0	45.0		ug/L		90	64 - 120	9	22

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QC Sample Results

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

TestAmerica Job ID: 240-95780-1

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

Lab Sample ID: 240-95779-G-1 MSD

Matrix: Water

Analysis Batch: 328712

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
1,3,5-Trimethylbenzene	1.0	U	50.0	44.9		ug/L		90	67 - 120	8	25
Vinyl chloride	1.0	U	20.0	14.9		ug/L		75	55 - 123	4	12
Xylenes, Total	2.0	U	100	90.0		ug/L		90	71 - 122	4	14
1,4-Dioxane	50	U	1000	1220		ug/L		122	13 - 155	14	35
Diethyl ether	2.0	U	50.0	52.4		ug/L		105	65 - 124	7	11

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		69 - 120
Dibromofluoromethane (Surr)	101		69 - 124
1,2-Dichloroethane-d4 (Surr)	98		61 - 138
Toluene-d8 (Surr)	105		73 - 120

Lab Sample ID: MB 240-328754/7

Matrix: Water

Analysis Batch: 328754

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			05/26/18 18:36	1
Benzene	1.0	U	1.0	0.28	ug/L			05/26/18 18:36	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/26/18 18:36	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/26/18 18:36	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/26/18 18:36	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/26/18 18:36	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/26/18 18:36	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/26/18 18:36	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 18:36	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/26/18 18:36	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/26/18 18:36	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/26/18 18:36	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 18:36	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/26/18 18:36	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/26/18 18:36	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/26/18 18:36	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/26/18 18:36	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/26/18 18:36	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/26/18 18:36	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 18:36	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			05/26/18 18:36	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 18:36	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			05/26/18 18:36	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/26/18 18:36	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/26/18 18:36	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/26/18 18:36	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/26/18 18:36	1
2-Hexanone	10	U	10	1.2	ug/L			05/26/18 18:36	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/26/18 18:36	1
Methyl acetate	10	U	10	1.4	ug/L			05/26/18 18:36	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			05/26/18 18:36	1

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QC Sample Results

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

TestAmerica Job ID: 240-95780-1

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

Lab Sample ID: MB 240-328754/7

Matrix: Water

Analysis Batch: 328754

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/26/18 18:36	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/26/18 18:36	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/26/18 18:36	1
Styrene	1.0	U	1.0	0.23	ug/L			05/26/18 18:36	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/26/18 18:36	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 18:36	1
Toluene	1.0	U	1.0	0.23	ug/L			05/26/18 18:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/26/18 18:36	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/26/18 18:36	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			05/26/18 18:36	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/26/18 18:36	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/26/18 18:36	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			05/26/18 18:36	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 18:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/26/18 18:36	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			05/26/18 18:36	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 18:36	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 18:36	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/18 18:36	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/26/18 18:36	1
1,4-Dioxane	50	U	50	12	ug/L			05/26/18 18:36	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/26/18 18:36	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	86		69 - 120		05/26/18 18:36	1
Dibromofluoromethane (Surr)	96		69 - 124		05/26/18 18:36	1
1,2-Dichloroethane-d4 (Surr)	97		61 - 138		05/26/18 18:36	1
Toluene-d8 (Surr)	93		73 - 120		05/26/18 18:36	1

Lab Sample ID: LCS 240-328754/5

Matrix: Water

Analysis Batch: 328754

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	23.4		ug/L		117	35 - 131
Benzene	10.0	10.4		ug/L		104	79 - 120
Bromodichloromethane	10.0	9.91		ug/L		99	79 - 125
Bromoform	10.0	10.6		ug/L		106	55 - 145
Bromomethane	10.0	11.5		ug/L		115	17 - 158
2-Butanone (MEK)	20.0	22.8		ug/L		114	43 - 149
Carbon disulfide	10.0	10.7		ug/L		107	49 - 141
Carbon tetrachloride	10.0	10.1		ug/L		101	55 - 171
Chlorobenzene	10.0	11.1		ug/L		111	80 - 120
Chloroethane	10.0	12.2		ug/L		122	10 - 149
Chloroform	10.0	10.5		ug/L		105	80 - 120
Chloromethane	10.0	10.8		ug/L		108	59 - 124
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	77 - 120
cis-1,3-Dichloropropene	10.0	9.08		ug/L		91	75 - 120

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-95780-1

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

Lab Sample ID: LCS 240-328754/5

Matrix: Water

Analysis Batch: 328754

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	10.0	11.6		ug/L		116	66 - 135
Dibromochloromethane	10.0	10.7		ug/L		107	64 - 129
1,2-Dibromo-3-Chloropropane	10.0	8.27		ug/L		83	50 - 130
1,2-Dibromoethane	10.0	10.8		ug/L		108	80 - 120
1,2-Dichlorobenzene	10.0	10.6		ug/L		106	80 - 120
1,3-Dichlorobenzene	10.0	11.2		ug/L		112	80 - 120
1,4-Dichlorobenzene	10.0	11.3		ug/L		113	80 - 120
Dichlorodifluoromethane	10.0	10.4		ug/L		104	42 - 141
1,1-Dichloroethane	10.0	10.4		ug/L		104	74 - 120
1,2-Dichloroethane	10.0	11.2		ug/L		112	68 - 133
1,1-Dichloroethene	10.0	10.7		ug/L		107	65 - 127
1,2-Dichloropropane	10.0	10.7		ug/L		107	78 - 127
Ethylbenzene	10.0	10.7		ug/L		107	80 - 120
2-Hexanone	20.0	19.5		ug/L		98	28 - 169
Isopropylbenzene	10.0	10.6		ug/L		106	80 - 128
Methyl acetate	20.0	19.5		ug/L		97	63 - 137
Methylcyclohexane	10.0	10.1		ug/L		101	63 - 141
Methylene Chloride	10.0	10.1		ug/L		101	64 - 140
4-Methyl-2-pentanone (MIBK)	20.0	18.7		ug/L		93	53 - 144
Methyl tert-butyl ether	10.0	7.21	*	ug/L		72	73 - 120
Styrene	10.0	10.6		ug/L		106	80 - 121
1,1,2,2-Tetrachloroethane	10.0	11.3		ug/L		113	58 - 122
Tetrachloroethene	10.0	11.4		ug/L		114	80 - 122
Toluene	10.0	11.3		ug/L		113	78 - 120
trans-1,2-Dichloroethene	10.0	10.9		ug/L		109	74 - 124
trans-1,3-Dichloropropene	10.0	8.43		ug/L		84	67 - 120
1,2,4-Trichlorobenzene	10.0	9.35		ug/L		94	34 - 141
1,1,1-Trichloroethane	10.0	9.68		ug/L		97	64 - 147
1,1,2-Trichloroethane	10.0	11.4		ug/L		114	76 - 121
Trichloroethene	10.0	10.1		ug/L		101	76 - 124
Trichlorofluoromethane	10.0	13.3		ug/L		133	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	11.9		ug/L		119	65 - 144
1,2,4-Trimethylbenzene	10.0	10.6		ug/L		106	80 - 120
1,3,5-Trimethylbenzene	10.0	10.8		ug/L		108	79 - 120
Vinyl chloride	10.0	12.2		ug/L		122	65 - 124
Xylenes, Total	20.0	21.3		ug/L		107	80 - 120
1,4-Dioxane	200	97.9		ug/L		49	35 - 134
Diethyl ether	10.0	11.3		ug/L		113	72 - 125

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	91		69 - 120
Dibromofluoromethane (Surr)	98		69 - 124
1,2-Dichloroethane-d4 (Surr)	99		61 - 138
Toluene-d8 (Surr)	101		73 - 120

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-95780-1

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

Lab Sample ID: MB 240-328778/5
Matrix: Water
Analysis Batch: 328778

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	2.38	J	10	1.8	ug/L			05/27/18 11:19	1
Benzene	1.0	U	1.0	0.28	ug/L			05/27/18 11:19	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/27/18 11:19	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/27/18 11:19	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/27/18 11:19	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/27/18 11:19	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/27/18 11:19	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/27/18 11:19	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 11:19	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/27/18 11:19	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/27/18 11:19	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/27/18 11:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 11:19	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/27/18 11:19	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/27/18 11:19	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/27/18 11:19	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/27/18 11:19	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/27/18 11:19	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/27/18 11:19	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 11:19	1
1,4-Dichlorobenzene	0.242	J	1.0	0.23	ug/L			05/27/18 11:19	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 11:19	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			05/27/18 11:19	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/27/18 11:19	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/27/18 11:19	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/27/18 11:19	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/27/18 11:19	1
2-Hexanone	10	U	10	1.2	ug/L			05/27/18 11:19	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/27/18 11:19	1
Methyl acetate	10	U	10	1.4	ug/L			05/27/18 11:19	1
Methylcyclohexane	0.542	J	1.0	0.45	ug/L			05/27/18 11:19	1
Methylene Chloride	1.44	J	5.0	0.53	ug/L			05/27/18 11:19	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/27/18 11:19	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/27/18 11:19	1
Styrene	1.0	U	1.0	0.23	ug/L			05/27/18 11:19	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/27/18 11:19	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 11:19	1
Toluene	1.0	U	1.0	0.23	ug/L			05/27/18 11:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/27/18 11:19	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/27/18 11:19	1
1,2,4-Trichlorobenzene	0.732	J	1.0	0.27	ug/L			05/27/18 11:19	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/27/18 11:19	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/27/18 11:19	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			05/27/18 11:19	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 11:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/27/18 11:19	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			05/27/18 11:19	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/27/18 11:19	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-95780-1

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

Lab Sample ID: MB 240-328778/5
Matrix: Water
Analysis Batch: 328778

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	0.24	ug/L			05/27/18 11:19	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/27/18 11:19	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/27/18 11:19	1
1,4-Dioxane	50	U	50	12	ug/L			05/27/18 11:19	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/27/18 11:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		69 - 120		05/27/18 11:19	1
Dibromofluoromethane (Surr)	99		69 - 124		05/27/18 11:19	1
1,2-Dichloroethane-d4 (Surr)	95		61 - 138		05/27/18 11:19	1
Toluene-d8 (Surr)	104		73 - 120		05/27/18 11:19	1

Lab Sample ID: LCS 240-328778/4
Matrix: Water
Analysis Batch: 328778

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	100	108		ug/L		108	35 - 131
Benzene	50.0	48.1		ug/L		96	79 - 120
Bromodichloromethane	50.0	49.2		ug/L		98	79 - 125
Bromoform	50.0	49.3		ug/L		99	55 - 145
Bromomethane	20.0	16.3		ug/L		81	17 - 158
2-Butanone (MEK)	100	106		ug/L		106	43 - 149
Carbon disulfide	50.0	50.3		ug/L		101	49 - 141
Carbon tetrachloride	50.0	45.8		ug/L		92	55 - 171
Chlorobenzene	50.0	48.1		ug/L		96	80 - 120
Chloroethane	20.0	18.0		ug/L		90	10 - 149
Chloroform	50.0	48.3		ug/L		97	80 - 120
Chloromethane	20.0	17.2		ug/L		86	59 - 124
cis-1,2-Dichloroethene	50.0	47.7		ug/L		95	77 - 120
cis-1,3-Dichloropropene	50.0	51.6		ug/L		103	75 - 120
Cyclohexane	50.0	48.1		ug/L		96	66 - 135
Dibromochloromethane	50.0	53.8		ug/L		108	64 - 129
1,2-Dibromo-3-Chloropropane	50.0	44.8		ug/L		90	50 - 130
1,2-Dibromoethane	50.0	50.9		ug/L		102	80 - 120
1,2-Dichlorobenzene	50.0	48.0		ug/L		96	80 - 120
1,3-Dichlorobenzene	50.0	48.3		ug/L		97	80 - 120
1,4-Dichlorobenzene	50.0	47.8		ug/L		96	80 - 120
Dichlorodifluoromethane	20.0	15.1		ug/L		76	42 - 141
1,1-Dichloroethane	50.0	48.2		ug/L		96	74 - 120
1,2-Dichloroethane	50.0	48.7		ug/L		97	68 - 133
1,1-Dichloroethene	50.0	50.4		ug/L		101	65 - 127
1,2-Dichloropropane	50.0	49.6		ug/L		99	78 - 127
Ethylbenzene	50.0	49.3		ug/L		99	80 - 120
2-Hexanone	100	109		ug/L		109	28 - 169
Isopropylbenzene	50.0	50.9		ug/L		102	80 - 128
Methyl acetate	100	105		ug/L		105	63 - 137
Methylcyclohexane	50.0	46.2		ug/L		92	63 - 141

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-95780-1

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

Lab Sample ID: LCS 240-328778/4
Matrix: Water
Analysis Batch: 328778

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	50.0	49.3		ug/L		99	64 - 140
4-Methyl-2-pentanone (MIBK)	100	108		ug/L		108	53 - 144
Methyl tert-butyl ether	50.0	45.6		ug/L		91	73 - 120
Styrene	50.0	48.7		ug/L		97	80 - 121
1,1,2,2-Tetrachloroethane	50.0	52.9		ug/L		106	58 - 122
Tetrachloroethene	50.0	48.2		ug/L		96	80 - 122
Toluene	50.0	48.2		ug/L		96	78 - 120
trans-1,2-Dichloroethene	50.0	50.0		ug/L		100	74 - 124
trans-1,3-Dichloropropene	50.0	41.3		ug/L		83	67 - 120
1,2,4-Trichlorobenzene	50.0	44.2		ug/L		88	34 - 141
1,1,1-Trichloroethane	50.0	51.2		ug/L		102	64 - 147
1,1,2-Trichloroethane	50.0	51.3		ug/L		103	76 - 121
Trichloroethene	50.0	48.7		ug/L		97	76 - 124
Trichlorofluoromethane	20.0	17.6		ug/L		88	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	47.5		ug/L		95	65 - 144
1,2,4-Trimethylbenzene	50.0	49.0		ug/L		98	80 - 120
1,3,5-Trimethylbenzene	50.0	50.3		ug/L		101	79 - 120
Vinyl chloride	20.0	16.7		ug/L		83	65 - 124
Xylenes, Total	100	98.0		ug/L		98	80 - 120
1,4-Dioxane	1000	1150		ug/L		115	35 - 134
Diethyl ether	50.0	50.5		ug/L		101	72 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		69 - 120
Dibromofluoromethane (Surr)	100		69 - 124
1,2-Dichloroethane-d4 (Surr)	95		61 - 138
Toluene-d8 (Surr)	105		73 - 120

Lab Sample ID: 240-95755-C-2 MS
Matrix: Water
Analysis Batch: 328778

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	34	J B	1000	972		ug/L		94	19 - 133
Benzene	10	U	500	439		ug/L		88	69 - 127
Carbon disulfide	10	U	500	429		ug/L		86	46 - 143
Chloroethane	10	U	200	165		ug/L		82	10 - 141
cis-1,2-Dichloroethene	1000		500	1440		ug/L		80	69 - 127
1,1-Dichloroethane	10	U	500	433		ug/L		87	69 - 122
1,2-Dichloroethane	10	U	500	474		ug/L		95	64 - 138
1,1-Dichloroethene	6.1	J	500	417		ug/L		82	62 - 127
1,2-Dichloropropane	10	U	500	465		ug/L		93	72 - 131
Ethylbenzene	10	U	500	425		ug/L		85	72 - 121
Methylene Chloride	10	U	500	474		ug/L		95	52 - 137
Tetrachloroethene	10	U	500	390		ug/L		78	69 - 126
Toluene	10	U	500	426		ug/L		85	69 - 125
trans-1,2-Dichloroethene	8.9	J	500	435		ug/L		85	66 - 131

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-95780-1

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

Lab Sample ID: 240-95755-C-2 MS

Matrix: Water

Analysis Batch: 328778

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	10	U	500	395		ug/L		79	57 - 156
1,1,2-Trichloroethane	10	U	500	493		ug/L		99	68 - 127
Trichloroethene	930		500	1290		ug/L		71	68 - 129
Vinyl chloride	16		200	162		ug/L		73	55 - 123
Xylenes, Total	20	U	1000	859		ug/L		86	71 - 122

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	99		69 - 120
Dibromofluoromethane (Surr)	99		69 - 124
1,2-Dichloroethane-d4 (Surr)	93		61 - 138
Toluene-d8 (Surr)	105		73 - 120

Lab Sample ID: 240-95755-C-2 MSD

Matrix: Water

Analysis Batch: 328778

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	34	J B	1000	954		ug/L		92	19 - 133	2	35
Benzene	10	U	500	435		ug/L		87	69 - 127	1	10
Carbon disulfide	10	U	500	426		ug/L		85	46 - 143	1	18
Chloroethane	10	U	200	171		ug/L		85	10 - 141	4	35
cis-1,2-Dichloroethene	1000		500	1430		ug/L		79	69 - 127	0	11
1,1-Dichloroethane	10	U	500	440		ug/L		88	69 - 122	2	11
1,2-Dichloroethane	10	U	500	470		ug/L		94	64 - 138	1	11
1,1-Dichloroethene	6.1	J	500	417		ug/L		82	62 - 127	0	14
1,2-Dichloropropane	10	U	500	473		ug/L		95	72 - 131	2	12
Ethylbenzene	10	U	500	420		ug/L		84	72 - 121	1	15
Methylene Chloride	10	U	500	475		ug/L		95	52 - 137	0	12
Tetrachloroethene	10	U	500	391		ug/L		78	69 - 126	0	18
Toluene	10	U	500	427		ug/L		85	69 - 125	0	14
trans-1,2-Dichloroethene	8.9	J	500	445		ug/L		87	66 - 131	2	11
1,1,1-Trichloroethane	10	U	500	409		ug/L		82	57 - 156	3	13
1,1,2-Trichloroethane	10	U	500	503		ug/L		101	68 - 127	2	11
Trichloroethene	930		500	1270		ug/L		68	68 - 129	1	12
Vinyl chloride	16		200	165		ug/L		74	55 - 123	2	12
Xylenes, Total	20	U	1000	861		ug/L		86	71 - 122	0	14

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	100		69 - 120
Dibromofluoromethane (Surr)	101		69 - 124
1,2-Dichloroethane-d4 (Surr)	92		61 - 138
Toluene-d8 (Surr)	106		73 - 120

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-95780-1

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

Lab Sample ID: MB 240-328355/5

Matrix: Water

Analysis Batch: 328355

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			05/24/18 12:25	1
Surrogate	%Recovery	MB Qualifier	Limits			D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	77		63 - 125					05/24/18 12:25	1

Lab Sample ID: LCS 240-328355/4

Matrix: Water

Analysis Batch: 328355

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	8.55		ug/L		86	59 - 131
Surrogate	%Recovery	LCS Qualifier	Limits			D	%Rec. Limits
1,2-Dichloroethane-d4 (Surr)	81		63 - 125				

Lab Sample ID: 240-95779-A-1 MS

Matrix: Water

Analysis Batch: 328355

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	3.6		10.0	13.0		ug/L		94	52 - 129
Surrogate	%Recovery	MS Qualifier	Limits			D	%Rec	%Rec. Limits	
1,2-Dichloroethane-d4 (Surr)	79		63 - 125						

Lab Sample ID: 240-95779-A-1 MSD

Matrix: Water

Analysis Batch: 328355

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	3.6		10.0	11.6		ug/L		80	52 - 129	11	13
Surrogate	%Recovery	MSD Qualifier	Limits			D	%Rec	%Rec. Limits	RPD	RPD Limit	
1,2-Dichloroethane-d4 (Surr)	76		63 - 125								

Lab Sample ID: MB 240-328591/5

Matrix: Water

Analysis Batch: 328591

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			05/25/18 14:21	1
Surrogate	%Recovery	MB Qualifier	Limits			D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		63 - 125					05/25/18 14:21	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-95780-1

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

Lab Sample ID: LCS 240-328591/4
Matrix: Water
Analysis Batch: 328591

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	8.10		ug/L		81	59 - 131
Surrogate	%Recovery	LCS Qualifier	LCS	Limits			
1,2-Dichloroethane-d4 (Surr)	105			63 - 125			

Lab Sample ID: 240-95846-D-1 MS
Matrix: Water
Analysis Batch: 328591

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	8.16		ug/L		82	52 - 129
Surrogate	%Recovery	MS Qualifier	MS	Limits					
1,2-Dichloroethane-d4 (Surr)	103			63 - 125					

Lab Sample ID: 240-95846-D-1 MSD
Matrix: Water
Analysis Batch: 328591

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	7.93		ug/L		79	52 - 129	3	13
Surrogate	%Recovery	MSD Qualifier	MSD	Limits							
1,2-Dichloroethane-d4 (Surr)	91			63 - 125							

QC Association Summary

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

TestAmerica Job ID: 240-95780-1

GC/MS VOA

Analysis Batch: 328355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95780-1	MW-67_051418	Total/NA	Water	8260B SIM	
240-95780-2	MW-29_051418	Total/NA	Water	8260B SIM	
240-95780-3	MW-19_051418	Total/NA	Water	8260B SIM	
240-95780-5	MW-15-61D_051518	Total/NA	Water	8260B SIM	
240-95780-6	MW-15-59D_051518	Total/NA	Water	8260B SIM	
MB 240-328355/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-328355/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-95779-A-1 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-95779-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 328591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95780-4	MW-26_051518	Total/NA	Water	8260B SIM	
MB 240-328591/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-328591/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-95846-D-1 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-95846-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 328712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95780-1	MW-67_051418	Total/NA	Water	8260B	
240-95780-2	MW-29_051418	Total/NA	Water	8260B	
240-95780-3	MW-19_051418	Total/NA	Water	8260B	
MB 240-328712/5	Method Blank	Total/NA	Water	8260B	
LCS 240-328712/4	Lab Control Sample	Total/NA	Water	8260B	
240-95779-G-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-95779-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 328754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95780-4	MW-26_051518	Total/NA	Water	8260B	
MB 240-328754/7	Method Blank	Total/NA	Water	8260B	
LCS 240-328754/5	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 328778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95780-5	MW-15-61D_051518	Total/NA	Water	8260B	
240-95780-6	MW-15-59D_051518	Total/NA	Water	8260B	
MB 240-328778/5	Method Blank	Total/NA	Water	8260B	
LCS 240-328778/4	Lab Control Sample	Total/NA	Water	8260B	
240-95755-C-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-95755-C-2 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: 240-95780-1

Client Sample ID: MW-67_051418

Lab Sample ID: 240-95780-1

Date Collected: 05/14/18 14:00

Matrix: Water

Date Received: 05/18/18 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	328712	05/26/18 17:50	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	328355	05/24/18 15:21	SAM	TAL CAN

Client Sample ID: MW-29_051418

Lab Sample ID: 240-95780-2

Date Collected: 05/14/18 16:05

Matrix: Water

Date Received: 05/18/18 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	328712	05/26/18 18:15	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	328355	05/24/18 15:46	SAM	TAL CAN

Client Sample ID: MW-19_051418

Lab Sample ID: 240-95780-3

Date Collected: 05/14/18 16:45

Matrix: Water

Date Received: 05/18/18 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	328712	05/26/18 18:40	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	328355	05/24/18 16:11	SAM	TAL CAN

Client Sample ID: MW-26_051518

Lab Sample ID: 240-95780-4

Date Collected: 05/15/18 09:15

Matrix: Water

Date Received: 05/18/18 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	328754	05/27/18 02:06	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	328591	05/25/18 15:11	SAM	TAL CAN

Client Sample ID: MW-15-61D_051518

Lab Sample ID: 240-95780-5

Date Collected: 05/15/18 14:00

Matrix: Water

Date Received: 05/18/18 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	328778	05/27/18 15:32	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	328355	05/24/18 17:01	SAM	TAL CAN

Client Sample ID: MW-15-59D_051518

Lab Sample ID: 240-95780-6

Date Collected: 05/15/18 16:45

Matrix: Water

Date Received: 05/18/18 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	328778	05/27/18 15:57	SAM	TAL CAN

TestAmerica Canton

Lab Chronicle

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

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-15-59D_051518

Lab Sample ID: 240-95780-6

Date Collected: 05/15/18 16:45

Matrix: Water

Date Received: 05/18/18 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	328355	05/24/18 17:27	SAM	TAL CAN

Laboratory References:

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

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Accreditation/Certification Summary

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

TestAmerica Job ID: 240-95780-1

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	06-30-18 *
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	07-31-18 *
Nevada	State Program	9	OH-000482008A	07-31-18 *
New Jersey	NELAP	2	OH001	06-30-18 *
New York	NELAP	2	10975	03-31-19
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-19
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.



TestAmerica Canton Sample Receipt Form/Narrative

Login #: 95760

Canton Facility

Client Ascedis Site Name _____ Cooler unpacked by: [Signature]

Cooler Received on 5/18/18 Opened on 5/18/18

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

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

- 1. Cooler temperature upon receipt See Multiple Cooler Form
 - IR GUN# IR-8 (CF +0.1 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °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
 - Were the seals on the outside of the cooler(s) signed & dated? Yes Yes No NA
 - Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No No NA
 - Were tamper/custody seals intact and uncompromised? Yes 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

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

- 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# HC732776
- 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
- 16. Was a LL Hg or Me Hg trip blank present? Yes No

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

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: J.R.

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): _____

