

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

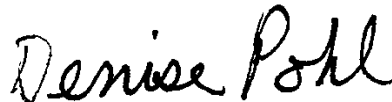
TestAmerica Laboratories, Inc.

TestAmerica Canton
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TestAmerica Job ID: 240-88070-1
Client Project/Site: Ford LTP Livonia MI

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



Authorized for release by:
11/30/2017 2:11:32 PM

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

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Definitions/Glossary

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

TestAmerica Job ID: 240-88070-1

Qualifiers

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

Glossary

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

Case Narrative

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

TestAmerica Job ID: 240-88070-1

Job ID: 240-88070-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI

Report Number: 240-88070-1

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

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 11/15/2017 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.2° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW71_111317 (240-88070-1), MW46_111317 (240-88070-2), MW70_111317 (240-88070-3), MW45_111317 (240-88070-4), MW62_111317 (240-88070-5), MW63_111317 (240-88070-6), MW-66_111317 (240-88070-7) and MW-50_111317 (240-88070-8) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/24/2017.

Diethyl ether failed the recovery criteria high for LCS 240-304884/4.

Chloromethane and Diethyl ether failed the recovery criteria high for the MS/MSD of sample MW-66_111317 (240-88070-7) in batch 240-304884. 2-Hexanone, 4-Methyl-2-pentanone (MIBK), Methyl acetate and Methylcyclohexane exceeded the RPD limit.

1,1,2,2-Tetrachloroethane, Chloromethane and Diethyl ether failed the recovery criteria high for the MS of sample MW-50_111317 (240-88070-8) in batch 240-304884. Chloromethane and Diethyl ether failed the recovery criteria high for the MSD of sample MW-50_111317 (240-88070-8) in batch 240-304884. 1,4-Dioxane and Trichlorofluoromethane exceeded the RPD limit.

Samples MW46_111317 (240-88070-2)[2.5X], MW70_111317 (240-88070-3)[10X], MW45_111317 (240-88070-4)[66.67X], MW63_111317 (240-88070-6)[10X] and MW-50_111317 (240-88070-8)[5X] required dilution prior to analysis. The reporting limits have been adjusted

Case Narrative

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

TestAmerica Job ID: 240-88070-1

Job ID: 240-88070-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

accordingly.

Method(s) 8260B: The laboratory control sample (LCS) for 304884 recovered outside control limits for the following analytes: Ethyl Ether. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported. MW71_111317 (240-88070-1), MW46_111317 (240-88070-2), MW70_111317 (240-88070-3), MW45_111317 (240-88070-4), MW62_111317 (240-88070-5), MW63_111317 (240-88070-6), MW-66_111317 (240-88070-7), MW-50_111317 (240-88070-8) and (LCS 240-304884/4)

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

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW71_111317 (240-88070-1), MW46_111317 (240-88070-2), MW70_111317 (240-88070-3), MW45_111317 (240-88070-4), MW62_111317 (240-88070-5), MW63_111317 (240-88070-6), MW-66_111317 (240-88070-7) and MW-50_111317 (240-88070-8) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 11/22/2017.

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: 240-88070-1

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

Protocol References:

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

Laboratory References:

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



Sample Summary

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

TestAmerica Job ID: 240-88070-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-88070-1	MW71_111317	Water	11/13/17 11:35	11/15/17 09:45
240-88070-2	MW46_111317	Water	11/13/17 12:55	11/15/17 09:45
240-88070-3	MW70_111317	Water	11/13/17 14:00	11/15/17 09:45
240-88070-4	MW45_111317	Water	11/13/17 15:00	11/15/17 09:45
240-88070-5	MW62_111317	Water	11/13/17 16:05	11/15/17 09:45
240-88070-6	MW63_111317	Water	11/13/17 17:10	11/15/17 09:45
240-88070-7	MW-66_111317	Water	11/13/17 14:40	11/15/17 09:45
240-88070-8	MW-50_111317	Water	11/13/17 15:00	11/15/17 09:45

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Detection Summary

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW71_111317

Lab Sample ID: 240-88070-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.72	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.39	J	1.0	0.30	ug/L	1		8260B	Total/NA
Vinyl chloride	0.83	J	1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW46_111317

Lab Sample ID: 240-88070-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	3.7		2.0	0.24	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	22		2.5	0.75	ug/L	2.5		8260B	Total/NA
1,1-Dichloroethane	3.6		2.5	0.63	ug/L	2.5		8260B	Total/NA
1,1-Dichloroethene	0.90	J	2.5	0.68	ug/L	2.5		8260B	Total/NA
trans-1,2-Dichloroethene	2.7		2.5	0.73	ug/L	2.5		8260B	Total/NA
Vinyl chloride	57		2.5	1.1	ug/L	2.5		8260B	Total/NA

Client Sample ID: MW70_111317

Lab Sample ID: 240-88070-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.1	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	200		10	3.0	ug/L	10		8260B	Total/NA
1,1-Dichloroethane	3.4	J	10	2.5	ug/L	10		8260B	Total/NA
trans-1,2-Dichloroethene	5.1	J	10	2.9	ug/L	10		8260B	Total/NA
Vinyl chloride	140		10	4.5	ug/L	10		8260B	Total/NA

Client Sample ID: MW45_111317

Lab Sample ID: 240-88070-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2100		67	20	ug/L	66.67		8260B	Total/NA
Vinyl chloride	1500		67	30	ug/L	66.67		8260B	Total/NA

Client Sample ID: MW62_111317

Lab Sample ID: 240-88070-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	3.7		2.0	0.24	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.30	J	1.0	0.30	ug/L	1		8260B	Total/NA
Vinyl chloride	1.0		1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW63_111317

Lab Sample ID: 240-88070-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	5.6	J	10	2.6	ug/L	10		8260B	Total/NA
Styrene	320		10	2.3	ug/L	10		8260B	Total/NA

Client Sample ID: MW-66_111317

Lab Sample ID: 240-88070-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.49	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	3.0		1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW-50_111317

Lab Sample ID: 240-88070-8

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: 240-88070-1

Client Sample ID: MW-50_111317 (Continued)

Lab Sample ID: 240-88070-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.68	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	23		5.0	1.5	ug/L	5		8260B	Total/NA
Vinyl chloride	150		5.0	2.3	ug/L	5		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton



Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW71_111317

Lab Sample ID: 240-88070-1

Date Collected: 11/13/17 11:35

Matrix: Water

Date Received: 11/15/17 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.72	J	2.0	0.24	ug/L			11/22/17 14:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		63 - 125					11/22/17 14:40	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			11/24/17 12:20	1
Benzene	1.0	U	1.0	0.28	ug/L			11/24/17 12:20	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/24/17 12:20	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/24/17 12:20	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/24/17 12:20	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/24/17 12:20	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/24/17 12:20	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/24/17 12:20	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/24/17 12:20	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/24/17 12:20	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/24/17 12:20	1
Chloromethane	1.0	U	1.0	0.43	ug/L			11/24/17 12:20	1
cis-1,2-Dichloroethene	0.39	J	1.0	0.30	ug/L			11/24/17 12:20	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/24/17 12:20	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/24/17 12:20	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/24/17 12:20	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/24/17 12:20	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/24/17 12:20	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/24/17 12:20	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/24/17 12:20	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/24/17 12:20	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/24/17 12:20	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/24/17 12:20	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/24/17 12:20	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/24/17 12:20	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/24/17 12:20	1
Diethyl ether	2.0	U *	2.0	0.35	ug/L			11/24/17 12:20	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/24/17 12:20	1
2-Hexanone	10	U	10	1.2	ug/L			11/24/17 12:20	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/24/17 12:20	1
Methyl acetate	10	U	10	1.4	ug/L			11/24/17 12:20	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/24/17 12:20	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/24/17 12:20	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/24/17 12:20	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/24/17 12:20	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/24/17 12:20	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/24/17 12:20	1
Styrene	1.0	U	1.0	0.23	ug/L			11/24/17 12:20	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/24/17 12:20	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/24/17 12:20	1
Toluene	1.0	U	1.0	0.23	ug/L			11/24/17 12:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/24/17 12:20	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/24/17 12:20	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW71_111317

Lab Sample ID: 240-88070-1

Date Collected: 11/13/17 11:35

Matrix: Water

Date Received: 11/15/17 09:45

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			11/24/17 12:20	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/24/17 12:20	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/24/17 12:20	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/24/17 12:20	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/24/17 12:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/24/17 12:20	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/24/17 12:20	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/24/17 12:20	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/24/17 12:20	1
Vinyl chloride	0.83	J	1.0	0.45	ug/L			11/24/17 12:20	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/24/17 12:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		69 - 120		11/24/17 12:20	1
Dibromofluoromethane (Surr)	94		69 - 124		11/24/17 12:20	1
1,2-Dichloroethane-d4 (Surr)	106		61 - 138		11/24/17 12:20	1
Toluene-d8 (Surr)	89		73 - 120		11/24/17 12:20	1

Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW46_111317

Lab Sample ID: 240-88070-2

Date Collected: 11/13/17 12:55

Matrix: Water

Date Received: 11/15/17 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	3.7		2.0	0.24	ug/L			11/22/17 15:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		63 - 125					11/22/17 15:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	25	U	25	4.4	ug/L			11/24/17 19:04	2.5
Benzene	2.5	U	2.5	0.70	ug/L			11/24/17 19:04	2.5
Bromodichloromethane	2.5	U	2.5	0.75	ug/L			11/24/17 19:04	2.5
Bromoform	2.5	U	2.5	1.1	ug/L			11/24/17 19:04	2.5
Bromomethane	2.5	U	2.5	1.1	ug/L			11/24/17 19:04	2.5
2-Butanone (MEK)	25	U	25	2.6	ug/L			11/24/17 19:04	2.5
Carbon disulfide	13	U	13	0.85	ug/L			11/24/17 19:04	2.5
Carbon tetrachloride	2.5	U	2.5	0.88	ug/L			11/24/17 19:04	2.5
Chlorobenzene	2.5	U	2.5	0.80	ug/L			11/24/17 19:04	2.5
Chloroethane	2.5	U	2.5	1.0	ug/L			11/24/17 19:04	2.5
Chloroform	2.5	U	2.5	0.78	ug/L			11/24/17 19:04	2.5
Chloromethane	2.5	U	2.5	1.1	ug/L			11/24/17 19:04	2.5
cis-1,2-Dichloroethene	22		2.5	0.75	ug/L			11/24/17 19:04	2.5
cis-1,3-Dichloropropene	2.5	U	2.5	0.65	ug/L			11/24/17 19:04	2.5
Cyclohexane	2.5	U	2.5	1.1	ug/L			11/24/17 19:04	2.5
Dibromochloromethane	2.5	U	2.5	0.63	ug/L			11/24/17 19:04	2.5
1,2-Dibromo-3-Chloropropane	2.5	U	2.5	1.2	ug/L			11/24/17 19:04	2.5
1,2-Dibromoethane	2.5	U	2.5	0.58	ug/L			11/24/17 19:04	2.5
1,2-Dichlorobenzene	2.5	U	2.5	0.65	ug/L			11/24/17 19:04	2.5
1,3-Dichlorobenzene	2.5	U	2.5	0.80	ug/L			11/24/17 19:04	2.5
1,4-Dichlorobenzene	2.5	U	2.5	0.58	ug/L			11/24/17 19:04	2.5
Dichlorodifluoromethane	2.5	U	2.5	1.3	ug/L			11/24/17 19:04	2.5
1,1-Dichloroethane	3.6		2.5	0.63	ug/L			11/24/17 19:04	2.5
1,2-Dichloroethane	2.5	U	2.5	0.75	ug/L			11/24/17 19:04	2.5
1,1-Dichloroethene	0.90	J	2.5	0.68	ug/L			11/24/17 19:04	2.5
1,2-Dichloropropane	2.5	U	2.5	0.75	ug/L			11/24/17 19:04	2.5
Diethyl ether	5.0	U *	5.0	0.88	ug/L			11/24/17 19:04	2.5
Ethylbenzene	2.5	U	2.5	0.65	ug/L			11/24/17 19:04	2.5
2-Hexanone	25	U	25	3.1	ug/L			11/24/17 19:04	2.5
Isopropylbenzene	2.5	U	2.5	0.53	ug/L			11/24/17 19:04	2.5
Methyl acetate	25	U	25	3.6	ug/L			11/24/17 19:04	2.5
Methylcyclohexane	2.5	U	2.5	1.1	ug/L			11/24/17 19:04	2.5
Methylene Chloride	13	U	13	1.3	ug/L			11/24/17 19:04	2.5
4-Methyl-2-pentanone (MIBK)	25	U	25	1.8	ug/L			11/24/17 19:04	2.5
Methyl tert-butyl ether	2.5	U	2.5	0.68	ug/L			11/24/17 19:04	2.5
m-Xylene & p-Xylene	5.0	U	5.0	0.60	ug/L			11/24/17 19:04	2.5
o-Xylene	2.5	U	2.5	0.70	ug/L			11/24/17 19:04	2.5
Styrene	2.5	U	2.5	0.58	ug/L			11/24/17 19:04	2.5
1,1,2,2-Tetrachloroethane	2.5	U	2.5	0.80	ug/L			11/24/17 19:04	2.5
Tetrachloroethene	2.5	U	2.5	0.75	ug/L			11/24/17 19:04	2.5
Toluene	2.5	U	2.5	0.58	ug/L			11/24/17 19:04	2.5
trans-1,2-Dichloroethene	2.7		2.5	0.73	ug/L			11/24/17 19:04	2.5
trans-1,3-Dichloropropene	2.5	U	2.5	0.78	ug/L			11/24/17 19:04	2.5

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW46_111317

Lab Sample ID: 240-88070-2

Date Collected: 11/13/17 12:55

Matrix: Water

Date Received: 11/15/17 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	2.5	U	2.5	0.68	ug/L			11/24/17 19:04	2.5
1,1,1-Trichloroethane	2.5	U	2.5	0.58	ug/L			11/24/17 19:04	2.5
1,1,2-Trichloroethane	2.5	U	2.5	0.85	ug/L			11/24/17 19:04	2.5
Trichloroethene	2.5	U	2.5	0.83	ug/L			11/24/17 19:04	2.5
Trichlorofluoromethane	2.5	U	2.5	1.3	ug/L			11/24/17 19:04	2.5
1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U	2.5	1.0	ug/L			11/24/17 19:04	2.5
1,2,3-Trimethylbenzene	13	U	13	0.55	ug/L			11/24/17 19:04	2.5
1,2,4-Trimethylbenzene	2.5	U	2.5	0.60	ug/L			11/24/17 19:04	2.5
1,3,5-Trimethylbenzene	2.5	U	2.5	0.60	ug/L			11/24/17 19:04	2.5
Vinyl chloride	57		2.5	1.1	ug/L			11/24/17 19:04	2.5
Xylenes, Total	5.0	U	5.0	0.60	ug/L			11/24/17 19:04	2.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		69 - 120		11/24/17 19:04	2.5
Dibromofluoromethane (Surr)	98		69 - 124		11/24/17 19:04	2.5
1,2-Dichloroethane-d4 (Surr)	111		61 - 138		11/24/17 19:04	2.5
Toluene-d8 (Surr)	86		73 - 120		11/24/17 19:04	2.5

Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW70_111317

Lab Sample ID: 240-88070-3

Date Collected: 11/13/17 14:00

Matrix: Water

Date Received: 11/15/17 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.1	J	2.0	0.24	ug/L			11/22/17 15:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		63 - 125					11/22/17 15:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	100	U	100	18	ug/L			11/24/17 13:06	10
Benzene	10	U	10	2.8	ug/L			11/24/17 13:06	10
Bromodichloromethane	10	U	10	3.0	ug/L			11/24/17 13:06	10
Bromoform	10	U	10	4.3	ug/L			11/24/17 13:06	10
Bromomethane	10	U	10	4.2	ug/L			11/24/17 13:06	10
2-Butanone (MEK)	100	U	100	10	ug/L			11/24/17 13:06	10
Carbon disulfide	50	U	50	3.4	ug/L			11/24/17 13:06	10
Carbon tetrachloride	10	U	10	3.5	ug/L			11/24/17 13:06	10
Chlorobenzene	10	U	10	3.2	ug/L			11/24/17 13:06	10
Chloroethane	10	U	10	4.1	ug/L			11/24/17 13:06	10
Chloroform	10	U	10	3.1	ug/L			11/24/17 13:06	10
Chloromethane	10	U	10	4.3	ug/L			11/24/17 13:06	10
cis-1,2-Dichloroethene	200		10	3.0	ug/L			11/24/17 13:06	10
cis-1,3-Dichloropropene	10	U	10	2.6	ug/L			11/24/17 13:06	10
Cyclohexane	10	U	10	4.4	ug/L			11/24/17 13:06	10
Dibromochloromethane	10	U	10	2.5	ug/L			11/24/17 13:06	10
1,2-Dibromo-3-Chloropropane	10	U	10	4.7	ug/L			11/24/17 13:06	10
1,2-Dibromoethane	10	U	10	2.3	ug/L			11/24/17 13:06	10
1,2-Dichlorobenzene	10	U	10	2.6	ug/L			11/24/17 13:06	10
1,3-Dichlorobenzene	10	U	10	3.2	ug/L			11/24/17 13:06	10
1,4-Dichlorobenzene	10	U	10	2.3	ug/L			11/24/17 13:06	10
Dichlorodifluoromethane	10	U	10	5.0	ug/L			11/24/17 13:06	10
1,1-Dichloroethane	3.4	J	10	2.5	ug/L			11/24/17 13:06	10
1,2-Dichloroethane	10	U	10	3.0	ug/L			11/24/17 13:06	10
1,1-Dichloroethene	10	U	10	2.7	ug/L			11/24/17 13:06	10
1,2-Dichloropropane	10	U	10	3.0	ug/L			11/24/17 13:06	10
Diethyl ether	20	U *	20	3.5	ug/L			11/24/17 13:06	10
Ethylbenzene	10	U	10	2.6	ug/L			11/24/17 13:06	10
2-Hexanone	100	U	100	12	ug/L			11/24/17 13:06	10
Isopropylbenzene	10	U	10	2.1	ug/L			11/24/17 13:06	10
Methyl acetate	100	U	100	14	ug/L			11/24/17 13:06	10
Methylcyclohexane	10	U	10	4.5	ug/L			11/24/17 13:06	10
Methylene Chloride	50	U	50	5.3	ug/L			11/24/17 13:06	10
4-Methyl-2-pentanone (MIBK)	100	U	100	7.1	ug/L			11/24/17 13:06	10
Methyl tert-butyl ether	10	U	10	2.7	ug/L			11/24/17 13:06	10
m-Xylene & p-Xylene	20	U	20	2.4	ug/L			11/24/17 13:06	10
o-Xylene	10	U	10	2.8	ug/L			11/24/17 13:06	10
Styrene	10	U	10	2.3	ug/L			11/24/17 13:06	10
1,1,2,2-Tetrachloroethane	10	U	10	3.2	ug/L			11/24/17 13:06	10
Tetrachloroethene	10	U	10	3.0	ug/L			11/24/17 13:06	10
Toluene	10	U	10	2.3	ug/L			11/24/17 13:06	10
trans-1,2-Dichloroethene	5.1	J	10	2.9	ug/L			11/24/17 13:06	10
trans-1,3-Dichloropropene	10	U	10	3.1	ug/L			11/24/17 13:06	10

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW70_111317

Lab Sample ID: 240-88070-3

Date Collected: 11/13/17 14:00

Matrix: Water

Date Received: 11/15/17 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	10	U	10	2.7	ug/L			11/24/17 13:06	10
1,1,1-Trichloroethane	10	U	10	2.3	ug/L			11/24/17 13:06	10
1,1,2-Trichloroethane	10	U	10	3.4	ug/L			11/24/17 13:06	10
Trichloroethene	10	U	10	3.3	ug/L			11/24/17 13:06	10
Trichlorofluoromethane	10	U	10	5.0	ug/L			11/24/17 13:06	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	10	4.1	ug/L			11/24/17 13:06	10
1,2,3-Trimethylbenzene	50	U	50	2.2	ug/L			11/24/17 13:06	10
1,2,4-Trimethylbenzene	10	U	10	2.4	ug/L			11/24/17 13:06	10
1,3,5-Trimethylbenzene	10	U	10	2.4	ug/L			11/24/17 13:06	10
Vinyl chloride	140		10	4.5	ug/L			11/24/17 13:06	10
Xylenes, Total	20	U	20	2.4	ug/L			11/24/17 13:06	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		69 - 120		11/24/17 13:06	10
Dibromofluoromethane (Surr)	93		69 - 124		11/24/17 13:06	10
1,2-Dichloroethane-d4 (Surr)	113		61 - 138		11/24/17 13:06	10
Toluene-d8 (Surr)	87		73 - 120		11/24/17 13:06	10

Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW45_111317

Lab Sample ID: 240-88070-4

Date Collected: 11/13/17 15:00

Matrix: Water

Date Received: 11/15/17 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			11/22/17 15:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		63 - 125					11/22/17 15:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	670	U	670	120	ug/L			11/24/17 13:28	66.67
Benzene	67	U	67	19	ug/L			11/24/17 13:28	66.67
Bromodichloromethane	67	U	67	20	ug/L			11/24/17 13:28	66.67
Bromoform	67	U	67	29	ug/L			11/24/17 13:28	66.67
Bromomethane	67	U	67	28	ug/L			11/24/17 13:28	66.67
2-Butanone (MEK)	670	U	670	68	ug/L			11/24/17 13:28	66.67
Carbon disulfide	330	U	330	23	ug/L			11/24/17 13:28	66.67
Carbon tetrachloride	67	U	67	23	ug/L			11/24/17 13:28	66.67
Chlorobenzene	67	U	67	21	ug/L			11/24/17 13:28	66.67
Chloroethane	67	U	67	27	ug/L			11/24/17 13:28	66.67
Chloroform	67	U	67	21	ug/L			11/24/17 13:28	66.67
Chloromethane	67	U	67	29	ug/L			11/24/17 13:28	66.67
cis-1,2-Dichloroethene	2100		67	20	ug/L			11/24/17 13:28	66.67
cis-1,3-Dichloropropene	67	U	67	17	ug/L			11/24/17 13:28	66.67
Cyclohexane	67	U	67	29	ug/L			11/24/17 13:28	66.67
Dibromochloromethane	67	U	67	17	ug/L			11/24/17 13:28	66.67
1,2-Dibromo-3-Chloropropane	67	U	67	31	ug/L			11/24/17 13:28	66.67
1,2-Dibromoethane	67	U	67	15	ug/L			11/24/17 13:28	66.67
1,2-Dichlorobenzene	67	U	67	17	ug/L			11/24/17 13:28	66.67
1,3-Dichlorobenzene	67	U	67	21	ug/L			11/24/17 13:28	66.67
1,4-Dichlorobenzene	67	U	67	15	ug/L			11/24/17 13:28	66.67
Dichlorodifluoromethane	67	U	67	33	ug/L			11/24/17 13:28	66.67
1,1-Dichloroethane	67	U	67	17	ug/L			11/24/17 13:28	66.67
1,2-Dichloroethane	67	U	67	20	ug/L			11/24/17 13:28	66.67
1,1-Dichloroethene	67	U	67	18	ug/L			11/24/17 13:28	66.67
1,2-Dichloropropane	67	U	67	20	ug/L			11/24/17 13:28	66.67
Diethyl ether	130	U *	130	23	ug/L			11/24/17 13:28	66.67
Ethylbenzene	67	U	67	17	ug/L			11/24/17 13:28	66.67
2-Hexanone	670	U	670	82	ug/L			11/24/17 13:28	66.67
Isopropylbenzene	67	U	67	14	ug/L			11/24/17 13:28	66.67
Methyl acetate	670	U	670	95	ug/L			11/24/17 13:28	66.67
Methylcyclohexane	67	U	67	30	ug/L			11/24/17 13:28	66.67
Methylene Chloride	330	U	330	35	ug/L			11/24/17 13:28	66.67
4-Methyl-2-pentanone (MIBK)	670	U	670	47	ug/L			11/24/17 13:28	66.67
Methyl tert-butyl ether	67	U	67	18	ug/L			11/24/17 13:28	66.67
m-Xylene & p-Xylene	130	U	130	16	ug/L			11/24/17 13:28	66.67
o-Xylene	67	U	67	19	ug/L			11/24/17 13:28	66.67
Styrene	67	U	67	15	ug/L			11/24/17 13:28	66.67
1,1,2,2-Tetrachloroethane	67	U	67	21	ug/L			11/24/17 13:28	66.67
Tetrachloroethene	67	U	67	20	ug/L			11/24/17 13:28	66.67
Toluene	67	U	67	15	ug/L			11/24/17 13:28	66.67
trans-1,2-Dichloroethene	67	U	67	19	ug/L			11/24/17 13:28	66.67
trans-1,3-Dichloropropene	67	U	67	21	ug/L			11/24/17 13:28	66.67

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW45_111317

Lab Sample ID: 240-88070-4

Date Collected: 11/13/17 15:00

Matrix: Water

Date Received: 11/15/17 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	67	U	67	18	ug/L			11/24/17 13:28	66.67
1,1,1-Trichloroethane	67	U	67	15	ug/L			11/24/17 13:28	66.67
1,1,2-Trichloroethane	67	U	67	23	ug/L			11/24/17 13:28	66.67
Trichloroethene	67	U	67	22	ug/L			11/24/17 13:28	66.67
Trichlorofluoromethane	67	U	67	33	ug/L			11/24/17 13:28	66.67
1,1,2-Trichloro-1,2,2-trifluoroethane	67	U	67	27	ug/L			11/24/17 13:28	66.67
1,2,3-Trimethylbenzene	330	U	330	15	ug/L			11/24/17 13:28	66.67
1,2,4-Trimethylbenzene	67	U	67	16	ug/L			11/24/17 13:28	66.67
1,3,5-Trimethylbenzene	67	U	67	16	ug/L			11/24/17 13:28	66.67
Vinyl chloride	1500		67	30	ug/L			11/24/17 13:28	66.67
Xylenes, Total	130	U	130	16	ug/L			11/24/17 13:28	66.67
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	73		69 - 120					11/24/17 13:28	66.67
Dibromofluoromethane (Surr)	97		69 - 124					11/24/17 13:28	66.67
1,2-Dichloroethane-d4 (Surr)	111		61 - 138					11/24/17 13:28	66.67
Toluene-d8 (Surr)	89		73 - 120					11/24/17 13:28	66.67

Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW62_111317

Lab Sample ID: 240-88070-5

Date Collected: 11/13/17 16:05

Matrix: Water

Date Received: 11/15/17 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	3.7		2.0	0.24	ug/L			11/22/17 16:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		63 - 125					11/22/17 16:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			11/24/17 13:51	1
Benzene	1.0	U	1.0	0.28	ug/L			11/24/17 13:51	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/24/17 13:51	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/24/17 13:51	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/24/17 13:51	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/24/17 13:51	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/24/17 13:51	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/24/17 13:51	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/24/17 13:51	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/24/17 13:51	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/24/17 13:51	1
Chloromethane	1.0	U	1.0	0.43	ug/L			11/24/17 13:51	1
cis-1,2-Dichloroethene	0.30	J	1.0	0.30	ug/L			11/24/17 13:51	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/24/17 13:51	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/24/17 13:51	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/24/17 13:51	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/24/17 13:51	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/24/17 13:51	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/24/17 13:51	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/24/17 13:51	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/24/17 13:51	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/24/17 13:51	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/24/17 13:51	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/24/17 13:51	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/24/17 13:51	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/24/17 13:51	1
Diethyl ether	2.0	U *	2.0	0.35	ug/L			11/24/17 13:51	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/24/17 13:51	1
2-Hexanone	10	U	10	1.2	ug/L			11/24/17 13:51	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/24/17 13:51	1
Methyl acetate	10	U	10	1.4	ug/L			11/24/17 13:51	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/24/17 13:51	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/24/17 13:51	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/24/17 13:51	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/24/17 13:51	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/24/17 13:51	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/24/17 13:51	1
Styrene	1.0	U	1.0	0.23	ug/L			11/24/17 13:51	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/24/17 13:51	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/24/17 13:51	1
Toluene	1.0	U	1.0	0.23	ug/L			11/24/17 13:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/24/17 13:51	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/24/17 13:51	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW62_111317

Lab Sample ID: 240-88070-5

Date Collected: 11/13/17 16:05

Matrix: Water

Date Received: 11/15/17 09:45

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			11/24/17 13:51	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/24/17 13:51	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/24/17 13:51	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/24/17 13:51	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/24/17 13:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/24/17 13:51	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/24/17 13:51	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/24/17 13:51	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/24/17 13:51	1
Vinyl chloride	1.0		1.0	0.45	ug/L			11/24/17 13:51	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/24/17 13:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	73		69 - 120		11/24/17 13:51	1
Dibromofluoromethane (Surr)	96		69 - 124		11/24/17 13:51	1
1,2-Dichloroethane-d4 (Surr)	110		61 - 138		11/24/17 13:51	1
Toluene-d8 (Surr)	87		73 - 120		11/24/17 13:51	1

Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW63_111317

Lab Sample ID: 240-88070-6

Date Collected: 11/13/17 17:10

Matrix: Water

Date Received: 11/15/17 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			11/22/17 16:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		63 - 125					11/22/17 16:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	100	U	100	18	ug/L			11/24/17 14:13	10
Benzene	10	U	10	2.8	ug/L			11/24/17 14:13	10
Bromodichloromethane	10	U	10	3.0	ug/L			11/24/17 14:13	10
Bromoform	10	U	10	4.3	ug/L			11/24/17 14:13	10
Bromomethane	10	U	10	4.2	ug/L			11/24/17 14:13	10
2-Butanone (MEK)	100	U	100	10	ug/L			11/24/17 14:13	10
Carbon disulfide	50	U	50	3.4	ug/L			11/24/17 14:13	10
Carbon tetrachloride	10	U	10	3.5	ug/L			11/24/17 14:13	10
Chlorobenzene	10	U	10	3.2	ug/L			11/24/17 14:13	10
Chloroethane	10	U	10	4.1	ug/L			11/24/17 14:13	10
Chloroform	10	U	10	3.1	ug/L			11/24/17 14:13	10
Chloromethane	10	U	10	4.3	ug/L			11/24/17 14:13	10
cis-1,2-Dichloroethene	10	U	10	3.0	ug/L			11/24/17 14:13	10
cis-1,3-Dichloropropene	10	U	10	2.6	ug/L			11/24/17 14:13	10
Cyclohexane	10	U	10	4.4	ug/L			11/24/17 14:13	10
Dibromochloromethane	10	U	10	2.5	ug/L			11/24/17 14:13	10
1,2-Dibromo-3-Chloropropane	10	U	10	4.7	ug/L			11/24/17 14:13	10
1,2-Dibromoethane	10	U	10	2.3	ug/L			11/24/17 14:13	10
1,2-Dichlorobenzene	10	U	10	2.6	ug/L			11/24/17 14:13	10
1,3-Dichlorobenzene	10	U	10	3.2	ug/L			11/24/17 14:13	10
1,4-Dichlorobenzene	10	U	10	2.3	ug/L			11/24/17 14:13	10
Dichlorodifluoromethane	10	U	10	5.0	ug/L			11/24/17 14:13	10
1,1-Dichloroethane	10	U	10	2.5	ug/L			11/24/17 14:13	10
1,2-Dichloroethane	10	U	10	3.0	ug/L			11/24/17 14:13	10
1,1-Dichloroethene	10	U	10	2.7	ug/L			11/24/17 14:13	10
1,2-Dichloropropane	10	U	10	3.0	ug/L			11/24/17 14:13	10
Diethyl ether	20	U *	20	3.5	ug/L			11/24/17 14:13	10
Ethylbenzene	5.6	J	10	2.6	ug/L			11/24/17 14:13	10
2-Hexanone	100	U	100	12	ug/L			11/24/17 14:13	10
Isopropylbenzene	10	U	10	2.1	ug/L			11/24/17 14:13	10
Methyl acetate	100	U	100	14	ug/L			11/24/17 14:13	10
Methylcyclohexane	10	U	10	4.5	ug/L			11/24/17 14:13	10
Methylene Chloride	50	U	50	5.3	ug/L			11/24/17 14:13	10
4-Methyl-2-pentanone (MIBK)	100	U	100	7.1	ug/L			11/24/17 14:13	10
Methyl tert-butyl ether	10	U	10	2.7	ug/L			11/24/17 14:13	10
m-Xylene & p-Xylene	20	U	20	2.4	ug/L			11/24/17 14:13	10
o-Xylene	10	U	10	2.8	ug/L			11/24/17 14:13	10
Styrene	320		10	2.3	ug/L			11/24/17 14:13	10
1,1,2,2-Tetrachloroethane	10	U	10	3.2	ug/L			11/24/17 14:13	10
Tetrachloroethene	10	U	10	3.0	ug/L			11/24/17 14:13	10
Toluene	10	U	10	2.3	ug/L			11/24/17 14:13	10
trans-1,2-Dichloroethene	10	U	10	2.9	ug/L			11/24/17 14:13	10
trans-1,3-Dichloropropene	10	U	10	3.1	ug/L			11/24/17 14:13	10

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW63_111317

Lab Sample ID: 240-88070-6

Date Collected: 11/13/17 17:10

Matrix: Water

Date Received: 11/15/17 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	10	U	10	2.7	ug/L			11/24/17 14:13	10
1,1,1-Trichloroethane	10	U	10	2.3	ug/L			11/24/17 14:13	10
1,1,2-Trichloroethane	10	U	10	3.4	ug/L			11/24/17 14:13	10
Trichloroethene	10	U	10	3.3	ug/L			11/24/17 14:13	10
Trichlorofluoromethane	10	U	10	5.0	ug/L			11/24/17 14:13	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	10	4.1	ug/L			11/24/17 14:13	10
1,2,3-Trimethylbenzene	50	U	50	2.2	ug/L			11/24/17 14:13	10
1,2,4-Trimethylbenzene	10	U	10	2.4	ug/L			11/24/17 14:13	10
1,3,5-Trimethylbenzene	10	U	10	2.4	ug/L			11/24/17 14:13	10
Vinyl chloride	10	U	10	4.5	ug/L			11/24/17 14:13	10
Xylenes, Total	20	U	20	2.4	ug/L			11/24/17 14:13	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		69 - 120					11/24/17 14:13	10
Dibromofluoromethane (Surr)	96		69 - 124					11/24/17 14:13	10
1,2-Dichloroethane-d4 (Surr)	109		61 - 138					11/24/17 14:13	10
Toluene-d8 (Surr)	88		73 - 120					11/24/17 14:13	10

Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW-66_111317

Lab Sample ID: 240-88070-7

Date Collected: 11/13/17 14:40

Matrix: Water

Date Received: 11/15/17 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.49	J	2.0	0.24	ug/L			11/22/17 17:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		63 - 125					11/22/17 17:09	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			11/24/17 14:35	1
Benzene	1.0	U	1.0	0.28	ug/L			11/24/17 14:35	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/24/17 14:35	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/24/17 14:35	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/24/17 14:35	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/24/17 14:35	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/24/17 14:35	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/24/17 14:35	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/24/17 14:35	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/24/17 14:35	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/24/17 14:35	1
Chloromethane	1.0	U F1	1.0	0.43	ug/L			11/24/17 14:35	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/24/17 14:35	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/24/17 14:35	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/24/17 14:35	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/24/17 14:35	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/24/17 14:35	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/24/17 14:35	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/24/17 14:35	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/24/17 14:35	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/24/17 14:35	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/24/17 14:35	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/24/17 14:35	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/24/17 14:35	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/24/17 14:35	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/24/17 14:35	1
Diethyl ether	2.0	U F1 *	2.0	0.35	ug/L			11/24/17 14:35	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/24/17 14:35	1
2-Hexanone	10	U F2	10	1.2	ug/L			11/24/17 14:35	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/24/17 14:35	1
Methyl acetate	10	U F2	10	1.4	ug/L			11/24/17 14:35	1
Methylcyclohexane	1.0	U F2	1.0	0.45	ug/L			11/24/17 14:35	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/24/17 14:35	1
4-Methyl-2-pentanone (MIBK)	10	U F2	10	0.71	ug/L			11/24/17 14:35	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/24/17 14:35	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/24/17 14:35	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/24/17 14:35	1
Styrene	1.0	U	1.0	0.23	ug/L			11/24/17 14:35	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/24/17 14:35	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/24/17 14:35	1
Toluene	1.0	U	1.0	0.23	ug/L			11/24/17 14:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/24/17 14:35	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/24/17 14:35	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW-66_111317

Lab Sample ID: 240-88070-7

Date Collected: 11/13/17 14:40

Matrix: Water

Date Received: 11/15/17 09:45

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			11/24/17 14:35	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/24/17 14:35	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/24/17 14:35	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/24/17 14:35	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/24/17 14:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/24/17 14:35	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/24/17 14:35	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/24/17 14:35	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/24/17 14:35	1
Vinyl chloride	3.0		1.0	0.45	ug/L			11/24/17 14:35	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/24/17 14:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	73		69 - 120		11/24/17 14:35	1
Dibromofluoromethane (Surr)	96		69 - 124		11/24/17 14:35	1
1,2-Dichloroethane-d4 (Surr)	105		61 - 138		11/24/17 14:35	1
Toluene-d8 (Surr)	87		73 - 120		11/24/17 14:35	1

Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW-50_111317

Lab Sample ID: 240-88070-8

Date Collected: 11/13/17 15:00

Matrix: Water

Date Received: 11/15/17 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.68	J	2.0	0.24	ug/L			11/22/17 18:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		63 - 125					11/22/17 18:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	50	U	50	8.8	ug/L			11/24/17 14:58	5
Benzene	5.0	U	5.0	1.4	ug/L			11/24/17 14:58	5
Bromodichloromethane	5.0	U	5.0	1.5	ug/L			11/24/17 14:58	5
Bromoform	5.0	U	5.0	2.2	ug/L			11/24/17 14:58	5
Bromomethane	5.0	U	5.0	2.1	ug/L			11/24/17 14:58	5
2-Butanone (MEK)	50	U	50	5.1	ug/L			11/24/17 14:58	5
Carbon disulfide	25	U	25	1.7	ug/L			11/24/17 14:58	5
Carbon tetrachloride	5.0	U	5.0	1.8	ug/L			11/24/17 14:58	5
Chlorobenzene	5.0	U	5.0	1.6	ug/L			11/24/17 14:58	5
Chloroethane	5.0	U	5.0	2.1	ug/L			11/24/17 14:58	5
Chloroform	5.0	U	5.0	1.6	ug/L			11/24/17 14:58	5
Chloromethane	5.0	U F1	5.0	2.2	ug/L			11/24/17 14:58	5
cis-1,2-Dichloroethene	23		5.0	1.5	ug/L			11/24/17 14:58	5
cis-1,3-Dichloropropene	5.0	U	5.0	1.3	ug/L			11/24/17 14:58	5
Cyclohexane	5.0	U	5.0	2.2	ug/L			11/24/17 14:58	5
Dibromochloromethane	5.0	U	5.0	1.3	ug/L			11/24/17 14:58	5
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	2.4	ug/L			11/24/17 14:58	5
1,2-Dibromoethane	5.0	U	5.0	1.2	ug/L			11/24/17 14:58	5
1,2-Dichlorobenzene	5.0	U	5.0	1.3	ug/L			11/24/17 14:58	5
1,3-Dichlorobenzene	5.0	U	5.0	1.6	ug/L			11/24/17 14:58	5
1,4-Dichlorobenzene	5.0	U	5.0	1.2	ug/L			11/24/17 14:58	5
Dichlorodifluoromethane	5.0	U	5.0	2.5	ug/L			11/24/17 14:58	5
1,1-Dichloroethane	5.0	U	5.0	1.3	ug/L			11/24/17 14:58	5
1,2-Dichloroethane	5.0	U	5.0	1.5	ug/L			11/24/17 14:58	5
1,1-Dichloroethene	5.0	U	5.0	1.4	ug/L			11/24/17 14:58	5
1,2-Dichloropropane	5.0	U	5.0	1.5	ug/L			11/24/17 14:58	5
Diethyl ether	10	U F1 *	10	1.8	ug/L			11/24/17 14:58	5
Ethylbenzene	5.0	U	5.0	1.3	ug/L			11/24/17 14:58	5
2-Hexanone	50	U	50	6.2	ug/L			11/24/17 14:58	5
Isopropylbenzene	5.0	U	5.0	1.1	ug/L			11/24/17 14:58	5
Methyl acetate	50	U	50	7.2	ug/L			11/24/17 14:58	5
Methylcyclohexane	5.0	U	5.0	2.3	ug/L			11/24/17 14:58	5
Methylene Chloride	25	U	25	2.7	ug/L			11/24/17 14:58	5
4-Methyl-2-pentanone (MIBK)	50	U	50	3.6	ug/L			11/24/17 14:58	5
Methyl tert-butyl ether	5.0	U	5.0	1.4	ug/L			11/24/17 14:58	5
m-Xylene & p-Xylene	10	U	10	1.2	ug/L			11/24/17 14:58	5
o-Xylene	5.0	U	5.0	1.4	ug/L			11/24/17 14:58	5
Styrene	5.0	U	5.0	1.2	ug/L			11/24/17 14:58	5
1,1,2,2-Tetrachloroethane	5.0	U F1	5.0	1.6	ug/L			11/24/17 14:58	5
Tetrachloroethene	5.0	U	5.0	1.5	ug/L			11/24/17 14:58	5
Toluene	5.0	U	5.0	1.2	ug/L			11/24/17 14:58	5
trans-1,2-Dichloroethene	5.0	U	5.0	1.5	ug/L			11/24/17 14:58	5
trans-1,3-Dichloropropene	5.0	U	5.0	1.6	ug/L			11/24/17 14:58	5

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW-50_111317

Lab Sample ID: 240-88070-8

Date Collected: 11/13/17 15:00

Matrix: Water

Date Received: 11/15/17 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	5.0	U	5.0	1.4	ug/L			11/24/17 14:58	5
1,1,1-Trichloroethane	5.0	U	5.0	1.2	ug/L			11/24/17 14:58	5
1,1,2-Trichloroethane	5.0	U	5.0	1.7	ug/L			11/24/17 14:58	5
Trichloroethene	5.0	U	5.0	1.7	ug/L			11/24/17 14:58	5
Trichlorofluoromethane	5.0	U F2	5.0	2.5	ug/L			11/24/17 14:58	5
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	5.0	2.1	ug/L			11/24/17 14:58	5
1,2,3-Trimethylbenzene	25	U	25	1.1	ug/L			11/24/17 14:58	5
1,2,4-Trimethylbenzene	5.0	U	5.0	1.2	ug/L			11/24/17 14:58	5
1,3,5-Trimethylbenzene	5.0	U	5.0	1.2	ug/L			11/24/17 14:58	5
Vinyl chloride	150		5.0	2.3	ug/L			11/24/17 14:58	5
Xylenes, Total	10	U	10	1.2	ug/L			11/24/17 14:58	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		69 - 120		11/24/17 14:58	5
Dibromofluoromethane (Surr)	96		69 - 124		11/24/17 14:58	5
1,2-Dichloroethane-d4 (Surr)	108		61 - 138		11/24/17 14:58	5
Toluene-d8 (Surr)	87		73 - 120		11/24/17 14:58	5

Surrogate Summary

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

TestAmerica Job ID: 240-88070-1

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)	12DCE (61-138)	TOL (73-120)
240-88070-1	MW71_111317	74	94	106	89
240-88070-2	MW46_111317	71	98	111	86
240-88070-3	MW70_111317	75	93	113	87
240-88070-4	MW45_111317	73	97	111	89
240-88070-5	MW62_111317	73	96	110	87
240-88070-6	MW63_111317	83	96	109	88
240-88070-7	MW-66_111317	73	96	105	87
240-88070-7 MS	MW-66_111317	86	89	96	94
240-88070-7 MSD	MW-66_111317	87	88	101	92
240-88070-8	MW-50_111317	71	96	108	87
240-88070-8 MS	MW-50_111317	88	90	101	94
240-88070-8 MSD	MW-50_111317	88	89	101	95
LCS 240-304884/4	Lab Control Sample	83	89	97	94
MB 240-304884/6	Method Blank	75	90	109	87

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 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)
		12DCE (63-125)
240-88070-1	MW71_111317	87
240-88070-2	MW46_111317	83
240-88070-3	MW70_111317	83
240-88070-4	MW45_111317	82
240-88070-5	MW62_111317	83
240-88070-6	MW63_111317	81
240-88070-7	MW-66_111317	85
240-88070-7 MS	MW-66_111317	83
240-88070-7 MSD	MW-66_111317	81
240-88070-8	MW-50_111317	85
240-88070-8 MS	MW-50_111317	88
240-88070-8 MSD	MW-50_111317	85
LCS 240-304742/4	Lab Control Sample	82
MB 240-304742/5	Method Blank	85

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

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

TestAmerica Job ID: 240-88070-1

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

Lab Sample ID: MB 240-304884/6

Matrix: Water

Analysis Batch: 304884

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	10	U	10	1.8	ug/L			11/24/17 11:13	1
Benzene	1.0	U	1.0	0.28	ug/L			11/24/17 11:13	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			11/24/17 11:13	1
Bromoform	1.0	U	1.0	0.43	ug/L			11/24/17 11:13	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/24/17 11:13	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			11/24/17 11:13	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			11/24/17 11:13	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			11/24/17 11:13	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			11/24/17 11:13	1
Chloroethane	1.0	U	1.0	0.41	ug/L			11/24/17 11:13	1
Chloroform	1.0	U	1.0	0.31	ug/L			11/24/17 11:13	1
Chloromethane	1.0	U	1.0	0.43	ug/L			11/24/17 11:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/24/17 11:13	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			11/24/17 11:13	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			11/24/17 11:13	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			11/24/17 11:13	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			11/24/17 11:13	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			11/24/17 11:13	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			11/24/17 11:13	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			11/24/17 11:13	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			11/24/17 11:13	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			11/24/17 11:13	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			11/24/17 11:13	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/24/17 11:13	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			11/24/17 11:13	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/24/17 11:13	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			11/24/17 11:13	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			11/24/17 11:13	1
2-Hexanone	10	U	10	1.2	ug/L			11/24/17 11:13	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			11/24/17 11:13	1
Methyl acetate	10	U	10	1.4	ug/L			11/24/17 11:13	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			11/24/17 11:13	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			11/24/17 11:13	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			11/24/17 11:13	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			11/24/17 11:13	1
m-Xylene & p-Xylene	2.0	U	2.0	0.24	ug/L			11/24/17 11:13	1
o-Xylene	1.0	U	1.0	0.28	ug/L			11/24/17 11:13	1
Styrene	1.0	U	1.0	0.23	ug/L			11/24/17 11:13	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			11/24/17 11:13	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/24/17 11:13	1
Toluene	1.0	U	1.0	0.23	ug/L			11/24/17 11:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/24/17 11:13	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			11/24/17 11:13	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			11/24/17 11:13	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/24/17 11:13	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			11/24/17 11:13	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			11/24/17 11:13	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			11/24/17 11:13	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-88070-1

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

Lab Sample ID: MB 240-304884/6

Matrix: Water

Analysis Batch: 304884

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			11/24/17 11:13	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			11/24/17 11:13	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/24/17 11:13	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			11/24/17 11:13	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/24/17 11:13	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			11/24/17 11:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		69 - 120		11/24/17 11:13	1
Dibromofluoromethane (Surr)	90		69 - 124		11/24/17 11:13	1
1,2-Dichloroethane-d4 (Surr)	109		61 - 138		11/24/17 11:13	1
Toluene-d8 (Surr)	87		73 - 120		11/24/17 11:13	1

Lab Sample ID: LCS 240-304884/4

Matrix: Water

Analysis Batch: 304884

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	21.3		ug/L		106	35 - 131
Benzene	10.0	10.7		ug/L		107	79 - 120
Bromodichloromethane	10.0	10.7		ug/L		107	79 - 125
Bromoform	10.0	8.27		ug/L		83	55 - 145
Bromomethane	10.0	12.7		ug/L		127	17 - 158
2-Butanone (MEK)	20.0	22.2		ug/L		111	43 - 149
Carbon disulfide	10.0	10.8		ug/L		108	49 - 141
Carbon tetrachloride	10.0	11.3		ug/L		113	55 - 171
Chlorobenzene	10.0	10.4		ug/L		104	80 - 120
Chloroethane	10.0	12.8		ug/L		128	10 - 149
Chloroform	10.0	11.1		ug/L		111	80 - 120
Chloromethane	10.0	12.3		ug/L		123	59 - 124
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	77 - 120
cis-1,3-Dichloropropene	10.0	9.88		ug/L		99	75 - 120
Cyclohexane	10.0	11.4		ug/L		114	66 - 135
Dibromochloromethane	10.0	10.4		ug/L		104	64 - 129
1,2-Dibromo-3-Chloropropane	10.0	7.12		ug/L		71	50 - 130
1,2-Dibromoethane	10.0	10.1		ug/L		101	80 - 120
1,2-Dichlorobenzene	10.0	9.68		ug/L		97	80 - 120
1,3-Dichlorobenzene	10.0	10.1		ug/L		101	80 - 120
1,4-Dichlorobenzene	10.0	9.88		ug/L		99	80 - 120
Dichlorodifluoromethane	10.0	9.05		ug/L		90	42 - 141
1,1-Dichloroethane	10.0	11.6		ug/L		116	74 - 120
1,2-Dichloroethane	10.0	11.7		ug/L		117	68 - 133
1,1-Dichloroethene	10.0	12.1		ug/L		121	65 - 127
1,2-Dichloropropane	10.0	11.7		ug/L		117	78 - 127
Diethyl ether	10.0	14.4 *		ug/L		144	72 - 125
Ethylbenzene	10.0	10.3		ug/L		103	80 - 120
2-Hexanone	20.0	20.4		ug/L		102	28 - 169
Isopropylbenzene	10.0	9.76		ug/L		98	80 - 128

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-88070-1

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

Lab Sample ID: LCS 240-304884/4
Matrix: Water
Analysis Batch: 304884

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	22.5		ug/L		112	63 - 137
Methylcyclohexane	10.0	9.67		ug/L		97	63 - 141
Methylene Chloride	10.0	10.2		ug/L		102	64 - 140
4-Methyl-2-pentanone (MIBK)	20.0	19.9		ug/L		99	53 - 144
Methyl tert-butyl ether	10.0	9.46		ug/L		95	73 - 120
Styrene	10.0	9.70		ug/L		97	80 - 121
1,1,2,2-Tetrachloroethane	10.0	11.5		ug/L		115	58 - 122
Tetrachloroethene	10.0	10.0		ug/L		100	80 - 122
Toluene	10.0	11.2		ug/L		112	78 - 120
trans-1,2-Dichloroethene	10.0	11.0		ug/L		110	74 - 124
trans-1,3-Dichloropropene	10.0	9.77		ug/L		98	67 - 120
1,2,4-Trichlorobenzene	10.0	6.20		ug/L		62	34 - 141
1,1,1-Trichloroethane	10.0	10.8		ug/L		108	64 - 147
1,1,2-Trichloroethane	10.0	11.4		ug/L		114	76 - 121
Trichloroethene	10.0	9.98		ug/L		100	76 - 124
Trichlorofluoromethane	10.0	13.9		ug/L		139	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	12.3		ug/L		123	65 - 144
1,2,4-Trimethylbenzene	10.0	9.94		ug/L		99	80 - 120
1,3,5-Trimethylbenzene	10.0	10.1		ug/L		101	79 - 120
Vinyl chloride	10.0	11.3		ug/L		113	65 - 124
Xylenes, Total	20.0	20.4		ug/L		102	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	83		69 - 120
Dibromofluoromethane (Surr)	89		69 - 124
1,2-Dichloroethane-d4 (Surr)	97		61 - 138
Toluene-d8 (Surr)	94		73 - 120

Lab Sample ID: 240-88070-7 MS
Matrix: Water
Analysis Batch: 304884

Client Sample ID: MW-66_111317
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	19.1		ug/L		96	19 - 133
Benzene	1.0	U	10.0	9.66		ug/L		97	69 - 127
Bromodichloromethane	1.0	U	10.0	9.44		ug/L		94	75 - 128
Bromoform	1.0	U	10.0	7.12		ug/L		71	61 - 135
Bromomethane	1.0	U	10.0	11.2		ug/L		112	10 - 148
2-Butanone (MEK)	10	U	20.0	19.9		ug/L		99	34 - 153
Carbon disulfide	5.0	U	10.0	9.00		ug/L		90	46 - 143
Carbon tetrachloride	1.0	U	10.0	8.80		ug/L		88	53 - 175
Chlorobenzene	1.0	U	10.0	9.26		ug/L		93	76 - 120
Chloroethane	1.0	U	10.0	12.2		ug/L		122	10 - 141
Chloroform	1.0	U	10.0	9.94		ug/L		99	74 - 125
Chloromethane	1.0	U F1	10.0	13.5	F1	ug/L		135	34 - 127
cis-1,2-Dichloroethene	1.0	U	10.0	9.18		ug/L		92	69 - 127
cis-1,3-Dichloropropene	1.0	U	10.0	7.98		ug/L		80	68 - 120

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-88070-1

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

Lab Sample ID: 240-88070-7 MS

Matrix: Water

Analysis Batch: 304884

Client Sample ID: MW-66_111317

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	1.0	U	10.0	6.77		ug/L		68	56 - 135
Dibromochloromethane	1.0	U	10.0	9.16		ug/L		92	62 - 131
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	5.32		ug/L		53	48 - 130
1,2-Dibromoethane	1.0	U	10.0	9.12		ug/L		91	73 - 121
1,2-Dichlorobenzene	1.0	U	10.0	8.24		ug/L		82	70 - 120
1,3-Dichlorobenzene	1.0	U	10.0	8.27		ug/L		83	71 - 120
1,4-Dichlorobenzene	1.0	U	10.0	8.16		ug/L		82	72 - 120
Dichlorodifluoromethane	1.0	U	10.0	6.85		ug/L		68	45 - 130
1,1-Dichloroethane	1.0	U	10.0	10.3		ug/L		103	69 - 122
1,2-Dichloroethane	1.0	U	10.0	10.5		ug/L		105	64 - 138
1,1-Dichloroethene	1.0	U	10.0	10.3		ug/L		103	62 - 127
1,2-Dichloropropane	1.0	U	10.0	10.6		ug/L		106	72 - 131
Diethyl ether	2.0	U F1 *	10.0	12.5	F1	ug/L		125	65 - 124
Ethylbenzene	1.0	U	10.0	8.75		ug/L		87	72 - 121
2-Hexanone	10	U F2	20.0	17.6		ug/L		88	21 - 184
Isopropylbenzene	1.0	U	10.0	7.86		ug/L		79	70 - 132
Methyl acetate	10	U F2	20.0	19.2		ug/L		96	52 - 139
Methylcyclohexane	1.0	U F2	10.0	4.92		ug/L		49	46 - 139
Methylene Chloride	5.0	U	10.0	8.86		ug/L		89	52 - 137
4-Methyl-2-pentanone (MIBK)	10	U F2	20.0	16.7		ug/L		84	53 - 147
Methyl tert-butyl ether	1.0	U	10.0	7.55		ug/L		75	67 - 125
Styrene	1.0	U	10.0	8.63		ug/L		86	74 - 125
1,1,2,2-Tetrachloroethane	1.0	U	10.0	9.90		ug/L		99	51 - 123
Tetrachloroethene	1.0	U	10.0	8.37		ug/L		84	69 - 126
Toluene	1.0	U	10.0	9.93		ug/L		99	69 - 125
trans-1,2-Dichloroethene	1.0	U	10.0	9.54		ug/L		95	66 - 131
trans-1,3-Dichloropropene	1.0	U	10.0	8.14		ug/L		81	59 - 120
1,2,4-Trichlorobenzene	1.0	U	10.0	4.53		ug/L		45	26 - 138
1,1,1-Trichloroethane	1.0	U	10.0	8.60		ug/L		86	57 - 156
1,1,2-Trichloroethane	1.0	U	10.0	10.6		ug/L		106	68 - 127
Trichloroethene	1.0	U	10.0	8.52		ug/L		85	68 - 129
Trichlorofluoromethane	1.0	U	10.0	12.0		ug/L		120	28 - 172
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	7.38		ug/L		74	58 - 137
1,2,4-Trimethylbenzene	1.0	U	10.0	8.12		ug/L		81	64 - 120
1,3,5-Trimethylbenzene	1.0	U	10.0	8.14		ug/L		81	67 - 120
Vinyl chloride	3.0		10.0	14.6		ug/L		115	55 - 123
Xylenes, Total	2.0	U	20.0	17.4		ug/L		87	71 - 122

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	86		69 - 120
Dibromofluoromethane (Surr)	89		69 - 124
1,2-Dichloroethane-d4 (Surr)	96		61 - 138
Toluene-d8 (Surr)	94		73 - 120

QC Sample Results

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

TestAmerica Job ID: 240-88070-1

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

Lab Sample ID: 240-88070-7 MSD

Matrix: Water

Analysis Batch: 304884

Client Sample ID: MW-66_111317

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	23.5		ug/L		118	19 - 133	21	35
Benzene	1.0	U	10.0	9.96		ug/L		100	69 - 127	3	10
Bromodichloromethane	1.0	U	10.0	9.77		ug/L		98	75 - 128	3	13
Bromoform	1.0	U	10.0	7.80		ug/L		78	61 - 135	9	13
Bromomethane	1.0	U	10.0	11.5		ug/L		115	10 - 148	3	35
2-Butanone (MEK)	10	U	20.0	24.7		ug/L		124	34 - 153	22	23
Carbon disulfide	5.0	U	10.0	9.12		ug/L		91	46 - 143	1	18
Carbon tetrachloride	1.0	U	10.0	9.21		ug/L		92	53 - 175	5	17
Chlorobenzene	1.0	U	10.0	9.52		ug/L		95	76 - 120	3	12
Chloroethane	1.0	U	10.0	12.2		ug/L		122	10 - 141	0	35
Chloroform	1.0	U	10.0	10.0		ug/L		100	74 - 125	1	11
Chloromethane	1.0	U F1	10.0	13.2	F1	ug/L		132	34 - 127	2	25
cis-1,2-Dichloroethene	1.0	U	10.0	9.50		ug/L		95	69 - 127	3	11
cis-1,3-Dichloropropene	1.0	U	10.0	8.54		ug/L		85	68 - 120	7	13
Cyclohexane	1.0	U	10.0	8.83		ug/L		88	56 - 135	26	35
Dibromochloromethane	1.0	U	10.0	9.70		ug/L		97	62 - 131	6	15
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	6.73		ug/L		67	48 - 130	24	31
1,2-Dibromoethane	1.0	U	10.0	10.2		ug/L		102	73 - 121	11	12
1,2-Dichlorobenzene	1.0	U	10.0	8.85		ug/L		88	70 - 120	7	19
1,3-Dichlorobenzene	1.0	U	10.0	8.68		ug/L		87	71 - 120	5	18
1,4-Dichlorobenzene	1.0	U	10.0	8.60		ug/L		86	72 - 120	5	17
Dichlorodifluoromethane	1.0	U	10.0	8.33		ug/L		83	45 - 130	20	34
1,1-Dichloroethane	1.0	U	10.0	10.4		ug/L		104	69 - 122	1	11
1,2-Dichloroethane	1.0	U	10.0	11.3		ug/L		113	64 - 138	8	11
1,1-Dichloroethene	1.0	U	10.0	10.8		ug/L		108	62 - 127	5	14
1,2-Dichloropropane	1.0	U	10.0	10.9		ug/L		109	72 - 131	3	12
Diethyl ether	2.0	U F1 *	10.0	13.6	F1	ug/L		136	65 - 124	8	11
Ethylbenzene	1.0	U	10.0	8.93		ug/L		89	72 - 121	2	15
2-Hexanone	10	U F2	20.0	21.7	F2	ug/L		109	21 - 184	21	12
Isopropylbenzene	1.0	U	10.0	8.36		ug/L		84	70 - 132	6	16
Methyl acetate	10	U F2	20.0	23.2	F2	ug/L		116	52 - 139	19	14
Methylcyclohexane	1.0	U F2	10.0	7.23	F2	ug/L		72	46 - 139	38	35
Methylene Chloride	5.0	U	10.0	8.91		ug/L		89	52 - 137	1	12
4-Methyl-2-pentanone (MIBK)	10	U F2	20.0	21.0	F2	ug/L		105	53 - 147	23	16
Methyl tert-butyl ether	1.0	U	10.0	8.52		ug/L		85	67 - 125	12	12
Styrene	1.0	U	10.0	8.78		ug/L		88	74 - 125	2	14
1,1,2,2-Tetrachloroethane	1.0	U	10.0	11.4		ug/L		114	51 - 123	14	17
Tetrachloroethene	1.0	U	10.0	8.75		ug/L		88	69 - 126	4	18
Toluene	1.0	U	10.0	10.2		ug/L		102	69 - 125	2	14
trans-1,2-Dichloroethene	1.0	U	10.0	9.64		ug/L		96	66 - 131	1	11
trans-1,3-Dichloropropene	1.0	U	10.0	8.72		ug/L		87	59 - 120	7	14
1,2,4-Trichlorobenzene	1.0	U	10.0	5.14		ug/L		51	26 - 138	13	35
1,1,1-Trichloroethane	1.0	U	10.0	8.59		ug/L		86	57 - 156	0	13
1,1,2-Trichloroethane	1.0	U	10.0	11.2		ug/L		112	68 - 127	5	11
Trichloroethene	1.0	U	10.0	8.88		ug/L		89	68 - 129	4	12
Trichlorofluoromethane	1.0	U	10.0	10.4		ug/L		104	28 - 172	14	26
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	9.85		ug/L		98	58 - 137	29	35

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-88070-1

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

Lab Sample ID: 240-88070-7 MSD
Matrix: Water
Analysis Batch: 304884

Client Sample ID: MW-66_111317
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	8.49		ug/L		85	64 - 120	4	22
1,3,5-Trimethylbenzene	1.0	U	10.0	8.59		ug/L		86	67 - 120	5	25
Vinyl chloride	3.0		10.0	15.1		ug/L		120	55 - 123	3	12
Xylenes, Total	2.0	U	20.0	17.8		ug/L		89	71 - 122	2	14
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	87		69 - 120								
Dibromofluoromethane (Surr)	88		69 - 124								
1,2-Dichloroethane-d4 (Surr)	101		61 - 138								
Toluene-d8 (Surr)	92		73 - 120								

Lab Sample ID: 240-88070-8 MS
Matrix: Water
Analysis Batch: 304884

Client Sample ID: MW-50_111317
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	50	U	100	112		ug/L		112	19 - 133
Benzene	5.0	U	50.0	49.0		ug/L		98	69 - 127
Bromodichloromethane	5.0	U	50.0	48.4		ug/L		97	75 - 128
Bromoform	5.0	U	50.0	41.0		ug/L		82	61 - 135
Bromomethane	5.0	U	50.0	59.4		ug/L		119	10 - 148
2-Butanone (MEK)	50	U	100	124		ug/L		124	34 - 153
Carbon disulfide	25	U	50.0	43.9		ug/L		88	46 - 143
Carbon tetrachloride	5.0	U	50.0	43.8		ug/L		88	53 - 175
Chlorobenzene	5.0	U	50.0	47.2		ug/L		94	76 - 120
Chloroethane	5.0	U	50.0	65.2		ug/L		130	10 - 141
Chloroform	5.0	U	50.0	50.4		ug/L		101	74 - 125
Chloromethane	5.0	U F1	50.0	73.8	F1	ug/L		148	34 - 127
cis-1,2-Dichloroethene	23		50.0	68.5		ug/L		92	69 - 127
cis-1,3-Dichloropropene	5.0	U	50.0	43.1		ug/L		86	68 - 120
Cyclohexane	5.0	U	50.0	42.3		ug/L		85	56 - 135
Dibromochloromethane	5.0	U	50.0	50.7		ug/L		101	62 - 131
1,2-Dibromo-3-Chloropropane	5.0	U	50.0	38.3		ug/L		77	48 - 130
1,2-Dibromoethane	5.0	U	50.0	53.1		ug/L		106	73 - 121
1,2-Dichlorobenzene	5.0	U	50.0	44.9		ug/L		90	70 - 120
1,3-Dichlorobenzene	5.0	U	50.0	43.2		ug/L		86	71 - 120
1,4-Dichlorobenzene	5.0	U	50.0	43.1		ug/L		86	72 - 120
Dichlorodifluoromethane	5.0	U	50.0	43.8		ug/L		88	45 - 130
1,1-Dichloroethane	5.0	U	50.0	53.3		ug/L		107	69 - 122
1,2-Dichloroethane	5.0	U	50.0	55.6		ug/L		111	64 - 138
1,1-Dichloroethene	5.0	U	50.0	54.1		ug/L		108	62 - 127
1,2-Dichloropropane	5.0	U	50.0	55.5		ug/L		111	72 - 131
Diethyl ether	10	U F1 *	50.0	71.0	F1	ug/L		142	65 - 124
Ethylbenzene	5.0	U	50.0	43.7		ug/L		87	72 - 121
2-Hexanone	50	U	100	123		ug/L		123	21 - 184
Isopropylbenzene	5.0	U	50.0	39.5		ug/L		79	70 - 132
Methyl acetate	50	U	100	124		ug/L		124	52 - 139
Methylcyclohexane	5.0	U	50.0	33.9		ug/L		68	46 - 139

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-88070-1

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

Lab Sample ID: 240-88070-8 MSD

Matrix: Water

Analysis Batch: 304884

Client Sample ID: MW-50_111317

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-Dibromo-3-Chloropropane	5.0	U	50.0	38.5		ug/L		77	48 - 130	0	31
1,2-Dibromoethane	5.0	U	50.0	51.8		ug/L		104	73 - 121	2	12
1,2-Dichlorobenzene	5.0	U	50.0	43.8		ug/L		88	70 - 120	3	19
1,3-Dichlorobenzene	5.0	U	50.0	42.1		ug/L		84	71 - 120	3	18
1,4-Dichlorobenzene	5.0	U	50.0	42.2		ug/L		84	72 - 120	2	17
Dichlorodifluoromethane	5.0	U	50.0	40.7		ug/L		81	45 - 130	7	34
1,1-Dichloroethane	5.0	U	50.0	53.2		ug/L		106	69 - 122	0	11
1,2-Dichloroethane	5.0	U	50.0	56.0		ug/L		112	64 - 138	1	11
1,1-Dichloroethene	5.0	U	50.0	53.5		ug/L		107	62 - 127	1	14
1,2-Dichloropropane	5.0	U	50.0	54.7		ug/L		109	72 - 131	1	12
Diethyl ether	10	U F1 *	50.0	72.3	F1	ug/L		145	65 - 124	2	11
Ethylbenzene	5.0	U	50.0	43.5		ug/L		87	72 - 121	0	15
2-Hexanone	50	U	100	118		ug/L		118	21 - 184	4	12
Isopropylbenzene	5.0	U	50.0	39.8		ug/L		80	70 - 132	1	16
Methyl acetate	50	U	100	126		ug/L		126	52 - 139	2	14
Methylcyclohexane	5.0	U	50.0	36.2		ug/L		72	46 - 139	6	35
Methylene Chloride	25	U	50.0	48.3		ug/L		97	52 - 137	5	12
4-Methyl-2-pentanone (MIBK)	50	U	100	110		ug/L		110	53 - 147	1	16
Methyl tert-butyl ether	5.0	U	50.0	47.2		ug/L		94	67 - 125	3	12
Styrene	5.0	U	50.0	42.7		ug/L		85	74 - 125	1	14
1,1,2,2-Tetrachloroethane	5.0	U F1	50.0	58.8		ug/L		118	51 - 123	6	17
Tetrachloroethene	5.0	U	50.0	41.2		ug/L		82	69 - 126	1	18
Toluene	5.0	U	50.0	49.7		ug/L		99	69 - 125	0	14
trans-1,2-Dichloroethene	5.0	U	50.0	49.5		ug/L		99	66 - 131	0	11
trans-1,3-Dichloropropene	5.0	U	50.0	43.9		ug/L		88	59 - 120	1	14
1,2,4-Trichlorobenzene	5.0	U	50.0	26.5		ug/L		53	26 - 138	3	35
1,1,1-Trichloroethane	5.0	U	50.0	44.5		ug/L		89	57 - 156	4	13
1,1,2-Trichloroethane	5.0	U	50.0	56.4		ug/L		113	68 - 127	1	11
Trichloroethene	5.0	U	50.0	43.0		ug/L		86	68 - 129	1	12
Trichlorofluoromethane	5.0	U F2	50.0	66.3	F2	ug/L		133	28 - 172	28	26
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	50.0	47.2		ug/L		94	58 - 137	0	35
1,2,4-Trimethylbenzene	5.0	U	50.0	40.9		ug/L		82	64 - 120	1	22
1,3,5-Trimethylbenzene	5.0	U	50.0	41.1		ug/L		82	67 - 120	0	25
Vinyl chloride	150		50.0	182		ug/L		72	55 - 123	7	12
Xylenes, Total	10	U	100	87.5		ug/L		88	71 - 122	1	14

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	88		69 - 120
Dibromofluoromethane (Surr)	89		69 - 124
1,2-Dichloroethane-d4 (Surr)	101		61 - 138
Toluene-d8 (Surr)	95		73 - 120

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-88070-1

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

Lab Sample ID: MB 240-304742/5
Matrix: Water
Analysis Batch: 304742

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			11/22/17 13:26	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		63 - 125					11/22/17 13:26	1

Lab Sample ID: LCS 240-304742/4
Matrix: Water
Analysis Batch: 304742

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		95	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	82		63 - 125				

Lab Sample ID: 240-88070-7 MS
Matrix: Water
Analysis Batch: 304742

Client Sample ID: MW-66_111317
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	0.49	J	10.0	10.3		ug/L		98	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	83		63 - 125						

Lab Sample ID: 240-88070-7 MSD
Matrix: Water
Analysis Batch: 304742

Client Sample ID: MW-66_111317
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	0.49	J	10.0	10.5		ug/L		100	52 - 129	2	13
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	81		63 - 125								

Lab Sample ID: 240-88070-8 MS
Matrix: Water
Analysis Batch: 304742

Client Sample ID: MW-50_111317
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	0.68	J	10.0	12.5		ug/L		118	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	88		63 - 125						

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-88070-1

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

Lab Sample ID: 240-88070-8 MSD
 Matrix: Water
 Analysis Batch: 304742

Client Sample ID: MW-50_111317
 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	0.68	J	10.0	12.1		ug/L		114	52 - 129	3	13
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	85		63 - 125								

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- 14

QC Association Summary

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

TestAmerica Job ID: 240-88070-1

GC/MS VOA

Analysis Batch: 304742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-88070-1	MW71_111317	Total/NA	Water	8260B SIM	
240-88070-2	MW46_111317	Total/NA	Water	8260B SIM	
240-88070-3	MW70_111317	Total/NA	Water	8260B SIM	
240-88070-4	MW45_111317	Total/NA	Water	8260B SIM	
240-88070-5	MW62_111317	Total/NA	Water	8260B SIM	
240-88070-6	MW63_111317	Total/NA	Water	8260B SIM	
240-88070-7	MW-66_111317	Total/NA	Water	8260B SIM	
240-88070-8	MW-50_111317	Total/NA	Water	8260B SIM	
MB 240-304742/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-304742/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-88070-7 MS	MW-66_111317	Total/NA	Water	8260B SIM	
240-88070-7 MSD	MW-66_111317	Total/NA	Water	8260B SIM	
240-88070-8 MS	MW-50_111317	Total/NA	Water	8260B SIM	
240-88070-8 MSD	MW-50_111317	Total/NA	Water	8260B SIM	

Analysis Batch: 304884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-88070-1	MW71_111317	Total/NA	Water	8260B	
240-88070-2	MW46_111317	Total/NA	Water	8260B	
240-88070-3	MW70_111317	Total/NA	Water	8260B	
240-88070-4	MW45_111317	Total/NA	Water	8260B	
240-88070-5	MW62_111317	Total/NA	Water	8260B	
240-88070-6	MW63_111317	Total/NA	Water	8260B	
240-88070-7	MW-66_111317	Total/NA	Water	8260B	
240-88070-8	MW-50_111317	Total/NA	Water	8260B	
MB 240-304884/6	Method Blank	Total/NA	Water	8260B	
LCS 240-304884/4	Lab Control Sample	Total/NA	Water	8260B	
240-88070-7 MS	MW-66_111317	Total/NA	Water	8260B	
240-88070-7 MSD	MW-66_111317	Total/NA	Water	8260B	
240-88070-8 MS	MW-50_111317	Total/NA	Water	8260B	
240-88070-8 MSD	MW-50_111317	Total/NA	Water	8260B	

Lab Chronicle

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW71_111317

Date Collected: 11/13/17 11:35

Date Received: 11/15/17 09:45

Lab Sample ID: 240-88070-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	304884	11/24/17 12:20	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	304742	11/22/17 14:40	SAM	TAL CAN

Client Sample ID: MW46_111317

Date Collected: 11/13/17 12:55

Date Received: 11/15/17 09:45

Lab Sample ID: 240-88070-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2.5	304884	11/24/17 19:04	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	304742	11/22/17 15:05	SAM	TAL CAN

Client Sample ID: MW70_111317

Date Collected: 11/13/17 14:00

Date Received: 11/15/17 09:45

Lab Sample ID: 240-88070-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	304884	11/24/17 13:06	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	304742	11/22/17 15:30	SAM	TAL CAN

Client Sample ID: MW45_111317

Date Collected: 11/13/17 15:00

Date Received: 11/15/17 09:45

Lab Sample ID: 240-88070-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		66.67	304884	11/24/17 13:28	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	304742	11/22/17 15:55	SAM	TAL CAN

Client Sample ID: MW62_111317

Date Collected: 11/13/17 16:05

Date Received: 11/15/17 09:45

Lab Sample ID: 240-88070-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	304884	11/24/17 13:51	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	304742	11/22/17 16:19	SAM	TAL CAN

Client Sample ID: MW63_111317

Date Collected: 11/13/17 17:10

Date Received: 11/15/17 09:45

Lab Sample ID: 240-88070-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	304884	11/24/17 14:13	LEE	TAL CAN

TestAmerica Canton

Lab Chronicle

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

TestAmerica Job ID: 240-88070-1

Client Sample ID: MW63_111317

Date Collected: 11/13/17 17:10

Date Received: 11/15/17 09:45

Lab Sample ID: 240-88070-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	304742	11/22/17 16:44	SAM	TAL CAN

Client Sample ID: MW-66_111317

Date Collected: 11/13/17 14:40

Date Received: 11/15/17 09:45

Lab Sample ID: 240-88070-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	304884	11/24/17 14:35	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	304742	11/22/17 17:09	SAM	TAL CAN

Client Sample ID: MW-50_111317

Date Collected: 11/13/17 15:00

Date Received: 11/15/17 09:45

Lab Sample ID: 240-88070-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	304884	11/24/17 14:58	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	304742	11/22/17 18:24	SAM	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 240-88070-1

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.



10448 Citation Drive
Suite 200
Brighton, MI 48116
Phone: 810.229.2763 Fax:

Chain of Custody Record

190700

TestAmerica

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

Regulatory Program: DW NPDES RCRA Other:

Client Contact
Company Name: **ARCADIS**
Address: **20550 CAROT DR #500**
City/State/Zip: **NOVI MI 48377**
Phone: **248.994.2277**
Fax:
Project Name: **FORD TWP LIVONIA MI: E209631**
Site:
PO# **MIO01318.0002.00002**

Site Contact: **ANGELA DEGANI** Date: **11/13/17**
Lab Contact: **DENISE POHL** Carrier:

Sampler: **DIVYA KAMATH/AGUDA**
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job/SDG No.: **CADENA #**
E209728

COC No: **240-146823-204.004**
1 of COCs

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Analysis Turnaround Time		Sample Specific Notes:
								CALENDAR DAYS	WORKING DAYS	
MW71-111317	11/13/17	11:35	G	W	6	N	N	3	3	
MW046-111317	11/13/17	12:55	G	W	6	N	N	3	3	
MW070-111317	11/13/17	14:00	G	W	6	N	N	3	3	
MW045-111317	11/13/17	15:00	G	W	6	N	N	3	3	
MW62-111317	11/13/17	16:05	G	W	6	N	N	3	3	
MW63-111317	11/13/17	17:10	G	W	6	N	N	3	3	
MW-66-111317	11/13/17	14:40	G	W	9	N	Y	3	3	
MW-50-111317	11/13/17	15:00	G	W	9	N	Y	3	3	



Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:

SUBMIT THROUGH CADENA: JIM.TOMALA@CADENA.COM

Custody Seal No.: Yes No

Relinquished by: **DIVYA KAMATH** Date/Time: **11/13/17 9:50**
Relinquished by: **Jim Tomala** Date/Time: **11-14-17 12:53**
Relinquished by: **ARCADIS** Date/Time: **11-14-17 12:53**
Relinquished by: **JAH** Date/Time: **11-14-17 12:53**

Received by: **Jim Tomala** Date/Time: **11/14/17 1000**
Received by: **JAH** Date/Time: **11-15-17 0945**
Received in Laboratory by: **JAH** Date/Time: **11-15-17 0945**

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return to Client Dispose by Lab Archive for _____ Months

Cooler Temp. (°C): Obs'd: _____ Cor'd: _____ Therm ID No.: _____

TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Client Accad3 Site Name _____ Cooler unpacked by: MAB
Cooler Received on 11-15-17 Opened on 11-15-17
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

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

TestAmerica Cooler # Michigan Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

- 1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-8 (CF +0 °C) Observed Cooler Temp. 1.2 °C Corrected Cooler Temp. 1.2 °C
 IR GUN #36 (CF +0.3°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN # 627 (CF -1.3°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
- 2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
- 3. Shippers' packing slip attached to the cooler(s)? Yes No
- 4. Did custody papers accompany the sample(s)? Yes No
- 5. Were the custody papers relinquished & signed in the appropriate place? Yes No
- 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
- 7. Did all bottles arrive in good condition (Unbroken)? Yes No
- 8. Could all bottle labels be reconciled with the COC? Yes No
- 9. Were correct bottle(s) used for the test(s) indicated? Yes No
- 10. Sufficient quantity received to perform indicated analyses? Yes No
- 11. Are these work share samples? Yes No
- 11. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC697954
- 12. Were VOAs on the COC? Yes No
- 13. Were air bubbles >6 mm in any VOA vials? Yes Larger than this. Yes No NA
- 14. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
- 15. Was a LL Hg or Me Hg trip blank present? _____ Yes No

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

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

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES
Samples processed by: _____

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

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