

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

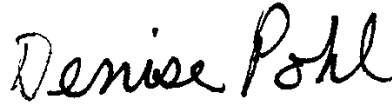
TestAmerica Job ID: 240-87805-1

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

For:

ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
12/18/2017 2:37:24 PM

Denise Pohl, Project Manager II
(330)966-9789
denise.pohl@testamericainc.com

LINKS

Review your project
results through
Total Access

Have a Question?



Visit us at:
www.testamericainc.com

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

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

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



Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Method Summary	7
Sample Summary	8
Detection Summary	9
Client Sample Results	12
Surrogate Summary	42
QC Sample Results	44
QC Association Summary	65
Lab Chronicle	68
Certification Summary	72
Chain of Custody	73

Definitions/Glossary

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

TestAmerica Job ID: 240-87805-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
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.
*	LCS or LCSD is outside acceptance limits.

GC VOA

Qualifier	Qualifier Description
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.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

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

TestAmerica Job ID: 240-87805-1

Job ID: 240-87805-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI

Report Number: 240-87805-1

Revised

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.

Revision 12/18/2017: Client provided incorrect list of compounds initially and report revised to provide a different list of compounds for volatile organic compounds (GCMS) 8260B.

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 11/10/2017 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.2° C, 2.0° C and 2.8° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-28_11082017 (240-87805-1), TW-16-03_11082017 (240-87805-2), TRIPBLANK (240-87805-3), PW-16-02_11082017 (240-87805-4), TW-16-04_110817 (240-87805-5), MW-54_110817 (240-87805-6), MW-53_110817 (240-87805-7), MW-55_110817 (240-87805-8), MW-56_110817 (240-87805-9), MW-38_110817 (240-87805-10), MW-33_110817 (240-87805-11), DUP02_110817 (240-87805-12), TRIPBLANK (240-87805-13), MW43_110917 (240-87805-14) and MW30_110917 (240-87805-15) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/15/2017, 11/16/2017, 11/18/2017 and 11/19/2017.

1,4-Dioxane and Chloromethane failed the recovery criteria low for LCS 240-304180/5. Refer to the QC report for details.

Case Narrative

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

TestAmerica Job ID: 240-87805-1

Job ID: 240-87805-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

Chloromethane failed the recovery criteria low for the MS of sample 240-87717-1 in batch 240-303598. Chloromethane failed the recovery criteria low for the MSD of sample 240-87717-1 in batch 240-303598. Several analytes exceeded the RPD limit. 1,4-Dioxane exceeded the RPD limit for the MSD of sample MW-28_11082017MSD (240-87805-1) in batch 240-303825. 1,1,1-Trichloroethane, cis-1,2-Dichloroethene and Vinyl chloride exceeded the RPD limit for the MSD of sample 240-87851-29 in batch 240-304180. Refer to the QC report for details.

Samples TW-16-03_11082017 (240-87805-2)[3.33X] and TW-16-04_110817 (240-87805-5)[6.67X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Method(s) 8260B: The continuing calibration verification (CCV) for analytical batch 303825 exceeded control criteria for Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes. In accordance with the laboratory SOP, a low level CCV at the reporting limit (labeled as an MRL) was analyzed and the affected compounds were detected; therefore the data has been reported. No further corrective action was required.
MW-28_11082017 (240-87805-1) and (CCVIS 240-303825/4)

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 240-304180 recovered outside control limits for multiple analyte(s): These analytes have been identified as poor performing analytes when analyzed using this method; therefore, re-extraction/re-analysis was not performed.
TW-16-03_11082017 (240-87805-2), PW-16-02_11082017 (240-87805-4), TW-16-04_110817 (240-87805-5), MW-54_110817 (240-87805-6), MW-53_110817 (240-87805-7), MW-55_110817 (240-87805-8), MW-56_110817 (240-87805-9), MW-38_110817 (240-87805-10), MW-33_110817 (240-87805-11), DUP02_110817 (240-87805-12), TRIPBLANK (240-87805-13), MW43_110917 (240-87805-14), MW30_110917 (240-87805-15) and (LCS 240-304180/5)

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 MW-28_11082017 (240-87805-1), TW-16-03_11082017 (240-87805-2), TRIPBLANK (240-87805-3), PW-16-02_11082017 (240-87805-4), TW-16-04_110817 (240-87805-5), MW-54_110817 (240-87805-6), MW-53_110817 (240-87805-7), MW-55_110817 (240-87805-8), MW-56_110817 (240-87805-9), MW-38_110817 (240-87805-10), MW-33_110817 (240-87805-11), DUP02_110817 (240-87805-12), MW43_110917 (240-87805-14) and MW30_110917 (240-87805-15) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 11/15/2017 and 11/16/2017.

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

DISSOLVED GASES

Samples MW43_110917 (240-87805-14) and MW30_110917 (240-87805-15) were analyzed for dissolved gases in accordance with RSK_175. The samples were analyzed on 11/17/2017.

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

DISSOLVED METALS (ICPMS)

Samples MW43_110917 (240-87805-14) and MW30_110917 (240-87805-15) were analyzed for dissolved metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 11/13/2017 and analyzed on 11/14/2017.

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

TOTAL RECOVERABLE METALS (ICPMS)

Samples MW43_110917 (240-87805-14) and MW30_110917 (240-87805-15) were analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 11/13/2017 and analyzed on 11/14/2017.

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

TOTAL ORGANIC CARBON

Samples MW43_110917 (240-87805-14) and MW30_110917 (240-87805-15) were analyzed for total organic carbon in accordance with

Case Narrative

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

TestAmerica Job ID: 240-87805-1

Job ID: 240-87805-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

SM 5310. The samples were analyzed on 11/13/2017.

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

ANIONS

Samples MW43_110917 (240-87805-14) and MW30_110917 (240-87805-15) were analyzed for anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 11/10/2017.

Sample MW43_110917 (240-87805-14)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Method(s) 9056A: The following sample was diluted due to the nature of the sample matrix: MW43_110917 (240-87805-14). Elevated reporting limits (RLs) are provided.

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

ANIONS

Samples MW43_110917 (240-87805-14) and MW30_110917 (240-87805-15) were analyzed for anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 11/10/2017.

Sample MW43_110917 (240-87805-14)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

DISSOLVED ORGANIC CARBON

Samples MW43_110917 (240-87805-14) and MW30_110917 (240-87805-15) were analyzed for dissolved organic carbon in accordance with SM 5310_DOC_C. The samples were analyzed on 11/16/2017.

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

TestAmerica Job ID: 240-87805-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
RSK-175	Dissolved Gases (GC)	RSK	TAL CAN
6020	Metals (ICP/MS)	SW846	TAL CAN
5310 C-2000	Organic Carbon, Dissolved (DOC)	SM	TAL CAN
5310C-2000	Total Organic Carbon/Persulfate - Ultrav	SM	TAL CAN
9056A	Anions, Ion Chromatography	SW846	TAL CAN

Protocol References:

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab
SM = "Standard Methods For The Examination Of Water And Wastewater",
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

TestAmerica Job ID: 240-87805-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-87805-1	MW-28_11082017	Water	11/08/17 11:22	11/10/17 08:00
240-87805-2	TW-16-03_11082017	Water	11/08/17 13:37	11/10/17 08:00
240-87805-3	TRIPBLANK	Water	11/08/17 00:00	11/10/17 08:00
240-87805-4	PW-16-02_11082017	Water	11/08/17 14:37	11/10/17 08:00
240-87805-5	TW-16-04_110817	Water	11/08/17 15:52	11/10/17 08:00
240-87805-6	MW-54_110817	Water	11/08/17 09:05	11/10/17 08:00
240-87805-7	MW-53_110817	Water	11/08/17 10:10	11/10/17 08:00
240-87805-8	MW-55_110817	Water	11/08/17 11:35	11/10/17 08:00
240-87805-9	MW-56_110817	Water	11/08/17 13:40	11/10/17 08:00
240-87805-10	MW-38_110817	Water	11/08/17 15:05	11/10/17 08:00
240-87805-11	MW-33_110817	Water	11/08/17 16:40	11/10/17 08:00
240-87805-12	DUP02_110817	Water	11/08/17 00:00	11/10/17 08:00
240-87805-13	TRIPBLANK	Water	11/08/17 00:00	11/10/17 08:00
240-87805-14	MW43_110917	Water	11/09/17 10:45	11/10/17 08:00
240-87805-15	MW30_110917	Water	11/09/17 12:40	11/10/17 08:00



Detection Summary

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-28_11082017

Lab Sample ID: 240-87805-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.91	J	1.0	0.30	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	12		1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	1.6		1.0	0.27	ug/L	1		8260B	Total/NA
1,1,1-Trichloroethane	26		1.0	0.23	ug/L	1		8260B	Total/NA
Trichloroethene	0.59	J	1.0	0.33	ug/L	1		8260B	Total/NA

Client Sample ID: TW-16-03_11082017

Lab Sample ID: 240-87805-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	36		3.3	1.0	ug/L	3.33		8260B	Total/NA
Vinyl chloride	77		3.3	1.5	ug/L	3.33		8260B	Total/NA

Client Sample ID: TRIPBLANK

Lab Sample ID: 240-87805-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	4.5	J	10	1.8	ug/L	1		8260B	Total/NA

Client Sample ID: PW-16-02_11082017

Lab Sample ID: 240-87805-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.3		1.0	0.30	ug/L	1		8260B	Total/NA
Vinyl chloride	2.0		1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: TW-16-04_110817

Lab Sample ID: 240-87805-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.89	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	23		6.7	2.0	ug/L	6.67		8260B	Total/NA
Vinyl chloride	100		6.7	3.0	ug/L	6.67		8260B	Total/NA

Client Sample ID: MW-54_110817

Lab Sample ID: 240-87805-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.0		2.0	0.24	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	1.5		1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW-53_110817

Lab Sample ID: 240-87805-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.61	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA

Client Sample ID: MW-55_110817

Lab Sample ID: 240-87805-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.4	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	0.65	J	1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW-56_110817

Lab Sample ID: 240-87805-9

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-56_110817 (Continued)

Lab Sample ID: 240-87805-9

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

Client Sample ID: MW-38_110817

Lab Sample ID: 240-87805-10

No Detections.

Client Sample ID: MW-33_110817

Lab Sample ID: 240-87805-11

No Detections.

Client Sample ID: DUP02_110817

Lab Sample ID: 240-87805-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.67	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	0.46	J	1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: TRIPBLANK

Lab Sample ID: 240-87805-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	11		10	1.8	ug/L	1		8260B	Total/NA
Carbon disulfide	0.47	J	5.0	0.34	ug/L	1		8260B	Total/NA

Client Sample ID: MW43_110917

Lab Sample ID: 240-87805-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	3.5		2.0	0.24	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	2.2		1.0	0.45	ug/L	1		8260B	Total/NA
Methane	210		1.0	0.17	ug/L	1		RSK-175	Total/NA
Ethane	0.74	J	1.0	0.10	ug/L	1		RSK-175	Total/NA
Ethene	0.27	J	1.0	0.11	ug/L	1		RSK-175	Total/NA
Iron	3900		100	47	ug/L	1		6020	Total Recoverable
Manganese	200		5.0	2.1	ug/L	1		6020	Total Recoverable
Iron	2800		100	47	ug/L	1		6020	Dissolved
Manganese	190		5.0	2.1	ug/L	1		6020	Dissolved
Total Organic Carbon	4.3		1.0	0.14	mg/L	1		5310C-2000	Total/NA
Sulfate	260		2.0	0.70	mg/L	2		9056A	Total/NA
Dissolved Organic Carbon	4.3		1.0	0.14	mg/L	1		5310 C-2000	Dissolved
DOC Result 1	4.4		1.0	0.14	mg/L	1		5310 C-2000	Dissolved
DOC Result 2	4.2		1.0	0.14	mg/L	1		5310 C-2000	Dissolved

Client Sample ID: MW30_110917

Lab Sample ID: 240-87805-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	13		2.0	0.24	ug/L	1		8260B SIM	Total/NA
Methane	360		1.0	0.17	ug/L	1		RSK-175	Total/NA
Ethane	0.31	J	1.0	0.10	ug/L	1		RSK-175	Total/NA
Iron	3700		100	47	ug/L	1		6020	Total Recoverable
Manganese	150		5.0	2.1	ug/L	1		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW30_110917 (Continued)

Lab Sample ID: 240-87805-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	3700		100	47	ug/L	1		6020	Dissolved
Manganese	150		5.0	2.1	ug/L	1		6020	Dissolved
Total Organic Carbon	2.4		1.0	0.14	mg/L	1		5310C-2000	Total/NA
Sulfate	53		1.0	0.35	mg/L	1		9056A	Total/NA
Dissolved Organic Carbon	2.5		1.0	0.14	mg/L	1		5310 C-2000	Dissolved
DOC Result 1	2.5		1.0	0.14	mg/L	1		5310 C-2000	Dissolved
DOC Result 2	2.4		1.0	0.14	mg/L	1		5310 C-2000	Dissolved

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-28_11082017

Lab Sample ID: 240-87805-1

Date Collected: 11/08/17 11:22

Matrix: Water

Date Received: 11/10/17 08:00

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			11/15/17 21:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		63 - 125					11/15/17 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	1.8	ug/L			11/16/17 23:57	1
Benzene	1.0	U	1.0	0.28	ug/L			11/16/17 23:57	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/16/17 23:57	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/16/17 23:57	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/16/17 23:57	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/16/17 23:57	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/16/17 23:57	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/16/17 23:57	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/16/17 23:57	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/16/17 23:57	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/16/17 23:57	1
Chloromethane	1.0	U	1.0	0.43	ug/L			11/16/17 23:57	1
cis-1,2-Dichloroethene	0.91	J	1.0	0.30	ug/L			11/16/17 23:57	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/16/17 23:57	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/16/17 23:57	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/16/17 23:57	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/16/17 23:57	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/16/17 23:57	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/16/17 23:57	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/16/17 23:57	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/16/17 23:57	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/16/17 23:57	1
1,1-Dichloroethane	12		1.0	0.25	ug/L			11/16/17 23:57	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/16/17 23:57	1
1,1-Dichloroethene	1.6		1.0	0.27	ug/L			11/16/17 23:57	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/16/17 23:57	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/16/17 23:57	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/16/17 23:57	1
2-Hexanone	10	U	10	1.2	ug/L			11/16/17 23:57	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/16/17 23:57	1
Methyl acetate	10	U	10	1.4	ug/L			11/16/17 23:57	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/16/17 23:57	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/16/17 23:57	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/16/17 23:57	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/16/17 23:57	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/16/17 23:57	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/16/17 23:57	1
Styrene	1.0	U	1.0	0.23	ug/L			11/16/17 23:57	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/16/17 23:57	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/16/17 23:57	1
Toluene	1.0	U	1.0	0.23	ug/L			11/16/17 23:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/16/17 23:57	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/16/17 23:57	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-28_11082017

Lab Sample ID: 240-87805-1

Date Collected: 11/08/17 11:22

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/16/17 23:57	1
1,1,1-Trichloroethane	26		1.0	0.23	ug/L			11/16/17 23:57	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/16/17 23:57	1
Trichloroethene	0.59	J	1.0	0.33	ug/L			11/16/17 23:57	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/16/17 23:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/16/17 23:57	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/16/17 23:57	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/16/17 23:57	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/16/17 23:57	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/16/17 23:57	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/16/17 23:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		69 - 120		11/16/17 23:57	1
Dibromofluoromethane (Surr)	94		69 - 124		11/16/17 23:57	1
1,2-Dichloroethane-d4 (Surr)	95		61 - 138		11/16/17 23:57	1
Toluene-d8 (Surr)	98		73 - 120		11/16/17 23:57	1

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: TW-16-03_11082017

Lab Sample ID: 240-87805-2

Date Collected: 11/08/17 13:37

Matrix: Water

Date Received: 11/10/17 08:00

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			11/15/17 22:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		63 - 125					11/15/17 22:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	33	U	33	5.9	ug/L			11/18/17 20:53	3.33
Benzene	3.3	U	3.3	0.93	ug/L			11/18/17 20:53	3.33
Bromodichloromethane	3.3	U	3.3	1.0	ug/L			11/18/17 20:53	3.33
Bromoform	3.3	U	3.3	1.4	ug/L			11/18/17 20:53	3.33
Bromomethane	3.3	U	3.3	1.4	ug/L			11/18/17 20:53	3.33
2-Butanone (MEK)	33	U	33	3.4	ug/L			11/18/17 20:53	3.33
Carbon disulfide	17	U	17	1.1	ug/L			11/18/17 20:53	3.33
Carbon tetrachloride	3.3	U	3.3	1.2	ug/L			11/18/17 20:53	3.33
Chlorobenzene	3.3	U	3.3	1.1	ug/L			11/18/17 20:53	3.33
Chloroethane	3.3	U	3.3	1.4	ug/L			11/18/17 20:53	3.33
Chloroform	3.3	U	3.3	1.0	ug/L			11/18/17 20:53	3.33
Chloromethane	3.3	U*	3.3	1.4	ug/L			11/18/17 20:53	3.33
cis-1,2-Dichloroethene	36		3.3	1.0	ug/L			11/18/17 20:53	3.33
cis-1,3-Dichloropropene	3.3	U	3.3	0.87	ug/L			11/18/17 20:53	3.33
Cyclohexane	3.3	U	3.3	1.5	ug/L			11/18/17 20:53	3.33
Dibromochloromethane	3.3	U	3.3	0.83	ug/L			11/18/17 20:53	3.33
1,2-Dibromo-3-Chloropropane	3.3	U	3.3	1.6	ug/L			11/18/17 20:53	3.33
1,2-Dibromoethane	3.3	U	3.3	0.77	ug/L			11/18/17 20:53	3.33
1,2-Dichlorobenzene	3.3	U	3.3	0.87	ug/L			11/18/17 20:53	3.33
1,3-Dichlorobenzene	3.3	U	3.3	1.1	ug/L			11/18/17 20:53	3.33
1,4-Dichlorobenzene	3.3	U	3.3	0.77	ug/L			11/18/17 20:53	3.33
Dichlorodifluoromethane	3.3	U	3.3	1.7	ug/L			11/18/17 20:53	3.33
1,1-Dichloroethane	3.3	U	3.3	0.83	ug/L			11/18/17 20:53	3.33
1,2-Dichloroethane	3.3	U	3.3	1.0	ug/L			11/18/17 20:53	3.33
1,1-Dichloroethene	3.3	U	3.3	0.90	ug/L			11/18/17 20:53	3.33
1,2-Dichloropropane	3.3	U	3.3	1.0	ug/L			11/18/17 20:53	3.33
Diethyl ether	6.7	U	6.7	1.2	ug/L			11/18/17 20:53	3.33
Ethylbenzene	3.3	U	3.3	0.87	ug/L			11/18/17 20:53	3.33
2-Hexanone	33	U	33	4.1	ug/L			11/18/17 20:53	3.33
Isopropylbenzene	3.3	U	3.3	0.70	ug/L			11/18/17 20:53	3.33
Methyl acetate	33	U	33	4.8	ug/L			11/18/17 20:53	3.33
Methylcyclohexane	3.3	U	3.3	1.5	ug/L			11/18/17 20:53	3.33
Methylene Chloride	17	U	17	1.8	ug/L			11/18/17 20:53	3.33
4-Methyl-2-pentanone (MIBK)	33	U	33	2.4	ug/L			11/18/17 20:53	3.33
Methyl tert-butyl ether	3.3	U	3.3	0.90	ug/L			11/18/17 20:53	3.33
m-Xylene & p-Xylene	6.7	U	6.7	0.80	ug/L			11/18/17 20:53	3.33
o-Xylene	3.3	U	3.3	0.93	ug/L			11/18/17 20:53	3.33
Styrene	3.3	U	3.3	0.77	ug/L			11/18/17 20:53	3.33
1,1,2,2-Tetrachloroethane	3.3	U	3.3	1.1	ug/L			11/18/17 20:53	3.33
Tetrachloroethene	3.3	U	3.3	1.0	ug/L			11/18/17 20:53	3.33
Toluene	3.3	U	3.3	0.77	ug/L			11/18/17 20:53	3.33
trans-1,2-Dichloroethene	3.3	U	3.3	0.97	ug/L			11/18/17 20:53	3.33
trans-1,3-Dichloropropene	3.3	U	3.3	1.0	ug/L			11/18/17 20:53	3.33

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: TW-16-03_11082017

Lab Sample ID: 240-87805-2

Date Collected: 11/08/17 13:37

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	3.3	U	3.3	0.90	ug/L			11/18/17 20:53	3.33
1,1,1-Trichloroethane	3.3	U	3.3	0.77	ug/L			11/18/17 20:53	3.33
1,1,2-Trichloroethane	3.3	U	3.3	1.1	ug/L			11/18/17 20:53	3.33
Trichloroethene	3.3	U	3.3	1.1	ug/L			11/18/17 20:53	3.33
Trichlorofluoromethane	3.3	U	3.3	1.7	ug/L			11/18/17 20:53	3.33
1,1,2-Trichloro-1,2,2-trifluoroethane	3.3	U	3.3	1.4	ug/L			11/18/17 20:53	3.33
1,2,3-Trimethylbenzene	17	U	17	0.73	ug/L			11/18/17 20:53	3.33
1,2,4-Trimethylbenzene	3.3	U	3.3	0.80	ug/L			11/18/17 20:53	3.33
1,3,5-Trimethylbenzene	3.3	U	3.3	0.80	ug/L			11/18/17 20:53	3.33
Vinyl chloride	77		3.3	1.5	ug/L			11/18/17 20:53	3.33
Xylenes, Total	6.7	U	6.7	0.80	ug/L			11/18/17 20:53	3.33

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		69 - 120		11/18/17 20:53	3.33
Dibromofluoromethane (Surr)	91		69 - 124		11/18/17 20:53	3.33
1,2-Dichloroethane-d4 (Surr)	92		61 - 138		11/18/17 20:53	3.33
Toluene-d8 (Surr)	99		73 - 120		11/18/17 20:53	3.33

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: TRIPBLANK

Lab Sample ID: 240-87805-3

Date Collected: 11/08/17 00:00

Matrix: Water

Date Received: 11/10/17 08:00

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			11/15/17 15:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		63 - 125					11/15/17 15:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	4.5	J	10	1.8	ug/L			11/15/17 16:51	1
Benzene	1.0	U	1.0	0.28	ug/L			11/15/17 16:51	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/15/17 16:51	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/15/17 16:51	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/15/17 16:51	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/15/17 16:51	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/15/17 16:51	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/15/17 16:51	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/15/17 16:51	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/15/17 16:51	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/15/17 16:51	1
Chloromethane	1.0	U	1.0	0.43	ug/L			11/15/17 16:51	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/15/17 16:51	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/15/17 16:51	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/15/17 16:51	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/15/17 16:51	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/15/17 16:51	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/15/17 16:51	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/15/17 16:51	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/15/17 16:51	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/15/17 16:51	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/15/17 16:51	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/15/17 16:51	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/15/17 16:51	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/15/17 16:51	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/15/17 16:51	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/15/17 16:51	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/15/17 16:51	1
2-Hexanone	10	U	10	1.2	ug/L			11/15/17 16:51	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/15/17 16:51	1
Methyl acetate	10	U	10	1.4	ug/L			11/15/17 16:51	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/15/17 16:51	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/15/17 16:51	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/15/17 16:51	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/15/17 16:51	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/15/17 16:51	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/15/17 16:51	1
Styrene	1.0	U	1.0	0.23	ug/L			11/15/17 16:51	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/15/17 16:51	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/15/17 16:51	1
Toluene	1.0	U	1.0	0.23	ug/L			11/15/17 16:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/15/17 16:51	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/15/17 16:51	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: TRIPBLANK

Lab Sample ID: 240-87805-3

Date Collected: 11/08/17 00:00

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/15/17 16:51	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/15/17 16:51	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/15/17 16:51	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/15/17 16:51	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/15/17 16:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/15/17 16:51	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/15/17 16:51	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/15/17 16:51	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/15/17 16:51	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/15/17 16:51	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/15/17 16:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		69 - 120					11/15/17 16:51	1
Dibromofluoromethane (Surr)	92		69 - 124					11/15/17 16:51	1
1,2-Dichloroethane-d4 (Surr)	89		61 - 138					11/15/17 16:51	1
Toluene-d8 (Surr)	98		73 - 120					11/15/17 16:51	1

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: PW-16-02_11082017

Lab Sample ID: 240-87805-4

Date Collected: 11/08/17 14:37

Matrix: Water

Date Received: 11/10/17 08:00

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			11/15/17 22:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		63 - 125					11/15/17 22:55	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			11/18/17 21:15	1
Benzene	1.0	U	1.0	0.28	ug/L			11/18/17 21:15	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/18/17 21:15	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/18/17 21:15	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/18/17 21:15	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/18/17 21:15	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/18/17 21:15	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/18/17 21:15	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 21:15	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/18/17 21:15	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/18/17 21:15	1
Chloromethane	1.0	U *	1.0	0.43	ug/L			11/18/17 21:15	1
cis-1,2-Dichloroethene	2.3		1.0	0.30	ug/L			11/18/17 21:15	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/18/17 21:15	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/18/17 21:15	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/18/17 21:15	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/18/17 21:15	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/18/17 21:15	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/18/17 21:15	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 21:15	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/18/17 21:15	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 21:15	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/18/17 21:15	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/18/17 21:15	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/18/17 21:15	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/18/17 21:15	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/18/17 21:15	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/18/17 21:15	1
2-Hexanone	10	U	10	1.2	ug/L			11/18/17 21:15	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/18/17 21:15	1
Methyl acetate	10	U	10	1.4	ug/L			11/18/17 21:15	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/18/17 21:15	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/18/17 21:15	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/18/17 21:15	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/18/17 21:15	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/18/17 21:15	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/18/17 21:15	1
Styrene	1.0	U	1.0	0.23	ug/L			11/18/17 21:15	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/18/17 21:15	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/18/17 21:15	1
Toluene	1.0	U	1.0	0.23	ug/L			11/18/17 21:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/18/17 21:15	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/18/17 21:15	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: PW-16-02_11082017

Lab Sample ID: 240-87805-4

Date Collected: 11/08/17 14:37

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/18/17 21:15	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/18/17 21:15	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/18/17 21:15	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/18/17 21:15	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 21:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/18/17 21:15	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/18/17 21:15	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 21:15	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 21:15	1
Vinyl chloride	2.0		1.0	0.45	ug/L			11/18/17 21:15	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/18/17 21:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		69 - 120		11/18/17 21:15	1
Dibromofluoromethane (Surr)	89		69 - 124		11/18/17 21:15	1
1,2-Dichloroethane-d4 (Surr)	91		61 - 138		11/18/17 21:15	1
Toluene-d8 (Surr)	95		73 - 120		11/18/17 21:15	1

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: TW-16-04_110817

Lab Sample ID: 240-87805-5

Date Collected: 11/08/17 15:52

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.89	J	2.0	0.24	ug/L			11/15/17 23:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		63 - 125					11/15/17 23:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	67	U	67	12	ug/L			11/18/17 21:38	6.67
Benzene	6.7	U	6.7	1.9	ug/L			11/18/17 21:38	6.67
Bromodichloromethane	6.7	U	6.7	2.0	ug/L			11/18/17 21:38	6.67
Bromoform	6.7	U	6.7	2.9	ug/L			11/18/17 21:38	6.67
Bromomethane	6.7	U	6.7	2.8	ug/L			11/18/17 21:38	6.67
2-Butanone (MEK)	67	U	67	6.8	ug/L			11/18/17 21:38	6.67
Carbon disulfide	33	U	33	2.3	ug/L			11/18/17 21:38	6.67
Carbon tetrachloride	6.7	U	6.7	2.3	ug/L			11/18/17 21:38	6.67
Chlorobenzene	6.7	U	6.7	2.1	ug/L			11/18/17 21:38	6.67
Chloroethane	6.7	U	6.7	2.7	ug/L			11/18/17 21:38	6.67
Chloroform	6.7	U	6.7	2.1	ug/L			11/18/17 21:38	6.67
Chloromethane	6.7	U *	6.7	2.9	ug/L			11/18/17 21:38	6.67
cis-1,2-Dichloroethene	23		6.7	2.0	ug/L			11/18/17 21:38	6.67
cis-1,3-Dichloropropene	6.7	U	6.7	1.7	ug/L			11/18/17 21:38	6.67
Cyclohexane	6.7	U	6.7	2.9	ug/L			11/18/17 21:38	6.67
Dibromochloromethane	6.7	U	6.7	1.7	ug/L			11/18/17 21:38	6.67
1,2-Dibromo-3-Chloropropane	6.7	U	6.7	3.1	ug/L			11/18/17 21:38	6.67
1,2-Dibromoethane	6.7	U	6.7	1.5	ug/L			11/18/17 21:38	6.67
1,2-Dichlorobenzene	6.7	U	6.7	1.7	ug/L			11/18/17 21:38	6.67
1,3-Dichlorobenzene	6.7	U	6.7	2.1	ug/L			11/18/17 21:38	6.67
1,4-Dichlorobenzene	6.7	U	6.7	1.5	ug/L			11/18/17 21:38	6.67
Dichlorodifluoromethane	6.7	U	6.7	3.3	ug/L			11/18/17 21:38	6.67
1,1-Dichloroethane	6.7	U	6.7	1.7	ug/L			11/18/17 21:38	6.67
1,2-Dichloroethane	6.7	U	6.7	2.0	ug/L			11/18/17 21:38	6.67
1,1-Dichloroethene	6.7	U	6.7	1.8	ug/L			11/18/17 21:38	6.67
1,2-Dichloropropane	6.7	U	6.7	2.0	ug/L			11/18/17 21:38	6.67
Diethyl ether	13	U	13	2.3	ug/L			11/18/17 21:38	6.67
Ethylbenzene	6.7	U	6.7	1.7	ug/L			11/18/17 21:38	6.67
2-Hexanone	67	U	67	8.2	ug/L			11/18/17 21:38	6.67
Isopropylbenzene	6.7	U	6.7	1.4	ug/L			11/18/17 21:38	6.67
Methyl acetate	67	U	67	9.5	ug/L			11/18/17 21:38	6.67
Methylcyclohexane	6.7	U	6.7	3.0	ug/L			11/18/17 21:38	6.67
Methylene Chloride	33	U	33	3.5	ug/L			11/18/17 21:38	6.67
4-Methyl-2-pentanone (MIBK)	67	U	67	4.7	ug/L			11/18/17 21:38	6.67
Methyl tert-butyl ether	6.7	U	6.7	1.8	ug/L			11/18/17 21:38	6.67
m-Xylene & p-Xylene	13	U	13	1.6	ug/L			11/18/17 21:38	6.67
o-Xylene	6.7	U	6.7	1.9	ug/L			11/18/17 21:38	6.67
Styrene	6.7	U	6.7	1.5	ug/L			11/18/17 21:38	6.67
1,1,2,2-Tetrachloroethane	6.7	U	6.7	2.1	ug/L			11/18/17 21:38	6.67
Tetrachloroethene	6.7	U	6.7	2.0	ug/L			11/18/17 21:38	6.67
Toluene	6.7	U	6.7	1.5	ug/L			11/18/17 21:38	6.67
trans-1,2-Dichloroethene	6.7	U	6.7	1.9	ug/L			11/18/17 21:38	6.67
trans-1,3-Dichloropropene	6.7	U	6.7	2.1	ug/L			11/18/17 21:38	6.67

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: TW-16-04_110817

Lab Sample ID: 240-87805-5

Date Collected: 11/08/17 15:52

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	6.7	U	6.7	1.8	ug/L			11/18/17 21:38	6.67
1,1,1-Trichloroethane	6.7	U	6.7	1.5	ug/L			11/18/17 21:38	6.67
1,1,2-Trichloroethane	6.7	U	6.7	2.3	ug/L			11/18/17 21:38	6.67
Trichloroethene	6.7	U	6.7	2.2	ug/L			11/18/17 21:38	6.67
Trichlorofluoromethane	6.7	U	6.7	3.3	ug/L			11/18/17 21:38	6.67
1,1,2-Trichloro-1,2,2-trifluoroethane	6.7	U	6.7	2.7	ug/L			11/18/17 21:38	6.67
1,2,3-Trimethylbenzene	33	U	33	1.5	ug/L			11/18/17 21:38	6.67
1,2,4-Trimethylbenzene	6.7	U	6.7	1.6	ug/L			11/18/17 21:38	6.67
1,3,5-Trimethylbenzene	6.7	U	6.7	1.6	ug/L			11/18/17 21:38	6.67
Vinyl chloride	100		6.7	3.0	ug/L			11/18/17 21:38	6.67
Xylenes, Total	13	U	13	1.6	ug/L			11/18/17 21:38	6.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		69 - 120		11/18/17 21:38	6.67
Dibromofluoromethane (Surr)	90		69 - 124		11/18/17 21:38	6.67
1,2-Dichloroethane-d4 (Surr)	92		61 - 138		11/18/17 21:38	6.67
Toluene-d8 (Surr)	97		73 - 120		11/18/17 21:38	6.67

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-54_110817

Lab Sample ID: 240-87805-6

Date Collected: 11/08/17 09:05

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0		2.0	0.24	ug/L			11/15/17 23:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		63 - 125					11/15/17 23:45	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			11/18/17 21:59	1
Benzene	1.0	U	1.0	0.28	ug/L			11/18/17 21:59	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/18/17 21:59	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/18/17 21:59	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/18/17 21:59	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/18/17 21:59	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/18/17 21:59	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/18/17 21:59	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 21:59	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/18/17 21:59	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/18/17 21:59	1
Chloromethane	1.0	U *	1.0	0.43	ug/L			11/18/17 21:59	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/18/17 21:59	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/18/17 21:59	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/18/17 21:59	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/18/17 21:59	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/18/17 21:59	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/18/17 21:59	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/18/17 21:59	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 21:59	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/18/17 21:59	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 21:59	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/18/17 21:59	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/18/17 21:59	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/18/17 21:59	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/18/17 21:59	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/18/17 21:59	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/18/17 21:59	1
2-Hexanone	10	U	10	1.2	ug/L			11/18/17 21:59	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/18/17 21:59	1
Methyl acetate	10	U	10	1.4	ug/L			11/18/17 21:59	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/18/17 21:59	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/18/17 21:59	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/18/17 21:59	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/18/17 21:59	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/18/17 21:59	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/18/17 21:59	1
Styrene	1.0	U	1.0	0.23	ug/L			11/18/17 21:59	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/18/17 21:59	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/18/17 21:59	1
Toluene	1.0	U	1.0	0.23	ug/L			11/18/17 21:59	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/18/17 21:59	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/18/17 21:59	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-54_110817

Lab Sample ID: 240-87805-6

Date Collected: 11/08/17 09:05

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/18/17 21:59	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/18/17 21:59	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/18/17 21:59	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/18/17 21:59	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 21:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/18/17 21:59	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/18/17 21:59	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 21:59	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 21:59	1
Vinyl chloride	1.5		1.0	0.45	ug/L			11/18/17 21:59	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/18/17 21:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		69 - 120		11/18/17 21:59	1
Dibromofluoromethane (Surr)	93		69 - 124		11/18/17 21:59	1
1,2-Dichloroethane-d4 (Surr)	91		61 - 138		11/18/17 21:59	1
Toluene-d8 (Surr)	94		73 - 120		11/18/17 21:59	1

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-53_110817

Lab Sample ID: 240-87805-7

Date Collected: 11/08/17 10:10

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.61	J	2.0	0.24	ug/L			11/16/17 00:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		63 - 125					11/16/17 00:09	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			11/18/17 22:21	1
Benzene	1.0	U	1.0	0.28	ug/L			11/18/17 22:21	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/18/17 22:21	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/18/17 22:21	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/18/17 22:21	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/18/17 22:21	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/18/17 22:21	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/18/17 22:21	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 22:21	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/18/17 22:21	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/18/17 22:21	1
Chloromethane	1.0	U*	1.0	0.43	ug/L			11/18/17 22:21	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/18/17 22:21	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/18/17 22:21	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/18/17 22:21	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/18/17 22:21	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/18/17 22:21	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/18/17 22:21	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/18/17 22:21	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 22:21	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/18/17 22:21	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 22:21	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/18/17 22:21	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/18/17 22:21	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/18/17 22:21	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/18/17 22:21	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/18/17 22:21	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/18/17 22:21	1
2-Hexanone	10	U	10	1.2	ug/L			11/18/17 22:21	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/18/17 22:21	1
Methyl acetate	10	U	10	1.4	ug/L			11/18/17 22:21	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/18/17 22:21	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/18/17 22:21	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/18/17 22:21	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/18/17 22:21	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/18/17 22:21	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/18/17 22:21	1
Styrene	1.0	U	1.0	0.23	ug/L			11/18/17 22:21	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/18/17 22:21	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/18/17 22:21	1
Toluene	1.0	U	1.0	0.23	ug/L			11/18/17 22:21	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/18/17 22:21	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/18/17 22:21	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-53_110817

Lab Sample ID: 240-87805-7

Date Collected: 11/08/17 10:10

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/18/17 22:21	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/18/17 22:21	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/18/17 22:21	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/18/17 22:21	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 22:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/18/17 22:21	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/18/17 22:21	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 22:21	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 22:21	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/18/17 22:21	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/18/17 22:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		69 - 120		11/18/17 22:21	1
Dibromofluoromethane (Surr)	108		69 - 124		11/18/17 22:21	1
1,2-Dichloroethane-d4 (Surr)	112		61 - 138		11/18/17 22:21	1
Toluene-d8 (Surr)	96		73 - 120		11/18/17 22:21	1

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-55_110817

Lab Sample ID: 240-87805-8

Date Collected: 11/08/17 11:35

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.4	J	2.0	0.24	ug/L			11/16/17 00:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		63 - 125					11/16/17 00:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			11/18/17 22:43	1
Benzene	1.0	U	1.0	0.28	ug/L			11/18/17 22:43	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/18/17 22:43	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/18/17 22:43	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/18/17 22:43	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/18/17 22:43	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/18/17 22:43	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/18/17 22:43	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 22:43	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/18/17 22:43	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/18/17 22:43	1
Chloromethane	1.0	U *	1.0	0.43	ug/L			11/18/17 22:43	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/18/17 22:43	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/18/17 22:43	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/18/17 22:43	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/18/17 22:43	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/18/17 22:43	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/18/17 22:43	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/18/17 22:43	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 22:43	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/18/17 22:43	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 22:43	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/18/17 22:43	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/18/17 22:43	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/18/17 22:43	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/18/17 22:43	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/18/17 22:43	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/18/17 22:43	1
2-Hexanone	10	U	10	1.2	ug/L			11/18/17 22:43	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/18/17 22:43	1
Methyl acetate	10	U	10	1.4	ug/L			11/18/17 22:43	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/18/17 22:43	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/18/17 22:43	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/18/17 22:43	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/18/17 22:43	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/18/17 22:43	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/18/17 22:43	1
Styrene	1.0	U	1.0	0.23	ug/L			11/18/17 22:43	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/18/17 22:43	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/18/17 22:43	1
Toluene	1.0	U	1.0	0.23	ug/L			11/18/17 22:43	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/18/17 22:43	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/18/17 22:43	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-55_110817

Lab Sample ID: 240-87805-8

Date Collected: 11/08/17 11:35

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/18/17 22:43	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/18/17 22:43	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/18/17 22:43	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/18/17 22:43	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 22:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/18/17 22:43	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/18/17 22:43	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 22:43	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 22:43	1
Vinyl chloride	0.65	J	1.0	0.45	ug/L			11/18/17 22:43	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/18/17 22:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		69 - 120		11/18/17 22:43	1
Dibromofluoromethane (Surr)	94		69 - 124		11/18/17 22:43	1
1,2-Dichloroethane-d4 (Surr)	96		61 - 138		11/18/17 22:43	1
Toluene-d8 (Surr)	93		73 - 120		11/18/17 22:43	1

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-56_110817

Lab Sample ID: 240-87805-9

Date Collected: 11/08/17 13:40

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.2		2.0	0.24	ug/L			11/16/17 17:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	75		63 - 125					11/16/17 17:24	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			11/18/17 23:06	1
Benzene	1.0	U	1.0	0.28	ug/L			11/18/17 23:06	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/18/17 23:06	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/18/17 23:06	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/18/17 23:06	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/18/17 23:06	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/18/17 23:06	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/18/17 23:06	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 23:06	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/18/17 23:06	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/18/17 23:06	1
Chloromethane	1.0	U *	1.0	0.43	ug/L			11/18/17 23:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/18/17 23:06	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/18/17 23:06	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/18/17 23:06	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/18/17 23:06	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/18/17 23:06	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/18/17 23:06	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/18/17 23:06	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 23:06	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/18/17 23:06	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 23:06	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/18/17 23:06	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/18/17 23:06	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/18/17 23:06	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/18/17 23:06	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/18/17 23:06	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/18/17 23:06	1
2-Hexanone	10	U	10	1.2	ug/L			11/18/17 23:06	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/18/17 23:06	1
Methyl acetate	10	U	10	1.4	ug/L			11/18/17 23:06	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/18/17 23:06	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/18/17 23:06	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/18/17 23:06	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/18/17 23:06	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/18/17 23:06	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/18/17 23:06	1
Styrene	1.0	U	1.0	0.23	ug/L			11/18/17 23:06	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/18/17 23:06	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/18/17 23:06	1
Toluene	1.0	U	1.0	0.23	ug/L			11/18/17 23:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/18/17 23:06	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/18/17 23:06	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-56_110817

Lab Sample ID: 240-87805-9

Date Collected: 11/08/17 13:40

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/18/17 23:06	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/18/17 23:06	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/18/17 23:06	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/18/17 23:06	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 23:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/18/17 23:06	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/18/17 23:06	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 23:06	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 23:06	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/18/17 23:06	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/18/17 23:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		69 - 120		11/18/17 23:06	1
Dibromofluoromethane (Surr)	88		69 - 124		11/18/17 23:06	1
1,2-Dichloroethane-d4 (Surr)	90		61 - 138		11/18/17 23:06	1
Toluene-d8 (Surr)	100		73 - 120		11/18/17 23:06	1

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-38_110817

Lab Sample ID: 240-87805-10

Date Collected: 11/08/17 15:05

Matrix: Water

Date Received: 11/10/17 08:00

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			11/16/17 17:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		63 - 125					11/16/17 17:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			11/18/17 23:28	1
Benzene	1.0	U	1.0	0.28	ug/L			11/18/17 23:28	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/18/17 23:28	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/18/17 23:28	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/18/17 23:28	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/18/17 23:28	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/18/17 23:28	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/18/17 23:28	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 23:28	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/18/17 23:28	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/18/17 23:28	1
Chloromethane	1.0	U *	1.0	0.43	ug/L			11/18/17 23:28	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/18/17 23:28	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/18/17 23:28	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/18/17 23:28	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/18/17 23:28	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/18/17 23:28	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/18/17 23:28	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/18/17 23:28	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 23:28	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/18/17 23:28	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 23:28	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/18/17 23:28	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/18/17 23:28	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/18/17 23:28	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/18/17 23:28	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/18/17 23:28	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/18/17 23:28	1
2-Hexanone	10	U	10	1.2	ug/L			11/18/17 23:28	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/18/17 23:28	1
Methyl acetate	10	U	10	1.4	ug/L			11/18/17 23:28	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/18/17 23:28	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/18/17 23:28	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/18/17 23:28	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/18/17 23:28	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/18/17 23:28	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/18/17 23:28	1
Styrene	1.0	U	1.0	0.23	ug/L			11/18/17 23:28	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/18/17 23:28	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/18/17 23:28	1
Toluene	1.0	U	1.0	0.23	ug/L			11/18/17 23:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/18/17 23:28	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/18/17 23:28	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-38_110817

Lab Sample ID: 240-87805-10

Date Collected: 11/08/17 15:05

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/18/17 23:28	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/18/17 23:28	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/18/17 23:28	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/18/17 23:28	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 23:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/18/17 23:28	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/18/17 23:28	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 23:28	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 23:28	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/18/17 23:28	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/18/17 23:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		69 - 120		11/18/17 23:28	1
Dibromofluoromethane (Surr)	87		69 - 124		11/18/17 23:28	1
1,2-Dichloroethane-d4 (Surr)	92		61 - 138		11/18/17 23:28	1
Toluene-d8 (Surr)	101		73 - 120		11/18/17 23:28	1

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-33_110817

Lab Sample ID: 240-87805-11

Date Collected: 11/08/17 16:40

Matrix: Water

Date Received: 11/10/17 08:00

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			11/16/17 18:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		63 - 125					11/16/17 18:13	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			11/18/17 23:50	1
Benzene	1.0	U	1.0	0.28	ug/L			11/18/17 23:50	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/18/17 23:50	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/18/17 23:50	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/18/17 23:50	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/18/17 23:50	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/18/17 23:50	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/18/17 23:50	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 23:50	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/18/17 23:50	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/18/17 23:50	1
Chloromethane	1.0	U *	1.0	0.43	ug/L			11/18/17 23:50	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/18/17 23:50	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/18/17 23:50	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/18/17 23:50	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/18/17 23:50	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/18/17 23:50	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/18/17 23:50	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/18/17 23:50	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 23:50	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/18/17 23:50	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 23:50	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/18/17 23:50	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/18/17 23:50	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/18/17 23:50	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/18/17 23:50	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/18/17 23:50	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/18/17 23:50	1
2-Hexanone	10	U	10	1.2	ug/L			11/18/17 23:50	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/18/17 23:50	1
Methyl acetate	10	U	10	1.4	ug/L			11/18/17 23:50	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/18/17 23:50	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/18/17 23:50	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/18/17 23:50	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/18/17 23:50	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/18/17 23:50	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/18/17 23:50	1
Styrene	1.0	U	1.0	0.23	ug/L			11/18/17 23:50	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/18/17 23:50	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/18/17 23:50	1
Toluene	1.0	U	1.0	0.23	ug/L			11/18/17 23:50	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/18/17 23:50	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/18/17 23:50	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-33_110817

Lab Sample ID: 240-87805-11

Date Collected: 11/08/17 16:40

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/18/17 23:50	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/18/17 23:50	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/18/17 23:50	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/18/17 23:50	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 23:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/18/17 23:50	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/18/17 23:50	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 23:50	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 23:50	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/18/17 23:50	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/18/17 23:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		69 - 120					11/18/17 23:50	1
Dibromofluoromethane (Surr)	90		69 - 124					11/18/17 23:50	1
1,2-Dichloroethane-d4 (Surr)	96		61 - 138					11/18/17 23:50	1
Toluene-d8 (Surr)	98		73 - 120					11/18/17 23:50	1

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: DUP02_110817

Lab Sample ID: 240-87805-12

Date Collected: 11/08/17 00:00

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.67	J	2.0	0.24	ug/L			11/16/17 18:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	79		63 - 125					11/16/17 18:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			11/19/17 00:12	1
Benzene	1.0	U	1.0	0.28	ug/L			11/19/17 00:12	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/19/17 00:12	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/19/17 00:12	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/19/17 00:12	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/19/17 00:12	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/19/17 00:12	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/19/17 00:12	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/19/17 00:12	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/19/17 00:12	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/19/17 00:12	1
Chloromethane	1.0	U *	1.0	0.43	ug/L			11/19/17 00:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/19/17 00:12	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/19/17 00:12	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/19/17 00:12	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/19/17 00:12	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/19/17 00:12	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/19/17 00:12	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/19/17 00:12	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/19/17 00:12	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/19/17 00:12	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/19/17 00:12	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/19/17 00:12	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/19/17 00:12	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/19/17 00:12	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/19/17 00:12	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/19/17 00:12	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/19/17 00:12	1
2-Hexanone	10	U	10	1.2	ug/L			11/19/17 00:12	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/19/17 00:12	1
Methyl acetate	10	U	10	1.4	ug/L			11/19/17 00:12	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/19/17 00:12	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/19/17 00:12	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/19/17 00:12	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/19/17 00:12	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/19/17 00:12	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/19/17 00:12	1
Styrene	1.0	U	1.0	0.23	ug/L			11/19/17 00:12	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/19/17 00:12	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/19/17 00:12	1
Toluene	1.0	U	1.0	0.23	ug/L			11/19/17 00:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/19/17 00:12	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/19/17 00:12	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: DUP02_110817

Lab Sample ID: 240-87805-12

Date Collected: 11/08/17 00:00

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/19/17 00:12	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/19/17 00:12	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/19/17 00:12	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/19/17 00:12	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/19/17 00:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/19/17 00:12	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/19/17 00:12	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/19/17 00:12	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/19/17 00:12	1
Vinyl chloride	0.46	J	1.0	0.45	ug/L			11/19/17 00:12	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/19/17 00:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		69 - 120		11/19/17 00:12	1
Dibromofluoromethane (Surr)	93		69 - 124		11/19/17 00:12	1
1,2-Dichloroethane-d4 (Surr)	99		61 - 138		11/19/17 00:12	1
Toluene-d8 (Surr)	98		73 - 120		11/19/17 00:12	1

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: TRIPBLANK

Lab Sample ID: 240-87805-13

Date Collected: 11/08/17 00:00

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	11		10	1.8	ug/L			11/19/17 00:34	1
Benzene	1.0	U	1.0	0.28	ug/L			11/19/17 00:34	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/19/17 00:34	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/19/17 00:34	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/19/17 00:34	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/19/17 00:34	1
Carbon disulfide	0.47	J	5.0	0.34	ug/L			11/19/17 00:34	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/19/17 00:34	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/19/17 00:34	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/19/17 00:34	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/19/17 00:34	1
Chloromethane	1.0	U *	1.0	0.43	ug/L			11/19/17 00:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/19/17 00:34	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/19/17 00:34	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/19/17 00:34	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/19/17 00:34	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/19/17 00:34	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/19/17 00:34	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/19/17 00:34	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/19/17 00:34	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/19/17 00:34	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/19/17 00:34	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/19/17 00:34	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/19/17 00:34	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/19/17 00:34	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/19/17 00:34	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/19/17 00:34	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/19/17 00:34	1
2-Hexanone	10	U	10	1.2	ug/L			11/19/17 00:34	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/19/17 00:34	1
Methyl acetate	10	U	10	1.4	ug/L			11/19/17 00:34	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/19/17 00:34	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/19/17 00:34	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/19/17 00:34	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/19/17 00:34	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/19/17 00:34	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/19/17 00:34	1
Styrene	1.0	U	1.0	0.23	ug/L			11/19/17 00:34	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/19/17 00:34	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/19/17 00:34	1
Toluene	1.0	U	1.0	0.23	ug/L			11/19/17 00:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/19/17 00:34	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/19/17 00:34	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/19/17 00:34	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/19/17 00:34	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/19/17 00:34	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/19/17 00:34	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/19/17 00:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/19/17 00:34	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: TRIPBLANK

Lab Sample ID: 240-87805-13

Date Collected: 11/08/17 00:00

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/19/17 00:34	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/19/17 00:34	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/19/17 00:34	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/19/17 00:34	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/19/17 00:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		69 - 120		11/19/17 00:34	1
Dibromofluoromethane (Surr)	95		69 - 124		11/19/17 00:34	1
1,2-Dichloroethane-d4 (Surr)	98		61 - 138		11/19/17 00:34	1
Toluene-d8 (Surr)	93		73 - 120		11/19/17 00:34	1

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW43_110917

Lab Sample ID: 240-87805-14

Date Collected: 11/09/17 10:45

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	3.5		2.0	0.24	ug/L			11/16/17 19:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		63 - 125					11/16/17 19:03	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			11/19/17 00:56	1
Benzene	1.0	U	1.0	0.28	ug/L			11/19/17 00:56	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/19/17 00:56	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/19/17 00:56	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/19/17 00:56	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/19/17 00:56	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/19/17 00:56	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/19/17 00:56	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/19/17 00:56	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/19/17 00:56	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/19/17 00:56	1
Chloromethane	1.0	U *	1.0	0.43	ug/L			11/19/17 00:56	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/19/17 00:56	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/19/17 00:56	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/19/17 00:56	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/19/17 00:56	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/19/17 00:56	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/19/17 00:56	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/19/17 00:56	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/19/17 00:56	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/19/17 00:56	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/19/17 00:56	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/19/17 00:56	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/19/17 00:56	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/19/17 00:56	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/19/17 00:56	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/19/17 00:56	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/19/17 00:56	1
2-Hexanone	10	U	10	1.2	ug/L			11/19/17 00:56	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/19/17 00:56	1
Methyl acetate	10	U	10	1.4	ug/L			11/19/17 00:56	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/19/17 00:56	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/19/17 00:56	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/19/17 00:56	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/19/17 00:56	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/19/17 00:56	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/19/17 00:56	1
Styrene	1.0	U	1.0	0.23	ug/L			11/19/17 00:56	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/19/17 00:56	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/19/17 00:56	1
Toluene	1.0	U	1.0	0.23	ug/L			11/19/17 00:56	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/19/17 00:56	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/19/17 00:56	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW43_110917

Lab Sample ID: 240-87805-14

Date Collected: 11/09/17 10:45

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/19/17 00:56	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/19/17 00:56	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/19/17 00:56	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/19/17 00:56	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/19/17 00:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/19/17 00:56	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/19/17 00:56	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/19/17 00:56	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/19/17 00:56	1
Vinyl chloride	2.2		1.0	0.45	ug/L			11/19/17 00:56	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/19/17 00:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		69 - 120		11/19/17 00:56	1
Dibromofluoromethane (Surr)	90		69 - 124		11/19/17 00:56	1
1,2-Dichloroethane-d4 (Surr)	93		61 - 138		11/19/17 00:56	1
Toluene-d8 (Surr)	95		73 - 120		11/19/17 00:56	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	210		1.0	0.17	ug/L			11/17/17 18:10	1
Ethane	0.74	J	1.0	0.10	ug/L			11/17/17 18:10	1
Ethene	0.27	J	1.0	0.11	ug/L			11/17/17 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,1-Trifluoroethane	81		60 - 140		11/17/17 18:10	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	3900		100	47	ug/L		11/13/17 14:00	11/14/17 20:55	1
Manganese	200		5.0	2.1	ug/L		11/13/17 14:00	11/14/17 20:55	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	2800		100	47	ug/L		11/13/17 14:00	11/14/17 21:26	1
Manganese	190		5.0	2.1	ug/L		11/13/17 14:00	11/14/17 21:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	4.3		1.0	0.14	mg/L			11/13/17 18:39	1
Nitrate as N	0.20	U	0.20	0.028	mg/L			11/10/17 18:09	2
Sulfate	260		2.0	0.70	mg/L			11/10/17 18:09	2

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	4.3		1.0	0.14	mg/L			11/16/17 12:04	1
DOC Result 1	4.4		1.0	0.14	mg/L			11/16/17 12:04	1
DOC Result 2	4.2		1.0	0.14	mg/L			11/16/17 12:04	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW30_110917

Lab Sample ID: 240-87805-15

Date Collected: 11/09/17 12:40

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	13		2.0	0.24	ug/L			11/16/17 20:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		63 - 125					11/16/17 20:18	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			11/19/17 01:18	1
Benzene	1.0	U	1.0	0.28	ug/L			11/19/17 01:18	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/19/17 01:18	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/19/17 01:18	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/19/17 01:18	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/19/17 01:18	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/19/17 01:18	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/19/17 01:18	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/19/17 01:18	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/19/17 01:18	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/19/17 01:18	1
Chloromethane	1.0	U *	1.0	0.43	ug/L			11/19/17 01:18	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/19/17 01:18	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/19/17 01:18	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/19/17 01:18	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/19/17 01:18	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/19/17 01:18	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/19/17 01:18	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/19/17 01:18	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/19/17 01:18	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/19/17 01:18	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/19/17 01:18	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/19/17 01:18	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/19/17 01:18	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/19/17 01:18	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/19/17 01:18	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/19/17 01:18	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/19/17 01:18	1
2-Hexanone	10	U	10	1.2	ug/L			11/19/17 01:18	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/19/17 01:18	1
Methyl acetate	10	U	10	1.4	ug/L			11/19/17 01:18	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/19/17 01:18	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/19/17 01:18	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/19/17 01:18	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/19/17 01:18	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/19/17 01:18	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/19/17 01:18	1
Styrene	1.0	U	1.0	0.23	ug/L			11/19/17 01:18	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/19/17 01:18	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/19/17 01:18	1
Toluene	1.0	U	1.0	0.23	ug/L			11/19/17 01:18	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/19/17 01:18	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/19/17 01:18	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW30_110917

Lab Sample ID: 240-87805-15

Date Collected: 11/09/17 12:40

Matrix: Water

Date Received: 11/10/17 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/19/17 01:18	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/19/17 01:18	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/19/17 01:18	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/19/17 01:18	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/19/17 01:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/19/17 01:18	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/19/17 01:18	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/19/17 01:18	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/19/17 01:18	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/19/17 01:18	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/19/17 01:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		69 - 120		11/19/17 01:18	1
Dibromofluoromethane (Surr)	89		69 - 124		11/19/17 01:18	1
1,2-Dichloroethane-d4 (Surr)	93		61 - 138		11/19/17 01:18	1
Toluene-d8 (Surr)	97		73 - 120		11/19/17 01:18	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	360		1.0	0.17	ug/L			11/17/17 18:27	1
Ethane	0.31	J	1.0	0.10	ug/L			11/17/17 18:27	1
Ethene	1.0	U	1.0	0.11	ug/L			11/17/17 18:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,1-Trifluoroethane	82		60 - 140		11/17/17 18:27	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	3700		100	47	ug/L		11/13/17 14:00	11/14/17 21:31	1
Manganese	150		5.0	2.1	ug/L		11/13/17 14:00	11/14/17 21:31	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	3700		100	47	ug/L		11/13/17 14:00	11/14/17 21:35	1
Manganese	150		5.0	2.1	ug/L		11/13/17 14:00	11/14/17 21:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	2.4		1.0	0.14	mg/L			11/13/17 18:54	1
Nitrate as N	0.10	U	0.10	0.014	mg/L			11/10/17 18:49	1
Sulfate	53		1.0	0.35	mg/L			11/10/17 18:49	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.5		1.0	0.14	mg/L			11/16/17 12:19	1
DOC Result 1	2.5		1.0	0.14	mg/L			11/16/17 12:19	1
DOC Result 2	2.4		1.0	0.14	mg/L			11/16/17 12:19	1

TestAmerica Canton

Surrogate Summary

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

TestAmerica Job ID: 240-87805-1

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)
240-87717-H-1 MS	Matrix Spike	98	102	103	100
240-87717-I-1 MSD	Matrix Spike Duplicate	94	87	91	98
240-87805-1	MW-28_11082017	91	94	95	98
240-87805-1 MS	MW-28_11082017	96	96	102	94
240-87805-1 MSD	MW-28_11082017	96	96	94	100
240-87805-2	TW-16-03_11082017	95	91	92	99
240-87805-3	TRIPBLANK	93	92	89	98
240-87805-4	PW-16-02_11082017	96	89	91	95
240-87805-5	TW-16-04_110817	97	90	92	97
240-87805-6	MW-54_110817	97	93	91	94
240-87805-7	MW-53_110817	96	108	112	96
240-87805-8	MW-55_110817	98	94	96	93
240-87805-9	MW-56_110817	94	88	90	100
240-87805-10	MW-38_110817	95	87	92	101
240-87805-11	MW-33_110817	98	90	96	98
240-87805-12	DUP02_110817	101	93	99	98
240-87805-13	TRIPBLANK	105	95	98	93
240-87805-14	MW43_110917	97	90	93	95
240-87805-15	MW30_110917	94	89	93	97
240-87851-D-29 MS	Matrix Spike	98	96	100	93
240-87851-E-29 MSD	Matrix Spike Duplicate	94	89	99	96
LCS 240-303598/4	Lab Control Sample	94	98	99	99
LCS 240-303825/5	Lab Control Sample	98	90	100	96
LCS 240-304180/5	Lab Control Sample	96	92	98	94
MB 240-303598/6	Method Blank	94	92	94	94
MB 240-303825/7	Method Blank	92	87	95	99
MB 240-304180/7	Method Blank	94	87	92	94

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-87717-O-1 MS	Matrix Spike	84
240-87717-O-1 MSD	Matrix Spike Duplicate	80
240-87805-1	MW-28_11082017	87
240-87805-1 MS	MW-28_11082017	83
240-87805-1 MSD	MW-28_11082017	87
240-87805-2	TW-16-03_11082017	85
240-87805-3	TRIPBLANK	83
240-87805-4	PW-16-02_11082017	86
240-87805-5	TW-16-04_110817	84

TestAmerica Canton

Surrogate Summary

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

TestAmerica Job ID: 240-87805-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-87805-6	MW-54_110817	83
240-87805-7	MW-53_110817	81
240-87805-8	MW-55_110817	84
240-87805-9	MW-56_110817	75
240-87805-10	MW-38_110817	81
240-87805-11	MW-33_110817	82
240-87805-12	DUP02_110817	79
240-87805-14	MW43_110917	82
240-87805-14 MS	MW43_110917	81
240-87805-14 MSD	MW43_110917	83
240-87805-15	MW30_110917	81
LCS 240-303611/4	Lab Control Sample	84
LCS 240-303900/4	Lab Control Sample	79
MB 240-303611/5	Method Blank	80
MB 240-303900/5	Method Blank	79

Surrogate Legend

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

Method: RSK-175 - Dissolved Gases (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TFE2 (60-140)
180-72271-F-7 MSD	Matrix Spike Duplicate	84
180-72271-G-7 MS	Matrix Spike	85
240-87805-14	MW43_110917	81
240-87805-15	MW30_110917	82
LCS 240-304058/5	Lab Control Sample	85
LCSD 240-304058/6	Lab Control Sample Dup	86
MB 240-304058/4	Method Blank	89

Surrogate Legend

TFE = 1,1,1-Trifluoroethane

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: MB 240-303598/6

Matrix: Water

Analysis Batch: 303598

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			11/15/17 13:41	1
Benzene	1.0	U	1.0	0.28	ug/L			11/15/17 13:41	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/15/17 13:41	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/15/17 13:41	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/15/17 13:41	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/15/17 13:41	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/15/17 13:41	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/15/17 13:41	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/15/17 13:41	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/15/17 13:41	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/15/17 13:41	1
Chloromethane	1.0	U	1.0	0.43	ug/L			11/15/17 13:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/15/17 13:41	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/15/17 13:41	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/15/17 13:41	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/15/17 13:41	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/15/17 13:41	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/15/17 13:41	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/15/17 13:41	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/15/17 13:41	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/15/17 13:41	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/15/17 13:41	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/15/17 13:41	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/15/17 13:41	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/15/17 13:41	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/15/17 13:41	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/15/17 13:41	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/15/17 13:41	1
2-Hexanone	10	U	10	1.2	ug/L			11/15/17 13:41	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/15/17 13:41	1
Methyl acetate	10	U	10	1.4	ug/L			11/15/17 13:41	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/15/17 13:41	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/15/17 13:41	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/15/17 13:41	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/15/17 13:41	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/15/17 13:41	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/15/17 13:41	1
Styrene	1.0	U	1.0	0.23	ug/L			11/15/17 13:41	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/15/17 13:41	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/15/17 13:41	1
Toluene	1.0	U	1.0	0.23	ug/L			11/15/17 13:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/15/17 13:41	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/15/17 13:41	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/15/17 13:41	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/15/17 13:41	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/15/17 13:41	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/15/17 13:41	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/15/17 13:41	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: MB 240-303598/6
Matrix: Water
Analysis Batch: 303598

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/15/17 13:41	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/15/17 13:41	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/15/17 13:41	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/15/17 13:41	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/15/17 13:41	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/15/17 13:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		69 - 120		11/15/17 13:41	1
Dibromofluoromethane (Surr)	92		69 - 124		11/15/17 13:41	1
1,2-Dichloroethane-d4 (Surr)	94		61 - 138		11/15/17 13:41	1
Toluene-d8 (Surr)	94		73 - 120		11/15/17 13:41	1

Lab Sample ID: LCS 240-303598/4
Matrix: Water
Analysis Batch: 303598

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	16.8		ug/L		84	35 - 131
Benzene	10.0	9.50		ug/L		95	79 - 120
Bromodichloromethane	10.0	8.86		ug/L		89	79 - 125
Bromoform	10.0	9.14		ug/L		91	55 - 145
Bromomethane	10.0	4.33		ug/L		43	17 - 158
2-Butanone (MEK)	20.0	26.6		ug/L		133	43 - 149
Carbon disulfide	10.0	7.91		ug/L		79	49 - 141
Carbon tetrachloride	10.0	8.57		ug/L		86	55 - 171
Chlorobenzene	10.0	9.17		ug/L		92	80 - 120
Chloroethane	10.0	3.37		ug/L		34	10 - 149
Chloroform	10.0	8.51		ug/L		85	80 - 120
Chloromethane	10.0	8.16		ug/L		82	59 - 124
cis-1,2-Dichloroethene	10.0	8.75		ug/L		87	77 - 120
cis-1,3-Dichloropropene	10.0	11.0		ug/L		110	75 - 120
Cyclohexane	10.0	9.96		ug/L		100	66 - 135
Dibromochloromethane	10.0	8.62		ug/L		86	64 - 129
1,2-Dibromo-3-Chloropropane	10.0	9.00		ug/L		90	50 - 130
1,2-Dibromoethane	10.0	9.69		ug/L		97	80 - 120
1,2-Dichlorobenzene	10.0	7.99		ug/L		80	80 - 120
1,3-Dichlorobenzene	10.0	8.58		ug/L		86	80 - 120
1,4-Dichlorobenzene	10.0	8.39		ug/L		84	80 - 120
Dichlorodifluoromethane	10.0	12.3		ug/L		123	42 - 141
1,1-Dichloroethane	10.0	9.01		ug/L		90	74 - 120
1,2-Dichloroethane	10.0	9.39		ug/L		94	68 - 133
1,1-Dichloroethene	10.0	9.18		ug/L		92	65 - 127
1,2-Dichloropropane	10.0	10.3		ug/L		103	78 - 127
Diethyl ether	10.0	9.54		ug/L		95	72 - 125
Ethylbenzene	10.0	8.92		ug/L		89	80 - 120
2-Hexanone	20.0	23.3		ug/L		117	28 - 169
Isopropylbenzene	10.0	8.27		ug/L		83	80 - 128

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: LCS 240-303598/4

Matrix: Water

Analysis Batch: 303598

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl acetate	20.0	18.7		ug/L		93	63 - 137
Methylcyclohexane	10.0	9.82		ug/L		98	63 - 141
Methylene Chloride	10.0	7.56		ug/L		76	64 - 140
4-Methyl-2-pentanone (MIBK)	20.0	22.3		ug/L		111	53 - 144
Methyl tert-butyl ether	10.0	8.85		ug/L		88	73 - 120
Styrene	10.0	8.54		ug/L		85	80 - 121
1,1,2,2-Tetrachloroethane	10.0	9.75		ug/L		97	58 - 122
Tetrachloroethene	10.0	9.45		ug/L		94	80 - 122
Toluene	10.0	8.77		ug/L		88	78 - 120
trans-1,2-Dichloroethene	10.0	9.10		ug/L		91	74 - 124
trans-1,3-Dichloropropene	10.0	8.84		ug/L		88	67 - 120
1,2,4-Trichlorobenzene	10.0	6.90		ug/L		69	34 - 141
1,1,1-Trichloroethane	10.0	8.27		ug/L		83	64 - 147
1,1,2-Trichloroethane	10.0	9.67		ug/L		97	76 - 121
Trichloroethene	10.0	9.64		ug/L		96	76 - 124
Trichlorofluoromethane	10.0	8.16		ug/L		82	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	11.0		ug/L		110	65 - 144
1,2,4-Trimethylbenzene	10.0	8.35		ug/L		84	80 - 120
1,3,5-Trimethylbenzene	10.0	8.62		ug/L		86	79 - 120
Vinyl chloride	10.0	9.69		ug/L		97	65 - 124
Xylenes, Total	20.0	17.1		ug/L		85	80 - 120
1,4-Dioxane	200	172		ug/L		86	35 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		69 - 120
Dibromofluoromethane (Surr)	98		69 - 124
1,2-Dichloroethane-d4 (Surr)	99		61 - 138
Toluene-d8 (Surr)	99		73 - 120

Lab Sample ID: 240-87717-H-1 MS

Matrix: Water

Analysis Batch: 303598

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	10	U	20.0	13.0		ug/L		65	19 - 133
Benzene	1.0	U F2	10.0	9.56		ug/L		96	69 - 127
Bromodichloromethane	1.0	U	10.0	8.59		ug/L		86	75 - 128
Bromoform	1.0	U	10.0	8.65		ug/L		86	61 - 135
Bromomethane	1.0	U	10.0	2.44		ug/L		24	10 - 148
2-Butanone (MEK)	10	U	20.0	17.8		ug/L		89	34 - 153
Carbon disulfide	5.0	U F2	10.0	11.2		ug/L		112	46 - 143
Carbon tetrachloride	1.0	U	10.0	9.65		ug/L		96	53 - 175
Chlorobenzene	1.0	U	10.0	9.22		ug/L		92	76 - 120
Chloroethane	1.0	U F2	10.0	5.40		ug/L		54	10 - 141
Chloroform	1.0	U F2	10.0	9.31		ug/L		93	74 - 125
Chloromethane	1.0	U F1	10.0	3.12	F1	ug/L		31	34 - 127
cis-1,2-Dichloroethene	1.0	U F2	10.0	9.11		ug/L		91	69 - 127

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: 240-87717-H-1 MS

Matrix: Water

Analysis Batch: 303598

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
cis-1,3-Dichloropropene	1.0	U	10.0	9.98		ug/L		100	68 - 120
Cyclohexane	1.0	U	10.0	11.2		ug/L		112	56 - 135
Dibromochloromethane	1.0	U	10.0	8.47		ug/L		85	62 - 131
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	7.40		ug/L		74	48 - 130
1,2-Dibromoethane	1.0	U	10.0	9.15		ug/L		91	73 - 121
1,2-Dichlorobenzene	1.0	U	10.0	8.32		ug/L		83	70 - 120
1,3-Dichlorobenzene	1.0	U	10.0	8.66		ug/L		87	71 - 120
1,4-Dichlorobenzene	1.0	U	10.0	8.92		ug/L		89	72 - 120
Dichlorodifluoromethane	1.0	U	10.0	12.6		ug/L		126	45 - 130
1,1-Dichloroethane	1.0	U F2	10.0	9.59		ug/L		96	69 - 122
1,2-Dichloroethane	1.0	U	10.0	9.21		ug/L		92	64 - 138
1,1-Dichloroethene	1.0	U	10.0	9.91		ug/L		99	62 - 127
1,2-Dichloropropane	1.0	U	10.0	10.1		ug/L		101	72 - 131
Diethyl ether	2.0	U F2	10.0	9.41		ug/L		94	65 - 124
Ethylbenzene	1.0	U	10.0	9.02		ug/L		90	72 - 121
2-Hexanone	10	U	20.0	20.5		ug/L		103	21 - 184
Isopropylbenzene	1.0	U	10.0	8.52		ug/L		85	70 - 132
Methyl acetate	10	U	20.0	16.3		ug/L		81	52 - 139
Methylcyclohexane	1.0	U	10.0	10.6		ug/L		106	46 - 139
Methylene Chloride	5.0	U F2	10.0	8.92		ug/L		89	52 - 137
4-Methyl-2-pentanone (MIBK)	10	U	20.0	19.7		ug/L		98	53 - 147
Methyl tert-butyl ether	1.0	U F2	10.0	9.00		ug/L		90	67 - 125
Styrene	1.0	U	10.0	8.73		ug/L		87	74 - 125
1,1,2,2-Tetrachloroethane	1.0	U	10.0	8.80		ug/L		88	51 - 123
Tetrachloroethene	1.0	U	10.0	10.2		ug/L		102	69 - 126
Toluene	1.0	U	10.0	8.93		ug/L		89	69 - 125
trans-1,2-Dichloroethene	1.0	U F2	10.0	9.69		ug/L		97	66 - 131
trans-1,3-Dichloropropene	1.0	U	10.0	8.37		ug/L		84	59 - 120
1,2,4-Trichlorobenzene	1.0	U	10.0	6.69		ug/L		67	26 - 138
1,1,1-Trichloroethane	1.0	U F2	10.0	9.56		ug/L		96	57 - 156
1,1,2-Trichloroethane	1.0	U	10.0	9.52		ug/L		95	68 - 127
Trichloroethene	1.0	U	10.0	9.93		ug/L		99	68 - 129
Trichlorofluoromethane	1.0	U F2	10.0	9.52		ug/L		95	28 - 172
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	11.6		ug/L		116	58 - 137
1,2,4-Trimethylbenzene	1.0	U	10.0	8.58		ug/L		86	64 - 120
1,3,5-Trimethylbenzene	1.0	U	10.0	8.70		ug/L		87	67 - 120
Vinyl chloride	1.6		10.0	13.2		ug/L		115	55 - 123
Xylenes, Total	2.0	U	20.0	17.3		ug/L		86	71 - 122
1,4-Dioxane	50	U	200	110		ug/L		55	13 - 155

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		69 - 120
Dibromofluoromethane (Surr)	102		69 - 124
1,2-Dichloroethane-d4 (Surr)	103		61 - 138
Toluene-d8 (Surr)	100		73 - 120

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: 240-87717-I-1 MSD

Matrix: Water

Analysis Batch: 303598

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	10	U	20.0	13.2		ug/L		66	19 - 133	2	35
Benzene	1.0	U F2	10.0	8.25	F2	ug/L		82	69 - 127	15	10
Bromodichloromethane	1.0	U	10.0	7.68		ug/L		77	75 - 128	11	13
Bromoform	1.0	U	10.0	8.46		ug/L		85	61 - 135	2	13
Bromomethane	1.0	U	10.0	2.27		ug/L		23	10 - 148	7	35
2-Butanone (MEK)	10	U	20.0	18.5		ug/L		93	34 - 153	4	23
Carbon disulfide	5.0	U F2	10.0	7.88	F2	ug/L		79	46 - 143	35	18
Carbon tetrachloride	1.0	U	10.0	8.30		ug/L		83	53 - 175	15	17
Chlorobenzene	1.0	U	10.0	9.13		ug/L		91	76 - 120	1	12
Chloroethane	1.0	U F2	10.0	2.72	F2	ug/L		27	10 - 141	66	35
Chloroform	1.0	U F2	10.0	7.83	F2	ug/L		78	74 - 125	17	11
Chloromethane	1.0	U F1	10.0	2.69	F1	ug/L		27	34 - 127	15	25
cis-1,2-Dichloroethene	1.0	U F2	10.0	7.71	F2	ug/L		77	69 - 127	17	11
cis-1,3-Dichloropropene	1.0	U	10.0	9.57		ug/L		96	68 - 120	4	13
Cyclohexane	1.0	U	10.0	10.1		ug/L		101	56 - 135	10	35
Dibromochloromethane	1.0	U	10.0	8.30		ug/L		83	62 - 131	2	15
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	7.48		ug/L		75	48 - 130	1	31
1,2-Dibromoethane	1.0	U	10.0	9.40		ug/L		94	73 - 121	3	12
1,2-Dichlorobenzene	1.0	U	10.0	8.07		ug/L		81	70 - 120	3	19
1,3-Dichlorobenzene	1.0	U	10.0	8.61		ug/L		86	71 - 120	1	18
1,4-Dichlorobenzene	1.0	U	10.0	8.64		ug/L		86	72 - 120	3	17
Dichlorodifluoromethane	1.0	U	10.0	12.0		ug/L		120	45 - 130	5	34
1,1-Dichloroethane	1.0	U F2	10.0	8.06	F2	ug/L		81	69 - 122	17	11
1,2-Dichloroethane	1.0	U	10.0	8.25		ug/L		83	64 - 138	11	11
1,1-Dichloroethene	1.0	U	10.0	8.60		ug/L		86	62 - 127	14	14
1,2-Dichloropropane	1.0	U	10.0	9.00		ug/L		90	72 - 131	12	12
Diethyl ether	2.0	U F2	10.0	8.06	F2	ug/L		81	65 - 124	16	11
Ethylbenzene	1.0	U	10.0	8.86		ug/L		89	72 - 121	2	15
2-Hexanone	10	U	20.0	21.8		ug/L		109	21 - 184	6	12
Isopropylbenzene	1.0	U	10.0	8.52		ug/L		85	70 - 132	0	16
Methyl acetate	10	U	20.0	15.0		ug/L		75	52 - 139	8	14
Methylcyclohexane	1.0	U	10.0	10.0		ug/L		100	46 - 139	5	35
Methylene Chloride	5.0	U F2	10.0	6.93	F2	ug/L		69	52 - 137	25	12
4-Methyl-2-pentanone (MIBK)	10	U	20.0	18.2		ug/L		91	53 - 147	8	16
Methyl tert-butyl ether	1.0	U F2	10.0	7.66	F2	ug/L		77	67 - 125	16	12
Styrene	1.0	U	10.0	8.56		ug/L		86	74 - 125	2	14
1,1,2,2-Tetrachloroethane	1.0	U	10.0	8.48		ug/L		85	51 - 123	4	17
Tetrachloroethene	1.0	U	10.0	10.0		ug/L		100	69 - 126	2	18
Toluene	1.0	U	10.0	8.96		ug/L		90	69 - 125	0	14
trans-1,2-Dichloroethene	1.0	U F2	10.0	8.12	F2	ug/L		81	66 - 131	18	11
trans-1,3-Dichloropropene	1.0	U	10.0	8.55		ug/L		86	59 - 120	2	14
1,2,4-Trichlorobenzene	1.0	U	10.0	7.45		ug/L		74	26 - 138	11	35
1,1,1-Trichloroethane	1.0	U F2	10.0	7.77	F2	ug/L		78	57 - 156	21	13
1,1,2-Trichloroethane	1.0	U	10.0	9.12		ug/L		91	68 - 127	4	11
Trichloroethene	1.0	U	10.0	8.93		ug/L		89	68 - 129	11	12
Trichlorofluoromethane	1.0	U F2	10.0	7.03	F2	ug/L		70	28 - 172	30	26
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	10.6		ug/L		106	58 - 137	9	35

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: 240-87717-I-1 MSD

Matrix: Water

Analysis Batch: 303598

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
1,2,4-Trimethylbenzene	1.0	U	10.0	8.41		ug/L		84	64 - 120	2	22
1,3,5-Trimethylbenzene	1.0	U	10.0	8.65		ug/L		87	67 - 120	1	25
Vinyl chloride	1.6		10.0	11.7		ug/L		100	55 - 123	12	12
Xylenes, Total	2.0	U	20.0	17.2		ug/L		86	71 - 122	1	14
1,4-Dioxane	50	U	200	145		ug/L		72	13 - 155	28	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	94		69 - 120
Dibromofluoromethane (Surr)	87		69 - 124
1,2-Dichloroethane-d4 (Surr)	91		61 - 138
Toluene-d8 (Surr)	98		73 - 120

Lab Sample ID: MB 240-303825/7

Matrix: Water

Analysis Batch: 303825

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			11/16/17 16:51	1
Benzene	1.0	U	1.0	0.28	ug/L			11/16/17 16:51	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/16/17 16:51	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/16/17 16:51	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/16/17 16:51	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/16/17 16:51	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/16/17 16:51	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/16/17 16:51	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/16/17 16:51	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/16/17 16:51	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/16/17 16:51	1
Chloromethane	1.0	U	1.0	0.43	ug/L			11/16/17 16:51	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/16/17 16:51	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/16/17 16:51	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/16/17 16:51	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/16/17 16:51	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/16/17 16:51	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/16/17 16:51	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/16/17 16:51	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/16/17 16:51	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/16/17 16:51	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/16/17 16:51	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/16/17 16:51	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/16/17 16:51	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/16/17 16:51	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/16/17 16:51	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/16/17 16:51	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/16/17 16:51	1
2-Hexanone	10	U	10	1.2	ug/L			11/16/17 16:51	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/16/17 16:51	1
Methyl acetate	10	U	10	1.4	ug/L			11/16/17 16:51	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: MB 240-303825/7
Matrix: Water
Analysis Batch: 303825

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/16/17 16:51	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/16/17 16:51	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/16/17 16:51	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/16/17 16:51	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/16/17 16:51	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/16/17 16:51	1
Styrene	1.0	U	1.0	0.23	ug/L			11/16/17 16:51	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/16/17 16:51	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/16/17 16:51	1
Toluene	1.0	U	1.0	0.23	ug/L			11/16/17 16:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/16/17 16:51	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/16/17 16:51	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/16/17 16:51	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/16/17 16:51	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/16/17 16:51	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/16/17 16:51	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/16/17 16:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/16/17 16:51	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/16/17 16:51	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/16/17 16:51	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/16/17 16:51	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/16/17 16:51	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/16/17 16:51	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	92		69 - 120		11/16/17 16:51	1
Dibromofluoromethane (Surr)	87		69 - 124		11/16/17 16:51	1
1,2-Dichloroethane-d4 (Surr)	95		61 - 138		11/16/17 16:51	1
Toluene-d8 (Surr)	99		73 - 120		11/16/17 16:51	1

Lab Sample ID: LCS 240-303825/5
Matrix: Water
Analysis Batch: 303825

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.0		ug/L		100	79 - 120
Bromodichloromethane	10.0	9.14		ug/L		91	79 - 125
Bromoform	10.0	9.61		ug/L		96	55 - 145
Bromomethane	10.0	4.86		ug/L		49	17 - 158
2-Butanone (MEK)	20.0	18.0		ug/L		90	43 - 149
Carbon disulfide	10.0	9.32		ug/L		93	49 - 141
Carbon tetrachloride	10.0	9.31		ug/L		93	55 - 171
Chlorobenzene	10.0	10.3		ug/L		103	80 - 120
Chloroethane	10.0	3.68		ug/L		37	10 - 149
Chloroform	10.0	9.44		ug/L		94	80 - 120
Chloromethane	10.0	6.58		ug/L		66	59 - 124
cis-1,2-Dichloroethene	10.0	9.16		ug/L		92	77 - 120

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: LCS 240-303825/5

Matrix: Water

Analysis Batch: 303825

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,3-Dichloropropene	10.0	10.9		ug/L		109	75 - 120
Cyclohexane	10.0	10.4		ug/L		104	66 - 135
Dibromochloromethane	10.0	9.14		ug/L		91	64 - 129
1,2-Dibromo-3-Chloropropane	10.0	8.25		ug/L		83	50 - 130
1,2-Dibromoethane	10.0	9.99		ug/L		100	80 - 120
1,2-Dichlorobenzene	10.0	9.74		ug/L		97	80 - 120
1,3-Dichlorobenzene	10.0	10.0		ug/L		100	80 - 120
1,4-Dichlorobenzene	10.0	10.0		ug/L		100	80 - 120
Dichlorodifluoromethane	10.0	11.0		ug/L		110	42 - 141
1,1-Dichloroethane	10.0	10.0		ug/L		100	74 - 120
1,2-Dichloroethane	10.0	9.99		ug/L		100	68 - 133
1,1-Dichloroethene	10.0	9.78		ug/L		98	65 - 127
1,2-Dichloropropane	10.0	10.9		ug/L		109	78 - 127
Diethyl ether	10.0	9.84		ug/L		98	72 - 125
Ethylbenzene	10.0	9.91		ug/L		99	80 - 120
2-Hexanone	20.0	21.2		ug/L		106	28 - 169
Isopropylbenzene	10.0	9.40		ug/L		94	80 - 128
Methyl acetate	20.0	17.6		ug/L		88	63 - 137
Methylcyclohexane	10.0	9.18		ug/L		92	63 - 141
Methylene Chloride	10.0	10.0		ug/L		100	64 - 140
4-Methyl-2-pentanone (MIBK)	20.0	19.7		ug/L		99	53 - 144
Methyl tert-butyl ether	10.0	9.15		ug/L		91	73 - 120
Styrene	10.0	9.77		ug/L		98	80 - 121
1,1,2,2-Tetrachloroethane	10.0	9.65		ug/L		96	58 - 122
Tetrachloroethene	10.0	10.3		ug/L		103	80 - 122
Toluene	10.0	9.85		ug/L		99	78 - 120
trans-1,2-Dichloroethene	10.0	9.63		ug/L		96	74 - 124
trans-1,3-Dichloropropene	10.0	9.52		ug/L		95	67 - 120
1,2,4-Trichlorobenzene	10.0	7.96		ug/L		80	34 - 141
1,1,1-Trichloroethane	10.0	9.24		ug/L		92	64 - 147
1,1,2-Trichloroethane	10.0	10.1		ug/L		101	76 - 121
Trichloroethene	10.0	9.74		ug/L		97	76 - 124
Trichlorofluoromethane	10.0	9.07		ug/L		91	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	10.8		ug/L		108	65 - 144
1,2,4-Trimethylbenzene	10.0	9.85		ug/L		98	80 - 120
1,3,5-Trimethylbenzene	10.0	10.0		ug/L		100	79 - 120
Vinyl chloride	10.0	11.3		ug/L		113	65 - 124
Xylenes, Total	20.0	19.3		ug/L		96	80 - 120
1,4-Dioxane	200	109		ug/L		55	35 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		69 - 120
Dibromofluoromethane (Surr)	90		69 - 124
1,2-Dichloroethane-d4 (Surr)	100		61 - 138
Toluene-d8 (Surr)	96		73 - 120

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: 240-87805-1 MS

Matrix: Water

Analysis Batch: 303825

Client Sample ID: MW-28_11082017

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS MS		Unit	D	%Rec	%Rec.
	Result	Qualifier		Added	Result				
Acetone	10	U	20.0	13.7		ug/L		68	19 - 133
Benzene	1.0	U	10.0	8.88		ug/L		89	69 - 127
Bromodichloromethane	1.0	U	10.0	8.17		ug/L		82	75 - 128
Bromoform	1.0	U	10.0	7.81		ug/L		78	61 - 135
Bromomethane	1.0	U	10.0	6.58		ug/L		66	10 - 148
2-Butanone (MEK)	10	U	20.0	19.1		ug/L		95	34 - 153
Carbon disulfide	5.0	U	10.0	8.75		ug/L		87	46 - 143
Carbon tetrachloride	1.0	U	10.0	8.53		ug/L		85	53 - 175
Chlorobenzene	1.0	U	10.0	8.65		ug/L		86	76 - 120
Chloroethane	1.0	U	10.0	4.93		ug/L		49	10 - 141
Chloroform	1.0	U	10.0	8.54		ug/L		85	74 - 125
Chloromethane	1.0	U	10.0	8.47		ug/L		85	34 - 127
cis-1,2-Dichloroethene	0.91	J	10.0	9.35		ug/L		84	69 - 127
cis-1,3-Dichloropropene	1.0	U	10.0	9.51		ug/L		95	68 - 120
Cyclohexane	1.0	U	10.0	10.3		ug/L		103	56 - 135
Dibromochloromethane	1.0	U	10.0	7.76		ug/L		78	62 - 131
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	6.96		ug/L		70	48 - 130
1,2-Dibromoethane	1.0	U	10.0	8.88		ug/L		89	73 - 121
1,2-Dichlorobenzene	1.0	U	10.0	7.87		ug/L		79	70 - 120
1,3-Dichlorobenzene	1.0	U	10.0	8.03		ug/L		80	71 - 120
1,4-Dichlorobenzene	1.0	U	10.0	7.93		ug/L		79	72 - 120
Dichlorodifluoromethane	1.0	U	10.0	11.0		ug/L		110	45 - 130
1,1-Dichloroethane	12		10.0	21.0		ug/L		91	69 - 122
1,2-Dichloroethane	1.0	U	10.0	9.10		ug/L		91	64 - 138
1,1-Dichloroethene	1.6		10.0	11.0		ug/L		94	62 - 127
1,2-Dichloropropane	1.0	U	10.0	9.65		ug/L		97	72 - 131
Diethyl ether	2.0	U	10.0	9.60		ug/L		96	65 - 124
Ethylbenzene	1.0	U	10.0	8.38		ug/L		84	72 - 121
2-Hexanone	10	U	20.0	22.3		ug/L		112	21 - 184
Isopropylbenzene	1.0	U	10.0	7.80		ug/L		78	70 - 132
Methyl acetate	10	U	20.0	17.1		ug/L		85	52 - 139
Methylcyclohexane	1.0	U	10.0	9.18		ug/L		92	46 - 139
Methylene Chloride	5.0	U	10.0	8.48		ug/L		85	52 - 137
4-Methyl-2-pentanone (MIBK)	10	U	20.0	21.1		ug/L		106	53 - 147
Methyl tert-butyl ether	1.0	U	10.0	8.48		ug/L		85	67 - 125
Styrene	1.0	U	10.0	8.02		ug/L		80	74 - 125
1,1,2,2-Tetrachloroethane	1.0	U	10.0	8.84		ug/L		88	51 - 123
Tetrachloroethene	1.0	U	10.0	8.59		ug/L		86	69 - 126
Toluene	1.0	U	10.0	8.39		ug/L		84	69 - 125
trans-1,2-Dichloroethene	1.0	U	10.0	9.01		ug/L		90	66 - 131
trans-1,3-Dichloropropene	1.0	U	10.0	7.99		ug/L		80	59 - 120
1,2,4-Trichlorobenzene	1.0	U	10.0	6.03		ug/L		60	26 - 138
1,1,1-Trichloroethane	26		10.0	34.1		ug/L		82	57 - 156
1,1,2-Trichloroethane	1.0	U	10.0	8.90		ug/L		89	68 - 127
Trichloroethene	0.59	J	10.0	9.46		ug/L		89	68 - 129
Trichlorofluoromethane	1.0	U	10.0	9.36		ug/L		94	28 - 172
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	11.2		ug/L		112	58 - 137

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: 240-87805-1 MS

Matrix: Water

Analysis Batch: 303825

Client Sample ID: MW-28_11082017

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trimethylbenzene	1.0	U	10.0	7.90		ug/L		79	64 - 120
1,3,5-Trimethylbenzene	1.0	U	10.0	8.02		ug/L		80	67 - 120
Vinyl chloride	1.0	U	10.0	11.2		ug/L		112	55 - 123
Xylenes, Total	2.0	U	20.0	16.0		ug/L		80	71 - 122
1,4-Dioxane	50	U F2	200	57.8		ug/L		29	13 - 155

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		69 - 120
Dibromofluoromethane (Surr)	96		69 - 124
1,2-Dichloroethane-d4 (Surr)	102		61 - 138
Toluene-d8 (Surr)	94		73 - 120

Lab Sample ID: 240-87805-1 MSD

Matrix: Water

Analysis Batch: 303825

Client Sample ID: MW-28_11082017

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	10	U	20.0	12.4		ug/L		62	19 - 133	10	35
Benzene	1.0	U	10.0	8.76		ug/L		88	69 - 127	1	10
Bromodichloromethane	1.0	U	10.0	7.94		ug/L		79	75 - 128	3	13
Bromoform	1.0	U	10.0	7.99		ug/L		80	61 - 135	2	13
Bromomethane	1.0	U	10.0	6.25		ug/L		62	10 - 148	5	35
2-Butanone (MEK)	10	U	20.0	18.8		ug/L		94	34 - 153	2	23
Carbon disulfide	5.0	U	10.0	8.02		ug/L		80	46 - 143	9	18
Carbon tetrachloride	1.0	U	10.0	8.09		ug/L		81	53 - 175	5	17
Chlorobenzene	1.0	U	10.0	8.74		ug/L		87	76 - 120	1	12
Chloroethane	1.0	U	10.0	4.22		ug/L		42	10 - 141	16	35
Chloroform	1.0	U	10.0	8.09		ug/L		81	74 - 125	5	11
Chloromethane	1.0	U	10.0	8.14		ug/L		81	34 - 127	4	25
cis-1,2-Dichloroethene	0.91	J	10.0	9.03		ug/L		81	69 - 127	4	11
cis-1,3-Dichloropropene	1.0	U	10.0	9.28		ug/L		93	68 - 120	2	13
Cyclohexane	1.0	U	10.0	9.75		ug/L		98	56 - 135	6	35
Dibromochloromethane	1.0	U	10.0	8.00		ug/L		80	62 - 131	3	15
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	7.54		ug/L		75	48 - 130	8	31
1,2-Dibromoethane	1.0	U	10.0	9.04		ug/L		90	73 - 121	2	12
1,2-Dichlorobenzene	1.0	U	10.0	7.67		ug/L		77	70 - 120	3	19
1,3-Dichlorobenzene	1.0	U	10.0	7.99		ug/L		80	71 - 120	1	18
1,4-Dichlorobenzene	1.0	U	10.0	7.92		ug/L		79	72 - 120	0	17
Dichlorodifluoromethane	1.0	U	10.0	11.2		ug/L		112	45 - 130	2	34
1,1-Dichloroethane	12		10.0	20.0		ug/L		82	69 - 122	5	11
1,2-Dichloroethane	1.0	U	10.0	8.83		ug/L		88	64 - 138	3	11
1,1-Dichloroethene	1.6		10.0	10.3		ug/L		87	62 - 127	6	14
1,2-Dichloropropane	1.0	U	10.0	9.42		ug/L		94	72 - 131	2	12
Diethyl ether	2.0	U	10.0	9.04		ug/L		90	65 - 124	6	11
Ethylbenzene	1.0	U	10.0	8.14		ug/L		81	72 - 121	3	15
2-Hexanone	10	U	20.0	22.4		ug/L		112	21 - 184	0	12
Isopropylbenzene	1.0	U	10.0	7.71		ug/L		77	70 - 132	1	16
Methyl acetate	10	U	20.0	16.3		ug/L		82	52 - 139	4	14

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: 240-87805-1 MSD
Matrix: Water
Analysis Batch: 303825

Client Sample ID: MW-28_11082017
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylcyclohexane	1.0	U	10.0	8.68		ug/L		87	46 - 139	6	35
Methylene Chloride	5.0	U	10.0	8.04		ug/L		80	52 - 137	5	12
4-Methyl-2-pentanone (MIBK)	10	U	20.0	19.6		ug/L		98	53 - 147	7	16
Methyl tert-butyl ether	1.0	U	10.0	8.01		ug/L		80	67 - 125	6	12
Styrene	1.0	U	10.0	8.29		ug/L		83	74 - 125	3	14
1,1,2,2-Tetrachloroethane	1.0	U	10.0	9.16		ug/L		92	51 - 123	4	17
Tetrachloroethene	1.0	U	10.0	8.74		ug/L		87	69 - 126	2	18
Toluene	1.0	U	10.0	8.68		ug/L		87	69 - 125	3	14
trans-1,2-Dichloroethene	1.0	U	10.0	8.11		ug/L		81	66 - 131	11	11
trans-1,3-Dichloropropene	1.0	U	10.0	8.18		ug/L		82	59 - 120	2	14
1,2,4-Trichlorobenzene	1.0	U	10.0	6.50		ug/L		65	26 - 138	8	35
1,1,1-Trichloroethane	26		10.0	32.3		ug/L		64	57 - 156	5	13
1,1,2-Trichloroethane	1.0	U	10.0	9.00		ug/L		90	68 - 127	1	11
Trichloroethene	0.59	J	10.0	8.92		ug/L		83	68 - 129	6	12
Trichlorofluoromethane	1.0	U	10.0	8.11		ug/L		81	28 - 172	14	26
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	10.3		ug/L		103	58 - 137	8	35
1,2,4-Trimethylbenzene	1.0	U	10.0	7.55		ug/L		76	64 - 120	4	22
1,3,5-Trimethylbenzene	1.0	U	10.0	7.76		ug/L		78	67 - 120	3	25
Vinyl chloride	1.0	U	10.0	11.1		ug/L		111	55 - 123	0	12
Xylenes, Total	2.0	U	20.0	15.8		ug/L		79	71 - 122	1	14
1,4-Dioxane	50	U F2	200	115	F2	ug/L		57	13 - 155	66	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		69 - 120
Dibromofluoromethane (Surr)	96		69 - 124
1,2-Dichloroethane-d4 (Surr)	94		61 - 138
Toluene-d8 (Surr)	100		73 - 120

Lab Sample ID: MB 240-304180/7
Matrix: Water
Analysis Batch: 304180

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			11/18/17 19:03	1
Benzene	1.0	U	1.0	0.28	ug/L			11/18/17 19:03	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/18/17 19:03	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/18/17 19:03	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/18/17 19:03	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/18/17 19:03	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/18/17 19:03	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/18/17 19:03	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 19:03	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/18/17 19:03	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/18/17 19:03	1
Chloromethane	1.0	U	1.0	0.43	ug/L			11/18/17 19:03	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/18/17 19:03	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/18/17 19:03	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: MB 240-304180/7
Matrix: Water
Analysis Batch: 304180

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/18/17 19:03	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/18/17 19:03	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/18/17 19:03	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/18/17 19:03	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/18/17 19:03	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/18/17 19:03	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/18/17 19:03	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 19:03	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/18/17 19:03	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/18/17 19:03	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/18/17 19:03	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/18/17 19:03	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/18/17 19:03	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/18/17 19:03	1
2-Hexanone	10	U	10	1.2	ug/L			11/18/17 19:03	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/18/17 19:03	1
Methyl acetate	10	U	10	1.4	ug/L			11/18/17 19:03	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/18/17 19:03	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/18/17 19:03	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/18/17 19:03	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/18/17 19:03	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/18/17 19:03	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/18/17 19:03	1
Styrene	1.0	U	1.0	0.23	ug/L			11/18/17 19:03	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/18/17 19:03	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/18/17 19:03	1
Toluene	1.0	U	1.0	0.23	ug/L			11/18/17 19:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/18/17 19:03	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/18/17 19:03	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/18/17 19:03	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/18/17 19:03	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/18/17 19:03	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/18/17 19:03	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/18/17 19:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/18/17 19:03	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/18/17 19:03	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 19:03	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/18/17 19:03	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/18/17 19:03	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/18/17 19:03	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	94		69 - 120		11/18/17 19:03	1
Dibromofluoromethane (Surr)	87		69 - 124		11/18/17 19:03	1
1,2-Dichloroethane-d4 (Surr)	92		61 - 138		11/18/17 19:03	1
Toluene-d8 (Surr)	94		73 - 120		11/18/17 19:03	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: LCS 240-304180/5

Matrix: Water

Analysis Batch: 304180

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	13.8		ug/L		69	35 - 131
Benzene	10.0	9.82		ug/L		98	79 - 120
Bromodichloromethane	10.0	9.17		ug/L		92	79 - 125
Bromoform	10.0	9.23		ug/L		92	55 - 145
Bromomethane	10.0	3.83		ug/L		38	17 - 158
2-Butanone (MEK)	20.0	21.1		ug/L		106	43 - 149
Carbon disulfide	10.0	8.09		ug/L		81	49 - 141
Carbon tetrachloride	10.0	8.25		ug/L		83	55 - 171
Chlorobenzene	10.0	9.52		ug/L		95	80 - 120
Chloroethane	10.0	2.55		ug/L		26	10 - 149
Chloroform	10.0	8.95		ug/L		90	80 - 120
Chloromethane	10.0	5.06	*	ug/L		51	59 - 124
cis-1,2-Dichloroethene	10.0	8.76		ug/L		88	77 - 120
cis-1,3-Dichloropropene	10.0	10.9		ug/L		109	75 - 120
Cyclohexane	10.0	9.95		ug/L		99	66 - 135
Dibromochloromethane	10.0	9.05		ug/L		91	64 - 129
1,2-Dibromo-3-Chloropropane	10.0	8.32		ug/L		83	50 - 130
1,2-Dibromoethane	10.0	9.90		ug/L		99	80 - 120
1,2-Dichlorobenzene	10.0	9.04		ug/L		90	80 - 120
1,3-Dichlorobenzene	10.0	9.27		ug/L		93	80 - 120
1,4-Dichlorobenzene	10.0	9.35		ug/L		93	80 - 120
Dichlorodifluoromethane	10.0	8.81		ug/L		88	42 - 141
1,1-Dichloroethane	10.0	9.65		ug/L		96	74 - 120
1,2-Dichloroethane	10.0	9.54		ug/L		95	68 - 133
1,1-Dichloroethene	10.0	9.37		ug/L		94	65 - 127
1,2-Dichloropropane	10.0	10.6		ug/L		106	78 - 127
Diethyl ether	10.0	10.3		ug/L		103	72 - 125
Ethylbenzene	10.0	9.31		ug/L		93	80 - 120
2-Hexanone	20.0	22.3		ug/L		111	28 - 169
Isopropylbenzene	10.0	8.60		ug/L		86	80 - 128
Methyl acetate	20.0	17.4		ug/L		87	63 - 137
Methylcyclohexane	10.0	8.69		ug/L		87	63 - 141
Methylene Chloride	10.0	9.06		ug/L		91	64 - 140
4-Methyl-2-pentanone (MIBK)	20.0	20.4		ug/L		102	53 - 144
Methyl tert-butyl ether	10.0	8.93		ug/L		89	73 - 120
Styrene	10.0	9.19		ug/L		92	80 - 121
1,1,2,2-Tetrachloroethane	10.0	9.69		ug/L		97	58 - 122
Tetrachloroethene	10.0	9.12		ug/L		91	80 - 122
Toluene	10.0	9.37		ug/L		94	78 - 120
trans-1,2-Dichloroethene	10.0	9.16		ug/L		92	74 - 124
trans-1,3-Dichloropropene	10.0	9.24		ug/L		92	67 - 120
1,2,4-Trichlorobenzene	10.0	7.38		ug/L		74	34 - 141
1,1,1-Trichloroethane	10.0	8.32		ug/L		83	64 - 147
1,1,2-Trichloroethane	10.0	9.81		ug/L		98	76 - 121
Trichloroethene	10.0	9.55		ug/L		95	76 - 124
Trichlorofluoromethane	10.0	6.61		ug/L		66	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.77		ug/L		98	65 - 144

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: LCS 240-304180/5
Matrix: Water
Analysis Batch: 304180

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trimethylbenzene	10.0	9.20		ug/L		92	80 - 120
1,3,5-Trimethylbenzene	10.0	9.33		ug/L		93	79 - 120
Vinyl chloride	10.0	9.68		ug/L		97	65 - 124
Xylenes, Total	20.0	17.9		ug/L		89	80 - 120
1,4-Dioxane	200	67.3	*	ug/L		34	35 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		69 - 120
Dibromofluoromethane (Surr)	92		69 - 124
1,2-Dichloroethane-d4 (Surr)	98		61 - 138
Toluene-d8 (Surr)	94		73 - 120

Lab Sample ID: 240-87851-D-29 MS
Matrix: Water
Analysis Batch: 304180

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
Bromodichloromethane	1.0	U	10.0	9.21		ug/L		92	75 - 128
Carbon disulfide	5.0	U	10.0	11.0		ug/L		110	46 - 143
Chloroform	1.0	U	10.0	9.60		ug/L		96	74 - 125
cis-1,2-Dichloroethene	7.0	F2	10.0	16.7		ug/L		97	69 - 127
1,1-Dichloroethane	0.76	J	10.0	11.2		ug/L		104	69 - 122
1,1-Dichloroethene	1.0	U	10.0	9.22		ug/L		92	62 - 127
Tetrachloroethene	1.0	U	10.0	8.68		ug/L		87	69 - 126
trans-1,2-Dichloroethene	1.0	U	10.0	9.74		ug/L		97	66 - 131
1,1,1-Trichloroethane	1.0	U F2	10.0	9.35		ug/L		94	57 - 156
1,1,2-Trichloroethane	1.0	U	10.0	10.0		ug/L		100	68 - 127
Trichloroethene	1.0	U	10.0	9.78		ug/L		98	68 - 129
Vinyl chloride	1.0	U F2	10.0	11.2		ug/L		112	55 - 123

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		69 - 120
Dibromofluoromethane (Surr)	96		69 - 124
1,2-Dichloroethane-d4 (Surr)	100		61 - 138
Toluene-d8 (Surr)	93		73 - 120

Lab Sample ID: 240-87851-E-29 MSD
Matrix: Water
Analysis Batch: 304180

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	Limit
Bromodichloromethane	1.0	U	10.0	8.79		ug/L		88	75 - 128	5	13
Carbon disulfide	5.0	U	10.0	10.9		ug/L		109	46 - 143	1	18
Chloroform	1.0	U	10.0	8.61		ug/L		86	74 - 125	11	11
cis-1,2-Dichloroethene	7.0	F2	10.0	14.6	F2	ug/L		75	69 - 127	14	11
1,1-Dichloroethane	0.76	J	10.0	10.2		ug/L		95	69 - 122	9	11
1,1-Dichloroethene	1.0	U	10.0	8.27		ug/L		83	62 - 127	11	14
Tetrachloroethene	1.0	U	10.0	8.40		ug/L		84	69 - 126	3	18

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: 240-87851-E-29 MSD
Matrix: Water
Analysis Batch: 304180

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
trans-1,2-Dichloroethene	1.0	U	10.0	8.86		ug/L		89	66 - 131	9	11
1,1,1-Trichloroethane	1.0	U F2	10.0	7.73	F2	ug/L		77	57 - 156	19	13
1,1,2-Trichloroethane	1.0	U	10.0	10.1		ug/L		101	68 - 127	0	11
Trichloroethene	1.0	U	10.0	9.02		ug/L		90	68 - 129	8	12
Vinyl chloride	1.0	U F2	10.0	7.79	F2	ug/L		78	55 - 123	36	12
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	94		69 - 120								
Dibromofluoromethane (Surr)	89		69 - 124								
1,2-Dichloroethane-d4 (Surr)	99		61 - 138								
Toluene-d8 (Surr)	96		73 - 120								

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

Lab Sample ID: MB 240-303611/5
Matrix: Water
Analysis Batch: 303611

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			11/15/17 14:13	1			
MB MB												
Surrogate	%Recovery	Qualifier	Limits							Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		63 - 125							11/15/17 14:13	1	

Lab Sample ID: LCS 240-303611/4
Matrix: Water
Analysis Batch: 303611

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	9.45		ug/L		94	59 - 131
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	84		63 - 125				

Lab Sample ID: 240-87717-O-1 MS
Matrix: Water
Analysis Batch: 303611

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	0.97	J	10.0	10.3		ug/L		93	52 - 129
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	84		63 - 125						

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: 240-87717-O-1 MSD

Matrix: Water
Analysis Batch: 303611

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	0.97	J	10.0	10.9		ug/L		100	52 - 129	6	13
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	80		63 - 125								

Lab Sample ID: 240-87805-1 MS

Matrix: Water
Analysis Batch: 303611

Client Sample ID: MW-28_11082017
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	9.78		ug/L		98	52 - 129		
Surrogate	%Recovery	MS Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	83		63 - 125								

Lab Sample ID: 240-87805-1 MSD

Matrix: Water
Analysis Batch: 303611

Client Sample ID: MW-28_11082017
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	10.3		ug/L		103	52 - 129	5	13
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	87		63 - 125								

Lab Sample ID: MB 240-303900/5

Matrix: Water
Analysis Batch: 303900

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			11/16/17 16:35	1	
Surrogate	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac				
1,2-Dichloroethane-d4 (Surr)	79		63 - 125		11/16/17 16:35	1				

Lab Sample ID: LCS 240-303900/4

Matrix: Water
Analysis Batch: 303900

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	10.0	9.81		ug/L		98	59 - 131		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	79		63 - 125						

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

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

Lab Sample ID: 240-87805-14 MS
Matrix: Water
Analysis Batch: 303900

Client Sample ID: MW43_110917
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	3.5		10.0	12.5		ug/L		90	52 - 129
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	81		63 - 125						

Lab Sample ID: 240-87805-14 MSD
Matrix: Water
Analysis Batch: 303900

Client Sample ID: MW43_110917
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	3.5		10.0	14.1		ug/L		105	52 - 129	11	13
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	83		63 - 125								

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 240-304058/4
Matrix: Water
Analysis Batch: 304058

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	1.0	U	1.0	0.17	ug/L			11/17/17 14:45	1
Ethane	1.0	U	1.0	0.10	ug/L			11/17/17 14:45	1
Ethene	1.0	U	1.0	0.11	ug/L			11/17/17 14:45	1
MB MB									
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,1,1-Trifluoroethane	89		60 - 140		11/17/17 14:45	1			

Lab Sample ID: LCS 240-304058/5
Matrix: Water
Analysis Batch: 304058

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	285	275		ug/L		96	80 - 120
Ethane	536	583		ug/L		109	80 - 120
Ethene	501	536		ug/L		107	80 - 120
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
1,1,1-Trifluoroethane	85		60 - 140				

Lab Sample ID: LCSD 240-304058/6
Matrix: Water
Analysis Batch: 304058

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	285	279		ug/L		98	80 - 120	1	35

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCSD 240-304058/6
Matrix: Water
Analysis Batch: 304058

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit	
Ethane	536	593		ug/L		110	80 - 120	2	35	
Ethene	501	544		ug/L		109	80 - 120	2	35	
		LCSD	LCSD							
Surrogate	%Recovery	Qualifier	Limits							
1,1,1-Trifluoroethane	86		60 - 140							

Lab Sample ID: 180-72271-F-7 MSD
Matrix: Water
Analysis Batch: 304058

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
Methane	46		285	337		ug/L		102	50 - 150	3	30
Ethane	0.43	J	536	579		ug/L		108	50 - 150	2	30
Ethene	3.7		501	538		ug/L		107	50 - 150	1	30
		MSD	MSD								
Surrogate	%Recovery	Qualifier	Limits								
1,1,1-Trifluoroethane	84		60 - 140								

Lab Sample ID: 180-72271-G-7 MS
Matrix: Water
Analysis Batch: 304058

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	RPD	RPD Limit
Methane	46		285	346		ug/L		105	50 - 150		
Ethane	0.43	J	536	588		ug/L		110	50 - 150		
Ethene	3.7		501	546		ug/L		108	50 - 150		
		MS	MS								
Surrogate	%Recovery	Qualifier	Limits								
1,1,1-Trifluoroethane	85		60 - 140								

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-303242/1-A
Matrix: Water
Analysis Batch: 303525

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 303242

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	100	U	100	47	ug/L		11/13/17 14:00	11/14/17 20:46	1
Manganese	5.0	U	5.0	2.1	ug/L		11/13/17 14:00	11/14/17 20:46	1

Lab Sample ID: LCS 240-303242/2-A
Matrix: Water
Analysis Batch: 303525

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 303242

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	10000	10100		ug/L		101	80 - 120		
Manganese	1000	1040		ug/L		104	80 - 120		

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 240-87805-14 MS

Matrix: Water
Analysis Batch: 303525

Client Sample ID: MW43_110917

Prep Type: Total Recoverable
Prep Batch: 303242

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec. Limits	
				Result	Qualifier				MS Result	MS Qualifier
Iron	3900		10000	13500		ug/L		96	75 - 125	
Manganese	200		1000	1180		ug/L		98	75 - 125	

Lab Sample ID: 240-87805-14 MSD

Matrix: Water
Analysis Batch: 303525

Client Sample ID: MW43_110917

Prep Type: Total Recoverable
Prep Batch: 303242

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec. Limits		RPD	Limit
				Result	Qualifier				MSD Result	MSD Qualifier		
Iron	3900		10000	13600		ug/L		96	75 - 125	0	20	
Manganese	200		1000	1170		ug/L		97	75 - 125	1	20	

Method: 5310 C-2000 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 240-303877/4

Matrix: Water
Analysis Batch: 303877

Client Sample ID: Method Blank

Prep Type: Dissolved

Analyte	MB		RL	MDL		Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier		MDL	MDL					
Dissolved Organic Carbon	1.0	U	1.0	0.14	0.14	mg/L			11/16/17 08:43	1
DOC Result 1	1.0	U	1.0	0.14	0.14	mg/L			11/16/17 08:43	1
DOC Result 2	1.0	U	1.0	0.14	0.14	mg/L			11/16/17 08:43	1

Lab Sample ID: LCS 240-303877/6

Matrix: Water
Analysis Batch: 303877

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec. Limits	
		Result	Qualifier				Limits	Limits
Dissolved Organic Carbon	21.8	21.9		mg/L		100	80 - 120	
DOC Result 1	21.8	21.9		mg/L		101	80 - 120	
DOC Result 2	21.8	21.8		mg/L		100	80 - 120	

Lab Sample ID: LLCS 240-303877/5

Matrix: Water
Analysis Batch: 303877

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LLCS		Unit	D	%Rec	%Rec. Limits	
		Result	Qualifier				Limits	Limits
Dissolved Organic Carbon	2.18	2.30		mg/L		106	88 - 115	
DOC Result 1	2.18	2.31		mg/L		106	88 - 115	
DOC Result 2	2.18	2.29		mg/L		105	88 - 115	

Lab Sample ID: 240-87717-M-2 MS

Matrix: Water
Analysis Batch: 303877

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec. Limits	
				Result	Qualifier				Limits	Limits
Dissolved Organic Carbon	4.8		25.0	33.0		mg/L		113	65 - 134	
DOC Result 1	4.8		25.0	32.8		mg/L		112	65 - 134	
DOC Result 2	4.8		25.0	33.2		mg/L		114	65 - 134	

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

Method: 5310 C-2000 - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 240-87717-M-2 MSD
Matrix: Water
Analysis Batch: 303877

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	4.8		25.0	33.2		mg/L		114	65 - 134	1	10
DOC Result 1	4.8		25.0	33.3		mg/L		114	65 - 134	2	10
DOC Result 2	4.8		25.0	33.0		mg/L		113	65 - 134	0	10

Method: 5310C-2000 - Total Organic Carbon/Persulfate - Ultrav

Lab Sample ID: MB 240-303314/4
Matrix: Water
Analysis Batch: 303314

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.14	mg/L			11/13/17 13:31	1

Lab Sample ID: LCS 240-303314/6
Matrix: Water
Analysis Batch: 303314

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	21.8	21.6		mg/L		99	80 - 120

Lab Sample ID: LLCS 240-303314/5
Matrix: Water
Analysis Batch: 303314

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	2.18	2.27		mg/L		104	88 - 115

Lab Sample ID: 240-87847-E-4 MS
Matrix: Water
Analysis Batch: 303314

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
Total Organic Carbon	0.65	J	25.0	26.0		mg/L		101	65 - 134

Lab Sample ID: 240-87847-E-4 MSD
Matrix: Water
Analysis Batch: 303314

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
Total Organic Carbon	0.65	J	25.0	26.0		mg/L		101	65 - 134	0	10

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 240-303009/11
Matrix: Water
Analysis Batch: 303009

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.0	U	1.0	0.35	mg/L			11/10/17 14:47	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87805-1

Lab Sample ID: LCS 240-303009/12
Matrix: Water
Analysis Batch: 303009

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50.0	52.0		mg/L		104	90 - 110

Lab Sample ID: 240-87795-K-1 MS
Matrix: Water
Analysis Batch: 303009

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
Sulfate	40		50.0	92.5		mg/L		105	80 - 120

Lab Sample ID: 240-87795-K-1 MSD
Matrix: Water
Analysis Batch: 303009

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
Sulfate	40		50.0	92.8		mg/L		105	80 - 120	0	15

Lab Sample ID: MB 240-303010/11
Matrix: Water
Analysis Batch: 303010

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.10	U	0.10	0.014	mg/L			11/10/17 14:47	1

Lab Sample ID: LCS 240-303010/12
Matrix: Water
Analysis Batch: 303010

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	2.50	2.52		mg/L		101	90 - 110

Lab Sample ID: 240-87795-K-1 MS
Matrix: Water
Analysis Batch: 303010

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
Nitrate as N	0.18		2.50	2.80		mg/L		105	80 - 120

Lab Sample ID: 240-87795-K-1 MSD
Matrix: Water
Analysis Batch: 303010

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
Nitrate as N	0.18		2.50	2.82		mg/L		105	80 - 120	1	15

TestAmerica Canton

QC Association Summary

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

TestAmerica Job ID: 240-87805-1

GC/MS VOA

Analysis Batch: 303598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-87805-3	TRIPBLANK	Total/NA	Water	8260B	
MB 240-303598/6	Method Blank	Total/NA	Water	8260B	
LCS 240-303598/4	Lab Control Sample	Total/NA	Water	8260B	
240-87717-H-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-87717-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 303611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-87805-1	MW-28_11082017	Total/NA	Water	8260B SIM	
240-87805-2	TW-16-03_11082017	Total/NA	Water	8260B SIM	
240-87805-3	TRIPBLANK	Total/NA	Water	8260B SIM	
240-87805-4	PW-16-02_11082017	Total/NA	Water	8260B SIM	
240-87805-5	TW-16-04_110817	Total/NA	Water	8260B SIM	
240-87805-6	MW-54_110817	Total/NA	Water	8260B SIM	
240-87805-7	MW-53_110817	Total/NA	Water	8260B SIM	
240-87805-8	MW-55_110817	Total/NA	Water	8260B SIM	
MB 240-303611/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-303611/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-87717-O-1 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-87717-O-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	
240-87805-1 MS	MW-28_11082017	Total/NA	Water	8260B SIM	
240-87805-1 MSD	MW-28_11082017	Total/NA	Water	8260B SIM	

Analysis Batch: 303825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-87805-1	MW-28_11082017	Total/NA	Water	8260B	
MB 240-303825/7	Method Blank	Total/NA	Water	8260B	
LCS 240-303825/5	Lab Control Sample	Total/NA	Water	8260B	
240-87805-1 MS	MW-28_11082017	Total/NA	Water	8260B	
240-87805-1 MSD	MW-28_11082017	Total/NA	Water	8260B	

Analysis Batch: 303900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-87805-9	MW-56_110817	Total/NA	Water	8260B SIM	
240-87805-10	MW-38_110817	Total/NA	Water	8260B SIM	
240-87805-11	MW-33_110817	Total/NA	Water	8260B SIM	
240-87805-12	DUP02_110817	Total/NA	Water	8260B SIM	
240-87805-14	MW43_110917	Total/NA	Water	8260B SIM	
240-87805-15	MW30_110917	Total/NA	Water	8260B SIM	
MB 240-303900/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-303900/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-87805-14 MS	MW43_110917	Total/NA	Water	8260B SIM	
240-87805-14 MSD	MW43_110917	Total/NA	Water	8260B SIM	

Analysis Batch: 304180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-87805-2	TW-16-03_11082017	Total/NA	Water	8260B	
240-87805-4	PW-16-02_11082017	Total/NA	Water	8260B	
240-87805-5	TW-16-04_110817	Total/NA	Water	8260B	
240-87805-6	MW-54_110817	Total/NA	Water	8260B	
240-87805-7	MW-53_110817	Total/NA	Water	8260B	

TestAmerica Canton

QC Association Summary

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

TestAmerica Job ID: 240-87805-1

GC/MS VOA (Continued)

Analysis Batch: 304180 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-87805-8	MW-55_110817	Total/NA	Water	8260B	
240-87805-9	MW-56_110817	Total/NA	Water	8260B	
240-87805-10	MW-38_110817	Total/NA	Water	8260B	
240-87805-11	MW-33_110817	Total/NA	Water	8260B	
240-87805-12	DUP02_110817	Total/NA	Water	8260B	
240-87805-13	TRIPBLANK	Total/NA	Water	8260B	
240-87805-14	MW43_110917	Total/NA	Water	8260B	
240-87805-15	MW30_110917	Total/NA	Water	8260B	
MB 240-304180/7	Method Blank	Total/NA	Water	8260B	
LCS 240-304180/5	Lab Control Sample	Total/NA	Water	8260B	
240-87851-D-29 MS	Matrix Spike	Total/NA	Water	8260B	
240-87851-E-29 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 304058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-87805-14	MW43_110917	Total/NA	Water	RSK-175	
240-87805-15	MW30_110917	Total/NA	Water	RSK-175	
MB 240-304058/4	Method Blank	Total/NA	Water	RSK-175	
LCS 240-304058/5	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 240-304058/6	Lab Control Sample Dup	Total/NA	Water	RSK-175	
180-72271-F-7 MSD	Matrix Spike Duplicate	Total/NA	Water	RSK-175	
180-72271-G-7 MS	Matrix Spike	Total/NA	Water	RSK-175	

Metals

Prep Batch: 303242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-87805-14	MW43_110917	Dissolved	Water	3005A	
240-87805-14	MW43_110917	Total Recoverable	Water	3005A	
240-87805-15	MW30_110917	Dissolved	Water	3005A	
240-87805-15	MW30_110917	Total Recoverable	Water	3005A	
MB 240-303242/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-303242/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-87805-14 MS	MW43_110917	Total Recoverable	Water	3005A	
240-87805-14 MSD	MW43_110917	Total Recoverable	Water	3005A	

Analysis Batch: 303525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-87805-14	MW43_110917	Dissolved	Water	6020	303242
240-87805-14	MW43_110917	Total Recoverable	Water	6020	303242
240-87805-15	MW30_110917	Dissolved	Water	6020	303242
240-87805-15	MW30_110917	Total Recoverable	Water	6020	303242
MB 240-303242/1-A	Method Blank	Total Recoverable	Water	6020	303242
LCS 240-303242/2-A	Lab Control Sample	Total Recoverable	Water	6020	303242
240-87805-14 MS	MW43_110917	Total Recoverable	Water	6020	303242
240-87805-14 MSD	MW43_110917	Total Recoverable	Water	6020	303242

TestAmerica Canton

QC Association Summary

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

TestAmerica Job ID: 240-87805-1

General Chemistry

Analysis Batch: 303009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-87805-14	MW43_110917	Total/NA	Water	9056A	
240-87805-15	MW30_110917	Total/NA	Water	9056A	
MB 240-303009/11	Method Blank	Total/NA	Water	9056A	
LCS 240-303009/12	Lab Control Sample	Total/NA	Water	9056A	
240-87795-K-1 MS	Matrix Spike	Total/NA	Water	9056A	
240-87795-K-1 MSD	Matrix Spike Duplicate	Total/NA	Water	9056A	

Analysis Batch: 303010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-87805-14	MW43_110917	Total/NA	Water	9056A	
240-87805-15	MW30_110917	Total/NA	Water	9056A	
MB 240-303010/11	Method Blank	Total/NA	Water	9056A	
LCS 240-303010/12	Lab Control Sample	Total/NA	Water	9056A	
240-87795-K-1 MS	Matrix Spike	Total/NA	Water	9056A	
240-87795-K-1 MSD	Matrix Spike Duplicate	Total/NA	Water	9056A	

Analysis Batch: 303314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-87805-14	MW43_110917	Total/NA	Water	5310C-2000	
240-87805-15	MW30_110917	Total/NA	Water	5310C-2000	
MB 240-303314/4	Method Blank	Total/NA	Water	5310C-2000	
LCS 240-303314/6	Lab Control Sample	Total/NA	Water	5310C-2000	
LLCS 240-303314/5	Lab Control Sample	Total/NA	Water	5310C-2000	
240-87847-E-4 MS	Matrix Spike	Total/NA	Water	5310C-2000	
240-87847-E-4 MSD	Matrix Spike Duplicate	Total/NA	Water	5310C-2000	

Analysis Batch: 303877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-87805-14	MW43_110917	Dissolved	Water	5310 C-2000	
240-87805-15	MW30_110917	Dissolved	Water	5310 C-2000	
MB 240-303877/4	Method Blank	Dissolved	Water	5310 C-2000	
LCS 240-303877/6	Lab Control Sample	Dissolved	Water	5310 C-2000	
LLCS 240-303877/5	Lab Control Sample	Dissolved	Water	5310 C-2000	
240-87717-M-2 MS	Matrix Spike	Dissolved	Water	5310 C-2000	
240-87717-M-2 MSD	Matrix Spike Duplicate	Dissolved	Water	5310 C-2000	

Lab Chronicle

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-28_11082017

Date Collected: 11/08/17 11:22

Date Received: 11/10/17 08:00

Lab Sample ID: 240-87805-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	303825	11/16/17 23:57	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	303611	11/15/17 21:15	SAM	TAL CAN

Client Sample ID: TW-16-03_11082017

Date Collected: 11/08/17 13:37

Date Received: 11/10/17 08:00

Lab Sample ID: 240-87805-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		3.33	304180	11/18/17 20:53	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	303611	11/15/17 22:30	SAM	TAL CAN

Client Sample ID: TRIPBLANK

Date Collected: 11/08/17 00:00

Date Received: 11/10/17 08:00

Lab Sample ID: 240-87805-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	303598	11/15/17 16:51	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	303611	11/15/17 15:52	SAM	TAL CAN

Client Sample ID: PW-16-02_11082017

Date Collected: 11/08/17 14:37

Date Received: 11/10/17 08:00

Lab Sample ID: 240-87805-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	304180	11/18/17 21:15	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	303611	11/15/17 22:55	SAM	TAL CAN

Client Sample ID: TW-16-04_110817

Date Collected: 11/08/17 15:52

Date Received: 11/10/17 08:00

Lab Sample ID: 240-87805-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		6.67	304180	11/18/17 21:38	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	303611	11/15/17 23:20	SAM	TAL CAN

Client Sample ID: MW-54_110817

Date Collected: 11/08/17 09:05

Date Received: 11/10/17 08:00

Lab Sample ID: 240-87805-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	304180	11/18/17 21:59	LRW	TAL CAN

TestAmerica Canton

Lab Chronicle

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW-54_110817

Lab Sample ID: 240-87805-6

Date Collected: 11/08/17 09:05

Matrix: Water

Date Received: 11/10/17 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	303611	11/15/17 23:45	SAM	TAL CAN

Client Sample ID: MW-53_110817

Lab Sample ID: 240-87805-7

Date Collected: 11/08/17 10:10

Matrix: Water

Date Received: 11/10/17 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	304180	11/18/17 22:21	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	303611	11/16/17 00:09	SAM	TAL CAN

Client Sample ID: MW-55_110817

Lab Sample ID: 240-87805-8

Date Collected: 11/08/17 11:35

Matrix: Water

Date Received: 11/10/17 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	304180	11/18/17 22:43	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	303611	11/16/17 00:34	SAM	TAL CAN

Client Sample ID: MW-56_110817

Lab Sample ID: 240-87805-9

Date Collected: 11/08/17 13:40

Matrix: Water

Date Received: 11/10/17 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	304180	11/18/17 23:06	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	303900	11/16/17 17:24	SAM	TAL CAN

Client Sample ID: MW-38_110817

Lab Sample ID: 240-87805-10

Date Collected: 11/08/17 15:05

Matrix: Water

Date Received: 11/10/17 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	304180	11/18/17 23:28	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	303900	11/16/17 17:49	SAM	TAL CAN

Client Sample ID: MW-33_110817

Lab Sample ID: 240-87805-11

Date Collected: 11/08/17 16:40

Matrix: Water

Date Received: 11/10/17 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	304180	11/18/17 23:50	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	303900	11/16/17 18:13	SAM	TAL CAN

TestAmerica Canton

Lab Chronicle

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: DUP02_110817

Lab Sample ID: 240-87805-12

Date Collected: 11/08/17 00:00

Matrix: Water

Date Received: 11/10/17 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	304180	11/19/17 00:12	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	303900	11/16/17 18:38	SAM	TAL CAN

Client Sample ID: TRIPBLANK

Lab Sample ID: 240-87805-13

Date Collected: 11/08/17 00:00

Matrix: Water

Date Received: 11/10/17 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	304180	11/19/17 00:34	LRW	TAL CAN

Client Sample ID: MW43_110917

Lab Sample ID: 240-87805-14

Date Collected: 11/09/17 10:45

Matrix: Water

Date Received: 11/10/17 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	304180	11/19/17 00:56	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	303900	11/16/17 19:03	SAM	TAL CAN
Total/NA	Analysis	RSK-175		1	304058	11/17/17 18:10	BPM	TAL CAN
Dissolved	Prep	3005A			303242	11/13/17 14:00	AJC	TAL CAN
Dissolved	Analysis	6020		1	303525	11/14/17 21:26	AS1	TAL CAN
Total Recoverable	Prep	3005A			303242	11/13/17 14:00	AJC	TAL CAN
Total Recoverable	Analysis	6020		1	303525	11/14/17 20:55	AS1	TAL CAN
Dissolved	Analysis	5310 C-2000		1	303877	11/16/17 12:04	TPH	TAL CAN
Total/NA	Analysis	5310C-2000		1	303314	11/13/17 18:39	TPH	TAL CAN
Total/NA	Analysis	9056A		2	303009	11/10/17 18:09	JWW	TAL CAN
Total/NA	Analysis	9056A		2	303010	11/10/17 18:09	JWW	TAL CAN

Client Sample ID: MW30_110917

Lab Sample ID: 240-87805-15

Date Collected: 11/09/17 12:40

Matrix: Water

Date Received: 11/10/17 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	304180	11/19/17 01:18	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	303900	11/16/17 20:18	SAM	TAL CAN
Total/NA	Analysis	RSK-175		1	304058	11/17/17 18:27	BPM	TAL CAN
Dissolved	Prep	3005A			303242	11/13/17 14:00	AJC	TAL CAN
Dissolved	Analysis	6020		1	303525	11/14/17 21:35	AS1	TAL CAN
Total Recoverable	Prep	3005A			303242	11/13/17 14:00	AJC	TAL CAN
Total Recoverable	Analysis	6020		1	303525	11/14/17 21:31	AS1	TAL CAN
Dissolved	Analysis	5310 C-2000		1	303877	11/16/17 12:19	TPH	TAL CAN
Total/NA	Analysis	5310C-2000		1	303314	11/13/17 18:54	TPH	TAL CAN

TestAmerica Canton

Lab Chronicle

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

TestAmerica Job ID: 240-87805-1

Client Sample ID: MW30_110917

Lab Sample ID: 240-87805-15

Date Collected: 11/09/17 12:40

Matrix: Water

Date Received: 11/10/17 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	303009	11/10/17 18:49	JWW	TAL CAN
Total/NA	Analysis	9056A		1	303010	11/10/17 18:49	JWW	TAL CAN

Laboratory References:

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

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 240-87805-1

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

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

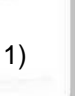
2.8/C28 2.0/C2.0
1.2/C1.2
1.6/C1.6

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

Client Information		Company: ARCADIS U.S., Inc.		Address: 28550 Cabot Drive Suite 500		City: Novi		State, Zip: MI, 48377		Phone: MIO01318.0002.00002	
Client Contact: Kristoffer Hinskey		Email: Kristoffer.hinskey@arcadis-us.com		Project Name: Ford LTP Livonia MI - E203631		Site: S50W#		Due Date Requested: TAT Requested (days): 10 day		Lab PM: Ashwaj Rashed / Divya Kanath	
Sampler: Ashwaj Rashed / Divya Kanath		Phone: Kristoffer Hinskey		E-Mail: demise.pohl@testamericainc.com		Lab PM: Ashwaj Rashed / Divya Kanath		Pohl, Denise		Denise.pohl@testamericainc.com	
Company: ARCADIS U.S., Inc.		Address: 28550 Cabot Drive Suite 500		City: Novi		State, Zip: MI, 48377		Phone: MIO01318.0002.00002		WO #: E203631 E203728	
Client Contact: Kristoffer Hinskey		Email: Kristoffer.hinskey@arcadis-us.com		Project Name: Ford LTP Livonia MI - E203631		Site: S50W#		Due Date Requested: TAT Requested (days): 10 day		Lab PM: Ashwaj Rashed / Divya Kanath	
Sampler: Ashwaj Rashed / Divya Kanath		Phone: Kristoffer Hinskey		E-Mail: demise.pohl@testamericainc.com		Lab PM: Ashwaj Rashed / Divya Kanath		Pohl, Denise		Denise.pohl@testamericainc.com	

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, G=washbottle, BT=tissue, A=air)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Total Number of Containers	Special Instructions/Note:
MW-28-11082017	11/8/17	1122	G	Water		N	N	1,1 DCE trans-1,2-DCE PCE TCE Vinyl Chloride 1,4 dioxane	18	
TW-16-03-11082017	11/8/17	1337	G	Water		N	N		6	
TRIPBLANK	11/8/17	-	-	Water		N	N		1	
PW-16-02-11082017	11/8/17	1437	G	Water		N	N		6	
TW-16-04-110817	11/8/17	1552	G	Water		N	N		6	
MW54-110817	11/8/17	0905	G	Water		N	N		6	
MW53-110817	11/8/17	1010	G	Water		N	N		6	
MW55-110817	11/8/17	1135	G	Water		N	N		6	
MW56-110817	11/8/17	1340	G	Water		N	N		6	
MW38-110817	11/8/17	1505	G	Water		N	N		6	
MW33-110817	11/8/17	1640	G	Water		N	N		6	

Possible Hazard Identification		<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological	
Deliverable Requested: I, II, III, IV, Other (specify)		Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Empty Kit Relinquished by:		Method of Shipment:	
Relinquished by: DIVYA KANATH	Date/Time: 11/9/17 11415	Company: ARCADIS	Company: TAC
Relinquished by:	Date/Time: 11/9/17 1520	Company:	Company: TA
Relinquished by:	Date/Time:	Company:	Company:
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks:	



10448 Citation Drive
Suite 200
Brighton, NJ 08116
Phone: 810.229.2753 Fax:

Chain of Custody Record

190706

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: DW NPDES RCRA Other:

Company Name: ARCADIS U.S. INC. Address: 28550 CABOT DR #500 City/State/Zip: NOK / MI / 48377 Phone: 248.994.2297 Project Name: FORD LTP LIVONIA MI - E205631 Site: - P.O.# M1001316.0002.00002		Client Contact Company Name: ARCADIS U.S. INC. Address: 28550 CABOT DR #500 City/State/Zip: NOK / MI / 48377 Phone: 248.994.2297 Project Name: FORD LTP LIVONIA MI - E205631 Site: - P.O.# M1001316.0002.00002		Project Manager: KRIS HUSKEY Tel/Fax: - Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below: 10 DAYS <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact: ANGENA DEAMING Date: 11/8/17 Lab Contact: DENISE FOHL Carrier: - Filtered Sample (Y/N) Perform MS/MSD (Y/N)		COC No: 240-46823-20400-1 2 of 9 COCS Sampler: DIVYA KAMATH For Lab Use Only: Walk-in Client: Lab Sampling: Job # SDG-NO. CADENA # E205728 * SHORT HOLD TIME <input checked="" type="checkbox"/> FIELD FILTERED Sample Specific Notes:											
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	1-DCE	CS-1,2,DCE	TRANS-1,2,DCE	PCE	VINYL CHLORIDE	1,4-DIOXANE	MEE (RSK-175)	TOTL FE MN (6020)	DISSOLVED FE MN (6020)	TOC (S310C)	DOC (SMS310)	NITRATE + SULFATE (956A)
DU02-110817	11/8/17	-	G	W	6	N	N	X	X	X	X	X	X	-	-	-	-	-	-
TRIP BLANK	11/8/17	-	-	W	1	N	N	X	-	-	-	-	-	-	-	-	-	-	-
MW43-110917	11/9/17	1045	G	W	16	N	N	X	X	X	X	X	3	1	2	2	1	2	2
MW30-110917	11/9/17	1240	G	W	16	N	N	X	X	X	X	X	3	1	2	2	1	2	2
Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months																			
Special Instructions/QC Requirements & Comments: SUBMIT THROUGH CADENA: JIM.TOMALIA@CADENA.COM Custody Seal No.: _____ Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Relinquished by: DIVYA KAMATH Relinquished by: Relinquished by: Received by: Received by: Received in Laboratory by:																			
Received by: Received by: Received in Laboratory by:										Company: ARCADIS Company: TESTAMERICA Company: TESTAMERICA Date/Time: 11/17/17 14:15 Date/Time: 11/9/17 9:00 Date/Time: 11/10/17 9:00 Therm ID No.: _____ Cooler Temp. (°C): Obs'd: _____ Cor'd: _____ Company: TESTAMERICA Company: TESTAMERICA									



Login # : 87805

TestAmerica Canton Sample Receipt Form/Narrative

Canton Facility

Cooler unpacked by:

Client Arcadis Site Name

Cooler Received on 11/10/17 Opened on 11/10/17

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

See Multiple Cooler Form

1. Cooler temperature upon receipt
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
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 ea
-Were the seals on the outside of the cooler(s) signed & dated?
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?
-Were tamper/custody seals intact and uncompromised?

3. Shippers' packing slip attached to the cooler(s)?
4. Did custody papers accompany the sample(s)?
5. Were the custody papers relinquished & signed in the appropriate place?
6. Was/were the person(s) who collected the samples clearly identified on the COC?
7. Did all bottles arrive in good condition (Unbroken)?
8. Could all bottle labels be reconciled with the COC?
9. Were correct bottle(s) used for the test(s) indicated?
10. Sufficient quantity received to perform indicated analyses?
11. Are these work share samples?

11. Were all preserved sample(s) at the correct pH upon receipt?
If yes, Questions 11-15 have been checked at the originating laboratory.
pH Strip Lot# HC697954

12. Were VOAs on the COC?
13. Were air bubbles >6 mm in any VOA vials? Larger than this.
14. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # R712901V3
15. Was a LL Hg or Me Hg trip blank present?

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

Contacted PM Date by via Verbal Voice Mail Other
Concerning

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

Blank lines for Chain of Custody and Sample Discrepancies.

17. SAMPLE CONDITION

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

18. SAMPLE PRESERVATION

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

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservative Added (mls)</u>	<u>Lot #</u>
MW43_110917	240-87805-O-14	Plastic 500ml - with Nitric Acid	<2	_____	_____
MW43_110917	240-87805-P-14	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
MW30_110917	240-87805-O-15	Plastic 500ml - with Nitric Acid	<2	_____	_____
MW30_110917	240-87805-P-15	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____

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